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The following list of the 18 Product Sections in The Radio-Electronic MASTER is intended for secondary reference only. You may use it to familiarize yourself with this volume's general contents. For specific information on products and manufacturers, refer to the GENERAL INDEX on the following pages.


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# RCA ELECTRON TUBES

## ENTERTAINMENT RECEIVING TYPES

LIST PRICE SCHEDULE • JUNE 14, 1958

| RCA TYPE | LIST PRICE* |
|---|---|
| OZ4 | $1.65 |
| OZ4G | 2.00 |
| 1A3 | 3.05 |
| 1A5GT | 3.20 |
| 1A7GT | 3.70 |
| 1AX2 | 3.05 |
| 1B3GT | 2.90 |
| 1C5GT | 3.60 |
| 1DN5 | 2.20 |
| 1G3GT/ 1B3GT | 2.90 |
| 1H5GT | 3.05 |
| 1L4 | |
| 1L6 | 3.35 |
| 1LA6 | 4.10 |
| 1LB4 | 4.45 |
| 1LC5 | 4.05 |
| 1LC6 | 4.10 |
| 1LD5 | 4.25 |
| 1LE3 | 4.25 |
| 1LG5 | 4.05 |
| 1LH4 | 3.95 |
| 1LN5 | 3.95 |
| 1N5GT | 3.65 |
| 1R5 | 2.55 |
| 1S4 | 3.65 |
| 1S5 | 2.55 |
| 1T4 | 2.40 |
| 1U4 | 2.35 |
| 1U5 | 2.05 |
| 1V | 3.65 |
| 1V2 | 2.00 |
| 1X2A | 3.05 |
| 1X2B | 3.05 |
| 2A3 | 6.30 |
| 2AF4A | 3.95 |
| 2BN4 | 2.55 |
| 2CY5 | 2.80 |
| 3A2 | 3.60 |
| 3A3 | 3.40 |
| 3AF4A | 4.05 |
| 3AL5 | 1.85 |
| 3AU6 | 2.15 |
| 3AV6 | 1.75 |
| 3B2 | 6.20 |
| 3BC5 | 2.30 |
| 3BN6 | 3.05 |
| 3BU8 | 2.80 |
| 3BY6 | 2.35 |
| 3BZ6 | 2.35 |
| 3CB6 | 2.25 |
| 3CF6 | 2.55 |
| 3CS6 | 2.45 |
| 3DT6 | 2.20 |
| 3LF4 | 4.20 |
| 3Q4 | 2.75 |
| 3Q5GT | 3.60 |
| 3S4 | 2.45 |
| 3V4 | 2.35 |
| 4AU6 | 2.15 |
| 4BC8 | 4.05 |
| 4BN6 | 3.05 |
| 4BQ7A | 4.00 |
| 4BS8 | 3.85 |
| 4BU8 | 2.80 |
| 4BZ6 | 2.25 |
| 4BZ7 | 4.05 |
| 4CB6 | 2.30 |
| 4DT6 | 2.25 |
| 5AM8 | 3.20 |
| 5AN8 | 3.55 |
| 5AQ5 | 2.20 |
| 5AS4A | 2.10 |
| 5AS8 | 3.45 |
| 5AT8 | 3.25 |
| 5AV8 | 4.05 |
| 5AZ4 | 2.65 |
| 5B8 | 3.90 |
| 5BK7A | 3.40 |
| 5BQ7A | 4.00 |
| 5BR8 | 3.30 |
| 5BT8 | 3.30 |
| 5CG8 | 3.25 |
| 5CL8 | 3.15 |
| 5CQ8 | 3.35 |
| 5CZ5 | 2.85 |
| 5J6 | 2.80 |
| 5T4 | 7.25 |
| 5T8 | 3.40 |
| 5U4GB | 2.00 |
| 5U8 | 3.35 |
| 5V4GA | 3.30 |
| 5V6GT | 2.20 |

| RCA TYPE | LIST PRICE* |
|---|---|
| 5X4G | 2.95 |
| 5X8 | 3.30 |
| 5Y3GT | 1.70 |
| 5Y4GT | $2.35 |
| 5Z3 | 3.00 |
| 5Z4 | 4.55 |
| 6A7 | 4.60 |
| 6A8 | 4.75 |
| 6A8G | 4.75 |
| 6A8GT | 4.75 |
| 6AB4 | 2.15 |
| 6AB5/6N5 | 3.70 |
| 6AB7 | 5.00 |
| 6AC5GT | 4.35 |
| 6AC7 | 4.05 |
| 6AD7G | 5.90 |
| 6AF4 | 3.80 |
| 6AF4A | 3.95 |
| 6AF6G | 3.60 |
| 6AG5 | 2.60 |
| 6AG7 | 4.60 |
| 6AH4GT | 3.30 |
| 6AH6 | 4.60 |
| 6AK5 | 4.65 |
| 6AK6 | |
| 6AL5 | 1.85 |
| 6AL7GT | 5.45 |
| 6AM4 | 5.60 |
| 6AM8A | 3.25 |
| 6AN4 | 4.95 |
| 6AN8 | 3.50 |
| 6AQ5A | 2.15 |
| 6AQ6 | 2.20 |
| 6AQ7GT | 4.00 |
| 6AR5 | 2.60 |
| 6AS5 | 2.40 |
| 6AS8 | 3.30 |
| 6AT6 | 1.90 |
| 6AT8A | 3.20 |
| 6AU4GTA | 3.35 |
| 6AU5GT | 4.25 |
| 6AU6 | 2.10 |
| 6AU8 | 3.45 |
| 6AV5GA | 3.80 |
| 6AV6 | 1.65 |
| 6AW8A | 3.55 |
| 6AX4GT | 2.65 |
| 6AX5GT | 2.90 |
| 6AZ8 | 4.20 |
| 6B8 | 4.70 |
| 6BA6 | 2.05 |
| 6BA7 | 3.65 |
| 6BA8A | 3.70 |
| 6BC4 | 4.80 |
| 6BC5 | 2.30 |
| 6BC7 | 3.80 |
| 6BC8 | 3.95 |
| 6BD6 | 2.30 |
| 6BE6 | 2.25 |
| 6BF5 | 2.75 |
| 6BF6 | 1.80 |
| 6BG6G | 6.45 |
| 6BG6GA | 6.45 |
| 6BH6 | 2.70 |
| 6BH8 | 3.45 |
| 6BJ6 | 2.55 |
| 6BJ8 | 2.90 |
| 6BK4 | 7.50 |
| 6BK5 | 3.50 |
| 6BK7B | 3.35 |
| 6BL7GTA | 3.95 |
| 6BN4 | 2.50 |
| 6BN6 | 3.05 |
| 6BN8 | 2.70 |
| 6BQ5 | 2.60 |
| 6BQ6GTB/ 6CU6 | 4.35 |
| 6BQ7A | 3.95 |
| 6BR8 | 3.30 |
| 6BS8 | 3.75 |
| 6BU8 | 2.80 |
| 6BX7GT | 4.00 |
| 6BY5GA | 4.20 |
| 6BY6 | 2.30 |
| 6BY8 | 2.65 |
| 6BZ6 | 2.25 |
| 6BZ7 | 3.95 |
| 6C4 | 1.80 |
| 6C5 | 2.75 |
| 6C5GT | 2.90 |
| 6C6 | 4.35 |
| 6C8G | 5.10 |

| RCA TYPE | LIST PRICE* |
|---|---|
| 6CB5A | 7.50 |
| 6CB6 | 2.25 |
| 6CD6GA | 5.80 |
| 6CF6 | 2.55 |
| 6CG7 | 2.45 |
| 6CG8A | 3.15 |
| 6CH8 | 3.60 |
| 6CL6 | 3.80 |
| 6CL8 | 3.15 |
| 6CM6 | $2.55 |
| 6CM7 | 2.80 |
| 6CN7 | 2.60 |
| 6CQ8 | 3.30 |
| 6CR6 | 2.40 |
| 6CS6 | 2.35 |
| 6CS7 | 2.80 |
| 6CU5 | 2.30 |
| 6CU8 | 3.65 |
| 6CY5 | 2.75 |
| 6CZ5 | 2.80 |
| 6D6 | 4.35 |
| 6DC6 | 2.75 |
| 6DE6 | 2.45 |
| 6DG6GT | 2.55 |
| 6DQ5 | 7.65 |
| 6DQ6A | 4.15 |
| 6DS5 | 2.65 |
| 6DT6 | 2.15 |
| 6DT8 | 3.75 |
| 6E5 | 3.00 |
| 6EH5 | 2.35 |
| 6F5 | 3.10 |
| 6F6 | 3.60 |
| 6F6G | 3.60 |
| 6F6GT | 3.65 |
| 6F7 | 6.65 |
| 6F8G | 5.10 |
| 6G6G | 4.05 |
| 6H6 | 2.75 |
| 6J5 | 2.55 |
| 6J5GT | 2.55 |
| 6J6 | 2.80 |
| 6J7 | 3.65 |
| 6J7GT | 3.65 |
| 6K6GT | 2.30 |
| 6K7 | 3.75 |
| 6K7GT | 3.75 |
| 6K8 | 4.45 |
| 6L6 | 6.10 |
| 6L6GB | 4.20 |
| 6L7 | 4.35 |
| 6N7 | 4.00 |
| 6N7GT | 4.35 |
| 6Q7 | 3.40 |
| 6Q7GT | 3.20 |
| 6R7 | 3.60 |
| 6SA4 | 2.05 |
| 6S7 | 4.20 |
| 6S8GT | 2.75 |
| 6SA7 | 3.25 |
| 6SA7GT | 3.25 |
| 6SB7Y | 4.50 |
| 6SC7 | 3.10 |
| 6SF5 | 2.70 |
| 6SF5GT | 3.20 |
| 6SF7 | 3.90 |
| 6SG7 | 3.45 |
| 6SH7 | 3.50 |
| 6SJ7 | 2.75 |
| 6SJ7GT | 3.20 |
| 6SK7 | 3.05 |
| 6SK7GT | 3.05 |
| 6SL7GT | 3.25 |
| 6SN7GTB | 2.65 |
| 6SQ7 | 2.70 |
| 6SQ7GT | 2.70 |
| 6SR7 | 2.70 |
| 6SS7 | 3.45 |
| 6T4 | 4.25 |
| 6T8 | 3.35 |
| 6U5 | 3.20 |
| 6U8A | 3.30 |
| 6V3A | 4.35 |
| 6V6 | 4.35 |
| 6V6GT | 2.15 |
| 6W4GT | 2.40 |
| 6W6GT | 2.85 |
| 6X4 | 1.65 |
| 6X5GT | 2.05 |
| 6X8 | 3.20 |
| 6Y6G | 4.50 |
| 7A4 | 3.25 |
| 7A5 | 3.85 |

| RCA TYPE | LIST PRICE* |
|---|---|
| 7A6 | 3.15 |
| 7A7 | 3.50 |
| 7A8 | 4.45 |
| 7AD7 | 6.45 |
| 7AF7 | 3.85 |
| 7AG7 | 3.85 |
| 7AH7 | 3.85 |
| 7AU7 | 2.65 |
| 7B4 | 3.05 |
| 7B5 | 4.75 |
| 7B6 | 3.25 |
| 7B7 | 3.30 |
| 7B8 | $3.55 |
| 7C5 | 3.35 |
| 7C6 | 3.30 |
| 7C7 | 3.05 |
| 7E7 | 4.45 |
| 7F7 | 3.65 |
| 7F8 | 4.60 |
| 7G7 | 4.00 |
| 7H7 | 3.90 |
| 7J7 | 5.15 |
| 7K7 | 4.45 |
| 7N7 | 3.40 |
| 7Q7 | 4.10 |
| 7R7 | 5.15 |
| 7V7 | 4.65 |
| 7W7 | 4.75 |
| 7X7 | 5.85 |
| 7Y4 | 2.75 |
| 7Z4 | 2.75 |
| 8AW8A | 3.70 |
| 8CG7 | 2.50 |
| 8CM7 | 2.85 |
| 10DE7 | 2.95 |
| 12A8GT | 4.75 |
| 12AB5 | 2.45 |
| 12AD6 | 2.25 |
| 12AE6 | 1.85 |
| 12AF6 | 2.25 |
| 12AH7GT | 3.80 |
| 12AJ6 | 1.70 |
| 12AL5 | 1.90 |
| 12AL8 | 4.05 |
| 12AQ5 | 2.40 |
| 12AT6 | 1.85 |
| 12AT7 | 3.05 |
| 12AU6 | 2.15 |
| 12AU7A | 2.45 |
| 12AV5GA | 3.85 |
| 12AV6 | 1.65 |
| 12AV7 | 3.20 |
| 12AW6 | 3.00 |
| 12AY7 | 5.15 |
| 12AX4GTA | 2.60 |
| 12AX7 | 2.50 |
| 12AZ7 | 2.75 |
| 12B4A | 2.70 |
| 12BA6 | 2.00 |
| 12BA7 | 3.95 |
| 12BD6 | 2.25 |
| 12BE6 | 2.15 |
| 12BF6 | 1.80 |
| 12BH7A | 3.05 |
| 12BK5 | 3 80 |
| 12BL6 | 2.15 |
| 12BQ6GTB/ 12BQ6GTB/ 12CU6 | 4.45 |
| 12BR7 | 2.60 |
| 12BV7 | 3.05 |
| 12BY7A | 3.10 |
| 12BZ7 | 3.05 |
| 12C8 | 5.65 |
| 12CA5 | 2.50 |
| 12CN5 | 2.25 |
| 12CR6 | 2.40 |
| 12CU5 | 2.35 |
| 12CX6 | 2.25 |
| 12D4 | 2.75 |
| 12DL8 | 3.90 |
| 12DQ6A | 4.25 |
| 12DS7 | 3.50 |
| 12DT8 | 3.75 |
| 12DZ6 | 2.30 |
| 12EH5 | 2.35 |
| 12EK6 | 2.30 |
| 12F8 | 2.60 |
| 12H6 | 2.75 |
| 12J5GT | 2.70 |
| 12J7GT | 4.20 |

| RCA TYPE | LIST PRICE* |
|---|---|
| 12J8 | 3.30 |
| 12K5 | 2.75 |
| 12K7GT | 4.05 |
| 12K8 | 4.75 |
| 12L6GT | 2.50 |
| 12Q7GT | 3.30 |
| 12R5 | 2.60 |
| 12SA7 | 3.25 |
| 12SA7GT | 3.25 |
| 12SC7 | 3.30 |
| 12SF5 | 2.75 |
| 12SF7 | 3.95 |
| 12SG7 | 3.30 |
| 12SH7 | 3.60 |
| 12SJ7 | 2.90 |
| 12SK7 | 3.05 |
| 12SK7GT | 3.05 |
| 12SL7GT | 3.75 |
| 12SN7GT | 2.70 |
| 12SQ7 | 2.65 |
| 12SQ7GT | $2.65 |
| 12SR7 | 2.80 |
| 12V6GT | 2.15 |
| 12W6GT | 3.00 |
| 12X4 | 1.80 |
| 14A7 | 3.50 |
| 14AF7 | 3.80 |
| 14B6 | 3.30 |
| 14C7 | 3.35 |
| 14F7 | 3.85 |
| 14F8 | 4.60 |
| 14Q7 | 4.10 |
| 14R7 | 5.15 |
| 17AX4GT | 2.70 |
| 17BQ6GTB | 4.60 |
| 17DQ6A | 4.25 |
| 19AU4 | 3.50 |
| 19BG6GA | 6.50 |
| 19J6 | 3.15 |
| 19T8 | 3.35 |
| 19X8 | 3.70 |
| 24A | 4.15 |
| 25AX4GT | 2.90 |
| 25BQ6GTB/ 25CU6 | 4.60 |
| 25C5 | 2.15 |
| 25CD6GB | 5.85 |
| 25DN6 | 5.55 |
| 25EH5 | 2 30 |
| 25L6 | 5.80 |
| 25L6GT | 2.25 |
| 25W4GT | 2.70 |
| 25Z5 | 2.90 |
| 25Z6GT | 2.90 |
| 27 | 4.35 |
| 35A5 | 3.50 |
| 35B5 | 2.65 |
| 35C5 | 2.15 |
| 35L6GT | 2.45 |
| 35W4 | 1.40 |
| 35Y4 | 2.75 |
| 35Z3 | 2.75 |
| 35Z4GT | 2.35 |
| 35Z5GT | 1.85 |
| 41 | 3 50 |
| 42 | 3.45 |
| 43 | 4.70 |
| 47 | 8.70 |
| 50A5 | 3.95 |
| 50B5 | 2.65 |
| 50C5 | 2.15 |
| 50EH5 | 2.30 |
| 50L6GT | 2.45 |
| 50X6 | 3.20 |
| 50Y6GT | 2 95 |
| 50Y7GT | 3.05 |
| 70L7GT | 10.15 |
| 75 | 5.10 |
| 78 | 5.10 |
| 80 | 2.90 |
| 84/6Z4 | 2.70 |
| 117L7GT/ 117M7GT | 10.15 |
| 117N7GT | 9.30 |
| 117P7GT | 9.30 |
| 117Z3 | 2.50 |
| 117Z6GT | 4.35 |
| 5879 | 3.85 |
| 5881 | 6.25 |
| 6973 | 4 50 |
| 7025 | 2.95 |
| 7027 | 5.25 |

| INDUSTRIAL TYPES FOR DEALER SERVICE | |
|---|---|
| OA2 | $1.75 |
| OA3 | 1.80 |
| OA4G | 2.40 |
| OB2 | 1.90 |
| OC3 | 1.80 |
| OD3 | 1.80 |
| 1L4 | 2.60 |
| 1P40 | 3.75** |
| 2AP1-A | 21.15** |
| 2BP1 | 21.40 |
| 2D21 | 2.30 |
| 2E24 | 5.45** |
| 2E26 | 4.55 |
| 2X2A | 3.00 |
| 3A5 | 2.30** |
| 3B28 | 8.25** |
| 3BP1-A | 27.35 |
| 3KP1 | 29.15 |
| 3KP4 | 32.25 |
| 3RP1-A | 30.85 |
| 5BP1-A | 38.55 |
| 5R4-GY | 2.70 |
| 5UP1 | 26.65 |
| 6AK6 | 2.85 |
| 6AS6 | 4.85 |
| 6AS7-G | 6.25 |
| 6J4 | 6.10 |
| 12A6 | 2.95 |
| 12SW7 | 2.15 |
| 12SX7-GT | 2.35 |
| 12SY7 | 2.60** |
| 83 | 2.20** |
| 502-A | 2.85 |
| 807 | 3.35** |
| 809 | 7.55** |
| 811-A | 7.65** |
| 812-A | 7.65** |
| 816 | 3.10** |
| 866-A | 3.10 |
| 868 | 4.45 |
| 872-A | 11.65** |
| 884 | 2.55 |
| 885 | 2.75 |
| 918 | 4.55** |
| 920 | 6.70 |
| 921 | 3.90 |
| 922 | 3.35 |
| 923 | 3.35 |
| 927 | 4.40 |
| 930 | 3.35 |
| 934 | 4.30 |
| 991 | 1.20 |
| 1614 | 4.40** |
| 1620 | 8.95 |
| 1623 | 4.75 |
| 1624 | 5.55** |
| 1625 | 4.00** |
| 1635 | 3.35** |
| 2050 | 2.55 |
| 5581 | 3.75** |
| 5582 | 5.85 |
| 5583 | 5.05 |
| 5618 | 6.95 |
| 5642 | 2.70 |
| 5651 | 2.50 |
| 5653 | 1.85 |
| 5686 | 5.20 |
| 5696 | 2 60 |
| 5763 | 3.35 |
| 5823 | 2.20 |
| 5963 | 2.00 |
| 5964 | 2.00 |
| 6005 | 6.30 |
| 6080 | 7.35 |
| 6146 | 5.90** |
| 6159 | 5.90** |
| 6293 | 7.30** |
| 6328 | 14.30 |
| 6417 | 3.35 |
| 6472 | 14.50 |
| 6883 | 5.90** |
| 6893 | 5.00** |
| 7117 | 14.30 |
| 7212 | 18.15 |

*Optional. Prices higher in Hawaii and Alaska. Prices include Federal Excise tax where applicable. All prices subject to change or withdrawal without notice.
**Effective July 15, 1958.

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TRADE DISCOUNT APPLIES TO *LIST* PRICE ONLY



World Radio History

# RCA ELECTRON TUBES
## FOR INDUSTRY AND COMMUNICATIONS

### DIRECT REPLACEMENT TYPES

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced. Tube types covered include: Vacuum Power Tubes, Rectifier Tubes, Thyratrons, Ignitrons, Voltage Regulators, Phototubes, Cathode-Ray Tubes, and Special Types.

| Type to be Replaced | Replace by RCA Type |
|---|---|
| OA3/VR75 | OA3 |
| OC3/VR105 | OC3 |
| OD3/VR150 | OD3 |
| CE-1(A-D) | 868, 918 |
| 1P29/FJ-401 | 1P29 |
| 1P32 | 927 |
| 2AP1 | 2AP1-A |
| 2B4 | 885 |
| 2C38 | 2C39-A |
| 2C39 | 2C39-A |
| ML-381 | 2C39-A |
| 3X100A11 | 2C39-A |
| ZP572 | 2C39-A |
| 2X2/879 | 2X2-A |
| 3-50G2 | 834 |
| 3AP1 | 3AP1-A |
| 3BP1 | 3BP1-A |
| 3C45 | 6130/3C45* |
| 3D22 | 3D22A |
| 4D21 | 4-125A/4D21 |
| 4-250A | 4-250A/5D22 |
| 5BP1 | 5BP1-A |
| 5CP1 | 5CP1-A |
| 5CP7 | 5CP7-A |
| 5D22 | 4-250A/5D22 |
| 5FP7 | 5FP7-A |
| 5HP1-A | 5BP1-A‡ |
| WT-6 | 6L6 |
| 6Q5-G | 884 |
| 7BP7 | 7BP7-A |
| 7C24 | 5762/7C24 |
| 7JP1 | 7VP1 |
| PJ-8 | 5556 |
| BW-11 | 834 |
| CE-5(A-D) | 927 |
| CE-11(A-D) | 917 |
| RK-11 | 1623 |
| 12DP7 | 12DP7-A |
| FG-17 | 5557 |
| WL-17 | 5557 |
| CE-20 | 927 |
| RK-20A | 804 |
| CE-21(A-D) | 920 |
| CE-23(A-D) | 923 |
| PJ-23 | 868 |
| CE-25(A-D) | 927 |
| RK-25 | 802 |
| RK-25B | 802 |
| CE-28(A-D) | 928 |
| RK-28 | 803 |
| RK-28A | 803 |
| CE-29(A-D) | 929, 1P39 |
| CE-30(A-D) | 930, 1P40 |
| CE-30V | 925 |
| RK-30 | 800 |
| FG-32 | 5558 |
| WL-32 | 5558 |
| RK-33 | 2C21/1642 |
| CE-34 | 934 |
| RK-39 | 807 |
| CE-41 | 921 |
| CE-42 | 922 |
| KU-42 | 6130/3C45 |
| RK-44 | 837 |
| RK-47 | 814 |
| UH-50 | 834 |
| CE-55 | 924 |
| FG-57 | 5559 |
| RK-57 | 805 |
| WL-57 | 5559 |
| RK-58 | 838 |

| Type to be Replaced | Replace by RCA Type |
|---|---|
| CE-59 | 5581 |
| R59A | 868 |
| R60A | 920 |
| HY-61/807 | 807 |
| R61A | 930 |
| CE-64 | 5583 |
| VR75-30 | OA3 |
| CE-91R | 1P37 |
| FG-95 | 5560 |
| CE-98 | 5582 |
| 100R | 8020 |
| FG-104 | 5561 |
| WL-104 | 5561 |
| VR105-30 | OC3 |
| VR150-30 | OD3 |
| WT-210-0001 | 2D21 |
| WT-210-0003 | 884 |
| WT-210-0004 | 2050 |
| WT-210-0006 | 6H6 |
| WT-210-0008 | 866-A |
| WT-210-0009 | 84/6Z4 |
| WT-210-0011 | OC3 |
| WT-210-0012 | 80 |
| WT-210-0013 | 5Z3 |
| WT-210-0015 | 5557 |
| WT-210-0018 | OD3 |
| WT-210-0019 | 83 |
| WT-210-0021 | 6X5-GT |
| WT-210-0025 | 117Z6-GT |
| WT-210-0027 | 872-A |
| WT-210-0028 | 3Q5-GT |
| WT-210-0029 | 6C5 |
| WT-210-0031 | 902-A |
| WT-210-0037 | 117L7/M7-GT |
| WT-210-0038 | 172 |
| WT-210-0040 | 6X4 |
| WT-210-0042 | 5Y3-GT |
| WT-210-0044 | 575-A |
| WT-210-0045 | 892 |
| WT-210-0048 | 5U4-G, 5U4-GB |
| WT-210-0052 | 2AP1-A |
| WT-210-0053 | 3AP1-A |
| WT-210-0056 | 5559 |
| WT-210-0057 | 5560 |
| WT-210-0058 | 676 |
| WT-210-0060 | OZ4 |
| WT-210-0062 | 5557 |
| WT-210-0069 | 5557 |
| WT-210-0070 | 5550 |
| WT-210-0071 | 5551-A |
| WT-210-0072 | 5552-A |
| WT-210-0073 | 5553-B |
| WT-210-0074 | 105 |
| WT-210-0078 | 172 |
| WT-210-0079 | 105 |
| WT-210-0081 | 6SJ7-6SJ7GT |
| WT-210-0082 | 6V6 |
| WT-210-0083 | 7K7 |
| WT-210-0084 | 6N7-GT, 6N7 |
| WT-210-0085 | 50B5 |
| WT-210-0086 | 833-A |
| WT-210-0087 | 6K8 |
| WT-210-0088 | 6J5-GT, 6J5 |
| WT-210-0089 | 6G6-G |
| WT-210-0090 | 6C6 |
| WT-210-0091 | OA4-G |
| 211-D | 211 |
| FG-235A | 5552-A |
| FG-238B | 5555 |
| WT-245 | 884 |
| WT-246 | 2050 |
| HK-257(B) | 4E27/8001 |

| Type to be Replaced | Replace by RCA Type |
|---|---|
| FG-258-A | 5553-B |
| WT-261 | 6H6 |
| WT-262 | 866-A |
| WT-263 | 84/6Z4 |
| WT-269 | OC3 |
| WT-270 | 80 |
| WT-270X | 5Z3 |
| FG-271 | 5551 |
| WT-272 | 5557 |
| WT-274B | 5R4-GY |
| WT-294 | OD3 |
| WT-301 | 83 |
| WE-304B | 834 |
| F-307A | 207 |
| WT-308 | 6X5-GT |
| CE-309 | 5557 |
| CE-311 | 3C23 |
| UE-317C | 217-C |
| ML-322A | 803 |
| NL-331A | 805 |
| 350A | 807 |
| 366-A | 866-A |
| WT-377 | 117Z6-GT |
| ML-381 | 2C39-A |
| WT-389 | 3Q5-GT |
| WT-390 | 6C5, 6C5-GT |
| FJ-401 | 1P29 |
| 403A | 6AK5 |
| GL-415 | 5550 |
| GL-451 | 8020 |
| ZP-522 | 2C39-A |
| WT-606 | 2D21 |
| WL-630, WL-630A | 2050 |
| WL-631 | 5559 |
| WL-632A | 632-B |
| WL-632B | 632-B |
| KU-634 | 677 |
| WL-651/656 | 5552-A |
| WL-652/657 | 5551-A |
| WL-653B | 5555 |
| WL-655/658 | 5553-B |
| 672 | 672-A |
| WL-681/686 | 5550 |
| WT-699 | 5550 |
| NL-715 | 5557 |
| ML-728 | 5557 |
| WL-735 | 868 |
| 801 | 801A |
| 811 | 811-A |
| 812 | 812-A |
| 829 | 829-B |
| 829-A | 829-B |
| UE-830 | 830-B |
| 832 | 832-A |
| 833 | 833-A |
| 857 | 857-B |
| 866 | 866-A |
| 866-A/866 | 866-A |
| 869-A | 869-B |
| 872 | 872-A |
| 872-A/872 | 872-A |
| 879 | 2X2-A |
| 889 | 889-A |
| 889-R | 889R-A |
| 893 | 893-A |
| 902 | 902-A |
| UE-905 | 805 |
| 906-P1 | 3AP1-A |
| 908 | 908-A |

| Type to be Replaced | Replace by RCA Type |
|---|---|
| 914 | 914-A |
| 931 | 931-A |
| UE-938 | 838 |
| UE-945 | 845 |
| UE-966 | 866-A |
| UE-966A | 866-A |
| UE-967 | 5557 |
| UE-972A | 872-A |
| UE-975A | 575-A |
| 1640 | 6405/1640 |
| 1701 | 5557 |
| 1802-P1 | 5BP1-A |
| 1811-P1 | 7CP1 |
| 1849 | 1850-A |
| 1850 | 1850-A |
| 1851 | 6AC7 |
| 1853 | 6AB7 |
| 1854 | 6474/1854 |
| 2051 | 2050 |
| 2525A5 | 5BP1-A |
| 5553 | 5553-B |
| 5551 | 5551-A |
| 5552 | 5552-A |
| 5563 | 5563-A |
| 5604 | 5604-A |
| 5814 | 5814-A |
| ML-5897 | 5718 |
| ML-5898 | 5719 |
| 8001 | 4E27/8001 |
| 8012 | 8012-A |
| 8016 | 1B3-GT |
| WTT-100 | 6X4 |
| WTT-102 | 5Y3-GT |
| WTT-103 | 6H6 |
| WTT-104 | 575-A |
| WTT-105 | 892 |
| WTT-111 | 5559 |
| WTT-112 | 5560 |
| WTT-113 | 676 |
| WTT-114 | OZ4 |
| WTT-115 | 117N7-GT |
| WTT-117 | 5557 |
| WTT-118 | 105 |
| WTT-119 | 172 |
| WTT-122 | 6SJ7, 6SJ7-GT |
| WTT-123 | 6V6 |
| WTT-124 | 7K7 |
| WTT-125 | 6N7-GT |
| WTT-126 | 50B5 |
| WTT-127 | 833-A |
| WTT-128 | 6K8 |
| WTT-129 | 6J5-GT, 6J5 |
| WTT-130 | 6G6-G |
| WTT-131 | 6C6 |
| WTT-132 | OA4-G |
| WTT-135 | 5U4-G, 5U4-GB |
| WTT-136 | 2AP1-A |
| WTT-137 | 3AP1-A |
| WTT-149 | 172 |
| EL-C1K | C1K/6014 |
| EL-C3J | C3J/5632 |
| EL-C3J/A | C3JA/5684 |
| EL-C6J | C6J/5621 |
| EL-C6J/A | C6JA/5685 |
| EL-C16J | C16J/5665 |

See next page for a complete listing and suggested user's prices of more than 340 RCA Non-Receiving Tube Types.

* For government end-use only.
‡ Except in high-altitude service.
NOTE: For additional replacement data on RCA Tubes for Industry and Communications, refer to the 20-page RCA Interchangeability Directory (Form ID-1020A) which lists 2000 tube type numbers used by 26 manufacturers.

For complete technical information on RCA Tubes, see your RCA Distributor or write: Commercial Engineering, RCA Tube Division, Harrison, New Jersey.


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World Radio History

# RCA ELECTRON TUBES

## FOR INDUSTRY AND COMMUNICATIONS

## INDUSTRIAL RECEIVING/POWER/CATHODE RAY/PHOTO

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| C1K/6014 | $12.90 |
| C3J/5632 | 15.50 |
| C3JA/5684 | 19.80 |
| C6J/5C21 | 28.90 |
| C6JA/5685 | 29.30 |
| C16J/5665 | 56.90 |
| MW-4900 | 290.00 |
| OA2 | 1.26‡ |
| OA2-WA | 3.70 |
| OA3 | 1.27‡ |
| OA4-G | 1.68‡ |
| OB2 | 1.32‡ |
| OB2-WA | 4.10 |
| OC2 | 1.40 |
| OC3 | 1.27‡ |
| OD3 | 1.27‡ |
| 1C21 | 3.85 |
| 1EP1 | 21.35 |
| 1EP2 | 23.85 |
| 1EP11 | 23.85 |
| 1L4 | 1.30‡ |
| 1P21 | 58.50 |
| 1P22 | 16.90 |
| 1P28 | 31.35 |
| 1P29 | 4.20 |
| 1P37 | 3.45 |
| 1P39 | 2.15 |
| 1P40 | 3.20‡ |
| 1P41 | 3.80 |
| 1P42 | 12.50 |
| 2AP1-A | 18.00‡ |
| 2BP1 | 18.20‡ |
| 2BP11 | 19.85 |
| 2C39-A | 22.50 |
| 2C39-WA | 30.00 |
| 2C40 | 27.50 |
| 2C43 | 24.55 |
| 2D21 | 1.62‡ |
| 2421-W | 2.80 |
| 2E24 | 4.65‡ |
| 2E26 | 3.85‡ |
| 2K26 | 48.20 |
| 2X2-A | 2.55‡ |
| 3A4 | 1.20 |
| 3A5 | 1.62‡ |
| 3AP1-A | 25.50 |
| 3B25 | 7.00 |
| 3B28 | 7.00‡ |
| 3BP1-A | 23.25‡ |
| 3C23 | 11.98 |
| 3C33 | 23.70 |
| 3C45 | — |
| 3D22-A | 21.20 |
| 3E22 | 8.30 |
| 3E29 | 20.25 |
| 3JP1 | 27.50 |
| 3JP7 | 28.75 |
| 3KP1 | 24.75‡ |
| 3KP4 | 25.75‡ |
| 3KP7 | 28.15 |
| 3KP11 | 27.60 |
| 3RP1 | 17.65 |
| 3RP1-A | 26.20‡ |
| 3RP4 | 24.25 |
| 3WP1 | 31.65 |
| 3WP2 | 32.45 |
| 3WP11 | 32.45 |
| 4-65A | 20.00 |
| 4-125A | — |
| 4-125A/4D21 | 30.25 |
| 4-250A | — |
| 4-250A/5D22 | 41.25 |
| 4-1000A | 132.00 |
| 4C33 | 235.00 |
| 4D21 | — |
| 4E27/8001 | 26.00 |
| 4E27A/5-125B | 40.00 |
| 4J52 | — |
| 4X150A | 38.95 |
| 4X150D | 38.95 |
| 4X500A | 121.00 |
| 5-125B | — |
| 5ABP1 | 39.75 |
| 5ABP4 | 43.25 |
| 5ABP7 | 42.65 |
| 5ABP11 | 43.80 |
| 5ADP1 | 38.35 |

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| 5AHP7 | 41.95 |
| 5AHP7-A | 49.65 |
| 5AUP24 | 135.00 |
| 5AYP4 | 55.00 |
| 5AZP4 | 110.00 |
| 5BP1-A | 32.75‡ |
| 5C21 | — |
| 5CP1-A | 31.65 |
| 5CP7-A | 38.35 |
| 5CP11-A | 37.85 |
| 5CP12 | 38.35 |
| 5D22 | — |
| 5FP4-A | 45.70 |
| 5FP7-A | 28.90 |
| 5FP14 | 29.00 |
| 5FP14-A | 31.20 |
| 5FP15-A | 36.50 |
| 5R4-GY | 1.90‡ |
| 5UP1 | 22.65‡ |
| 5UP7 | 32.00 |
| 5UP11 | 33.25 |
| 5WP11 | 135.00 |
| 5WP15 | 135.00 |
| 5ZP16 | 125.00 |
| 6AC7-W | 3.95 |
| 6AG7-Y | 2.55 |
| 6AK6 | 1.43‡ |
| 6AS6 | 3.46‡ |
| 6AS7-G | 4.45‡ |
| 6AU6-WA | 3.60‡ |
| 6F4 | 7.00 |
| 6J4 | 4.33‡ |
| 6J4-WA | 5.90 |
| 6J6-WA | 7.00 |
| 6L4 | 7.35 |
| 6SJ7-Y | 1.60 |
| 6SN7GTY | 1.60 |
| 7BP7-A | 41.55 |
| 7C24 | — |
| 7CP1 | 45.40 |
| 7CP4 | 51.50 |
| 7MP7 | 41.95 |
| 7MP14 | 43.60 |
| 7NP4 | 925.00 |
| 7QP4 | 45.50 |
| 7TP4 | 68.50 |
| 7VP1 | 35.00 |
| 7WP4 | 995.00 |
| 9C21 | 1175.00 |
| 9C22 | 1570.00 |
| 9C25 | 1350.00 |
| 10KP7 | 57.50 |
| 10SP4 | 82.25 |
| 12A6 | 2.09‡ |
| 12AT7-WA | 4.75 |
| 12AY7 | — |
| 12DP7-A | 82.65 |
| 12SW7 | 1.51‡ |
| 12SX7-GT | 1.67‡ |
| 12SY7 | 1.85‡ |
| 16ADP7 | 110.00 |
| 26A6 | 3.20 |
| 26A7-GT | 7.25 |
| 26C6 | 2.35 |
| 26D6 | 3.00 |
| 83 | 1.57‡ |
| 105 | 53.33 |
| 172 | 82.35 |
| 207 | 275.00 |
| 217-C | 21.17 |
| 502-A | 2.03‡ |
| 575-A | 22.15 |
| 579-B | 18.00 |
| 627 | 27.00 |
| 629 | 15.00 |
| 632-B | 33.00 |
| 672-A | 38.00 |
| 673 | 22.15 |
| 676 | 58.00 |
| 677 | 58.00 |
| 800 | 11.50 |
| 801-A | 9.85 |
| 802 | 9.85 |
| 803 | 39.20 |
| 804 | 27.15 |
| 805 | 20.00 |

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| 806 | 34.25 |
| 807 | 2.85‡ |
| 808 | 22.75 |
| 809 | 6.40‡ |
| 810 | 25.55 |
| 811-A | 6.50‡ |
| 812-A | 6.50‡ |
| 813 | 22.65 |
| 814 | 23.55 |
| 815 | 23.55 |
| 816 | 2.65‡ |
| 826 | 23.55 |
| 827-R | 270.00 |
| 828 | 27.50 |
| 829-B | 18.90 |
| 830-B | 15.70 |
| 832-A | 14.20 |
| 833-A | 55.00 |
| 834 | 19.30 |
| 836 | 9.20 |
| 837 | 7.85 |
| 838 | 20.00 |
| 841 | 4.85 |
| 845 | 20.85 |
| 857-B | 235.00 |
| 860 | 40.20 |
| 861 | 245.00 |
| 865 | 14.70 |
| 866-A | 2.65‡ |
| 868 | 3.75‡ |
| 869-B | 155.00 |
| 872-A | 9.90‡ |
| 878 | 15.95 |
| 880 | 565.00 |
| 884 | 1.85‡ |
| 885 | 2.00‡ |
| 889-A | 221.00 |
| 889R-A | 347.00 |
| 891 | 275.00 |
| 891-R | 430.00 |
| 892 | 270.00 |
| 892-R | 425.00 |
| 893-A | 748.00 |
| 893A-R | 1260.00 |
| 898-A | 1322.00 |
| 902-A | 19.70 |
| 908-A | 27.95 |
| 917 | 5.00 |
| 918 | 3.85‡ |
| 919 | 5.00 |
| 920 | 5.70‡ |
| 921 | 3.30‡ |
| 922 | 2.85‡ |
| 923 | 2.85‡ |
| 924 | 3.60 |
| 925 | 3.20 |
| 926 | 3.30 |
| 927 | 3.75‡ |
| 928 | 4.60 |
| 929 | 2.00 |
| 930 | 2.85‡ |
| 931-A | 10.45 |
| 934 | 3.65‡ |
| 935 | 9.95 |
| 954 | 8.05 |
| 955 | 4.80 |
| 956 | 8.70 |
| 957 | 5.35 |
| 958-A | 8.70 |
| 959 | 8.90 |
| 991 | .87‡ |
| 1609 | 14.50 |
| 1612 | 3.70 |
| 1613 | 2.45 |
| 1614 | 3.11‡ |
| 1616 | 11.35 |
| 1619 | 3.80 |
| 1620 | 6.36‡ |
| 1621 | 2.40 |
| 1622 | 3.15 |
| 1623 | 4.05‡ |
| 1624 | 4.70‡ |
| 1625 | 3.40‡ |
| 1626 | 2.20 |
| 1629 | 1.90 |
| 1631 | 3.20 |

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| 1632 | 3.35 |
| 1635 | 2.37‡ |
| 1640 | — |
| 1818-P1 | 695.00 |
| 1818-P11 | 1190.00 |
| 1818-P27 | 695.00 |
| 1946 | 12.35 |
| 1947 | 13.85 |
| 1949 | 12.65 |
| 1950 | 9.50 |
| 2020 | 92.00 |
| 2022 | 3.45 |
| 2050 | 1.85‡ |
| 5550 | 49.00 |
| 5551-A | 65.00 |
| 5552-A | 99.00 |
| 5553-B | 245.00 |
| 5555 | 316.00 |
| 5556 | 21.00 |
| 5557 | 9.50 |
| 5558 | 17.50 |
| 5559 | 23.00 |
| 5560 | 33.00 |
| 5561 | 45.75 |
| 5563-A | 47.00 |
| 5581 | 3.10‡ |
| 5582 | 4.95‡ |
| 5583 | 4.30‡ |
| 5584 | 5.20 |
| 5588 | 190.00 |
| 5592 | 1350.00 |
| 5604-A | 570.00 |
| 5618 | 4.93‡ |
| 5632 | — |
| 5636 | 9.05 |
| 5642 | 1.36‡ |
| 5651 | 1.78‡ |
| 5652 | 6.65 |
| 5653 | 1.60‡ |
| 5654 | 3.60 |
| 5654/ 6AK5-W | 5.45 |
| 5654/ 6AK5-W/ 6096 | 5.45 |
| 5665 | — |
| 5670 | 4.80 |
| 5670W-A | 5.70 |
| 5671 | 1485.00 |
| 5675 | 13.20 |
| 5684 | — |
| 5685 | — |
| 5686 | 3.71‡ |
| 5687 | 4.25 |
| 5690 | 12.95 |
| 5691 | 8.45 |
| 5692 | 8.15 |
| 5693 | 6.40 |
| 5696 | 1.90‡ |
| 5713 | 215.00 |
| 5718 | 4.85 |
| 5719 | 4.20 |
| 5725 | 4.15 |
| 5726 | 1.70 |
| 5726/ 6AL5-W | 2.10 |
| 5726/6AL5-W/ 6097 | 3.25 |
| 5727 | 2.80 |
| 5727/2D21-W | 2.80 |
| 5734 | 18.00 |
| 5749 | 2.70 |
| 5749/ 6BA6-W | 2.70 |
| 5750 | 3.80 |
| 5751 | 3.70 |
| 5751-WA | 5.45 |
| 5762/ 7C24 | 230.00 |
| 5763 | 2.37‡ |
| 5770 | 1200.00 |
| 5771 | 660.00 |
| 5786 | 165.00 |
| 5814-A | 3.85 |
| 5814-WA | 4.95 |
| 5819 | 56.90 |

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| 5822 | 116.00 |
| 5822-A | 116.00 |
| 5823 | 1.57‡ |
| 5825 | 20.85 |
| 5840 | 7.00 |
| 5876 | 13.55 |
| 5876-A | 19.10 |
| 5879 | — |
| 5881 | — |
| 5890 | 44.00 |
| 5893 | 19.40 |
| 5896 | 4.90 |
| 5899 | 7.40 |
| 5915 | 1.55 |
| 5946 | 115.00 |
| 5963 | 1.40‡ |
| 5964 | 1.40‡ |
| 5965 | 2.40 |
| 6005 | 4.50‡ |
| 6005/6AQ5-W | 4.50 |
| 6005/ 6AQ5-W/ 6095 | 7.25 |
| 6012 | 7.10 |
| 6014 | — |
| 6021 | 5.75 |
| 6032 | 110.00 |
| 6032-A | 145.00 |
| 6072 | 4.70 |
| 6073 | 3.00 |
| 6073/OA2 | 3.00 |
| 6074 | 3.45 |
| 6074/OB2 | 3.45 |
| 6080 | 5.25‡ |
| 6080-WA | 11.40 |
| 6082 | 5.30 |
| 6099 | 13.95 |
| 6101 | 7.00 |
| 6101/6J6-WA | 7.00 |
| 6111 | 6.60 |
| 6130/3C45 | 17.80 |
| 6136 | 3.60 |
| 6146 | 5.00‡ |
| 6155/ 4-125A | 30.25 |
| 6156 4-250A | 41.25 |
| 6159 | 5.00‡ |
| 6173 | 12.45 |
| 6186/ 6AG5-WA | 4.00 |
| 6189/ 12AU7-WA | 4.70 |
| 6197 | 2.80 |
| 6198 | 230.00 |
| 6198-A | 230.00 |
| 6199 | 52.50 |
| 6201 | 4.75 |
| 6205 | 7.40 |
| 6206 | 10.30 |
| 6211 | 2.40 |
| 6217 | 72.00 |
| 6263 | 18.00 |
| 6264 | 18.00 |
| 6293 | 6.20‡ |
| 6328 | 12.15‡ |
| 6342 | 72.00 |
| 6350 | 2.35 |
| 6372 | 365.00 |
| 6383 | 125.00 |
| 6405/1640 | 7.30 |
| 6417 | 2.37‡ |
| 6472 | 12.30‡ |
| 6521 | 460.00 |
| 6524 | 16.00 |
| 6570 | 8.20 |
| 6571 | 65.75 |
| 6626/ OA2-WA | 4.50 |
| 6655 | 56.25 |
| 6655-A | 56.25 |
| 6694-A | 5.60 |
| 6810-A | 275.00 |
| 6814 | 6.90 |
| 6816 | 60.00 |
| 6849 | 1425.00 |

| RCA Type | Dist Resale Price Schedule* |
|---|---|
| 6850 | 16.00 |
| 6861 | 915.00 |
| 6865-A | 1530.00 |
| 6866 | 1550.00 |
| 6660/6BA6 | 1.11‡ |
| 6661/6BH6 | 1.44‡ |
| 6662 6BJ6 | 1.39‡ |
| 6663/6AL5 | 1.02‡ |
| 6669 6AQ5 | 1.16‡ |
| 6677/6CL6 | 1.95‡ |
| 6678/6U8 | 1.72‡ |
| 6679/12AT7 | 1.60‡ |
| 6680/12AU7 | 1.32‡ |
| 6681/12AX7 | 1.34‡ |
| 6883 | 5.00‡ |
| 6884 | 60.00 |
| 6887 | 1.25 |
| 6893 | 4.25‡ |
| 6894 | 25.00 |
| 6895 | 25.00 |
| 6903 | 405.00 |
| 6949 | 23,350.00 |
| 6952 | 10,510.00 |
| 6953 | 3.30 |
| 6957 | 3.70 |
| 7008 | 2175.00 |
| 7029 | 575.00 |
| 7034/ 4X150A | 40.35 |
| 7035/ 4X150D | 40.35 |
| 7043 | 4.15 |
| 7046 | 625.00 |
| 7054 | 1.55 |
| 7055 | 1.05 |
| 7056 | 1.20 |
| 7057 | 2.00 |
| 7058 | 1.35 |
| 7059 | 1.75 |
| 7060 | 2.10 |
| 7061 | 1.35 |
| 7086 | 190.00 |
| 7094 | 31.95 |
| 7102 | 115.00 |
| 7117 | 12.15‡ |
| 7163 | 2.85 |
| 7183 | 1400.00 |
| 7200 | 255.00 |
| 7212 | 15.45‡ |
| 8000 | 26.40 |
| 8005 | 16.20 |
| 8008 | 9.90 |
| 8012-A | 20.25 |
| 8013-A | 14.85 |
| 8020 | 24.00 |
| 8025-A | 21.95 |
| 9001 | 4.90 |
| 9002 | 3.25 |
| 9003 | 4.90 |
| 9004 | 4.15 |
| 9005 | 4.60 |
| 9006 | 2.35 |
| 204F1 | .12 |
| 205F1 | .40 |
| 206F1 | .50 |
| 220F1 | .40 |
| 236F1 | .12 |
| **SPECIAL MARKET TYPES** | |
| 2F21 | 220.00 |
| 8D21 | 1500.00 |
| 1699 | — |
| 1850-A | 725.00 |
| 5527 | 150.00 |
| 5820 | 1200.00 |
| 6161 | 115.00 |
| 6166 | 1020.00 |
| 6181 | 925.00 |
| 6326 | 515.00 |
| 6326-A | 515.00 |
| 6448 | 5300.00 |
| 6474/1854 | 1700.00 |
| 6499 | 335.00 |
| 6806 | 7100.00 |
| 6896/1855 | 1425.00 |
| 7038 | 265.00 |

Prices shown include Federal Excise Tax where applicable. All prices subject to change or withdrawal without notice.
Prices in effect July 15, 1958.

* Optional. Prices Higher in Hawaii and Alaska.

‡‡ Quotations supplied on request. ‡Bulletins available on request.



World Radio History

# RCA PICTURE TUBES

**LIST PRICE* SCHEDULE SEPTEMBER 1, 1957**

SILVERAMA ALUMINIZED PICTURE TUBES — BRING OUT THE BEST IN ANY SET!

## BLACK & WHITE PICTURE TUBES

| RCA TYPE | LIST PRICE* |
|---|---|
| 5TP4# | 78.25 |
| 7JP4 | 29.50 |
| 8DP4 | 32.00 |
| 10BP4-A | 22.50 |
| **10FP4-A** | 27.50 |
| **12KP4-A** | 31.75 |
| 12LP4-A | 27.25 |
| **14ATP4** | 36.00 |
| 14EP4/14CP4/14BP4 | 29.25 |
| 14HP4 | 29.25 |
| **14QP4-A** | 38.00 |
| 14RP4 | 29.25 |
| **14RP4-A** | 36.00 |
| **14WP4/14ZP4** | 36.00 |
| 16AP4-A | 48.25 |
| 16DP4-A | 45.75 |
| 16GP4-B | 48.25 |
| 16LP4-A | 44.50 |
| 16RP4/16KP4 | 33.25 |
| **16RP4-A/16KP4-A** | 40.50 |
| 16TP4 | 33.25 |
| 16WP4-A | 44.50 |
| 17AVP4/17ATP4 | 35.25 |
| **17AVP4-A/17ATP4-4** | 42.50 |
| **17BJP4** | 42.50 |
| 17BP4-A | 33.25 |
| **17BP4-B** | 40.50 |
| **17BVP4** | 47.75 |
| **17BZP4** | 47.75 |
| **17CDP4** | 47.75 |
| 17CP4 | 43.75 |
| 17GP4 | 48.25 |
| 17HP4/17RP4 | 35.25 |
| **17HP4-B/17RP4-C** | 42.50 |
| 17LP4/17VP4 | 35.25 |
| **17LP4-A/17VP4-B** | 42.50 |
| 17QP4 | 33.25 |
| **17QP4-A** | 40.50 |
| 17TP4 | 43.75 |
| 19AP4-B | 52.50 |
| 20DP4-A/20CP4-A | 40.25 |
| **20DP4-C/20CP4-D** | 48.00 |
| 20HP4-A/20MP4 | 42.00 |
| **20HP4-D** | 49.75 |
| **21ACP4-A** | 48.00 |
| **21ACP4-A/21BSP-4** | 48.00 |
| **21ACP4-A/21BSP4/21AMP4-A** | 48.00 |
| **21ALP4-B/21ALP4-A** | 49.75 |
| **21AMP4-A** | 48.00 |
| 21AP4 | 50.75 |
| **21ATP4** | 49.75 |
| **21ATP4-A** | 49.75 |
| **21ATP4-A/21ATP4** | 49.75 |
| 21AVP4/21AUP4 | 42.00 |
| **21AVP4-A/21AUP4-A** | 49.75 |
| **21AVP4-B/21AUP4-B/ 21AVP4-A/21AUP4-A** | 49.75 |
| **21AWP4** | 48.00 |
| **21BTP4** | 49.75 |
| **21CBP4-A** | 49.75 |
| **21CEP4** | 55.00 |
| **21DAP4** | 55.00 |
| **21DFP4** | 55.00 |
| 21EP4-A | 42.00 |
| **21EP4-B** | 49.75 |
| 21FP4-A | 43.75 |
| **21FP4-C** | 51.50 |
| 21MP4 | 52.50 |
| 21WP4 | 40.25 |
| **21WP4A** | 48.00 |
| **21XP4A** | 49.75 |
| 21YP4 | 42.00 |
| **21YP4-A** | 49.75 |
| 21ZP4-A | 40.25 |
| **21ZP4-B** | 48.00 |
| **24ADP4/24VP4-A/ 24CP4-A/24TP4** | 69.00 |
| **24AEP4** | 71.25 |
| **24AHP4** | 76.75 |
| **24CP4-A** | 69.00 |
| **24DP4-A/24YP4** | 71.25 |
| **24VP4-A** | 69.00 |
| **24YP4** | 71.25 |
| **27MP4** | 163.50 |

## COLOR PICTURE TUBES

| | |
|---|---|
| 15GP22# | $160.00 |
| 21AXP22-A# | 160.00 |
| 21CYP22# | 160.00 |

*Optional. Prices higher in Hawaii and Alaska. Prices include Federal Excise tax where applicable. All prices subject to change or withdrawal without notice.

**Effective July 15, 1958.

#Aluminized

**Bold** type indicates Super-Aluminized "Silverama"



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# RCA ALUMINIZED PICTURE TUBES

| Picture Tube Now in Receiver | Replace With RCA Aluminized Type | External Conductive Bulb Coating Max μμf: Col. 1 Type | External Conductive Bulb Coating Max μμf: RCA Type | Ion Trap Magnet Requirement: Col. 1 Type | Ion Trap Magnet Requirement: RCA Type | Type of High Voltage Connector Required: Col. 1 Type | Type of High Voltage Connector Required: RCA Type | Final High Voltage Electrode Max Kv: Col. 1 Type | Final High Voltage Electrode Max Kv: RCA Type | RCA Type Larger (+ inches) or Smaller (− inches): Envelope Diameter or Diagonal | RCA Type Larger (+ inches) or Smaller (− inches): Overall Length | RCA Type Larger (+ inches) or Smaller (− inches): Neck Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10BP4 | 10FP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 10 | 12 | Same | Same | Same |
| 10BP4-A | 10FP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | Same | Same |
| 10BP4-C | 10FP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 10 | 12 | Same | Same | Same |
| 10BP4-D | 10FP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 10 | 12 | Same | Same | Same |
| 10CP4 | 10FP4-A | 500* | 2500 | None | None | Ball | Cavity | 12 | 12 | Same | +1 | +1 |
| 10EP4 | 10FP4-A | 2500 | 2500 | Single | None | Ball | Cavity | 10 | 12 | Same | Same | Same |
| 10FP4<br>10FP4-A | 10FP4-A | Direct Replacement | | | | | | | | | | |
| 12JP4 | 12KP4-A | None | 2500 | None | None | Ball | Cavity | 12 | 12 | + [illegible] | + [illegible] | + [illegible] |
| 12KP4<br>12KP4-A | 12KP4-A | Direct Replacement | | | | | | | | | | |
| 12LP4 | 12KP4-A | 3000 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | − [illegible] | − [illegible] |
| 12LP4-A | 12KP4-A | 3000 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | − [illegible] | − [illegible] |
| 12LP4-C | 12KP4-A | 3000 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | − [illegible] | − [illegible] |
| 12QP4 | 12KP4-A | None | 2500 | Single | None | Ball | Cavity | 12 | 12 | Same | + [illegible] | + [illegible] |
| 12QP4-A | 12KP4-A | None | 2500 | Single | None | Ball | Cavity | 12 | 12 | Same | + [illegible] | + [illegible] |
| 12RP4 | 12KP4-A | None | 2500 | Single | None | Ball | Cavity | 12 | 12 | + [illegible] | + [illegible] | + [illegible] |
| 12TP4 | 12KP4-A | None | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | [illegible] | [illegible] |
| 12ZP4 | 12KP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | Same | Same |
| 12ZP4-A | 12KP4-A | 2500 | 2500 | Single | None | Cavity | Cavity | 12 | 12 | Same | Same | Same |
| 14ATP4 | 14ATP4 | Direct Replacement | | | | | | | | | | |
| 14HP4 | 14QP4-A | 2500 | [illegible] | Single | Single | Cavity | Cavity | 14 | [illegible] | Same | − [illegible] | − [illegible] |
| 14QP4<br>14QP4-A | 14QP4-A | Direct Replacement | | | | | | | | | | |
| 14RP4<br>14RP4-A | 14RP4-A | Direct Replacement | | | | | | | | | | |
| 16KP4<br>16KP4-A | 16RP4-A/<br>16KP4-A | Direct Replacement | | | | | | | | | | |
| 16QP4 | 16RP4-A/<br>16KP4-A | None | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | − [illegible] | − [illegible] |
| 16RP4<br>16RP4/<br>16KP4<br>16RP4-A<br>16RP4-A/<br>16KP4-A | 16RP4-A/<br>16KP4-A | Direct Replacement | | | | | | | | | | |
| 16TP4 | 16RP4-A/<br>16KP4-A | 2000 | 1500 | Single | Single | Cavity | Cavity | 14 | 16 | Same | + [illegible] | + [illegible] |
| 16UP4 | 16RP4-A/<br>16KP4-A | None | 1500 | Single | Single | Cavity | Cavity | 15 | 16 | Same | + [illegible] | + [illegible] |
| 16XP4 | 16RP4-A/<br>16KP4-A | None | 1500 | Single | Single | Cavity | Cavity | 15 | 16 | Same | Same | Same |
| 17AP4 | 17BP4-B | 2000 | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | + [illegible] | + [illegible] |
| 17ATP4<br>17ATP4-A<br>17AVP4<br>17AVP4/<br>17ATP4<br>17AVP4-A<br>17AVP4-A/<br>17ATP4-A | 17AVP4-A/<br>17ATP4-A | Direct Replacement | | | | | | | | | | |
| 17BHP4 | 17BJP4 | Direct Replacement | | | | | | | | | | |
| 17BP4 | 17BP4-B | None | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | Same | Same |
| 17BP4-A<br>17BP4-B<br>17BP4-C | 17BP4-B | Direct Replacement | | | | | | | | | | |
| 17BRP4 | 17BZP4 | 1500 | 1500 | Single | None | Cavity | Cavity | 15 | 16 | Same | Same | Same |
| 17BUP4 | 17AVP4-A/<br>17ATP4-A | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 16 | Same | + [illegible] | + [illegible] |
| 17BVP4 | 17BWP4 | 1500 | 1500 | Single | None | Cavity | Cavity | 16 | 16 | Same | − [illegible] | − [illegible] |
| 17BWP4 | 17BWP4 | Direct Replacement | | | | | | | | | | |
| 17BZP4 | 17BZP4 | Direct Replacement | | | | | | | | | | |
| 17CAP4 | 17BZP4 | 1500 | 1500 | None | None | Cavity | Cavity | 16 | 16 | Same | + [illegible] | + [illegible] |
| 17CBP4 | 17AVP4-A/<br>17ATP4-A | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 16 | Same | + [illegible] | + [illegible] |
| 17CDP4 | 17CDP4 | Direct Replacement | | | | | | | | | | |
| 17CKP4 | 17BZP4 | 1400 | 1500 | None | None | Cavity | Cavity | 15 | 16 | Same | Same | Same |
| 17HP4<br>17HP4-A<br>17HP4-B<br>17HP4-B/<br>17RP4-C | 17HP4-B/<br>17RP4-C | Direct Replacement | | | | | | | | | | |
| 17JP4 | 17BP4-B | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 16 | Same | − [illegible] | Same |
| 17LP4<br>17LP4/<br>17VP4<br>17LP4-A<br>17VP4-B | 17LP4-A/<br>17VP4-B | Direct Replacement | | | | | | | | | | |
| 17QP4<br>17QP4-A | 17QP4-A | Direct Replacement | | | | | | | | | | |
| 17RP4 | 17HP4-B/<br>17RP4-C | 1500 | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | − [illegible] | Same |
| 17RP4-C | 17HP4-B/<br>17RP4-C | 1500 | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | − [illegible] | Same |
| 17VP4<br>17VP4-B | 17LP4-A/<br>17VP4-B | Direct Replacement | | | | | | | | | | |
| 17YP4 | 17QP4-A | Direct Replacement | | | | | | | | | | |
| 20CP4 | 20DP4-C/<br>20CP4-D | None | 1500 | Single | Single | Cavity | Cavity | 16 | 18 | Same | + [illegible] | + [illegible] |
| 20CP4-A | 20DP4-C/<br>20CP4-D | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | + [illegible] | + [illegible] |
| 20CP4-B | 20DP4-C/<br>20CP4-D | None | 1500 | Single | Single | Cavity | Cavity | 18 | 16 | Same | + [illegible] | + [illegible] |
| 20CP4-C | 20DP4-C/<br>20CP4-D | None | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | + [illegible] | + [illegible] |
| 20CP4-D | 20DP4-C/<br>20CP4-D | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | + [illegible] | + [illegible] |
| 20DP4 | 20DP4-C/<br>20CP4-D | None | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | − [illegible] | − [illegible] |
| 20DP4-A | 20DP4-C/<br>20CP4-D | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | − [illegible] | − [illegible] |
| 20DP4-A<br>20CP4-A | 20DP4-C/<br>20CP4-D | Direct Replacement | | | | | | | | | | |
| 20DP4-B | 20DP4-C/<br>20CP4-D | None | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | − [illegible] | − [illegible] |
| 20DP4-C | 20DP4-C/<br>20CP4-D | 1500 | 1500 | Single | Single | Cavity | Cavity | 18 | 18 | Same | − [illegible] | − [illegible] |
| 20DP4-C<br>20CP4-D | 20DP4-C/<br>20CP4-D | Direct Replacement | | | | | | | | | | |
| 20HP4 | 20HP4-D | None | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | Same | Same |
| 20HP4-A<br>20HP4-A/<br>20MP4 | 20HP4-D | Direct Replacement | | | | | | | | | | |

| Picture Tube Now in Receiver | Replace With RCA Aluminized Type | External Conductive Bulb Coating Max μμf: Col. 1 Type | External Conductive Bulb Coating Max μμf: RCA Type | Ion Trap Magnet Requirement: Col. 1 Type | Ion Trap Magnet Requirement: RCA Type | Type of High Voltage Connector Required: Col. 1 Type | Type of High Voltage Connector Required: RCA Type | Final High Voltage Electrode Max Kv: Col. 1 Type | Final High Voltage Electrode Max Kv: RCA Type | RCA Type Larger (+ inches) or Smaller (− inches): Envelope Diameter or Diagonal | RCA Type Larger (+ inches) or Smaller (− inches): Overall Length | RCA Type Larger (+ inches) or Smaller (− inches): Neck Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20HP4-B | 20HP4-D | None | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | Same | Same |
| 20HP4-C | 20HP4-D | None | 1500 | Single | Single | Cavity | Cavity | 16 | 16 | Same | Same | Same |
| 20HP4-D<br>20LP4<br>20MP4 | 20HP4-D | Direct Replacement | | | | | | | | | | |
| 21ACP4<br>21ACP4-A<br>21ACP4-A/<br>21BSP4/<br>21AMP4-A | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | Direct Replacement | | | | | | | | | | |
| 21AFP4 | 21YP4-A | None | 750 | Single | Single | Cavity | Cavity | 18 | 18 | Same | + [illegible] | Same |
| 21ALP4<br>21ALP4-A<br>21ALP4-B<br>21ALP4-B/<br>21ALP4-A | 21ALP4-B/<br>21ALP4-A | Direct Replacement | | | | | | | | | | |
| 21AMP4<br>21AMP4-A | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | Direct Replacement | | | | | | | | | | |
| 21ANP4 | 21ALP4-B/<br>21ALP4-A | None | 750 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21ANP4-A | 21ALP4-B/<br>21ALP4-A | None | 750 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21AQP4 | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | None | 2500 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21AQP4-A | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | None | 2500 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21ATP4<br>21ATP4-A<br>21ATP4-A/<br>21ATP4<br>21ATP4-B | 21ATP4-A/<br>21ATP4 | Direct Replacement | | | | | | | | | | |
| 21AUP4 | 21AVP4-B/<br>21AUP4-B/<br>21AVP4-A/<br>21AUP4-A | 2500 | 2500 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21AUP4-A | 21AVP4-B/<br>21AUP4-B/<br>21AVP4-A/<br>21AUP4-A | 2500 | 2500 | Single | Single | Cavity | Cavity | 18 | 20 | Same | Same | Same |
| 21AUP4-B<br>21AVP4<br>21AVP4/<br>21AUP4<br>21AVP4-A<br>21AVP4-B<br>21AVP4-B/<br>21AUP4-B/<br>21AVP4-A/<br>21AUP4-A | 21AVP4-B/<br>21AUP4-B/<br>21AVP4-A/<br>21AUP4-A | Direct Replacement | | | | | | | | | | |
| 21AWP4 | 21AWP4 | Direct Replacement | | | | | | | | | | |
| 21BAP4 | 21CBP4-A | 2500 | 2500 | None | None | Cavity | Cavity | 20 | 20 | Same | − 2 | − 2 |
| 21BCP4 | 21YP4-A | 750 | 750 | None | Single | Cavity | Cavity | 20 | 18 | Same | Same | Same |
| 21BDP4 | 21AVP4-B/<br>21AUP4-B/<br>21AVP4-A/<br>21AUP4-A | 750 | 2500 | None | Single | Cavity | Cavity | 20 | 20 | Same | Same | Same |
| 21BNP4 | 21CBP4-A | 2500 | 2500 | None | None | Cavity | Cavity | 20 | 20 | Same | − 2 | − 2 |
| 21BSP4 | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | Direct Replacement | | | | | | | | | | |
| 21BTP4 | 21ATP4-A/<br>21ATP4 | 1500 | 2500 | Single | Single | Cavity | Cavity | 20 | 20 | Same | Same | Same |
| 21CBP4<br>21CBP4-A | 21CBP4-A | Direct Replacement | | | | | | | | | | |
| 21CEP4 | 21CEP4 | Direct Replacement | | | | | | | | | | |
| 21CEP4-A | 21CEP4 | 2500 | 2500 | None | None | Cavity | Cavity | 20 | 18 | Same | Same | Same |
| 21CUP4 | 21ACP4-A/<br>21BSP4/<br>21AMP4-A | Direct Replacement | | | | | | | | | | |
| 21CVP4 | 21CBP4-A | 2500 | 2500 | None | None | Cavity | Cavity | 20 | 20 | Same | − 2 | − 2 |
| 21CWP4 | 21ATP4-A/<br>21ATP4 | 1500 | 2500 | None | Single | Cavity | Cavity | 20 | 20 | Same | Same | Same |
| 21DFP4 | 21DFP4 | Direct Replacement | | | | | | | | | | |
| 21EP4 | 21EP4-B | None | 750 | Single | Single | Cavity | Cavity | 18 | 18 | Same | Same | Same |
| 21EP4-A<br>21EP4-B | 21EP4-B | Direct Replacement | | | | | | | | | | |
| 21FP4 | 21FP4-C | None | 750 | Single | Single | Cavity | Cavity | 18 | 18 | Same | Same | Same |
| 21FP4-A<br>21FP4-C | 21FP4-C | Direct Replacement | | | | | | | | | | |
| 21YP4<br>21YP4-A | 21YP4-A | Direct Replacement | | | | | | | | | | |
| 21ZP4 | 21ZP4-B | None | 750 | Single | Single | Cavity | Cavity | 18 | 18 | Same | Same | Same |
| 21ZP4-A<br>21ZP4-B | 21ZP4-B | Direct Replacement | | | | | | | | | | |
| 24ADP4<br>24ADP4/<br>24VP4-A<br>24CP4-A<br>24TP4 | 24ADP4/<br>24VP4-A/<br>24CP4-A/<br>24TP4 | Direct Replacement | | | | | | | | | | |
| 24AEP4 | 24AEP4 | Direct Replacement | | | | | | | | | | |
| 24AHP4 | 24AHP4 | Direct Replacement | | | | | | | | | | |
| 24CP4<br>24CP4-A | 24ADP4/<br>24VP4-A/<br>24CP4-A/<br>24TP4 | Direct Replacement | | | | | | | | | | |
| 24DP4<br>24DP4-A<br>24DP4-A/<br>24YP4 | 24DP4-A/<br>24YP4 | Direct Replacement | | | | | | | | | | |
| 24QP4 | 24ADP4/<br>24VP4-A/<br>24CP4-A/<br>24TP4 | 750 | 2500 | Single | Single | Cavity | Cavity | 18 | 22 | Same | Same | Same |
| 24TP4<br>24VP4<br>24VP4-A | 24ADP4/<br>24VP4-A/<br>24CP4-A/<br>24TP4 | Direct Replacement | | | | | | | | | | |
| 24XP4 | 24ADP4/<br>24VP4-A/<br>24CP4-A/<br>24TP4 | None | 2500 | Single | Single | Cavity | Cavity | 20 | 22 | Same | Same | Same |
| 24YP4 | 24DP4-A/<br>24YP4 | Direct Replacement | | | | | | | | | | |
| 27MP4 | 27MP4 | Direct Replacement | | | | | | | | | | |


## Silverama

### SUPER-ALUMINIZED PICTURE TUBES

### Replacement Chart

Unique in engineering concept . . . and using RCA's "advanced technique" of super-aluminizing . . . RCA Silverama gives new picture brilliance and "pin-point" detail. And there's a Silverama available to fit nearly every make of TV ever sold. Right now, you can handle your replacements for over 155 types of picture tubes with just 34 types in the great line of RCA Silverama Super-Aluminized Picture Tubes. You'll find that the RCA Silverama Super Aluminized Picture Tubes listed at left can be used as direct replacements in many cases; in other cases a minimum of alterations is required.


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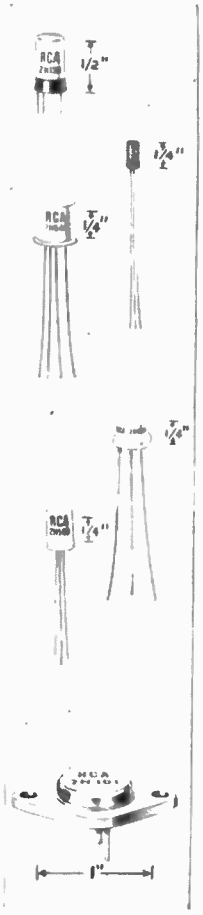
World Radio History

# TRANSISTORS AND SEMICONDUCTOR DIODES

## RCA TRANSISTORS

• Hermetically Sealed • Excellent Uniformity of Characteristics • Insulated Metal Envelopes • Extreme Envelopes




| TYPE | DESCRIPTION | LIST PRICE* | DIST. RESALE PRICE |
|---|---|---|---|
| | **ENTERTAINMENT TYPES** | | |
| 2N109 | Same as 2N217 but has JETEC No. E3-25 3 pin base | $ 2.65 | $ 1.70 |
| 2N139 | Same as 2N218 but has JETEC No. E3-25 3-pin base | 3.00 | 1.93 |
| 2N140 | Same as 2N219 but has JETEC No. E3-25 3-pin base | 3.20 | 2.06 |
| 2N175 | Same as 2N220 but has JETEC No. E3-25 3-pin base (Meets MIL-T-19501A Bu. Ships) | 3.80 | 2.42 |
| 2N176 | AF Power Transistor | 4.90 | 3.13 |
| 2N217 | Push-Pull Class AF Amplifier | 2.65 | 1.70 |
| 2N218 | Class A 455-Kc IF Amplifier | 3.00 | 1.93 |
| 2N219 | Converter in 540-1640-Kc Band | 3.20 | 2.06 |
| 2N220 | Class A Low-Noise AF Amplifier | 3.50 | 2.25 |
| 2N270 | Class A or Class B Large-Signal AF Amplifier | 2.95 | 1.89 |
| 2N301 | AF Power Transistor | 4.65 | 2.97 |
| 2N301-A | AF Power Transistor. Like 2N301 but has peak collector voltage rating of 60 volts | 7.50 | 4.83 |
| 2N351 | AF Power Transistor | 5.25 | 3.38 |
| 2N370 | "Drift" Transistor RF Amplifier | 5.00 | 3.22 |
| 2N371 | "Drift" Transistor Oscillator | 5.00 | 3.22 |
| 2N372 | "Drift" Transistor Mixer | 5.00 | 3.22 |
| 2N373 | Class A 455-Kc IF Amplifier | 3.50 | 2.25 |
| 2N374 | Converter in 540-1640 Kc Band | 3.65 | 2.33 |
| 2N376 | AF Power Transistor | 5.50 | 3.54 |
| 2N405 | Same as 2N406 but has JETEC No. E3-25 3-pin base | 1.80 | 1.13 |
| 2N406 | Class A AF Driver Amplifier | 1.80 | 1.13 |
| 2N407 | Same as 2N408 but has JETEC No. E3-25 3-pin base | 2.15 | 1.36 |
| 2N408 | Class A AF Amplifier | 2.15 | 1.36 |
| 2N409 | Same as 2N410 but has JETEC No. E3-25 3-pin base | 2.50 | 1.61 |
| 2N410 | Class A 455-Kc IF Amplifier | 2.50 | 1.61 |
| 2N411 | Same as 2N412 but has JETEC No. E3-25 3-pin base | 2.65 | 1.70 |
| 2N412 | Converter in 540 to 1640-Kc Band | 2.65 | 1.70 |
| 2N544 | "Drift" Transistor RF Amplifier—Standard AM Broadcast Band | 3.80 | 2.42 |
| 2N591 | AF Driver Amplifier Transistor | 1.90 | 1.20 |
| | **INDUSTRIAL TYPES** | | |
| 2N77 | Class A AF Amplifier | $ 2.90 | $ 1.86 |
| 2N79 | Class A AF Amplifier but has JETEC No. E3-25 3-pin base | 5.90 | 3.78 |
| 2N104 | Same as 2N215 but has JETEC No. E3-25 3-pin base | 3.50 | 2.25 |
| 2N105 | Class A AF Amplifier | 4.50 | 2.90 |
| 2N206 | Class A AF Amplifier (Meets MIL-T-25380/4 USAF) | 8.50 | 5.47 |
| 2N215 | Class A AF Amplifier | 3.25 | 2.09 |
| 2N247 | "Drift" Transistor RF Amplifier | 5.00 | 3.22 |
| 2N269 | Computer Switching Transistor | 5.90 | 3.78 |
| 2N274 | "Drift" Transistor RF Amplifier | 5.00 | 3.22 |
| 2N356 | High-Current Computer Switching Transistor | 8.75 | 5.64 |
| 2N357 | High-Current Computer Switching Transistor | 11.00 | 7.08 |
| 2N358 | High-Current Computer Switching Transistor | 15.00 | 9.66 |
| 2N384 | VHF "Drift" Transistor | 10.00 | 6.44 |
| 2N398 | High-Voltage Computer Switching Transistor (Proposed JETEC Size Group 30 Case) | 3.80 | 2.42 |
| 2N404 | Computer Switching Transistor (Proposed JETEC Size Group 30 Case) | 6.25 | 4.03 |
| 2N578 | High-Current Computer Switching Transistor—JETEC TO-9 Case | 7.75 | 4.99 |
| 2N579 | High-Current Computer Switching Transistor—JETEC TO-9 Case | 11.00 | 7.08 |
| 2N580 | High-Current Computer Switching Transistor—JETEC TO-9 Case | 14.85 | 9.57 |
| 2N581 | Medium-Speed Computer Switching Transistor—JETEC TO-9 Case | 4.75 | 3.06 |
| 2N582 | High-Speed Computer Switching Transistor—JETEC TO-9 Case | 11.25 | 7.25 |
| 2N583 | Medium-Speed Computer Switching Transistor | 4.40 | 2.81 |
| 2N584 | High-Speed Computer Switching Transistor | 10.00 | 6.44 |
| 2N585 | Medium-Speed Computer Switching Transistor (NPN Type) JETEC TO-9 Case | 5.65 | 3.63 |
| 2N586 | Low-Speed Switching Transistor | 4.65 | 2.97 |

## RCA SEMICONDUCTOR DIODES

• Germanium Point-Contact Types • Sealed-In-Glass Construction • Low Shunt and Series Capacitances

| TYPE | DESCRIPTION | LIST PRICE* | DIST. RESALE PRICE |
|---|---|---|---|
| 1N34-A | General-purpose type | $ .48 | $ .75 |
| 1N38-A | Large-signal type | .97 | .... |
| 1N54-A | High-back resistance type | .97 | .... |
| 1N58-A | Large-signal type | 1.36 | .... |

**See Page J-580 for new 24-page booklet — "RCA Transistors and Semiconductor Diodes" — includes practical circuit diagrams, extensive technical data and other valuable information.**



Net

**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

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World Radio History

# TELEVISION PICTURE TUBES

**ALL PRICES LISTED ARE SUBJECT TO CHANGE WITHOUT NOTICE**

| Type | List Price | Description: Envelope | Description: Faceplate |
|---|---|---|---|
| 5TP4 | $78.25 | Round, Glass | Clear |
| ‡7JP4 | 29.50 | Round, Glass | Clear |
| 8AP4-A | 27.75 | Round, Metal | Filter, Spherical |
| 9QP4-A | 34.67 | Rectangular, Glass | Filter, Spherical |
| 10BP4-A | 22.50 | Round, Glass | Filter, Spherical |
| *10FP4-A | 27.00 | Round, Glass | Filter, Spherical, Aluminized |
| *12KP4-A | 31.75 | Round, Glass | Filter, Spherical, Aluminized |
| 12LP4-A | 27.25 | Round, Glass | Filter, Spherical |
| 12UP4-B | 30.25 | Rectangular, Glass | Filter, Etched, Spherical |
| *14AJP4 | 42.90 | Rectangular, Glass | Aluminized |
| †14CP4 | 29.25 | Rectangular, Glass | Filter, Spherical |
| *14QP4 | 31.25 | Rectangular, Glass | Filter, Spherical |
| 14QP4A | 38.00 | Round, Glass | Filter, Spherical, Aluminized |
| 15GP22 | 265.00 | Round, Metal | Clear, Spherical, Color |
| 16AP4-A | 48.25 | Round, Glass | Filter, Spherical |
| 16DP4-A | 45.75 | Round, Metal | Filter, Spherical |
| 16GP4 | 48.25 | Round, Metal | Filter, Spherical |
| 16GP4-B | 48.25 | Rectangular, Glass | Filter, Etched, Spherical |
| 16KP4 | 33.25 | Rectangular, Glass | Filter, Spherical |
| *16KP4-A/16RP4A | 40.50 | Round, Glass | Filter, Spherical, Aluminized |
| 16LP4-A | 44.50 | Rectangular, Glass | Filter, Spherical |
| 16RP4 | 33.25 | Rectangular, Glass | Filter, Spherical |
| 16TP4 | 33.25 | Round, Glass | Filter, Spherical |
| 16WP4-A | 44.50 | Rectangular, Glass | Filter, Spherical |
| *†17AVP4A/ATP4A | 42.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 17BP4-A | 33.25 | Rectangular, Glass | Filter, Spherical |
| *17BP4-B | 40.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *17BRP4 | 47.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 17CP4 | 43.75 | Rectangular, Glass | Filter, Etched, Spherical |
| †17FP4-A | 37.25 | Rectangular, Metal | Filter, Spherical |
| †17GP4 | 48.25 | Rectangular, Glass | Filter, Etched, Spherical |
| *†17HP4B | 42.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *17LP4A | 42.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 17QP4 | 33.25 | Rectangular, Glass | Filter, Cylindrical Face |
| †17RP4/17HP4 | 35.25 | Rectangular, Metal | Filter, Spherical |
| †17TP4 | 43.75 | Rectangular, Glass | Filter, Etched, Spherical |
| †17VP4/17LP4 | 35.25 | Rectangular, Glass | Filter, Cylindrical Face |
| 19AP4-A | 52.50 | Round, Metal | Filter, Spherical |
| 19AP4-B | 52.50 | Round, Metal | Filter, Etched, Spherical |
| 20CP4 | 40.25 | Rectangular, Glass | Filter, Spherical |
| 20CP4-A | 40.25 | Rectangular, Glass | Filter, Spherical |
| *20CP4B | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *20CP4D | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 20DP4-A | 40.25 | Rectangular, Glass | Filter, Spherical |
| *20DP4B | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *20DP4C | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| †20HP4-A/20LP4 | 42.00 | Rectangular, Glass | Filter, Spherical |
| *†20HP4C | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *†20HP4D | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 21ACP4/21AMP4 | 40.25 | Rectangular, Glass | Filter, Spherical |
| 21ACP4/21AMP4-A | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| †21ALP4 | 42.00 | Rectangular, Glass | Filter, Spherical |
| *†21ALP4B/A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 21AP4 | 50.75 | Rectangular, Metal | Filter, Etched, Spherical |
| *†21ATP4/21ATP4A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *†21AUP4B/A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *†21AVP4B/A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *21AWP4 | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *21AXP22A | 160.00 | Round, Metal | |
| *21BTP4 | 49.75 | Rectangular, Glass | Aluminized |
| *21CZP4 | 55.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 21EP4-A | 42.00 | Rectangular, Glass | Filter, Cylindrical Face |
| *21EP4-B | 49.75 | Rectangular, Glass | Filter, Cyl. Face, Aluminized |
| †21FP4-A | 43.75 | Rectangular, Glass | Filter, Cylindrical Face |
| *†21FP4-C | 51.50 | Rectangular, Glass | Filter, Cyl. Face, Aluminized |
| †21MP4 | 52.50 | Rectangular, Metal | Filter, Etched, Spherical |
| *21WP4A | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 21XP4 | 42.00 | Rectangular, Glass | |
| *†21XP4-A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *†21YP4 | 42.00 | Rectangular, Glass | Filter, Spherical |
| *†21YP4-A | 49.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 21ZP4-A | 40.25 | Rectangular, Glass | Filter, Spherical |
| *21ZP4-B | 48.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *24ALP4 | 76.50 | Rectangular, Glass | Filter, Aluminized |
| 24AP4 | 132.29 | Round, Metal | Filter, Spherical |
| *24CP4-A | 69.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *†24DP4A/24YP4 | 71.25 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *27EP4 | 118.75 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *27RP4 | 118.75 | Rectangular, Glass | Filter, Spherical, Aluminized |

†Electrostatic Focus ‡Electrostatic Focus and Deflection *Aluminized All unmarked types Electromagnetic Focus

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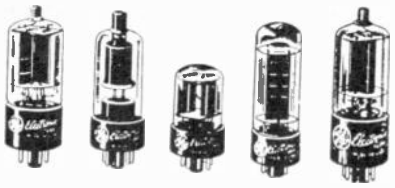
World Radio History

Electronic TUBES

# RECEIVING TUBES



| Type | List Price |
|---|---|
| 0Z1 | $1.65 |
| 0Z4A | 2.10 |
| 0Z1G | 2.05 |
| 1A5G | 3.20 |
| 1A7G | 3.70 |
| 1AH4 | 2.90 |
| 1AJ5 | 2.90 |
| 1AX2 | 3.05 |
| 1B3G | 2.90 |
| 1DN5 | 2.20 |
| 1G3GT | 2.75 |
| 1H5GT | 3.05 |
| 1J3 | 2.90 |
| 1K3 1J3 | 2.90 |
| 1L4 | 2.90 |
| 1L6 | 3.35 |
| 1LA6 | 4.10 |
| 1LC5 | 4.05 |
| 1LC6 | 4.10 |
| 1LH4 | 3.95 |
| 1LN5 | 3.95 |
| 1N5G | 3.65 |
| 1R5 | 2.55 |
| 1S4 | 3.65 |
| 1S5 | 2.55 |
| 1T4 | 2.40 |
| 1U4 | 2.35 |
| 1U5 | 2.05 |
| 1X2A | 3.05 |
| 1X2B | 2.95 |
| 2A3 | 5.70 |
| 2AF4 | 4.05 |
| 2AF4A | 4.05 |
| 2BN4 | 2.55 |
| 2CY5 | 2.80 |
| 3A2 | 3.35 |
| 3A3 | 3.25 |
| 3AF4A | 4.05 |
| 3AL5 | 1.80 |
| 3AU6 | 2.15 |
| 3AV6 | 1.75 |
| 3B2 | 6.25 |
| 3BE6 | 2.25 |
| 3BN4 | 2.30 |
| 3BN6 | 3.05 |
| 3BU8 | 2.80 |
| 3BY6 | 2.35 |
| 3BZ6 | 2.25 |
| 3CB6 | 2.25 |
| 3CE5-3BC5 | 2.25 |
| 3CF6 | 2.55 |
| 3CS6 | 2.40 |
| 3DK6 | 2.40 |
| 3DT6 | 2.20 |
| 3LF4 | 4.20 |
| 3Q4 | 2.75 |
| 3Q5GT | 3.60 |
| 3S4 | 2.45 |
| 3V4 | 2.35 |
| 4AU6 | 2.20 |
| 4BC8 | 4.05 |
| 4BN6 | 3.05 |
| 4BQ7A | 4.00 |
| 4BS8 | 3.85 |
| 4BU8 | 2.80 |
| 4BZ6 | 2.25 |
| 4BZ7 | 4.05 |
| 4CB6 | 2.25 |
| 4CY5 | 2.85 |
| 4DT6 | 2.20 |
| 5AM8 | 3.30 |
| 5AN8 | 3.55 |
| 5AQ5 | 2.20 |
| 5AS4A | 2.15 |
| 5AS8 | 3.40 |
| 5AT8 | 3.25 |
| 4AU4 | 3.40 |
| 5AV8 | 4.05 |
| 5AW4 | 2.80 |

| Type | List Price |
|---|---|
| 5B8 | 3.90 |
| 5BE8 | 3.30 |
| 5BK7A | 3.40 |
| 5BQ7A | 4.00 |
| 5BR8 | 3.30 |
| 5BT8 | 3.30 |
| 5CG8 | 3.20 |
| 5CL8 | 3.15 |
| 5CZ5 | 2.85 |
| 5DH8 | 4.05 |
| 5J6 | 2.80 |
| 5T8 | 3.40 |
| 5U4GA/5U4GB | 2.00 |
| 5U8 | 3.30 |
| 5V3 | 3.65 |
| 5V4GA | 3.30 |
| 5V6GT | 2.20 |
| 5X8 | 3.25 |
| 5Y3GT | 1.75 |
| 5Y4GT | 2.60 |
| 5Z3 | 3.05 |
| 6A7 | 4.65 |
| 6A8 | 4.80 |
| 6AB4 | 2.15 |
| 6AC7 | 4.25 |
| 6AD7G | 5.90 |
| 6AF4 | 4.00 |
| 6AF4A | 4.00 |
| 6AG5 | 2.60 |
| 6AG7 | 5.10 |
| 6AH4GT | 3.30 |
| 6AH6 | 4.65 |
| 6AJ4 | 5.90 |
| 6AK5 | 4.65 |
| 6AK6 | 3.20 |
| 6AL5 | 1.85 |
| 6AL7GT(N) | 5.75 |
| 6AM4 | 5.90 |
| 6AM8 | 3.25 |
| 6AN8 | 3.50 |
| 6AQ5 | 2.15 |
| 6AQ5A | 2.15 |
| 6AQ6 | 2.20 |
| 6AQ7G7 | 4.00 |
| 6AR5 | 2.60 |
| 6AR8 | 4.35 |
| 6AS5 | 2.40 |
| 6AS8 | 3.35 |
| 6AT6 | 1.90 |
| 6AT8 | 3.20 |
| 6AU4GTA | 3.35 |
| 6AU5GT | 4.30 |
| 6AU6 | 2.10 |
| 6AU6A | 2.10 |
| 6AU8 | 3.50 |
| 6AU8A | 3.50 |
| 6AV5GA | 3.80 |
| 6AV6 | 1.65 |
| 6AW8A | 3.55 |
| 6AX4GT | 2.65 |
| 6AX5GT | 2.95 |
| 6AZ8 | 4.20 |
| 6B8 | 4.35 |
| 6BA6 | 2.00 |
| 6BA7 | 3.70 |
| 6BA8A | 3.55 |
| 6BC7 | 3.80 |
| 6BC8 | 4.00 |
| 6BD6 | 2.30 |
| 6BE6 | 2.20 |
| 6BF5 | 3.55 |
| 6BF6 | 1.80 |
| 6BG6GA | 6.50 |
| 6BH8 | 3.50 |
| 6BJ6 | 2.60 |
| 6BJ7 | 2.95 |
| 6BJ8 | 2.80 |
| 6BK4 | 7.10 |
| 6BK5 | 3.50 |
| 6BK7A | 3.35 |
| 6BK7B | 3.35 |
| 6BL7GTA | 3.95 |
| 6BN4 | 2.50 |

| Type | List Price |
|---|---|
| 6BN6 | 3.05 |
| 6BN8 | 2.70 |
| 6BQ8GA/6CU6 | 4.35 |
| 6BQ6GTB | 4.35 |
| 6BQ7A | 3.95 |
| 6BR8 | 3.30 |
| 6BS8 | 3.75 |
| 6BU8 | 2.80 |
| 6BY8 | 3.20 |
| 6BW4 | 1.85 |
| 6BW8 | 3.30 |
| 6BX7GT | 4.00 |
| 6BY5GA | 4.20 |
| 6BY6 | 2.35 |
| 6BY8 | 2.65 |
| 6BZ6 | 2.25 |
| 6BZ7 | 4.00 |
| 6BZ8 | 4.25 |
| 6C4 | 1.85 |
| 6C5 | 2.65 |
| 6C6 | 4.35 |
| 6CB6 | 2.25 |
| 6CB6A | 2.25 |
| 6CD6GA | 5.80 |
| 6CE5/6BC5 | 2.35 |
| 6CF6 | 2.55 |
| 6CG7 | 2.45 |
| 6CG8A | 3.15 |
| 6CH8 | 3.60 |
| 6CK4 | 2.80 |
| 6CL6 | 3.75 |
| 6CL8A | 3.15 |
| 6CM6 | 2.55 |
| 6CM7 | 2.75 |
| 6CN7 | 2.60 |
| 6CQ8 | 3.30 |
| 6CR6 | 2.40 |
| 6CS6 | 2.35 |
| 6CS7 | 2.80 |
| 6CU5 | 2.35 |
| 6CU8 | 3.65 |
| 6CX8 | 3.65 |
| 6CY7 | 2.95 |
| 6D6 | 4.35 |
| 6DE6 | 2.45 |
| 6DG6GT | 2.50 |
| 6DQ6A | 4.10 |
| 6DS5 | 2.65 |
| 6DT6 | 2.15 |
| 6E5(N) | 3.00 |
| 6EH8 | 3.20 |
| 6F5 | 3.10 |
| 6F6GT | 3.65 |
| 6F6 | 3.65 |
| 6H6 | 2.80 |
| 6J5 | 2.70 |
| 6J6 | 2.80 |
| 6J7 | 4.00 |
| 6K6GT | 2.35 |
| 6K7 | 4.00 |
| 6K8 | 4.45 |
| 6L6 | 6.10 |
| 6L6GB | 4.20 |
| 6N7 | 4.30 |
| 6Q7 | 3.25 |
| 6S4A | 2.05 |
| 6S8GT | 2.75 |
| 6SA7 | 3.40 |
| 6SB7Y | 4.35 |
| 6SC7 | 3.35 |
| 6SF5 | 2.55 |
| 6SF7 | 3.90 |
| 6SG7 | 3.75 |
| 6SH7 | 3.35 |
| 6SJ7 | 3.20 |
| 6SK7 | 3.10 |
| 6SL7GT | 3.30 |
| 6SN7GTB | 2.60 |
| 6SQ7 | 2.85 |
| 6SR7 | 2.60 |
| 6SS7 | 3.50 |

| Type | List Price |
|---|---|
| 6SV7 | 3.65 |
| 6T4 | 4.35 |
| 6T8 | 3.35 |
| 6T8A | 3.35 |
| 6U5(N) | 3.15 |
| 6U8 | 3.30 |
| 6U8A | 3.30 |
| 6V3A | 4.35 |
| 6V6 | 4.20 |
| 6V6GT | 2.15 |
| 6W4GT | 2.40 |
| 6W6GT | 2.80 |
| 6X4 | 1.65 |
| 6X5GT | 2.05 |
| 6X8 | 3.15 |
| 6Y6GT | 3.45 |
| 7A4 | 2.90 |
| 7A6 | 3.15 |
| 7A7 | 3.50 |
| 7A8 | 4.45 |
| 7AF7 | 3.85 |
| 7AG7 | 3.85 |
| 7AU7 | 2.60 |
| 7B4 | 3.05 |
| 7B5 | 4.75 |
| 7B6 | 3.25 |
| 7B7 | 3.30 |
| 7B8 | 3.55 |
| 7C5 | 3.35 |
| 7C6 | 3.30 |
| 7C7 | 3.05 |
| 7EY6 | 3.00 |
| 7F7 | 3.65 |
| 7F8 | 4.60 |
| 7H7 | 3.90 |
| 7J7 | 5.15 |
| 7K7 | 4.45 |
| 7N7 | 3.40 |
| 7Q7 | 4.10 |
| 7S7 | 4.75 |
| 7Y4 | 2.75 |
| 7Z4 | 2.75 |
| 8AU8A | 3.50 |
| 8AW8A | 3.65 |
| 8CG7 | 2.50 |
| 8CM7 | 2.80 |
| 8CN7 | 2.60 |
| 8CS7 | 2.95 |
| 8CX8 | 3.77 |
| 9CL8 | 3.15 |
| 9U8A | 3.30 |
| 10C8 | 4.25 |
| 10DE7 | 2.95 |
| 12A4 | 3.45 |
| 12AB5 | 2.45 |
| 12AC6 | 2.20 |
| 12AD6 | 2.25 |
| 12AE6 | 1.85 |
| 12AF6 | 2.25 |
| 12AJ6 | 1.75 |
| 12AL5 | 1.90 |
| 12AQ5 | 2.40 |
| 12AT6 | 1.65 |
| 12AT7 | 3.05 |
| 12AU6 | 2.15 |
| 12AU7A | 2.45 |
| 12AV5GA | 3.85 |
| 12AV6 | 1.65 |
| 12AV7 | 3.15 |
| 12AW6 | 2.95 |
| 12AX4GTA | 2.70 |
| 12AX7 | 2.55 |
| 12AZ7 | 2.70 |
| 12B4A | 2.70 |
| 12BA6 | 2.00 |
| 12BA7 | 3.95 |
| 12BD6 | 2.25 |
| 12BE6 | 2.15 |
| 12BF6 | 1.80 |

| Type | List Price |
|---|---|
| 12BK5 | 3.80 |
| 12BL6 | 2.15 |
| 12BQ6GA/12CU6 | 4.45 |
| 12BR7 | 2.60 |
| 12BV7 | 3.05 |
| 12BY7A | 3.05 |
| 12BZ7 | 3.05 |
| 12C5/12CU5 | 2.35 |
| 12CA5 | 2.50 |
| 12CN5 | 2.25 |
| 12CR6 | 2.40 |
| 12CT8 | 4.05 |
| 12CX6 | 2.25 |
| 12D4 | 2.75 |
| 12DE8 | 2.75 |
| 12DK7 | 2.85 |
| 12DQ6A | 4.20 |
| 12DV8 | 3.35 |
| 12DZ6 | 2.25 |
| 12EA6 | 2.25 |
| 12F8 | 2.55 |
| 12H6 | 2.65 |
| 12J5 | 2.70 |
| 12J8 | 3.30 |
| 12K5 | 2.70 |
| 12K7GT | 4.05 |
| 12L6GT | 2.45 |
| 12Q7GT | 3.35 |
| 12R5 | 2.60 |
| 12SA7 | 3.40 |
| 12SC7 | 3.35 |
| 12SF5 | 2.65 |
| 12SF7 | 3.85 |
| 12SG7 | 3.75 |
| 12SH7 | 3.65 |
| 12SJ7 | 3.20 |
| 12SK7 | 3.05 |
| 12SL7GT | 3.75 |
| 12SN7GTA | 2.70 |
| 12SQ7 | 2.85 |
| 12SR7 | 2.65 |
| 12V6GT | 2.15 |
| 12W6GT | 3.00 |
| 12X4 | 1.80 |
| 14A7 | 3.50 |
| 14AF7 | 3.80 |
| 14B6 | 3.30 |
| 14Q7 | 4.10 |
| 17AX4GT | 2.70 |
| 17DQ6A | 4.20 |
| 17H3 | 2.15 |
| 18A5 | 4.10 |
| 19AU4GTA | 3.45 |
| 19BG6GA | 6.50 |
| 19T8 | 3.35 |
| 25AV5GA | 4.10 |
| 25AX4GT | 2.85 |
| 25BQ6GA/CU6 | 4.60 |
| 25C5 | 2.15 |
| 25CA5 | 2.50 |
| 25CD6GB | 5.85 |
| 25DN6 | 5.55 |
| 25DQ6 | 4.20 |
| 25EC6 | 5.70 |
| 25L6GT | 2.20 |
| 25W4GT | 2.70 |
| 25W6GT | 3.10 |
| 25Z5 | 2.80 |
| 25Z6GT | 2.80 |
| 26 | 4.35 |
| 35A5 | 3.50 |
| 35B5 | 2.65 |
| 35C5 | 2.15 |
| 35L6GT | 2.40 |



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World Radio History

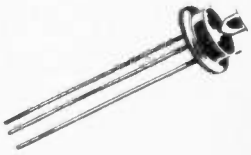
# G-E RECEIVING TUBES — *continued*

| Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 35W4 | 1.40 | 43 | 4.75 | 50L6GT | 2.40 | 75 | 5.10 | 84/6Z4 | 2.60 |
| 35Y4 | 2.75 | 50A5 | 3.95 | 50X6 | 3.20 | 78 | 5.10 | 117N7GT | 9.30 |
| 35Z3 | 2.75 | 50B5 | 2.65 | 50Y6GT | 2.95 | 80 | 2.80 | 117Z3 | 2.50 |
| 35Z5GT | 1.85 | 50C5 | 2.15 | 50Y7GT | 3.05 | 83(N) | 2.60 | 117Z6GT | 4.40 |

# SEMICONDUCTOR PRODUCTS

## GERMANIUM • SILICONE

## DIODES • TRANSISTORS • RECTIFIERS



| Type | Suggested User Price |
|---|---|
| **RECTIFER CELLS** | |
| G7A | .87 |
| G7B | 1.07 |
| G7C | 1.07 |
| IN72 | .87 |
| IN74 | 12.35 |
| IN91 | .83 |
| IN92 | 1.90 |
| IN93 | 2.65 |
| USN-IN93 | 3.50 |
| IN94 | Order IN158 |
| IN151 | 2.15 |
| IN152 | 2.70 |
| IN153 | 3.60 |
| IN158 | 5.50 |
| IN253 | 2.50 |
| IN254 | 2.90 |
| IN255 | 5.70 |
| JAN-IN255 | 9.10 |
| IN256 | 11.50 |
| IN285 | 1.19 |
| IN315 | 3.00 |
| USAF-IN315 | 3.90 |
| IN368 | 2.55 |
| IN440/B | 2.50 |
| IN441/B | 2.90 |
| IN442/B | 2.90 |
| IN443/B | 5.00 |
| IN444/B | 7.00 |
| IN445/B | 10.00 |
| IN536 | 1.50 |
| IN537 | 1.65 |
| IN538 | 2.05 |
| USAF-IN538 | 4.70 |

| Type | Suggested User Price |
|---|---|
| IN539 | 2.70 |
| IN540 | 4.15 |
| USAF-IN540 | 9.90 |
| IN573 | 1.55 |
| IN575 | 1.95 |
| IN576 | 2.05 |
| IN581 | 3.05 |
| IN582 | 3.20 |
| IN1005 | 1.55 |
| IN1007 | 1.95 |
| IN1008 | 2.20 |
| IN1013 | 3.05 |
| IN1022 | 1.55 |
| IN1095 | 6.20 |
| IN1096 | 9.10 |
| IN1115 | 2.50 |
| IN1116 | 2.90 |
| IN1117 | 3.60 |
| IN1118 | 5.70 |
| IN1119 | 8.25 |
| IN1120 | 11.50 |
| IN1301 | 8.25 |
| IN1302 | 10.75 |
| IN1304 | 14.50 |
| IN1306 | 20.00 |
| IN1487 | 1.10 |
| IN1488 | 1.40 |
| IN1489 | 2.00 |
| IN1490 | 2.90 |
| IN1491 | 4.15 |
| IN1492 | 6.20 |
| **TRANSISTORS** | |
| 2N43 | 4.87 |

| Type | Suggested User Price |
|---|---|
| 2N43A | 4.90 |
| USAF-2N43A | 4.90 |
| 2N44 | 3.22 |
| 2N45 | 3.05 |
| 2N76 | Order 2N190 |
| 2N78 | 3.71 |
| 2N81 | Order 2N43 |
| 2N107 | .99 |
| 2N123 | 5.48 |
| 2N135 | 2.14 |
| 2N136 | 2.56 |
| 2N137 | 6.19 |
| 2N164A | 2.06 |
| 2N165 | 1.96 |
| 2N166 | 1.29 |
| 2N167 | 6.44 |
| 2N168 | Order 2N293 |
| 2N168A | 2.06 |
| 2N169 | 1.96 |
| 2N169A | 2.00 |
| 2N170 | 1.29 |
| 2N186 | 1.86 |
| 2N186A | 1.96 |
| 2N187 | 1.85 |
| 2N187A | 2.00 |
| 2N188 | 1.90 |
| 2N188A | 2.03 |
| 2N189 | 1.77 |
| 2N190 | 1.78 |
| 2N191 | 1.82 |
| 2N192 | 1.88 |
| 2N241 | 1.93 |
| 2N241A | 2.08 |
| 2N265 | 1.91 |
| 2N292 | 1.86 |

| Type | Suggested User Price |
|---|---|
| 2N293 | 2.03 |
| 2N313 | 1.86 |
| 2N314 | 2.03 |
| 2N319 | 2.00 |
| 2N320 | 2.03 |
| 2N321 | 2.08 |
| 2N322 | 1.78 |
| 2N323 | 1.82 |
| 2N324 | 1.88 |
| 2N332 | 11.40 |
| 2N333 | 21.95 |
| 2N335 | 30.55 |
| 2N394 | 3.97 |
| 2N395 | 5.96 |
| 2N396 | 6.43 |
| 2N397 | 7.43 |
| 2N431 | Order 4JD4A4 |
| 2N432 | Order 4JD4A5 |
| 2N433 | Order 4JD4A6 |
| 2N448 | Order 2N168A |
| 2N449 | Order 2N169 |
| 2N450 | 3.23 |
| 2N489 | 15.30 |
| 2N490 | 15.30 |
| 2N491 | 15.30 |
| 2N492 | 15.30 |
| 2N493 | 15.30 |
| 2N494 | 15.30 |
| 2N508 | 1.91 |
| 2N518 | 6.65 |
| 2N524 | 3.05 |
| 2N525 | 3.22 |
| 2N526 | 3.56 |
| 2N527 | 4.15 |

| Type | Suggested User Price |
|---|---|
| 2N634 | 11.20 |
| 2N635 | 15.30 |
| 2N636 | 17.85 |
| 3N36 | 16.57 |
| 3N37 | 19.75 |
| 4JD1A17 | 9.30 |
| 4JD3B1 | 38.50 |
| 4JA60A, B, C, F, G, H | Series |
| 4JA61A, B, C, F, G, H | Series |
| 4JA62A, B, C, D, F, G, H, J | Series |
| 4JA63A, B, C, D, F, G, H, J | Series |

Prices for these series of Rectifiers available on request.

**RECTIFIER STACKS**

| | |
|---|---|
| 4JA211A, B, C, F | Series |
| 4JA211D | Series |
| 4JA411A, B, C, F | Series |
| 4JA411E, M | Series |
| 4JA3011 | Series |
| 4JA6011 | Series |
| 4JA6211 | Series |

Prices for the above series of Rectifier Stacks available on request.

Transistor Manual .50

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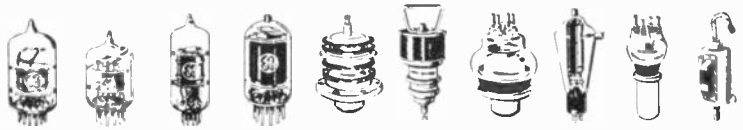
World Radio History

# POWER tubes



## for Communications and Industry

| Type | Suggested User Price |
|---|---|
| OA2 | 1.26 |
| OA3 VR-75 | 1.27 |
| OA4G | 1.68 |
| OB2 | 1.34 |
| OB3 VR-90 | 1.65 |
| OC3 VR-105 | 1.27 |
| OD3 VR-150 | 1.27 |
| KC-1 | 850.00 |
| GL-1L21 | 25.00 |
| GL-1L22 | 39.00 |
| GL-1L23 | 39.00 |
| GL-1L24 | 55.00 |
| GL-1L25 | 21.00 |
| GL-1L3 | 26.50 |
| GL-1L32 | 25.00 |
| GL-1L33 | 46.00 |
| GL-1L36 | 18.50 |
| GL-1L38 | 33.25 |
| GL-1P2 | 50.00 |
| GL-1P39 | 2.15 |
| GL-1P40 | 3.00 |
| 2AP1-A | 10.85 |
| GL-2B22 | 23.80 |
| GL-2B23 | 34.15 |
| 2BP1 | 11.00 |
| GL-2C39B | 32.15 |
| GL-2C40 | 27.50 |
| GL-2C42 | 23.45 |
| GL-2C43 | 24.55 |
| GL-2C46 | 23.90 |
| 2D21 | 1.62 |
| 2E24 | 4.65 |
| 2E26 | 3.85 |
| 2E30 | 2.95 |
| GL-2H21 | 253.00 |
| 2X2A | 2.55 |
| KC-3 | 627.00 |
| 3AP1A | 22.00 |
| GL-3B24W | 10.55 |
| 3BP1A | 16.50 |
| GL-3C23 | 11.98 |
| 3KP1 | 16.70 |
| 3MP1 | 22.50 |
| 3UP1 | 27.00 |
| GL-3X2500A3 | 198.00 |
| KC-4 | GL-5625 KC4 |
| GL-4B32 | 12.00 |
| GL-4-1000A | 135.00 |
| GL-4D21/4-125A | 30.25 |
| GL-4X150A | 38.95 |
| GL-4-250A/5D22 | 41.25 |
| 5AHP4 | 33.40 |
| 5AHP4A | 40.80 |
| 5AHP7 | 33.40 |
| 5AHP7A | 40.80 |
| 5AHP14 | 37.75 |
| 5AHP14A | 45.50 |
| 5AHP19 | 42.00 |
| 5AHP19A | 50.00 |
| 5AUP24 | 93.00 |
| 5BP1-A | 22.50 |
| GL-5C21/C6J | 28.90 |
| GL-5C24 | 45.00 |
| 5CP1-A | 27.00 |
| 5CP7-A | 31.40 |
| 5FP7-A | 27.50 |
| 5FP14 | 29.50 |
| 5FP14A | 28.80 |
| 5QP4 | 49.50 |
| 5R4GY | 1.90 |
| 5R4GYA | 1.90 |
| 5UP1 | 18.20 |
| 5Y3WGT8 | 6.30 |
| B-6 | GL-5621/B-6 |
| FA-6 | GL-5627 FA-6 |
| 6AN5 | 3.75 |
| 6AS6 | 3.46 |
| 6AU6WA | 3.60 |
| 6D4 | 2.85 |
| 6J4 | 4.33 |
| 6X4WA | 3.60 |
| 7A8P7A | 41.75 |

| Type | Suggested User Price |
|---|---|
| 7BP7-A | 40.00 |
| GL-7C29 | 189.50 |
| GL-7D21 | 511.00 |
| 7UP7 | 49.50 |
| 7UP25 | 70.00 |
| 7VP1 | 24.00 |
| PJ8 | GL-5556/PS-8 |
| 10KP7 | 55.00 |
| 10SP4 | 65.00 |
| 10UP14 | 49.60 |
| 12AT7WA | 4.75 |
| 12AY7 | 2.42 |
| 12DP7A | 61.85 |
| 12SP7 | 47.40 |
| 12SP7B | 49.50 |
| FA-13 | GL-5628 FA-13 |
| FA-14 | GL-5629 FA-41 |
| FA-15 | GL-5626 FA-15 |
| FG-17 | GL-5557/FG-17 |
| 17ADP7 | 160.00 |
| PJ-23 | GL-868/PJ-23 |
| FG-27A | 40.25 |
| FG-32 | GL-5558 FG-32 |
| FG-23 | GL-5720 FG-33 |
| FG-41 | GL-5830 FG-41 |
| B-46 | GL-5624/B-46 |
| B-47 | GL-5623/B-47 |
| FB-50 | GL-5620 FB-50 |
| FP-54 | GL-5740 FB-54 |
| FG-57 | GL-5559 FG-57 |
| FP-62 | GL-5739 FP-62 |
| FG-67 | GL-5728-FG-67 |
| FG-81A | 27.77 |
| FG-95 | GL-5560/FG-95 |
| FG-97 | 56.50 |
| FG-98A | 71.43 |
| GL-100TH | 20.50 |
| FG-104 | GL-5561 FG-104 |
| FG-105 | 53.33 |
| FG-154 | 88.75 |
| FG-235A | GL-5552/FG-235A |
| FG-172 | 82.35 |
| GL-207 | 275.00 |
| FG-238B | GL-5555 238B |
| GL-242C | 15.50 |
| FG-259B | GL-55554 FG-259B |
| FG-271 | GL-5551/FG-271 |
| FG-280 | 78.40 |
| GL-393A | 13.25 |
| FP-400 | 71.45 |
| GL-411 | 478.75 |
| GL-414 | 135.00 |
| GL-415 | GL-5550/GL-415 |
| GL-441 | 4.50 |
| 502A | 2.03 |
| GL-506 | GL-6228/GL-506 |
| GL-575A | 22.15 |
| GL-592 | 37.50 |
| GL-627 | 27.00 |
| GL-672A | 38.00 |
| GL-673 | 22.15 |
| GL-678 | 47.00 |
| GL-801A | 9.85 |
| GL-802 | 9.85 |
| GL-803 | 35.50 |
| GL-805 | 20.00 |
| 807 | 2.85 |
| GL-809 | 5.65 |
| GL-810 | 25.55 |
| GL-811A | 5.65 |
| GL-812A | 5.65 |
| GL-813 | 22.65 |
| GL-814 | 23.55 |
| GL-815 | 23.55 |
| GL-816 | 2.15 |
| GL-828 | 27.50 |
| GL-829B | 16.25 |
| GL-832A | 14.20 |
| GL-833A | 49.00 |
| GL-836 | 9.00 |
| GL-837 | 7.85 |
| GL-838 | 20.00 |

| Type | Suggested User Price |
|---|---|
| 842 | 3.65 |
| GL-845 | 20.85 |
| GL-851 | 654.00 |
| GL-857B | 235.00 |
| GL-862A | 1713.25 |
| GL-866A | 2.65 |
| GL-868/PJ-23 | 3.75 |
| GL-869B | 155.00 |
| GL-870A | 1982.00 |
| GL-872A/872 | 10.31 |
| GL-880 | 565.00 |
| 884 | 1.85 |
| GL-889A | 244.50 |
| GL-889RA | 352.30 |
| GL-891R | 410.00 |
| GL-893AR | 1260.00 |
| GL-895 | 1095.00 |
| GL-898A | 1713.25 |
| GL-918 | 3.80 |
| GL-919 | 4.95 |
| GL-920 | 5.70 |
| GL-921 | 3.30 |
| GL-922 | 2.85 |
| GL-923 | 2.85 |
| GL-927 | 3.75 |
| GL-929 | 2.00 |
| GL-930 | 2.85 |
| GL-931A | 10.45 |
| GL-1000T | 137.50 |
| 1612 | 3.20 |
| 1614 | 2.72 |
| GL-1616 | 11.35 |
| 1619 | 3.30 |
| 1620 | 6.36 |
| 2050 | 1.85 |
| GL-5513 | 467.25 |
| GL-5516 | 7.95 |
| GL-5518 | 8.90 |
| GL-5544 | 38.41 |
| GL-5549 | 653.50 |
| GL-5550/GL-415 | 49.00 |
| GL-5551A | 65.00 |
| GL-5551A/P | 67.00 |
| GL-5552A | 99.00 |
| GL-5552A/P | 101.25 |
| GL-5553B | 245.00 |
| GL-5553B/P | 247.00 |
| GL-5554/FG-259B | 195.00 |
| GL-5555/FG-238B | 316.00 |
| GL-5556/PJ-8 | 21.00 |
| GL-5557/FG-17 | 9.50 |
| GL-5558/FG-32 | 17.50 |
| GL-5559/FG-57 | 23.00 |
| GL-5560/FG-95 | 33.00 |
| GL-5561/FG-104 | 45.75 |
| GL-5564/GL-507 | 1025.00 |
| GL-5581 | 2.70 |
| GL-5593 | 253.00 |
| GL-5620/FB-50 | 22.25 |
| GL-5621/B-6 | 25.50 |
| GL-5623/B-47 | 25.00 |
| GL-5625/KC-4 | 225.00 |
| GL-5626/FA-15 | 76.75 |
| GL-5627/FA-16 | 72.50 |
| GL-5628/FA-13 | 56.50 |
| GL-5629/FA-14 | 45.50 |
| GL-5630 | 1620.00 |
| GL-5632/C3J | 13.90 |
| 5636 | 9.05 |
| 5642 | 2.60 |
| 5651 | 1.78 |
| 5654 | 3.60 |
| 5654/6AK5W | 3.60 |
| 5654/6AK5W/6096 | 6.00 |
| 5662 | 1.45 |
| 5663 | 2.10 |
| GL-5665/C16J | 56.90 |
| 5670* | 4.80 |
| 5670WA | 5.80 |
| GL-5674 | 209.00 |



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World Radio History

*(continued)*

# POWER tubes
## for Communications and Industry

- FIVE STAR
- THYRATRON
- CATHODE RAY
- PHOTOTUBE
- IGNITRON
- RECTIFER
- KLYSTRON
- COMMUNICATION
- INDUSTRIAL RECEIVING

| Type | Suggested User Price |
|---|---|
| 5686* | 3.75 |
| 5687 | 4.50 |
| 5691 | 8.45 |
| 5692 | 8.15 |
| 5693 | 6.40 |
| 5696 | 1.90 |
| 5718* | 4.50 |
| 5719* | 3.85 |
| GL-5720-FG-33 | 34.75 |
| 5725* | 3.65 |
| 5725/6AS6W | 3.65 |
| 5725/6AS6W/6187 | 6.80 |
| 5726* | 1.70 |
| 5726/6AL5W | 1.70 |
| 5726/6AL5W/6097 | 3.25 |
| 5727* | 2.80 |
| 5727/2D21W | 2.80 |
| GL-5728/FG-67 | 53.50 |
| GL-5736 | 170.00 |
| GL-5740/FP-54 | 209.00 |
| 5749* | 2.70 |
| 5749/6BA6W | 2.70 |
| 5750/6BE6W | 3.80 |
| 5750* | 3.80 |
| 5751* | 3.70 |
| 5751WA | 5.45 |
| GL-5762/7C24 | 215.00 |
| 5763 | 2.37 |
| GL-5779 | 135.25 |
| GL-5788 | 476.25 |
| 5797* | 14.10 |
| 5814A | 3.85 |
| 5814WA | 4.95 |
| GL-5820 | 1200.00 |
| GL-5822A | 116.00 |
| 5824 | 3.60 |
| GL-5830/FG-41 | 320.00 |
| 5840* | 7.00 |
| 5844 | 2.40 |
| GL-5855 | 70.00 |
| 5879 | 1.75 |
| 5881 | 3.50 |
| GL-5894 | 32.40 |
| 5896* | 4.90 |
| 5899* | 7.40 |

| Type | Suggested User Price |
|---|---|
| 5902* | 7.40 |
| 5915A | 1.55 |
| GL-5921 | 40.00 |
| GL-5922 | 40.00 |
| 5963 | 1.40 |
| 5964 | 1.40 |
| 5965 | 2.40 |
| GL-5973 | 478.00 |
| 6005* | 4.50 |
| 6005/6AQ5W | 4.50 |
| 6005/6AQ5W/6095 | 7.35 |
| GL-6011 | 14.00 |
| GL-6014/C1K | 12.90 |
| GL-6019 | 751.75 |
| 6021* | 5.75 |
| GL-6039 | 1117.50 |
| GL-6044 | 56.00 |
| 6046 | 1.55 |
| 6072* | 4.70 |
| 6087* | 6.30 |
| 6100/6C4WA | 2.75 |
| 6111* | 6.55 |
| 6112* | 6.55 |
| 6136* | 3.60 |
| 6146 | 4.90 |
| GL-6181 | 925.50 |
| GL-6182 | 2100.00 |
| GL-6183 | 680.00 |
| 6189/12AU7WA | 4.80 |
| GL-6198A | 255.00 |
| 6201* | 4.75 |
| 6202* | 3.60 |
| 6203* | 4.50 |
| 6205 | 7.50 |
| 6211 | 2.40 |
| GL-6228/GL-506 | 3696.25 |
| GL-6251 | 2300.00 |
| 6265* | 4.50 |
| GL-6299 | 56.00 |
| GL-6346 | 65.00 |
| GL-6347 | 125.00 |
| GL-6348 | 245.00 |
| 6386* | 8.15 |
| GL-6442 | 37.50 |
| 6463 | 2.15 |

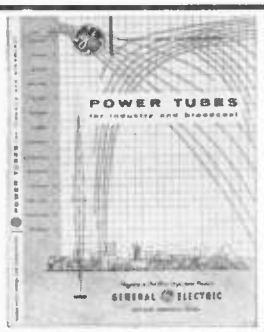
| Type | Suggested User Price |
|---|---|
| 6485 | 2.05 |
| GL-6504 | 2642.00 |
| GL-6509 | 486.25 |
| GL-6511 | 156.90 |
| GL-6512 | 259.80 |
| GL-6513 | 347.00 |
| GL-6514 | 509.00 |
| GL-6515 | 1091.50 |
| 6525 | 2.15 |
| 6660/6BA6△ | 2.20 |
| 6661/6BH6△ | 2.85 |
| 6662/6BJ6△ | 2.75 |
| 6663/6AL5△ | 2.00 |
| 6669△ | 2.30 |
| 6677△ | 3.80 |
| 6778△ | 3.35 |
| 6679/12AT7△ | 3.15 |
| 6680/12AU7△ | 2.60 |
| 6681/12AX7△ | 2.65 |
| GL-6807 | 29.30 |
| GL-6808 | 29.40 |
| GL-6809 | 29.80 |
| 6829 | 7.00 |
| GL-6855/716 | 12.60 |
| GL-6856/740 | 19.40 |
| GL-6857/740P | 20.10 |
| GL-6858/760 | 28.90 |
| GL-6859/760P | 29.40 |
| GL-6860/C6J/F | 29.40 |
| GL-6930/635P | 13.60 |
| GL-8000 | 26.40 |
| GL-8002 | 394.00 |
| GL-8002R | 588.00 |
| GL-8005 | 16.20 |
| GL-8008 | 10.31 |
| GL-8013A | 14.45 |
| GL-8020 | 24.00 |
| 9001 | 4.60 |
| 9002 | 3.10 |
| 9003 | 4.60 |

*Five-Star Types

△ Communication Types

### THERMOSTAT KITS FOR IGNITRONS

| KIT NUMBER | SUGG. USER PRICE | KIT NUMBER | SUGG. USER PRICE | KIT NUMBER | SUGG. USER PRICE | KIT NUMBER | SUGG. USER PRICE |
|---|---|---|---|---|---|---|---|
| N15272AA | $7.30 | N15273AA | $5.15 | N15286AA | $9.30 | N15287AA | $8.00 |




# There's a G-E Electronic Tube for Every Purpose!

*Ask for — ETX-10J For Complete Descriptions and Ratings*

- FIVE STAR
- IGNITRONS
- PHASITRON
- GLOW TUBES
- THYRATRONS
- PHOTOTUBES
- BALLAST TUBES
- HIGH ALTITUDE DEVICES
- PHANOTRONS
- LIGHTHOUSE TUBES
- CATHODE-RAY TUBES
- MICROWAVE RADAR
- TRANSMITTING
- KENOTRONS
- TV CAMERA TUBES

**Prices and other data subject to change without notice.**

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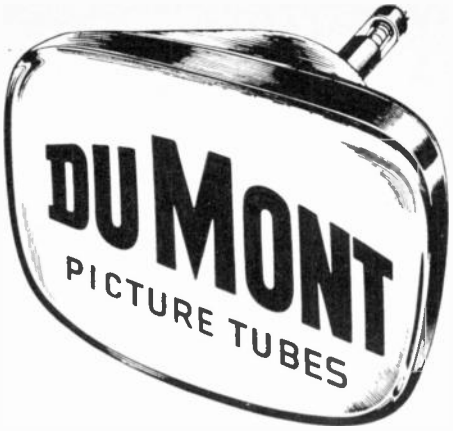
World Radio History

# ALLEN B. DUMONT LABORATORIES, INC.

**TELEVISION TUBE DIVISION**

**CLIFTON** **NEW JERSEY**




## EFFECTIVE JUNE 23, 1958 Supersedes May 20, 1958

| Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 12LP4A | $27.25 | 16LP4A/16ZP4 | 44.50 | *17LP4A/17VP4B | 42.25 | *21ALP4A/21ALP4B | 49.75 | *21FP4C | 51.50 |
| 12QP4A/B1034 | 33.50 | 16TP4 | 33.25 | *17AVP4A/17ATP4A | 42.25 | *21ATP4/21ATP4A | 49.75 | 21KP4A | 54.75 |
| 14EP4/14CP4/14BP4 | 29.25 | 16WP4A | 44.50 | 17QP4/17UP4/17YP4 | 33.25 | 21AUP4 | 42.00 | 21MP4 | 52.50 |
| 14HP4 | 29.25 | 17AP4 | 35.10 | *17QP4A | 40.50 | *21AUP4A/21AUP4B | 49.75 | *21WP4A | 48.00 |
| *14RP4A | 36.25 | 17BP4A/17JP4 | 34.30 | 19AP4A | 52.50 | *21AVP4A | 49.75 | *21XP4A | 49.75 |
| *14NP4/14SP4 | 38.00 | *17BP4B | 40.50 | 20CP4/20DP4 | 40.25 | *21AWP4 | 47.75 | 21YP4 | 42.00 |
| *14WP4 | 36.25 | *17BZP4/17CKP4 | 47.50 | 20CP4A/20DP4A | 40.25 | *21BTP4 | 49.75 | *21YP4A | 49.75 |
| 15DP4A | 45.75 | 17CP4 | 43.75 | *20CP4D/20DP4C | 47.75 | *21CBP4/21CBP4A | 49.75 | 21ZP4A | 40.25 |
| 16DP4A | 45.75 | 17HP4/17RP4 | 36.10 | 20JP4 | 44.75 | *21CEP4 | 55.00 | *21ZP4B | 47.75 |
| 16GP4 | 48.25 | *17HP4B/17RP4C | 42.25 | 20LP4/20HP4A/20MP4 | 42.00 | *21DAP4 | 55.00 | *24AEP4 | 71.25 |
| 16FP4 | 44.50 | 17KP4 | 35.75 | 21AP4 | 50.75 | 21EP4A | 42.00 | *24CP4A/24VP4/24TP4 | 69.00 |
| 16KP4/16RP4 | 33.25 | *17KP4A | 42.50 | *21ACP4A/21AMP4A | 47.75 | *21EP4B | 49.75 | *24DP4A/24YP4 | 71.25 |
| *16KP4A/16RP4A | 40.50 | 17LP4/17VP4 | 35.25 | 21ALP4 | 42.00 | 21FP4A | 43.75 | | |

*HI-LITE ALUMINIZED

# RECEIVING TUBES

**Less than minimum quantities of 5 Receiving Tubes per Type will be billed at 50% of List Price**

| Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 0Z4 | $1.65 | 1V | 3.65 | 3DK6 | 2.40 | 5AU4 | 3.40 | 5V6GT | 2.20 |
| 0Z4A | 2.10 | 1V2 | 2.00 | 3DT6 | 2.20 | 5AV8 | 4.05 | 5X4G | 3.20 |
| 0Z4G | 2.05 | 1X2A | 3.05 | 3LF4 | 4.20 | 5AW4 | 2.80 | 5X8 | 3.25 |
| 1A5GT | 3.20 | 1X2B | 3.05 | 3Q4 | 2.75 | 5AZ4 | 2.65 | 5Y3GT | 1.75 |
| 1A7GT | 3.70 | 2A3 | 6.30 | 3Q5GT | 3.60 | 5B8 | 3.90 | 5Y4GT | 2.60 |
| 1AX2 | 3.05 | 2AF4 | 4.05 | 3S4 | 2.45 | 5BE8 | 3.30 | 5Z3 | 3.05 |
| 1B3GT | 2.90 | 2AF4A | 4.05 | 3V4 | 2.35 | 5BK7A | 3.40 | 6A7 | 4.65 |
| 1DN5 | 2.20 | 2BN4 | 2.55 | 4AU6 | 2.20 | 5BQ7A | 4.00 | 6A8 | 4.80 |
| 1G3GT | 2.90 | 2CY5 | 2.80 | 4BA6 | 2.05 | 5BR8 | 3.30 | 6AB4 | 2.15 |
| 1H2 | 3.20 | 2X2A | 2.60 | 4BC5 | 2.35 | 5BT8 | 3.30 | 6AC7 | 4.25 |
| 1H5GT | 3.05 | 3A2 | 3.50 | 4BC8 | 4.05 | 5BW8 | 3.40 | 6AC7Y | 4.65 |
| 1J3 | 2.90 | 3A3 | 3.40 | 4BE6 | 2.25 | 5BZ7 | 3.80 | 6AD7G | 5.90 |
| 1K3/1J3 | 2.90 | 3AF4A | 4.05 | 4BN6 | 3.05 | 5CG8 | 3.20 | 6AF3 | 2.80 |
| 1L4 | 2.90 | 3AL5 | 1.85 | 4BQ7A | 4.00 | 5CL8 | 3.15 | 6AF4 | 4.00 |
| 1L6 | 3.35 | 3AU6 | 2.15 | 4BS8 | 3.85 | 5CL8A | 3.15 | 6AF4A | 4.00 |
| 1LA6 | 4.10 | 3AV6 | 1.75 | 4BU8 | 2.80 | 5CQ8 | 3.35 | 6AF6G | 3.65 |
| 1LB4 | 4.45 | 3B2 | 6.25 | 4BZ6 | 2.25 | 5CZ5 | 2.85 | 6AG5 | 2.60 |
| 1LC5 | 4.05 | 3BA6 | 2.15 | 4BZ7 | 4.05 | 5DH8 | 4.05 | 6AG7 | 5.10 |
| 1LC6 | 4.10 | 3BC5 | 2.35 | 4CB6 | 2.25 | 5EA8 | 3.15 | 6AG7Y | 5.45 |
| 1LD5 | 4.25 | 3BE6 | 2.25 | 4CE5 | 2.35 | 5EU8 | 3.20 | 6AH4GT | 3.30 |
| 1LH4 | 3.95 | 3BN4 | 2.55 | 4CE5/4BC5 | 2.35 | 5J6 | 2.80 | 6AH6 | 4.65 |
| 1LN5 | 3.95 | 3BN6 | 3.05 | 4CS6 | 2.35 | 5T8 | 3.40 | 6AJ4 | 5.90 |
| 1N5GT | 3.65 | 3BU8 | 2.80 | 4CY5 | 2.85 | 5U4G | 2.05 | 6AK5 | 4.65 |
| 1R5 | 2.55 | 3BY6 | 2.35 | 4DT6 | 2.20 | 5U4GA | 2.00 | 6AK6 | 3.20 |
| 1S2A | 3.00 | 3BZ6 | 2.25 | 5AM8 | 3.30 | 5U4GA/5U4GB | 2.00 | 6AL5 | 1.85 |
| 1S4 | 3.65 | 3CB6 | 2.25 | 5AN8 | 3.55 | 5U4GB | 2.00 | 6AL7GT | 5.75 |
| 1S5 | 2.55 | 3CE5 | 2.35 | 5AQ5 | 2.20 | 5U8 | 3.30 | 6AM4 | 5.90 |
| 1T4 | 2.40 | 3CE5/3BC5 | 2.35 | 5AS4 | 2.15 | 5V3 | 3.65 | 6AM8 | 3.25 |
| 1U4 | 2.35 | 3CF6 | 2.55 | 5AS8 | 3.40 | 5V4G | 3.30 | 6AN4 | 4.95 |
| 1U5 | 2.05 | 3CS6 | 2.40 | 5AT8 | 3.25 | 5V4GA | 3.30 | 6AN8 | 3.50 |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**TRADE DISCOUNT APPLIES TO LIST PRICES ONLY**

World Radio History

# DuMont® RECEIVING TUBES

| Type | List Price |
|---|---|
| 6AQ5 | 2.15 |
| 6AQ5A | 2.15 |
| 6AQ6 | 2.20 |
| 6AQ7GT | 4.00 |
| 6AR5 | 2.60 |
| 6AR8 | 4.35 |
| 6AS5 | 2.40 |
| 6AS7GA | 9.60 |
| 6AS8 | 3.35 |
| 6AT6 | 1.90 |
| 6AT8 | 3.20 |
| 6AU4GTA | 3.35 |
| 6AU5GT | 4.30 |
| 6AU6 | 2.10 |
| 6AU6A | 2.10 |
| 6AU8 | 3.50 |
| 6AU8A | 3.50 |
| 6AV5GA | 3.80 |
| 6AV5GT | 3.80 |
| 6AV6 | 1.65 |
| 6AW8A | 3.55 |
| 6AX4GT | 2.65 |
| 6AX5GT | 2.95 |
| 6AZ8 | 4.20 |
| 6B4G | 4.70 |
| 6B8 | 4.35 |
| 6BA6 | 2.00 |
| 6BA7 | 3.70 |
| 6BA8A | 3.55 |
| 6BC5 | 2.30 |
| 6BC7 | 3.80 |
| 6BC8 | 4.00 |
| 6BD6 | 2.30 |
| 6BE6 | 2.20 |
| 6BF5 | 3.55 |
| 6BF6 | 1.80 |
| 6BG6GA | 6.50 |
| 6BH6 | 2.70 |
| 6BH8 | 3.50 |
| 6BJ6 | 2.60 |
| 6BJ7 | 2.95 |
| 6BJ8 | 2.80 |
| 6BK4 | 7.10 |
| 6BK5 | 3.50 |
| 6BK7A | 3.35 |
| 6BK7B | 3.35 |
| 6BL7GT | 3.95 |
| 6BL7GTA | 3.95 |
| 6BN4 | 2.50 |
| 6BN6 | 3.05 |
| 6BN8 | 2.70 |
| 6BQ5 | 2.60 |
| 6BQ6GA | 4.35 |
| 6BQ6GA/6CU6 | 4.35 |
| 6BQ6GT | 4.35 |
| 6BQ6GTB | 4.35 |
| 6BQ7A | 3.95 |
| 6BR8 | 3.30 |
| 6BS8 | 3.75 |
| 6BU8 | 2.80 |
| 6BV8 | 3.20 |
| 6BW4 | 1.85 |
| 6BW8 | 3.30 |
| 6BX7GT | 4.00 |
| 6BY5G | 4.20 |
| 6BY5GA | 4.20 |
| 6BY6 | 2.35 |
| 6BY8 | 2.65 |
| 6BZ6 | 2.25 |
| 6BZ7 | 4.00 |
| 6BZ8 | 4.25 |
| 6C4 | 1.85 |
| 6C5 | 2.65 |
| 6C6 | 4.35 |
| 6C8G | 5.10 |
| 6CA5 | 2.40 |
| 6CB5A | 7.50 |

| Type | List Price |
|---|---|
| 6CB6 | 2.25 |
| 6CB6A | 2.25 |
| 6CD6GA | 5.80 |
| 6CE5 | 2.35 |
| 6CE5/6BC5 | 2.35 |
| 6CF6 | 2.55 |
| 6CG7 | 2.45 |
| 6CG8 | 3.15 |
| 6CG8A | 3.15 |
| 6CG7 | 2.45 |
| 6CG8 | 3.15 |
| 6CG8A | 3.15 |
| 6CH8 | 3.60 |
| 6CK4 | 2.80 |
| 6CL6 | 3.75 |
| 6CL8 | 3.15 |
| 6CL8A | 3.15 |
| 6CM6 | 2.55 |
| 6CM7 | 2.75 |
| 6CN7 | 2.60 |
| 6CQ8 | 3.30 |
| 6CR6 | 2.40 |
| 6CS6 | 2.35 |
| 6CS7 | 2.80 |
| 6CU5 | 2.35 |
| 6CU6 | 4.35 |
| 6CU8 | 3.65 |
| 6CX8 | 3.65 |
| 6CY5 | 2.80 |
| 6CY7 | 2.95 |
| 6CZ5 | 2.80 |
| 6D6 | 4.35 |
| 6DA4 | 2.70 |
| 6DE6 | 2.45 |
| 6DG6GT | 2.50 |
| 6DK6 | 2.35 |
| 6DN7 | 3.50 |
| 6DQ5 | 7.65 |
| 6DQ6 | 4.10 |
| 6DQ6A | 4.10 |
| 6DS5 | 2.65 |
| 6DT6 | 2.15 |
| 6E5 | 3.00 |
| 6EA8 | 3.20 |
| 6EB8 | 3.70 |
| 6EH8 | 3.20 |
| 6EW6 | 2.20 |
| 6F5 | 3.10 |
| 6F6 | 3.65 |
| 6F6GT | 3.65 |
| 6F8G | 4.85 |
| 6G6G | 3.75 |
| 6H6 | 2.80 |
| 6J5 | 2.70 |
| 6J6 | 2.80 |
| 6J7 | 4.00 |
| 6K6GT | 2.35 |
| 6K7 | 4.00 |
| 6K8 | 4.45 |
| 6L6 | 6.10 |
| 6L6GB | 4.20 |
| 6L7G | 4.35 |
| 6N7 | 4.30 |
| 6Q7 | 3.25 |
| 6S4A | 2.05 |
| 6S8GT | 2.75 |
| 6SA7 | 3.40 |
| 6SA7Y | 3.90 |
| 6SB7Y | 4.35 |
| 6SC7 | 3.35 |
| 6SF5 | 2.55 |
| 6SF7 | 3.90 |
| 6SG7 | 3.75 |
| 6SG7Y | 4.10 |
| 6SH7 | 3.35 |
| 6SJ7 | 3.20 |
| 6SJ7Y | 3.40 |

| Type | List Price |
|---|---|
| 6SK7 | 3.10 |
| 6SK7Y | 3.45 |
| 6SL7GT | 3.30 |
| 6SN7GTB | 2.60 |
| 6SQ7 | 2.85 |
| 6SR7 | 2.60 |
| 6SS7 | 3.50 |
| 6SV7 | 3.65 |
| 6T4 | 4.35 |
| 6T8 | 3.35 |
| 6T8A | 3.35 |
| 6U5/6G5 | 3.15 |
| 6U8 | 3.30 |
| 6U8A | 3.30 |
| 6V3 | 4.35 |
| 6V3A | 4.35 |
| 6V6 | 4.20 |
| 6V6GT | 2.15 |
| 6V6GTY | 2.80 |
| 6W4GT | 2.40 |
| 6W6GT | 2.80 |
| 6X4 | 1.65 |
| 6X5GT | 2.05 |
| 6X8 | 3.15 |
| 6X8A | 3.15 |
| 6Y6G | 3.45 |
| 6Y6GT | 3.45 |
| 7A4 | 3.25 |
| 7A6 | 3.15 |
| 7A7 | 3.50 |
| 7A8 | 4.45 |
| 7AF7 | 3.85 |
| TAG7 | 3.85 |
| TAU7 | 2.60 |
| 7B4 | 3.05 |
| 7B5 | 4.75 |
| 7B6 | 3.25 |
| 7B7 | 3.30 |
| 7B8 | 3.55 |
| 7C5 | 3.35 |
| 7C6 | 3.30 |
| 7C7 | 3.05 |
| 7EY6 | 3.00 |
| 7F7 | 3.65 |
| 7F8 | 4.60 |
| 7H7 | 3.90 |
| 7J7 | 5.15 |
| 7K7 | 4.45 |
| 7N7 | 3.40 |
| 7Q7 | 4.10 |
| 7S7 | 4.75 |
| 7V7 | 4.65 |
| 7X7 | 5.85 |
| 7Y4 | 2.75 |
| 7Z4 | 2.75 |
| 8AU8 | 3.50 |
| 8AU8A | 3.50 |
| 8AW8A | 3.65 |
| 8BQ5 | 2.65 |
| 8CG7 | 2.50 |
| 8CM7 | 2.80 |
| 8CN7 | 2.60 |
| 8CS7 | 2.95 |
| 8CX8 | 3.70 |
| 8EB8 | 3.80 |
| 9CL8 | 3.15 |
| 9U8A | 3.30 |
| 10C8 | 4.25 |
| 10DE7 | 2.95 |
| 11CY7 | 3.00 |
| 12A4 | 3.45 |
| 12A6 | 4.80 |
| 12AB5 | 2.45 |
| 12AC6 | 2.20 |
| 12AD6 | 2.25 |
| 12AE6 | 1.85 |
| 12AF3 | 2.80 |

| Type | List Price |
|---|---|
| 12AF6 | 2.25 |
| 12AJ6 | 1.75 |
| 12AL5 | 1.90 |
| 12AL8 | 4.05 |
| 12AQ5 | 2.40 |
| 12AT6 | 1.65 |
| 12AT7 | 3.05 |
| 12AU6 | 2.15 |
| 12AU7 | 2.45 |
| 12AU7A | 2.45 |
| 12AV5GA | 3.85 |
| 12AV6 | 1.65 |
| 12AV7 | 3.15 |
| 12AW6 | 2.95 |
| 12AX4GTA | 2.70 |
| 12AX7 | 2.55 |
| 12AZ7 | 2.70 |
| 12B4A | 2.70 |
| 12BA6 | 2.00 |
| 12BA7 | 3.95 |
| 12BD6 | 2.25 |
| 12BE6 | 2.15 |
| 12BF6 | 1.80 |
| 12BH7 | 3.05 |
| 12BH7A | 3.05 |
| 12BK5 | 3.80 |
| 12BL6 | 2.15 |
| 12BN6 | 3.05 |
| 12BQ6GA | 4.45 |
| 12BQ6GA/12CU6 | 4.45 |
| 12BQ6GTB | 4.45 |
| 12BR7 | 2.60 |
| 12BV7 | 3.05 |
| 12BY7A | 3.05 |
| 12BZ7 | 3.05 |
| 12C5 | 2.35 |
| 12C5/12CU5 | 2.35 |
| 12CA5 | 2.50 |
| 12CN5 | 2.25 |
| 12CR6 | 2.40 |
| 12CT8 | 4.05 |
| 12CU5 | 2.35 |
| 12CU6 | 4.45 |
| 12CX6 | 2.25 |
| 12D4 | 2.75 |
| 12DB5 | 2.75 |
| 12DE8 | 2.75 |
| 12DK7 | 2.85 |
| 12DL8 | 3.90 |
| 12DQ6 | 4.20 |
| 12DQ6A | 4.20 |
| 12DQ7 | 3.30 |
| 12DV8 | 3.35 |
| 12DZ6 | 2.25 |
| 12EA6 | 2.25 |
| 12EG6 | 2.20 |
| 12EK6 | 2.25 |
| 12F8 | 2.55 |
| 12FM6 | 1.90 |
| 12H6 | 2.65 |
| 12J5 | 2.70 |
| 12J8 | 3.30 |
| 12K5 | 2.70 |
| 12K7GT | 4.05 |
| 12L6GT | 2.45 |
| 12Q7GT | 3.35 |
| 12R5 | 2.60 |
| 12SA7 | 3.40 |
| 12SA7Y | 3.90 |
| 12SC7 | 3.35 |
| 12SF5 | 2.65 |
| 12SF7 | 3.75 |
| 12SG7 | 3.75 |
| 12SG7Y | 4.10 |
| 12SH7 | 3.65 |
| 12SJ7 | 3.20 |
| 12SK7 | 3.05 |

| Type | List Price |
|---|---|
| 12SK7Y | 3.45 |
| 12SL7GT | 3.75 |
| 12SN7GTA | 2.70 |
| 12SQ7 | 2.85 |
| 12SR7 | 2.65 |
| 12V6GT | 2.15 |
| 12W6GT | 3.00 |
| 12X4 | 1.80 |
| 14A7/12B7 | 3.50 |
| 14AF7 | 3.80 |
| 14B6 | 3.30 |
| 14H7 | 4.10 |
| 14Q7 | 4.10 |
| 17AX4GT | 2.70 |
| 17D4 | 2.75 |
| 17DQ6A | 4.20 |
| 17H3 | 2.15 |
| 18A5 | 4.10 |
| 19AU4GTA | 3.45 |
| 19BG6G | 6.50 |
| 19BG6GA | 6.50 |
| 19T8 | 3.35 |
| 21EX6 | 5.55 |
| 25AV5GA | 4.10 |
| 25AX4GT | 2.85 |
| 25BK5 | 3.65 |
| 25BQ6GA | 4.60 |
| 25BQ6GA/25CU6 | 4.60 |
| 25BQ6GTB | 4.60 |
| 25C5 | 2.15 |
| 25CA5 | 2.50 |
| 25CD6GB | 5.85 |
| 25CU6 | 4.60 |
| 25DN6 | 5.55 |
| 25DQ6 | 4.20 |
| 25EC6 | 5.70 |
| 25L6GT | 2.20 |
| 25W4GT | 2.70 |
| 25W6GT | 3.10 |
| 25Z5 | 2.90 |
| 25Z6GT | 2.90 |
| 26 | 4.35 |
| 27 | 4.35 |
| 35A5 | 3.50 |
| 35B5 | 2.65 |
| 35C5 | 2.15 |
| 35L6GT | 2.40 |
| 35W4 | 1.40 |
| 35Y4 | 2.75 |
| 35Z3 | 2.75 |
| 35Z5GT | 1.85 |
| 41 | 3.50 |
| 42 | 3.50 |
| 43 | 4.75 |
| 50A5 | 3.95 |
| 50B5 | 2.65 |
| 50C5 | 2.15 |
| 50DC4 | 1.50 |
| 50L6GT | 2.40 |
| 50X6 | 3.20 |
| 50Y6GT | 2.95 |
| 50Y7GT | 3.05 |
| 75 | 5.10 |
| 78 | 5.10 |
| 80 | 2.90 |
| 83 | 3.50 |
| 84/6Z4 | 2.60 |
| 117L7/M7GT | 10.15 |
| 117N7GT | 9.30 |
| 117P7GT | 9.30 |
| 117Z3 | 2.50 |
| 117Z6GT | 4.40 |
| GZ-34 | 4.50 |

* Will drop from line in favor of A version
(N) Indicates types not taxable
Prices subject to change without notice.

☐ Additions to the DuMont Line
▲ Denotes Price Increase

■ Change in Code Designation
▼ Denotes Price Decrease

**ALLEN B. DU MONT LABS., INC.** TELEVISION TUBE DIVISION CLIFTON, N. J.

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World Radio History

# PENTA

*high-efficiency*

# POWER TUBES

Major electronic equipment manufacturers specify Penta high vacuum and hydrogen thyratron tubes where long life, uniform high quality, and adherence to specifications are strict requirements. Thorough quality control and life testing under conditions simulating actual use assures maximum durability.

Whether your requirements are for the new beam pentodes — for applications where superior linearity and low distortion at high efficiency are critical requirements — the new miniaturized hydrogen thyratrons — or the older conventional types — Penta is your logical source.

PL-172 Beam Pentode

PL-5C22/HT-415 Hydrogen Thyratron

PL-4-400A Tetrode

PL-165A Hydrogen Thyraton

PL-6549 Beam Pentode

| Type | Fil. Volts | Fil. Current Amps. | Plate Diss. Max. W. | Plate Volt Max. | Plate Current Ma., Max. | Screen Volt. Max. | List Price |
|---|---|---|---|---|---|---|---|
| **BEAM PENTODES** | | | | | | | |
| PL-172*† | 6.0 | 7.5 | 1000 | 3,000 | 1000 | 600 | $135.00 |
| PL-175* | 5.0 | 14.5 | 400 | 4,000 | 350 | 800 | 50.00 |
| PL-177A* | 6.0 | 3.3 | 75 | 2,000 | 175 | 600 | 22.50 |
| PL-6549 | 6.0 | 3.3 | 75 | 2,000 | 175 | 600 | 22.50 |
| **TETRODES** | | | | | | | |
| PL-4D21 (4-125A) | 5.0 | 6.5 | 125 | 3,000 | 225 | 600 | 28.75 |
| PL-4D21A | 5.0 | 6.5 | 175 | 3,000 | 225 | 600 | 31.25 |
| PL-5D22 (4-250A) | 5.0 | 14.5 | 250 | 4,000 | 350 | 800 | 41.25 |
| PL-4-400A | 5.0 | 14.5 | 400 | 4,000 | 350 | 800 | 48.00 |
| **TRIODES** *(Grounded-Grid Types)* | | | | | | | |
| PL-6569 | 5.0 | 14.5 | 250 | 4,000 | 300 | $\mu$=45 | 32.50 |
| PL-6580 | 5.0 | 14.5 | 400 | 4,000 | 300 | $\mu$=45 | 40.00 |
| **HIGH-VOLTAGE RECTIFIER** | | | | | | | |
| PL-250R | 5.0 | 10.5 | ..... | 60.000** | 250 | ..... | 25.00 |
| **HYDROGEN THYRATRONS** *(Low-jitter Types)* | | | | | | | |
| PL-5C22/HT-415 | 6.3 | 10.5 | ..... | 16,000 | 325 amp. | ..... | 36.00 |
| PL-161 | 6.3 | 10.5 | ..... | 16,000 | 325 amp. | ..... | 56.00 |
| PL-165A | 6.3 | 7.8 | ..... | 12,000 | 225 amp. | ..... | 56.00 |

* *Zero-Suppressor Voltage Type*
** *Peak Inverse Voltage Rating*
† *External Anode Type*

PL-169A Vacuum Switch

**VACUUM SWITCHES**

| | | |
|---|---|---|
| PL-R1 | S.P.D.T. 21 Kv. Max. Volt. 6-A avg., 150-A peak current, Max. | 33.00 |
| PL-169A | S.P.D.T. 21 Kv. Max. Volt. 30-A avg., 500-A peak current, Max. | 40.00 |

**PL-184 SOCKET (FOR PL-172 PENTODE)**

Provides electrical connections and air-flow directing means for the PL-172 beam pentode. Includes contact provisions for all base pins and the screen-grid and suppressor-grid ring terminals. Radio-frequency by-pass capacitors for both screen and suppressor grids are included. **38.75**

## PENTA LABORATORIES, INC.

*SANTA BARBARA 2, CALIFORNIA*

***Sales Representatives in Principal Cities***



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

*Reliable products through Advanced-Engineering*

# CBS tubes · semiconductors

**CBS-HYTRON**
Main Office: Danvers, Massachusetts
*A Division of Columbia Broadcasting System, Inc.*

## RECEIVING TUBES

| TYPE | LIST PRICE |
|---|---|
| OZ4 | $ 1.90 |
| OZ4G | 2.10 |
| 1A5GT | 3.20 |
| 1A7GT | 3.70 |
| 1AH4 | 3.05 |
| 1AJ5 | 3.20 |
| 1AX2 | 3.05 |
| 1B3GT | 2.90 |
| 1C5GT* | 3.65 |
| 1G3GT 1B3GT | 2.90 |
| 1H5GT | 3.05 |
| 1J3 | 2.90 |
| 1K3; 1L4 | ea. 2.90 |
| 1L6 | 3.35 |
| 1LA4* | 4.45 |
| 1LA6 | 4.10 |
| 1LB4 | 4.45 |
| 1LC5 | 4.05 |
| 1LC6 | 4.10 |
| 1LD5 | 4.25 |
| 1LE3 | 4.25 |
| 1LH4 | 3.95 |
| 1LN5 | 3.95 |
| 1N5GT | 3.65 |
| 1Q5GT* | 4.05 |
| 1R5 | 2.55 |
| 1S4 | 3.65 |
| 1S5 | 2.55 |
| 1T4 | 2.40 |
| 1U4 | 2.35 |
| 1U5 | 2.10 |
| 1V* | 3.65 |
| 1V2 | 2.00 |
| 1V6 | 3.90 |
| 1X2B | 3.05 |
| 2A3 | 6.30 |
| 2A6* | 3.65 |
| 2AF4A | 3.95 |
| 2BN4 | 2.55 |
| 2CY5 | 2.85 |
| 3A2 | 3.50 |
| 3A3 | 3.40 |
| 3AF4A | 4.05 |
| 3AL5 | 1.85 |
| 3AU6 | 2.15 |
| 3AV6 | 1.75 |
| 3B2 | 6.25 |
| 3BA6 | 2.15 |
| 3BC5 | 2.35 |
| 3BE6 | 2.25 |
| 3BN6 | 3.05 |
| 3BU8 | 2.85 |
| 3BY6 | 2.35 |
| 3BZ6 | 2.45 |
| 3CB6 | 2.30 |
| 3CF6 | 2.55 |
| 3CS6 | 2.50 |
| 3DK6 | 2 40 |
| 3DT6 | 2.20 |
| 3LF4 | 4.20 |
| 3Q4 | 2.75 |

| TYPE | LIST PRICE |
|---|---|
| 3Q5GT | 3.60 |
| 3S4 | 2.45 |
| 3V4 | 2.35 |
| 4AO1 | 3.40 |
| 4AU6 | 2.20 |
| 4BC5 | 2.35 |
| 4BC8 | 4.05 |
| 4BN6 | 3.05 |
| 4BQ7A | 4.00 |
| 4BS8 | 3.85 |
| 4BU8 | 2.85 |
| 4BZ6 | 2.25 |
| 4BZ7 | 4.05 |
| 4CB6 | 2.30 |
| 4DT6 | 2.20 |
| 5AM8 | 3.20 |
| 5AN8 | 3.55 |
| 5AQ5 | 2.20 |
| 5AS4A | 2.15 |
| 5AS8 | 3.40 |
| 5AT8 | 3.25 |
| 5AV8 | 4.05 |
| 5AW4 | 2.65 |
| 5AZ4 | 2.65 |
| 5B8 | 3.95 |
| 5BE8 | 3.30 |
| 5BK7A | 3.40 |
| 5BQ7A | 4.00 |
| 5BR8 | 3.30 |
| 5BT8 | 3.30 |
| 5CG8 | 3.20 |
| 5CL8 | 3.15 |
| 5CM8 | 3.55 |
| 5CQ8 | 3.40 |
| 5CZ5 | 2.85 |
| 5DH8 | 3.55 |
| 5J6 | 2.85 |
| 5T8 | 3.40 |
| 5U4G | 2.05 |
| 5U4GB | 2.00 |
| 5U8 | 3.30 |
| 5V3 | 3.65 |
| 5V4GA | 3.30 |
| 5V6GT | 2.20 |
| 5X8 | 3.25 |
| 5Y3GT | 1.75 |
| 5Y4GA | 2.65 |
| 5Y4GT | 2.30 |
| 5Z3 | 3.05 |
| 5Z4 | 4.55 |
| 6A7 | 4.65 |
| 6A8 | 4.80 |
| 6A8G | 4.80 |
| 6A8GT | 4.80 |
| 6AB4 | 2.15 |
| 6AB7 | 5.00 |
| 6AC5GT | 4.35 |
| 6AC7 | 4.05 |
| 6AD7G | 5.90 |
| 6AF4; 6AF4A | ea. 4.00 |

| TYPE | LIST PRICE |
|---|---|
| 6AG5 | 2.60 |
| 6AG7 | 4.60 |
| 6AH4GT | 3.30 |
| 6AH6 | 4.70 |
| 6AK5 | 4.65 |
| 6AK6 | 3.20 |
| 6AL5 | 1.85 |
| 6AL7GT** | 5.50 |
| 6AM4 | 5.70 |
| 6AM8; 6AM8A | ea. 3.25 |
| 6AN4 | 4.95 |
| 6AN8 | 3.50 |
| 6AQ5 | 2.15 |
| 6AQ5A | 2.15 |
| 6AQ6 | 2.20 |
| 6AQ7GT | 4.00 |
| 6AR5 | 2.65 |
| 6AS5 | 2.40 |
| 6AS8 | 3.40 |
| 6AT6 | 1.90 |
| 6AT8A | 3.20 |
| 6AU4GT | 3.40 |
| 6AU4GTA | 3.40 |
| 6AU5GT | 4.30 |
| 6AU6; 6AU6A | ea. 2.10 |
| 6AU8 | 3.50 |
| 6AV5GA | 3.80 |
| 6AV6 | 1.65 |
| 6AW8A | 3.55 |
| 6AX4GT | 2.65 |
| 6AX5GT | 2.95 |
| 6AZ8 | 4.20 |
| 6B7 | 3.70 |
| 6BA6 | 2.00 |
| 6BA7 | 3.70 |
| 6BA8A | 3.55 |
| 6BC5 | 2.30 |
| 6BC7 | 3.80 |
| 6BC8 | 4.00 |
| 6BD4A | 22.35 |
| 6BD6 | 2.30 |
| 6BE6 | 2.20 |
| 6BF5 | 3.55 |
| 6BF6 | 1.80 |
| 6BG6G | 6.50 |
| 6BG6GA | 6.50 |
| 6BH6 | 2.70 |
| 6BH8 | 3.50 |
| 6BJ6 | 2.60 |
| 6BJ7 | 3.00 |
| 6BJ8 | 2.85 |
| 6BK4 | 7.10 |
| 6BK5 | 3.50 |
| 6BK7A | 3.40 |
| 6BK7B | 3.40 |
| 6BL7GTA | 3.95 |
| 6BN4 | 2.50 |
| 6BN6 | 3.05 |
| 6BN8 | 2.70 |

| TYPE | LIST PRICE |
|---|---|
| 6BQ6GT | 4.35 |
| 6BQ5 | 2.60 |
| 6BQ7A | 3.95 |
| 6BR8 | 3.30 |
| 6BS8 | 3.75 |
| 6BU8 | 2.80 |
| 6BV8 | 3.05 |
| 6BW8 | 3.25 |
| 6BX7GT | 4.00 |
| 6BY5GA | 4.20 |
| 6BY6 | 2.35 |
| 6BY8 | 2.65 |
| 6BZ6 | 2.25 |
| 6BZ7 | 4.00 |
| 6BZ8 | 4.25 |
| 6C4 | 1.85 |
| 6C5 | 2.75 |
| 6C5GT | 2.90 |
| 6C6 | 4.35 |
| 6C8G | 5.10 |
| 6CB5A | 7.50 |
| 6CB6; 6CB6A | ea. 2.25 |
| 6CD6G; 6CD6GA | ea. 5.80 |
| 6CE5 | 2.35 |
| 6CF6 | 2.55 |
| 6CG7 | 2.45 |
| 6CG8A | 3.15 |
| 6CH8 | 3.60 |
| 6CL6 | 3.75 |
| 6CL8 | 3.15 |
| 6CM6 | 2.55 |
| 6CM7 | 2.75 |
| 6CN7 | 2.60 |
| 6CQ8 | 3.30 |
| 6CR6 | 2.40 |
| 6CS6 | 2.35 |
| 6CS7 | 2.80 |
| 6CU5 | 2.35 |
| 6CU6 | 4.35 |
| 6CU6 6BQ6GA | 4.35 |
| 6CU6 6BQ6GTA | 4.35 |
| 6CU6 6BQ6GTB | 4.35 |
| 6CU8; 6CX8 | ea. 3.65 |
| 6CY5 | 2.80 |
| 6CY7 | 2.90 |
| 6CZ5 | 2.85 |
| 6D6 | 4.35 |
| 6DB5 | 2.70 |
| 6DC6 | 2.80 |
| 6DE6 | 2.45 |
| 6DG6GT | 2.50 |
| 6DK6 | 2.35 |
| 6DN6 | 6.25 |
| 6DQ5 | 7.70 |
| 6DQ6A | 4.15 |
| 6DS5 | 2.65 |
| 6DT6 | 2.15 |
| 6E5** | 3.00 |

| TYPE | LIST PRICE |
|---|---|
| 6F5; 6F5GT | ea. 3.10 |
| 6F6; 6F6G | ea. 3.65 |
| 6F6GT | 3.65 |
| 6F8G | 4.95 |
| 6H6 | 2.80 |
| 6J5; 6J5GT | ea. 2.55 |
| 6J6 | 2.80 |
| 6J7; 6J7G* | ea. 3.65 |
| 6J7GT | 3.65 |
| 6J8G | 4.10 |
| 6K6GT | 2.35 |
| 6K7 | 3.80 |
| 6K7G* | 3.80 |
| 6K7GT* | 3.80 |
| 6K8 | 4.45 |
| 6L6 | 6.10 |
| 6L6GB | 4.20 |
| 6L7 | 4.35 |
| 6L7G* | 4.35 |
| 6N7 | 4.00 |
| 6N7GT* | 4.35 |
| 6P5GT* | 2.80 |
| 6Q7 | 3.40 |
| 6Q7G* | 3.20 |
| 6Q7GT | 3.20 |
| 6R7 | 3.60 |
| 6R7GT | 2.90 |
| 6S4A | 2.10 |
| 6S7G | 3.70 |
| 6S8GT | 2.90 |
| 6SA7; 7GT | ea. 3.25 |
| 6SB7Y | 4.40 |
| 6SC7 | 3.15 |
| 6SD7GT | 4.05 |
| 6SF5 | 2.70 |
| 6SF5GT* | 3.20 |
| 6SF7 | 3.95 |
| 6SG7 | 3.45 |
| 6SH7 | 3.50 |
| 6SJ7 | 2.75 |
| 6SJ7GT | 3.20 |
| 6SK7; 7GT | ea. 3.05 |
| 6SL7GT | 3.30 |
| 6SN7GT | 2.60 |
| 6SN7GTA | 2.60 |
| 6SN7GTB | 2.60 |
| 6SQ7; 7GT | ea. 2.70 |
| 6SR7 | 2.70 |
| 6SS7 | 3.50 |
| 6SV7* | 3.85 |
| 6T4 | 4.35 |
| 6T8; 6T8A | ea. 3.40 |
| 6U5** | 3.15 |
| 6U7G | 2.55 |
| 6U8A | 3.30 |
| 6V3A; 6V6 | ea. 4.35 |
| 6V6GT | 2.15 |
| 6W4GT | 2.40 |
| 6W6GT | 2.85 |
| 6X4 | 1.65 |

| TYPE | LIST PRICE |
|---|---|
| 6X5GT | 2.10 |
| 6X8 | 3.15 |
| 6Y6G | 3.45 |
| 6Y6GA | 3.45 |
| 7A4 | 3.25 |
| 7A6 | 3.15 |
| 7A7 | 3.50 |
| 7A8 | 4.45 |
| 7AD7* | 6.45 |
| 7AF7 | 3.85 |
| 7AG7; 7AH7 | ea. 3.85 |
| 7AU7 | 2.60 |
| 7B5 | 4.75 |
| 7B6 | 3.25 |
| 7B7 | 3.30 |
| 7B8 | 3.55 |
| 7C5 | 3.35 |
| 7C6 | 3.30 |
| 7C7 | 3.05 |
| 7E7 | 4.45 |
| 7F7 | 3.65 |
| 7F8 | 4.60 |
| 7G7* | 4.00 |
| 7H7 | 3.95 |
| 7J7* | 5.15 |
| 7L7* | 4.25 |
| 7N7 | 3.40 |
| 7Q7 | 4.10 |
| 7R7 | 5.15 |
| 7V7 | 4.65 |
| 7W7 | 4.75 |
| 7X7 | 5.85 |
| 7Y4; 7Z4 | ea. 2.75 |
| 8AU8 | 3.55 |
| 8AW8A; 8BA8A | ea. 3.65 |
| 8CG7 | 2.50 |
| 8CM7 | 2.85 |
| 8CN7 | 2.60 |
| 8CS7 | 2.95 |
| 8CX8 | 3.70 |
| 9CL8 | 3.15 |
| 9U8A | 3.30 |
| 10C8 | 3.85 |
| 10DE7 | 2.95 |
| 12A4 | 2.55 |
| 12A8GT | 4.75 |
| 12AB5 | 2.45 |
| 12AC6 | 2.20 |
| 12AD6 | 2.30 |
| 12AE6 | 1.85 |
| 12AE7 | 3.10 |
| 12AF6 | 2.30 |
| 12AH7GT* | 3.85 |
| 12AJ6 | 1.75 |
| 12AL5 | 1.90 |
| 12AL8 | 4.05 |
| 12AQ5 | 2.40 |
| 12AT6 | 1.85 |
| 12AT7 | 3.05 |
| 12AU6 | 2.15 |
| 12AU7A | 2.45 |
| 12AV5GA | 3.85 |

*Discontinued when stock is exhausted.
**Non taxable.

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TRADE DISCOUNT APPLIES TO *LIST* PRICE ONLY



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## RECEIVING TUBES (Cont'd)

| TYPE | LIST PRICE |
|---|---|
| 12AV6 | 1.65 |
| 12AV7 | 3.10 |
| 12AX4GTA | 2.70 |
| 12AX7 | 2.55 |
| 12AZ7 | 2.65 |
| 12B4A | 2.70 |
| 12BA6 | 2.00 |
| 12BA7 | 3.95 |
| 12BD6 | 2.25 |
| 12BE6 | 2.15 |
| 12BF6 | 1.80 |
| 12BH7A | 3.05 |
| 12BK5 | 3.80 |
| 12BL6 | 2.15 |
| 12BQ6GA | 4.45 |
| 12BQGTA/B (See 12CU6) | 4.45 |
| 12BR7 | 2.60 |
| 12BV7; BY7A | ea. 3.05 |
| 12BZ7 | 3.05 |
| 12C5/12CU5 | 2.35 |
| 12CA5 | 2.50 |
| 12CN5 | 2.25 |
| 12CR6 | 2.40 |
| 12CS6 | 2.20 |
| 12CT8 | 3.65 |
| 12CU6 | 4.45 |
| 12CU6/12BQ6GA | 4.45 |
| 12CU6/12BQ6GTA | 4.45 |
| 12CU6/12BQ6GTB | 4.45 |
| 12CX6 | 2.25 |
| 12D4 | 2.75 |
| 12DB5 | 2.75 |
| 12DL8 | 3.95 |
| 12DQ6 | 4.20 |
| 12DQ6A | 4.20 |
| 12DV8 | 3.40 |
| 12DZ6 | 2.20 |
| 12EA6 | 2.20 |
| 12EG6 | 2.20 |
| 12EL6 | 1.75 |
| 12EM6 | 2.90 |
| 12F8 | 2.55 |
| 12H6 | 2.80 |
| 12J5GT | 2.70 |
| 12J7GT | 4.20 |
| 12J8 | 3.30 |
| 12K5 | 2.70 |
| 12K7GT | 4.05 |
| 12K8 | 4.80 |
| 12L6GT | 2.45 |
| 12Q7GT | 3.35 |
| 12R5 | 2.60 |
| 12SA7;12SA7GT | ea. 3.25 |
| 12SC7 | 3.35 |
| 12SF5 | 2.75 |
| 12SF7 | 3.95 |
| 12SG7 | 3.30 |
| 12SH7 | 3.65 |
| 12SJ7 | 2.90 |
| 12SJ7GT | 3.20 |
| 12SK7; 12SK7GT | ea. 3.05 |
| 12SL7GT | 3.75 |
| 12SN7GT;GTA | ea. 2.70 |
| 12SQ7; 12SQ7GT | ea. 2.65 |
| 12U7 | 2.50 |
| 12V6GT | 2.15 |
| 12W6GT | 3.00 |
| 12X4 | 1.80 |
| 14A4* | 3.95 |
| 14A7 | 3.50 |
| 14AF7 | 3.80 |
| 14B6 | 3.30 |
| 14C7* | 3.40 |
| 14F7 | 3.85 |
| 14F8 | 4.60 |
| 14H7* | 4.10 |
| 14N7* | 3.80 |
| 14Q7 | 4.10 |
| 14R7* | 5.15 |
| 14S7* | 4.60 |
| 17AV5GA | 3.85 |
| 17AX4GT | 2.70 |
| 17C5 | 2.35 |
| 17DQ6A | 4.20 |
| 17H3 | 1.95 |
| 17R5 | 2.60 |
| 18A5 | 3.75 |
| 19AU4; 4GTA | ea. 3.45 |
| 19BG6G; 6GA | ea. 6.50 |
| 19J6 | 3.15 |
| 19T8 | 3.40 |
| 24A | 4.15 |
| 25AV5GA | 3.80 |
| 25AX4GT | 2.90 |
| 25BK5 | 3.65 |
| 25BQ6GA | 4.60 |
| 25BQ6GT (See 25CU6) | 4.60 |
| 25BQ6GTB | 4.60 |
| 25C5 | 2.15 |
| 25CA5 | 2.50 |
| 25CD6GB | 5.85 |
| 25CU6 | 4.60 |
| 25CU6/25BQ6GA | 4.60 |
| 25CU6/25BQ6GTB | 4.60 |
| 25DN6 | 5.55 |
| 25EC6 | 5.50 |
| 25F5 | 2.35 |
| 25L6GT | 2.25 |
| 25W4GT | 2.70 |
| 25Z5 | 2.90 |
| 25Z6GT | 2.90 |
| 26* | 4.35 |
| 27 | 4.35 |
| 32L7GT* | 4.65 |
| 35A5 | 3.50 |
| 35B5 | 2.65 |
| 35C5 | 2.15 |
| 35L6GT | 2.40 |
| 35W4 | 1.40 |
| 35Y4 | 2.75 |
| 35Z3 | 2.75 |
| 35Z4GT | 2.35 |
| 35Z5GT | 1.85 |
| 38* | 4.35 |
| 39/44* | 4.35 |
| 41 | 3.50 |

| TV PICTURE TUBES | LIST |
|---|---|
| 42 | 3.50 |
| 43 | 4.75 |
| 47 | 8.70 |
| 50A5 | 3.95 |
| 50B5 | 2.65 |
| 50C5 | 2.15 |
| 50L6GT | 2.40 |
| 50X6 | 3.20 |
| 50Y6GT | 2.95 |
| 50Y7GT | 3.05 |
| 57 | 4.35 |
| 58 | 4.35 |
| 70L7GT | 10.15 |
| 75 | 5.10 |
| 78 | 5.10 |
| 80 | 2.90 |
| 84 | 2.65 |
| 117L7/M7GT | 10.15 |
| 117N7GT | 9.30 |
| 117P7GT | 9.30 |
| 117Z3 | 2.50 |
| 117Z6GT | 4.40 |
| 5642 | 5.00 |
| 7025 | 2.95 |

*Discontinued when stock is exhausted.

## TV PICTURE TUBES

| NUMBER | USER PRICE |
|---|---|
| 8DP4 | 21.35 |
| 8JP4 | 30.00 |
| 8XP4 | 22.00 |
| 10ABP4B | 23.25 |
| 10BP4A | 22.50 |
| 12KP4A | 31.75 |
| 12LP4A | 27.25 |
| 14BP4/14CP4/14EP4 | 29.25 |
| 14QP4 | 31.25 |
| 14QP4A | 38.00 |
| 14RP4 | 29.25 |
| 14RP4A | 36.00 |
| 14WP4 | 36.00 |
| 14XP4A | 38.00 |
| 16AEP4 | 35.25 |
| 16AP4A | 48.25 |
| 16DP4A | 45.75 |
| 16GP4B | 48.25 |
| 16JP4A | 44.50 |
| 16KP4/16RP4 | 33.25 |
| 16KP4A/16RP4A | 40.50 |
| 16LP4A/16ZP4 | 44.50 |
| 16TP4 | 33.25 |
| 16WP4A | 44.50 |
| 17ATP4/17AVP4 | 35.25 |
| 17ATP4A/17AVP4A | 42.50 |
| 17BJP4 | 42.50 |
| 17BP4A/17JP4 | 33.25 |
| 17BP4B | 40.50 |
| 17BRP4 | 47.75 |
| 17BSP4 | 42.50 |
| 17BVP4; 17BWP4 | ea. 47.75 |
| 17BZP4/17CAP4 | 47.75 |
| 17CEP4; 17CFP4 | ea. 42.50 |
| 17CLP4; 17CNP4 | ea. 42.50 |
| 17CP4 | 43.75 |
| 17GP4 | 48.25 |
| 17HP4/17RP4 | 35.25 |
| 17HP4B/17RP4C | 42.50 |
| 17LP4/17VP4 | 35.25 |
| 17LP4A/17VP4B | 42.50 |
| 17QP4/17UP4/17YP4 | 33.25 |
| 17QP4A | 40.50 |
| 17TP4 | 43.75 |
| 19AP4B | 52.50 |
| 20CP4/20DP4 | 40.25 |
| 20CP4A/20DP4A | 40.25 |
| 20CP4B/20DP4B | 48.00 |
| 20CP4D/20DP4C | 48.00 |
| 20HP4 | 42.00 |
| 20HP4A/20LP4/20MP4 | 42.00 |
| 20HP4C; 20HP4D | ea. 49.75 |
| 21ALP4 | 42.00 |
| 21ALP4B/A | 49.75 |
| 21AMP4/21ACP4 | 40.25 |
| 21AMP4A/21ACP4A/21BSP4 | 48.00 |
| 21AP4 | 50.75 |
| 21ATP4A/21ATP4 | 49.75 |
| 21AUP4 | 42.00 |
| 21AUP4B/A | |
| 21AVP4B/A | 49.75 |
| 21AWP4 | 48.00 |
| 21AXP22A | 160.00 |
| 205 Conversion Kit | 41.50 |
| Conversion Kit & Tube | 201.50 |
| 21BTP4 | 49.75 |
| 21CBP4/21CBP4A | 49.75 |
| 21CEP4; 21CQP4 | ea. 55.00 |
| 21CZP4; 21DAP4 | ea. 55.00 |
| 21DEP4 | 55.00 |
| 21EP4A | 42.00 |
| 21EP4B | 49.75 |
| 21FP4; 21FP4A | ea. 43.75 |
| 21FP4C | 51.50 |
| 21MP4 | 52.50 |
| 21WP4 | 40.25 |
| 21WP4A | 48.00 |
| 21XP4/21AYP4 | 42.00 |
| 21XP4A | 49.75 |
| 21YP4 | 42.00 |
| 21YP4A | 49.75 |
| 21ZP4A | 40.25 |
| 21ZP4B | 48.00 |
| 24AEP4 | 71.25 |
| 24AHP4 | 76.50 |
| 24ALP4 | 76.50 |
| 24CP4A/24VP4A/24TP4/24ADP4 | 69.00 |
| 24DP4A/24YP4 | 71.25 |
| 27EP4 | 118.75 |
| 27RP4 | 118.75 |

## INDUSTRIAL RECEIVING, POWER AND SPECIAL PURPOSE TUBES

| NUMBER | USER PRICE |
|---|---|
| 0A2(MIL-E-1) | 1.26 |
| OA2WA (MIL-E-1) | 3.80 |
| OA3 | 1.27 |
| OA4G | 1.68 |
| OB2(MIL-E-1) | 1.34 |
| OB2WA(MIL-E-1) | 4.10 |
| OB3 | 1.65 |
| OC3;OD3(MIL-E-1) | 1.27 |
| CE-1-A/B | 5.96 |
| 1AG4 | 3.25 |
| CE-1-C | 3.32 |
| CE-1-D | 2.68 |
| 1C21 | 3.85 |
| C1K/6014 | 12.90 |
| 1P23 | 2.68 |
| 1P30 | 7.08 |
| 1P31 | 5.26 |
| 1P32 | 2.68 |
| 1P33 | 5.34 |
| 1P35 | 18.24 |
| 1P36 | 9.04 |
| 1P37 | 3.45 |
| 1P39 | 2.15 |
| 1P40 | 3.00 |
| 1P41 | 3.45 |
| CE-1V-A/B | 10.08 |
| CE-1V-C | 4.91 |
| CE-1V-D | 4.27 |
| 2A4G | 2.40 |
| CE-2-A/B | 9.98 |
| CE-2-C | 7.08 |
| 2C39B | 32.15 |
| 2C40 | 27.50 |

(MIL-E-1)—Available to military specifications—Prices upon request.



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World Radio History

## INDUSTRIAL RECEIVING, POWER AND SPECIAL PURPOSE TUBES

| NUMBER | USER PRICE |
|---|---|
| 2C40A | 30.85 |
| 2C43 | 24.55 |
| 2C51(T) | 5.50 |
| CE-2-D | 5.47 |
| 2D21 | 1.62 |
| 2E24 | 4.65 |
| 2E25A | 7.15 |
| 2E26(MIL-E-1) | 3.85 |
| 2E30(MIL-E-1) | 2.95 |
| CE-2V-A/B | 9.98 |
| CE-2V-C | 7.66 |
| CE-2V-D | 5.26 |
| 2X2A | 2.55 |
| 3A4 | 1.20 |
| 3A5 | 1.25 |
| CE-3-A/B | 12.25 |
| 3B | 9.90 |
| 3B4(MIL-E-1) | 2.75 |
| 3B22/222 | 8.40 |
| 3B25 | 6.30 |
| 3B28 | 6.45 |
| CE-3-C | 9.04 |
| 3C23 | 11.98 |
| CE-3-D | 5.26 |
| 3D21A(MIL-E-1) | 11.90 |
| 3D21B(MIL-E-1) | 11.90 |
| 3E29 | 20.25 |
| C3J/5632 | 14.40 |
| C3P14 | 39.60 |
| C3R14 | 40.44 |
| CE-4-A/B | 9.98 |
| 4B26 | 5.34 |
| 4B28/225 | 5.34 |
| 4B31 | 35.25 |
| CE-4-C | 9.04 |
| CE-4-D | 7.04 |
| CE-4-V-A/B | 13.36 |
| CE-4V-C | 9.44 |
| 4X150A | 38.95 |
| 4X150D | 38.95 |
| CE-5 | 18.24 |
| CR-5 | 14.76 |
| 5B21 | 6.50 |
| C5F14 | 43.20 |
| 5R4GY | 1.90 |
| 5Y3WGTA(MIL-E-1) | 5.45 |
| 5Y3WGTB(MIL-E-1) | 6.30 |
| C6A | 38.58 |
| 6AJ5(T) | 4.35 |
| 6AS6(T) | 3.46 |
| 6AS7G | 4.45 |
| 6AS7GA | 4.45 |
| 6AU6WA | 3.60 |
| 6B | 13.00 |
| 6BQ5 | .... |
| 6C | 19.58 |
| 6CA7 | 3.60 |
| 6CF | 19.50 |
| 6D4 | 2.85 |
| C6J | 26.40 |
| 6J4(T) | 4.33 |
| 6J6WA(MIL-E-1) | 7.25 |
| C6J/A | 20.50 |

| NUMBER | USER PRICE |
|---|---|
| C6J/F;C6J/K | 29.40 |
| C6L | 38.88 |
| C6M | 37.08 |
| 6SL7WGT(T) | 3.25 |
| 6SN7WGT(T) | 2.70 |
| 6V6GTY(T) | 1.45 |
| UX-CV11 | 16.72 |
| CE-11V-C | 6.13 |
| CE-12 | 7.08 |
| 12A6(T) | 2.09 |
| 12AT7WA | 4.75 |
| 12AY7 | 2.42 |
| KY-21-A | 25.00 |
| RX-21-A | 24.64 |
| CE-21-C | 6.23 |
| CE-21-D | 5.34 |
| CE-22 | 5.16 |
| CE-B22-A/B | 8.57 |
| CE-B22-C | 5.16 |
| CE-B22-D | 3.83 |
| CE-B22V-A/B | 7.13 |
| CE-B22V-C | 3.83 |
| CE-B22V-D | 3.02 |
| CE-23-A/B | 5.80 |
| CE-23-C | 4.42 |
| CE-23-D | 2.23 |
| CE-25-A/B | 14.62 |
| CE-25-C | 4.90 |
| CE-25-D | 3.56 |
| CE-25V-A/B | 16.03 |
| CE-25V-C | 4.80 |
| CE-25V-D | 3.29 |
| CE-B25-A/B | 15.12 |
| CE-B25-C | 4.90 |
| CE-B25-D | 3.56 |
| 26A7GT | 7.25 |
| CE-A26 | 7.30 |
| CE-26-A/B | 11.76 |
| CE-26-C | 9.04 |
| CE-26-D | 5.34 |
| FG27A | 40.25 |
| CE-29-Q | 5.80 |
| CE-29-R | 2.23 |
| CE-30-A/B | 6.23 |
| CE-30-C | 2.93 |
| CE-30D | 1.80 |
| CE-30V-A/B | 9.88 |
| CE-30V-C | 3.54 |
| CE-30V-D | 3.20 |
| CE-A30 | 3.77 |
| CE-31V-A/B | 33.00 |
| CE-31V-C | 16.08 |
| CE-31V-D | 8.90 |
| CE-34-Q | 14.24 |
| CE-34R | 5.34 |
| CE-36-A/B | 26.88 |
| CE-36-C | 6.72 |
| CE-36-D | 3.19 |
| CE-36-VC | 6.12 |
| CE-B36 | 6.72 |
| T-40 | 10.20 |
| TZ-40 | 10.20 |
| SR-50 | 14.40 |
| CE-52V | 18.00 |
| SR-53 | 14.40 |
| T-55 | 11.50 |
| CE-59-R | 2.98 |
| HF-60 | 13.75 |

| NUMBER | USER PRICE |
|---|---|
| SK60 | 14.40 |
| T60 | 15.00 |
| SK63 | 14.40 |
| CE-64-Q | 8.90 |
| CE-64-R | 4.45 |
| HY69 | 7.95 |
| CE-75V | 18.60 |
| CE-77 | 49.20 |
| 83 | 1.32 |
| CE-84-Q | 12.42 |
| CE-84-R | 5.78 |
| CE-86-A/B | 14.24 |
| CE-86-C | 4.96 |
| CE-86-D | 3.56 |
| CE-91-Q | 15.12 |
| CE-91-R | 6.72 |
| FG97 | 56.50 |
| FG105 | 53.33 |
| 172 | 82.35 |
| T200 | 32.45 |
| 200A | 17.90 |
| 201A | 18.50 |
| 202B | 44.52 |
| 203/623 | 13.44 |
| 205 | 14.24 |
| 206 | 9.43 |
| 210A | 9.94 |
| 211D | 13.50 |
| 213A | 8.90 |
| T218 | 17.00 |
| 220/72 | 9.08 |
| 226 | 3.53 |
| 235 | 6.22 |
| 235A | 6.22 |
| 249C | 10.68 |
| 258B | 13.88 |
| T300 | 39.00 |
| CE302 | 21.80 |
| CE304 | 81.00 |
| CE311 | 11.98 |
| CE320A | 14.65 |
| CE323B | 13.00 |
| 393A | 13.00 |
| 460 | 29.50 |
| 468 | 29.50 |
| 575A | 22.15 |
| 627 | 27.00 |
| 673 | 22.15 |
| CE-A701C2 | 10.00 |
| CE-A701C3 | 10.00 |
| CE-A701D2 | 7.50 |
| CE-A701D3 | 7.50 |
| CE-E701C2 | 10.00 |
| CE-E701C3 | 10.00 |
| CE-E701D2 | 7.50 |
| CE-E701D3 | 7.50 |
| CE-A702C2 | 10.00 |
| CE-A702C3 | 10.00 |
| CE-A702D2 | 7.50 |
| CE-A702D3 | 7.50 |
| CE-E702C2 | 10.00 |
| CE-E702C3 | 10.00 |
| CE-E702D2 | 7.50 |
| CE-E702D3 | 7.50 |
| CE-A704C2 | 15.00 |
| CE-A704C3 | 15.00 |
| CE-705C3 | 10.00 |
| 801A | 9.85 |
| 802 | 9.85 |

| NUMBER | USER PRICE |
|---|---|
| 805 | 20.00 |
| 807 | 3.00 |
| 809 | 5.65 |
| 810 | 25.55 |
| 811A | 5.65 |
| 812A | 5.65 |
| 813 | 22.65 |
| 814 | 23.55 |
| 815 | 23.55 |
| 816 | 2.15 |
| 822 | 21.35 |
| 826 | 23.55 |
| 828 | 27.50 |
| 829B | 16.25 |
| 832A | 14.20 |
| 833A | 55.00 |
| 837 | 7.85 |
| 838 | 20.00 |
| 845 | 20.85 |
| 857B | 235.00 |
| 866A | 2.65 |
| 866JR | 2.15 |
| 868 | 3.75 |
| 869B | 155.00 |
| 872A | 9.35 |
| 873 | 18.30 |
| 875A | 22.26 |
| 884 | 1.85 |
| 917 | 4.95 |
| 918 | 3.80 |
| 919 | 4.95 |
| 920 | 5.70 |
| 921 | 3.30 |
| 922 | 2.85 |
| 923 | 2.85 |
| 927 | 3.75 |
| 929 | 2.00 |
| 930 | 2.85 |
| 931A | 10.45 |
| 934 | 3.65 |
| 955(T) | 4.00 |
| HY-1269 | 7.95 |
| 1612 | 3.20 |
| 1614 | 2.85 |
| 1616 | 11.35 |
| 1620 | 6.25 |
| 1621 | 1.95 |
| 1622 | 2.70 |
| 1624 | 4.00 |
| 1625 | 2.95 |
| 1635 | 2.00 |
| 2050 | 1.85 |
| 5514 | 7.85 |
| 5516 | 7.95 |
| 5528/C6L | 40.68 |
| 5544 | 38.41 |
| 5550/FG415 | 49.00 |
| 5551A | 65.00 |
| 5552A | 99.00 |
| 5553B | 245.00 |
| 5555/FG238B | 316.00 |
| 5556/PJ8 | 21.00 |
| 5557/FG17 | 9.50 |
| 5558/FG32 | 17.50 |
| 5559/FG57 | 23.00 |
| 5560/FG95 | 33.00 |
| 5561/FG104 | 45.75 |

| NUMBER | USER PRICE |
|---|---|
| 5581 | 2.70 |
| 5583 | 4.30 |
| 5636 | 9.05 |
| 5642(T) | 1.35 |
| 5651 | 1.78 |
| 5653 | 1.60 |
| 5654(T) | 3.60 |
| 5654/6AK5W(T) | 3.60 |
| 5654/6AK5W/6096(T) | 5.85 |
| 5670(MIL-E-1)(T) | 4.80 |
| 5675 | 13.20 |
| 5684 C3J/A | 19.80 |
| 5685 C6J/A | 34.92 |
| 5686(T) | 3.75 |
| 5687 | 4.25 |
| 5690 | 9.65 |
| 5691 | 8.45 |
| 5692(MIL-E-1) | 8.15 |
| 5693 | 6.40 |
| 5696 | 1.90 |
| 5718 | 4.25 |
| 5719 | 3.85 |
| 5720/FG33 | 34.75 |
| 5725(T) | 3.65 |
| 5725/6AS6W(T) | 3.65 |
| 5726(T) | 1.70 |
| 5726/6AL5W (MIL-E-1)(T) | 1.70 |
| 5726/6AL5W/6097 (MIL-E-1)(T) | 3.25 |
| 5727 2D21W | 2.80 |
| 5749(T) | 2.70 |
| 5749/6BA6W(T) | 2.70 |
| 5750(T) | 3.80 |
| 5750/6BE6W(T) | 3.80 |
| 5751(T) | 3.70 |
| 575/WA | 5.45 |
| 5763 | 2.37 |
| 5812 | 3.10 |
| 5814(T) | 3.85 |
| 5814A(T) | 3.85 |
| 5814WA(T) | 3.65 |
| 5823 | 1.57 |
| 5855 | 70.00 |
| 5876 | 13.55 |
| 5879 | 1.75 |
| 5881 | 3.50 |
| 5894 | 32.40 |
| 5902 | 6.48 |
| 5915 | 1.45 |
| 5963 | 1.40 |
| 5964 | 1.40 |
| 5965 | 2.40 |
| 6004 | 5.05 |
| 6005(T) | 4.50 |
| 6005/6AQ5W(T) | 4.60 |
| 6011/710 | 14.00 |
| 6012 | 6.25 |
| 6021 | 5.60 |
| 6044 | 36.00 |
| 6072(T) | 4.80 |

| NUMBER | USER PRICE |
|---|---|
| 6073 | 3.00 |
| 6074 | 3.45 |
| 6080 | 6.00 |
| 6080WA | 10.50 |
| 6099(MIL-E-1) | 14.50 |
| 6100/6C4WA(T) (MIL-E-1) | 2.90 |
| 6101-6J6WA | 7.25 |
| 6111 | 6.55 |
| 6112 | 6.55 |
| 6135(T) | 2.60 |
| 6136(T) | 3.60 |
| 6146 | 5.45 |
| 6161 | 115.00 |
| 6189/12AU7WA(T) | 4.85 |
| 6197 | 2.55 |
| 6201 (T) | 4.75 |
| 6202(T) | 3.60 |
| 6211 | 2.40 |
| 6216(MIL-E-1) | 3.50 |
| 6278 | 49.08 |
| 6463 | 2.15 |
| 6478 | 15.80 |
| 6484 | 12.20 |
| 6485 | 2.05 |
| 6524 | 15.75 |
| 6550* | 4.95 |
| 6591 | 22.35 |
| 6624 | 67.00 |
| 6626 | 4.40 |
| 6626/OA2WA (MIL-E-1) | 4.40 |
| 6627 | 4.20 |
| 6627/OB2WA (MIL-E-1) | 4.20 |
| 6660/6BA6(T) | 1.11 |
| 6661/6BH6(T) | 1.44 |
| 6662/6BJ6(T) | 1.39 |
| 6663/6AL5(T) | 1.02 |
| 6669/6AQ5(T) | 1.16 |
| 6677/6CL6(T) | 1.95 |
| 6678/6U8(T) | 1.72 |
| 6679/12AT7(T) | 1.60 |
| 6680/12AU7(T) | 1.32 |
| 6681/12AX7(T) | 1.34 |
| 6792 | 7.55 |
| 6807 | 29.30 |
| 6830 | 1.72 |
| 6831 | 1.82 |
| 6893 | 3.85 |
| 7025 | .... |
| 8000 | 21.00 |
| 8005 | 16.20 |
| 8008 | 10.31 |
| 8013A | 14.45 |
| 8020 | 24.00 |
| 9001 | 4.60 |
| 9002 | 3.10 |
| 9003(T) | 4.60 |
| 9006(T) | 2.15 |

*Discontinued when stock is exhausted. (T)—Taxable (MIL-E-1) —Available to military specifications—Prices upon request

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World Radio History

*Specify* **RAYTHEON** *For Finest Quality* **RECEIVING TUBES**
**PICTURE TUBES · SEMICONDUCTOR DIODES & TRANSISTORS · INDUSTRIAL TUBES**

# TV AND RADIO RECEIVING TUBES

## SUGGESTED LIST PRICES—*Effective June 30, 1958*

| Type | Price | Type | Price | Type | Price | Type | Price | Type | Price | Type | Price | Type | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0Z4 | $1.90 | 3BN6 | 3.05 | 6AM4 | 5.90 | 6CH8 | 3.60 | 6SK7 | 3.10 | 12AE6 | 1.85 | 12SL7GT | 3.75 |
| 0Z4G | 2.10 | 3BU8 | 2.80 | 6AM8 | 3.25 | 6CK4 | 2.80 | 6SK7GT | 3.10 | 12AE7 | 3.10 | 12N7GTA | 2.70 |
| 1A3 | 3.05 | 3BY6 | 2.35 | 6AM8A | 3.25 | 6CL6 | 3.75 | 6SL7GT | 3.30 | 12AF6 | 2.25 | 12SQ7 | 2.85 |
| 1A4P | 4.45 | 3BZ6 | 2.25 | 6AN4 | 4.95 | 6CL8 | 3.15 | 6SN7GT | 2.60 | 12AF6A | 2.25 | 12SQ7GT | 2.85 |
| 1A5GT | 3.20 | 3C6/XXB | 4.05 | 6AN8 | 3.50 | 6CM6 | 2.55 | 6SN7GTA | 2.60 | 12AH7GT | 3.85 | 12SR7 | 2.70 |
| 1A6 | 3.85 | 3CB6 | 2.25 | 6AQ5A | 2.15 | 6CM7 | 2.75 | 6SN7GTB | 2.60 | 12AJ6 | 1.75 | 12U7 | 2.50 |
| 1A7GT | 3.70 | 3CF6 | 2.55 | 6AQ6 | 2.20 | 6CM8 | 3.55 | 6SQ7 | 2.85 | 12AL5 | 1.90 | 12V6GT | 2.15 |
| 1AH4 | 3.05 | 3CS6 | 2.40 | 6AQ7GT | 4.00 | 6CN7 | 2.60 | 6SQ7GT | 2.85 | 12AL8 | 4.05 | 12W6GT | 3.00 |
| 1AJ5 | 3.20 | 3D6/1299 | 5.75 | 6AR5 | 2.60 | 6CQ8 | 3.30 | 6SR7 | 2.65 | 12AQ5 | 2.40 | 12X4 | 1.80 |
| 1AK4 | 6.70 | 3DK6 | 2.40 | 6AS5 | 2.40 | 6CR6 | 2.40 | 6SS7 | 3.50 | 12AS5 | 2.50 | 12Z3 | 3.50 |
| 1AK5 | 6.70 | 3DT6 | 2.20 | 6AS8 | 3.35 | 6CS6 | 2.35 | 6T4 | 4.35 | 12AT6 | 1.85 | 13DR7 | 2.95 |
| 1AX2 | 3.05 | 3LF4 | 4.20 | 6AT6 | 1.90 | 6CS7 | 2.80 | 6T8 | 3.35 | 12AT7 | 3.05 | 14A4 | 3.95 |
| 1B3GT | 2.90 | 3Q4 | 2.75 | 6AT8 | 3.20 | 6CU5 | 2.35 | 6T8A | 3.35 | 12AU6 | 2.15 | 14A5 | 5.85 |
| 1B5/25S | 3.85 | 3Q5GT | 3.60 | 6AU4GT | 3.35 | 6CU6 | 4.35 | 6U5 | 3.15 | 12AU7 | 2.45 | 14A7 | 3.50 |
| 1B7GT | 3.70 | 3S4 | 2.45 | 6AU4GTA | 3.35 | 6CU8 | 3.65 | 6U7G | 2.55 | 12AU7A | 2.45 | 14AF7 | 3.80 |
| 1C6 | 3.70 | 3V4 | 2.35 | 6AU5GT | 4.30 | 6CX8 | 3.65 | 6U8A | 3.30 | 12AV5GA | 3.85 | 14B6 | 3.30 |
| 1C7G | 3.70 | 4AU6 | 2.20 | 6AU6 | 2.10 | 6CY5 | 2.80 | 6V3A | 4.35 | 12AV6 | 1.65 | 14B8 | 3.60 |
| 1D5GP | 4.45 | 4BC5 | 2.35 | 6AU8 | 3.50 | 6CY7 | 2.95 | 6V6 | 4.25 | 12AV7 | 3.20 | 14C5 | 4.05 |
| 1D7G | 3.85 | 4BC8 | 4.05 | 6AV5GA | 3.80 | 6CZ5 | 2.80 | 6V6GT | 2.15 | 12AW6 | 3.00 | 14C7 | 3.35 |
| 1D8GT | 4.80 | 4BN6 | 3.05 | 6AV6 | 1.65 | 6D6 | 4.35 | 6V8 | 3.95 | 12AX4GTA | 2.70 | 14E6 | 3.95 |
| 1DN5 | 2.20 | 4BQ7A | 4.00 | 6AW8A | 3.55 | 6D8G | 3.70 | 6W4GT | 2.40 | 12AX7 | 2.55 | 14F7 | 3.85 |
| 1E5GP | 4.45 | 4BS8 | 3.85 | 6AX4GT | 2.65 | 6DA4GT | 2.70 | 6W6GT | 2.80 | 12AX7A | 2.55 | 14F8 | 4.60 |
| 1E7GT | 4.45 | 4BU8 | 2.80 | 6AX5GT | 2.95 | 6DB5 | 2.70 | 6W7G | 3.00 | 12AZ7 | 2.75 | 14H7 | 4.10 |
| 1F4 | 3.00 | 4BZ6 | 2.25 | 6AX8 | 3.50 | 6DC6 | 2.80 | 6X4 | 1.65 | 12B4A | 2.70 | 14J7 | 5.10 |
| 1F5G | 3.00 | 4BZ7 | 4.05 | 6AZ8 | 4.20 | 6DE6 | 2.45 | 6X5GT | 2.05 | 12BA6 | 2.00 | 14N7 | 3.80 |
| 1F6 | 4.45 | 4CB6 | 2.30 | 6B7 | 3.70 | 6DG6GT | 2.50 | 6X8 | 3.15 | 12BA7 | 3.95 | 14Q7 | 4.10 |
| 1F7G | 4.45 | 4CS6 | 2.35 | 6B8 | 4.70 | 6DK6 | 2.35 | 6Y6GA | 3.45 | 12BD6 | 2.25 | 14R7 | 5.15 |
| 1G3GT | 2.90 | 4DT6 | 2.20 | 6B8G | 3.85 | 6DN6 | 6.25 | 7A4 XXL | 3.25 | 12BE6 | 2.15 | 14S7 | 4.60 |
| 1G4GT | 2.75 | 5AM8 | 3.20 | 6BA6 | 2.00 | 6DQ5 | 7.40 | 7A5 | 3.85 | 12BF6 | 1.80 | 14W7 | 4.75 |
| 1H4G | 2.50 | 5AN8 | 3.55 | 6BA7 | 3.70 | 6DQ6 | 4.10 | 7A6 | 3.15 | 12BH7A | 3.05 | 17AX4GT | 2.70 |
| 1H5GT | 3.05 | 5AQ5 | 2.20 | 6BA8A | 3.55 | 6DQ6A | 4.10 | 7A7 | 3.50 | 12BK5 | 3.80 | 17AX4GTA | 2.70 |
| 1H6G | 3.70 | 5AS4A | 2.15 | 6BC5 | 2.30 | 6DS5 | 2.65 | 7A8 | 4.45 | 12BL6 | 2.15 | 17C5 | 2.35 |
| 1J3GT | 2.90 | 5AS8 | 3.40 | 6BC7 | 3.80 | 6DT6 | 2.15 | 7AF7 | 3.85 | 12BQ6GTB | 4.45 | 17D4GT | 2.75 |
| 1J6G | 3.55 | 5AT8 | 3.25 | 6BC8 | 4.00 | 6E5 | 3.00 | 7AG7 | 3.85 | 12BR7 | 2.60 | 17DQ6 | 4.20 |
| 1J6GT | 3.70 | 5AU4 | 3.40 | 6BD5GT | 4.85 | 6EA8 | 3.15 | 7AH7 | 3.85 | 12BV7 | 3.05 | 17H3 | 2.15 |
| 1K3GT | 2.90 | 5AV8 | 4.05 | 6BD6 | 2.30 | 6F5 | 3.10 | 7AU7 | 2.60 | 12BY7A | 3.05 | 18A5 | 4.15 |
| 1L4 | 2.90 | 5AZ4 | 2.65 | 6BE6 | 2.20 | 6F6 | 3.65 | 7B4 | 3.05 | 12BZ7 | 3.05 | 19 | 3.70 |
| 1L6 | 3.35 | 5B8 | 3.90 | 6BF5 | 3.55 | 6F6G | 3.65 | 7B5 | 4.75 | 12C5 | 2.35 | 19AU4GT | 3.45 |
| 1LA4 | 4.45 | 5BE8 | 3.30 | 6BF6 | 1.80 | 6F6GT | 3.65 | 7B6 | 3.25 | 12C8 | 5.65 | 19AU4GTA | 3.45 |
| 1LA6 | 4.10 | 5BK7A | 3.40 | 6BG6GA | 6.50 | 6F7 | 6.65 | 7B7 | 3.30 | 12CA5 | 2.50 | 19BG6GA | 6.50 |
| 1LB4 | 4.45 | 5BQ7A | 4.00 | 6BH6 | 2.70 | 6F8G | 4.95 | 7B8 | 3.55 | 12CN5 | 2.25 | 19C8 | 4.45 |
| 1LC5 | 4.05 | 5BR8 | 3.30 | 6BH8 | 3.50 | 6G6G | 4.05 | 7C4 | 5.00 | 12CR6 | 2.40 | 19J6 | 3.15 |
| 1LC6 | 4.10 | 5BT8 | 3.30 | 6BJ6 | 2.60 | 6H6 | 3.10 | 7C5 | 3.35 | 12CT8 | 4.05 | 19T8 | 3.35 |
| 1LD5 | 4.25 | 5CG8 | 3.20 | 6BJ7 | 2.95 | 6J5 | 2.70 | 7C6 | 3.30 | 12CU5 | 2.35 | 19X8 | 3.65 |
| 1LE3 | 4.25 | 5CL8 | 3.15 | 6BJ8 | 2.80 | 6J5GT | 2.70 | 7C7 | 3.05 | 12CU6 | 4.45 | 21EX6 | 5.70 |
| 1LG5 | 4.05 | 5CQ8 | 3.35 | 6BK4 | 7.10 | 6J6 | 2.80 | 7E5 | 4.05 | 12CX6 | 2.25 | 24A | 4.15 |
| 1LH4 | 3.95 | 5CZ5 | 2.85 | 6BK5 | 3.50 | 6J7 | 4.00 | 7E6 | 4.05 | 12D4GT | 2.75 | 25A6G | 3.05 |
| 1LN5 | 3.95 | 5DH8 | 3.55 | 6BK7A | 3.35 | 6J7G | 4.00 | 7E7 | 4.45 | 12DB5 | 2.75 | 25AV5GA | 4.10 |
| 1N5GT | 3.65 | 5J6 | 2.80 | 6BK7B | 3.35 | 6J7GT | 4.00 | 7F7 | 3.65 | 12DE8 | 2.90 | 25AX4GT | 2.90 |
| 1P5GT | 3.50 | 5T4 | 7.25 | 6BL7GTA | 3.95 | 6K5GT | 3.00 | 7F8 | 4.60 | 12DK7 | 2.95 | 25BQ6GT | 4.60 |
| 1Q5GT | 4.05 | 5T8 | 3.40 | 6BN4 | 2.50 | 6K6GT | 2.35 | 7G7 | 4.00 | 12DL8 | 3.90 | 25C5 | 2.15 |
| 1R4/1294 | 3.75 | 5U4GA | 2.00 | 6BN6 | 3.05 | 6K7 | 4.00 | 7H7 | 3.90 | 12DQ6 | 4.20 | 25CA5 | 2.50 |
| 1R5 | 2.55 | 5U4GB | 2.00 | 6BN8 | 2.70 | 6K7G | 4.00 | 7J7 | 5.15 | 12DQ6A | 4.20 | 25CD6GA | 5.85 |
| 1S4 | 3.65 | 5U8 | 3.30 | 6BQ5 | 2.60 | 6K7GT | 4.00 | 7K7 | 4.45 | 12DT7 | 2.90 | 25CD6GB | 5.85 |
| 1S5 | 2.55 | 5V3 | 3.65 | 6BQ6GA | 4.35 | 6K8 | 4.45 | 7L7 | 4.25 | 12DV8 | 3.35 | 25CU6 | 4.60 |
| 1T4 | 2.40 | 5V4GA | 3.30 | 6BQ6GT | 4.35 | 6K8G | 4.45 | 7N7 | 3.40 | 12DW8 | 3.10 | 25DN6 | 5.55 |
| 1T5GT | 2.95 | 5V6GT | 2.20 | 6BQ6GTB | 4.35 | 6L6 | 6.10 | 7Q7 | 4.10 | 12DZ6 | 2.25 | 25DQ6 | 4.20 |
| 1U4 | 2.35 | 5X4G | 3.20 | 6BQ7A | 3.95 | 6L6GB | 4.20 | 7R7 | 5.15 | 12EK6 | 2.25 | 25EC6 | 5.70 |
| 1U5 | 2.05 | 5X8 | 3.25 | 6BR8 | 3.30 | 6L7 | 4.35 | 7S7 | 4.75 | 12EM6 | 2.90 | 25L6GT | 2.25 |
| 1V | 3.65 | 5Y3GT | 1.75 | 6BS8 | 3.75 | 6N7 | 4.30 | 7V7 | 4.65 | 12F5GT | 3.15 | 25W4GT | 2.70 |
| 1V2 | 2.00 | 5Y4GT | 2.35 | 6BU8 | 2.80 | 6N7GT | 4.35 | 7W7 | 4.75 | 12F8 | 2.55 | 25Y5 | 3.30 |
| 1V6 | 3.90 | 5Z3 | 3.05 | 6BV8 | 3.15 | 6P5GT | 2.80 | 7X6 | 3.30 | 12H6 | 2.70 | 25Z5 | 2.90 |
| 1X2A | 3.05 | 5Z4 | 4.55 | 6BW4 | 1.85 | 6Q7 | 3.30 | 7X7 | 5.85 | 12J5GT | 2.70 | 25Z6GT | 2.90 |
| 1X2B | 3.05 | 6A6 | 3.05 | 6BW8 | 3.30 | 6Q7G | 3.20 | 7Y4 | 2.75 | 12J7GT | 4.20 | 26 | 4.35 |
| 2A3 | 6.30 | 6A7 | 4.65 | 6BX7GT | 4.00 | 6Q7GT | 3.20 | 7Z4 | 2.75 | 12J8 | 3.30 | 27 | 4.35 |
| 2A7 | 3.65 | 6A8 | 4.80 | 6BY5GA | 4.20 | 6R7 | 3.50 | 8AU8 | 3.55 | 12K5 | 2.70 | 33 | 3.70 |
| 2AF4A | 3.95 | 6A8G | 4.80 | 6BY6 | 2.35 | 6R7G | 3.50 | 8AW8A | 3.65 | 12K7GT | 4.05 | 34 | 3.85 |
| 2B3 | 2.90 | 6A8GT | 4.80 | 6BY8 | 2.65 | 6R7GT | 3.50 | 8BA8A | 3.65 | 12K8 | 4.80 | 35/51 | 4.35 |
| 2BN4 | 2.55 | 6AB4 | 2.15 | 6BZ6 | 2.25 | 6R8 | 3.85 | 8BH8 | 3.55 | 12K8GT | 4.80 | 35A5 | 3.50 |
| 2CY5 | 2.80 | 6AB7 | 5.00 | 6BZ7 | 4.00 | 6S4A | 2.05 | 8BQ5 | 2.65 | 12L6GT | 2.45 | 35B5 | 2.65 |
| 2EA5 | 2.80 | 6AC5GT | 4.35 | 6BZ8 | 4.25 | 6S7 | 4.10 | 8CG7 | 2.50 | 12Q7GT | 3.35 | 35C5 | 2.15 |
| 2V2 | 4.90 | 6AC7 | 4.25 | 6C4 | 1.85 | 6S7G | 4.10 | 8CM7 | 2.80 | 12R5 | 2.60 | 35L6GT | 2.40 |
| 3A2 | 3.50 | 6AD7G | 5.90 | 6C5 | 2.70 | 6S8GT | 2.90 | 8CN7 | 2.60 | 12S8GT | 2.90 | 35W4 | 1.40 |
| 3A3 | 3.40 | 6AF4 | 4.00 | 6C5GT | 2.90 | 6SA7 | 3.35 | 8CS7 | 2.95 | 12SA7 | 3.35 | 35Y4 | 2.75 |
| 3A8GT | 6.05 | 6AF4A | 4.00 | 6C6 | 4.35 | 6SA7GT | 3.35 | 8CX8 | 3.70 | 12SA7GT | 3.35 | 35Z3 | 2.75 |
| 3AF4A | 4.05 | 6AF6G | 3.65 | 6C8G | 5.10 | 6SB7Y | 4.40 | 9CL8 | 3.15 | 12SC7 | 3.35 | 35Z4GT | 2.35 |
| 3AL5 | 1.85 | 6AG5 | 2.60 | 6CB5 | 7.50 | 6SC7 | 3.35 | 9U8A | 3.30 | 12SF5 | 2.70 | 35Z5GT | 1.85 |
| 3AU6 | 2.15 | 6AG7 | 5.05 | 6CB5A | 7.50 | 6SD7GT | 4.05 | 10C8 | 4.25 | 12SF5GT | 2.70 | 36 | 4.35 |
| 3AV6 | 1.75 | 6AH4GT | 3.30 | 6CB6 | 2.25 | 6SF5 | 2.70 | 10DE7 | 2.95 | 12SF7 | 3.85 | 37 | 3.80 |
| 3B2 | 6.25 | 6AH6 | 4.65 | 6CD6G | 5.80 | 6SF5GT | 3.20 | 10Y | 4.35 | 12SG7 | 3.75 | 38 | 4.35 |
| 3B7/1291 | 6.85 | 6AH6V | 4.65 | 6CD6GA | 5.80 | 6SF7 | 3.90 | 12A6 | 4.80 | 12SH7 | 3.65 | 39/44 | 4.35 |
| 3BA6 | 2.15 | 6AK5 | 4.65 | 6CE5 | 2.35 | 6SG7 | 3.75 | 12A8GT | 4.75 | 12SJ7 | 3.20 | 41 | 3.50 |
| 3BC5 | 2.35 | 6AK6 | 3.20 | 6CF6 | 2.55 | 6SH7 | 3.45 | 12AB5 | 2.45 | 12SJ7GT | 3.20 | 42 | 3.50 |
| 3BE6 | 2.25 | 6AL5 | 1.85 | 6CG7 | 2.45 | 6SJ7 | 3.20 | 12AC6 | 2.20 | 12SK7 | 3.10 | 43 | 4.75 |
| 3BN4 | 2.55 | 6AL7GT | 5.75 | 6CG8A | 3.15 | 6SJ7GT | 3.20 | 12AD6 | 2.25 | 12SK7GT | 3.10 | 45Z3 | 1.95 |

***Prices include all manufacturers' Federal Excise Taxes as set forth in the Internal Revenue Code Chap. 29, Sub Chap. A.***
Tube prices listed above are for your convenience and do not necessarily indicate type availability.



***All Prices Subject to Change or Withdrawal Without Notice***
**TRADE DISCOUNT APPLIES TO LIST PRICE ONLY**

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## TV AND RADIO RECEIVING TUBES *Continued*

| Type | Price | Type | Price | Type | Price | Type | Price | Type | Price | Type | Price | Type | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 4.65 | 50C5 | 2.15 | 50Y7GT | 3.05 | 70L7GT | 10.15 | 78 | 5.10 | 84/6Z4 | 2.60 | 117Z3 | 2.50 |
| 47 | 8.70 | 50CD6G | 7.35 | 55 | 4.35 | 71A | 5.10 | 79 | 3.10 | 85 | 4.35 | 117Z6GT | 4.40 |
| 49 | 3.00 | 50L6GT | 2.40 | 56 | 2.70 | 75 | 5.10 | 80 | 2.90 | 117L/M7GT | 10.15 | 5642 | 5.00 |
| 50A5 | 3.95 | 50X6 | 3.20 | 57 | 4.35 | 76 | 1.80 | 81 | 5.10 | 117N7GT | 9.30 | X155 | See 6BZ8 |
| 50B5 | 2.65 | 50Y6GT | 2.95 | 58 | 4.35 | 77 | 2.35 | 83 | 3.50 | 117P7GT | 9.30 | | |

***Prices include all manufacturers' Federal Excise Taxes as set forth in the Internal Revenue Code Chap. 29, Sub Chap. A.***
Tube prices listed above are for your convenience and do not necessarily indicate type availability.

## RAYTHEON TELEVISION PICTURE TUBES
### Suggested List Prices—Effective July 1, 1958

| Black And White Tube Type | Aluminized Screen | Envelope | Face | Type Of Focus | Type of Deflection | External Conductive Coating | Suggested List Price |
|---|---|---|---|---|---|---|---|
| 7JP4 | No | Glass | Clear | Elect. | Elect. | No | $29.50 |
| 8BP4 | No | Glass | Clear | Elect. | Elect. | No | 34.65 |
| 8DP4 | No | Glass | Filter | Elect | Mag. | Yes | 32.00 |
| 10ABP4B | No | Glass | Filter | Elect | Mag. | Yes | 23.25 |
| 10BP4A | No | Glass | Filter | Mag. | Mag. | Yes | 22.50 |
| 10FP4 | Yes | Glass | Clear | Mag. | Mag. | Yes | 22.00 |
| 10FP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 27.50 |
| 12KP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 31.75 |
| 12LP4A | No | Glass | Filter | Mag. | Mag. | Yes | 27.25 |
| 14EP4/14CP4/14BP4 | No | Glass | Filter | Mag. | Mag. | Yes | 29.25 |
| 14QP4 | No | Glass | Filter | Elect. | Mag. | Yes | 31.25 |
| 14QP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 38.00 |
| 14RP4 | No | Glass | Filter | Elect. | Mag. | Yes | 29.25 |
| 14RP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 36.00 |
| 16AP4A | No | Metal | Filter | Mag. | Mag. | — | 48.25 |
| 16DP4A | No | Glass | Filter | Mag. | Mag. | No | 45.75 |
| 16GP4B | No | Metal | Filter | Mag. | Mag. | — | 48.25 |
| 16RP4/16KP4 | No | Glass | Filter | Mag. | Mag. | Yes | 33.25 |
| 16RP4A/16KP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 40.50 |
| 16TP4 | No | Glass | Filter | Mag. | Mag. | Yes | 33.25 |
| 16LP4A | No | Glass | Filter | Mag. | Mag. | Yes | 44.50 |
| 17AVP4/17ATP4 | No | Glass | Filter | Elect. | Mag. | Yes | 35.75 |
| 17AVP4A/17ATP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 42.50 |
| 17BP4A | No | Glass | Filter | Mag. | Mag. | Yes | 33.25 |
| 17BP4B | Yes | Glass | Filter | Mag. | Mag. | Yes | 40.50 |
| 17BJP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 42.50 |
| 17BZP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 47.50 |
| 17CFP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 42.50 |
| 17CP4 | No | Metal | Filter | Mag. | Mag. | — | 43.75 |
| 17GP4 | No | Metal | Filter | Elect. | Mag. | — | 48.25 |
| 17HP4/17RP4 | No | Glass | Filter | Elect. | Mag. | Yes | 32.25 |
| 17HP4B/17HP4C | Yes | Glass | Filter | Elect. | Mag. | Yes | 42.50 |
| 17LP4/17VP4 | No | Glass | Filter | Elect. | Mag. | Yes | 35.25 |
| 17LP4A/17VP4B | Yes | Glass | Filter | Elect. | Mag. | Yes | 42.50 |
| 17QP4 | No | Glass | Filter | Mag. | Mag. | Yes | 33.25 |
| 17QP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 40.50 |
| 19AP4B | No | Metal | Filter | Mag. | Mag. | — | 52.50 |
| 20CP4/20DP4 | No | Glass | Filter | Mag. | Mag. | No | 40.25 |
| 20DP4A/20CP4A | No | Glass | Filter | Mag. | Mag. | Yes | 40.25 |
| 20CP4B/20DP4B | Yes | Glass | Filter | Mag. | Mag. | No | 48.00 |
| 20DP4C/20CP4D | Yes | Glass | Filter | Mag. | Mag. | Yes | 48.00 |
| 20HP4A/20MP4 | No | Glass | Filter | Elect. | Mag. | Yes | 42.00 |
| 20HP4D | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21ACP4A/21BSP4/21AMP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 48.00 |
| 21ALP4 | No | Glass | Filter | Elect. | Mag. | Yes | 42.00 |
| 21ALP4B/21ALP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21AP4 | No | Metal | Filter | Mag. | Mag. | — | 50.75 |
| 21ATP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21AVP4/21AUP4 | No | Glass | Filter | Elect. | Mag. | Yes | 42.00 |
| 21AVP4A/21AUP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21AWP4 | Yes | Glass | Filter | Mag. | Mag. | Yes | 49.75 |
| 21BTP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21CBP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21CEP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 55.00 |
| 21CWP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21EP4A | No | Glass | Filter | Mag. | Mag. | Yes | 42.00 |
| 21EP4B | Yes | Glass | Filter | Mag. | Mag. | Yes | 49.75 |
| 21FP4A | No | Glass | Filter | Elect. | Mag. | Yes | 43.75 |
| 21FP4C | Yes | Glass | Filter | Elect. | Mag. | Yes | 51.50 |
| 21MP4 | No | Metal | Filter | Elect. | Mag. | — | 52.50 |
| 21WP4 | No | Glass | Filter | Mag. | Mag. | Yes | 40.25 |
| 21WP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 48.00 |
| 21YP4 | No | Glass | Filter | Elect. | Mag. | Yes | 42.00 |
| 21YP4A | Yes | Glass | Filter | Elect. | Mag. | Yes | 49.75 |
| 21ZP4A | No | Glass | Filter | Mag. | Mag. | Yes | 40.25 |

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**TRADE DISCOUNT APPLIES TO LIST PRICE ONLY**



World Radio History

## RAYTHEON TELEVISION PICTURE TUBES *Continued*

| Black And White Tube Types | Aluminized Screen | Envelope | Face | Type Of Focus | Type Of Deflection | External Conductive Coating | Suggested List Price |
|---|---|---|---|---|---|---|---|
| 21ZP4B | Yes | Glass | Filter | Mag. | Mag. | Yes | $48.00 |
| 24AEP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 71.25 |
| 24CP4 | No | Glass | Filter | Mag. | Mag. | Yes | 64 50 |
| 24CP4A | Yes | Glass | Filter | Mag. | Mag. | Yes | 69.00 |
| 24DP4 | No | Glass | Filter | Elect. | Mag. | Yes | 66.50 |
| 24DP4A/24YP4 | Yes | Glass | Filter | Elect. | Mag. | Yes | 71.25 |
| 27EP4 | Yes | Glass | Filter | Mag. | Mag. | No | 118.75 |
| 27RP4 | Yes | Glass | Filter | Mag. | Mag. | Yes | 118.75 |
| Color Tube | | | | | | | |
| 21AXP22A | Yes | Metal | Filter | Elect. | Mag. | — | 160.00 |

## SEMICONDUCTOR DIODES AND TRANSISTORS

### SUGGESTED RESALE AND LIST PRICES—*Effective July 1, 1958*

| TYPE | | SUGG. RESALE PRICE | SUGG. LIST PRICE |
|---|---|---|---|
| 1N34 | DIODE | $ .52 | $ .75 |
| 1N38 | DIODE | .99 | — |
| 1N60 | DIODE | .36 | — |
| 1N66 | DIODE | .52 | .75 |
| 1N67 | DIODE | 1.40 | — |
| 1N68 | DIODE | .99 | — |
| 1N82A | DIODE | 1.05 | 1.60 |
| 1N253 | DIODE | 4.48 | — |
| 1N254 | DIODE | 5.04 | — |
| 1N255 | DIODE | 9.73 | — |
| 1N256 | DIODE | 21.00 | — |
| 1N294 | DIODE | .65 | .90 |
| 1N295 | DIODE | .34 | .48 |
| 1N297 | DIODE | .98 | — |
| 1N298 | DIODE | .98 | 1.40 |
| 1N300 | DIODE | 5.78 | — |
| 1N300A | DIODE | 6.61 | — |
| 1N301 | DIODE | 5.78 | — |
| 1N301A | DIODE | 6.61 | — |
| 1N302 | DIODE | 6.61 | — |
| 1N302A | DIODE | 8.26 | — |
| 1N303 | DIODE | 5.78 | — |
| 1N303A | DIODE | 6.61 | — |
| 1N305 | DIODE | 3.30 | — |
| 1N306 | DIODE | 3.30 | — |
| 1N307 | DIODE | 3.30 | — |
| 1N432 | DIODE | 5.78 | — |
| 1N432A | DIODE | 6.61 | — |
| 1N433 | DIODE | 5.78 | — |
| 1N433A | DIODE | 7.43 | — |
| 1N434 | DIODE | 5.78 | — |
| 1N434A | DIODE | 7.43 | — |
| 1N460 | DIODE | 5.78 | — |
| 1N460A | DIODE | 6.61 | — |
| 1N536 | DIODE | 1.48 | — |
| 1N537 | DIODE | 1.65 | — |
| 1N538 | DIODE | 2.07 | — |
| 1N539 | DIODE | 2.73 | — |
| 1N540 | DIODE | 4.13 | — |
| 1N547 | DIODE | 9.09 | — |
| 1N645 | DIODE | 3.28 | — |
| 1N646 | DIODE | 4.44 | — |
| 1N647 | DIODE | 5.77 | — |
| 1N648 | DIODE | 7.10 | — |
| 1N1095 | DIODE | 6.20 | — |
| 1N1096 | DIODE | 9.09 | — |
| 2N63 | TRANSISTOR | 3.72 | — |
| 2N64 | TRANSISTOR | 4.13 | — |
| 2N65 | TRANSISTOR | 4.55 | — |
| 2N106 | TRANSISTOR | 4.55 | — |
| 2N111 | TRANSISTOR | Use 2N413 | |
| 2N111A/ CK759A | TRANSISTOR | Use 2N482 | |
| 2N112 | TRANSISTOR | Use 2N414 | |
| 2N112A/ CK760A | TRANSISTOR | Use 2N483 | |
| 2N113 | TRANSISTOR | Use 2N416 | |
| 2N114 | TRANSISTOR | Use 2N417 | |
| 2N130 | TRANSISTOR | Use 2N130A | |
| 2N130A | TRANSISTOR | 2.23 | — |
| 2N131 | TRANSISTOR | Use 2N131A | |
| 2N131A | TRANSISTOR | 2.83 | — |

| TYPE | | SUGG. RESALE PRICE | SUGG. LIST PRICE |
|---|---|---|---|
| 2N132 | TRANSISTOR | Use 2N132A | |
| 2N132A | TRANSISTOR | 2.83 | — |
| 2N133 | TRANSISTOR | Use 2N133A | |
| 2N133A | TRANSISTOR | 2.97 | — |
| 2N138 | TRANSISTOR | Use 2N138B | |
| 2N138A | TRANSISTOR | Use 2N138B | |
| 2N138AA | TRANSISTOR | Use 2N138B | |
| 2N138B | TRANSISTOR | 2.90 | — |
| 2N155 | TRANSISTOR | 3.35 | 5.05 |
| 2N271/CK766 | TRANSISTOR | Use 2N486 | |
| 2N271A/ CK766A | TRANSISTOR | Use 2N484 | |
| 2N327A | TRANSISTOR | 14.87 | — |
| 2N328A | TRANSISTOR | 26.43 | — |
| 2N329A | TRANSISTOR | 39.65 | — |
| 2N330A | TRANSISTOR | 29.74 | — |
| 2N362 | TRANSISTOR | 1.32 | 1.85 |
| 2N363 | TRANSISTOR | 1.16 | 1.65 |
| 2N404 | TRANSISTOR | 4.13 | — |
| 2N413 | TRANSISTOR | 1.88 | — |
| 2N414 | TRANSISTOR | 2.07 | — |
| 2N416 | TRANSISTOR | 6.44 | — |
| 2N417 | TRANSISTOR | 8.26 | — |
| 2N422 | TRANSISTOR | 2.14 | — |
| 2N425 | TRANSISTOR | 4.79 | — |
| 2N426 | TRANSISTOR | 4.96 | — |
| 2N427 | TRANSISTOR | 7.26 | — |
| 2N428 | TRANSISTOR | 9.91 | — |
| 2N464 | TRANSISTOR | 1.82 | — |
| 2N465 | TRANSISTOR | 1.90 | — |
| 2N466 | TRANSISTOR | 1.99 | — |
| 2N467 | TRANSISTOR | 2.48 | — |
| 2N481 | TRANSISTOR | 1.57 | 2.20 |
| 2N482 | TRANSISTOR | 1.65 | 2.35 |
| 2N483 | TRANSISTOR | 1.74 | 2.45 |
| 2N484 | TRANSISTOR | 1.82 | 2.55 |
| 2N485 | TRANSISTOR | 1.74 | 2.45 |
| 2N486 | TRANSISTOR | 1.82 | 2.55 |
| 2N619 | TRANSISTOR | 14.87 | — |
| 2N620 | TRANSISTOR | 26.43 | — |
| 2N621 | TRANSISTOR | 39.65 | — |
| 2N622 | TRANSISTOR | 29.74 | — |
| 2N631 | TRANSISTOR | 1.82 | 2.55 |
| 2N632 | TRANSISTOR | 1.48 | 2.10 |
| 2N633 | TRANSISTOR | 1.40 | 2.00 |
| 2N658 | TRANSISTOR | 6.20 | — |
| 2N659 | TRANSISTOR | 9.09 | — |
| 2N660 | TRANSISTOR | 12.39 | — |
| 2N661 | TRANSISTOR | 16.11 | — |
| 2N662 | TRANSISTOR | 5.12 | — |
| CK13 | TRANSISTOR | 4.13 | — |
| CK14 | TRANSISTOR | 5.38 | — |
| CK16 | TRANSISTOR | 7.27 | — |
| CK17 | TRANSISTOR | 9.09 | — |
| CK22 | TRANSISTOR | 3.72 | — |
| CK25 | TRANSISTOR | 5.29 | — |
| CK26 | TRANSISTOR | 5.45 | — |
| CK27 | TRANSISTOR | 8.02 | — |
| CK28 | TRANSISTOR | 11.16 | — |
| CK64 | TRANSISTOR | 3.05 | — |
| CK65 | TRANSISTOR | 3.22 | — |
| CK66 | TRANSISTOR | 3.39 | — |

| TYPE | | SUGG. RESALE PRICE | SUGG. LIST PRICE |
|---|---|---|---|
| CK67 | TRANSISTOR | $3.72 | — |
| CK705 | DIODE | Use 1N66 | |
| CK705A | DIODE | Use 1N294 | |
| CK706A | DIODE | Use 1N295 | |
| CK707 | DIODE | Use 1N297 | |
| CK708 | DIODE | Use 1N68 | |
| CK709 | DIODE | 16.52 | — |
| CK711 | DIODE | 16.52 | — |
| CK713A | DIODE | Use 1N298 | |
| CK715 | DIODE | .65 | .90 |
| CK717 | DIODE | 16.52 | — |
| CK719 | DIODE | 16.52 | — |
| CK721 | TRANSISTOR | 2.40 | — |
| CK722 | TRANSISTOR | .99 | — |
| CK735 | DIODE | Use 1N300 | |
| CK735A | DIODE | Use 1N300A | |
| CK736 | DIODE | Use 1N301 | |
| CK736A | DIODE | Use 1N301A | |
| CK737 | DIODE | Use 1N302 | |
| CK737A | DIODE | Use 1N302A | |
| CK738 | DIODE | Use 1N303 | |
| CK738A | DIODE | Use 1N303A | |
| CK739 | DIODE | Use 1N305 | |
| CK740 | DIODE | Use 1N306 | |
| CK742 | DIODE | Use 1N307 | |
| CK754 | TRANSISTOR | 3.30 | — |
| CK768 | TRANSISTOR | 1.50 | — |
| CK772 | DIODE | .71 | — |
| CK774 | DIODE | 8.26 | — |
| CK775 | DIODE | 9.91 | — |
| CK775-1 | DIODE | 13.22 | — |
| CK776 | DIODE | 18.17 | — |
| CK777 | DIODE | 42.95 | — |
| CK790 | TRANSISTOR | Use 2N327A | |
| CK791 | TRANSISTOR | Use 2N328A | |
| CK793 | TRANSISTOR | Use 2N330A | |
| CK840 | DIODE | Use 1N537 | |
| CK841 | DIODE | Use 1N538 | |
| CK842 | DIODE | Use 1N539 | |
| CK843 | DIODE | Use 1N540 | |
| CK844 | DIODE | 6.20 | — |
| CK845 | DIODE | 9.09 | — |
| CK846 | DIODE | 4.55 | — |
| CK847 | DIODE | 6.61 | — |
| CK848 | DIODE | 10.74 | — |
| CK849 | DIODE | 13.22 | — |
| CK850 | DIODE | 16.52 | — |
| CK851 | DIODE | 39.65 | — |
| CK856 | DIODE | Use 1N432 | |
| CK856A | DIODE | Use 1N432A | |
| CK858 | DIODE | Use 1N460 | |
| CK858A | DIODE | Use 1N460A | |
| CK860 | DIODE | Use 1N433 | |
| CK860A | DIODE | Use 1N433A | |
| CK861 | DIODE | Use 1N434 | |
| CK861A | DIODE | Use 1N434A | |
| CK863 | DIODE | 9.91 | — |
| CK863A | DIODE | 11.56 | — |
| CK870 | TRANSISTOR | 6.61 | — |
| CK871 | TRANSISTOR | 12.39 | — |



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World Radio History

Specify RAYTHEON For Finest Quality RECEIVING TUBES PICTURE TUBES · SEMICONDUCTOR DIODES & TRANSISTORS · INDUSTRIAL TUBES

# INDUSTRIAL TUBES

## SUGGESTED USER AND LIST PRICES—*Effective July 14, 1958*

| Type | Sugg. Resale Price | Sugg. List Price |
|---|---|---|
| OA2 | $ 1.26 | $ 1.75 |
| OA2WA | 3.70 | ..... |
| OA3 | 1.27 | 1.80 |
| OA4G | 1.68 | 2.40 |
| OB2 | 1.32 | 1.90 |
| OB2WA | 3.80 | ..... |
| OB3 VR90 | 1.65 | 2.45 |
| OC3 VR105 | 1.27 | 1.80 |
| OD3 VR150 | 1.27 | 1.80 |
| †OZ4A CK1003 | .95 | ..... |
| †1AD4 | 3.05 | 4.25 |
| 1AE4 | 4.50 | ..... |
| †1AG4 | 3.25 | ..... |
| 1AG5 | 2.05 | 2.85 |
| 1AK4 | 6.24 | 8.60 |
| 1B90 | 14.10 | ..... |
| 2D21 | 1.64 | 2.30 |
| 2E24 | 4.65 | 5.45 |
| 2E26 | 3.85 | 4.55 |
| 2E30 | 2.60 | ..... |
| †2E31 | 2.25 | 3.10 |
| †2E32 | 2.25 | 3.10 |
| †2E35 | 6.23 | 8.55 |
| †2E36 | 6.23 | 8.55 |
| 2E41 (Use 1AG5) | ..... | ..... |
| 2E42 (Use 1AG5) | ..... | ..... |
| †2G21 | 6.23 | 8.75 |
| †2G22 | 6.23 | 8.75 |
| RK2J42 | 105.00 | 116.00 |
| RK2J42H | 112.00 | 123.00 |
| RK2J49 | 138.00 | 152.00 |
| RK2J50 | 138.00 | 152.00 |
| RK2J51A | 417.00 | 458.00 |
| RK2J55 | 126.00 | 138.60 |
| RK2J56 | 126.00 | 138.60 |
| RK2J66 | 609.00 | 670.00 |
| RK2J67 | 609.00 | 670.00 |
| RK2J68 | 609.00 | 670.00 |
| RK2J69 | 609.00 | 670.00 |
| RK2J70 | 163.00 | 179.00 |
| RK2J71 | 320.00 | 353.00 |
| RK2K22 | 56.50 | 62.00 |
| RK2K25 | 28.30 | 31.15 |
| RK2K26 | 48.20 | 53.10 |
| RK2K28A | 55.35 | 60.90 |
| RK2K29 | 61.00 | 66.90 |
| RK2K33 | 384.00 | 423.00 |
| RK2K45 | 66.80 | 73.50 |
| RK2K48 | 78.50 | 86.40 |
| RK2K56 | 107.00 | 118.00 |
| 2X2A | 2.20 | 2.60 |
| 3A4 | 1.20 | ..... |
| 3A5 | 1.25 | 1.75 |
| 3ACP2 | 38.50 | ..... |
| 3ACP7 | 38.50 | ..... |
| 3B4 | 2.75 | ..... |
| RK3B24W | 10.50 | 11.75 |
| RK3B26 | 16.00 | 17.75 |
| RK3B29 | 14.70 | 16.20 |
| 3UP1 | 46.25 | ..... |
| 3UP7 | 46.25 | ..... |
| 3WP1 | 34.25 | ..... |
| 3WP7 | 37.75 | ..... |
| RK4B31 | 31.00 | 34.10 |
| 4CP7 | 171.00 | ..... |
| 4C35 | 24.40 | ..... |
| RK4D22 | 30.95 | 34.00 |
| RK4D32 | 30.95 | 34.00 |
| RK4J30 | 225.00 | 247.00 |
| RK4J31 | 225.00 | 247.00 |
| RK4J32 | 225.00 | 247.00 |
| RK4J33 | 225.00 | 247.00 |
| RK4J34 | 225.00 | 247.00 |
| RK4J35 | 225.00 | 247.00 |
| RK4J57 | 225.00 | 247.00 |
| RK4J58 | 225.00 | 247.00 |
| RK4J59 | 225.00 | 247.00 |
| RK4J61 | 384.00 | 423.00 |
| RK4J62 | 384.00 | 423.00 |
| RK4J63 | 384.00 | 423.00 |
| RK4J64 | $ 384.00 | $ 423.00 |
| 5ABP1 | 39.75 | ..... |
| 5ABP7 | 43.75 | ..... |
| 5ABP11 | 44.25 | ..... |
| 5ADP7 | 41.00 | ..... |
| 5AHP7 | 38.15 | ..... |
| 5AHP7A | 46.75 | ..... |
| 5AHP14 | 38.15 | ..... |
| 5AHP14A | 46.75 | ..... |
| 5AHP19A | 51.45 | ..... |
| 5AKP19 | 137.00 | ..... |
| 5FP7A | 34.25 | ..... |
| 5FP14A | 37.70 | ..... |
| RK5J26 | 496.00 | 546.00 |
| 5R4GY | 1.90 | 2.70 |
| 5WP15 | 103.00 | ..... |
| 5ZP16 | 128.00 | ..... |
| 6AH6WA | 13.35 | ..... |
| † 6AJ5 | 4.35 | ..... |
| 6AK5W (Use CK5654/6AK5W) | ..... | ..... |
| 6AN5 | 3.75 | ..... |
| 6AN5WA | 10.80 | ..... |
| 6AR6 | 5.75 | ..... |
| † 6AS6 | 3.46 | 4.85 |
| 6AS7G | 4.45 | 6.25 |
| 6BL6 | 41.00 | 44.80 |
| † 6C4W | 8.90 | ..... |
| † 6J4 | 4.33 | 6.10 |
| † 6J5WGT | 5.35 | ..... |
| † 6SN7WGT | 2.60 | ..... |
| † 6X4W | 2.00 | ..... |
| † 6X5WGT | 2.00 | ..... |
| 7ABP7 | 51.45 | ..... |
| 7ABP7A | 60.00 | ..... |
| 7ABP14 | 51.45 | ..... |
| 7ABP19A | 60.00 | ..... |
| 7AK7 | 7.45 | ..... |
| 7BP7A | 43.35 | ..... |
| 7MP7 | 41.15 | ..... |
| 7MP14 | 43.63 | ..... |
| 7SP7 | 146.00 | ..... |
| 10KP7 | 51.45 | ..... |
| 10KP7A | 51.45 | ..... |
| 10QP7 | 137.00 | ..... |
| 10SP4 | 85.71 | ..... |
| 10UP7A | 60.00 | ..... |
| 10UP14A | 60.00 | ..... |
| 10WP7 | 55.75 | ..... |
| 10WP14 | 60.00 | ..... |
| 10WP19A | 68.50 | ..... |
| 12ABP7 | 60.00 | ..... |
| 12ABP7A | 68.50 | ..... |
| 12ABP14 | 60.00 | ..... |
| 12ABP14A | 68.50 | ..... |
| 12ABP19A | 77.00 | ..... |
| 12AT7WA | 4.75 | ..... |
| † 12AY7 | 2.42 | 3.45 |
| 12DP7A | 68.50 | ..... |
| † 12J5WGT | 5.35 | ..... |
| 12SP7 | 42.85 | ..... |
| 16ADP7 | 108.00 | ..... |
| 16ADP7A | 120.00 | ..... |
| 17AVP7 | 137.00 | ..... |
| 21FP7A | 145.00 | ..... |
| RK61 | 3.70 | ..... |
| RX120 | 50.00 | 55.00 |
| RX120A | 50.00 | 55.00 |
| QK149 (Use QK290) | ..... | ..... |
| QK172 | 1,660.00 | 1,826.00 |
| RX212 | 74.00 | 81.40 |
| QK226 (Use QK293) | ..... | ..... |
| QK227 (Use QK294) | ..... | ..... |
| QK253 (Use RK6695) | ..... | ..... |
| QK289 | 384.00 | 423.00 |
| QK290 | 384.00 | 423.00 |
| QK291 | 384.00 | 423.00 |
| QK292 | 384.00 | 423.00 |
| QK293 | 384.00 | 423.00 |
| QK294 | 384.00 | 423.00 |
| QK295 | 513.00 | 564.00 |
| QK306 | 384.00 | 423.00 |

†Types subject to 10% Federal Excise Tax, which has been included.

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*For Finest Quality* **RECEIVING TUBES**
**PICTURE TUBES · SEMICONDUCTOR DIODES**
**& TRANSISTORS · INDUSTRIAL TUBES**

## INDUSTRIAL TUBES *Cont'd.* SUGGESTED USER AND LIST PRICES—*Effective July 14, 1958*

| Type | Sugg. Resale Price | Sugg. List Price |
|---|---|---|
| QK324 | $2,500.00 | $2,750.00 |
| QK329 | 348.00 | 383.00 |
| QK362 | 1,923.00 | 2,115.00 |
| QK366 (Use RK6967) | ..... | ..... |
| QK367 | 160.00 | 176.00 |
| QK381 | 115.00 | 127.00 |
| QK404 (RK7158) | ..... | ..... |
| BM411 | 107.00 | 117.80 |
| QK411A | 1,282.00 | 1,410.00 |
| QK412 | 256.00 | 282.00 |
| QK414 | 111.00 | 122.00 |
| QK422 | 256.00 | 282.00 |
| QK436 (Use RK6316) | ..... | ..... |
| QK448 | 577.00 | 635.00 |
| QK456 | 378.00 | 416.00 |
| QK461 | 96.45 | 106.00 |
| QK463 | 384.00 | 423.00 |
| QK464 (Use RK6835) | ..... | ..... |
| CK501AX | 8.30 | 11.65 |
| CK502AX | 5.82 | 8.15 |
| CK503AX (Use CK5854) | ..... | ..... |
| CK506AX | 2.30 | ..... |
| CK510AX | 2.95 | ..... |
| QK510 | 609.00 | 670.00 |
| CK512AX | 2.55 | ..... |
| QK518 | 962.00 | 1,058.00 |
| CK522AX (Use CK6088) | ..... | ..... |
| CK526AX | 2.76 | 3.90 |
| CK527AX | 2.69 | 3.80 |
| QK528 | 2,115.00 | 2,327.00 |
| CK529AX | 6.00 | 8.40 |
| QK529 | 2,795.00 | 3,075.00 |
| CK531DX | 5.82 | 8.15 |
| QK531 | 67.90 | 74.70 |
| CK532DX | 5.82 | 8.15 |
| QK532 | 67.90 | 74.70 |
| CK533AX | 2.52 | 3.55 |
| CK534AX | 2.59 | 3.65 |
| CK535AX | 2.26 | 3.20 |
| QK535 | 3,200.00 | 3,520.00 |
| CK536AX | 2.69 | 3.80 |
| QK536 | 7,675.00 | 8,442.00 |
| QK537 | 7,327.00 | 8,060.00 |
| CK539DX | 5.82 | 8.15 |
| CK542DX | 5.82 | 8.15 |
| CK542DXS | 5.82 | 8.15 |
| QK543 | 2,564.00 | 2,821.00 |
| QK544 | 2,333.00 | 2,566.00 |
| QK545 | 225.00 | 247.00 |
| CK546DX (Use CK6519) | ..... | ..... |
| QK546 | 2,686.00 | 2,955.00 |
| CK547DX | 2.97 | 4.20 |
| CK548DX (Use CK6418) | ..... | ..... |
| CK549DX (Use CK6419) | ..... | ..... |
| QK549 | 67.90 | 74.70 |
| CK556AX (Use CK5676) | ..... | ..... |
| CK569AX (Use CK5678) | ..... | ..... |
| CK571AX (Use CK5886) | ..... | ..... |
| CK573AX (Use CK6029) | ..... | ..... |
| CK574AX (Use CK6281) | ..... | ..... |
| QK610 | 2,115.00 | 2,327.00 |
| QK623 | 73.95 | 81.40 |
| CK628 (Use CK6247) | ..... | ..... |
| QK632 | 2,308.00 | 2,539.00 |
| QK691 | 1,218.00 | 1,340.00 |
| RK715C | 63.00 | ..... |
| RK725A | 121.00 | 133.00 |
| QKB726 | 3,200.00 | 3,520.00 |
| RK726C | 42.00 | 46.40 |
| RK730A | 132.00 | 145.00 |
| RK807 | 2.90 | 3.40 |
| RK811A | 5.65 | 6.65 |
| RK812A | 5.00 | 5.90 |
| RK813 | 22.65 | ..... |
| RK814 | 14.25 | ..... |
| RK816 | 2.15 | 2.55 |
| RK829B | 16.25 | ..... |
| RK832A | 14.20 | ..... |
| RK837 | 7.85 | ..... |
| RK866A | $ 2.65 | $ 3.10 |

| Type | Sugg. Resale Price | Sugg. List Price |
|---|---|---|
| RK872A | 8.20 | ..... |
| 884 | 1.85 | 2.55 |
| 885 | 2.00 | 2.75 |
| † 954 | 7.40 | ..... |
| † 955 | 4.00 | ..... |
| † 956 | 8.25 | ..... |
| † 957 | 5.35 | ..... |
| †CK1005 | 1.06 | 1.45 |
| †CK1006 | 6.50 | ..... |
| †CK1007 | 1.20 | ..... |
| CK1018 | 15.85 | ..... |
| CK1019 | 24.85 | ..... |
| CK1020 | 10.80 | ..... |
| CK1021 | 10.80 | ..... |
| CK1022 | 13.25 | ..... |
| CK1023 | 10.80 | ..... |
| CK1024 | 4.00 | ..... |
| CK1026 | 3.50 | ..... |
| CK1027 (Use CK6174) | ..... | ..... |
| CK1030 | 33.10 | ..... |
| CK1031 | 33.10 | ..... |
| CK1032 (Use CK1026) | ..... | ..... |
| CK1033 | 33.10 | ..... |
| CK1034 | 8.30 | ..... |
| CK1036 (Use CK6436) | ..... | ..... |
| CK1037 (Use CK6437) | ..... | ..... |
| CK1038 | 8.30 | ..... |
| CK1039 (Use CK6438) | ..... | ..... |
| CK1042 (Use CK6659) | ..... | ..... |
| CK1045 (Use CK6542) | ..... | ..... |
| CK1047 | 4.45 | ..... |
| CK1049 | 5.85 | ..... |
| CK1050 | 8.30 | ..... |
| CK1053 | 4.20 | ..... |
| CK1054 | 3.70 | ..... |
| CK1352P7A | 145.00 | ..... |
| CK1353P7A | 145.00 | ..... |
| 1614 | 2.72 | $ 3.85 |
| RK1625 | 2.95 | 3.50 |
| 2050 | 1.85 | 2.55 |
| 2051 | 1.90 | ..... |
| CK5517 | 3.80 | ..... |
| RK5551A | 65.00 | ..... |
| RK5552A | 99.00 | ..... |
| RK5586 | 384.00 | 423.00 |
| RK5609 | 132.00 | 145.00 |
| CK5639 | 9.00 | ..... |
| CK5639A | 9.00 | ..... |
| CK5643 | 10.00 | ..... |
| CK5651 | 1.78 | 2.50 |
| CK5651WA | 4.20 | ..... |
| †CK5654 | 3.60 | ..... |
| †CK5654 6AK5W | 3.60 | ..... |
| CK5654 6AK5W (Mil-E-1 4) | 3.60 | ..... |
| †CK5654 6AK5W (Mil-E-1/4A) | 4.80 | ..... |
| †CK5654 6AK5W 6096 | 5.85 | ..... |
| †CK5656 | 22.30 | ..... |
| RK5657 | 384.00 | 423.00 |
| †CK5670 | 4.80 | ..... |
| †CK5670 (Mil-E-1 5) | 4.80 | ..... |
| †CK5670 (Mil-E-1 5A) | 4.80 | ..... |
| †CK5670WA | 5.25 | ..... |
| †CK5672 | 2.45 | ..... |
| CK5675 | 13.20 | ..... |
| CK5676 | 3.05 | ..... |
| †CK5678 | 2.45 | ..... |
| †CK5686 | 3.75 | ..... |
| CK5687 | 4.25 | ..... |
| CK5687WA | 7.75 | ..... |
| CK5691 | 8.45 | ..... |
| CK5692 | 8.15 | ..... |
| CK5693 | 6.40 | ..... |
| CK5702 | 4.20 | ..... |
| CK5702WA | 8.25 | ..... |
| CK5702WB | 13.70 | ..... |
| CK5703 | 2.35 | ..... |
| CK5703WA | 7.50 | ..... |
| CK5703WB | 13.00 | ..... |
| CK5704 | 3.05 | ..... |
| CK5704WA | 5.85 | ..... |
| RK5721 | 160.00 | 176.00 |

†Types subject to 10% Federal Excise Tax, which has been included.



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World Radio History

Specify RAYTHEON For Finest Quality RECEIVING TUBES PICTURE TUBES · SEMICONDUCTOR DIODES & TRANSISTORS · INDUSTRIAL TUBES

## INDUSTRIAL TUBES *Cont'd.* SUGGESTED USER AND LIST PRICES—*Effective July 14, 1958*

| Type | Sugg. Resale Price | Sugg. List Price |
|---|---|---|
| †CK5725 | $ 3.65 | ..... |
| †CK5726 | 1.70 | ..... |
| CK5726/6AL5W Mil-E-1/7B | 2.10 | ..... |
| CK5726/6AL5W/6097 Mil-E-1/235A (=) | 3.25 | ..... |
| CK5744 | 2.65 | ..... |
| CK5744WA | 7.05 | ..... |
| CK5744WB | 13.00 | ..... |
| †CK5749 | 2.70 | ..... |
| †CK5750 | 3.80 | ..... |
| †CK5751 | 3.70 | ..... |
| CK5755 | 10.40 | ..... |
| CK5763 | 2.37 | $ 3.35 |
| RK5777 | 208.00 | 230.00 |
| RK5778 | 208.00 | 230.00 |
| CK5783 | 4.20 | ..... |
| CK5783WA | 8.30 | ..... |
| CK5783WB | 8.30 | ..... |
| CK5784 | 5.00 | ..... |
| CK5784WA | 9.95 | ..... |
| CK5784WB | 16.60 | ..... |
| CK5785 | 5.85 | ..... |
| CK5787 | 5.00 | ..... |
| CK5787WA | 10.80 | ..... |
| CK5787WB | 10.80 | ..... |
| CK5794A | 7.50 | ..... |
| CK5814 (Use CK5814A) | ..... | ..... |
| †CK5814A | 3.65 | ..... |
| CK5814A (Mil-E-1/12) | 4.05 | ..... |
| †CK5814A (Mil-E-1/12A) | 4.05 | ..... |
| †CK5814WA | 4.55 | ..... |
| CK5829 | 4.20 | ..... |
| CK5829WA | 7.90 | ..... |
| RK5836 | 89.00 | $98.25 |
| RK5837 | 89.00 | 98.25 |
| CK5851 (Use CK6397) | ..... | ..... |
| CK5854 | 5.85 | ..... |
| CK5875 | 3.05 | ..... |
| CK5876 | 13.55 | ..... |
| CK5879 | 1.75 | 2.50 |
| CK5881 | 3.50 | ..... |
| CK5886 | 5.00 | ..... |
| CK5889 | 12.45 | ..... |
| CK5893 | 19.40 | ..... |
| CK5902 | 6.50 | ..... |
| CK5910 | .95 | ..... |
| CK5962 | 12.45 | ..... |
| CK5963 | 1.40 | ..... |
| CK5965 | 2.49 | ..... |
| CK5971 | 5.85 | ..... |
| CK5972 | 5.85 | ..... |
| CK5975 | 4.20 | ..... |
| RK5976 | 68.00 | 75.00 |
| RK5981 | 137.00 | 152.00 |
| RK5982 | 673.00 | 740.00 |
| †CK6005 | 4.50 | ..... |
| CK6021 | 5.75 | ..... |
| CK6029 | 5.00 | ..... |
| RK6037 | 340.00 | 374.00 |
| RK6043 | 71.50 | 78.60 |
| CK6050 | 3.05 | ..... |
| CK6080 | 5.25 | 7.35 |
| †CK6087 | 6.30 | ..... |
| CK6088 | 2.75 | ..... |
| †CK6096 | 5.85 | ..... |
| CK6110 | 9.15 | ..... |
| CK6111 | 6.25 | ..... |
| CK6112 | 6.25 | ..... |
| RK6115A | 97.00 | 107.00 |
| RK6116 | 160.00 | 176.00 |
| RK6133 (Use 2K28A) | ..... | ..... |
| †CK6135 | 2.60 | ..... |
| †CK6136 | 3.60 | ..... |
| CK6146 | 4.90 | 5.75 |
| CK6148 (Use CK5702WA) | ..... | ..... |
| CK6149 (Use CK5703WA) | ..... | ..... |

| Type | Sugg. Resale Price | Sugg. List Price |
|---|---|---|
| CK6150 (Use CK5784WA) | ..... | ..... |
| CK6151 (Use CK5744WA) | ..... | ..... |
| CK6152 | $ 9.15 | ..... |
| CK6174 | 3.80 | ..... |
| RK6177 | 269.00 | $ 296.00 |
| RK6178 | 449.00 | 494.00 |
| †CK6201 | 4.75 | ..... |
| CK6213 | 5.00 | ..... |
| RK6229 | 404.00 | 444.00 |
| RK6230 | 481.00 | 529.00 |
| RK6236 | 209.00 | 229.00 |
| CK6245 | 11.20 | ..... |
| CK6247 | 11.20 | ..... |
| CK6247WA | 21.55 | ..... |
| RK6248 | 930.00 | 1,023.00 |
| RK6249A | 705.00 | 776.00 |
| RK6253 | 384.00 | 423.00 |
| RK6254 | 384.00 | 423.00 |
| †CK6265 | 4.50 | ..... |
| CK6281 | 2.70 | ..... |
| †CK6286 | 3.35 | ..... |
| RK6310 | 186.00 | 205.00 |
| RK6312 | 186.00 | 205.00 |
| RK6316 | 151.00 | 166.00 |
| RK6344 | 1,090.00 | 1,199.00 |
| RK6390 | 209.00 | 229.00 |
| CK6397 | 8.30 | ..... |
| RK6402 | 2,756.00 | 3,032.00 |
| RK6406 | 1,250.00 | 1,375.00 |
| RK6410A | 1,442.00 | 1,586.00 |
| RK6410 (Use RK6410A) | ..... | ..... |
| CK6414 | 8.55 | ..... |
| CK6418 | 3.05 | ..... |
| CK6419 | 2.20 | ..... |
| CK6436 | 8.30 | ..... |
| CK6437 | 8.30 | ..... |
| CK6438 | 8.30 | ..... |
| †CK6435 | 2.05 | ..... |
| RK6517 | 1,660.00 | 1,826.00 |
| RK6518 | 1,763.00 | 1,939.00 |
| CK6519 | 3.05 | ..... |
| CK6526 | 6.60 | ..... |
| CK6533 | 13.25 | ..... |
| CK6533WA | 21.55 | ..... |
| CK6540 | 10.80 | ..... |
| CK6542 | 12.45 | ..... |
| CK6550 | 4.95 | ..... |
| RK6573 | 513.00 | 564.00 |
| CK6611 | 9.95 | ..... |
| CK6612 | 12.45 | ..... |
| CK6626/0A2WA | 4.20 | ..... |
| CK6627/0B2WA | 4.20 | ..... |
| CK6659 | 9.95 | ..... |
| RK6695 | 737.00 | 811.00 |
| CK6763 | 4.45 | ..... |
| CK6832 | 24.85 | ..... |
| RK6835 | 833.00 | 916.00 |
| RK6841 | 2,128.00 | 2,341.00 |
| RK6845 | 208.00 | 229.00 |
| CK6872 | 9.55 | ..... |
| CK6932 | 12.45 | ..... |
| RK6940 | 160.00 | 176.00 |
| RK6947 | 506.00 | 557.00 |
| RK7156 | 2,115.00 | 2,327.00 |
| RK7158 | 67.90 | 74.70 |
| † 9001 | 4.60 | ..... |
| † 9002 | 3.10 | ..... |
| † 9003 | 4.60 | ..... |
| † 9005 | 4.40 | ..... |
| † 9006 | 2.15 | ..... |
| **Subminiature Tube Test Adapters** | | |
| 5AX51 | 8.30 | ..... |
| 7AX51 | 10.80 | ..... |
| 8CV50 | 10.80 | ..... |

† Types subject to 10% Federal Excise Tax, which has been included.

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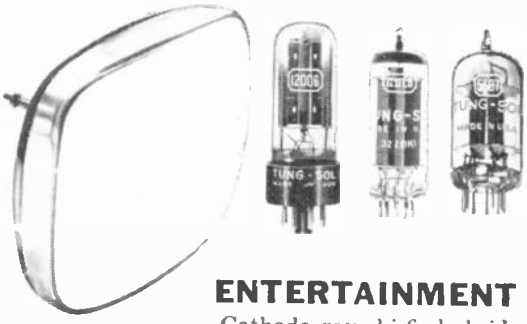
**TRADE DISCOUNT APPLIES TO LIST PRICE ONLY**



World Radio History

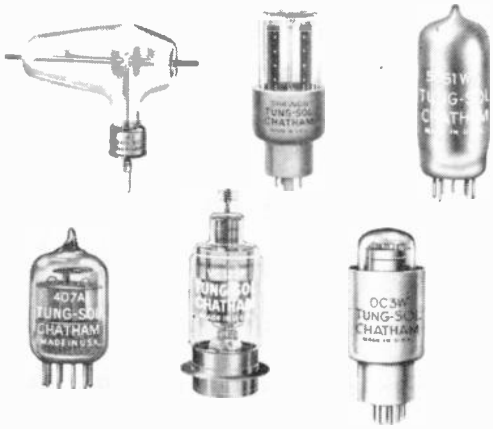
# TUNG-SOL

## FOR QUALITY ELECTRONIC COMPONENTS



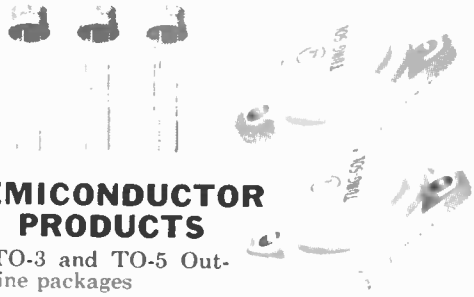
### ENTERTAINMENT

Cathode ray, hi-fi, hybrid auto-radio, TV, radio



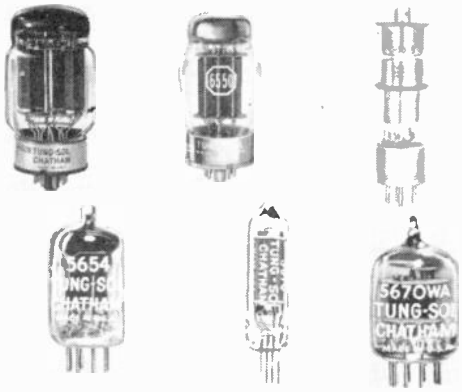
### TUNG-SOL/CHATHAM SPECIAL-PURPOSE TUBES

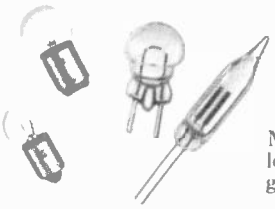
Wide type choice for military and industry



### SEMICONDUCTOR PRODUCTS

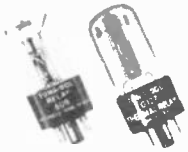
TO-3 and TO-5 Outline packages





### LAMPS

Miniature, baseless, and neon-glow



### RELAYS

For instruments, missiles and other electrical gear.

**TUNG-SOL®**

**Check the following pages for complete listings ▶**



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World Radio History

# TUNG-SOL®

- entertainment tubes
- cathode ray tubes
- semiconductors
- tung-sol/chatham special-purpose tubes
- lamps
- relays

## ENTERTAINMENT TUBES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0Z4 | 1R5 | 4BZ7 | 6AH6 | 6BK7A | 6CU5 | 6Q7G | 7A7 |
| 0Z4G | 1S4 | 4CB6 | 6AK5 | 6BK7B | 6CU6 | 6Q7GT | 7A8 |
| 1A4P | 1S5 | 4DT6 | 6AK6 | 6BL7GTA | (see | 6S4 | 7AD7 |
| 1A5GT | 1T4 | 5AM8 | 6AL5 | 6BN4 | 6BQ6GTA) | 6S4A | 7AF7 |
| 1A6 | 1U4 | 5AN8 | 6AL7GT | 6BN6 | 6CU8 | 6S7G | 7AG7 |
| 1A7GT | 1U5 | 5AQ5 | 6AM8A | 6BN8 | 6CX8 | 6S8GT | 7AH7 |
| 1AB5 | 1V2 | 5AS4A | 6AN8 | 6BQ5 | 6CY5 | 6SA7 | 7AU7 |
| 1AF4 | 1X2A 1X2B | 5AS8 | 6AQ5 | 6BQ6GTA | 6CY7 | 6SA7GT | 7B4 |
| 1AG4 | 2B7 | 5AT8 | 6AQ5/A | 6BQ6GTB/ | 6CZ5 | 6SB7Y | 7B5 |
| 1AX2 | 2AF4 | 5AU4 | 6AQ5A | 6CU6 | 6D6 | 6SC7 | 7B6 |
| 1B3GT | 2AF4A | 5AV8 | 6AQ6 | 6BQ7A | 6D8G | 6SD7GT | 7B7 |
| 1B4P | 2BN4 | 5AW4 | 6AQ7GT | 6BR8 | 6DE6 | 6SF5 | 7B8 |
| 1B5 | 2CY5 | 5B8 | 6AR5 | 8BS8 | 6DG6GT | 6SF5GT | 7C5 |
| 1B7GT | 3A2 | 5BE8 | 6AS5 | 6BU8 | 6DK6 | 6SF7 | 7C6 |
| 1C5GT | 3A3 | 5BK7A | 6AS8 | 6BV8 | 6DN6 | 6SG7 | 7C7 |
| 1C6 | 3A8GT | 5BQ7A | 6AT6 | 6BW8 | 6DQ5 | 6SH7 | 7F7 |
| 1C7G | 3AF4A | 5BR8 | 6AT8 | 6BX7GT | 6DQ6A | 6SJ7 | 7F8 |
| 1D5GP | 3AL5 | 5BT8 | 6AU4GT | 6BY5GA | 6DS5 | 6SJ7GT | 7G7 |
| 1D7G | 3AU6 | 5CG8 | 6AU5GT | 6BY6 | 6DT6 | 6SK7 | 7H7 |
| 1DN5 | 3AV6 | 5CL8 | 6AU6 | 6BY8 | 6E5 | 6SK7GT | 7L7 |
| 1E5GT | 3BA6 | 5CQ8 | 6AU7 | 6BZ6 | 6EA8 | 6SL7GT | 7N7 |
| 1E7GT | 3BC5 | 5CZ5 | 6AU8 | 6BZ7 | 6EU8 | 6SN7GTB | 7Q7 |
| 1F4 | 3BE6 | 5J6 | 6AV5GA | 6BZ8/X155 | 6F5 | 6SQ7 | 7V7 |
| 1F5G | 3BN6 | 5T8 | 6AV5GT | 6C4 | 6F5GT | 6SQ7GT | 7W7 |
| 1H5GT | 3BU8 | 5U4GA | 6AV6 | 6C5 | 6F6 | 6SR7 | 7X7 |
| 1G3GT | 3BY5 | 5U4GB | 6AW8A | 6C5GT | 6F6GT | 6SS7 | 7Y4 |
| 1B3GT | 3BZ6 | 5U8 | 6AX4GT | 6C6 | 6H6 | 6T4 | 7Z4 |
| 1H6G | 3C6 | 5V4G | 6AX5GT | 6CB5A | 6J5 | 6T7G | 8AU8 |
| 1J3 | 3CB6 | 5V6GT | 6AZ8 | 6CB6 | 6J5GT | 6T8A | 8AW8A |
| 1J6G | 3CF5 | 5X4G | 6BA6 | 6CB6A | 6J6 | 6U5 | 8CG7 |
| 1J6GT | 3CS6 | 5X8 | 6BA7 | 6CD6GA | 6J7 | 6U6GT | 8CM7 |
| 1L4 | 3DK6 | 5Y3GT | 6BA8A | 6CE5 | 6J7GT | 6U8 | 8CN7 |
| 1L6 | 3DT6 | 5Z3 | 6BC5 | 6CF6 | 6K5GT | 6U8A | 8CX8 |
| 1LA4 | 3Q4 | 5Z4 | 6BC8 | 6CG7 | 6K6GT | 6V3A | 8SN7GTB |
| 1LA6 | 3Q5GT | 6A7 | 6BD6 | 6CG8A | 6K7 | 6V6 | 9EF6 |
| 1LB4 | 3S4 | 6A8 | 6BE6 | 6CH8 | 6K7G | 6V6GTA | 10DE7 |
| 1LC6 | 3V4 | 6AB4 | 6BF5 | 6CL6 | 6K8 | 6W4GT | 11CY7 |
| 1LD5 | 4AU6 | 6AC5GT | 6BF6 | 6CL8 | 6L5G | 6W6GT | 12A8GT |
| 1LE3 | 4BC5 | 6AC7 | 6BG6G | 6CM6 | 6L6 | 6X4 | 12AB5 |
| 1LG5 | 4BC8 | 6AF3 | 6BH6 | 6CM7 | 6L6GB | 6X5GT | 12AC6 |
| 1LH4 | 4BN6 | 6AF4 | 6BH8 | 6CN7 | 6L7 | 6X8 | 12AD6 |
| 1LN5 | 4BQ7A | 6AF4A | 6BJ6 | 6CQ8 | 6L7G | 6X8A | 12AE6 |
| 1N5GT | 4BS8 | 6AG5 | 6BJ8 | 6CR6 | 6N7 | 6Y6GA | 12AF3 |
| 1P5GT | 4BU8 | 6AG7 | 6BK4 | 6CS7 | 6P5GT | 6ZY5G | 12AF6 |
| 1Q5GT | 4BZ6 | 6AH4GT | 6BK5 | 6CS7 | 6Q7 | 7A6 | 12AJ6 |

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World Radio History

# TUNG-SOL®

- entertainment tubes
- cathode ray tubes
- semiconductors
- tung-sol/chatham special-purpose tubes
- lamps
- relays

## ENTERTAINMENT TUBES (Continued)

12AL5
12AL8
12AQ5
12AT6
12AT7

12AU6
12AU7
12AU7A
12AV5GA
12AV6

12AV7
12AX4GTA
12AX7
12AZ7
12B4A

12BA6
12BA7
12BD6
12BE6
12BF6

12BH7A
12BK5
12BL6
12BQ6GA/ 12CU6

12BQ6GTB
12BQ6GTB/ 12CU6
12BR7
12BV7

12BY7A
12BZ7
12C5/12CU5
12CA5
12CN5

12CR6
12CU6 (see 12BQ6GA)
12CX6
12D4

12DB5
12DE8
12DL8
12DQ6A
12DV8

12DZ6
12EG6
12EL6
12EZ6
12F8

12J5GT
12J7GT
12J8
12K5
12K7GT

12K8GT
12L6GT
12R5
12S8GT
12SA7

12SA7GT
12SF5GT
12SF7
12SG7
12SJ7

12SJ7GT
12SK7
12SK7GT
12SL7GT
12SN7GT

12SN7GTB
12SQ7
12SQ7GT
12SR7GT
12U7

12V6GT
12W6GT
12X4
12Z3
14A5

14A7
14AF7
14B6
14E6
14F7

14J7
14Q7
14R7
14S7
14W7

14Y4
17AX4GT
17BQ6GTA
17DQ6A
17L6GT

17W6GT
19
19AU4
19BG6G
19J6

19T8
24A
25AU4GT
25AX4GT
25BQ6GT

25BQ6GTB/ 25CU6
25C5
25CA5
25CD6GB

25CU6 (see 25BQ6GTB)
25DN6
25L6GT
25W4GT

25Z6GT

32L7GT
33

34
35
35A5
35B5
35C5

35L6GT
35W4
35Y4
35Z3
35Z5GT

36
38
39/44
42
43

45Z3
46
47
50
50A5

50B5
50C5
50L6GT
50X6
50Y6GT

50Y7GT
55
70L7GT
75
78

80
81
117L/M7GT
117P7GT
117Z3

117Z4G1
117Z6GT

## CATHODE RAY TUBES

5AXP4
7JP4
8XP4
10ABP4B
10BP4A

10HP4
10MP4A
12KP4A
12LP4A
12UP4A

12UP4B
12VP4A
14BP4/ 14CP4/ 14EP4

14QP4
14QP4A
14RP4A
14SP4

14WP4
14XP4A
16AP4A
16EP4A
16GP4B

16JP4A
16KP4/16RP4
16KP4A/ 16RP4A
16LP4A/16ZP4

16TP4
16WP4A
17ATP4/17AVP4
17ATP4A/ 17AVP4A

17BJP4
17BP4A/17JP4
17BP4B
17BRP4

17BVP4
17BWP4
17BZP4
17CAP4
17CDP4

17CFP4
17CKP4
17CLP4
17CNP4
17CP4

17FP4/17FP4A
17GP4
17HP4/17RP4
17HP4B/ 17RP4C

17LP4/17VP4
17LP4A/ 17VP4B
17QP4/17UP4/ 17YP4

17QP4A
17TP4
17UP4
19AP4B
20CP4/20DP4

20CP4A/20DP4A
20CP4B/20DP4B
20CP4D/20DP4C
20HP4

20HP4A/ 20MP4/ 20LP4
20HP4C
20HP4D

21ACP4A/ 21AMP4A/ 21BSP4
21ALP4
21ALP4/21ATP4B

21ALP4A/ 21ALP4B
21AP4
21ATP4/ 21ATP4A

21AUP4/21AVP4
21AUP4A/ 21AUP4B/ 21AVP4A/ 21AVP4B

21AWP4
21BTP4
21CBP4/ 21CBP4A
21CEP4

21CMP4
21CQP4
21CSP4
21CUP4

21CVP4
21CWP4
21CXP4
21CZP4
21DAP4

21DEP4
21DFP4
21EP4
21EP4A
21EP4B

21FP4
21FP4A
21FP4C
21MP4
21WP4

21WP4A
21XP4/21AYP4
21XP4A
21YP4

21YP4A
21ZP4
21ZP4A
21ZP4B
24AEP4

24AHP4
24ALP4
24CP4A/24TP4/ 24VP4A/ 24ADP4

24DP4A/24YP4
27EP4
27LP4
27RP4

**COLOR TUBES**

21AXP22
21AXP22A

## SEMICONDUCTORS

2N63
2N64
2N65
2N242

2N307
2N307A
2N378
2N379

2N380
2N381
2N382
2N383

2N404
2N413
2N413A
2N414

2N414A
2N416
2N417
2N425

2N426
2N427
2N428
2N459

2N460
2N461
TS615
TS619

TS620
TS621
TS628
TS629
TS630


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World Radio History

# TUNG-SOL®

- entertainment tubes
- cathode ray tubes
- semiconductors
- tung-sol/chatham special-purpose tubes
- lamps
- relays

## TUNG-SOL/CHATHAM SPECIAL-PURPOSE TUBES

**Vacuum Switch**
1S22

**Diode Pentode**
1AJ5

**Triode Pentodes**
1V6
6678

**Voltage Reference Tubes**
5651
5651WA
5783WA
5783WB

**Telephone Types**
313C
407A
6028 [illegible]
6388 [illegible]

**Triodes**
6J4
5676
6201
9002

**Thyratrons**
0A4G
2A4G
2D21
2D21W
3C23
6D4
323B
338A
393A
394A
395A
502A
884
885
CH1078
2050
2050W
5594
5643
5696
5823

**Rectifiers**
1Z2
3B28
3B29
4B32
5AT4
5R4GY
5R4GYA
5R4WGA
5R4WGB
5H6WGT
5X4W

25Z6WGT
26Z5W
83
583
5517
5642
5726/6AL5W
5726/6AL5W/6097
5829WA
6663

**Twin Triodes**
2C51
3A5
6SC7GTY
6SN7WGTA
6SU7GTY
12AT7WA
12AY7
53
5670
5670WA
5687
5687WA
5691
5692
5751
5751WA
5814
5814WA
5844
5963
5964
5965
6021
6188 6SU7WGT
6211
6350
6679
6680
6681

**Pentodes**
1AD4
1AG4
1AH4
6AJ5
6AK5WB
6AS6
6AU6WA
1620
5636
5636A
5639
5654
5654/6AK5W (Mil-E-1/4)
5654/6AK5W (Mil-E-1/4A)
5654/6AK5W/6096
5672
5678
5693
5725
5725/6AS6W
5749
5749 6BA6W
5875
5879
6136
6661
6662
9001
9003

**Hydrogen Thyratrons**
VC1257
1258
5948 1754
5949/1907
7190
7191
7192

**Twin Power Triodes**
6AS7G
5998
6080
6080WA
6336
6336A
6394
6520
6528
7105

**Voltage Regulators**
0A2
0A3
CB2
0B2WA
0C3
0C3W
0D3
0D3W
6542
6627 0B2WA
7099

**Power Pentodes**
2E22
2E24
2E26
3A4
5A6
6AR6
6L6WGB
12A6
26E6WG
807
5763
5881
6005
6098/6AR6WA
6146
6550

## LAMPS

### MINIATURE LAMPS

PR2
PR3
PR4
PR5
PR6
PR7
PR8
10
12
PR10
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PR13
14
15
PR15
PR16
PR17
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55
57
57K
63
63-
63M
64
67
67P
67M
68
71
71K
71M
72
77
78

81
81K
82
87
87K
87L
88
89
89K
89M
90
93
93IF
94
94IF
109
110
112
114
123
131
136
196
209
210
222
223
224
233
243
245
263

291
292
301
302
303
304
305
306
307
307R
307SB
308
309
310
310R
311
312
313
313R
351
365
502
605
621
622
623
631
965
1000
1002
1003
1004

1007
1009
1011
1016
1021
1022
1026
1034
1044
1068
1073
1074
1105S
1122
1124
1129
1130
1133
1134
1141
1141IF
1142
1142IF
1143
1144

1145
1146
1154
1158
1170
1176
1183
1184
1188
1195
1196
1203
1204
1209
1209S
1247
1251
1252
1271
1321
1323
1323S
1327
1445
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1501
1503
1507
1683
1686
1691
1813
1815

1816
1820
1829
1847
1891
1892
1950
2090
2220
2226
2320
2326
2330
2331
2336
2520
2526
2530
2530L
2531
2536
2550

### GLOW LAMPS

NE-2
NE-2A
NE-2B
NE-2AR6
NE-2AR10
NE-2AR20
NE-2BR6
NE-2BR10
NE-2R6
NE-51
601B
606
608

## RELAYS

G-104
G-123
G-124
G-127
G-128

# TUNG-SOL®

**TUNG-SOL ELECTRIC Inc., Newark 4, New Jersey**

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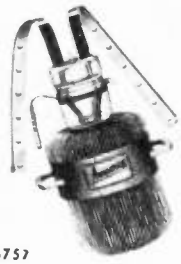
World Radio History

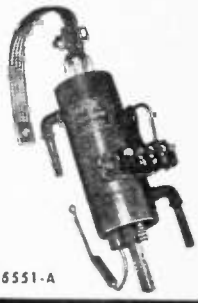
# Amperex®

AX5868

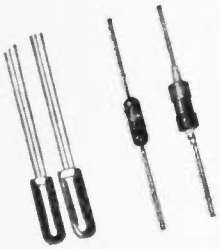
DX151

6961


6757


6551-A

**RADIATION DETECTION • SPECIAL PURPOSE**


2N282's 1N478,9

5894

0G3/85A2

5870

6252

**SEMICONDUCTORS • INDUSTRIAL • ELECTRO-MEDICAL**

6507

6360

6800

6939

230N-240N

**COMMUNICATION • RECTIFICATION • AMATEUR**

6977

6688

EL84

6693

**HELPFUL CHARTS & LITERATURE FREE:**

Write for CONDENSED TUBE CATALOG, information at a glance, rapid tube data reference tables, 26 pages of condensed information arranged for quick reference. Address your distributor or Amperex direct.

## Amperex ELECTRONIC CORPORATION

230 DUFFY AVENUE, HICKSVILLE, LONG ISLAND, N. Y.

In Canada: Rogers Electronic Tubes & Components, 11-19 Brentcliffe Road, Leaside, Toronto 17.



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World Radio History

# ELECTRON TUBES

Detailed Data Sheets Available

| Type No. | Price |
|---|---|
| **BEAM POWER TUBES** | |
| 813 | $22.65 |
| 829B | 16.25 |
| 6146 | 4.90 |
| **VACUUM CONDENSERS** | |
| VC25/20 | 20.00 |
| VC25/32 | 23.25 |
| VC50/20 | 24.25 |
| VC50/32 | 27.50 |
| VC100/20 | 30.00 |
| VC100/32 | 33.00 |
| VC250/32 | 70.00 |
| **DECADE COUNTER** | |
| EIT/6370 | 16.50 |
| **GEIGER COUNTERS** | |
| 75N | 10.00 |
| 75NB3 | 10.00 |
| 85NB3 | 10.00 |
| 90NB | 20.00 |
| 100C | 35.00 |
| 100N | 35.00 |
| 100NB | 37.50 |
| 120C | 75.00 |
| 120N | 75.00 |
| 120NB | 77.50 |
| 150N | 50.00 |
| 150NB | 52.50 |
| 153C | 65.00 |
| 200C | 45.00 |
| 200CB | 47.50 |
| 200N | 45.00 |
| 200NB | 47.50 |
| 230N | 30.00 |
| 240C | 35.00 |
| 240N | 35.00 |
| 912NB | 35.00 |
| **CLIPPER DIODE** | |
| 6339 | 35.00 |
| **TWIN DIODE** | |
| 5726 | 2.10 |
| **HEPTODE** | |
| E91H/6687 | 1.45 |
| **IGNITRONS** | |
| §5551-A/652 | 65.00 |
| §5552-A/651 | 99.00 |
| §5553-B/655 | 216.00 |
| 5555 653B | 316.00 |
| 5822 | 116.00 |
| §5822-A | 116.00 |
| **INDICATOR TUBES** | |
| EM34 6CD7 | 2.55 |
| DM70 1M3 | 1.95 |
| DM71 | 2.00 |
| EM80 6BR5 | 2.45 |
| EM81/6DA5 | 2.45 |
| EM84 6FG6 | 2.95 |

| Type No. | Price |
|---|---|
| **INDICATOR TRIODE** | |
| 6977 | $ 3.50 |
| **REFLEX KLYSTRON** | |
| 2K25 | 39.50 |
| **KLYSTRONS** | |
| DX122 | ** |
| DX123 | ** |
| DX124 | ** |
| **MAGNETRONS** | |
| 2J42 | 160.00 |
| 2J48 | 250.00 |
| 2J55 | 165.00 |
| 2J56 | 165.00 |
| 4J47 | 500.00 |
| 4J57 | 270.00 |
| 4J58 | 270.00 |
| 4J59 | 270.00 |
| JP9-15 | 260.00 |
| 5586 | 417.00 |
| 5657 | 417.00 |
| 5780A | ** |
| 6507 | ** |
| 6589 | ** |
| 6972 | 325.00 |
| **PENTODES** | |
| 6AU6 | 2.00 |
| E81L 6686 | 5.00 |
| E83F 6689 | 4.50 |
| UL84/45B5 | 2.65 |
| EL86 6CW5 | 2.85 |
| E180F 6688 | 8.00 |
| 828 | 27.50 |
| 5654 | 3.90 |
| 5847 | 20.00 |
| 6083 AX9909 | 14.25 |
| 6084 E80F | 3.75 |
| 6227 E80L | 3.75 |
| **PENTODES—HI-FI** | |
| 6CA7/EL34 | 4.35 |
| EL84 6BQ5 | 2.40 |
| EF86 6267 | 2.75 |
| **PENTODES Secondary Emission** | |
| EFP60 | 8.75 |
| **PENTODES—Subminiature** | |
| 6007 5913 | 1.50 |
| 6008 5911 | 1.50 |
| **HI-FI VACUUM RECTIFIERS** | |
| GZ34 5AR4 | 3.50 |
| EZ80 6V4 | 1.50 |
| EZ81 6CA4 | 1.60 |

| Type No. | Price |
|---|---|
| **MERCURY RECTIFIERS** | |
| 575A | $ 22.15 |
| 673 | 22.15 |
| 857B | 218.50 |
| 866AX | 2.65 |
| 869B | 138.00 |
| 869BL | 138.00 |
| 872AX | 9.35 |
| 6508 | 80.00 |
| 6693 | 25.00 |
| 7136 | 25.00 |
| 8008AX | 9.35 |
| **VACUUM RECTIFIERS** | |
| 5R4GY | 2.65 |
| 8020AX | 15.00 |
| **XENON RECTIFIERS** | |
| 3B28 | 7.60 |
| 4B32 | 12.00 |
| **VOLTAGE REFERENCE TUBES** | |
| OE3/85A1 | 2.50 |
| OG3/85A2 | 2.50 |
| 5651 | 2.50 |
| **VOLTAGE REGULATORS** | |
| OA2 | 1.75 |
| OB2 | 1.90 |
| 90C1 | 2.50 |
| 6354/150B2 | 3.00 |
| **TETRODES** | |
| 4X150A | 38.95 |
| 4X150D | 38.95 |
| 4X250B | 42.50 |
| 4X500A | 121.00 |
| 807 | 2.90 |
| 6075/AX9907 | 250.00 |
| 6076/AX9907R | 305.00 |
| 6079/AX9908 | 60.00 |
| 6155/AX4-125A | 30.25 |
| 6156/AX4-250A | 41.25 |
| 6979 | 42.50 |
| **TWIN TETRODES** | |
| 832A | 14.26 |
| DX140 | ** |
| 5894/AX9903 | 25.00 |
| 6252/AX9910 | 25.00 |
| 6360 | 4.00 |
| 6907 | 25.00 |
| 6939 | 14.00 |
| **THYRATRONS** | |
| C3J/5632 | 15.50 |
| C3JA/5684 | 19.80 |
| 3C23 | 11.98 |
| AX260 | 150.00 |
| 632B | 28.00 |

| Type No. | Price |
|---|---|
| **HYDROGEN THYRATRONS** | |
| §6268/AX9911 | $ 32.50 |
| §6279/AX9912 | 45.00 |
| **INERT GAS THYRATRONS** | |
| 2D21 | 1.61 |
| 5727 | 2.90 |
| **MERCURY THYRATRONS** | |
| AX105/FG105 | 49.50 |
| 678 | 47.00 |
| FG17 1701/967/5557 | 8.50 |
| 5559 | 22.00 |
| 5560/FG95 | 28.00 |
| 5869 AGR9950 | 25.00 |
| 5870 AGR9951 | 100.00 |
| 6786 | 200.00 |
| **XENON THYRATRONS** | |
| 2050 | 2.55 |
| 5544 | 32.50 |
| 5545 | 29.40 |
| 5865/C6J | 26.40 |
| **TRIODES** | |
| 2C39A | 22.50 |
| 6Q4 EC80 | 3.25 |
| 6R4/EC81 | 2.50 |
| HF200 | 47.50 |
| HF201A 468 | 33.00 |
| 250TH | 33.00 |
| 250TL | 33.00 |
| HF300 | 39.50 |
| 450TH | 77.00 |
| 450TL | 77.00 |
| 501R 5759 | 225.00 |
| 502 5760 | 210.00 |
| 502R/5760 | 235.00 |
| 504R | 245.00 |
| 508 6246 | 500.00 |
| 750TL | 137.50 |
| 805 | 20.00 |
| 810 | 25.55 |
| 811A | 5.65 |
| 812A | 5.65 |
| 833A | 55.00 |
| 834 | 19.75 |
| 838 | 20.00 |
| 845 | 20.85 |
| 849 | 145.00 |
| 849A | 145.00 |
| 880 | 565.00 |
| 889A | 221.00 |
| 889RA | 347.00 |
| 891 | 275.00 |
| 891R | 430.00 |
| 892 | 270.00 |
| 892R | 425.00 |
| ZB3200 | 385.00 |
| 5604 | 570.00 |
| 5619 | 423.00 |

| Type No. | Price |
|---|---|
| **TRIODES (cont'd)** | |
| 5653 | $565.00 |
| 5666 | 265.00 |
| 5667 | 347.00 |
| 5736 | 170.00 |
| 5771 | 600.00 |
| 5866/AX9900 | 20.00 |
| 5867/AX9901 | 30.00 |
| 5868/AX9902 | 55.00 |
| 5923/AX9904 | 165.00 |
| 5924/AX9904R | 231.00 |
| 5924A | 275.00 |
| 6077/AX9906 | 1675.00 |
| 6078/AX9906R | 1900.00 |
| 6333 | 260.00 |
| 6445 | 420.00 |
| 6446 | 305.00 |
| 6447 | 305.00 |
| 6756 | 388.00 |
| 6757 | 535.00 |
| 6758 | 173.00 |
| 6759 | 206.00 |
| 6800 | 350.00 |
| 6801 | 505.00 |
| 6960 | 150.00 |
| 6961 | 210.00 |
| 7092 | 125.00 |
| **GLOW DISCHARGE TRIODE—Miniature** | |
| 5823 | 2.50 |
| **HI-FI TWIN TRIODES** | |
| ECC81/12AT7 | 2.85 |
| ECC82/12AU7 | 2.30 |
| ECC83/12AX7 | 2.30 |
| **TWIN TRIODES** | |
| ECC85/6AQ8 | 2.60 |
| E88CC/6922 | 4.75 |
| ECC88/6DJ8 | 4.55 |
| ECC91 6J6 | 2.65 |
| E92CC | 1.75 |
| 5920/E90CC | 2.00 |
| 6085/E80CC | 3.75 |
| 6201 | 4.75 |
| 7962 | 2.40 |
| 7119 E182CC | 2.95 |
| **TRIGGER TUBE** | |
| Z8040 | 4.30 |
| **MISC. SPECIAL PURPOSE TUBES** | |
| ECF80/6BL8 | 3.10 |
| 6U8 | 3.15 |
| ECL82/6BM8 | 2.75 |
| UCL82 | 3.45 |
| EA52/6923 | 13.00 |
| 6218/E80T | 15.00 |
| EY81/6R3 | 2.00 |
| DY87/1S2A | 2.75 |
| EBF89/6DC8 | 2.65 |

§The AMPEREX types 6268 and 6279 are not only improved versions but completely interchangeable in every respect with the Types 4C35 and 5C22 respectively. They have a minimum guaranteed life of 1,000 hours due to the self-contained, self-regulating sources of hydrogen.

‡Includes sensing plate. For thermostatic control, ordered separately either—
(a) "Water Saver" Thermostat Assembly, Cat. No. S-17024, Price $5.25.
(b) "Overload Protection" Thermostat Assembly, Cat. No. S-17025, Price $5.25.

**Price on request.

Prices subject to change without notice.

**RADIATOR CREDIT FOR FORCED AIR-COOLED TUBES**

| TUBE TYPE | USERS ALLOWANCE |
|---|---|
| 839RA | $20.00 |
| 891R, 892R | 30.00 |
| 5604 | 45.00 |
| 5667 | 20.00 |
| 6445 | 30.00 |
| 6447 | 30.00 |
| 6757 | 75.00 |
| 6801 | 75.00 |

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World Radio History

# *Eimac First* for Reliability

## AMPLIFIER KLYSTRONS

| | U.S.A. PRICE | TYPICAL OPERATION Output Power, Watts CW | Pulse | Power Gain db | Frequency Range Mc | MAXIMUM RATINGS Beam Voltage Volts | Beam Current Amps |
|---|---|---|---|---|---|---|---|
| 3K2500LX | $ 5,885.00 | 1000 | .... | 25 | 980-1200 | 7000 | 0.6 |
| 3K2500SG | 2,950.00 | 1000 | .... | 25 | 1700-2400 | 7000 | 0.6 |
| 3K3000LQ | 2,360.00 | 2000 | .... | 30 | 720-985<br>620-900 | 9000 | 0.75 |
| 3K50,000LA | 4,200.00 | 10,000 | 12,000[1] | 25 | 470-580 | 20,000 | 2.5 |
| 3K50,000LF | 4,200.00 | 10,000 | 12,000[1] | 25 | 580-720 | 20,000 | 2.5 |
| 3K50,000LQ | 4,200.00 | 10,000 | 12,000[1] | 25 | 720-985 | 20,000 | 2.5 |
| 3KM2500LT | 1,880.00 | .... | 30,000 | 30 | 955-1220 | 24,000 | 3.3 |
| 3KM3000LA | 2,470.00 | 2000 | .... | 30 | 375-570 | 9000 | 0.75 |
| 3KM50,000PA | 11,000.00 | 20,000 | 50,000 | 30 | 225-400 | 30,000 | 2.5 |
| 4K50,000LQ | 4,560.00 | 10,000 | .... | 50 | 720-985 | 20,000 | 2.5 |
| 4KM3000LQ | .... | 2000 | .... | 40 | 720-985 | 10,000 | .75 |
| 4KM50,000SG | 10,000.00 | 10,000 | .... | 40 | 1700-2400 | 18,000 | 2.0 |
| 4KM170,000LA | 23,500.00 | 75,000 | .... | 50 | 300-500 | 33,000 | 5.5 |
| | | .... | 200,000 | 50 | 300-500 | 50,000 | 11.0 |
| 6K50,000LQ | 8,250.00 | 10,000 | .... | 55 | 720-985 | 20,000 | 2.5 |

## REFLEX KLYSTRONS

| | U.S.A. PRICE | MAXIMUM RATINGS Resonator Voltage Volts | Resonator Dissipation Watts | Cathode Current ma | Reflector Voltage Volts (Typical) | ELECTRICAL CHARACTERISTICS Heater Voltage Volts | Heater Current Amps | Frequency Range Mc |
|---|---|---|---|---|---|---|---|---|
| 1K015CA[2] | $ 295.00 | 350 | 15 | 50 | −250 | 6.3 | 0.8 | 5400-6000 |
| 1K015CG[1] | 295.00 | 350 | 15 | 50 | −250 | 6.3 | 0.8 | 5400-6000 |
| 1K015XA[2] | 295.00 | 350 | 15 | 50 | −170 | 6.3 | 0.8 | 8400-9600 |
| 1K015XG[1] | 295.00 | 350 | 15 | 50 | −170 | 6.3 | 0.8 | 8400-9600 |
| 1K125CA[1] | 235.00 | 1000 | 125 | 110 | −285 | 6.3 | 1.5 | 3700-4400 |
| 1K125CB[1] | 235.00 | 1000 | 125 | 110 | −335 | 6.3 | 1.5 | 4400-5000 |
| 1K20KA[1] | 475.00 | 350 | 20 | 50 | −190 | 6.3 | 0.8 | 10,700-11,700 |
| 1K20XD[1] | 475.00 | 350 | 20 | 50 | −175 | 6.3 | 0.8 | 10,000-10,800 |
| 1K20XK[1] | 475.00 | 350 | 20 | 50 | −160 | 6.3 | 0.8 | 9200-10,000 |
| 1K20XS[1] | 475.00 | 350 | 20 | 50 | −140 | 6.3 | 0.8 | 8500-9300 |

## TETRODES

| | U.S.A. PRICE | MAXIMUM RATINGS Plate Dissipation Watts | Plate Voltage Volts | Plate Current ma | Grid Dissipation Watts | Screen Voltage Volts | Screen Dissipation Watts | ELECTRICAL CHARACTERISTICS Filament Voltage Volts | Filament Current Amps | Amplification Factor |
|---|---|---|---|---|---|---|---|---|---|---|
| 4-65A | $ 20.00 | 65 | 3000 | 150 | 5 | 400 | 10 | 6.0 | 3.5 | .... |
| 4-125A | 30.25 | 125 | 3000 | 225 | 5 | 400 | 20 | 5.0 | 6.5 | .... |
| 4-250A | 41.25 | 250 | 4000 | 350 | 10 | 600 | 35 | 5.0 | 14.5 | .... |
| 4-400A | 48.00 | 400 | 4000 | 350 | 10 | 600 | 35 | 5.0 | 14.5 | .... |
| 4-1000A | 132.00 | 1000 | 6000 | 700 | 25 | 1000 | 75 | 7.5 | 21.0 | .... |
| 4CX250B | 45.00 | 250 | 2000 | 250 | 2 | 300 | 12 | 6.0 | 2.6 | .... |
| 4CX250K | 54.00 | 250 | 2000 | 250 | 2 | 300 | 12 | 6.0 | 2.6 | .... |
| 4CX250M | 54.00 | 250 | 2000 | 250 | 2 | 300 | 12 | 26.5 | 0.57 | .... |
| 4CX300A | 48.00 | 300 | 2500 | 250 | 2 | 400 | 12 | 6.0 | 3.0 | .... |
| 4CX1000A | 156.00 | 1000 | 3000 | 1000 | 0 | 350 | 12 | 6.0 | 12.5 | .... |
| 4CX5000A | 450.00 | 5000 | 7500 | 3000 | 75 | 1500 | 250 | 7.5 | 75.0 | .... |
| 4W300B | 42.50 | 300 | 2000 | 250 | 2 | 300 | 12 | 6.0 | 2.6 | .... |
| 4W20,000A | 1,850.00 | 20,000 | 8000 | 15,000 | 60 | 1500 | 200 | 10.0 | 30.0 | .... |
| 4X150A | 38.95 | 150 | 1250 | 250 | 2 | 300 | 12 | 6.0 | 2.6 | .... |
| 4X150D | 38.95 | 150 | 1250 | 250 | 2 | 300 | 12 | 26.5 | 0.57 | .... |
| 4X150G | 54.00 | 150 | 1250 | 250 | 2 | 300 | 15 | 2.5 | 7.0 | .... |
| 4X250B | 42.50 | 250 | 2000 | 250 | 2 | 300 | 12 | 6.0 | 2.6 | .... |
| 4X250F | 42.50 | 250 | 2000 | 250 | 2 | 300 | 12 | 26.5 | 0.57 | .... |
| 4X500A | 121.00 | 500 | 4000 | 350 | 10 | 500 | 30 | 5.0 | 13.5 | .... |
| 4X500F | 121.00 | 500 | 4000 | 350 | 10 | 500 | 30 | 5.0 | 13.5 | .... |

## PENTODE

| | U.S.A. PRICE | Plate Dissipation Watts | Plate Voltage Volts | Plate Current ma | Grid Dissipation Watts | Screen Voltage Volts | Screen Dissipation Watts | Filament Voltage Volts | Filament Current Amps | Amplification Factor |
|---|---|---|---|---|---|---|---|---|---|---|
| 4E27A/5-125B | 40.00 | 125 | 4000 | 200 | 5 | 750 | 20 | 5.0 | 7.50 | .... |

## TRIODES

| | U.S.A. PRICE | Plate Dissipation Watts | Plate Voltage Volts | Plate Current ma | Grid Dissipation Watts | Screen Voltage Volts | Screen Dissipation Watts | Filament Voltage Volts | Filament Current Amps | Amplification Factor |
|---|---|---|---|---|---|---|---|---|---|---|
| 2C39A | $ 22.50 | 100 | 1000 | 125[5] | 2 | .... | .... | 6.3 | 1.0 | 100 |
| 2C39B | 32.15 | 100 | 1000 | 125[5] | 2 | .... | .... | 6.3 | 1.0 | 100 |
| 2C39WA | 30.00 | 100 | 1000 | 125[5] | 2 | .... | .... | 6.3 | 1.0 | 100 |
| 3C24 | 15.00 | 25 | 2000 | 75 | 7 | .... | .... | 6.3 | 3.0 | 24 |
| 3CPN10A5 | 36.65 | 10 | .... | .... | 2 | .... | .... | 6.0 | 1.0 | 100 |
| 3CX100A5 | 32.15 | 100 | 1000 | 125[5] | 2 | .... | .... | 6.0 | 1.0 | 100 |
| 3W5000A1 | 198.00 | 5000 | 6000 | 2500 | 50 | .... | .... | 7.5 | 51.0 | 5 |
| 3W5000A3 | 198.00 | 5000 | 6000 | 2500 | 150 | .... | .... | 7.5 | 51.0 | 20 |
| 3W5000F1 | 198.00 | 5000 | 6000 | 2500 | 50 | .... | .... | 7.5 | 51.0 | 5 |
| 3W5000F3 | 198.00 | 5000 | 6000 | 2500 | 150 | .... | .... | 7.5 | 51.0 | 20 |
| 3X100A5 | 25.00 | 100 | 1000 | 125[5] | 2 | .... | .... | 6.3 | 1.0 | 100 |
| 3X2500A3 | 198.00 | 2500 | 6000 | 2500 | 150 | .... | .... | 7.5 | 51.0 | 20 |
| 3X2500F3 | 198.00 | 2500 | 6000 | 2500 | 150 | .... | .... | 7.5 | 51.0 | 20 |
| 3X3000A1 | 198.00 | 3000 | 6000 | 2500 | 50 | .... | .... | 7.5 | 51.0 | 5 |
| 3X3000F1 | 198.00 | 3000 | 6000 | 2500 | 50 | .... | .... | 7.5 | 51.0 | 5 |
| 25T | 15.00 | 25 | 2000 | 75 | 7 | .... | .... | 6.3 | 3.0 | 24 |
| 35T | 20.00 | 50 | 2000 | 150 | 15 | .... | .... | 5.0 | 4.0 | 39 |
| 35TG | 24.00 | 50 | 2000 | 150 | 15 | .... | .... | 5.0 | 4.0 | 39 |
| 75TH | 28.00 | 75 | 3000 | 225 | 16 | .... | .... | 5.0 | 6.25 | 20 |
| 75TL | 28.00 | 75 | 3000 | 225 | 13 | .... | .... | 5.0 | 6.25 | 12 |
| 100TH | 20.50 | 100 | 3000 | 225 | 20 | .... | .... | 5.0 | 6.3 | 38 |
| 100TL | 20.50 | 100 | 3000 | 225 | 15 | .... | .... | 5.0 | 6.3 | 14 |
| 152TH | 50.00 | 150 | 3000 | 450 | 30 | .... | .... | 5 or 10 | 12.5 or 6.25 | 20 |
| 152TL | 50.00 | 150 | 3000 | 450 | 25 | .... | .... | 5 or 10 | 12.5 or 6.25 | 12 |
| 250TH | 33.00 | 250 | 4000 | 350 | 40 | .... | .... | 5.0 | 10.5 | 37 |
| 250TL | 33.00 | 250 | 4000 | 350 | 35 | .... | .... | 5.0 | 10.5 | 14 |
| 304TH | 60.50 | 300 | 3000 | 900 | 60 | .... | .... | 5 or 10 | 25 or 12.5 | 20 |
| 304TL | 60.50 | 300 | 3000 | 900 | 50 | .... | .... | 5 or 10 | 25 or 12.5 | 12 |
| 450TH | 77.00 | 450 | 6000 | 600 | 80 | .... | .... | 7.5 | 12.0 | 38 |
| 450TL | 77.00 | 450 | 6000 | 600 | 65 | .... | .... | 7.5 | 12.0 | 18 |
| 592/3-200A3 | 37.50 | 200 | 3500 | 250 | 25 | .... | .... | 10.0 | 5.0 | 25 |
| 750TL | 137.50 | 750 | 10,000 | 1000 | 100 | .... | .... | 7.5 | 21.0 | 15 |
| 1000T | 137.50 | 1000 | 7500 | 750 | 80 | .... | .... | 7.5 | 15.5 | 35 |
| 1500T | 245.00 | 1500 | 8000 | 1250 | 125 | .... | .... | 7.5 | 24.0 | 24 |
| 2000T | 340.00 | 2000 | 8000 | 1750 | 150 | .... | .... | 10.0 | 23.5 | 23 |



Net

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# in Power Electron Tubes

## HIGH VACUUM RECTIFIERS

| | U. S. A. PRICE | Filament Voltage Volts | Filament Current Amps | Peak Inverse Voltage Volts | Peak Plate Current Amps | Average Plate Current ma | Plate Dissipation Watts |
|---|---|---|---|---|---|---|---|
| 2.01C | $ 15.25 | 5.0 | 0.35 | 1,000 | 0.010 | 1 | 0.1 |
| 2.25A | 12.50 | 6.3 | 3.0 | 25,000 | 1.0 | 50 | 15 |
| 2.50A | 15.00 | 5.0 | 4.0 | 30,000 | 1.0 | 75 | 30 |
| 2.150D | 25.00 | 5.0 | 13.0 | 30,000 | 3.0 | 250 | 90 |
| 2.240A | 40.00 | 7.5 | 12.0 | 25,000 | 4.0 | 500 | 150 |
| 2.450A | 94.00 | 7.5 | 26.5 | 25,000 | 8.0 | 1000 | 450 |
| 2.2000A | 214.50 | 10.0 | 25.0 | 75,000 | 12.0 | 750 | 1200 |
| 250R | 28.00 | 5.0 | 10.5 | 60,000 | 2.5 | 250 | 150 |
| 253 | 20.50 | 5.0 | 10.0 | 15,000 | 2.5 | 350 | 100 |
| 8020(100P) | 15.00 | 5.0 | 6.5 | 40,000 | 1.5 | 100 | 60 |
| 2CL40A | 32.00 | 6.0 | 2.7 | 16,000 | 10.0[3] | 120[4] | 40[4] |
| 2X1000A | 120.00 | 26.5 | 2.2 | 25,000 | 25.0[3] | 1250[3] | 1000 |
| 2X3000F | 140.00 | 7.5 | 51.0 | 25,000 | 20.0 | 3000 | 3000 |
| **MERCURY VAPOR RECTIFIERS** | | | | | | | |
| RX21A | 25.00 | 2.5 | 10.0 | 11,000 | 3.0 | 750 | .... |
| RX21A | 24.00 | 2.5 | 10.0 | 11,000 | 3.0 | 750 | .... |

## PREFORMED CONTACT FINGER STOCK

A prepared strip of silver-plated spring material, slotted and formed into a series of fingers designed to make sliding contact.

| Single Edge | Width |
|---|---|
| CF-100 | 17/32" |
| CF-300 | 31/32" |
| CF-500 | 1 3/8" |
| **Double Edge** | **Width** |
| CF-200 | 13/16" |
| CF-400 | 1 17/32" |
| CF-600 | 2 1/4" |
| **Klystron Types** | **Width** |
| CF-700 | 17/32" |
| CF-800 | 11/32" x 5/16" |

Used as contact between klystrons and externally-tuned cavities.

## PULSE MODULATORS

| | U. S. A. PRICE | Plate Dissipation Watts | Plate Voltage Volts | Plate Current ma | Grid Dissipation Watts | Screen Voltage Volts | Screen Dissipation Watts | Filament Voltage Volts | Filament Current Amps | Amplification Factor |
|---|---|---|---|---|---|---|---|---|---|---|
| 4PR60A | $90.00 | 60 | 20,000 | 18,000[1] | .. | 1500 | 8 | 26.0 | 2.25 | .. |
| 6C21 | 77.00 | 300 | 30,000 | 15,000[2] | 50 | .... | .. | 8.2 | 17.00 | 30 |

## HEAT-DISSIPATING CONNECTORS

| Type | Hole Diameter |
|---|---|
| HR-1 | .052 |
| HR-2 | .062 |
| HR-3 | .072 |
| HR-4 | .102 |
| HR-5 | .127 |
| HR-6 | .367 |
| HR-7 | .127 |
| HR-8 | .575 |
| HR-9 | .569 |
| HR-10 | .510 |

## SK-601 TUBE EXTRACTOR

A spring steel extractor for use with the 4X150 series, 4X250 series and 2C39 series tubes.

## VACUUM SWITCHES

Single-pole, double-throw switch within a high vacuum, adaptable for high-voltage switching. Contact spacing .015". Switch will handle R.F. potentials as high as 20 kv. In D.C. switching will handle approximately 1.5 Amps. at 5 kv.

| Type | Coils |
|---|---|
| VS-2 | 12V |
| VS-4 | 24V |
| VS-5 | |
| VS-6 | |

## 100IG IONIZATION GAUGE

For measuring pressures from $10^{-3}$ to less than $10^{-11}$ mm of mercury.

## HV-1 DIFFUSION PUMP

Triple-jet, air-cooled vacuum pump of the oil-diffusion type. Capable of reaching an ultimate vacuum of $3 \times 10^{-7}$ mm of mercury when used with suitable forepump.

## AIR SYSTEM SOCKETS

| | U. S. A. PRICE | Tube | Screen By-Pass Capacitor uuf | Special Characteristics |
|---|---|---|---|---|
| SK-100 | $123.00 | 4KM3000LQ; 3KM3000LA; 3K3000LQ | .... | Cathode Socket |
| SK-110 | 123.00 | 3K50,000LA,F,Q; 3KM50,000PA; 4K50,000LQ; 4KM50,000SG; 6K50,000LQ | .... | Cathode Socket |
| SK-200 | 60.00 | 3K2500SG; 3K2500LX; 3KM2500LT | .... | Cathode Socket |
| SK-300 | 41.00 | 4CX5000A | none | |
| SK-400 | 12.00 | 4-400A; 4-250A; 4-125A | none | |
| SK-500 | 17.00 | 4-1000A | none | |
| SK-600 | 15.25 | 4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B | 2700 | No terminals grounded. |
| SK-610 | 17.10 | 4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B | 2700 | Cathode terminals grounded. |
| SK-620 | 15.75 | 4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B | 1100 | No terminals grounded. Screen by-pass capacitor plastic sealed. |
| SK-630 | 17.60 | 4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B | 1100 | Cathode terminals grounded. Screen by-pass capacitor plastic sealed. |
| SK-640 | 5.00 | 4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B | none | No terminals grounded. |
| SK-700 | 20.00 | 4CX300A | 1100 | No terminals grounded. |
| SK-710 | 20.00 | 4CX300A | 1100 | Cathode terminals grounded. |
| SK-740 | On Request | 4CX300A | none | No terminals grounded. |
| SK-750 | On Request | 4CX300A | none | Integral chimney. No terminals grounded. |
| SK-770 | On Request | 4CX300A | none | Integral chimney, screen terminals grounded. |
| SK-800 | 40.00 | 4CX1000A | 1450 | Cathode terminals grounded. |
| SK-900 | 48.00 | 4X500A | 650 | |
| SK-1000 | On Request | 4KM170,000LA | .... | Cathode socket. |

## CHIMNEYS

| | U. S. A. PRICE |
|---|---|
| SK-306 | $11.48 |
| SK-406 | 6.00 |
| SK-506 | 9.00 |
| SK-606 | .60 |
| SK-626 | .70 |
| SK-636 | 6.00 |
| SK-806 | 8.00 |
| SK-906 | 10.00 |

[1] Waveguide Output Fitting
[2] Coaxial Output Fitting
[3] Pulse
[4] Convection liquid cooled
[5] Cathode Current
[6] Pulse-clipper service only
[7] TV Peak Synchronizing Level
[8] Plus 2250 watts bombarder power

All prices subject to change without notice

**EITEL-McCULLOUGH, INC.**
SAN BRUNO, CALIFORNIA

Eimac®



World Radio History

# NATIONAL ELECTRONICS, INC.

GENEVA • ILLINOIS • U.S.A.

## ELECTRONIC TUBES FOR INDUSTRY

NL-1051 IGNITRON

NL-1052 IGNITION

NL-3C23 THYRATRON

NL-740 THYRATRON

NL-604 RECTIFIER

WRITE FOR INDIVIDUAL TUBE DATA SHEETS FOR FULL DETAILS.

### IGNITRONS

| TYPE NUMBER | VOLTS | MAXIMUM RATINGS | | | | TYPE OF COOLING |
|---|---|---|---|---|---|---|
| | | Maximum Demand | Corresponding Current DC-Amps | Maximum Current DC-Amps | Corresponding Demand | |
| NL-1001 | 250 - 600 | 150 Kva | 4.9 | 9.0 | 50 Kva | Convection |
| NL-1005 | 250 - 600 | 600 Kva | 30.2 | 56 | 200 Kva | Forced air |
| NL-1022 | 1500 peak | 1200 peak | 16 | 56 | 336 peak | Water |
| NL-1051 | 250 - 600 | 600 Kva | 30.2 | 56 | 200 Kva | Water |
| NL-1052 | 250 - 600 | 1200 Kva | 75.6 | 140 | 400 Kva | Water |
| NL-1053 | 250 - 600 | 2400 Kva | 192 | 355 | 800 Kva | Water |
| NL-1054 | 250 - 600 | 4800 Kva | 486 | 900 | 1600 Kva | Water |
| NL-5550 | 250 - 600 | 300 Kva | 12.1 | 22.4 | 100 Kva | Water clamp |

### THYRATRONS

| TYPE NUMBER | GAS FILLING | DC OUTPUT AMPS. | PEAK RATING AMPS | PEAK INVERSE VOLTS | FILA-MENT VOLTS | FILA-MENT AMPS | TYPE OF COOLING |
|---|---|---|---|---|---|---|---|
| NL-3C23 | Arg & Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | Convection |
| NL-323B | Arg & Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | Convection |
| NL-393A | Arg & Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | Convection |
| NL-632B | Mercury | 2.5 | 30 | 1500 | 5.0 | 5 | Convection |
| NL-710L | Arg & Merc. | 2.5 | 30 | 1500 | 2.5 | 9 | Convection |
| NL-710/6011 | Arg & Merc. | 2.5 | 30 | 1500 | 2.5 | 9 | Convection |
| NL-714 | Arg & Merc. | 1 | 3 | 1250 | 2.5 | 5 | Convection |
| NL-715/5557 | Mercury | 1 | 3 | 5000 | 2.5 | 5 | Convection |
| NL-716 | Arg & Merc. | 1 | 8 | 1250 | 2.5 | 6.3 | Convection |
| NL-732 | Arg & Merc. | 30 | 225 | 1500 | 2.5 | 55 | Convection |
| NL-740,L,P | Arg & Merc. | 4 | 50 | 1500 | 2.5 | 16 | Convection |
| NL-741 | Mercury | 4 | 50 | 5000 | 2.5 | 16 | Convection |
| NL-760,L,P | Arg & Merc. | 6.4 | 77 | 1500 | 2.5 | 21 | Convection |
| NL-761 | Mercury | 6.4 | 77 | 5000 | 2.5 | 21 | Convection |
| NL-5559/FG57 | Mercury | 2.5 | 15 | 1000 | 5.0 | 4.6 | Convection |
| NL-5560/FG95 | Mercury | 2.5 | 15 | 1000 | 5.0 | 4.6 | Convection |
| NL-5632/C3J | Xenon | 2.5 | 30 | 1250 | 2.5 | 9 | Convection |
| NL-5665/C16J | Xenon | 18.0 | 160 | 1250 | 2.5 | 31 | Convection |
| NL-5684/C3J/A | Xenon | 2.5 | 30 | 1250 | 2.5 | 9 | Convection |
| NL-5720/FG33 | Mercury | 2.5 | 15 | 1000 | 5.0 | 4.6 | Convection |
| NL-6014/C1K | Xenon | 1 | 8 | 1250 | 2.5 | 6.3 | Convection |

### HALF WAVE RECTIFIERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NL-614 | Xenon | 2.5 | 15 | 900 | 2.5 | 8.5 | Convection |
| NL-615 | Mercury | 2.5 | 10 | 2000 | 2.5 | 7 | Convection |
| NL-617 | Mercury | 5 | 20 | 1000 | 2 | 12 | Convection |
| NL-618,L,P | Xenon | 6.4 | 40 | 900 | 2.5 | 18 | Convection |
| NL-619 | Mercury | 6 | 20 | 300 | 2 | 12 | Convection |
| NL-623 | Mercury | 15 | 45 | 500 | 2.5 | 20 | Convection |
| NL-635,L,P | Arg & Merc. | 6.4 | 77 | 1000 | 2.5 | 18 | Convection |
| NL-643 | Mercury | 15 | 90 | 700 | 2.5 | 23 | Convection |
| NL-649/5834 | Mercury | 2 | 10 | 900 | 2.5 | 7 | Convection |
| NL-653/5835 | Mercury | 3 | 12 | 900 | 2.5 | 10 | Convection |
| NL-5558/FG32 | Mercury | 2.5 | 15 | 5000 | 5 | 4.5 | Convection |

### FULL WAVE RECTIFIERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NL-604,L | Arg & Merc. | 2.5 | 10 | 900 | 2.5 | 11.5 | Convection |
| NL-606,L | Arg & Merc. | 6.4 | 25.6 | 900 | 2.5 | 17 | Convection |



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World Radio History

# Tube Selection Guide

## EL THYRATRON AND EL RECTIFIER TUBES

**This brief summary of important ratings is intended as a guide to tube types available within given broad requirements. The Engineering Manual and Catalog should be consulted for complete information before commencing the design of equipment.**

| TUBE TYPE | OTHER DESIGNATION | MAX. CONT. AVERAGE OUTPUT CURRENT (Amps. D. C.) | MAX. INST. PEAK ANODE CURRENT (Amps. Inst.) | MAX. INST. PEAK FORWARD VOLTAGE | MAX. INST. PEAK INVERSE VOLTAGE | MAX. OVERALL LENGTH (Inches) | HEATER OR FILAMENT VOLTAGE | NOMINAL HEATER OR FILAMENT CURRENT (Amps.) | USER PRICE |
|---|---|---|---|---|---|---|---|---|---|
| **RECTIFIERS** | | | | | | | | | |
| EL 1C | 3B22 | 1.0 | 4.0 | ..... | 725 | 6 | 2.5 | 6.0 | $ 9.80 |
| EL 3B | 6013 | 2.5 | 20.0 | ..... | 920 | 5 1/2 | 2.5 | 9.0 | 9.90 |
| EL 3C | 4B24 | 2.5 | 10.0 | ..... | 725 | 7 | 2.5 | 11.5 | 11.20 |
| EL 3C/L | 6982 | 2.5 | 10.0 | ..... | 725 | 7 3/4 | 2.5 | 11.5 | 12.60 |
| EL 6B | 5892 | 6.4 | 40.0 | ..... | 920 | 8 3/4 | 2.5 | 21.0 | 13.00 |
| EL 6B/L | 6983 | 6.4 | 40.0 | ..... | 920 | 9 1/4 | 2.5 | 21.0 | 14.50 |
| EL 6C | ..... | 6.4 | 25.6 | ..... | 725 | 8 | 2.5 | 17.0 | 19.80 |
| EL 6F | 6015 | 6.4 | 40.0 | ..... | 920 | 8 | 2.5 | 21.0 | 14.40 |
| EL 16F | ..... | 16.0 | 96.0 | ..... | 620 | 15 3/4 | 2.5 | 36.0 | 32.00 |
| **THYRATRONS** | | | | | | | | | |
| EL C1B | 3C31 | 1.0 | 8.0 | 450 | 700 | 4 3/4 | 2.5 | 6.3 | 7.60 |
| EL C1B/A | 5664 | 1.0 | 8.0 | 750 | 1250 | 4 3/4 | 2.5 | 6.3 | 17.00 |
| EL C1K | 6014 | 1.0 | 8.0 | 1000 | 1250 | 4 1/4 | 2.5 | 6.3 | 12.90 |
| EL C1K/B | ..... | 1.0 | 8.0 | 2000 | 2000 | 4 3/8 | 2.5 | 6.3 | 17.90 |
| EL C3J | 5632 | 2.5 | 30.0 | 900 | 1250 | 6 | 2.5 | 9.0 | 15.50 |
| EL C3J/A | 5684 | 2.5 | 30.0 | 1000 | 1250 | 6 | 2.5 | 9.0 | 19.80 |
| EL C3H | ..... | 2.8 | 20.0 | 1100 | 1250 | 6 1/4 | 2.5 | 9.0 | 20.40 |
| EL C4J | 6984 | 4.0 | 40.0 | 900 | 900 | 9 1/2 | 2.5 | 21.0 | 19.40 |
| EL C4J/F | 6985 | 4.0 | 40.0 | 900 | 900 | 8 3/4 | 2.5 | 21.0 | 20.10 |
| EL C4J/L | 6986 | 4.0 | 40.0 | 900 | 900 | 10 | 2.5 | 21.0 | 21.40 |
| EL C5F14 | 6231 | 5.0 | 30.0 | 500 | 500 | 5 11/16 | 14.0 | 2.55 | 39.10 |
| EL C6J | 5C21 | 6.4 | 77.0 | 750 | 1250 | 9 1/2 | 2.5 | 21.0 | 28.90 |
| EL C6J/A | 5685 | 6.4 | 77.0 | 1000 | 1250 | 9 1/2 | 2.5 | 21.0 | 29.30 |
| EL C6J/F | 6860 | 6.4 | 77.0 | 1000 | 1250 | 8 3/4 | 2.5 | 21.0 | 29.40 |
| EL C6J/K | 6864 | 6.4 | 77.0 | 1000 | 1250 | 8 3/4 | 2.5 | 21.0 | 28.90 |
| EL C6J/KF | 6871 | 6.4 | 77.0 | 1000 | 1250 | 8 | 2.5 | 21.0 | 29.40 |
| EL C6J/KL | 6989 | 6.4 | 77.0 | 1000 | 1250 | 9 1/4 | 2.5 | 21.0 | 31.70 |
| EL C6J/L | 6988 | 6.4 | 77.0 | 1000 | 1250 | 10 | 2.5 | 21.0 | 31.70 |
| EL C6C | 6987 | 6.4 | 77.0 | 2000 | 4000 | 11 1/2 | 2.5 | 24.0 | 48.80 |
| EL C16J | 5665 | {16.0 / 18.0} | {160.0 / 100.0} | 1000 | 1250 | 10 1/2 | 2.5 | 31.0 | 56.90 |
| EL C16J/A | ..... | {16.0 / 18.0} | {160.0 / 100.0} | 1250 | 1250 | 10 1/2 | 2.5 | 31.0 | 63.70 |

Write for complete Engineering Manual and Catalog or for Applications Engineering information.

ELECTRONS, INCORPORATED
NEWARK 3, N. J.

*Reliable Thyratrons*


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World Radio History

# Mullard ELECTRON TUBES

*for High Fidelity and Industrial Applications*

EL34 / 6CA7

GZ34 / 5AR4

EL84 / 6BQ5

ECC83 / 12AX7

EF86 / 6267

| MULLARD TYPE | EIA TYPE | DESCRIPTION | Sugg. user PRICE |
|---|---|---|---|
| DM70 | 1M3 | Indicator Tube | $2.15 |
| GZ34 | 5AR4 | Bantam Indirectly Heated Full Wave Rectifier | 4.20 |
| GZ32 | 5V4G | Indirectly Heated Full Wave Rectifier | 4.25 |
| ECL80 | 6AB8 | Triode Pentode | 3.90 |
| EF95 | 6AK5 | High Slope RF Pentode | 4.50 |
| EABC80 | 6AK8 | Triple Diode Triode | 3.65 |
| EB91 | 6AL5 | Double Diode | 1.75 |
| EL90 | 6AQ5 | Output Pentode | 2.15 |
| ECC85 | 6AQ8 | RF Double Triode | 2.90 |
| EBC90 | 6AT6 | Double Diode Triode | 1.85 |
| EF94 | 6AU6 | Sharp Cut-off Pentode | 2.10 |
| EBC91 | 6AV6 | Twin Diode Triode | 1.60 |
| EF93 | 6BA6 | Variable-Mu RF Pentode | 2.00 |
| EK90 | 6BE6 | Heptode | 2.25 |
| ECF80 | 6BL8 | Triode Pentode | 3.90 |
| ECL82 | 6BM8 | Triode Pentode | 3.50 |
| EL84 | 6BQ5 | Output Pentode | 2.30 |
| EC90 | 6C4 | RF Triode | 1.75 |
| EZ81 | 6CA4 | Miniature Full Wave Rectifier | 2.10 |
| EL34 | 6CA7 | Output Pentode | 6.20 |
| EM81 | 6DA5 | Indicator Tube | 2.60 |
| EBF89 | 6DC8 | Duo Diode Pentode | 3.25 |
| ECC91 | 6J6 | RF Double Triode | 2.65 |
| ECF82 | 6U8 | RF Triode Pentode | 3.25 |
| EZ80 | 6V4 | Miniature Full Wave Rectifier | 1.50 |
| EZ90 | 6X4 | Miniature Full Wave Rectifier | 1.60 |
| ECC81 | 12AT7 | RF Double Triode | 3.00 |
| ECC82 | 12AU7 | Low-Mu AF Double Triode | 2.45 |
| ECC83 | 12AX7 | High-Mu AF Double Triode | 2.50 |
| PCL82 | 16A8 | Triode Pentode | 4.40 |
| EL37 | | Output Pentode | 5.75 |
| UL84 | 45B5 | Output Pentode | 2.75 |
| ECH81 | | Triode Heptode | 3.50 |
| UCL82 | | Triode Pentode | 4.25 |
| EM84 | | Indicator Tube | 2.60 |
| UF86 | | Low Noise AF Pentode | 3.25 |
| ECC88 | | RF Double Triode | 4.40 |
| EF86 | 6267 | Low Noise AF Pentode | 2.50 |
| E88CC | 6922 | RF Double Triode | 7.75 |
| EL311 | | Output Pentode | 6.70 |
| 7189 | 7189 | Output Pentode | 2.90 |

SEE CATALOG FOR COMPLETE DESCRIPTION.

Mullard

Trade Mark

MULLARD, LTD., ENGLAND

**INTERNATIONAL ELECTRONICS CORP.**

NEW YORK, N. Y.


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World Radio History

# Mullard

# ELECTRON TUBES

*for Industry and Communications*

### SUBMINIATURES

| | |
|---|---|
| EA76/5647 | DF60/5678 |
| 5636 | DF61 |
| 5718 | DF62/1AD4 |
| 5840 | DL69 |
| 5899 | DL70/6373 |
| 5902 | DL73 |
| 6021 | DL620/5672 |
| DC70/6375 | |

### MICROWAVE TUBES

| | |
|---|---|
| JP9 7/2J42 | KS9 20A/2K25 |
| JP9 15/2J42A | KT9 150W |
| JP9 80/4J52 | TD03 5 |
| JP9 250/4J50 | TD03 10/5861 |
| JP9 250A/4J78 | TD04 20 |
| JPT9 01 | TD1 100A/2C39A |
| KS9 20/723A/B | |

### POWER TUBES

QQV02 6
QQV03 10/6360
QQV03 20A/6252
QQV06 40A/5894A
QV03 12/5763
QV06 20/6146
QV1 150A/4X150A
QY3 65/4 65A
QY3 125/6155/4 125A
QY4 250/6156/4 250A
QY4 500A/4X500A
QY5 3000A/6076
TY2 125/5866
TY4 350/833A
TY6 5000A/5924

### PHOTOSENSITIVE DEVICES

| | |
|---|---|
| OCP71 | 61RV |
| 20CG | 61SV |
| 20CV | 63TV |
| 53CG | 90AG |
| 53CV | 90AV |
| 58CG | 90CG |
| 58CV | 90CV |

### CATHODE RAY TUBES

DB7-36/3WP11
DG7-36/3WP1
DG13-2/5CP1A
DG13-34/5ADP1
DG16-22/7AHP1
MF13-1/5FP7A
MW13-35/5FP4A

### GERMANIUM DIODES AND TRANSISTORS

| | |
|---|---|
| 0A10 | 0C71 |
| 0A71 | 0C72 |
| 0A73 | 0C73 |
| 0A86 | 0C76 |
| 0C44 | 0C45 |
| 0C70 | 0C16 |

### MISCELLANEOUS TUBES

| | |
|---|---|
| E180F/6688 | E1T |
| E90CC/5920 | 6080 |

### GEIGER-MULLER TUBES

| | |
|---|---|
| MX112 | MX118 |
| MX115 | MX122 |
| MX120 | MX119 |
| MX108 | MX124 |
| MX113 | MX124/01 |
| MX123 | |

## PREFERRED REPLACEMENT TYPES FOR BRITISH & EUROPEAN EQUIPMENT

| MULLARD TYPE | Sugg. user PRICE | MULLARD TYPE | Sugg. user PRICE | MULLARD TYPE | Sugg. user PRICE |
|---|---|---|---|---|---|
| AZ31 | 3.40 | ECH42 | 3.50 | EZ81 | 2.10 |
| DA90 | 3.25 | ECH81 | 3.50 | EZ90 | 1.60 |
| DAF91 | 2.25 | ECH83 | 4.00 | FW4/500 | 4.50 |
| DAF96 | 3.00 | ECL80 | 3.90 | FW4/800 | 4.90 |
| DCC90 | 4.60 | ECL82 | 3.50 | GZ30 | 3.90 |
| DF64 | 3.50 | ECL83 | 4.40 | GZ32 | 4.25 |
| DF91 | 2.25 | EF22 | 5.25 | GZ33 | 4.25 |
| DF92 | 2.60 | EF36 | 5.50 | GZ34 | 4.20 |
| DF96 | 3.15 | EF37A | 6.00 | HBC90 | 1.85 |
| DF97 | 3.15 | EF39 | 5.25 | HBC91 | 1.60 |
| DK40 | 4.40 | EF40 | 4.25 | HF93 | 2.00 |
| DK91 | 2.60 | EF41 | 3.00 | HK90 | 2.10 |
| DK92 | 3.50 | EF42 | 4.40 | HL92 | 2.10 |
| DK96 | 3.50 | EF50 | 5.50 | HY90 | 1.35 |
| DL64 | 3.50 | EF55 | 6.50 | PABC80 | 6.00 |
| DL66 | 3.60 | EF80 | 3.15 | PCC84 | 4.00 |
| DL92 | 2.35 | EF85 | 3.15 | PCF80 | 4.40 |
| DL93 | 3.00 | EF86 | 2.50 | PCL82 | 4.40 |
| DL94 | 2.25 | EF89 | 3.00 | PCL83 | 4.40 |
| DL96 | 2.70 | EF91 | 3.15 | PL36 | 5.50 |
| DM70 | 2.15 | EF92 | 3.50 | PL81 | 5.25 |
| E88CC | 7.75 | EF93 | 2.00 | PL82 | 3.15 |
| EA50 | 3.25 | EF94 | 2.10 | PL83 | 3.65 |
| EABC80 | 3.65 | EF95 | 4.50 | PL820 | 3.75 |
| EAF42 | 3.15 | EF98 | 3.15 | PY32 | 3.25 |
| EB91 | 1.75 | EK90 | 2.25 | PY81 | 3.25 |
| EBC33 | 5.25 | EL33 | 3.75 | PY82 | 2.75 |
| EBC41 | 2.75 | EL34 | 6.20 | U30 | 6.25 |
| EBC81 | 3.40 | EL37 | 5.75 | UABC80 | 3.65 |
| EBC90 | 1.85 | EL38 | 7.00 | UBC41 | 2.75 |
| EBC91 | 1.60 | EL41 | 3.15 | UBC81 | 3.45 |
| EBF80 | 2.70 | EL42 | 3.15 | UBF80 | 3.40 |
| EBF83 | 3.90 | EL81 | 4.20 | UBF89 | 3.15 |
| EBF89 | 3.25 | EL84 | 2.30 | UC92 | 4.00 |
| EC70 | 7.50 | EL85 | 5.50 | UCC84 | 3.50 |
| EC90 | 1.75 | EL90 | 2.15 | UCC85 | 3.65 |
| EC91 | 3.75 | EL91 | 3.15 | UCF80 | 3.50 |
| EC92 | 2.40 | EL95 | 3.15 | UCH42 | 3.50 |
| ECC32 | 5.75 | EL821 | 6.75 | UCH81 | 3.50 |
| ECC33 | 5.75 | EL822 | 7.25 | UCL82 | 4.25 |
| ECC34 | 5.75 | EM34 | 3.90 | UCL83 | 4.40 |
| ECC35 | 3.30 | EM81 | 2.60 | UF41 | 3.00 |
| ECC40 | 4.40 | EM84 | 2.60 | UF80 | 2.90 |
| ECC81 | 3.00 | EQ80 | 4.90 | UF85 | 3.15 |
| ECC82 | 2.45 | EY51 | 4.00 | UF86 | 3.25 |
| ECC83 | 2.50 | EY84 | 5.00 | UF89 | 3.00 |
| ECC84 | 3.90 | EY86 | 4.00 | UL41 | 3.15 |
| ECC85 | 2.90 | EY91 | 2.90 | UL84 | 2.75 |
| ECC88 | 4.40 | EZ35 | 2.00 | UM4 | 4.00 |
| ECC91 | 2.65 | EZ40 | 2.40 | UY41 | 1.90 |
| ECF80 | 3.90 | EZ41 | 3.15 | UY85 | 1.90 |
| ECF82 | 3.25 | EZ80 | 1.50 | | |

### VOLTAGE REFERENCE AND STABILIZER TUBES

75C1
85A2/0G3
85A3/5783
90C1
108C1/0B2
150B2
150C2/0A2
5651W

### ELECTROMETERS

ME1400
ME1401/5802
ME1403/5889

### THYRATRONS

EN32/6574
EN70/5643
EN91/2D21
EN92/5696
EN93/6D4
MT5545/5545
XG1-2500/MT57/5559
XG2-12
XG2-25
XG2-6400
XG5-500/MT17/5557
XG15-12
XR1-1600/5796
XR1-3200/5544
XR1-6400

### PULSE MODULATORS

QQV5-P10/3E29
QV20-P18/4PR60A
XH3-045/3C45
XH8-100/4C35
XH16-200/5C22
5949

### COLD CATHODE TUBES

Z300T/1267/0A4G
Z803U/6779
Z900T/5823

### IMAGE CONVERTERS

ME1200AA ME1201AA

### FLASH TUBES

LSD2 LSD18
LSD8

Mullard

Trade Mark

MULLARD, LTD., ENGLAND

**INTERNATIONAL ELECTRONICS CORP.**

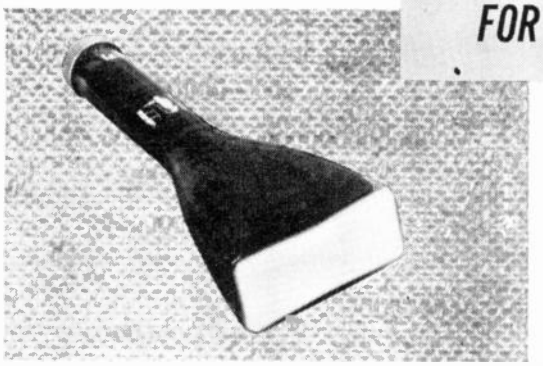
NEW YORK, N. Y.



World Radio History

# SEE WATERMAN FIRST

## FOR YOUR CATHODE RAY TUBE NEEDS



- *SHORT*
- *RECTANGULAR, ROUND AND FLAT FACE*
- *HIGH SENSITIVITY*
- *HIGH LIGHT OUTPUT*
- *SPACE ECONOMY*

| TUBE TYPE | | PHYSICAL DATA | | | TYPICAL OPERATING DATA | | | | SUGGESTED RESALE PRICE FOR P1 * PHOSPHOR |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | ANODE No. 3 VOLTAGE | ANODE No. 2 VOLTAGE | DEFLECTION FACTOR V/in. | | |
| TUBE | JAN | FACE | LENGTH | BASE | | | HORIZ. | VERT. | |
| 3AHP1 | — | 1½ x 3 inches | 9⅛ inches | Small, Duodecal 12 Pin | — | 1000 | 86 | 30 | $29.00 |
| 3AQP1 | — | 3 inch round | 9⅛ inches | Small, Duodecal 12 Pin | — | 1000 | 86 | 30 | 23.10 |
| 3JP1 | 3JP1 3JP2 3JP7 | 3 inch round | 10 inches | Medium, Diheptal 12 Pin | 3000 | 1500 | 150 | 111 | 25.50 |
| 3MP1 | — | 3 inch round | 8 inches | Small, Duodecal 12 Pin | — | 1000 | 130 | 125 | 25.50 |
| 3RP1 | 3RP1 | 3 inch round | 9⅛ inches | Small, Duodecal 12 Pin | — | 1000 | 86 | 61 | 17.65 |
| 3RP1A | 3RP1A | 3 in. round flat | 9⅛ inches | Small, Duodecal 12 Pin | — | 1000 | 86 | 61 | 24.25 |
| 3SP1 | 3SP1 | 1½ x 3 inches | 9⅛ inches | Small, Duodecal 12 Pin | — | 1000 | 86 | 61 | 26.70 |
| 3XP1 | 3XP1 | 1½ x 3 inches | 8⅞ inches | Loctal | — | 2000 | 80 | 33 | 34.50 |
| 3YP1 | — | 1½ x 3 inches | 7 inches | Loctal | — | 1000 | 80 | 52 | 30.00 |
| 5BTP1 | — | 5 in. round flat | 12 inches | Small, Duodecal 12 Pin | 1600 | 800 | 51 | 27 | 39.25 |

* P2, P7 and P11 phosphors also available at an additional cost of $5.00.

### CATHODE RAY TUBE SHIELDING & MOUNTING KIT

**Ideal for prototypes and small production runs.**

| Stock Number | Applicable to | Suggested Resale Price |
|---|---|---|
| A-18-C | 3SP or 3AHP | $18.00 |
| A-18-J | 3RP or 3AQP | 18.00 |
| A-18-K | Two 3SP or 3AHP | 16.00 |
| A-18-L | 3XP | 18.00 |
| A-18-M | 3MP | 18.00 |
| A-18-R | 3JP | 27.00 |
| A-18-T | Two 3XP | 19.00 |
| A-18-V | 3YP | 18.00 |
| A-18-W** | 5BTP | 14.00 |

** Shield only.

*Engineering Data Sheets available with complete descriptions.*

*See page G-342 for Waterman Oscilloscopes*

**WATERMAN PRODUCTS CO., INC.**
PHILADELPHIA 25, PA.
Cable Address: Poketscope

WATERMAN PRODUCTS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World Radio History

# International Rectifier
CORPORATION

## • SELENIUM DIODES

These subminiature selenium diodes, small and compact, are provided with pigtail leads for easy wiring into crowded chassis. Stable operation in ambient temperature range of: —50°C. to +100°C.

| Type | DC Output* | | Max. Input Volts (RMS) | Max. Freq. | Dimensions (Inches) Tolerance. - 015 | | Color Coding | |
|---|---|---|---|---|---|---|---|---|
| | Volts | Ma | | | W | L | Body | Tip |
| 1S1 | 20 | 0 1 | 26 | 200Kc | 0.120" | 0 210" | Yellow | Brown |
| 2S1 | 40 | 0 1 | 52 | 200Kc | 0 150" | 0 210" | Yellow | Red |
| 1T1 | 20 | 0 2 | 26 | 200Kc | 0 120" | 0 210" | Green | Brown |
| 2T1 | 40 | 0 2 | 52 | 200Kc | 0 150 | 0 210" | Green | Red |
| 1U1 | 20 | 1 5 | 26 | 100Kc | 0 160 | 0 250" | Gray | Brown |
| 2U1 | 40 | 1 5 | 52 | 100Kc | 0 175" | 0 250" | Gray | Red |
| 3U1 | 60 | 1 5 | 78 | 100Kc | 0 175 | 0 250" | Gray | Orange |
| 4U1 | 80 | 1 5 | 104 | 100Kc | 0 250 | 0 250" | Gray | Yellow |
| 5U1 | 100 | 1 5 | 130 | 100Kc | 0 250 | 0 250" | Gray | Green |
| 6U1 | 120 | 1 5 | 156 | 100Kc | 0 330" | 0 250" | Gray | Blue |
| 7U1 | 140 | 1 5 | 182 | 100Kc | 0 330" | 0 250" | Gray | Violet |
| 8U1 | 160 | 1 5 | 208 | 100Kc | 0 330" | 0 250" | Gray | Gray |
| 1V1 | 20 | 5 0 | 26 | 25Kc | 0 300" | 0 320" | Gray | ** |
| 2V1 | 40 | 5 0 | 52 | 25Kc | 0 305" | 0 325" | Gray | ** |
| 3V1 | 60 | 5 0 | 78 | 25Kc | 0 305" | 0 325" | Gray | ** |
| 4V1 | 80 | 5 0 | 104 | 25Kc | 0 345" | 0 360" | Gray | ** |
| 5V1 | 100 | 5 0 | 130 | 25Kc | 0 380" | 0 380" | Gray | ** |
| 1Y1 | 20 | 11 0 | 26 | 10Kc | 0 415" | 0 460 | Gray | ** |
| 2Y1 | 40 | 11 0 | 52 | 10Kc | 0 445" | 0 450 | Gray | ** |
| 3Y1 | 60 | 11 0 | 78 | 10Kc | 0 450" | 0 450 | Gray | ** |

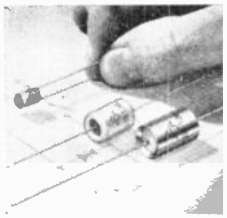
into Capacit ve Load

** Part Number is Stamped on Body.

## • SELENIUM CONTACT PROTECTORS

**Complete series of AC and DC types.**

Designed to eliminate arcing and erosion across the contacts of relays, switches, etc. A complete series in each of three basic types: diode type, cartridge type and hermetically sealed types for industrial application. For listings of similar AC types and hermetically sealed types, consult authorized distributor or factory.



DIODE TYPE

FIBRE CARTRIDGE TYPE

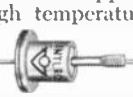
### D.C. TYPES

| ELECTRICAL CHARACTERISTICS | | | | | | |
|---|---|---|---|---|---|---|
| WORKING VOLTS DC | | MAX. COIL CURRENT (amp) | DIODE TYPE | | FIBRE CARTRIDGE TYPE | |
| MIN | MAX | | CODE NO. | DIMENSION A (MAX.) B | CODE NO. | DIMENSION A (MAX.) B |
| 15 | 22 | 25 | S1V1D | 310 470 | S1V1P | 380 620 |
| 23 | 44 | 25 | S2V1D | 350 470 | S2V1P | 380 620 |
| 45 | 66 | 25 | S3V1D | 400 470 | S3V2P | 380 620 |
| 67 | 88 | 25 | | | S4V2P | 380 620 |
| 89 | 110 | 25 | | | S5V2P | 380 620 |
| 111 | 132 | 25 | | | S6V2P | 380 620 |
| 133 | 154 | 25 | | | S7V2P | 380 620 |
| 15 | 22 | 60 | S1Y1D | 470 550 | S1Y1P | 500 620 |
| 23 | 44 | 60 | S2Y1D | 470 550 | S2Y1P | 500 620 |
| 45 | 66 | 60 | | | S3Y2P | 500 620 |
| 67 | 88 | 60 | | | S4Y2P | 500 620 |
| 89 | 110 | 60 | | | S5Y2P | 500 620 |
| 111 | 132 | 60 | | | S6Y2P | 500 620 |
| 133 | 154 | 60 | | | S7Y2P | 500 620 |
| 15 | 22 | 90 | | | S1Z1P | 640 620 |
| 23 | 44 | 90 | | | S2Z1P | 640 620 |
| 45 | 66 | 90 | | | S3Z2P | 640 620 |
| 67 | 88 | 90 | | | S4Z2P | 640 620 |
| 89 | 110 | 90 | | | S5Z2P | 640 620 |
| 111 | 132 | 90 | | | S6Z2P | 640 620 |
| 133 | 154 | 90 | | | S7Z2P | 640 620 |
| 15 | 22 | 1.4 | | | S1X1P | 1.060 620 |
| 23 | 44 | 1.4 | | | S2X1P | 1.060 620 |
| 45 | 66 | 1.4 | | | S3X2P | 1.060 620 |
| 67 | 88 | 1.4 | | | S4X2P | 1.060 620 |
| 89 | 110 | 1.4 | | | S5X2P | 1.060 620 |
| 111 | 132 | 1.4 | | | S6X2P | 1.060 620 |
| 133 | 154 | 1.4 | | | S7X2P | 1.060 620 |
| 15 | 22 | 2. | | | S1W1P | 1.380 620 |
| 23 | 44 | 2. | | | S2W1P | 1.380 620 |
| 45 | 66 | 2. | | | S3W2P | 1.380 620 |
| 67 | 88 | 2. | | | S4W2P | 1.380 620 |
| 89 | 110 | 2. | | | S5W2P | 1.380 620 |
| 111 | 132 | 2. | | | S6W2P | 1.380 620 |
| 133 | 154 | 2. | | | S7W2P | 1.380 620 |

## • SILICON POWER DIODES

### PIGTAIL MOUNTED

These diodes are designed for pigtail lead connection by hand solder or dip solder. Also for clip-in applications. Recommended for applications requiring high efficiency, high temperature and miniaturization.



**COMMERCIAL GRADE**

| Absolute Maximum Ratings at 100 C ambient | | | | | | | Characteristics at 25°C | |
|---|---|---|---|---|---|---|---|---|
| JETEC Diode Type | Int'l. Diode Type | Peak Inverse Voltage volts | Max. RMS Input Voltage volts | Max. Continuous D.C. Volts ma. | Max. Rectified DC Output Current ma. | Max. Surge Current (0.1 Sec.) ma. | Max. D.C. Volt Drop at 750 ma. DC Output Current volts | Max. Leakage Current (ma) at Rated DC Voltage at 100 C |
| SD91A | SD91A | 100 | 70 | 100 | 500 | 15 | 1 3 | 0 5 |
| SD-92A | SD-92A | 200 | 140 | 200 | 500 | 15 | 1.3 | 0 5 |
| SD-93A | SD-93A | 300 | 210 | 300 | 500 | 15 | 1.3 | 0.5 |
| SD94-A | SD94-A | 400 | 280 | 400 | 500 | 15 | 1.3 | 0.4 |
| SD-95A | SD-95A | 500 | 350 | 500 | 400 | 15 | 1 3 | 0 3 |

**HIGH TEMPERATURE — HIGH RELIABILITY**

| Absolute Maximum Ratings at 100 C ambient | | | | | | | Characteristics at 25 C | |
|---|---|---|---|---|---|---|---|---|
| JETEC Diode Type | Int'l Diode Type | Peak Inverse Voltage volts | Max. RMS Input Voltage volts | Max. Continuous D.C. Current ma. | Max. Rectified DC Output Current ma. | Max. Surge Current (0.1 Sec.) ma. | Max. D.C. Volt Drop at 200 ma. DC Output Current volts | Max. D.C. Reverse Current at Rated P.I.V. ma. |
| IN599 | 3AS1 | 50 | 35 | 400 | 300 | 2000 | 1.5 | .025 |
| IN600 | 3BS1 | 100 | 70 | 400 | 300 | 2000 | 1.5 | .025 |
| IN601 | 3CS1 | 150 | 105 | 400 | 300 | 2000 | 1.5 | .025 |
| IN602 | 3DS1 | 200 | 140 | 400 | 300 | 2000 | 1.5 | .025 |
| IN603 | 3ES1 | 300 | 210 | 400 | 300 | 2000 | 1 5 | .025 |
| IN604 | 3FS1 | 400 | 280 | 400 | 300 | 2000 | 1.5 | .025 |
| IN605 | 3GS1 | 500 | 350 | 400 | 300 | 2000 | 1 5 | .025 |
| IN606 | 3HS1 | 600 | 420 | 400 | 300 | 2000 | 1.5 | .025 |

**HIGH TEMPERATURE — HIGH CURRENT**

| Absolute Maximum Ratings at 150 C ambient | | | | | | | Characteristics at 25 C | |
|---|---|---|---|---|---|---|---|---|
| JETEC Diode Type | Int'l Diode Input | Peak Inverse Voltage volts | Max. RMS Input Voltage volts | Max. Continuous D C. Volts ma. | Max. Rectified DC Output Current ma. | Max. Surge Current (0.1 Sec.) ma. | Max. Full-load Forward Voltage Drop (v) (Full Cycle Av. at 150 C) | Max. Leakage Current (ma) Full Cycle Av. at 150 C |
| IN536 | | 50 | 35 | 50 | 250 | 15 | 0 5 | 0 4 |
| IN537 | | 100 | 70 | 100 | 250 | 15 | 0 5 | 0.4 |
| IN538 | | 200 | 140 | 200 | 250 | 15 | 0 5 | 0.3 |
| IN539 | | 300 | 210 | 300 | 250 | 15 | 0.5 | 0.3 |
| IN540 | | 400 | 280 | 400 | 250 | 15 | 0.5 | 0.3 |

## • SILICON POWER DIODES

INSULATED MOUNTING HARDWARE SUPPLIED

### STUD MOUNTED

These diodes are designed for conduction cooling by mounting directly onto the chassis or through electrical insulating mica washers. Full mounting hardware supplied.

**STUD MOUNTED**

| Absolute Maximum Ratings at 135 C Case Temperature | | | | | | Characteristics at 25 C | |
|---|---|---|---|---|---|---|---|
| JETEC Diode Type | Peak Inverse Voltage volts | Max. RMS Input Voltage volts | Max. Continuous D.C. Volts ma. | Max. Rectified DC Output Current ma. | Max. Surge Current (0.1 Sec.) ma. | Max. D.C. Volt Drop at DC Output Current volts ma. | Max. Leakage Current (ma) Full Cycle Av. at 135°C Case Temp. |
| IN253 | 100 | 65 | 4.0 | 1000 | 4 0 | 1.5 at 1000 | 0.1 |
| IN254 | 200 | 135 | 1.2 | 400 | 1.5 | 1 5 at 500 | 0.1 |
| IN255 | 400 | 270 | 1.2 | 400 | 1.5 | 1.5 at 500 | 0.15 |
| IN256 | 600 | 400 | 0.6 | 200 | 1.0 | 2.0 at 500 | 0.25 |
| JANIN253 | 100 | 65 | 4.0 | 1000 | 4.0 | 1.5 at 1000 | 0.1 |
| JANIN254 | 200 | 135 | 1.2 | 400 | 1 5 | 1.5 at 500 | 0.1 |
| JANIN255 | 400 | 270 | 1.2 | 400 | 1.5 | 1 5 at 500 | 0.15 |

A WORLD OF DIFFERENCE THROUGH RESEARCH

# International Rectifier
CORPORATION

**El Segundo, California • In Canada: Atlas Radio Corp., Ltd., Toronto, Ontario**

**Descriptive literature available on request. Write Product Information Department on your letterhead.**

THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS

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World Radio History

# CETRON-TAYLOR TUBES

## THYRATRONS

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| CR5 | Hg | 175 | 18.0 | 5.0 | 2.0 | 12.0 |
| C3J | XE | 1250 | 30.0 | 2.5 | 2.5 | 9.0 |
| C3P14 | XE | 1250 | 30.0 | 3.0 | 14.0 | 2.55 |
| C3R14 | XE | 500 | 30.0 | 3.0 | 14.0 | 2.55 |
| C5F14 | XE | 500 | 60.0 | 5.0 | 14.0 | 2.5 |
| C6A | XE | 600 | 77.0 | 6.4 | 2.5 | 18.0 |
| C6J | XE | 1250 | 77.0 | 6.4 | 2.5 | 20.0 |
| C1K | XE | 1250 | 8.0 | 1.0 | 2.5 | 7.0 |

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| C6J/A | XE | 1250 | 77.0 | 6.4 | 2.5 | 20.0 |
| C6J/F | XE | 1250 | 77.0 | 6.4 | 2.5 | 20.0 |
| C6L | XE | 500 | 77.0 | 6.4 | 2.5 | 20.0 |
| C6M | XE | 1250 | 77.0 | 6.4 | 2.5 | 20.0 |
| CE-302 | Hg | 2500 | 2.5 | .64 | 2.5 | 7.0 |
| CE-304 | Hg | 1000 | 75.0 | 12.5 | 2.5 | 22.5 |
| CE-311/3C23 | HgA | 1250 | 6.0 | 1.5 | 2.5 | 7.0 |
| CE-320A | HgA | 1500 | 30.0 | 2.5 | 2.5 | 9.0 |
| CE-323B | HgA | 1250 | 6.0 | 1.5 | 2.5 | 7.0 |
| CE-393A | HgA | 1250 | 6.0 | 1.5 | 2.5 | 7.0 |
| CE-627 | Hg | 2500 | 2.5 | 0.64 | 2.5 | 5.0 |
| CE-873 | Hg | 3000 | 10.0 | 2.5 | 5.0 | 6.75 |
| CE-5528/C6L | XE | 500 | 77.0 | 6.4 | 2.5 | 20.0 |
| CE-5557 | Hg | 2500 | 2.0 | 0.5 | 2.5 | 5.0 |
| CE-5684/C3J/A | XE | 1250 | 30.0 | 2.5 | 2.5 | 9.0 |
| CE-5685/C6J | XE | 1250 | 77.0 | 6.4 | 2.5 | 20.0 |
| CE-6044 | XE | 500 | 77.0 | 6.4 | 2.5 | 17.0 |
| CE-6278 | XE | 500 | 60.0 | 5.0 | 14.0 | 2.5 |
| CE-6478 | XE | 2200 | 20.0 | 1.5 | 2.5 | 7.5 |
| KY21A | HgA | 11000 | 3.0 | .75 | 2.5 | 10.0 |

## MERCURY RECTIFIERS

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| CE-200A | FW | 900 | 4.0 | 2.0 | 2.5 | 6.5 |
| CE-201A | FW | 900 | 4.0 | 2.0 | 2.5 | 6.5 |
| CE-202B-207 | HW | 900 | 45.0 | 15.0 | 2.5 | 20.0 |
| CE-203 | HW | 500 | 45.0 | 15.0 | 2.5 | 20.0 |
| CE-205 | HW | 900 | 15.0 | 5.0 | 2.0 | 11.5 |
| CE-206 | HW | 300 | 18.0 | 6.0 | 2.0 | 11.5 |
| CE-210A | FWA | 800 | 4.0 | 2.0 | 2.5 | 6.5 |

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| CE-213A-214A | HW | 5000 | 10.0 | 2.5 | 2.5 | 7.0 |
| CE-249C | HW | 7500 | .64 | 2.5 | 2.5 | 7.5 |
| CE-866A | HW | 10000 | 0.5 | .25 | 2.5 | 5.0 |
| CE-866JR | HW | 5000 | 0.5 | .125 | 2.5 | 2.5 |
| CE-872A | HW | 10000 | 5.0 | 1.25 | 5.0 | 6.75 |
| CE-875A | HW | 15000 | 6.0 | 1.50 | 5.0 | 10.0 |
| CE-8008 | HW | 10000 | 5.0 | 1.25 | 5.0 | 6.75 |
| RX-21A | HW | 11000 | 3 | .75 | 2.5 | 10.0 |

## XENON RECTIFIERS

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| CE-3B | HW | 1000 | 25.0 | 3.0 | 2.5 | 9.0 |
| CE-3B22 | FW | 725 | 4.0 | 1.0 | 2.5 | 6.25 |
| CE-3B28 | HW | 10000 | 1.0 | .25 | 2.5 | 5.0 |
| CE-6B | HW | 920 | 40.0 | 6.40 | 2.5 | 21.0 |
| CE-6C | FW | 725 | 25.6 | 6.40 | 2.5 | 18.0 |
| CE-6CF | FW | 725 | 25.6 | 6.40 | 2.5 | 18.0 |
| CE-6484 | FW | 850 | 10.0 | 3.0 | 2.5 | 11.5 |

## TUNGAR ARGON RECTIFIERS

| TUBE | Type | Peak Inverse Voltage | AMPERES | | FILAMENT | |
|---|---|---|---|---|---|---|
| | | | Peak | Average | Volts | Amps. |
| CE-4B28/225 | HW | 300 | 18.0 | 6.0 | 2.2 | 18.0 |
| CE-4B26 | HW | 375 | 18.0 | 6.0 | 2.2 | 18.0 |
| CE-5B21 | HW | 225 | 90.0 | 15.0 | 2.5 | 25.0 |
| CE-226 | HW | 375 | 18.0 | 6.0 | 2.2 | 18.0 |
| CE-235-235A | HW | 230 | 45.0 | 15.0 | 2.5 | 25.0 |

## VACUUM RECTIFIERS

| | | | | | | |
|---|---|---|---|---|---|---|
| CE-220/72N | HW | 20000 | .10 | .02 | 2.5 | 3.0 |
| CE-8013A | HW | 40000 | .15 | .02 | 2.5 | 5.0 |
| CE-8020 | HW | 40000 | .75 | .10 | 5.0 | 6.0 |
| CE-4B31 | HW | 16000 | 12.0 | .60 | (K)5.0 | 5.0 |
| CE-TR40M | HW | 60000 | 1.0 | .25 | 5.0 | 10.5 |

# CONTINENTAL ELECTRIC CO.

## TAYLOR TUBES, INC. CHICAGO 2, ILLINOIS



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# CETRON-TAYLOR TUBES

## PHOTOTUBES

| Type No. | Gas Filled or Vacuum | Spectral Response | Usable Cathode Area — Sq. In. | Maximum Gas Application Factor | Max. Anode Supply D.C. or Peak A.C. Volts | D.C. Testing Voltage | Dark Current at Test Voltage (Ua) | SENSITIVITY RANGE Minimum Ua/LUM | SENSITIVITY RANGE Maximum Ua/LUM |
|---|---|---|---|---|---|---|---|---|---|
| CE-1 | GAS | S1 | 0.95 | 10 | 90 | 90 | 0.1 | 125 | 250 |
| CE-1V | VAC | S1 | 0.95 | | 500 | 250 | 0.1 | 22 | 30 |
| CE-2 | GAS | S1 | 1.20 | 10 | 110 | 110 | 0.1 | 125 | 200 |
| CE-2V | VAC | S1 | 1.20 | | 250 | 250 | 0.1 | 22 | 30 |
| CE-3 | GAS | S1 | 1.64 | 10 | 110 | 110 | 0.1 | 55 | 200 |
| CE-4 | GAS | S1 | 0.53 | 10 | 90 | 90 | 0.1 | 125 | 200 |
| CE-4V | VAC | S1 | 0.53 | | 250 | 250 | 0.1 | 22 | 30 |
| CE-5 | GAS | S1 | 0.45 | 10 | 90 | 90 | 0.1 | 75 | 200 |
| CE-11V | VAC | S1 | 0.95 | | 500 | 250 | 0.1 | 22 | 30 |
| CE-12 | GAS | S1 | 1.00 | 10 | 90 | 90 | 0.1 | 125 | 200 |
| CE-21 | GAS | S1 | 0.51 Each | 10 | 90 | 90 | 0.1 | 50 | 175 |
| CE-22 | GAS | S1 | 0.26 | 10 | 90 | 90 | 0.1 | 55 | 140 |
| CE-22V | VAC | S1 | 0.26 | | 250 | 250 | 0.1 | 10 | 21 |
| CE-B22 | GAS | S1 | 0.26 | 10 | 90 | 90 | 0.1 | 55 | 140 |
| CE-B22V | VAC | S1 | 0.26 | 10 | 250 | 250 | 0.1 | 10 | 20 |
| CE-23 | GAS | S1 | 0.51 | 10 | 90 | 90 | 0.1 | 125 | 200 |
| CE-25 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| CE-25V | VAC | S1 | 0.34 | | 500 | 250 | 0.1 | 16 | 26 |
| CE-B25 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| CE-26 | GAS | S1 | 1.20 | 10 | 95 | 95 | 0.1 | 10.4* | 16.6* |
| CE-A26 | GAS | S1 | 1.20 | 10 | 95 | 95 | 0.1 | 10.4* | 16.6* |
| CE-29 | VAC | S4 | 0.51 | | 250 | 250 | 0.1 | 25 | 70 |
| CE-30 | GAS | S1 | 0.51 | 10 | 90 | 90 | 0.1 | 125 | 200 |
| CE-A30 | GAS | S1 | 0.51 | 10 | 90 | 90 | 0.1 | 90 | 200 |
| CE-30V | VAC | S1 | 0.51 | | 500 | 250 | 0.1 | 22 | 30 |
| CE-31V | VAC | S1 | 0.95 | | 500 | 250 | 0.1 | 22 | 30 |
| CE-34 | VAC | S4 | 0.34 | | 250 | 250 | 0.1 | 17 | 70 |
| CE-36 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| CE-36V | VAC | S1 | 0.34 | | 250 | 250 | 0.1 | 16 | 26 |
| CE-B36 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| CE-52V | VAC | S1 | 1.20 | | 250 | 250 | 0.1 | 22 | 30 |
| CE-59 | GAS | S4 | 0.51 | 5.5 | 100 | 90 | 0.1 | 75 | 155 |
| CE-64 | GAS | S4 | 0.34 | 5.5 | 100 | 90 | 0.1 | 65 | 130 |
| CE-75V | VAC | S1 | 0.51 | | 250 | 250 | .00005 | 20 | 40 |
| CE-77 | GAS | S4 | 4.68 | 5.5 | 90 | 90 | 0.1 | 75 | 200 |
| CE-84 | VAC | S4 | 0.34 | | 250 | 250 | 0.1 | 17 | 70 |
| CE-86 | GAS | S1 | 0.36 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| CE-91 | GAS | S4 | 0.95 | 5.5 | 100 | 90 | .05 | 75 | 205 |
| 868 | GAS | S1 | 0.95 | 8.0 | 100 | 90 | 0.1 | 50 | 145 |
| 917 | VAC | S1 | 0.95 | | 500 | 250 | .005 | 22 | 30 |
| 918 | GAS | S1 | 0.95 | 10 | 90 | 90 | 0.1 | 125 | 250 |
| 919 | VAC | S1 | 0.95 | | 500 | 250 | .005 | 22 | 30 |
| 920 | GAS | S1 | 0.51 Each | 10 | 90 | 90 | 0.1 | 50 | 175 |
| 923 | GAS | S1 | 0.51 | 10 | 90 | 90 | 0.1 | 75 | 200 |
| 927 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 90 | 175 |
| 929 | VAC | S4 | 0.51 | | 250 | 250 | .0125 | 25 | 70 |
| 930 | GAS | S1 | 0.51 | 10 | 90 | 90 | 0.1 | 75 | 200 |
| 934 | GAS | S4 | 0.34 | | 250 | 250 | .005 | 17 | 70 |
| 5581 | GAS | S4 | 0.51 | 5.5 | 100 | 90 | .05 | 75 | 205 |
| 5583 | GAS | S4 | 0.38 | 5.5 | 100 | 90 | .05 | 70 | 205 |
| 5653 | VAC | S4 | 0.51 | | 250 | 250 | .25 | 20 | 100 |
| 1P30 | GAS | S1 | 1.20 | 10 | 110 | 90 | 0.1 | 95 | 200 |
| 1P31 | GAS | S1 | 1.64 | 10 | 110 | 110 | 0.1 | 55 | 200 |
| 1P32 | GAS | S1 | 0.34 | 10 | 90 | 90 | 0.1 | 95* | 175* |
| 1P33 | GAS | S1 | 1.20 | 10 | 95 | 95 | 0.1 | 10.4* | 16.6* |
| 1P35 | GAS | S1 | 0.45 | 10 | 90 | 90 | 0.1 | 75 | 200 |
| 1P36 | GAS | S1 | 0.53 | 10 | 90 | 90 | 0.1 | 100 | 200 |
| 1P37 | GAS | S4 | 0.95 | 5.5 | 100 | 90 | .05 | 75 | 205 |
| 1P39 | VAC | S4 | 0.51 | | 250 | 250 | .005 | 25 | 70 |
| 1P40 | GAS | S1 | 0.51 | 10 | 90 | 90 | .005 | 75 | 200 |
| 1P41 | GAS | S1 | 0.26 | 8.5 | 90 | 90 | 0.1 | 50 | 145 |

* Tested under special conditions

## LEAD SULFIDE CELLS

| Type | SENSITIVITY CLASS A | SENSITIVITY CLASS C | SENSITIVITY CLASS D | Grid Sizes |
|---|---|---|---|---|
| CE-701 | 630 and up | 190 to 630 | 67 to 190 | A, C, E, G, H |
| CE-702 | 630 and up | 190 to 630 | 67 to 190 | A, E, H |
| CE-705 | 540 and up | 190 to 540 | 67 to 190 | 1/32" x 1/32" |
| CE-706 | 630 and up | 190 to 630 | 67 to 190 | E |
| CE-711 | 630 and up | 190 to 630 | 67 to 190 | A, C, E |
| CE-704 | 630 and up | 190 to 540 | 67 to 190 | A, C, E |

### LEAD SULPHIDE GRID SIZES

| | | | |
|---|---|---|---|
| A | 1/8" x 1/8" | G | 1/16" x 1/8" |
| C | 1/16" x 1/4" | H | 1/16" x 3/8" |
| E | 1/15" x 1/15" | (CE-705 only) | 1/32" x 1/32" |

### ENGINEERING AND RESEARCH SERVICE

CETRON-TAYLOR maintains an experienced, fully staffed engineering department to help you fill your requirements, as well as to develop new tubes for special needs. There's no obligation for this service.

## TRIODE TRANSMITTING TUBES

TYPICAL OPERATION, CLASS C TELEGRAPHY (ICAS)

| Tube Type | Filament Volts | Filament Amps. | Amplification Factor | Freq. Mc. Full Ratings | Plate Voltage | Plate Ma. | Grid Voltage | Grid D.C.-Ma. | Approx. Power Output-Watts |
|---|---|---|---|---|---|---|---|---|---|
| UX-CV11 | 10.0 | 2.5 | 14 | 30 | 1500 | 165 | —140 | 35 | 180 |
| T-40 | 7.5 | 3.0 | 25 | 60 | 1500 | 150 | —140 | 28 | 158 |
| TZ-40 | 7.5 | 3.0 | 62 | 60 | 1500 | 150 | —90 | 38 | 165 |
| T-55 | 7.5 | 3.0 | 20 | 60 | 1500 | 165 | —140 | 20 | 185 |
| HF-60 | 10.0 | 3.0 | 20 | 60 | 1500 | 150 | —175 | 50 | 200 |
| T-60 | 10.0 | 3.0 | 20 | 60 | 1500 | 150 | —175 | 50 | 200 |
| T-200 | 10.0 | 5.75 | 17 | 30 | 2500 | 350 | —280 | 54 | 685 |
| 211-D | 10.0 | 3.25 | 25 | 15 | 1250 | 175 | —260 | 35 | 150 |
| T-218 | 10.0 | 3.25 | 14.5 | 30 | 1250 | 175 | —140 | 50 | 150 |
| T-300 | 11.0 | 6.0 | 23 | 30 | 3000 | 430 | —305 | 65 | 1000 |
| 460 | 10.0 | 4.5 | 18 | 30 | 2500 | 200 | —350 | 30 | 450 |
| 468 | 10.0 | 4.5 | 18 | 30 | 2500 | 200 | —200 | 30 | 450 |
| 805 | 10.0 | 3.25 | 40 60 | 30 | 1500 | 200 | —105 | 40 | 215 |
| 810 | 10.0 | 4.5 | 36 | 30 | 2500 | 300 | —180 | 60 | 575 |
| 822 | 10.0 | 4.0 | 30 | 8 | 2500 | 300 | —190 | 51 | 600 |
| 845 | 10.0 | 3.25 | 5.3 | AF | 1250 | 80 | —195 | Class A1 | 30 |
| 8000 | 10.0 | 4.5 | 16.5 | 30 | 2500 | 300 | —240 | 40 | 575 |

**CONTINENTAL ELECTRIC COMPANY** TAYLOR TUBES, INC. CHICAGO 2, ILLINOIS

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World Radio History

# SYLVANIA TRANSISTORS & CRYSTAL DIODES

| Type | Sugg. User Price |
|---|---|
| **CRYSTAL DIODES** | |
| 1N34A | $ .50 |
| 1N35 | 1.57 |
| 1N38A | .83 |
| †1N38B | .83 |
| 1N39A | 2.48 |
| 1N40 | 5.78 |
| 1N41 | 13.20 |
| 1N42 | 8.25 |
| 1N48 | .68 |
| 1N52A | .58 |
| 1N54A | .99 |
| 1N55A | 1.82 |
| 1N56A | .69 |
| 1N58A | 1.22 |
| 1N60 | .36 |
| 1N63 | 1.40 |
| 1N64 | .36 |
| 1N65 | .58 |
| 1N67A | 1.07 |
| 1N69 | .38 |
| †1N69A | .38 |
| 1N70 | .78 |
| †1N70A | .78 |
| 1N71 | 5.78 |
| 1N72 | .88 |
| 1N81 | .94 |
| †1N81A | .94 |
| 1N82 | .99 |
| 1N82A | 1.07 |
| 1N90 | .50 |
| 1N98 | 1.24 |
| 1N100 | 1.60 |
| 1N111 | 1.49 |
| 1N115 | .99 |
| 1N118 | 1.07 |
| 1N119 | 1.02 |
| 1N120 | .78 |
| 1N126 | .58 |
| †1N126A | .58 |
| 1N127 | 1.20 |
| †1N127A | 1.16 |
| 1N127AM | 2.77 |
| †1N128 | .91 |
| 1N140 | .68 |
| 1N191 | 1.07 |
| 1N193 | 6.60 |
| 1N194 | 9.90 |
| 1N195 | 7.84 |
| 1N196 | 11.55 |
| 1N198 | 1.16 |
| 1N198A | 1.16 |
| 1N279 | 1.24 |
| 1N283 | 2.48 |
| 1N295 | .37 |
| 1N355 | 1.65 |
| 1N417 | 2.06 |
| 1N418 | 1.02 |
| 1N419 | 1.98 |
| 1N435 | 10.73 |
| 1N447 | 1.16 |
| 1N448 | 1.24 |
| 1N449 | 1.40 |
| 1N450 | .99 |
| 1N451 | 1.49 |
| 1N452 | 2.06 |
| 1N453 | 2.48 |
| 1N454 | 2.89 |
| 1N455 | 3.30 |
| 1N571 | 2.06 |
| 1N634 | 1.16 |
| 1N636 | .38 |
| 1N1093 | 1.19 |
| D660 | 1.07 |
| **PHOTO DIODES** | |
| 1N77A | $13.20 |
| 1N77B | 13.20 |
| **MICROWAVE CRYSTAL DIODES** | |
| †1N21A | $1.24 |
| †1N21B | 1.23 |
| †1N21BM | 3.70 |
| †1N21BMR | 5.35 |
| †1N21BR | 2.48 |
| †1N21C | 2.06 |
| †1N21CM | 5.75 |
| †1N21CMR | 8.25 |
| †1N21CR | 3.70 |
| †1N21D | 8.15 |
| 1N21DM | 15.12 |
| 1N21DMR | 19.25 |

| Type | Sugg. User Price |
|---|---|
| **MICROWAVE CRYSTAL DIODES (Cont'd)** | |
| 1N21DR | $12.38 |
| 1N21E | 10.73 |
| 1N21EM | 18.53 |
| 1N21EMR | 25.10 |
| 1N21ER | 15.70 |
| †1N23A | 1.24 |
| †1N23B | .82 |
| †1N23BM | 3.30 |
| †1N23BMR | 3.70 |
| †1N23BR | 1.65 |
| †1N23C | 1.40 |
| †1N23CM | 4.95 |
| †1N23CMR | 7.40 |
| †1N23CR | 3.30 |
| 1N23D | 7.00 |
| 1N23DMR | 24.06 |
| 1N23DR | 14.85 |
| 1N23E | 9.10 |
| 1N23EM | 18.38 |
| 1N23EMR | 25.10 |
| 1N23ER | 15.70 |
| †1N25 | 4.10 |
| 1N25A | 9.90 |
| 1N25R | 14.44 |
| †1N26 | 11.55 |
| 1N26A | 14.03 |
| 1N26AR | 22.00 |
| 1N26M | 24.75 |
| 1N26MR | 33.00 |
| 1N26R | 14.44 |
| †1N31 | 8.25 |
| †1N32 | 15.68 |
| †1N53 | 31.80 |
| 1N53A | 42.00 |
| 1N53B | 42.20 |
| 1N53BM | 97.20 |
| 1N53BMR | 144.50 |
| 1N53BR | 91.20 |
| 1N53M | 84.00 |
| 1N53MR | 100.80 |
| 1N53R | 66.00 |
| †1N76 | 3.95 |
| 1N76A | 3.95 |
| †1N78 | 12.38 |
| 1N78A | 16.50 |
| 1N78AM | 39.60 |
| 1N78AMR | 52.50 |
| 1N78AR | 27.50 |
| 1N78B | 25.79 |
| 1N78BR | 31.20 |
| 1N78M | 27.50 |
| 1N78MR | 36.00 |
| 1N78R | 15.23 |
| †1N79 | 2.88 |
| 1N286 | 54.00 |
| 1N358 | 24.75 |
| 1N358A | 31.80 |
| 1N358AR | 43.80 |
| 1N358R | 30.93 |
| 1N369 | 36.00 |
| 1N369A | 42.00 |
| 1N369AR | 72.00 |
| †1N415B | 3.30 |
| †1N415C | 4.10 |
| 1N415D | 12.38 |
| 1N415E | 17.18 |
| †1N416B | 3.30 |
| †1N416C | 4.10 |
| 1N416D | 12.38 |
| 1N416E | 17.18 |
| 1N446 | 57.00 |
| 1N446R | 72.00 |
| 1N630 | 29.55 |
| 1N1132 | 57.00 |
| 1N1610 | 65.16 |
| 1N1611 | 12.40 |
| **TRANSISTORS** | |
| 2N34 | $3.30 |
| 2N35 | 1.16 |
| 2N68 | 5.36 |
| 2N94 | 1.65 |
| 2N94A | 5.78 |
| 2N95 | 5.36 |
| 2N101 | 4.95 |
| 2N102 | 4.95 |
| 2N109 | 1.74 |
| 2N139 | 1.98 |
| 2N141 | 10.31 |
| 2N142 | 10.31 |
| 2N143 | 9.90 |
| 2N144 | 9.90 |

| Type | Sugg. User Price |
|---|---|
| **TRANSISTORS (Continued)** | |
| 2N155 | $3.05 |
| 2N168A | 2.06 |
| 2N169A | 2.00 |
| 2N176 | 3.05 |
| 2N193 | 1.57 |
| 2N194 | 1.90 |
| 2N194A | 1.90 |
| 2N211 | 1.98 |
| 2N212 | 1.98 |
| 2N213 | 1.29 |
| 2N214 | 1.49 |
| 2N214MP | 2.98 |
| 2N216 | 1.73 |
| 2N217 | 1.73 |
| 2N228 | 1.82 |
| 2N233A | 1.29 |
| 2N235A | 3.05 |
| 2N235B | 3.38 |
| 2N236B | 4.13 |
| 2N241A | 2.08 |
| 2N242 | 3.05 |
| 2N247 | 3.30 |
| 2N250 | 3.71 |
| 2N256 | 1.64 |
| 2N257 | 3.23 |
| 2N270 | 2.09 |
| 2N285A | 4.04 |
| 2N292 | 1.86 |
| 2N296 | 6.19 |
| 2N301 | 3.05 |
| 2N301A | 4.95 |
| 2N306 | .99 |
| 2N307A | 2.15 |
| 2N312 | 8.25 |
| 2N321 | 2.08 |
| 2N325 | 15.85 |
| 2N326 | 31.70 |
| 2N350 | 3.30 |
| 2N351 | 3.47 |
| 2N356 | 5.78 |
| 2N357 | 7.26 |
| 2N358 | 9.90 |
| 2N370 | 3.30 |
| 2N371 | 3.30 |
| 2N372 | 3.30 |
| 2N377 | 4.95 |
| 2N383 | 5.78 |
| 2N384 | 6.60 |
| 2N385 | 5.78 |
| 2N388 | 7.43 |
| 2N399 | 3.55 |
| 2N401 | 3.22 |
| 2N404 | 4.95 |
| 2N406 | 1.16 |
| 2N407 | 1.40 |
| 2N408 | 1.49 |
| 2N409 | 1.73 |
| 2N410 | 1.73 |
| 2N412 | 1.82 |
| 2N419 | 3.63 |
| 2N420 | 4.52 |
| 2N439 | 5.78 |
| 2N515 | 1.73 |
| 2N516 | 1.73 |
| 2N517 | 1.98 |
| 2N544 | 2.48 |
| 2N556 | 5.78 |
| 2N557 | 2.98 |
| 2N558 | 9.08 |
| 2N576 | 8.99 |
| 2N576A | 10.73 |
| 2N585 | 3.71 |
| 2N587 | 5.36 |
| 2N625 | 36.00 |
| 2N679 | 2.48 |
| GT832 | 2.97 |
| **SILICON POWER RECTIFIERS** | |
| SR500 | $1.65 |
| SR200 | .86 |
| **SELENIUM RECTIFIERS** | |
| NA-5 | $ .88 |
| NB-5 | 1.00 |
| ND-5 | 1.26 |
| NE-5 | 1.68 |
| NF-5 | 1.68 |
| NK-5 | 2.09 |
| NM-5 | 2.30 |
| NO-5 | 2.20 |
| NP-5 | 1.35 |
| NR-5 | 2.44 |

†Jan Type Approval


SYLVANIA

SYLVANIA ELECTRIC PRODUCTS INC.

*In Canada: Sylvania Electric (Canada) Ltd.*
*P. O. Box 1190, Station "O", Montreal 9*

LIGHTING • TELEVISION • RADIO • ELECTRONICS • PHOTOGRAPHY • ATOMIC ENERGY • CHEMISTRY-METALLURGY





World Radio History

# SYLVANIA INDUSTRIAL TUBES

| Type | Sugg. User Price |
|---|---|
| #OA2 | $ 1.25 |
| #OA3 | 1.27 |
| #OA4G | 1.68 |
| #OA5 | 7.30 |
| #OB2 | 1.32 |
| #OB3 | 1.65 |
| #OC3 | 1.27 |
| #OD3 | 1.27 |
| 1AD5 | 2.13 |
| #1B24A | 21.35 |
| #1B35A | 8.50 |
| #1B37A | 8.80 |
| #1B44 | 24.55 |
| #1B56 | 24.55 |
| #1B58 | 88.55 |
| #1B58A | 38.55 |
| #1B59 R113C8 | 20.40 |
| #1B63A | 29.55 |
| 1C8 | 1.54 |
| 1D3 | 4.70 |
| #1D21 SN4 | 7.10 |
| #1E8 | 2.37 |
| #1P39 | 2.15 |
| #1P40 | 3.25 |
| 1S6 | 1.54 |
| 1T6 | 1.97 |
| 1W5 | 1.54 |
| #C1K 6014 | 12.90 |
| #C3J 5632 | 14.10 |
| #C3JA/5684 | 19.80 |
| #2A4G | 2.88 |
| 2B5 | 4.02 |
| #2C36 | 49.85 |
| #2C37 | 49.85 |
| #2C39A | 22.50 |
| #2C39WA | 20.00 |
| #2C40 | 27.50 |
| #2C41 | 25.25 |
| #2C43 | 24.55 |
| #2D21 | 1.62 |
| #2D21W | 2.92 |
| #2E24 | 4.65 |
| #2E26 | 3.85 |
| #2E30 | 2.95 |
| #2J42 | 107.65 |
| #2X2A | 2.55 |
| #3A4 | 1.25 |
| #3A5 | 1.62 |
| #3B28 | 7.02 |
| #3C23 | 11.98 |
| #3E29 | 20.25 |
| #SN4 | 7.10 |
| #4X150A | 38.95 |
| 4-65A | 20.00 |
| 4-125A | 30.25 |
| 4-250A | 41.25 |
| 4-1000A | 132.00 |
| 4X150D | 38.95 |
| 4X500A | 121.00 |
| #SN5 | 12.50 |
| #5R4GY | 1.90 |
| 5Y3WGT | 2.80 |
| 5Y3WGTA | 5.45 |
| 6AD4 | 2.50 |
| 6AJ5 | 4.25 |
| 6AK4 | 3.10 |
| #6AN6 | 3.75 |
| 6AS6 | 3.45 |
| #6AS7G | 4.45 |
| **6AU6WA** | 3.70 |
| 6AZ5 | 3.85 |
| #6BA4 (RT469 | 41.10 |
| 6BA5 | 4.45 |
| **#6BF7W** | 4.45 |
| #6BL6 | 55.75 |
| #6BM6 | 66.00 |
| #6BM6A | 80.00 |
| #6D4 | 2.85 |
| 6J4 | 4.30 |
| **6J4WA** | 5.90 |
| **6SJ7WGT** | 2.50 |

| Type | Sugg. User Price |
|---|---|
| #C6J 5C21 | $ 28.90 |
| #C6J A 5685 | 29.30 |
| **6SL7WGT** | 3.25 |
| **6SN7WGT** | 2.70 |
| 6SN7WGTA | 6.45 |
| 6V6GTY | 1.45 |
| **6X4W** | 2.00 |
| 6X4WA | 3.60 |
| **6X5WGT** | 2.00 |
| **7AK7** | 7.45 |
| 12AT7WA | 4.85 |
| 12AY7 | 2.45 |
| #C16J 5665 | 56.90 |
| 28D7 | 2.85 |
| **28D7W** | 10.50 |
| #FG-97 | 56.50 |
| #102A | 168.00 |
| #115 | 100.00 |
| #120 | 150.00 |
| #121 | 95.00 |
| #126 | 170.00 |
| #141 | 105.00 |
| #142 | 70.00 |
| #148 | 145.00 |
| #170 | 290.00 |
| #180 | 290.00 |
| #199 | 330.00 |
| #212E | 125.00 |
| #232B | 641.00 |
| #241B | 131.00 |
| #279A | 395.00 |
| #298A | 1350.00 |
| #2988 | 1400.00 |
| #SA-309 | 20.00 |
| #SA-309A | 20.85 |
| #322 | 25.25 |
| #S340 | 56.00 |
| #342A | 641.00 |
| #342AA | 742.00 |
| #354 | 1660.00 |
| #356 | 600.00 |
| #3573 | 117.00 |
| #379A | 420.00 |
| #381 | 26.50 |
| **#407A** | 5.90 |
| **#408A** | 5.00 |
| #S-413 | 15.00 |
| #414 | 135.00 |
| #4813 | 9.00 |
| #502A | 2.03 |
| #(M561) See 6874 | |
| #575A | 22.15 |
| #5798 | 18.00 |
| #S-597 | 26.75 |
| #S-598 | 26.75 |
| #S-598A | 33.35 |
| #610 | 27.00 |
| #624 | 66.08 |
| #627 | 27.00 |
| #628 | 41.00 |
| #629 | 15.00 |
| #6323 | 33.00 |
| #642 | 15.50 |
| #672A | 38.00 |
| #673 | 22.15 |
| #676 | 58.00 |
| #677 | 58.00 |
| #678 | 47.00 |
| #S696 | 23.25 |
| #S706 | 15.00 |
| #801A | 9.85 |
| #807 | 2.85 |
| #810 | 25.55 |
| #811A | 6.50 |
| #812A | 5.65 |
| #813 | 22.65 |
| #815 | 23.55 |
| #816 | 2.65 |
| #828 | 27.50 |
| #8298 | 18.90 |
| #832A | 14.20 |

| Type | Sugg. User Price |
|---|---|
| #833A | $ 55.00 |
| #S836 | 16.70 |
| #837 | 7.85 |
| #S838 | 16.70 |
| #S840 | 20.00 |
| #845 | 20.85 |
| #857B | 235.00 |
| #866A | 2.65 |
| #869B | 155.00 |
| #872A | 9.90 |
| #880 | 565.00 |
| #884 | 1.85 |
| #885 | 2.00 |
| #891 | 275.00 |
| #891R | 430.00 |
| #892 | 270.00 |
| #892R | 425.00 |
| #893A | 748.00 |
| #893AR | 1260.00 |
| #895 | 1095.00 |
| #895R | 1390.00 |
| #921 | 3.30 |
| #922 | 2.85 |
| #929 | 2.00 |
| #930 | 2.85 |
| #931A | 10.45 |
| #ST982 | 1.40 |
| #R1111 | 8.80 |
| #R1111M | 21.10 |
| #R1130B | 20.40 |
| #R1131C | 19.20 |
| #R1166 | 19.60 |
| **#1216** | 2.30 |
| **#1217** | 1.55 |
| #1222A | 2.45 |
| #1229 | 6.40 |
| #1237 | 5.10 |
| #1247 | 6.00 |
| 1273 | 1.50 |
| 1280 | 1.50 |
| 1620, 6J7 | 6.36 |
| 1622 | 3.15 |
| #1624 | 4.70 |
| #2050 | 1.85 |
| #R4306 | 4.35 |
| #R4307 | 4.76 |
| #R4330 | 29.10 |
| #R4336 | 64.20 |
| #R4340 | 60.50 |
| #R4350 | 29.10 |
| #5530V | 293.00 |
| #5530-H | 293.00 |
| #5531 | 600.00 |
| #5541 | 435.00 |
| #5550 681 | 49.00 |
| #5551A 652 | 65.00 |
| #5552A 651 | 99.00 |
| #5553B 655 | 245.00 |
| #5555 | 316.00 |
| #5557 | 9.50 |
| #5558 | 17.50 |
| #5559 | 23.00 |
| #5560 FG95 | 33.10 |
| #5575 100 | 225.00 |
| #5576 200 | 253.00 |
| #5604 | 570.00 |
| #5606 | 268.00 |
| #5619 | 423.00 |
| #5625 | 225.00 |
| **#5636** | 9.05 |
| **#5636A** | 9.05 |
| **#5639** | 8.75 |
| **#5639A** | 8.75 |
| **#5641** | 8.35 |
| **#5641A** | 8.35 |
| 5642 | 2.42 |
| **#5643** | 10.00 |
| **#5644** | 10.80 |
| **#5644A** | 10.80 |
| **#5647** | 9.65 |
| #5647A | 9.65 |

| Type | Sugg. User Price |
|---|---|
| #5651 | $ 1.78 |
| **5654** | 3.60 |
| 5654/6AK5W | 3.60 |
| 5654 6AK5W/6096 | 5.45 |
| #5658 | 565.00 |
| #5666 | 265.00 |
| #5667 (889RA) | 347.00 |
| #5668 | 307.00 |
| #5669 | 450.00 |
| **5670** | 4.80 |
| 5670WA | 5.50 |
| #5679 | 1.35 |
| #5681 | 1780.00 |
| #5682 | 2500.00 |
| #5691 | 8.45 |
| #5692 | 8.15 |
| #5693 | 6.40 |
| **#5718** | 4.35 |
| **#5718A** | 4.35 |
| **#5719** | 3.95 |
| **5719A** | 3.95 |
| #5722 | 6.40 |
| 5725/6AS6W | 3.65 |
| 5726 | 1.70 |
| 5726 6AL5W | 2.10 |
| 5726 6AL5W/6097 | 3.25 |
| #5736 | 170.00 |
| **5749** | 2.70 |
| 5749 6BA6W | 2.70 |
| **5751** | 3.70 |
| 5751WA | 5.45 |
| #5763 | 2.37 |
| #5764 | 76.70 |
| #5765 | 76.70 |
| #5767 | 76.70 |
| #5768 | 53.65 |
| #5789 | 1109.00 |
| #5790 | 352.75 |
| #5791 | 92.00 |
| #5796 | 16.40 |
| 5814 | 3.85 |
| **5814A** | 3.85 |
| 5814WA | 4.95 |
| #5822A | 116.00 |
| #5823 | 1.57 |
| **#5840** | 6.85 |
| **#5840A** | 6.85 |
| **#5844** | 2.40 |
| #5845 | 9.25 |
| #5865 | 115.00 |
| #5879 | 1.75 |
| #5881 | 3.50 |
| #5891 | 1390.00 |
| #5894 | 24.75 |
| **#5896** | 5.05 |
| **#5896A** | 5.05 |
| **#5899** | 7.40 |
| **#5899A** | 7.40 |
| **#5902** | 6.48 |
| **#5902A** | 6.48 |
| **#5903** | 17.40 |
| **#5904** | 17.40 |
| **#5905** | 18.65 |
| **#5906** | 18.25 |
| **#5907** | 18.65 |
| **#5908** | 19.90 |
| **#5915A** | 1.55 |
| **#5916** | 24.85 |
| **5931** | 6.90 |
| **5932** | 11.40 |
| **#5933** | 12.45 |
| #5933WA | 16.60 |
| #5934 | 18.00 |
| #5936 | 1100.00 |
| **#5963** | 1.40 |
| **#5964** | 1.40 |
| **#5965** | 2.37 |
| #5966 | 38.00 |
| **#5977** | 7.00 |
| **#5977A** | 7.00 |
| #5986 | 1050.00 |

| Type | Sugg. User Price |
|---|---|
| **#5987** | $ 12.45 |
| **6005** | 4.50 |
| 6005/6AQ5W/6095 | 7.25 |
| #6011 | 14.00 |
| **#6021** | 5.85 |
| **#6021A** | 5.85 |
| #6027 (2J42A) | 205.00 |
| #6081 | 30.70 |
| **#6110** | 9.15 |
| **#6111** | 6.33 |
| **#6111A** | 6.33 |
| **#6112** | 6.33 |
| **#6112A** | 6.33 |
| **#6145** | 8.50 |
| #6146 | 5.00 |
| #6159 | 5.00 |
| #6166 | 1000.00 |
| **6189/12AU7WA** | 4.85 |
| #6198 | 230.00 |
| **#6201** | 4.75 |
| **#6205** | 7.40 |
| **#6205A** | 7.40 |
| **#6206** | 10.30 |
| **#6206A** | 10.30 |
| **#6211** | 2.37 |
| #6217 | 72.00 |
| #6256 | 164.00 |
| #6257 | 174.00 |
| #6258 | 192.00 |
| **#6308** | 8.35 |
| **#6350** | 2.40 |
| **#6352** | 11.20 |
| #6396 | 12.90 |
| #6420 | 308.00 |
| #6421 | 368.00 |
| #6421-F | 381.00 |
| #6422 | 334.00 |
| #6423 | 460.00 |
| #6423-F | 477.00 |
| #6424 | 423.00 |
| #6425 | 540.00 |
| #6425-F | 558.00 |
| #6426 | 640.00 |
| #6427 | 795.00 |
| #6476 | 16.95 |
| #6481 (RT434) | 38.30 |
| #6483 | 3.90 |
| #6576 | 657.00 |
| #6591 | 22.35 |
| #6623 | 173.00 |
| #6624 | 67.00 |
| #6696 | 1040.00 |
| #6697 | 1250.00 |
| **#6788** | 12.05 |
| #6795 | 39.15 |
| #6799 | 3520.00 |
| #6802 | 14.50 |
| #6807 | 29.40 |
| **#6814** | 6.90 |
| #6846 | 2.35 |
| #6874 (M-561) | 1283.00 |
| #6879 (CT854) | 18.40 |
| **#6888** | 8.50 |
| #6909 (CT923) | 27.60 |
| #6910 (CT924) | 33.75 |
| **#6943** | 16.60 |
| **#6944** | 16.60 |
| **#6945** | 16.60 |
| **#6946** | 16.60 |
| **#6947** | 24.85 |
| **#6948** | 24.85 |
| 7006 | 1430.00 |
| **#7044** | 2.95 |
| 7155 | 22.00 |
| #8008 | 9.90 |
| 9001 | 4.90 |
| 9002 | 3.25 |
| 9003 | 4.90 |

## INDUSTRIAL & MILITARY CATHODE RAY TUBES

| Type | Sugg. User Price |
|---|---|
| #2AP1A | $ 13.65 |
| #3AP1A | 24.75 |
| #3BP1A | 23.25 |
| #3FP7A | 27.50 |
| #3JP1 | 23.50 |
| #3JP2 | 23.50 |
| #3JP7 | 27.15 |
| #3JP12 | 33.50 |
| #3KP1 | 24.75 |
| #3MP1 | 21.80 |
| #3RP1 | 17.30 |
| #3RP4 | 24.25 |
| #5ABP1 | 39.75 |
| #5ABP2 | 39.75 |
| #5ABP7 | 42.65 |
| #5ABP11 | 43.80 |
| #5ADP1 | 38.35 |

| Type | Sugg. User Price |
|---|---|
| #5ADP2 | $ 30.80 |
| #5ADP7 | 41.10 |
| #5ADP11 | 39.20 |
| #5AHP2 | 40.50 |
| #5AHP2A | 47.80 |
| #5AHP4A | 44.80 |
| #5AHP7 | 36.60 |
| #5AHP7A | 44.80 |
| #5AHP19 | 40.50 |
| #5AHP19A | 47.80 |
| #5AHP25 | 42.00 |
| #5AHP25A | 50.00 |
| #5AQP1 | 36.90 |
| #5AQP2 | 36.90 |
| #5AQP7 | 39.20 |
| #5AQP11 | 37.35 |
| #5AXP4 | 19.75 |

| Type | Sugg. User Price |
|---|---|
| #5BNP16 | $ 22.00 |
| #5BP1A | 32.75 |
| #5CP1A | 27.15 |
| #5CP7A | 32.85 |
| #5CP11A | 37.85 |
| #5CP12 | 32.80 |
| #5FP4A | 45.70 |
| #5FP7A | 28.90 |
| #5FP11A | 33.35 |
| #5FP14 | 29.00 |
| #5UP1 | 21.80 |
| #5UP7 | 32.00 |
| #5UP11 | 32.25 |
| #5ZP16 | 115.00 |
| #7ABP7 | 41.55 |
| #7ABP7A | 48.90 |
| #7ABP14 | 46.70 |

| Type | Sugg. User Price |
|---|---|
| #7ABP14A | $ 58.00 |
| #7ABP19 | 47.80 |
| #7ABP19A | 60.00 |
| #7BP2A | 43.40 |
| #7BP7A | 41.55 |
| #7JP1 7VP1 | 29.00 |
| #7JP7 | 38.50 |
| #7MP7 | 40.30 |
| #8CP1 | 24.00 |
| #8CP7 | 40.30 |
| #8FP4 | 43.15 |
| #8XP4 | 22.00 |
| #8YP4 | 29.50 |
| #10KP7 | 47.80 |
| #10NP11 | 137.50 |
| #10SP4 | 82.25 |
| #10VP7 | 49.00 |

| Type | Sugg. User Price |
|---|---|
| #10VP15 | $ 49.00 |
| #10WP7 | 42.00 |
| #12ABP7 | 60.00 |
| #12ABP7A | 68.50 |
| #12ABP14 | 60.00 |
| #12ABP14A | 68.50 |
| #12ABP19 | 68.50 |
| #12ABP19A | 77.08 |
| #12SP7 | 48.80 |

• • •

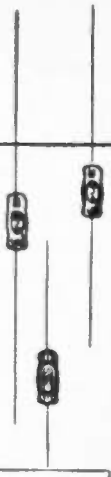
# Non-Taxable Types.
Bold Face Types are Sylvania Gold Brand Tubes.



World Radio History

General Instrument Semiconductors

# RADIO RECEPTOR
## SUBMINIATURE, GLASS
# silicon diodes



### ALL PURPOSE TYPE

| Code No. | Max. Fwd. Drop @ 100 mA DC | Reverse DC Cur. @ -50V 25° C. | 150° C. | Max. Inverse Voltage | Min. Breakdown Voltage* | Avg. Fwd. DC Cur. (Max.) | Reverse Recovery† |
|---|---|---|---|---|---|---|---|
| 1N658 | 1V | .05 uA | 25 uA | 100V | 120V | 200 mA | 80K in 0.3 usec |

### FAST RECOVERY TYPES *(Operating temperature range −80° C. to +150° C.)*

| Code No. | Max. Fwd. Voltage Drop @ Indicated DC Current | Max. Rev. DC Cur. at Test V. 25° C. | 100° C. | Test Voltage | Min. Breakdown Voltage* | Max. Inverse Voltage | Reverse Recovery† |
|---|---|---|---|---|---|---|---|
| DR677 | 1 @ 100 mA | 0.5 uA | 25 uA | 20V | 30V | 20V | 15KΩ in 0.15 usec‡ |
| DR672 | 1 @ 100 mA | 0.5 uA | 10 uA | 35V | 50V | 35V | 400KΩ in 1.0 usec |
| DR673 | 1 @ 100 mA | 0.5 uA | 10 uA | 75V | 100V | 75V | 400KΩ in 1.0 usec |
| DR674 | 1 @ 100 mA | 0.5 uA | 10 uA | 125V | 150V | 125V | 400KΩ in 1.0 usec |
| DR675 | 1 @ 100 mA | 0.5 uA | 10 uA | 175V | 200V | 175V | 400KΩ in 1.0 usec |

### HIGH CONDUCTANCE TYPES *(Operating temperature range −80° C. to +200° C.)*

| Code No. | Max. Fwd. Voltage Drop @ Indicated DC Current | Max. Rev. DC Cur. at Test V. 25° C. | 150° C. | Test Voltage | Min. Breakdown Voltage* | Max. Inverse Voltage | Avg. Fwd. DC Cur. (Max.) |
|---|---|---|---|---|---|---|---|
| DR668 | 1 @ 200 mA | .025 uA | 5 uA | 60V | 80V | 70V | 200 mA |
| DR669 | 1 @ 200 mA | .025 uA | 5 uA | 125V | 150V | 130V | 200 mA |
| DR670 | 1 @ 200 mA | .025 uA | 5 uA | 175V | 200V | 180V | 200 mA |
| DR671 | 1 @ 200 mA | .05 uA | 25 uA | 225V | 250V | 225V | 200 mA |

All ratings & characteristics listed on this page are at 25° C. unless otherwise noted.

*Reverse voltage at which a reverse current of 100 uA flows.
†When switching from 5 mA to −40V.
‡When switching from 5 mA to −20V.

**THESE STANDARD EIA TYPES ARE ALSO AVAILABLE:**
1N456 1N457 1N458 1N459 1N461 1N462 1N463 1N464 1N482 1N482A 1N482B 1N483 1N484
1N484A 1N484B 1N485 1N485A 1N485B 1N486 1N486A 1N625 1N626 1N627 1N628 1N629

# SUBMINIATURE, GLASS GOLD BONDED / germanium diodes

| Code No. | Minimum Forward DC Current @ + 1V (mA) | Maximum Inverse Operating Voltage | Max. Reverse DC Current in uA & Corresponding Resistance (Ohms) at Indicated Voltages | Max. Continuous DC Forward Current (mA) |
|---|---|---|---|---|
| | | | **GENERAL PURPOSE TYPES** | |
| DR315 | 50 | 120 | 50 (2meg) @ 100V | |
| DR316 | 50 | 100 | 100 (1meg) @ 100V | |
| DR317 | 50 | 80 | 50 (1meg) @ 50V | |
| DR318 | 50 | 60 | 2 (5meg) @ 10V | |
| DR319 | 50 | 60 | 5 (2meg) @ 10V | |
| | | | **HIGH TEMPERATURE TYPES** | |
| DR321 | 200 | 100 | 125 (400K) @ 50V | 100 |
| DR323 | 100 | 80 | 200 (250K) @ 50V | 80 |
| DR324 | 100 | 80 | 500 (100K) @ 50V | 80 |
| | | | **HIGH CONDUCTANCE TYPES** | |
| DR301 | 400 | 100 | 100 (500K) @ 50V | 100 |
| DR302 | 400 | 80 | 100 (500K) @ 50V | 100 |
| DR303 | 400 | 60 | 50 (400K) @ 20V | 100 |
| DR309 | 400 | 80 | 10 (1meg) @ 10V; 50 (1meg) @ 50V | 100 |
| DR327 | 300 | 100 | 100 (500K) @ 50V | 100 |
| DR328 | 300 | 80 | 100 (500K) @ 50V | 100 |
| DR329 | 300 | 60 | 50 (400K) @ 20V | 100 |
| DR330 | 300 | 80 | 10 (1meg) @ 10V; 50 (1meg) @ 50V | 100 |
| DR305 | 200 | 100 | 100 (500K) @ 50V | 100 |
| DR307 | 200 | 60 | 50 (400K) @ 20V | 100 |
| DR308 | 200 | 80 | 10 (1meg) @ 10V; 50 (1meg) @ 50V | 100 |
| DR310 | 100 | 120 | 50 (2meg) @ 100V | 80 |
| DR311 | 100 | 120 | 100 (1meg) @ 100V | 80 |
| DR312 | 100 | 100 | 5 (2meg) @ 10V; 20 (5meg) @ 100V | 80 |
| DR313 | 100 | 80 | 2 (5meg) @ 10V; 20 (2.5meg) @ 50V | 80 |
| DR314 | 100 | 80 | 50 (1meg) @ 50V | 80 |
| DR326 | 100 | 60 | 250 (200K) @ 50V | 80 |

**COMPUTER TYPES**

| Code No. | Min. Forward DC Current at Specified Voltage (mA) | Maximum Inverse Operating Voltage | Reverse Resistance Characteristics (Min)* | Reverse Recovery Characteristics (Min) |
|---|---|---|---|---|
| DR401 | 20 @ 0.5V | 60 | 400K between 10 & 50V @ 55° C | 50K in 0.5 usec; 400K in 2.0 usec† |
| DR402 | 20 @ 0.5V | 60 | 200K between 10 & 50V @ 55° C | 50K in 0.5 usec; 200K in 2 usec† |
| DR403 | 20 @ 0.5V | 60 | 500K between 10 & 50V | 80K in 0.3 psec‡ |
| DR404 | 20 @ 0.5V | 60 | 500K between 10 & 50V | 50K in 0.3 usec‡ |

**CONTROLLED LOW FORWARD VOLTAGE DROP TYPES FOR TRANSISTORIZED CIRCUITS**

| Code No. | Forward Voltage Drop @ 10mA Min. | Max. | Max. Inverse Operating Voltage | Max. Reverse DC Current in uA & Corresponding Resistance (Ohms) at Indicated Voltages | Max. Continuous DC Forward Current (mA) |
|---|---|---|---|---|---|
| DR385 | .34V | .37V | 50 | 10 (1meg) @ 10V | 100 |
| DR434 | .34V | .37V | 30 | 10 (1meg) @ 10V | 100 |
| DR435 | .34V | .37V | 20 | 10 (1meg) @ 10V | 100 |

* Test voltage is a continuous 60 CPS sine wave.
† Switching from a forward current of 30 mA to a reverse of 35 volts.
‡ Switching from a forward current of 5mA to a reverse of 40 volts.

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**RADIO RECEPTOR COMPANY, INC.**
*Subsidiary of General Instrument Corporation*

**THESE STANDARD EIA TYPES ARE ALSO AVAILABLE:**
1N34 1N34A 1N38 1N38A 1N48 1N51
1N52 1N54 1N54A 1N55 1N55A 1N55B
1N56 1N56A 1N58 1N58A 1N63 1N65
1N67A 1N68A 1N69 1N70 1N81 1N89
1N90 1N95 1N96 1N97A 1N98A 1N99A
1N116A 1N117A 1N118A JAN1N126A JAN1N127A JAN1N128
1N191 1N192 JAN1N198 1N270 JAN1N276 1N277
1N281


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World Radio History

General Instrument Semiconductors

# AUTOMATIC SILICON POWER RECTIFIERS

| TYPE NO. | PEAK REVERSE VOLTAGE (VOLTS) | DC OUT. CUR. AVG. AMP. @ °C | *MAX. REV. CUR. @ RATED PIV MA @ °C | †OUTLINE | USAGE |
|---|---|---|---|---|---|
| AM1 | 50 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM2 | 50 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM3 | 50 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM4 | 50 | 1.0 @ 150° | .5 @ 100° | B | Power Supply |
| AM5 | 50 | .4 @ 150° | .5 @ 100° | B | Power Supply |
| AM11 | 100 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM12 | 100 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM13 | 100 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM21 | 200 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM22 | 200 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM23 | 200 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM24 | 200 | 1.0 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM31 | 300 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM32 | 300 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM33 | 300 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM34 | 300 | 1.0 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM41 | 400 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM42 | 400 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM43 | 400 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM44 | 400 | 1.0 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM51 | 500 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM52 | 500 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM53 | 500 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM54 | 500 | 1.0 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM55 | 500 | .4 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM56 | 500 | .2 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM61 | 600 | 1.0 @ 100° | .3 @ 100° | B | Power Supply |
| AM62 | 600 | .4 @ 100° | .3 @ 100° | B | Power Supply |
| AM63 | 600 | .2 @ 100° | .3 @ 100° | B | Power Supply |
| AM64 | 600 | 1.0 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM65 | 600 | .4 @ 150° | .5 @ 150° | B | Gen. Purpose |

| TYPE NO. | PEAK REVERSE VOLTAGE (VOLTS) | DC OUT. CUR. AVG. AMP. @ °C | *MAX. REV. CUR. @ RATED PIV MA @ °C | †OUTLINE | USAGE |
|---|---|---|---|---|---|
| AM66 | 600 | .2 @ 150° | .5 @ 150° | B | Gen. Purpose |
| AM0505 | 50 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM0510 | 50 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM0520 | 50 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM1005 | 100 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM1010 | 100 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM1020 | 100 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM1505 | 150 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM1510 | 150 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM1520 | 150 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM2005 | 200 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM2010 | 200 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM2020 | 200 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM2505 | 250 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM2510 | 250 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM2520 | 250 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM3005 | 300 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM3010 | 300 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM3020 | 300 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM3505 | 350 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM3510 | 350 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM3520 | 350 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| AM4005 | 400 | .5 @ 135° | .5 @ 135° | C | Power Supply |
| AM4010 | 400 | 10 @ 135° | .5 @ 135° | C | Power Supply |
| AM4020 | 400 | 20 @ 135° | .5 @ 135° | C | Power Supply |
| S91 | 100 | .2 @ 85° | 1000 uA @ 85° | A | Ge Replacement |
| S91H | 100 | .25 @ 85° | 500 uA @ 85° | A | Ge Replacement |
| S92 | 200 | .2 @ 85° | 1000 uA @ 85° | A | Ge Replacement |
| S92H | 200 | .25 @ 85° | 500 uA @ 85° | A | Ge Replacement |
| S93 | 300 | .2 @ 85° | 1000 uA @ 85° | A | Ge Replacement |
| S93H | 300 | .25 @ 85° | 500 uA @ 85° | A | Ge Replacement |

*Maximum reverse currents indicated in milliamperes (mA) are averaged over one full cycle, inductive or resistive load with rectifier operating at rated current. Where maximum reverse currents are expressed in microamperes (uA), these are measured by the direct current volt-ampere method.

†A — Top Hat Pigtail; B — Stud, 7/16" hex.; C — Stud, 11/16" hex.

## COMMERCIAL AND CONSUMER PRODUCT TYPES

**Absolute Maximum Ratings for 100° C. Ambients**

| TYPE NO. | PEAK INVERSE VOLTAGE (VOLTS) | CONTINUOUS DC REVERSE WORKING VOLTAGE (VOLTS) | RMS VOLTAGE (VOLTS) | AVERAGE DC OUTPUT CUR. (MA) | PEAK RECURRENT FWD. CURRENT (AMPS) | SURGE CURRENT 1/120 SECOND (AMPS) | FULL LOAD VOLTAGE DROP DC (VOLTS)* | REVERSE CURRENT @ RATED PIV (MA)† |
|---|---|---|---|---|---|---|---|---|
| PT505 | 50 | 50 | 35 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT510 | 100 | 100 | 70 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT515 | 150 | 150 | 105 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT520 | 200 | 200 | 140 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT525 | 250 | 250 | 175 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT530 | 300 | 300 | 210 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT540 | 400 | 400 | 280 | 500 | 2.5 | 15 | 1.5 | 0.5 |
| PT550 | 500 | 500 | 350 | 500 | 2.5 | 15 | 1.5 | 0.5 |

*Measured at 25° C.

†Average over one cycle for full wave choke input or resistive circuit with rectifier operating at full rated current.

### THESE STANDARD EIA TYPES ARE ALSO AVAILABLE

| GENERAL PURPOSE TYPES: | | | JAN TYPES: | MAGNETIC AMPLIFIER TYPES: | | POWER SUPPLY TYPES: | | |
|---|---|---|---|---|---|---|---|---|
| 1N248 | 1N554 | 1N610A | 1N253 | 1N332 | 1N441 | 1N311 | 1N534 | 1N606 |
| 1N248A | 1N555 | 1N611A | 1N254 | 1N333 | 1N442 | 1N312 | 1N535 | 1N607 |
| 1N249 | 1N599A | 1N612A | 1N255 | 1N334 | 1N443 | 1N313 | 1N560 | 1N608 |
| 1N249A | 1N600A | 1N613A | 1N256 | 1N335 | 1N444 | 1N314 | 1N561 | 1N609 |
| 1N250 | 1N601A | 1N614A | 1N538 | 1N336 | 1N445 | 1N315 | 1N562 | 1N610 |
| 1N250A | 1N602A | 1N1095 | 1N540 | 1N337 | 1N440B | 1N316 | 1N563 | 1N611 |
| 1N536 | 1N603A | 1N1096 | 1N547 | 1N338 | 1N441B | 1N317 | 1N599 | 1N612 |
| 1N537 | 1N604A | 1N1100 | | 1N339 | 1N442B | 1N318 | 1N600 | 1N613 |
| 1N539 | 1N605A | 1N1101 | | 1N340 | 1N443B | 1N319 | 1N601 | 1N614 |
| 1N550 | 1N606A | 1N1102 | | 1N440 | 1N444B | 1N530 | 1N602 | 1N1115 |
| 1N551 | 1N607A | 1N1103 | | | 1N445B | 1N531 | 1N603 | 1N1116 |
| 1N552 | 1N608A | 1N1104 | | | | 1N532 | 1N604 | 1N1117 |
| 1N553 | 1N609A | 1N1105 | | | | 1N533 | 1N605 | 1N1118 |

General Instrument Distributor Division

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World Radio History

# *Quality* PRODUCTS FROM

# TRANSISTORS • DIODES

## HIGH SPEED COMPUTER SWITCHING • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

PNP Types: 2N315, 2N316, 2N317
NPN Types: 2N356, 2N357, 2N358

| D. C. Current Gain $h_{FE}$ | Rise Time $T_r$ | Storage Time $T_s$ | Fall Time $T_f$ |
|---|---|---|---|
| 15-60* | .3-1.0 μsec.* | 2-4 μsec.* | 3-.6 μsec.* |

Write for Computer Brochure G-140.

## HIGH FREQUENCY • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

with high Alpha cut-off — extremely useful for RF applications.

PNP Types: 2N519, 2N520, 2N521, 2N522, 2N523
NPN Types: 2N444, 2N445, 2N446, 2N447

| Alpha Cut-off Frequency $f_{ab}$ | | A. C Current Gain Common Emitter $h_{fe}$ | |
|---|---|---|---|
| $V_{CB} = 5$ v, $I_E = 1$ ma | 1-25 mc* | $V_{CE} = 5$ v, $I_C = 1$ ma, $f = 1$ KC | 15-200* |

Write for High Frequency Brochure G-150

## GENERAL PURPOSE • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

where tight parameter control and high reliability are desired.

PNP Types: 2N563, 2N564, 2N565, 2N566, 2N567
2N568, 2N569, 2N570, 2N571, 2N572

| Collector to Base Voltage (Emitter Open) $V_{CBO}$ | Collector Cut-off Current $I_{CEO}$ | | D. C. Curent Gain $h_{fe}$ | |
|---|---|---|---|---|
| 40 V | $V_{CB} = 10$ v | 3μA | $V_{CE} = 0.5$ v, $I_E = 1$ ma | 20-120* |

Write for General Purpose Brochure G-160.

## BILATERAL • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

Germanium alloyed junction transistors for high speed bilateral switching applications. PNP types 2N592, 2N593; NPN types 2N594, 2N595, 2N596.

Write for Bilateral Brochure G-170.

| D. C. Current Gain $h_{fe}$ (in both directions) | Alpha Cut-off Frequency $f_{ab}$ (in both directions) | |
|---|---|---|
| 35-70* | $V_{CB} = 5$ v, $I_E = 1$ ma | 1-8mc* |

## DRIFT • • • GERMANIUM TRANSISTORS

Germanium drift transistors offering exceptionally high speed for both very fast computer and very high frequency RF applications.
PNP types: 2N602, 2N603, 2N604, 2N605, 2N606, 2N607, 2N608.

Write for Drift Brochure G-180.

| | D. C. Current Gain $h_{FE}$ | | Gain X Bandwith | | | Power Gain $K_p$ | |
|---|---|---|---|---|---|---|---|
| 2N602, 2N603, 2N604 | $V_{CE} = 1$ v, $I_B = 0.5$ ma | 25-100* | $V_{CB} = 5$ v, $I_C = 5$ ma | 10-30 mc, 30-50 mc, 50-70 mc | 2N605, 2N606, 2N607, 2N608 | $V_{CB} = 7.5$ V, $I_C = 1$ ma, $f = 2$ mc | 20-25 db, 25-30 db, 30-35 db, 35-40 db |

## PHOTOTRANSISTORS • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

PNP germanium alloyed junction transistor type 2N469 for photo applications. This unit provides end viewing and high sensitivity in a very small package.

Write for Photo Brochure 2N469.

| AC Current Gain (Common Emitter) $h_{fe}$ | | Light Sensitivity |
|---|---|---|
| $V_{CE} = 5$ v, $I_C = 1$ ma, $f = 1$ KC | 40 | 25 μA ft. Candle |

## COMPLEMENTARY SYMMETRY • • • GERMANIUM ALLOYED JUNCTION TRANSISTORS

Matched Pair 1-PNP/1-NPN Germanium alloyed junction transistors for complementary symmetry applications. When used as a team, these matched units eliminate many other components.
Types: 2N529, 2N530, 2N531, 2N532, 2N533.

Write for Bulletin 2N529.

| D. C. Current Gain $h_{FE}$ (matched) | | Collector Cut-off Current $I_{CBO}$ | |
|---|---|---|---|
| $V_{CE} = 1$ v, $I_B = 1$ ma | 15-40* | $V_{CB} = 5$ v | 2 μA |

NOTE: ALL TRANSISTORS CAN NOW BE SUPPLIED IN FULL COMPLIANCE WITH MIL-T-19500A
GENERAL TRANSISTOR ALSO MANUFACTURES TRANSISTORS FOR RADIOS AND MANY OTHER APPLICATIONS

*Represents range value for complete transistor family and not for one particular transistor.

PHOTOTRANSISTOR

WELDED JETEC 30 TRANSISTOR

MILITARY TRANSISTOR

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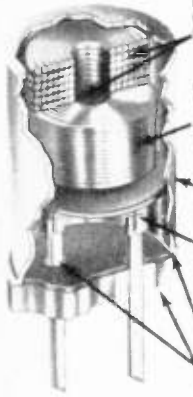
World Radio History

GENERAL TRANSISTOR

# RECTIFIERS • RESISTORS



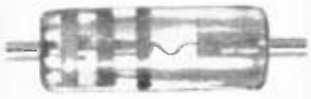

## SUBMINIATURE PRECISION WIREWOUND BOBBINLESS RESISTORS

General Transistor has developed a new concept for precision bobbinless resistors which offers exceptional stability, reliability and performance. Write for Resistor Brochure GR-20.

### SPECIFICATIONS

| | Style R-2 | Style R-5 |
|---|---|---|
| Resistance Range | 0.1 Ω to 750K Ω | 0.1 Ω to 750K Ω |
| Resistance Tolerance | ±0.05% min. at 25°C | ±0.05% min. at 25°C |
| Power Rating | ¼ watt continuous in free air (increased dissipation possible with heat sink) | ⅓ watt continuous in free air (increased dissipation possible with heat sink) |
| Temperature Range | −65°C to +125°C | −65°C to +125°C |
| Maximum Operating Voltage | 250 v, DC | 500 v, DC |
| Temperature Coefficient of Resistance | ±20 parts per million/°C | ±20 parts per million/°C |
| Dielectric Strength | 500 v rms, winding to case | 1000 v rms, winding to case |

Construction — Terminations: — Welded

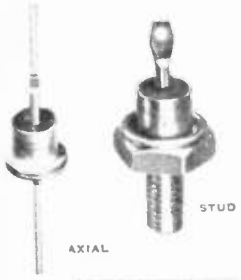


7 TIMES ACTUAL SIZE

## SUBMINIATURE GERMANIUM GOLD BONDED DIODES

These diodes have been designed for computer, industrial and military applications where high reliability is of prime importance. They are hermetically sealed in a glass case with tinned leads. Rugged construction is resistant to humidity, shock and vibration, and impervious to extreme environmental conditions.
Write for Diode Brochure GD-10

| | |
|---|---|
| Minimum Forward current at 1 volt | 50-400 ma |
| Peak Inverse Voltage | 30-100 Volts |
| DC Reverse Current @ 50 v max. | 25-50 μa |




## SILICON MEDIUM POWER RECTIFIERS

G.T. types SR 101 through SR 112 are available in both stud mount and axial lead styles.
These quality units are particularly useful for magnetic amplifiers, power supplies, and low leakage, high temperature applications.

| | |
|---|---|
| Peak Inverse Voltage | 400-1000 Volts |
| Maximum Forward Current | 750 ma |
| Maximum Leakage Current at 150°C | 150 μa |
| Maximum Forward Voltage Drop | 1.0 Volts |

PRECISION-MADE TO YOUR SPECIFICATIONS IN PRODUCTION QUANTITIES AT LOWEST PRICES

**GENERAL TRANSISTOR**

C O R P O R A T I O N

JAMAICA 35, NEW YORK

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FOR EXPORT: GENERAL TRANSISTOR INTERNATIONAL CORP., 91-27 138TH PLACE, JAMAICA 35, NEW YORK

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World Radio History

# INDUSTRO TRANSISTOR

## PNP Germanium Alloy-Junction Transistor Specifications

| TRANSISTOR TYPE | RESALE 1-24 | RESALE 25-49 | RESALE 50-99 |
|---|---|---|---|
| 2N315 | 4.68 | 4.55 | 4.42 |
| 2N316 | 6.92 | 6.72 | 6.52 |
| 2N317 | 9.37 | 9.11 | 8.85 |
| 2N359 | 1.50 | 1.46 | 1.42 |
| 2N360 | 1.44 | 1.39 | 1.34 |
| 2N361 | 1.38 | 1.34 | 1.29 |
| 2N362 | 1.30 | 1.26 | 1.22 |
| 2N363 | 1.15 | 1.08 | 1.02 |
| 2N404 | 4.76 | 4.63 | 4.50 |
| 2N413 | 1.85 | 1.80 | 1.75 |
| 2N413A | 1.78 | 1.73 | 1.68 |
| 2N414 | 2.00 | 1.94 | 1.88 |
| 2N414A | 1.89 | 1.84 | 1.79 |
| 2N416 | 5.10 | 4.95 | 4.80 |
| 2N417 | 7.00 | 6.80 | 6.60 |
| 2N422 | 1.89 | 1.84 | 1.79 |
| 2N425 | 4.29 | 4.17 | 4.05 |
| 2N426 | 4.53 | 4.40 | 4.27 |
| 2N427 | 5.56 | 5.40 | 5.24 |
| 2N428 | 8.61 | 8.33 | 8.04 |
| 2N464 | 1.70 | 1.65 | 1.60 |
| 2N465 | 1.75 | 1.70 | 1.65 |
| 2N466 | 1.80 | 1.75 | 1.70 |
| 2N467 | 2.16 | 2.09 | 2.02 |
| 2N481 | 1.44 | 1.39 | 1.35 |
| 2N482 | 1.50 | 1.45 | 1.40 |
| 2N483 | 1.65 | 1.59 | 1.54 |
| 2N485 | 1.65 | 1.59 | 1.54 |
| 2N486 | 1.77 | 1.71 | 1.65 |
| 2N519 | 1.95 | 1.89 | 1.84 |
| 2N520 | 3.10 | 3.01 | 2.92 |
| 2N521 | 4.61 | 4.48 | 4.35 |
| 2N522 | 6.21 | 6.03 | 5.85 |
| 2N523 | 9.39 | 9.12 | 8.85 |
| TR-81 | 1.50 | 1.46 | 1.42 |
| TR-722 | 1.16 | 1.13 | 1.10 |
| TR-764 | 10.97 | 10.66 | 10.35 |

### GENERAL PURPOSE AUDIO TYPES

| MAX. RATING AT 25°C | Symbol | 2N422 | 2N464 | 2N465 | 2N466 | 2N467 | TR-81 | TR-722 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —20 | —30 | —30 | —20 | —15 | —22 | —22 | V |
| Collector Current (max) @ 10 Volts | Ico | 15 | 15 | 15 | 15 | 20 | 20 | 20 | μa |
| Dissipation Coeficient in Air | Ko | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| Power Gain (typ) | PGe | 40 | 40 | 42 | 44 | 45 | 44 | 40 | db |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | 150 | 150 | mw |
| Noise Figure (max) | Nf | 6.5 | 25 | 25 | 25 | 25 | 25 | 25 | db |
| Beta @ 270 cps (typ) | β | 90 | 22 | 45 | 90 | 180 | 90 | 22 | — |

**JETEC 30 CASE**
**HERMETICALLY SEALED-WELDED**
**IDEAL FOR PRINTED CIRCUITS**

### GENERAL PURPOSE H.F. TYPES

| MAX. RATING AT 25°C | Symbol | 2N413 | 2N413A | 2N414 | 2N414A | 2N416 | 2N417 | Unit |
|---|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —18 | —18 | —15 | —15 | —12 | —10 | V |
| Collector Current (max) @ 20 Volts | Ico | 2 | 2 | 2 | 2 | 2 | 2 | μa |
| Collector Capacitance (typ) | Cc | 14 | 12 | 14 | 12 | 14 | 14 | μμf |
| Dissipation Coeficient in Air | Kδ | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | 150 | mw |
| Beta @ 270 cps (typ) | β | 25 | 25 | 40 | 40 | 60 | 80 | — |
| Frequency (typ) | Fαb | 2.5 | 2.5 | 7 | 7 | 10 | 20 | mc |

**INDUSTRO TRANSISTOR CORPORATION** LONG ISLAND CITY 6, N. Y.



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World Radio History

# INDUSTRO TRANSISTOR

## R.F. RADIO TYPES

| MAX. RATING AT 25°C | Symbol | 2N481 | 2N482 | 2N483 | 2N485 | 2N486 | Unit |
|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —12 | —12 | —12 | —12 | —10 | V |
| Collector Current (max) @ 10 Volts | Ico | 2 | 2 | 2 | 2 | 2 | μa |
| Collector Capacitance (typ) | Cc | 12 | 12 | 12 | 12 | 12 | μμf |
| Dissipation Coeficient in Air | Ka | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | mw |
| I.F. Gain | | | 33 | 35 | | | db |
| Power Gain*** | PGe | | 31* | 35* | 26** | 30** | db |
| Conversion Gain (typ) | | | | | 26 | 27.5 | db |
| Frequency (typ) | Fαb | 2.5 | 4 | 4 | 8 | 8 | mc |

*Maximum Available Gain @ 455KC
**Conversion Gain @ 1640KC
*** Grounded Emitter

## COMPUTER TYPES

| MAX. RATING AT 25°C | Symbol | 2N315 | 2N316 | 2N317 | 2N425 | 2N426 | 2N427 | 2N428 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —15 | —10 | —6 | —20 | —18 | —15 | —12 | V |
| Collector Current (max) | Ico | 4 | 4 | 4 | 4 | 4 | 4 | 4 | μa |
| Collector Capacitance (typ) | Cc | 14 | 14 | 14 | 14 | 14 | 14 | 14 | μμf |
| Dissipation Coeficient in Air | Ka | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | 150 | 150 | mw |
| Frequency (typ) | Fαb | 5 | 12 | 20 | 4 | 6 | 15 | 20 | mc |
| Rise Time (avg) | Tr | 1.0 | 0.4 | 0.3 | 0.5 | 0.5 | 0.4 | 0.4 | μ sec. |
| Rise Time (max) | Tr | 1.5 | 0.8 | 0.6 | 1.0 | 1.0 | 0.8 | 0.8 | μ sec. |
| Fall Time (typ) | Tf | 0.5 | 0.6 | 0.3 | 0.45 | 0.3 | 0.3 | 0.3 | μ sec. |
| Fall Time (max) | Tf | 0.8 | 1.0 | 0.6 | 0.65 | 0.55 | 0.55 | 0.5 | μ sec. |
| Storage Time (typ) | Ts | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | μ sec. |
| Storage Time (max) | Ts | 0.8 | 0.8 | 0.8 | 0.6 | 0.6 | 0.6 | 0.6 | μ sec. |
| D.C. Current Gain (typ) | Hfe | 20 | 30 | 40 | 30 | 40 | 60 | 80 | — |
| Saturation Voltage | Ic | 100 | 200 | 400 | 1 | 1 | 1 | 1 | ma |
| | Vce | 0.2 | 0.2 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | V |

## AUDIO RADIO TYPES

| MAX. RATING AT 25°C | Symbol | 2N359 | 2N360 | 2N361 | 2N362 | 2N363 | Unit |
|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —20 | —20 | —30 | —20 | —40 | V |
| Collector Current (max) | Ico | 20 | 20 | 20 | 20 | 20 | μa |
| Power Gain (typ) | | 40 | 37 | 34 | 41 | 37 | db |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | mw |
| Noise Figure (max) | Nf | 25 | 25 | 25 | 25 | 25 | db |
| Dissipation Coeficient in Air | Ka | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| *D.C. Current Gain (typ) | Hfe | 150 | 100 | 40 | 120 | 50 | — |

*Measured @ Ic = 50 ma; Vc = 6 volts

## GENERAL PURPOSE H.F. TYPES

| MAX. RATING AT 25°C | Symbol | 2N519 | 2N520 | 2N521 | 2N522 | 2N523 | TR-764 | Unit |
|---|---|---|---|---|---|---|---|---|
| Collector Voltage (min) | Vce | —15 | —12 | —10 | —8 | —6 | —20 | V |
| Collector Current (max) | Ico | 20 | 20 | .20 | 20 | 20 | 5 | μa |
| Collector Capacitance (typ) | Cc | 14 | 14 | 14 | 14 | 14 | 14 | μμf |
| Dissipation Coeficient in Air | Ka | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | °c/mw |
| Power Dissipation (max) | Pd | 150 | 150 | 150 | 150 | 150 | 150 | mw |
| Beta @ 270 cps (typ) | β | 25 | 40 | 70 | 120 | 200 | 200 | — |
| Frequency (typ) | Fαb | 0.5 | 3 | 8 | 15 | 21 | 25 | mc |

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World Radio History

# ACROSOUND

## ULTRA-LINEAR II

## 60 WATT POWER AMPLIFIER KIT

The Acrosound Ultra-Linear II is a 60 watt power amplifier which combines the inherently superior qualities of Ultra-Linear* circuitry with new feedback circuit design to provide a new standard of stability in feedback amplifier performance.

This combination of features makes possible a power amplifier of distinctly superior listening qualities which is unusually well suited to meet the difficult requirements imposed by complex speaker systems as, for example, those embodying electrostatic tweeters and electrodynamic woofers.

A secondary feature of the amplifier is the provision of an effective damping control which is adjustable over a range of damping factors between 0.5 and 10 for optimum speaker match. This control does not change volume (i.e. overall feedback), nor increase distortion, and is not frequency discriminating.

The amplifier is supplied in kit form with all critical wiring preassembled on a rugged printed circuit board. Components used are of the finest grade, and no economies are made that will adversely affect performance or cause a deterioration in performance over the life of the amplifier. A full choke, condenser power supply is used, transformers are supplied fully potted in drawn steel containers, and tubes are operated well within ratings.

The heart of the amplifier is the new Acrosound TO-600 Output Transformer which combines extremely low leakage reactances between windings with a novel feedback winding** providing a degree of feedback relatively unaffected by the reflected impedance of the speaker system. The speaker system may therefor have any degree of complexity or reflect either highly inductive or capacitive impedances with little effect on amplifier performance.

The amplifier is attractively styled and presents a professionally finished appearance that is both functional and pleasing.

**Patent pending

**Rated output power:**
60 watts, 120 peak.

**IM Distortion:**
Less than 1% at 60 watts for any standard combination of test frequencies.

**Harmonic Distortion:**
Less than 1% at any frequency between 20 CPS and 20 KC at power output within 1 DB of 60 watts.

**Frequency Response:**
At 1 watt 1 DB from 5 CPS to 100 KC. At 60 watts 1 DB from 18 CPS to 30 KC. Note:-There is no peaking at any frequency; the rolloff is gradual and controlled above 85 KC for best transient response.

**Square wave response:**
Undistorted squarewave response from 20 CPS to 20 KC with no overshoot or ringing. Capacity loads will not cause ringing or any other type of unstability. Rise time of wave 1.5 microseconds.

**Sensitivity:**
1.6 Volts RMS for 60 watts output.

**Output Impedances:**
4, 8, and 16 ohms.

**Damping Factor:**
Variable from 0.5 to 10. Damping control may be switched out to provide a fixed damping factor of 15.

**Hum:**
90 DB below rated output.

**Size:**
7" by 15 1/8" by 8" high.

**Weight:**
30 lbs.

**Tubes:**
1-ECC83/12AX7, 1-ECC82/12AU7
1-GZ 34, 2-EL 34/6CA7

**Color:**
Amplifier attractively finished in two tone metallic Brown.

**Net Price:**
**$79.50 complete with all components. $109.50 wired and assembled. Slightly higher in the west.**

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**AVAILABLE THROUGH LEADING DISTRIBUTORS**

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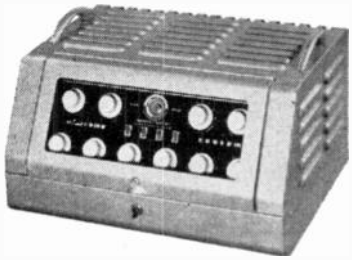
World Radio History

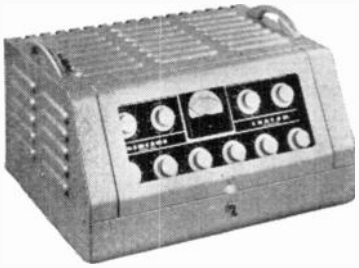
# NEWCOMB

AMPLIFIERS • CUSTOM SERIES **K**



KX-25

KX-50



KX-6A

K-50B

**Without equal at any price. The best examples why the name Newcomb is so revered by Engineers and Owners alike. Will improve any system. A must when using the new 2-way wide range speakers. Check these important features and specifications.**

- 20-20,000 cycles ± 1 db
- Less than 3% distortion
- 90% of rating at less than 1%
- Full power any output tap
- Audio bandwidth selectors
- Hum and noise level — 80 db.
- Remote control provision — all inputs
- U/L Approved
- Continuous duty — longer life parts
- Key locked control cover
- Sensitive volume and overload indicators
- Wired for plug-in input transformers

Full audio power, 50 to 5000 cycles (region of all major power requirements) within ± ¼ db. I s max 5% distortion. Separate tone controls for Bass and Treble Boost or Attenuation of advanced design for better curve shape, greater range. Feedback controlled, 2 stage mike pre-amplifiers. Hum balancing control, all models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of 4, 8, 16, 250, 500 ohms, PLUS a 70 volt "constant voltage" tap, with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. CABINETS: Heavy gauge welded steel beautifully styled. FINISH: Silver Grey Hammertone Baked Enamel. PANELS: Etched metal, illuminated. KNOBS: Round, large, skirted type, for easy operation. Additional specifications given under specific model numbers.

**KX-25:** 25 watts power output design center, rating, 30 watts max. at less than 3% distortion any output tap. PEAK POWER: 40 watts design center, 48 watts max. INPUTS (6): 5 mike (2 meg.), gain 123 db; 1 phono either Magnetic input gain 99 db based on 27000 ohm input, bass equalization +10 db or Crystal input ½ meg. gain 90 db. REMOTE CONTROL: Use RC-6 remote control unit. BASS TONE CONTROL: Range — 16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —75 db crystal phono. —65 db mike and magnetic pickup inputs (Referred to rated output). CONTROLS (15): 5 mike, 1 phono, 1 bass, 1 treble, 4 bandwidth, 1 master, 1 volume indicator (all under keylocked control cover) A.C. power switch. TUBES (15): 6-6SC7, 2-6J5, 1-6J7, 1-6SQ7, 1-6SN7, 2-6L6G, 1-6AF6G, 1-5U4G. POWER CONSUMPTION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾" WEIGHT: 38½ lbs. LIST: (with tubes) **$456.92.** Use Cannon XL3-11 type microphone connectors.

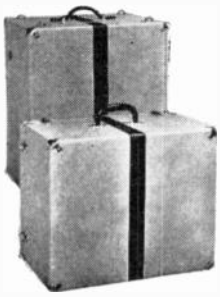
**KX-50:** 50 watts power output design center rating, 60 watts max. at less than 3% distortion any output tap. PEAK POWER: 80 watts design center, 90 watts, max. BOOSTER COUPLING JACK for connecting K50B Boosters for 100 watts or more. All other characteristics identical with KX-25 except gains, which are all 3 db higher than KX-25. TUBES (18): 6-6SC7, 2-6J5, 1-6SQ7, 1-6J7, 1-6SN7, 4-6L6G, 1-6AF6G, 2-5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾", WEIGHT: 46 lbs. LIST: (with tubes) **$532.03.** Use Cannon XL3-11 type microphone connectors.

**KX-6A:** A 6 channel mixer pre-amplifier designed to feed broadcast lines or boosters for finest quality. OUTPUT: +31. VU, less than 3% distortion, +30 VU at less than 1%. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS: for 5 mikes (2 meg.) gain 97 db and 1 phono either crystal (½ meg.) gain 64 db or magnetic (27,000 ohms) gain 73 db. Use RC-6 Unit for remote control Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX-25 and KX-50. BASS TONE CONTROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —80 db crystal —75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 1 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power switch, 1 VU meter range switch (in rear). TUBES (12): 6-6SC7, 4-6J5, 1-6J7, 1-6X5. POWER CONSUMPTION 35 WATTS, 117 volts 60 cycles A.C. MAX. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾". WEIGHT: 30 lbs. LIST: (with tubes) **$400.29.** Use Cannon XL3-11 type microphone connectors.

**K50B:** Booster Amplifier. Performance, power and output impedance same as KX-50 with but one input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Built for continuous duty with long life parts, separate plate, and filament power transformers, individually fused, permits dependable plate power switching. Includes volume and overload indicators as in KX-50. Ample multistage feedback to minimize effects of speaker load variations. Etched metal panel. TUBES (10): 1-6SJ7, 1-6SN7, 1-6SQ7, 5-6L6G, 1-6AF6G, 2-5U4G, POWER CONSUMPTION: 230 watts 117 volts 60 cycles. 129 volts max. DIMENSIONS: 9⅜" x 17¾" x 12¼". WEIGHT: 41 lbs. LIST: (with tubes) **$225.00.** PLUG KIT: **$2.50.**

# NEWCOMB

PORTABLE SYSTEMS • CUSTOM SERIES **K**



**KX-2512X:** Portable system with KX-25 amplifier and two heavy duty, extremely efficient speakers, each with 50' cable. System is carried in two cases: Model KA for the amplifier, size 19" x 11¾" x 16⅞"; Model K-212X for two speakers, size 18½" x 12½" x 22½". Speakers face inside for maximum protection when split case is closed. Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$645.57.**

**KA:** Amplifier case fits all model K amplifiers. LIST: **$35.00.**

**KX-25R12X:** Portable system identical to KX-2512X but with each speaker mounted in an individual portable reflex baffle. Model KR-112X, for utmost tone quality. Speaker cases size, 18½" x 12½" x 24½". Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) **$716.82.**

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World Radio History

# NEWCOMB

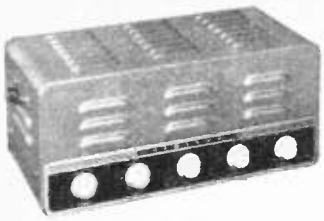
AMPLIFIERS • DELUXE SERIES

H

For Performance, Dependability and Value check these features and specifications:

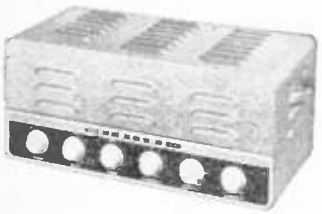
- 20-20,000 cycles ± 2 db
- Full Power any output tap
- Less than 5% distortion
- 90% of rated power at less than 2%
- Remote Control provision — all mikes
- U/L Approved
- Continuous duty—longer life parts
- Wired for plug-in input transformers

Full Audio Power, 50 to 5000 cycles (region of all major power requirements) within ± ½ db. less than 5% distortion. Individual boost and attenuate type bass and treble tone control in new distortion free circuit. Linear mixer frequency response. All models but pre-amplifier have output impedances of 4, 8, 16, 250, and 500 ohms PLUS a 70 volt "constant voltage" tap, with easily-operated impedance selector. Multi-stage inverse feedback. Large heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installations. A. C. convenience outlet in rear, all models except boosters. CABINETS: Heavy gauge welded steel beautifully styled in modern functional simplicity that endures. FINISH: Silver Grey Hammertone Baked Enamel. PANEL: Etched metal, illuminated. KNOBS: Large, round, skirted type, for ease of operation. Additional specifications under specific model numbers.



H-15

**H-15**: 17 watts power output design center rating, 20 watts max. at less than 5% distortion, **any output tap**. PEAK POWER: 26 watts design center, 31 watts max. INPUTS (3): 2 mike (2 meg.), gain 120 db; 1 phonograph (½ meg.), gain 80 db. BASE TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: —34 to +13 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (5): 1 mike-phono, 1 mike, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-2 remote control unit. TUBES (7): 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. POWER CONSUMPTION: 85 watts, 117 volts 60 cycles. A.C. Max. input 129 volts. DIMENSIONS: 8¼" x 19" x 10⅛". WEIGHT: 20 lbs. LIST: (with tubes) **$183.59**. Use Cannon XL3-11 type microphone connectors.



H-25

**H-25**: 25 watts power output design rating, 30 watts max. at less than 5% distortion, **any output tap**. PEAK POWER: 40 watts design center, 48 watts maximum. INPUTS (4): 3 mike (2 meg.), gain 124 db; 1 phonograph (½ meg.), gain 80 db. BASS TONE CONTROL: —18 to +15 db. TREBLE TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (6): 2 mike, 1-mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-3 remote control unit. TUBES (8): 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5U6G. POWER CONSUMPTION: 125 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8½" x 19" x 10⅛". WEIGHT: 24 lbs. **LIST**: (with tubes) $215.03. Use Cannon XL3-11 type microphone.

H-50

**H-50**: 50 watts power output design center rating, 60 watts max. at less than 5% distortion, **any output tap**. PEAK POWER: 80 watts design center, 90 watts max. INPUTS (5): 4 mike (2 meg.), gain 124 db. 1 phono (½ meg.), gain 81 db. BOOSTER COUPLING JACK for connecting H-25B or H-50B Boosters for 75 to 100 watts or more. BASS TONE CONTROL: Range —21 to +16 db. TREBLE-TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (7): 3 mike, 1 mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-4 remote control. TUBES (12): 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 225 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". WEIGHT: 37 lbs. **LIST**: (with tubes) $285.60. Use Cannon XL3-11 type

H-4VU

**H-4VU**: Mixer Pre-Amp. with built-in power supply. Extremely low hum. Suitable for feeding telephone lines or booster amplifiers such as the H-25B or H-50B. Output +22 db at less than 5% distortion. +21 db at less than 2%. INPUTS for three mikes (2 meg.), gain 90 db, 1 phono (½ meg.), gain 51 db. HUM: Better than, —80 db from phono input or —75 db, mike inputs. Use RC-3 Unit for remote control. Includes master control and genuine VU meter with meter range extension switch. BASS TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: Range —27 to +13 db. TUBES (7): 3-6SF5, 1-6SJ7, 1-6SN7, 1-6J5, 1-6X5, POWER CONSUMPTION: 30 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. DIMENSIONS: 8½" x 19" x 10⅛". WEIGHT: 17½ lbs. **LIST**: (with tubes) $228.44. Without UV meter $182.94. Use Cannon XL3-11 type microphone connectors.

H-25B

**H-25B**: Booster Amplifier — Performance Power and Output Impedances same as H-25 with but one input of ½ meg. impedance, gain 68 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. power switch and volume control. Ideal for use with H-4 Pre-amplifier. Built for long life. TUBES (5): 1-6SJ7, 1-6J5, 2-6L6G, 1-5U4G POWER CONSUMPTION: 120 watts, 117 volts. 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8⅛" x 19" x 10⅛". WEIGHT: 22 lbs. LIST: (with tubes) **$149.50**. PLUG KIT: $1.69.

**H-50B**: Booster Amplifier — Performance, Power and Output Impedances are same as H-50 with but one input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume control. Built for long life. Ideal for use with H-4 Pre-Amp. TUBES (8): 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 220 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". WEIGHT: 33½ lbs. LIST: (with tubes) $189.50. PLUG KIT: $1.69.

# NEWCOMB

DELUXE PORTABLE SYSTEMS

H

H-50B

**H-1512R**: Portable system with H-15 amp. and two 12" speakers, each with 25' cable, in split case Model EH-212R, size 11⅛" x 20½" x 21", covered in washable fabricoid. Kickproof metal grills protect speakers. Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) $283.09.

**H-2512R**: Portable system with H-25 amp. and two 12" speakers, each with 25' cable in split case, Model EH-212R. Size, 20½" x 11⅛" x 21". Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) $314.53.

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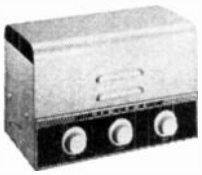
# NEWCOMB | AMPLIFIERS • SPECIAL SERIES

The same fine workmanship and materials as the incomparable KX- and H-Series. Designed to lead the low-price field. For performance, dependability and economy the E-Series is today's best combination of high quality and low cost. All models U/L Approved.



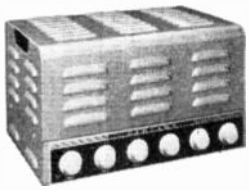
**E-10A:** Delivers 10 watts from push-pull 6V6 tubes. Separate mike and phono controls. Multistage inverse feedback circuit. POWER OUTPUT: 10 watts at less than 5%. FREQUENCY RESPONSE: 40 to 15,000 cycles ± 2 db. INPUTS: (2) 1 mike (2 meg.) gain 116 db. Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. TONE CONTROL: Range 0 to —24 db. OUTPUT IMPEDANCES: 4, 8, 16 and 500 (70 Volt Tap) ohms to octal socket. TUBES: (5) 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. FINISH: Silvergrey hammertone baked enamel. PANEL: Genuine etched enamel. POWER CONSUMPTION: 60 watts at 117 volts, 60 cycles A.C. SIZE: 5¾" x 10⅜" x 6¾". WEIGHT: 9½ lbs. Less cover, 7½ lbs. LIST: (with tubes, without cover) $69.50. Cover $7.21. PLUG KIT: $1.71.

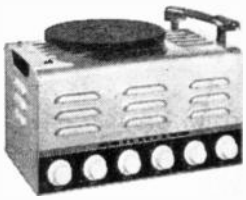
**E-17P3:** A conservative 17 watt model with 3 speed phono. Separate bass and treble controls, phono bass boost, multi-stage inverse feed-back circuit. Input controls for mike and phono. POWER OUTPUT: 17 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 40 to 15,000 cycles. INPUTS: 1 mike (2 meg.) gain 115 db, Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. OUTPUT IMPEDANCES: 4, 8, 16, 290 (70 Volt Tap) and 500 ohms. TUBES: (5) 1-12AX7, 1-6SJ7, 2-6L6G, 1-5V4G. FINISH. Silvergrey hammertone baked enamel. PANEL: Etched metal, lighted. POWER CONSUMPTION: 75 watts at 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 15½ lbs. LIST: (with tubes) $151.55. PLUG KIT: $2.28.

**E-17:** A 17 watt amplifier without 3 speed phono. Otherwise identical to model E-17P3. LIST: (with tubes and cover) $107.50. PLUG KIT: $2.28.

**E-25:** A dependable, full 25 watts with inputs for 2 mikes and 1 phono, separate bass and treble controls, phono bass boost, multi-stage inverse feedback circuit. POWER OUTPUT: 25 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 40 to 15,000 cycles. INPUTS: (3) 2 mike (2 meg.) gain 117 db, Wired for plug-in input transformers. 1 phono (½ meg.) gain 77 db. OUTPUT IMPEDANCES: 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. TUBES: (6) 1-12AX7, 1-6SC7, 1-6J5, 2-6L6G, 1-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, lighted. POWER CONSUMPTION: 90 watts, 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 18¼ lbs. LIST: (with tubes and cover) $139.50. PLUG KIT: $3.24.

**E-25P3:** A 25 watt amplifier with 3 speed phono. Otherwise identical to model E-25. LIST: (with tubes) $183.18. PLUG KIT: $3.24.

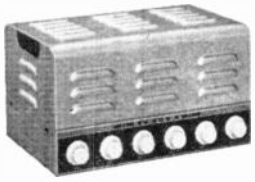




**E-254P3:** A highly versatile, yet economical 4 channel, 25 watt amplifier with 3 speed phono. FEATURES: High gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback circuit. Pickup is high-grade turnover crystal. POWER OUTPUT: 25 watts at less than 5% distortion. FREQUENCY RESPONSE: ± 2 db, 40 to 15,000 cycles. 3 MIKE INPUTS: 2 meg., gain 123 db. Wired for plug-in input transformers. PHONO INPUT: ½ meg., gain 83 db. OUTPUT IMPEDANCES: 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. TUBES: (8) 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5V4G, FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal illuminated. CONTROLS: 3 mike, 1 phono, 1 bass, 1 treble and power switch. POWER CONSUMPTION: 105 watts at 117 volts, 60 cycles A.C. SIZE: 8⅜" x 14⅛" x 8". WEIGHT: 18¼ lbs. LIST: (with tubes) $213.18. PLUG KIT: $3.90.

**E-254:** A 25 watt amplifier without 3 speed phono. Otherwise identical to model E-254P3. LIST: (with tubes and cover) $169.50. PLUG KIT: $3.90.

**E-50:** A distortion-free, conservatively rated 50 watts using push-pull parallel 6L6 tubes and multi-stage inverse feedback circuit. Has inputs for 2 mikes, 1 phono, separate bass and treble controls, phono bass boost. Same as E-25 except as follows: POWER OUTPUT: 50 watts at less than 5%. Mike gain 120 db, Wired for plug-in input transformer Phono gain 79 db. OUTPUT IMPEDANCES: 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. TUBES: (9) 1-6SJ7, 1-12AX7, 1-6J5, 4-6L6G, 2-5V4G. POWER CONSUMPTION: 170 watts at 117 volts, 60 cycles A.C. SIZE: 11¼" x 14¾" x 8½". WEIGHT: 29 lbs. LIST: (with tubes and cover) $196.50. PLUG KIT: $3.24.



**E-504:** A 4 channel 50 watt amplifier featuring; high gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback, push pull parallel output system for lowest distortion at all power levels. POWER OUTPUT: 50 watts at less than 5% distortion. FREQUENCY RESPONSE: ± 2 db, 40 to 15,000 cycles. THREE MIKE INPUTS: 2 meg., gain 126 db. Wired for plug-in input transformers. PHONO INPUT: ½ meg., gain 86 db. OUTPUT IMPEDANCES: 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. TUBES: (11) 3-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, illuminated. CONTROLS: 3 mike, 1 phono, 1 bass, 1 treble and power switch. POWER CONSUMPTION: 180 watts, 117 volts, 60 cycles A.C. SIZE 11¼" x 14¾" x 8½". WEIGHT: 30 lbs. LIST: (with tubes and cover) $239.50. PLUG KIT: $3.90.

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# NEWCOMB PORTABLE AMPLIFIERS E SERIES

**E-1010S:** A 10 watt basic portable consisting of one E-10 amplifier with plugs and one E-110S case assembly with efficient 10" P.M. speaker protected by a kick-proof metal grill. Speaker cable 25'. Overall size: 12¼x 15¾x8¾". Weight: 19 lbs. LIST: (less mike and stand) $126.82.

**E-1712R:** A 17 watt dual speaker portable system consisting of one EH-212R split speaker and amplifier case assembly with two 12" high quality P.M. speakers, each with 25' cable, protected by kick-proof grills, and one E-17 amplifier with plugs. Size: 11⅛ x 20½ x 21". Weight: 40 lbs. LIST: (less mike and stand) $209.28.

**E-2512R:** A 25 watt dual speaker portable system with model E-25 amplifier. Weight 42½ lbs. LIST: (less mikes and stands) $242.24.

**E-25412R:** A 25 watt dual speaker portable system consisting of one EH-212R split case assembly with two 12" P.M. speakers each with 25' cable and model E-254 four channel amplifier. LIST: (less mikes and stands) $272.90.

**E-17P312R:** A 17 watt dual speaker portable system with 3 speed phono. Consists of model E-17P3 amplifier in EH-212R split case assembly. LIST: (less mike and stand) $252.96.

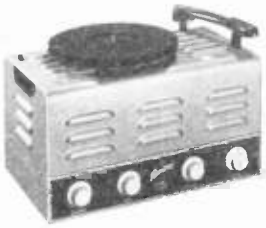
**E-25P312R:** A 25 watt dual speaker portable system with 3 speed phono. Model E-25P3 amplifier in EH-212R split case assembly. LIST: (less mikes and stands) $285.92.

**E-254P312R:** A 25 watt dual speaker portable system with 3 speed phono. Same as E-25412R but with 3 speed phono top amplifier model E-254P3. LIST: (less mikes and stands) $316.58.

**ALL NEWCOMB**
**tuners, amplifiers, phonographs and sound systems are**
**U/L APPROVED**

# NEWCOMB MOBILE AMPLIFIERS E SERIES

### 6-VOLT



**E-25MP3:** A 25 watt mobile amplifier with 3 speed phono. For use on 6 V. storage battery or 117 V.A.C. Consumes minimum current per watt output. Has standby switch, separate power and turntable switches, heavy duty Jones plugs and receptacles for dependable connections to battery or A.C. power. POWER OUTPUT: 25 watts at less than 5%. RESPONSE: ± 2 db, 50 to 15,000 cycles. INPUTS: 2 mikes (2 meg.) gain 119 db. wired for plug-in input transformers. 1 phono (½ meg.) gain 78 db. HIGH FREQ. ATTENUATOR: Range 28 db. CIRCUIT: Multi-stage inverse feed back, resistance capacity coupling, phase correction for phono motor, 2000 V. hermetically sealed oil buffer condenser. OUTPUT IMPEDANCES: 4, 8, 16, and 500 ohms plus 70V. tap to 2 octal speaker sockets and impedance selector. PHONO: Constant speed 78 rpm. PICKUP: Crystal. TUBES: (7) 1-12AX7, 1-6SJ7, 1-6J5, 2-6L6, 2-6X5GT. POWER CONSUMPTION: 107 watts, 117 volts, 60 cycles A.C. or 20.5 amps. including phono from 6V. battery. FINISH: Silvergrey hammertone baked enamel: PANEL: Etched metal, lighted. SIZE: 8¾x14⅛x10". WEIGHT: 26 lbs. LIST: (with tubes) $239.43. Plug Kit $3.24.

**E-25M:** Same as E-25MP without phono. POWER CONSUMPTION: 91 watts A.C. or 17 amps. from 6 V.D.C. SIZE: 8⅜x14⅛x8". WEIGHT: 23 lbs. LIST: (with tubes) $195.75. Plug Kit: $3.24.

**E-10M:** A 10 watt mobile amplifier. For use on 6 V.D.C. or 117 V.60 cycles A.C. Features push-pull beam power output tubes with inverse feedback for low distortion, standby, battery saver switch, new freedom from vibrator hash, special mounting for easy removal of chassis, inputs for mike and phono, sturdy Jones connectors for battery and A.C. cables. POWER OUTPUT: 10 watts at less than 5%. FREQUENCY RESPONSE: ± 2 db. 50 to 15,000 cycles. INPUTS: Mike (2 meg.) gain 115 db. phono (½ meg.) gain 75 db. OUTPUT IMPEDANCES: 4, 8, 16 ohms. TUBES: (5) 1-6SC7, 1-6SF5, 2-6V6GT, 1-6X5GT. POWER CONSUMPTION: 60 watts. 117 volts, 8 amps. at 6 V.D.C. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal with pilot lamp. SIZE: 6⅛x6¾x8¼". WEIGHT: 9¾ lbs. LIST: (with tubes) $99.75. Plug Kit $1.39.

All Newcomb equipment U/L approved. Prices and specifications subject to change without notice.

### 12-VOLT

Newly developed E-253M Series Newcomb Amplifier designed for use anywhere. Ultra modern 25 watt unit available in several styles with and without turntable (see below). May be used on either 12 volt storage battery or 117 volt 60 cycle AC power source with equal effectiveness. Consumes as much as 20% less battery current, weighs up to 30% less. Separate bass and treble tone controls; two microphone channels each with the new standard broadcast type connectors and convertible to low impedance with Newcomb humless plug-in input transformers; high gain separate phono channel for ceramic pickups; extra input for tape; standby switch to reduce idle battery consumption more than 70%; new freedom from vibrator hash; heat resistant ceramic pickup and turret type motor in 3 speed phono top; completely U/L Approved.

POWER OUTPUT: 25 watts at less than 3% total harmonic distortion, peak power 40 watts. FREQUENCY RESPONSE: 30 — 20,000 cycles ± 2 db. HUM LEVEL: 70 db below 25 watts. INPUTS: Two mike (2 meg.) gain 122 db; one phono (2 meg.) gain 90 db; and one tape (2 meg.) gain 90 db. Mike inputs convertible to low impedance using Newcomb plug-in transformers. CONTROLS: One stand-by switch, one power switch and treble tone control, one bass tone, one phono, two microphone, one phono motor control (on phono top models), and one hum balance control. OUTPUT IMPEDANCE: 4, 8, 16, and 500 ohms and a 70 volt tap to impedance selector and two output sockets. POWER CONSUMPTION: On 117 volts 60 cycles AC, 100 watts. On 12 volts DC, 8.85 amps (with phono top, 10.3 amps.). Stand-by current less than 3 amps. SIZE: 14⅛x9½x8" high (with cover (height 10¼"). TUBES: 1-12AX7, 1-12AU6, 2-6L6G, 2-6X5GT, 1-12AV7, E-253M — plain top model, list price $214.50. (Weight, 24 lbs.). E-253M3 — 3-speed phono-top model, list price $249.50. (Weight, 28¼ lbs.). PC — Protective turntable cover with "king-sized" handle for use on Model E-253M3 only, list price $15.00. (Weight, 2¾ lbs.). Above prices include both battery and AC power cables.

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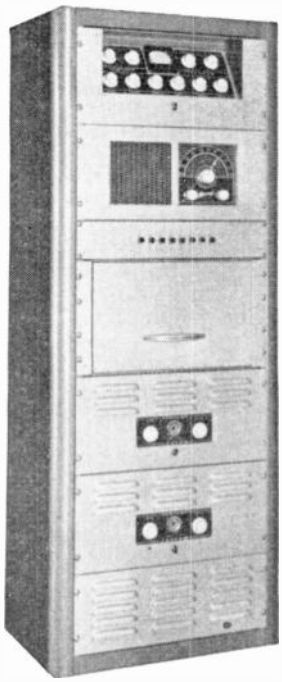
# NEWCOMB | RACK AND PANEL ASSEMBLIES



**Any standard Newcomb amplifier may be obtained panel mounted on special order in 19" x 8¾" panels, thus giving the custom designer a wide choice of equipment to meet any need.**

**MODEL 595-19 CABINET:** (illustrated) Supplies a demand for a beautifully finished housing that is fully in keeping with the Newcomb tradition and reputation for quality. Panel space is 56". Design accepts standard 19" wide panels. Mounting holes are RMA standard 1¼" and ½" spacings. Panel mounting holes are tapped in ⅛" stock. Fully ventilated rear door provides easy accessibility. Entire cabinet is a complete welded assembly ready for use as you receive it. Finish is dark grey hammertone. Provision is made in the rear for nine ½" conduits. Included is a removable terminal strip mounting plate located near conduit inlets. OVERALL DIMENSIONS: 59½" x 23" wide x 16" deep. SHIPPING WEIGHT: 92 lbs. LIST: $189.50.

**MODEL 385-19 CABINET:** Provides 35" of panel space for standard 19" panels. OVERALL DIMENSIONS: 38½" x 23" wide x 16" deep. SHIPPING WEIGHT: 72 lbs. LIST: $149.50.

In addition to the panel mounted amplifiers Newcomb also provides a wide selection of other equipment designed for custom rack installations.

**MODEL 1050-C PHONOGRAPH CHANGER PANEL** is a practical solution to mounting a phono changer in cabinet 595-19. Ball bearing drawer with wood motor board is adaptable for mounting most popular changers. Panel size 19" x 10½". All panels are finished in silver-grey hammertone baked enamel. MODEL E2-525 PRE-AMPLIFIER answers the need for a simple, dependable but economical pre-amp for rack use. MODEL TB2-525 INTERCOM AMPLIFIER has built-in power supply, speaker, talk-listen switch and separate talk and listen volume controls.

**MODEL B-100-875 AM RADIO** is the Newcomb B-100 radio mounted on an 8¾" panel. (See listing page B-7.) MODEL 700-MP MONITOR is available for installation of any 6" speaker. LEVER KEY PANELS are provided for use with CRL keys, 3½" deep with slots for 6, 8, 10 or 12 keys. LOUVERED PANELS for additional ventilation and BLANK PANELS are made in assorted sizes.

SPECIAL PANELS are made to order to fit special equipment. Templates or suitable drawings must accompany order for any special sheet metal work. Full details of Newcomb rack and panel equipment available on request.

# NEWCOMB | ACCESSORIES FOR (H) AND (K) SERIES

## REMOTE CONTROLS

For mixing and fading all H Series mike inputs. With K Series amplifiers all mikes and phono may be controlled. Up to 2000 feet of cable may be used. No inductive pickup.

**RC-2** for H-15 amp. Requires ordinary 3 wire cable, 2¾" x 6" x 2⅛". WEIGHT: 1 lb. LIST: (less cable) **$10.50.**

**RC-3** for H-25 or H-4 amps. Requires ordinary 4 wire cable. 2¾" x 6" x 2⅛". WEIGHT: 1 lb. LIST: (less cable) **$15.50.**

**RC-4** for H-50 amp. Requires ordinary 5 wire cable. 2¾" x 7⅝" x 2⅛". WEIGHT: 1¼ lbs. LIST: (less cable) **$19.50.**

**RC-6** for KX-25, KX-50, KX-6 amps. Requires ordinary 7 wire cable. 2¾" x 11¼" x 2⅛". WEIGHT: 2 lbs. LIST: (less cable) **$27.50.**

## PLUG-IN TRANSFORMERS

**TR-91:** Features sextuple alloy and copper shielding for quiet operation right in amp. proper. Alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles. Plug base for easy installation. For use between 30-50 or 200-250 ohm mikes and grid. WEIGHT: 1¼ lbs. LIST: **$32.50.**

**TR-92:** Input impedance 5,000 ohms to grid for bridging a 500-600 ohm line. When plugged into sockets on K50B, H50B, H25B it converts for use as bridging amps. WEIGHT: 1¼ lbs. LIST: **$29.50.**

**TR-100:** Identical to TR-91 but for use between 125-150 or 500-600 ohm mikes and grid. LIST: **$32.50.**

All prices and specifications subject to change without notice.

## COMPLETE BID SPECIFICATIONS AVAILABLE

Available from Newcomb are complete bid specifications for public address amplifiers, phonographs, transcription players, and radios. A must for schools, states, or federal governments as well as commercial institutions requiring specifications to be shown. These Newcomb bid specifications spell out the proper details and may be included directly on prints or purchase orders.

All Newcomb equipment approved by Underwriters Laboratory.

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# NEWCOMB

## COMBINATION TRANSCRIPTION PLAYER / P.A. SYSTEMS

**MODEL TR-25AM**

25-watt, two-speaker, 3-speed player and p.a. system for all records up to 17¼". G. E. variable reluctance pickup with dual jewelled needles. Scratch suppressor. New Speed-O-Scope speed indicator and patented Newcomb variable speed motor. Two mike inputs with separate tone and volume controls independent of record player. "Floating sound" mounting.

Two heavy-duty 12-inch speakers, each with 25-foot cable. Newcomb Phono-Monitor jack provides voice-free music for connection to an external amplifier and speaker (M-5). Frequency response ± 2 db 40 to 15,000 cycles. U/L Approved. Packs in two cases. Main case 16⅜" x 16⅜" x 8⅜", weight 36 pounds. Dual speaker case 14⅝" x 15¾" x 11⅞", weight 19 pounds. LIST: $382.50.

**TR-25AM-4**

25 watt four speaker transcription player and p.a. system. Gives added coverage for large or difficult halls. A three case system consisting of standard TR-25AM plus a matching set of Model T-212E dual extension speakers. The choice of the advanced professional square dance caller. All other features identical to TR-25AM. LIST: $482.00.

## ADDITIONAL SPEAKERS

**T-212E**

Dual extension speakers for use with any TR-25AM to give a total of four speakers where needed. Includes 2 identical 12" Alnico 5 PM high-frequency speakers in a matching case. Each has 25-foot cable, and plug. WEIGHT: 19 pounds. LIST: $99.50.

**T-112R**

Additional speaker for use with TR-16 systems. Consists of a matching 12" Alnico 5 PM dynamic speaker with 25-foot cable. WEIGHT: 12 pounds. LIST: $65.85.

**MICROPHONE CR-11**

Hand or desk microphone for use with all Newcomb TR models and R-16 series. Operates on a new controlled reluctance principle that combines good voice reproduction with extreme ruggedness. Not affected by humidity or temperature variation. Convenient on-off switch. Complete with 7-foot cable shielded plug and unique mounting bracket for carrying in system case. LIST: $23.75.

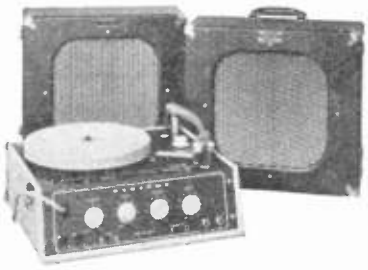
All Newcomb equipment U/L Approved.

**MODEL TR-16AM**

Versatile single speaker transcription player and p.a. system combined, packs into one case. Plays records to 17¼" at all three speeds. Variable speed control with Newcomb Speed-O-Scope for easy setting to exact speed setting or slowing to speed required by instructor, with no wows. Heavy 10-inch turntable. G.E. variable reluctance pickup with twist-type dual needles in a 12" cast metal tone arm and needle pressure adjustment. Scratch suppressor. Individual bass and treble controls. Microphone input unaffected by record bass control. Large 12" Alnico 5 PM speaker built into removable lid with 25-foot cable. Exclusive Newcomb "floating sound". Fabricoid covered case. 10 watt 100% AC operated amplifier. WEIGHT: 33 pounds. SIZE: 14⅝" x 15¾" x 11¾". LIST: $257.50.

**MODEL TR-16C**

Similar to the TR-16AM (above) except without the scratch suppressor switch and the pickup cartridge is a heat and humidity resistant ceramic type encased in a sturdy metal arm. LIST: $233.25.



**MODEL TR-16AM-2**

A two-case, two-speaker version of the TR-16AM. The division of the system into two cases gives best weight distribution for easiest handling. Amplifier and turntable case assembly, 16¼" x 16¼" x 7-7/7" in size, and weighs 27 pounds. The two 12" speakers fit into one case 16¼" x 16¼" x 12", and weighs 19 pounds (25-foot cable with each). LIST $315.85.

## *New* MUSIC MONITOR

**MODEL M-5**

Designed for use by callers of square or round dancing, with the Newcomb TR-25 series systems only. Provides clear monitoring of the music only, without the voice to confuse the caller. Self-contained 5 watt amplifier system complete with built-in 9" oval speaker designed specifically for connection to the special Phono-Monitor jack of the TR-25 series. Has its own volume and tone control conveniently located on the front. Portable unit, in sturdy case covered with fabricoid. WEIGHT: 10 pounds. SIZE: 12" x 9½" x 5½". U/L Approved. LIST: $99.50.

Prices and specifications subject to change without notice.
Only American-made parts are used in Newcomb Players.

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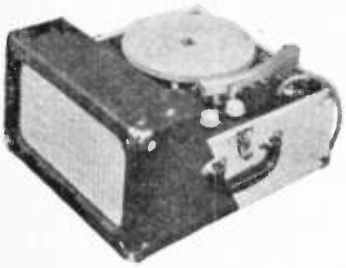
# NEWCOMB | PORTABLE PLAYERS



## THE Ballerina

**MODEL C-12V**

High fidelity portable phonograph, plays 33-1/3, 45, 78 RPM records, with Newcomb variable speed control to permit slowing any record to the exact speed desired for dance instruction. Big 11-inch extended range speaker. Heat and humidity resistant ceramic pick-up cartridge in cast metal arm with dual needles, protective drop pad and screw type hold down clamp. Exclusive Newcomb "floating sound" vibration absorbing feet protect against needle skipping. Compensated volume control, wide range tone control. 5-watt transformer powered inverse feedback circuit amplifier. Sturdy 3/8" plywood carrying case covered with washable maroon and grey fabricoid. U/L Approved. WEIGHT: 21 pounds. SIZE: 16" x 14 1/8" x 8". LIST: $126.75 (plus excise tax).

## THE Coloratura MODEL C-12

3-speed high fidelity phonograph the same as above but without variable speed feature. Plays all 33-1/3, 45, and 78 RPM records with lifelike tone. Big 11-inch speaker and other features as listed above. LIST: $104.50 (plus excise tax).

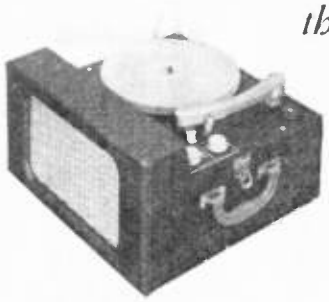
## COMBINATION TRANSCRIPTION PLAYER / P.A. SYSTEM WITH VARIABLE SPEED (Model R-16CV)

A complete portable system for playing transcriptions or records up to 17¼", with microphone input and separate volume control to permit mixing microphone with recorded music. Dependable continuously variable control of speed at all three settings (33-1/3, 45 and 78 RPM). Full starting torque at any speed. Sturdy 12" cast metal transcription type pick-up arm with adjustable needle pressure. Heat and humidity resistant ceramic cartridge, with jewelled, easy-to-replace needles. Protective pad for needle drop. Screw-type hold-down clamp for arm in transit. Newcomb "floating sound" vibration absorbing feet protect against needle skipping. Balanced-design 5-watt inverse-feedback-controlled, transformer-powered amplifier, humidity protected output transformer. Removable 10" speaker has a 25-foot cable for use at a distance from amplifier. Compensated record volume control and wide range tone control. Fabricoid covered 3/8" plywood carrying case with metal corners, kickproof metal speaker grill. U/L Approved. WEIGHT: 22 pounds. SIZE: 14" x 15" x 8⅝". LIST: $149.50 (plus excise tax).

**MODEL R-16C**

Same as above but without variable speed feature. Has 3-speed turntable motor. Ceramic pick-up, heat and humidity resistant. LIST: $126.75 (plus excise tax).

All prices and specifications subject to change without notice

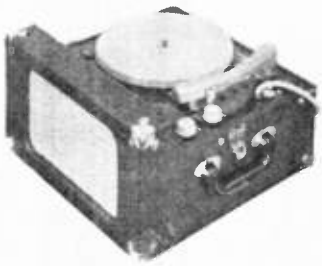


## *the "Pacemaker"*

**MODEL P-12C**

The lowest price ever for a Newcomb portable phonograph. Plays 33-1/3, 45 and 78 RPM records to 12".

FEATURES: Big 7" oval speaker, inverse feedback controlled beam powered amplifier, humidity protected output transformer, compensated volume control, wide range tone control, pilot light to indicate when on. Heat and humidity resistant ceramic cartridge encased in a sturdy cast metal arm with positive screw-type hold down clamp. Dual sapphire needle points give long life to records. Rubber crash pad. Maroon and grey fabricoid cover over 3/8" plywood case. U/L Approved. WEIGHT: 16 pounds. SIZE: 14 1/8" x 14 1/8" x 8". LIST: $74.95 (plus excise tax).



## *the "Soloist"*

**MODEL R-12**

High fidelity portable three speed phonograph with big 9-inch extended range speaker and 5-watt amplifier. Newcomb "floating sound" vibration absorbing feet protect against skipping. Turn-over-type, two needle, wide-range crystal pick-up. Cast metal pick-up arm with positive screw-type hold down clamp. Fine transformer powered 5-watt inverse feedback controlled amplifier. Wide-range tone control. Compensated volume control. Sturdy 3/8" plywood case covered with washable fabricoid U/L Approved. WEIGHT: 20 pounds. SIZE: 14 1/8" x 14 1/8" x 8". LIST: $89.95 (plus excise tax).

**MODEL R-12C**

A ceramic pick-up version of the famous R-12 (above) for use in areas of exceptionally high heat and humidity. LIST: $94.50 (plus excise tax).

## SCHOOL AM RADIO

**MODEL B-100**

Rugged long-range AM radio for schools, etc. Big 6-inch extended range speaker. Transformer powered AC construction. Extreme sensitivity designed for fringe areas. Amplifier utilizes inverse feedback circuit and beam powered output. Output jack for headset, or for use in supplying AM radio to public address system. Twist proof stringless full-vision dial. Unbreakable plexiglass dial cover. Heavy metal grill protects speaker. Covered in two-tone fabricoid material. WEIGHT: 13¼ pounds. SIZE: 7⅝" x 14¼" x 8" LIST: $85.95 (plus excise tax).

**Only American-made parts are used in Newcomb Players.**

**NEWCOMB** AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

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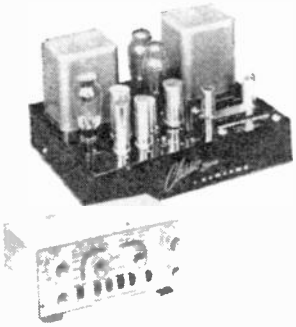
World Radio History

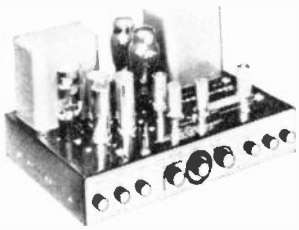
# NEWCOMB | HIGH FIDELITY AMPLIFIERS

## CLASSIC SERIES



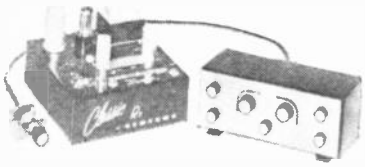
### MODEL 2500R

Remote controlled Laboratory Standard amplifier preamp. Satin gold finished remote chassis 3¾" x 3⅞" x 9". Main chassis 15" x 10¾ x 7¾". Remote unit may be used up to 100 feet from main chassis. Response inherently excellent to 100,000 cycles. Deviates less than 1 10 db between 10 and 30,000 cycles. Distortion less than 1/100% up to 10 watts. Less than 2/10% at 20 watts and less than 1% at 25 watts. Preamp fully compensated, DC powered. Hum is better than 95 db below 25 watts. Exclusive "Audi-Balance" pat. applied for) developed by Newcomb assures perfect, easily maintained, balance of output tubes year after year. Separate bass crossover and treble rolloff controls, each with six positions to permit 36 recording curves to be duplicated. Dual range bass and treble tone controls. Bass range, —16 db to +23 db. Treble range, —25 db to +23 db. Panel controlled rumble filter. Separate loudness and level controls work as a team to bring every possible volume level without loss of frequency response. Seven inputs for radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, tape recording, and aux. "Petite" no-glare pilot light. Outputs include a special jack for tape recording. Speaker output matches 8 or 16 ohm speakers. TUBES: (main chassis) 2-12AX7, 1-12AU7, 2-6L6G, 1-5U4G. (Remote control unit) 1-12AX7, 1-12AV6. WEIGHT: 33 pounds AUDIOPHILE NET: $297.50.



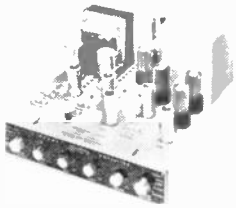
### MODEL 2500

Laboratory Standard "Classic" 25 watt amplifier/preamp unit, built into one chassis but otherwise the same as 2500R (left). Exclusive patented "Adjusta-Panel", developed by Newcomb, allows easy installation in a cabinet, or it may be built in without additional control panel equipment. TUBES USED: 2-12AX7, 2-12AU6, 2-6L6G, 1-5U4G. SIZE: 15" x 10¾" x 7¾". WEIGHT: 30 lbs. AUDIOPHILE NET: $249.50.



### MODEL R-7

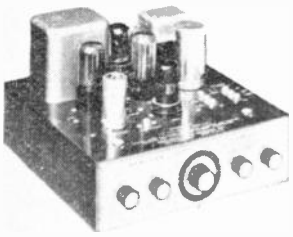
Modernize present amplifiers with this remote controlled preamp which may be added to present equipment. Will operate as far as 50 feet from the hi-fi system. All controls necessary for operation of equipment on the panel of this remote unit, which is only 3¾" x 3⅞" x 9". Beautiful cabinet will complement the decor of any home setting. Frequency response ±1 db at 10 to 30,000 cycles. Seven inputs including radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, tape recorder, and auxiliary jack for TV. Tape output permits listening while recording. Panel controls include bass tone control, range —17 db to +20 db; treble tone control, range —20 db to +18 db; input and rumble filter selector; six position bass crossover selector; six position treble selector; level control; loudness control, "Petite" pilot light on front panel of remote unit. MAIN CHASSIS SIZE: 9" x 8" x 5½". WEIGHT: 9¾ pounds complete. TUBES. 2-12AX7, 2-6AU6, 1-6X5GT. AUDIOPHILE NET: $149.50.



### MODEL 3-D12

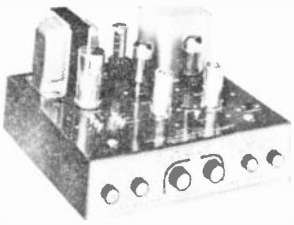
Two-channel stereophonic amplifier, for use in reproducing either stereo or monaural programs from records, radio, or tape. Separate bass and treble controls in distortion-free circuitry provide for control of both channels simultaneously. Channel selector provides choice of stereo or "enhanced" monaural reproduction, reverses channels to put "violins" on left, choice of channel A or B separately, base control range 0 to +18 db, treble control range —24 to +13 db. Fletcher-Munson compensated volume control for utmost low level realism. Response ±1 db 20-20,000 cycles. Hum and noise 80 db below 12 watts. POWER OUTPUT: Each channel, 12 watts at less than 2%. 10 watts at less than 1%. Output impedance 8 and 16 ohms to speakers at each output strip. Inputs to both channels provide for crystal pickups, high level magnetics (.008 volts), low level magnetics (.025 volts), radio (1 volt), tape (1 volt). SIZE: 12⅛" wide, 12½" deep, and 7⅜" high. WEIGHT: 19 lbs. AUDIOPHILE NET: $179.50.

## 'D' SERIES



### MODEL D-10

Fine quality, yet low in price. Less than 1% distortion at its 10 watt rated power output. Response is 20 to 20,000 cycles ±1 db. Six position record crossover selector, for six basic recording curves. Separate bass and treble tone controls in new "Interlocking" tone circuit. Built-in rumble filter. Tape recorder jack permits recording while listening. Built-in preamp for use of magnetic pick-up. SIX INPUTS INCLUDE: Radio, dynamic microphone, two magnetic pick-ups, crystal pick-up and tape recorder. Hum balance control maintains lowest hum. Hum is better than 75 db below 10 watts. Patented "adjusta-Panel" for easy installation. SIZE: 9" x 9" x 6". WEIGHT: 9 lbs. POWER CONSUMPTION: 60 watts. 117 volts, 60 cycles, A.C. only. TUBES: 1-6SC7, 1-12AX7, 2-6V6GT, 1-6AX5GT. AUDIOPHILE NET: $69.50.



### MODEL D-12

Here are quality features at an amazingly low price. Response of this 12 watt combination amplifier/preamp is 20 to 100,000 cycles with deviation less than ±1 db between 20 and 20,000 cycles. Distortion at 12 watts is less than 1%. Separate dual range bass and treble tone controls. Bass control range —15 db to +18 db. Treble control range —18 to +16 db. Separate bass and treble crossover controls provide up to 36 different curves to precisely match any recording curve. Rumble filter may be cut in or out. Loudness control with special frequency compensation to correct for hearing losses at low volume. Hum balance control for magnetic pick-ups. Hum is better than 80 db below 12 watts. INPUTS INCLUDE: Radio, dynamic microphone, two magnetic pick-ups, crystal pick-up, and tape recorder jack permits monitoring programs being recorded. Patented Newcomb "Adjusta-Panel". Output impedances 8 and 16 ohms. SIZE: 10" x 10" x 6¾". POWER CONSUMPTION: 75 watts, 117 volts, 60 cycles. WEIGHT: 12 pounds. TUBES: 2-12AX7, 2-6V6GT, 1-5Y3. AUDIOPHILE NET: $99.50.

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**NEWCOMB** AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA



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# COMPACT SERIES HIGH FIDELITY AMPLIFIERS

## COMPACT 1010 AMPLIFIER

Complete 10 watt amplifier/preamp and control unit only 3 13/16" high, 7 7/8" deep, and 9 1/4" wide. Response 20 to 20,000 cycles ±1 db. Distortion below 1% at 10 watts. Panel controls include: (1) input and rumble filter selector; (2) bass control range −24 to +16 db; (3) recording curve selector providing a choice of 6 important curves; (4) treble tone control range −27 to +14 db; (5) loudness control and power switch. Loudness compensation is removable by switch. INPUTS: Radio, microphone, 2 magnetic pick-up, crystal pick-up, and tape. "Output-to-tape" jack for recording while listening. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. Hum balance control. Hum is better than 75 db below 10 watts. Non-glare "Petite" pilot light. 8 and 16 ohm output impedances. TUBES: 2-12AX7, 2-6V6, 1-6AX5GT. WEIGHT: 8 1/2 pounds. AUDIOPHILE NET: $89.50.

## COMPACT 1012 AMPLIFIER

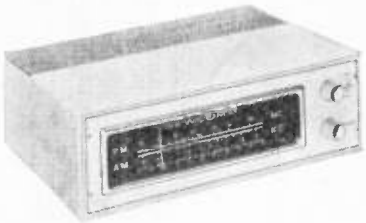
High performance 12 watt amplifier and preamp unit of unusually high gain. Only 4 1/8" high, 9 1/8" deep, and 12 1/2" wide. Response inherently good to 100,000 cycles, with performance well within the rating of ±1 db at 20 to 20,000 cycles. Distortion less than 1% at 12 watts. Eight panel controls include: (1) power switch; (2) 5-position input and rumble filter selector; (3) 6-position bass crossover selector; (4) 6-position treble rolloff selector; (5) bass tone control range −24 to +16 db; (6) treble tone control −27 to +16 db; (7) level control gives maximum effectiveness to loudness control compensation; (8) loudness control, frequency compensated. INPUTS: Radio, microphone, 2 magnetic pick-up; crystal pick-up, tape, and auxiliary. "Output-to-tape" for recording while listening. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. "Petite" Pilot light. Output 8 and 16 ohms. Hum balance control. Hum 80 db below 12 watts. TUBES: 2-12AX7, 1-6AU6, 2-6V6, 1-5Y3. WEIGHT: 15 1/2 pounds. AUDIOPHILE NET: $129.50.

## COMPACT 1020 AMPLIFIER

Combination amplifier/preamp rated at 20 watts. Engineered for the most critical of perfectionists, the design combines high power (20 watts at less than 1% distortion) with unusually low average level distortion (less than .05%). Response, inherently excellent to 100,000 cycles is within ±1 db at 20 to 20,000 cycles. Eight panel controls include: (1) power switch; (2) 5-position input and rumble filter selector; (3) 6-position bass crossover selector; (4) 6-position treble rolloff control; (5) bass tone control range −24 db to +16 db; (6) treble tone control range −27 db to +16 db; (7) level control gives maximum effectiveness to loudness control; (8) loudness control. INPUTS FOR: Radio, microphone, 2 magnetic pick-ups, crystal pick-up, tape, and auxiliary. "Output-to-tape" jack to permit recording while listening. Hum balance control. Hum 80 db below 20 watts. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. Output impedances 8 and 16 ohms. TUBES: 1-6AV6, 2-12AX7, 2-6L6GB, 1-5U4GA. WEIGHT: 20 1/2 pounds. AUDIOPHILE NET: $159.50.

# COMPACT SERIES HIGH FIDELITY FM-AM TUNERS

## COMPACT 100 TUNER

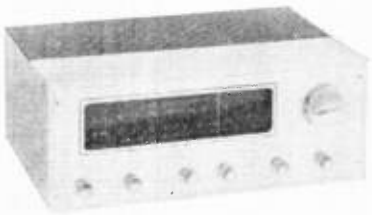


An economical self-powered 2-knob FM-AM tuner of dependable high fidelity performance. For use with amplifier having its own controls. It features an important new multiplex output jack that makes it adaptable for reception of stereophonic or binaural broadcasts. Smooth fly-wheel tuning action. Temperature controlled oscillators and snap-in automatic frequency control for FM with a defeat switch. Advanced FM detector system with double limiting action which, with other circuit advantages, decreases distortion at all modulation percentages, gives excellent adjacent channel rejection, and provides effective limiting on weak as well as strong signals. Output 2 volts at less than 1% distortion. Radiation far below minimum FCC requirements. OUTPUTS (3): One FM multiplex; one to amplifier; one to recorder. All high impedance. FM section sensitivity 5 microvolts for 30 db of quieting. Response ±1 db 20 to 20,000 cycles. Accepts 72 or 300 ohm antennas. AM sensitivity is 25 microvolts. Bandwidth 8 KC. SIZE: 12 1/2" x 9" x 4 1/8". WEIGHT: 10 1/2 lbs. AUDIOPHILE NET: $129.50.

## COMPACT 200 TUNER

Deluxe 2-knob FM-AM tuner with fast-acting visual tuning eye for both FM and AM. For use with amplifier having its own controls. Superior reception even in poor signal areas. Special multiplex output jack makes it adaptable for reception of stereophonic or binaural broadcasts. Smooth acting fly-wheel tuning knob. Temperature-controlled oscillators. Snap-in automatic frequency control (AFC) for FM with a defeat switch. New FM detector system with triple limiting action. Maximum output 10 volts. Audio response ±1/2 db. 20 to 20,000 cycles. Distortion less than 2/10% at 5 volts. Hum is better than 75 db below 10 volts. Radiation far below minimum FCC requirements. OUTPUTS (3): One FM multiplex, one to amplifier, and one to tape recorder. Cathode follower allows placement up to 200 ft. from amplifier. FM section: RF stage. Sensitivity 2 microvolts for 30 db of quieting. Accepts 72 or 300 ohm antennas. AM sensitivity is 5 microvolts. Bandwidth 8 KC. SIZE: 12 1/2" x 9" x 4 1/8". WEIGHT: 11 lbs. AUDIOPHILE NET: $169.50.

## COMPACT 712 AMPLIFIER-TUNER



COMBINATION FM-AM tuner, 12-watt amplifier, preamp, and controls in one beautiful decorator-styled case. Edge-lighted tuning dial, velvety flywheel tuning. FM sensitivity exceeds 5 microvolts for 30 db of quieting. Radiation far below FCC requirements. Automatic frequency control (with defeat switch), temperature-controlled oscillators for drift-free FM. Amplifier 20-20,000 cycles ±1 db. Total harmonic distortion less than 1% at 12 watts. Multiplex jack for FM multiplex reception. 6-position record response control. Level and loudness controls, 8-position program selector. Inputs for magnetic pickups, crystal, tape, and aux. Size 14 5/8" x 5 5/8" x 10". WEIGHT 20 lbs. AUDIOPHILE NET: $249.50.

Specifications and prices subject to change without notice.



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World Radio History

# Bogen FLEX-PAK® PUBLIC ADDRESS AMPLIFIERS,

## Features of the New FLEX-PAK® Amplifiers

A public address line that looks and operates like it was custom designed for your job. Combines superb performance, outstanding operating control and true portability. **The LX Series Features** (1) Exclusive Anti-Feedback Control minimizes acoustical feedback without compromising volume; (2) Built-in Remote Gain Control circuit for distances to 2000 ft.; (3) Plus all **L Series Features:** (1) Constant voltage output taps; (2) Exclusive Controlled Positive Feedback circuitry lowers distortion; (3) Power stage screen regulation for higher output, greater efficiency; (4) Special filters to improve speech clarity; (5) Equalized phono input for all cartridges; (6) Separate Bass and Treble controls; (7) Plug-in sockets for low impedance transformers; (8) Quick maintenance; four thumbscrews remove cage, no tools needed; (9) Broadcast-type (Cannon XL Series) microphone connectors; (10) Pencil-in, erase-out identification strips for all channels; (11) Sturdy leather carrying handles; (12) Accessories available for completely flexible operation. Refer to separate listing of FLEX-PAK accessories. **The K Series Features** (1) Separate Bass and Treble controls (Model K10 has the exclusive SelecTone Control); (2) Sockets for plug-in, low impedance transformers; (3) Constant voltage output taps; (4) Controlled Positive Feedback circuit for low distortion on Model K1630.

LX30, LX60

### LX60 DELUXE 60-WATT AMPLIFIER

With exclusive anti-feedback control, built-in remote gain control circuit, four microphone channels (one converts to phono), plus other features listed above. **Power Output:** 60 watts at less than 2% distortion. **Peak Power:** 90 watts. **Frequency Response:** ±1.5 db, 20-20,000 cps. **Gain:** Microphone, 125 db; Tuner, 85 db; Crystal phono, 85 db; Magnetic phono, 115 db. **Hum** (below rated output): Microphone and Magnetic phono −60 db. **Tone Controls:** Treble, +10 db to −15 db at 10,000 cps; Bass, +15 db to −15 db at 60 cps. **Output Impedances:** 4, 8, 16 and 83 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (13) 4-6AV5GA; 3-5Y3GT; 1-6CM7; 2-6US; 3-12AX7. **Overall Dimensions:** 16¼" wide, 13" deep, 5⅛" high. **Shipping Weight:** 37 lbs.

**Bogen Model LX60 Deluxe Amplifier**—List Price.....$275.00
Zone 2: 281.66

L60

### LX30 DELUXE 30-WATT AMPLIFIER

With exclusive anti-feedback control, built-in gain-control circuit, four microphone channels (one converts to phono), plus other features listed above. **Power Output:** 30 watts at less than 2% distortion. **Peak Power:** 45 watts. **Frequency Response:** ±1.5 db, 20 to 20,000 cps. **Gain:** Microphone, 129 db; Tuner, 88 db; Crystal phono, 80 db; Magnetic phono, 115 db. **Hum:** Microphone and Magnetic phono, −60 db below rated output. **Tone Controls:** Treble, +12 db to −12 db at 10,000 cps; Bass, +14 db to −14 db at 60 cps. **Output Impedances:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (10) 2-5Y3GT; 3-12AX7; 2-6US; 1-6CG7; 2-6AV5GA. **Overall Dimensions:** 16¼" wide, 13" deep, 5⅛" high. **Shipping Weight:** 31 lbs.

**Bogen Model LX30 Deluxe Amplifier**—List Price.....$219.50
Zone 2: 225.10

L330

### MODEL L60 60-WATT AMPLIFIER

With controlled positive feedback, three microphone channels (one converts to phono), and speech filters, as well as other features listed at top of page. **Power Output:** 60 watts at less than 2% distortion. **Peak Power:** 90 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 125 db; Tuner, 80 db; Crystal phono, 80 db; Magnetic phono, 115 db. **Hum:** (below rated output), Microphone and Magnetic phono, −60 db. **Output Impedances:** 4, 8, 16 and 83 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (12) 4-6AV5GA; 3-5Y3GT; 1-6US, 2-12AX7; 1-6CM7; 1-6AV6. **Overall Dimensions:** 16¼" wide, 13" deep, 5⅛" high. **Shipping Weight:** 37 lbs.

**Bogen Model L60 Amplifier**—List Price.....$214.50
Zone 2: 221.16

### MODEL L330 30-WATT AMPLIFIER

With controlled positive feedback, three microphone channels (one converts to phono) and speech filters, as well as other features as listed at top of page. **Power Output:** 30 watts at less than 2% distortion. **Peak Power:** 45 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 120 db; Tuner, 80 db; Crystal phono, 80 db; Magnetic phono, 115 db. **Hum:** Microphone and Magnetic phono, −60 db below rated output. **Output Impedances:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (9) 2-6AV5GA; 2-5Y3GT; 2-12AX7; 1-6AV6; 1-6US; 1-6CG7. **Overall Dimensions:** 14¼" wide, 13" deep, 5⅛" high. **Shipping Weight:** 29 lbs.

**Bogen Model L330 Amplifier**—List Price.....$159.50
Zone 2: 164.70

RP-2 With CAGVU2

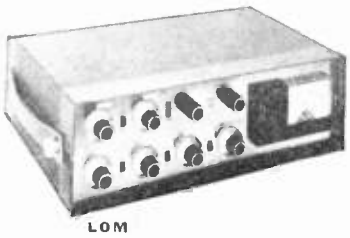
## Versatile Bogen Preamplifiers

### RP-2 LOW-NOISE PROGRAM PREAMPLIFIERS

Designed for use at remote pickup points. Contains separate input channels for one microphone and one phonograph. Separate volume controls for each channel permit mixing of inputs. Output designed to feed either a booster amplifier or a low impedance line separately or simultaneously. Bass cut-off switch provides speech clarity. **Output Impedance:** High Impedance: cathode follower driven; minimum recommended lead resistance—10,000 ohms. Low Impedance: 600 ohms (50 and 200 ohms). **Input Impedance:** High Impedance: ½ megohm, convertible to low impedance by use of plug-in transformers for 50, 150-250 or 600 ohms. **Gain:** Microphone, 76 db; Phono, 35 db. **Sensitivity:** Microphone, 3.5 mv; Phono, 0.4 v. **Bass Cut:** 20 db. **Power Consumption:** 20 watts, 117 v. AC, 60 cps. **Tubes:** (4) 2-6SF5; 1-6J5; 1-6X5GT. **Pilot Light:** #47. **Overall Dimensions:** 11" wide, 7⅛" deep (less knobs), 5¼" high (6½" high with cage). **Weight:** 7 lbs.

**Bogen Model RP-2 Preamplifier**—Less cage. List Price.....$90.00
Zone 2: 91.95

**Bogen Model CAGVU2 Cage and Meter**—List Price.....31.25
Zone 2: 32.00



LOM

### LOM PREAMPLIFIER CONTROL

With output level meter, five microphone channels (one converts to phono). **Output:** 30 milliwatts at less than 2% distortion, 6 milliwatts at less than 0.5% distortion. **Peak Power:** 45 milliwatts. **Frequency Response:** ±1 db, 20 to 20,000 cps. **Gain:** Microphone, 85 db; Tuner, 50 db; Crystal phono, 50 db; Magnetic phono, 72 db. **Hum:** Microphone and Phono, −60 db below rated output. **Tone Controls:** Treble, +6 db to −10 db at 10,000 cps; Bass, +10 db to −12 db at 60 cps. **Output Impedances:** High impedance (cathode follower)—600 ohms with T161 or T165A broadcast-quality accessory plug-in transformers. **Tubes:** (7) 1-6CG7; 1-6AU6; 3-12AX7; 1-6BF6; 1-6X4. **Overall Dimensions:** 16¼" wide, 13" deep, 5⅛" high. **Shipping Weight:** 21 lbs.

**Bogen Model LOM Preamplifier Control**—List Price.....$189.50
Zone 2: 193.28

(Schedule A)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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
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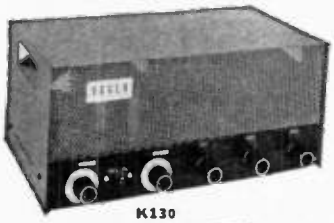
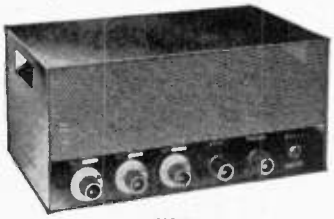
# PREAMPLIFIERS, BOOSTER AND MOBILE AMPLIFIERS

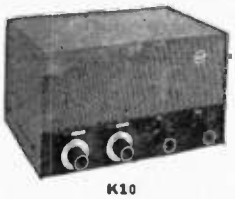
K1630Y



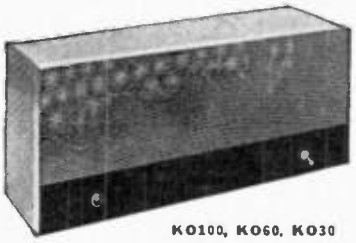
K130



K15



K10



KO100, KO60, KO30

BT12

## K1630Y PHONO-TOP 30-WATT AMPLIFIER

Features a three-speed manual phono-top complete with tone arm and Ronette turnover cartridge. Other features include: Controlled positive feedback; universal operation from 6- or 12-volt DC or 117-volt AC; one phono and two microphone channels. **Power Output:** 30 watts at less than 2% distortion. **Peak Power:** 45 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 125 db; Crystal Phono, 85 db. **Hum:** (below rated output) Microphone, −60 db; Phono, −70 db. **Output Impedances:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (8) 2-6AV5GA; 2-6AX5GT; 1-12AX7; 1-6AV6; 1-6CG7; 1-6U8. **Overall Dimensions:** 15¼" wide, 10" deep, 10⅝" high. **Shipping Weight:** 35 lbs.

**Bogen Model K1630Y Phono-Top Amplifier**—List Price..... **$235.00**
Zone 2: **242.00**

**Bogen Model K1630 Amplifier**—Amplifier only, less phono-top. **Overall Dimensions:** 15¼" wide, 10" deep, 8¾" high. **Shipping Weight:** 30 lbs. List... **$212.75**
Zone 2: **218.15**

## K130 ECONOMICAL 30-WATT AMPLIFIER

With separate bass and treble controls, constant voltage output taps and socket for plug-in, low-impedance transformers. Erasable identification strips. One microphone input. **Power Output:** 30 watts at less than 2% distortion. **Peak Power:** 45 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 120 db; Phono, 80 db. **Hum:** (below rated output) Microphone, −60 db; Phono, −70 db. **Output Impedances:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (8) 2-6AV5GA, 2-5Y3GT; 1-6CG7; 1-6U8; 1-12AX7; 1-6AV6. **Overall Dimensions:** 14¼" wide, 8¾" deep, 6¾" high (K130Y: 10¾" high). **Shipping Weight:** K130, 30 lbs.; K130Y, 35 lbs.

**Bogen Model K130 Amplifier**—List Price..... **$127.50**
Zone 2: **132.90**

**Bogen Model K130Y Phono-Top Amplifier**—Model K130 Amplifier with three-speed manual phono top, tone arm and Ronette turnover cartridge. List Price. **$155.00**
Zone 2: **161.30**

## K15 ECONOMICAL 15-WATT AMPLIFIER

With separate bass and treble controls, constant voltage output taps, sockets for plug-in, low impedance transformers. Two microphone channels. **Power Output:** 15 watts at less than 3% distortion. **Peak Power:** 25 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 125 db; Phono, 82 db. **Hum:** (below rated output) Microphone, −55 db; Phono, −70 db. **Output Impedances:** 4, 8, 16, 42 and 326 ohms, balanced 25-volt line, 70-volt line. **Tubes:** (6) 2-12AX7; 1-6AV6; 2-6L6GB; 1-6BW4/EZ80. **Overall Dimensions:** 14¼" wide, 8¾" deep, 6¾" high (K15Y: 10¾" high). **Shipping Weight:** K15, 21 lbs.; K15Y, 26 lbs.

**Bogen Model K15 Amplifier**—List Price..... **$109.50**
Zone 2: **113.28**

**Bogen Model K15Y Phono-Top Amplifier**—Model K15 Amplifier with three-speed manual phono top, tone arm and Ronette turnover cartridge. List Price. **$139.50**
Zone 2: **144.72**

## K10 ECONOMICAL 10-WATT AMPLIFIER

With six-position SelecTone tone control, constant voltage output taps., socket for plug-in, low impedance transformers. One microphone input. **Power Output:** 10 watts at less than 3% distortion. **Peak Power:** 15 watts. **Frequency Response:** ±2 db, 20 to 20,000 cps. **Gain:** Microphone, 110 db; Phono, 72 db. **Hum:** (below rated output) Microphone, −55 db; Phono, −65 db. **Tone Control:** SelecTone—Natural, Mellow, Bass, Deep Bass, Brilliant, Crisp. **Output Impedances:** 4, 8, 16 and 500 ohms, 70-volt line. **Tubes:** (5) 2-6AQ5; 1-6BW4/EZ80; 1-12AX7; 1-6AU6. **Overall Dimensions:** 11" wide, 7½" deep, 6¼" high. **Shipping Weight:** 15 lbs.

**Bogen Model K10 Amplifier**—List Price..... **$80.00**
Zone 2: **82.05**

# NEW BOOSTER AMPLIFIERS

## KO100 100-WATT BOOSTER AMPLIFIER

With controlled positive feedback, provision for balanced low impedance line input, provision for remote control of stand-by operation. **Power Output:** 100 watts at less than 2% distortion. **Peak Power:** 150 watts. **Frequency Response:** ±1 db, 20 to 20,000 cps. **Gain:** 77 db. **Hum:** −80 db below rated output. **Input:** (1) High impedance, ½ megohm. With low impedance transformer (T161), 500 ohms. **Output Impedances:** 1.6, 6.25 and 49 ohms, balanced 25-volt line, 70-volt line. **Sensitivity:** High impedance, 1 volt; low impedance (with T161 transformer), 0.25 volt. **Tubes:** (6) 2-6CA7/EL34; 2-5R4GYA; 1-6U8; 1-EZ81. **Overall Dimensions:** 17¼" wide, 6½" deep, 7¾" high. **Shipping Weight:** 31 lbs.

**Bogen Model KO100 Booster-Amplifier**—List Price..... **$215.75**
Zone 2: **221.33**

## KO60 60-WATT BOOSTER AMPLIFIER

With controlled positive feedback circuit, provision for balanced low impedance line input and provision for remote control of stand-by operation. **Power Output:** 60 watts at less than 2% distortion. **Peak Power:** 120 watts. **Frequency Response:** ±1 db, 20 to 20,000 cps. **Gain:** 70 db. **Hum:** −80 db below rated output. **Input:** (1) High impedance, ½ megohm. With low impedance transformer (T161), 500 ohms. **Output Impedances:** 2.5, 10 and 82 ohms, balanced 25-volt line, 70-volt line. **Sensitivity:** High impedance, 2 volts; low impedance (with T161 transformer), 0.5 volt. **Tubes:** (5) 2-6CA7/EL34; 1-5U4GB; 1-6U8; 1-EZ81. **Overall Dimensions:** 17¼" wide, 6½" deep, 7¾" high. **Shipping Weight:** 23 lbs.

**Bogen Model KO60 Booster-Amplifier**—List Price..... **$167.50**
Zone 2: **171.64**

## KO30 30-WATT BOOSTER AMPLIFIER

With controlled positive feedback circuit, power stage screen regulation, provision for balanced low impedance line input. **Power Output:** 30 watts at less than 2% distortion. **Peak Power:** 45 watts. **Frequency Response:** ±1 db, 20 to 20,000 cps. **Gain:** 67 db. **Hum:** −80 db below rated output. **Input:** (1) High impedance, ½ megohm. With low impedance transformer (T161), 500 ohms. **Output Impedances:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Sensitivity:** High impedance, 1.7 volts; low impedance (with T161 transformer), 0.4 volt. **Tubes:** (5) 2-6AV5GA; 1-5U4GB; 1-6CG7, 1-6U8. **Overall Dimensions:** 17¼" wide, 6½" deep, 7¾" high. **Shipping Weight:** 21 lbs.

**Bogen Model KO30 Booster-Amplifier**—List Price..... **$108.75**
Zone 2: **112.53**

# MODEL BT12 MOBILE TRANSISTOR PA AMPLIFIER

A 4-watt mobile unit for 12-volt battery operation. No tubes or vibrator to replace; extremely low current drain. Mounts under dashboard or can be used in portable PA system with 12-volt dry cell. Hum-free. **Response:** Optimum speech. **Gain:** 100 db. **Impedance:** Input matches 200 and 500 ohm mikes directly; 8 ohm output. **Current Drain:** 90 ma. DC at 12 volts without signal; 550 ma. DC at 12 volts at rated output. **Controls:** Volume; Power On-Off. Includes mike connector, speaker socket, fuse, 6' battery cables and clamps. **Size:** 3¾" x 4⅝" x 6⅝". **Shipping Weight:** 6 lbs.

**Bogen Model BT12 Transistor Amplifier**—List Price..... **$120.00**
Zone 2: **120.90**

(Schedule A)



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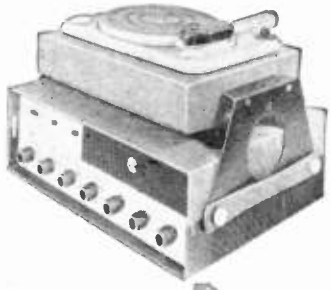
World Radio History

# *Bogen* FLEX-PAK® ACCESSORIES AND COMPLETE SOUND SYSTEMS



## LWM WALL-MOUNTING KIT

For L, LX, LOM amplifiers. Keeps your equipment ready when you need it, yet safely, neatly out of the way when not in use. Kit is complete with hardware, template and complete instructions.
List Price.....**$15.00** (Zone 2: $15.45)

## RACK PANEL MOUNTING KITS

Bogen offers both factory mounting and kits for rack installations. **For Factory Mounting**—On 19" rack panel, add suffix "-R" to amplifier model number. For L and LX amplifiers, add to List ..... **$25.00**
For K Amplifiers, add to List ..... **24.25**
**Kits contain** pre-cut and pre-drilled panel, hardware and mounting brackets. For L and LX amplifiers. List Price ..... **$19.50**
Zone 2: **21.00**
For K amplifiers. List Price..... **14.85**
Zone 2: **16.60**

**When ordering kits specify the Model No. of the amplifier that is to be mounted.**
For remote controllers, plug-in transformers, microphones, speakers, baffles and other accessories, see the complete Bogen public address catalog.

## PHONOGRAPH TOPS
### FOR L AND LX SERIES AMPLIFIERS

Available in kits consisting of the phono top, mounting brackets and all necessary hardware. Easily installed without tools. Can be ordered with the amplifier or at a later time.
**Standard Kits:** Include a three-speed manual phono top with tone arm and Ronette turnover cartridge.
**Bogen Model LPA-3**—For L330.
**Bogen Model LPB-3**—For LX60, L60 and LOM.
List Price..... **$42.25**
Zone 2: **43.00**
**Deluxe Kits:** Include four-speed, vibration-isolated, manual phono top with variable speed control, tone arm and Ronette turnover cartridge.
**Bogen Model LPA-4**—For L330.
**Bogen Model LPB-4**—For LX60, LX30, L60 and LOM.
List Price..... **$69.00**
Zone 2: **69.75**

### FOR K SERIES AMPLIFIERS

Three-speed manual phono top with tone arm and Ronette turnover cartridge. Add Y to amplifier model number.
**For K1630**—Add to List Price ..... **$22.25**
Zone 2: **23.25**
**For K130**—Add to List Price ..... **27.50**
Zone 2: **28.40**
**For K15**—Add to List Price ..... **30.00**
Zone 2: **31.44**

## CARRYING CASES, SPEAKERS

Carrying cases for portable systems are available with or without speakers. With speakers installed, each half of the split case acts as a baffle. Cases with speakers include 25' cables with plugs.
**Bogen Model LK12S**—For L330, K130, K15. With two Bogen L123 speakers. List Price..... **$76.50**
Zone 2: **81.00**
**Bogen Model LK12**—Case only. List Price..... **$37.50**
Zone 2: **41.10**
**Bogen Model LKP12S**—For L330Y, K130Y and K15Y. With two Bogen L123 speakers. List Price..... **$81.50**
Zone 2: **86.30**
**Bogen Model LKP12**—Case only. List Price..... **$42.50**
Zone 2: **46.50**
**Bogen Model CK10S**—For K10. With two Bogen L121 speakers. List Price **$66.00**
Zone 2: **69.00**
**Bogen Model CK10**—Case only. List Price..... **$30.00**
Zone 2: **32.30**

## MOBILE AMPLIFIER SHOCK BASE

A spring-loaded, shock-insulating base for operating K1630 and K1630Y amplifiers in a car or truck.
**Bogen Model SV3**—List Price ..... **$13.75**
Zone 2: **14.45**

## CONTROL-GUARD LOCKING PLATE

Protects advance settings from tampering.
**Bogen Model LK-1**—For L330. List Price..... **$7.75**
Zone 2: **8.05**
**Bogen Model LK-2**—For LX60, LX30, L60 and LOM. List Price ..... **$8.00**
Zone 2: **8.30**
**Bogen Model LK-3**—For L330 when used on LWM wall mounting. List ..... **$10.50**
Zone 2: **10.95**
**Bogen Model LK-4**—For LX60, LX30, L60 and LOM when used with LWM. List Price..... **$11.00**
Zone 2: **11.45**

## REMOTE CONTROLLERS

Two and four channel remote control units to broaden the flexibility of the deluxe amplifiers. Permit mixing and fading channels and the making of frequent changes in gain, all at distances up to 2,000 feet without sacrificing power or signal quality.
**Bogen Model SR2**—2-channel. List Price..... **$11.25**
Zone 2: **11.55**
**Bogen Model SR4**—4-channel. List Price..... **$16.50**
Zone 2: **16.95**

## STANDBY CONTROLLER

Plugs into KO100 and KO60. Lengthens amplifier life; reduces high voltage power consumption.
**Bogen Model KR6**—List Price ..... **$30.00**
Zone 2: **30.45**

## COMPLETE INDOOR, OUTDOOR AND PORTABLE PA SYSTEMS

### OUTDOOR SYSTEMS

| Bogen System Number | Amplifier | Mikes ‡ | Speakers | List Price Zone 1 | List Price Zone 2 |
|---|---|---|---|---|---|
| LX60X | LX60 | F | 3-Bogen-University LH trumpets w/3-SAHF | $593.15 | $601.46 |
| LX30X | LX30 | F | 2-Bogen-Univ. LH trumpets w/2-SAHF drivers | 457.15 | 463.85 |
| L60X | L60 | F | 3-Bogen-Univ. PH trumpets w/3-MA25 drivers | 472.93 | 490.08 |
| L330X | L330 | C | 2-Bogen-Univ. PH trumpets w/2-MA25 drivers | 333.17 | 345.25 |
| L330YX | L330† | C | Same as L330X | 373.73 | 387.28 |
| K130X | K130 | C | 1-Bogen-Univ. PH trumpet w/1-MA25 driver | 238.18 | 246.77 |
| K130YX | K130Y | C | Same as K130X | 258.20 | 267.57 |
| K15X | K15 | C | 1-Bogen-Univ. MLC | 223.43 | 231.53 |
| K10X | K10 | E | 1-Bogen-Univ. MLC | 173.52 | 179.82 |
| K1630YX | K1630Y | E | 1-Bogen-Univ. PH trumpet w/1-MA25 driver | 327.65 | 334.65 |

### PORTABLE SYSTEMS

| | | | | | |
|---|---|---|---|---|---|
| L330C | L330 | C | 2-Bogen L123** | $278.28 | $288.38 |
| L330YC | L330† | C | 2-Bogen L123†† | 324.04 | 334.87 |
| K130C | K130 | C | 2-Bogen L123** | 244.79 | 253.67 |
| K130YC | K130Y | C | 2-Bogen L123†† | 277.29 | 288.47 |
| K15C | K15 | C | 2-Bogen L123** | 231.22 | 239.60 |
| K15YC | K15Y | C | 2-Bogen L123†† | 261.79 | 271.89 |
| K10C | K10 | D | 2-Bogen L121## | 174.29 | 179.30 |

### INDOOR SYSTEMS

| Bogen System Number | Amplifier | Mikes ‡ | Speakers | List Price Zone 1 | List Price Zone 2 |
|---|---|---|---|---|---|
| LX60F | LX60 | A | 6-Bogen WS12-T16* | $573.05 | $589.31 |
| LX30F | LX30 | A | 3-Bogen WS12-T16* | 411.56 | 422.50 |
| L60F | L60 | A | 6-Bogen WS12-T16* | 512.50 | 528.81 |
| L330F | L330 | B | 3-Bogen WS12-T16* | 321.60 | 331.60 |
| L330YF | L330† | B | 3-Bogen WS12-T16* | 366.25 | 379.54 |
| K130F | K130 | C | 3-Bogen WS12-T16* | 279.37 | 289.50 |
| K130YF | K130Y | C | 3-Bogen WS12-T16* | 303.10 | 314.20 |
| K15F | K15 | C | 2-Bogen L123 12"* | 213.07 | 220.80 |
| K15YF | K15Y | C | 2-Bogen L123 12"* | 241.35 | 249.25 |
| K10F | K10 | D | 2-Bogen L121 10"§ | 159.35 | 163.26 |
| K1630YF | K1630Y | E | 3-Bogen WS12-T16* | 374.60 | 386.40 |

‡See Mike Table below. *Includes Bogen L123 12" speaker, T16 matching transformer, WA12 baffle. †Plus LPA-3 3-speed manual phono top. #With 2-WA12 baffles. §With 2-BA12 baffles. **In LK12 carrying case with 2-25' cables, plugs. ††In LKP12 carrying case with 2-25' cables, plugs. ##In CK10 carrying case with 2-25' cables, plugs.

### ‡MICROPHONES

**A:** Bogen-Shure 55S with 18' cable, XL3-11 connector. **B:** Bogen-EV630 with 18' cable, XL3-11 connector. **C:** Bogen-Shure 430 with 15' cable, XL3-11 connector. **D:** Bogen-EV927 with 10' cable, stand, XL3-11 connector. **E:** Bogen-Shure 420 with 20' cable, XL3-11 connector. **F:** Bogen-Shure 535 with 18' cable, XL3-11 connector.

(Schedule A)



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Bogen PORTABLE TRANSCRIPTION AND RECORD PLAYERS, HI-FI TAPE RECORDER

VP17
VP17X

## BOGEN TRANSCRIPTION AND RECORD PLAYERS

### MODELS VP17X AND VP17 HI-FI TRANSCRIPTION PLAYERS

These two outstanding portables are complete high fidelity phonographs featuring variable speed control from 29 through 86 rpm, with instant selection of 16, 33⅓, 45 or 78 rpm speeds. Especially suitable for dance or language instruction, square dancing, calisthenics and all other applications requiring these four speeds and variations from them. Both models incorporate a heavy-duty 4-pole motor; weighted (3¼ lbs.) and rubber-padded turntable; 10-watt high-fidelity amplifier and 12-inch speaker, all carefully matched and housed in an attractive, compact carrying case. **Frequency Response:** 40-12,000 cps. ± 1½ db. The VP17X and VP17 will play all records up to 16" in diameter, with splendid sound quality and minimum record wear. Speed variation is accomplished through a precision cone drive, regulated by a single lever with lock-in positions for instantaneous selection of the four standard speeds. The motor velocity remains constant regardless of changes in turntable speed or line voltage. The superb combination of motor and turntable reduces wow, hum and rumble to negligible values. Pick-up arm has "Feather Drop" action to protect record and stylus. Separate bass and treble controls are provided, as well as an effective scratch filter. A microphone input with its own volume control enables either model to serve also as a portable 10-watt PA system. Case is constructed of ⅝" plywood, shock-mounted, and measures 17" x 14¼" x 12⅝". Speaker is mounted in a removable cover and supplied with 25' of cable. VP17, five tubes. VP17X, six tubes. Both 117 volts, 60 cycles.

**Bogen Model VP17X**—With G.E. variable reluctance cartridge with dual sapphire-tipped styli, built-in compensated preamp. Wt., 37 lbs. List Price ..... **$181.90**
Zone 2: **188.65**

**Bogen Model VP17**—With wide range piezoelectric cartridge with dual sapphire-tipped styli. Carrying Weight, 36 lbs. List Price ..... **$168.10**
Zone 2: **174.10**

VP12

### MODEL VP12 PORTABLE RECORD PLAYER

A portable four-speed phonograph with a versatile 5-watt amplifier, a 12-inch loudspeaker and a microphone input. The amplifier features separate gain controls for both the phonograph and microphone, and separate bass and treble tone controls for overall tone regulation. The 6-8 ohm speaker is shock-mounted in the detachable case cover and may be set up at a maximum distance of 25 feet from the base unit. Features a four-speed (16, 33⅓, 45 and 78 rpm) turntable with ± 5% speed regulator, and will accommodate discs up to 12 inches in diameter. Automatic shut-off at end of record. Arm equipped with wide-range crystal cartridge and dual sapphire styli. Equipped with rubber turntable mat to protect records. Can double as a public address system. All controls are conveniently located in the front of the phonograph shelf. Master Power switch for "ON-OFF". Treble control with "Normal" setting for flat response, bass control with "Normal" setting for flat response. Individual volume controls for phono and microphone allow mixing of the two signals. **Tubes** (4): 5Y3G; 6AV6, 6AU6; 6L6GB. **Power Consumption:** 70 watts, 117 volts, 60 cps. **Dimensions:** 13½" x 14¾" x 11½". Shipping Weight, 40 lbs.

**Bogen Model VP12 Record Player**—List Price ..... **$125.93**
Zone 2: **130.43**

1004

### MODEL 1004 PORTABLE TRANSCRIPTION PLAYER

Deluxe four-speed record and transcription player. Manually plays 16⅔, 33⅓, 45 and 78 rpm records. Speed control continuously variable from 29 to 86 rpm. Universal plug-in head, complete with flip-over crystal cartridge. "Feather-drop" action of pickup arm helps prevent stylus or record damage. Adjustable stylus pressure. Heavy-duty four-pole motor for reliable service. Wow, less than 0.5%. Weighted 12" turntable, covered with molded rubber pad. Ready to plug into amplifier, radio or television receiver with phono plug. For 95-125 volts AC, 60 cycles. Sturdy, easy-to-carry, leatherette-covered wood carrying case with handle; 15¾" x 15¾" x 7". Carrying Weight, 21 lbs.

**Bogen Model 1004 Transcription Player**—List Price (F.E.T. included) ..... **$ 97.50**
Zone 2: **101.40**

9003

### MODEL 9003 PORTABLE RECORD PLAYER

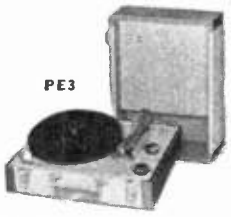
Budget-priced, portable three-speed record player for PA use. Constant speed rim-drive motor for reliable service. Plays records up to 12". Complete with crystal turnover cartridge. Operates on 110 volts, 60 cps. AC. Durable, leatherette-covered plywood case with handle; 15¾" x 13¾" x 7". Carrying Weight, 12 lbs.

**Bogen Model 9003 Portable Record Player**—List Price (F.E.T. included) ..... **$48.62**
Zone 2: **51.32**

### MODEL PE3 PORTABLE PHONOGRAPH

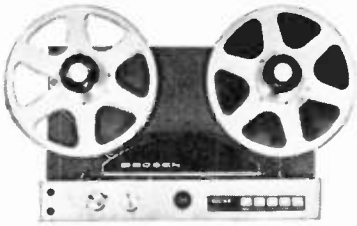
Fine, compact, portable phonograph. Features include: Heavy-duty, three-speed motor for 33⅓, 45 and 78 rpm records; flip-over crystal cartridge with sapphire stylus; integrated 6" round loudspeaker in removable cover; volume and tone controls. Amplifier uses three tubes including rectifier for ample power for home or classroom use. **Power Consumption:** 40 watts total (amplifier, 25 watts; phono motor, 15 watts). Attractive carrying case with handle; 10⅝" x 14¼" x 7½" deep.

**Bogen Model PE3 Phonograph**—List Price (F.E.T. included) ..... **$62.90**
Zone 2: **65.50**



PE3

## BOGEN MODEL TR-30 HIGH FIDELITY TAPE RECORDER



Superb high fidelity tape recorder offering fully professional features and performance at a modest price. Completely versatile in recording and stereosonic playback. **Features:** Direct-drive hysteresis synchronous capstan motor and two torque motors; 10½" reel capacity; dynamic braking; push button function switches; slot loading; automatic tape lift in high speed; tape break switch; three separate heads (half-track record, half-track erase, and stacked stereo playback); two self-contained preamplifiers (one converts from record to play for stereo playback); VU meter for exact control of recording volume; microphone and tuner inputs; earphone monitor jack. **Tape Speeds:** 7½"/sec. and 15"/sec. **Frequency Response:** At 7½"/sec. 50-10,000 cps; at 15"/sec. 40-15,000 cps. **Signal To Noise:** 50 db at 3% distortion. **Wow and Flutter:** 0.2% at 15"/sec. Operates on 115 v. AC, 60 cps. **Panel Size:** 19" x 12¼". Shipping Weight, 60 lbs.

**Bogen Model TR-30 Tape Recorder**—Users Net ..... **$449.50**
Zone 2: **456.10**

**(Discount Schedules: Models VP17X, VP17, VP12 and PE3—Schedule C1; Models 1004 and 9003—Schedule A; Model TR-30—Schedule B.)**

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World Radio History

# Challenger PUBLIC ADDRESS AMPLIFIERS by Bogen

CHA75

## CHA75 75-WATT AMPLIFIER

A high-power public address amplifier that gives astonishing value. Features wide-range response; one phono and two mike inputs; individual controls for each microphone and for treble, bass and phono; advanced push-pull output circuit; exclusive Controlled Positive Feedback circuit; power stage screen voltage regulation for increased power output; fixed bias on power stage control grids; plug-in connector for speaker line; decorator styling. **Power Output:** 75 watts. **Response:** ±2 db, 20-20,000 cps. **Inputs:** Two microphone, one phono. **Gain:** Microphone, 120 db; Phono, 85 db. **Hum and Noise:** Fundamental, −70 db below rated output; Microphone, −55 db and Phono, −70 db below rated output. **Tone Controls:** Bass, +13 db to −10 db at 60 cps; Treble, +5 db to −12 db at 10,000 cps. **Output Impedances:** 4, 8, 16 and 65 ohms; 70-volt and balanced 25-volt line. **Tubes:** (11) 4-6AV5GA; 3-5Y3GT; 1-6CM7; 1-6U8; 1-6U6; 1-12AX7. **Power:** 117 volts, 60 cps. **Power Consumption:** 270 watts at full signal. **Dimensions:** 17¼" wide, 12" deep, 6½" high. **Shipping Weight:** 34 lbs.

**Bogen Model CHA75 Amplifier**—With tubes and cage. List Price.....**$169.50**
Zone 2: **177.25**

CHA33

## CHA33 33-WATT AMPLIFIER

Features wide-range response; two microphone inputs; individual controls for each microphone and for treble, bass and phono; separate boost/cut bass and treble tone controls; advanced design push-pull output circuit with negative feedback; rugged construction; plug-in connectors for speaker line; 70-volt line; decorator styling. **Power Output:** 33 watts. **Response:** ±2 db, 30-15,000 cps. **Inputs:** Two microphone, one phono. **Gain:** Microphone, 120 db; Phono, 83 db. **Hum and Noise:** Fundamental, −75 db below rated output; Microphone −55 db and Phono −75 db below rated output. **Tone Controls:** Bass +12 db to −12 db at 60 cps; Treble +5 db to −17 db at 10,000 cps. **Output Impedances:** 4, 8, 16 and 150 ohms; 70-volt line. **Tubes:** (7) 2-6L6GB; 2-5Y3GT; 2-12AX7; 1-6AV6. **Power:** 117 volts, 60 cps. **Power Consumption:** 135 watts at full signal. **Dimensions:** CHA33, 14¼" wide, 8½" deep, 6½" high; CHA33Y, 14¼" wide, 8½" deep, 10¾" high. **Shipping Weight:** CHA33, 22 lbs.; CHA33Y, 25 lbs.

**Bogen Model CHA33 Amplifier**—With tubes and cage. List Price.....**$107.50**
Zone 2: **112.35**

**Bogen Model CHA33Y Phono-Top Amplifier**—With built-in three-speed phono top, Ronette turnover cartridge, tubes and cage. List Price.....**$137.50**
Zone 2: **142.90**

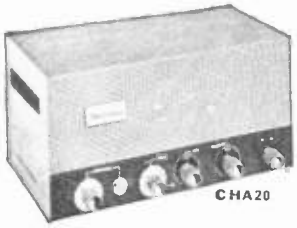
CHA620Y

## CHA620 20-WATT UNIVERSAL MOBILE AMPLIFIER

Operates on 117 volts AC, 12 or 6 volts DC. Wide-range response, individual controls for microphone, treble, bass and phono. Separate boost/cut bass and treble controls; advanced design push-pull output circuit with negative feedback; built-in inverter provides 117 volts AC, 60 cps power to built-in or external phono for battery operation; rugged construction; plug-in connectors for speaker line; 70-volt line; decorator styling. **Power Output:** 20 watts. **Response:** ±2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 120 db; Phono, 76 db. **Hum and Noise:** Fundamental −75 db below rated output; Microphone −55 db and Phono −75 db below rated output. **Tone Controls:** Bass, −12 db to −12 db at 60 cps; Treble, +8 db to −12 db at 10,000 cps. **Output Impedances:** 4, 8, 16 and 245 ohms; 70-volt line. **Tubes:** (5) 2-6V6GT; 1-6AX5GT; 2-12AX7. **Power:** 117 volts 60 cps, 6 or 12 volts DC. **Power Consumption:** (at full signal), 80 watts at 117 volts; 88 watts with phono at 6 or 12 volts DC. **Dimensions:** CHA620, 15¼" wide, 10" deep, 8½" high; CHA620Y, 15¼" wide, 10" deep, 10¾" high. **Shipping Weight:** CHA620, 25 lbs.; CHA620Y, 30 lbs. AC and DC cable supplied.

**Bogen Model CHA620 Amplifier**—With tubes and cage. List Price.....**$167.50**
Zone 2: **172.40**

**Bogen Model CHA620Y Amplifier With Phono Top**—With tubes, cage, AC and DC cable, built-in three-speed phono top, Ronette turnover cartridge. List. .**$190.00**
Zone 2: **195.40**


CHA20

## CHA20 20-WATT AMPLIFIER

Wide-range response; individual controls for microphone, treble, bass and phono; separate boost/cut bass and treble controls; advanced design push-pull output circuit with negative feedback; rugged construction; plug-in connectors for speaker line; 70 volt line; decorator styling. **Power Output:** 20 watts. **Response:** ±2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 120 db; Phono, 76 db. **Hum and Noise:** Fundamental, −75 db below rated output; Microphone, −55 db and Phono, −75 db below rated output. **Output Impedances:** 4, 8, 16 and 245 ohms; 70-volt line. **Tone Controls:** Bass, +12 db to −12 db at 60 cps; Treble, +8 db to −12 db at 10,000 cps. **Tubes:** (5) 2-6V6GT; 1-6AX5GT; 2-12AX7. **Power:** 117 v., 60 cps. **Power Consumption:** 80 watts at full signal. **Dimensions:** CHA20, 14¼" wide, 8½" deep, 6½" high; CHA20Y, 14¼" wide, 8½" deep, 10¾" high. **Shipping Weight:** CHA20, 20 lbs.; CHA20Y, 23 lbs.

**Bogen Model CHA20 Amplifier**—With tubes and cage. List Price.....**$87.50**
Zone 2: **91.10**

**Bogen Model CHA20Y Amplifier With Phono Top**—With tubes, cage, built-in three-speed phono top, Ronette turnover cartridge. List Price.....**$117.50**
Zone 2: **121.55**

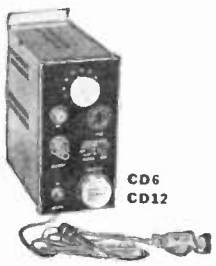
CHA10

## CHA10 10-WATT AMPLIFIER

A champion for low-power applications. Wide-range response; SELECTONE for quick, easy tonal adjustment; individual controls for microphone, phono and tone; advanced negative feedback circuit; rugged construction; plug-in connectors, decorator styling. **Power Output:** 10 watts. **Response:** ±2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 115 db; Phono, 76 db. **Hum and Noise:** Fundamental, −70 db below rated output; Microphone, −55 db, and Phono, −70 db below rated output. **Output Impedances:** 4, 8 and 16 ohms. **Tone Control:** SelecTone—Deep Bass, Mellow, Crisp, Brilliant. **Tubes:** (4) 1-6L6GB; 1-6AU6; 1-6AV6; 1-6AX5GT. **Power:** 117 volts, 60 cps. **Power Consumption:** 70 watts at full signal. **Dimensions:** 11" wide, 7½" deep, 5¾" high; with cage, 6⅛" high. **Shipping Weight:** 10 lbs.; with cage, 12½ lbs.

**Bogen Model CHA10 Amplifier**—With tubes, less cage. List Price.....**$60.00**
Zone 2: **61.80**

**Bogen Model CAG10**—Cage for CHA10 Amplifier. List Price..... **6.50**
Zone 2: **7.05**


CD6
CD12

## CD6 AND CD12 6-WATT AMPLIFIERS, 6 AND 12 VOLT OPERATION

**CD6** operates from a six-volt battery, **CD12** from a 12-volt battery. Universal mounting permits four alternate mounting positions. Remote control of "standby" reduces current drain. Vibrator replaceable from front without dismounting amplifier or removing cage. Complete chassis removable for service by removing four screws. Fused DC power cable built-in. Primary power circuit physically isolated from high gain circuit for minimum hum. **Power Output:** 6 watts. **Response:** Optimum speech. **Gain:** 109 db. **Output Impedances:** 4, 8 and 16 ohms. **Tubes:** (4) 2-6SF5; 1-6L6GA; 1-6X5GT. **Dimensions:** 3¼" wide, 8" deep, 7" high. **Shipping Weight:** 8 lbs. With tubes, cage and DC cable.

**Bogen Model CD6 6-Volt Mobile Amplifier**—List Price.....**$75.00**
**Bogen Model CD12 12-Volt Mobile Amplifier**—List Price..... **75.00**
Zone 2: **76.40**

**(Schedule A)**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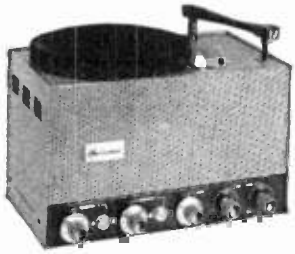
World Radio History

# Challenger ACCESSORIES AND SOUND SYSTEMS



## RACK PANEL MOUNTING KITS

**For CHA75 Amplifier**—19" x 8¾". With all hardware. Gray metallustre finish. List Price..... **$14.85**
Zone 2: **16.60**

**For CHA33, CHA20 and CHA10 Amplifiers**—19" x 7". With all hardware. Gray metallustre finish. List Price **$14.85**
Zone 2: **16.60**

## PHONO TOPS

Phonograph tops are available with Models CHA33, CHA620 and CHA20 amplifiers as described on facing page. They must be ordered at the same time as the amplifier (add "Y" to Model No.). The phono top consists of a high quality three-speed phono with a Ronette turnover cartridge installed.

## SHOCK-MOUNTING BASE

A spring-loaded, shock isolating base for operating Models CHA620 and CHA620Y amplifiers in a car or truck.
**Bogen Model SV-3**—List Price **$13.75**
Zone 2: **14.45**

## MICROPHONES, SPEAKERS

**Bogen-EV 927 Crystal Microphone**—Less Connector. List Price..... **$22.50**
Zone 2: **22.50**

**Bogen Model P12S Indoor Speaker**—With BA12 baffle. List Price **$30.18**
Zone 2: **31.70**

**University Model PH Trumpet**—With MA25 driver. List Price **$58.50**
Zone 2: **61.20**

**University Model IB8 Trumpet**—List..... **$34.50**
Zone 2: **35.25**

## MX6 MIXER-PREAMPLIFIER

Self-powered, provides four microphone and two radio-phono inputs; any four can be used at once for noiseless mixing and fading. **Output:** 6 volts. **Response:** 50-15,000 cps, ±2 db. **Gain:** Mike, 59 db; Phono, 30 db. **Hum Level:** −70 db below 6 volt input. **Output Impedance:** Less than 1000 ohms (cathode follower). **Controls:** Two mike volume, two mike or phono volume, On-Off. **Tubes:** 2-12AX7; 1-12AT7. **Size:** 8" x 4¾" x 6¼". **Power:** 10 w, 117 v, 60 cps. Shipping Weight, 6 lbs.

**Bogen Model MX6**—List Price **$60.00**
Zone 2: **60.90**

## COMPLETE INDOOR, OUTDOOR AND PORTABLE PUBLIC ADDRESS SYSTEMS

| Bogen System No. | Type of System | Uses Amplifier Model | Uses Microphone Model | Uses Speakers, Baffles, Horns, Drivers | List Price Zone 1 | List Price Zone 2 |
|---|---|---|---|---|---|---|
| CHA75B | 75-watt Indoor | CHA75 | Bogen—E-V Model 927 crystal microphone, stand, 10' cable, MC1F connector. | Four 12" Alnico V PM speakers, each with 25' cable and plug, mounted in 12" hand-finished walnut wall baffles. | $303.77 | $314.78 |
| CHA75T | 75-watt Outdoor | CHA75 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | Three University PH trumpets with MA25 driver units. (Additional trumpets and driver, List $58.50, Zone 2: $61.20). | 372.78 | 386.30 |
| CHA33P | 33-watt Portable | CHA33 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in split, portable baffle which also carries the amplifier. | 202.50 | 209.85 |
| CHA33YP | Phono | CHA33Y | Same as CHA33P. | Same as CHA33P, except larger carrying case. | 234.55 | 243.05 |
| CHA33B | 33-watt Indoor | CHA33 | Bogen—E-V Model 927 crystal microphone, stand, 10' cable, MC1F connector. | Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in 12" hand-finished walnut wall baffles. | 194.03 | 201.07 |
| CHA33YB | Phono | CHA33Y | Same as CHA33B. | Same as CHA33B. | 221.82 | 229.87 |
| CHA33T | 33-watt Outdoor | CHA33 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable, MC1F connector. | One University PH trumpet with MA25 driver unit. (Additional trumpets with driver, List Price $58.50, Zone 2: $61.20). | 196.88 | 203.57 |
| CHA33YT | Phono | CHA33Y | Same as CHA33T. | Same as CHA33T. | 224.63 | 232.78 |
| CHA620T | 20-watt Universal | CHA620 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | One University PH trumpet with MA25 driver unit. (Additional trumpets with driver, List Price $58.50, Zone 2: $61.20). | 262.10 | 271.60 |
| CHA620YT | Phono | CHA620Y | Same as CHA620T. | Same as CHA620T. | 288.03 | 291.82 |
| CHA20P | 20-watt Portable | CHA20 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in split portable baffle which also carries amplifier. | 176.58 | 182.98 |
| CHA20YP | Phono | CHA20Y | Same as CHA20P. | Same as CHA20P except larger carrying case. | 208.62 | 216.18 |
| CHA20B | 20-watt Indoor | CHA20 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in hand-finished walnut wall baffles. | 169.20 | 175.33 |
| CHA20YB | Phono | CHA20Y | Same as CHA20B. | Same as CHA20B. | 195.83 | 202.93 |
| CHA10S | 10-watt 1-spkr. Portable | CHA10 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | One 8" Alnico PM speaker mounted in portable carrying case. | 127.08 | 131.70 |
| CHA10P | 10-watt 2-spkr. Portable | CHA10 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | Two 10" Alnico PM speakers, each with 25' cable and plug, mounted in split portable carrying case. | 141.81 | 146.97 |
| CD6U | 6-volt, 6-watt Mobile | CD6 | Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector. | One University IB8 trumpet. (Additional trumpets available. List Price $34.50, Zone 2: $35.25). | 125.45 | 128.35 |
| CD12U | 12-volt | CD12 | Same as CD6U. | Same as CD6U. | 125.45 | 128.35 |

## BOGEN BAFFLES AND CARRYING CASES

### BAFFLES

Built of selected veneers, strongly reinforced and hand finished in your choice of walnut, blond or natural (except BR Series—unfinished). Designed to assure maximum speaker performance. Mounting hardware included. See table at right.

### CARRYING CASES

**Bogen Model LK12**—For CHA20, CHA33, K15, K120 and L330. List Price **$37.50**
Zone 2: **41.10**

**Bogen Model LKP12**—For CHA20Y, CHA33Y, K15Y, K130Y and L330Y. List Price..... **$42.50**
Zone 2: **46.50**

**Bogen Model CK10**—Holds 2-10" speakers. For CHA10 and K10. List **$30.00**
Zone 2: **32.30**

| Bogen Model | Baffle Description (Dimensions: W x H x D) | Speaker Accommodations | Shpg. Wt., Lbs. | List Price Zone 1 | List Price Zone 2 |
|---|---|---|---|---|---|
| BX8 | De luxe; two raised grille bars; 10½" x 11" x 7¼" | 1-8" | 20 | $ 9.38 | $ 9.75 |
| BX12 | De luxe; raised grille bars; ¾" sides; 16" x 17¾" x 11¼" | 1-12" | 17 | 18.75 | 20.05 |
| EC8 | Economy corner; 17¼" x 12" x 7½" | 1-8" | 8½ | 13.75 | 15.05 |
| EC12 | Economy corner; 17¼" x 15¼" x 8⅞" | 1-12" | 8½ | 14.75 | 16.05 |
| BF8 | Bi-Face two-directional, closed back; 10¾" x 12¼" x 10" | 1-8" | 25 | 16.25 | 17.20 |
| BA12 | Standard; 13¾" x 13¾" x 8½" | 1-10" or 12" | 8 | 10.25 | 10.85 |
| WA6 | Standard; 8" x 8½" x 4¾" | 1-6" | 14 | 5.50 | 5.65 |
| WA8 | Standard; ½" solid wood sides; 10¼" x 11" x 6" | 1-8" | 18 | 6.90 | 7.25 |
| WA12 | Heavy-duty; ¾" solid wood sides; 14½" x 16½" x 8½" | 1-12" | 12 | 13.75 | 14.65 |
| BR8 | Utility bass reflex; unfinished, primer-coated plywood; acoustically lined; with grilles for speaker and aux. ports; 23¾" x 18½" x 11½" (inside depth, 10¾") | 1-8" | 20 | 27.50 | 30.50 |
| BR12 | Same as BR8, 31¼" x 23½" x 13½" (11¾" inside depth) | 1-12" | 32 | 40.00 | 44.80 |
| BR15 | Same as BR12 but 15½" deep (inside, 13¼") | 1-15" | 37 | 45.00 | 50.05 |

(Schedule A)

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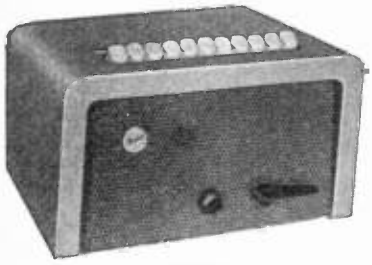
World Radio History

# Bogen BASIC INTERCOMMUNICATION SYSTEMS

## COMMUNO-PHONE SYSTEMS

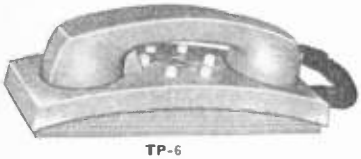
**AVAILABLE IN TWO SERIES FOR ANY TYPE INSTALLATION.**



X110A

RX3

MODEL 600 AND 1200 MASTER



TP-6

### COMMUNO-PHONE X AND C SERIES

Select your station, depress the talk-listen switch and talk. It's that easy to operate the Bogen Communo-Phones. To receive a reply, remove your finger from the switch. It automatically returns to the listen position. "X" systems incorporate discrete busy signal system. Remote stations are available as listed below.
Models are housed in decorator-styled steel cabinets. Privacy within the system is a feature of both "X" and "C" masters and the addition of "UX2" or "UZ2" handset permits use of communo-phone privately, even while a visitor is present.

#### TYPE "X" DELUXE 117 V.—A/C SERIES

**Bogen Model X110A Master**—Will serve installations requiring single master, multiple remotes, all masters, or multiple masters and remotes. Ten selector push-buttons. 7-foot master cable terminating in spaced lug strip for quick solderless connection to junction box. List Price ..... **$116.00** (Zone 2: $118.25)
**Bogen Model X210A Master**—Same as X110A, but with 20 selector push-buttons. List Price ..... **$140.00** (Zone 2: $142.40)
**Bogen Model RX10 Remote**—With push-button break-in to ten masters, volume control and 7-foot master terminating in spaced lug strip for quick solderless connection to junction box. List Price ..... **$46.20** (Zone 2: $47.25)
**Bogen RX1 Remote**—With break-in switch to one master, volume control and 7-foot cable. List Price ..... **$25.30** (Zone 2: $25.75)
**Bogen RX3 Remote**—With break-in switch to three masters, volume control and 7-foot cable. List Price ..... **$28.60** (Zone 2: $29.05)

#### TYPE "C" DUAL PURPOSE AC-DC SERIES

Models C110A and C210A will operate in systems requiring either a single master and several remote stations or several master stations only. Similar to "X" masters in most other respects.

**Bogen Model C110A Master**—Similar to X110A. List ..... **$82.50** (Zone 2: $84.60)
**Bogen Model C210A Master**—Similar to X210A. List ..... **$105.00** (Zone 2: $107.25)
**Bogen RC1 Remote**—With break-in switch to one master and 7-foot cable. List Price ..... **$21.45** (Zone 2: $21.90)
**Bogen Model 60R**—Remote station in gray polystyrene—with initiating call switch. List Price ..... **$12.93** (Zone 2: $13.40)

#### ACCESSORIES FOR "X" AND "C" SERIES

**Bogen Model "JU" Junction Box**—Will serve all series "X" and "C" installations. X110A and C110A masters require only one junction box. X210A and C210A require two boxes. List Price ..... **$8.36** (Zone 2: $8.66)
**Bogen Model "UX2" Handset**—Plug-in handset and cradle for side of desk mounting. List Price ..... **$44.50** (Zone 2: $45.10)
**Bogen Model "UZ2" Handset**—Plug-in handset and cradle for mounting on "X" or "C" master stations. List Price ..... **$47.50** (Zone 2: $48.10)

#### COMMUNO-PHONE CABLE

**Bogen Model 1401S**—One pair, twisted, stranded, unshielded. No braid. List per 100 ft. ..... **$5.25** (Zone 2: $5.63)
**Bogen Model 1402S**—Two pair, each pair individually twisted, unshielded. List per 100 ft. ..... **$11.15** (Zone 2: $11.75)
**Bogen Model 1403S**—Three pair, each pair individually twisted, unshielded. List per 100 ft. ..... **$15.35** (Zone 2: $16.10)
**Bogen Model 1406S**—Six pair, each pair individually twisted, unshielded. List per 100 ft. ..... **$26.25** (Zone 2: $27.30)
**Bogen Model 1411S**—Eleven pair, each pair individually twisted, unshielded. List per 100 ft. ..... **$55.25** (Zone 2: $56.75)

### MODELS 600 AND 1200

Challenger 600 master is a dual purpose unit, which will operate in a system using a single master and up to five remote stations or in an all master system of six stations. Housed in a sturdy gray polystyrene cabinet. Incorporates volume control, bar type press-to-talk switch and 7-position selector switch.
When used in a single master-multiple remote installation, the "mute" position silences the background noise at the remote stations. In this condition the remote can still initiate a call to the master. The "all" position permits a master station in either type system to call other stations simultaneously. Model 60R remote is housed in a matching polystyrene cabinet and is equipped with an initiating call bar. During conversation with the master, the remote does not operate any control.
**System Type 1:** One master and up to five remote stations. Master can call all remotes simultaneously. (Requires three-conductor cable between master and each remote.)
**System Type 2:** All master system. Capacity of six masters if each master must talk with every other master. (Otherwise more than six may be used.) Each master can call all others simultaneously.
**Bogen Model 600 Master**—List Price ..... **$39.05** (Zone 2: $39.95)
**Bogen Model 60R Remote**—List Price ..... **12.93** (Zone 2: $13.40)
**Bogen Model 1203S Cable**—(For system type 1). 100 feet. List Price ..... **$6.90** (Zone 2: $7.15)
**Bogen Model 1207S Cable**—(For system type 2). 100 feet. List Price ..... **$12.50** (Zone 2: $12.95)
New Model 1200 master station similar in operation and appearance to Model 600 can call up to 11 other masters or remotes. No "all" position.
**Bogen Model 1200 Master**—List Price ..... **$49.05** (Zone 2: $49.95)
**Bogen Model 1213S Cable**—(For 1200 all master system). 100 feet. List Price ..... **$27.00** (Zone 2: $28.20)

## BOGEN TP PHONE SYSTEMS

To make a call on any Bogen-Phone system, simply lift the receiver and press the button (or buttons for conference call) of the station desired. Buzzer sounds at that station and when receiver is lifted, you are in communication. Can be desk or wall mounted. Slim, attractive gray plastic handsets, 9½" x 3¼" x 3¼". One Model PRS-1 Power Supply required for each system; one junction box provided as part of each handset.

#### TWO-STATION SYSTEM

Private line system between two parties. Each handset has a push button that activates buzzer on other handset. Supplied with 4' snarlproof cord. Shipping Weight (pair), 9 lbs.
**Bogen Model TP-1**—List Price (pair) ..... **$49.95** Zone 2: **50.80**

#### FOUR-STATION SYSTEM

Low cost four party system using two Two Station systems. Simple code ringing required for any two party conversations.

#### SEVEN-STATION SYSTEM

Inexpensive seven party system with six push buttons on each handset. Shipping Weight (each), 5 lbs.
**Bogen Model TP-6**—List Price (each) ..... **$27.95** Zone 2: **28.35**

#### THIRTEEN-STATION SYSTEM

Each handset has 12 push buttons for selective ringing. Serves up to 13 stations. Shipping Weight, (each), 5 lbs.
**Bogen Model TP-12**—List Price (each) ..... **$29.95** Zone 2: **30.35**

#### POWER SUPPLY

Serves all systems using TP handsets. One required for each system. May be plugged into any standard electrical outlet and connected to any of the junction boxes in the system. Negligible power drain when system is inactive. Shipping Weight, 4 lbs.
**Bogen Model PRS-1**—List Price ..... **$30.00** Zone 2: **30.30**

**(TP Phone Systems, Schedule C3. All other products on this page, Schedule A.)**
**NOTE: Zone 2 as referenced in these Bogen Pages, includes the states of Arizona, Arkansas, California, Colorado, Idaho, Louisiana, Mississippi, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington and Wyoming.**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# PRECISION ELECTRONICS

## NEW GROMMES PREMIERE SOUND AMPLIFIERS

**G-20 20 WATT AMPLIFIER**
Controls — (6) Microphone-1, Microphone-2, Phono, Bass, Treble, Power Off-on Switch.
Tubes — 3 - 12AX7, 2-6L6GB and 5Y3GT. **NET PRICE $106.66**

**G-40 30 WATT AMPLIFIER**
Controls — (7) Microphone-1, Microphone-2, Microphone-3, Phono-Telephone, Bass, Treble, Power Off-On Switch.
Tubes — 4 - 12AX7, 2-6L6GB and 5U4GB. **NET PRICE $130.00**

**G-75 50 WATT AMPLIFIER**
Controls — (9) Microphone-1, Microphone-2, Microphone-3, Microphone-4, Phono-1, Phono-2 Telephone, Bass, Treble, Power Off-On Switch.
Tubes — 3-12AX7, 2-12AU7, 2-6550 KT88, 2-5U4G, and 6L6GB Regulator. **NET PRICE $166.66**

**G-5 DELUXE PREAMPLIFIER, MIXER, EQUALIZER**
Inputs — (8) Channels, 1, 2, 3, 4, 5 for high impedance microphone or low impedance with plug-in transformer. (All mic. inputs are Cannon XL-3.)
Controls — (11) Channels, 1, 2, 3, 4, 5, 6, Master Gain, Bass, Treble, VU Meter, Power Off-On.
Tubes — 7 - 12AX7, 2-12AU7 and 1 - 6X4. **NET PRICE $155.00**

**G-50 WATT BOOSTER AMPLIFIER**
Output impedance — 8, 16, 250 ohm and 70 volt line (100 ohms).
Tubes — 2 - 12AU7, 2 - 6550/KT88, 2 - 5U4GB and 6L6GB Regulator. **NET PRICE $111.66**

## NEW "P.E." POPULAR ECONOMY SOUND AMPLIFIERS

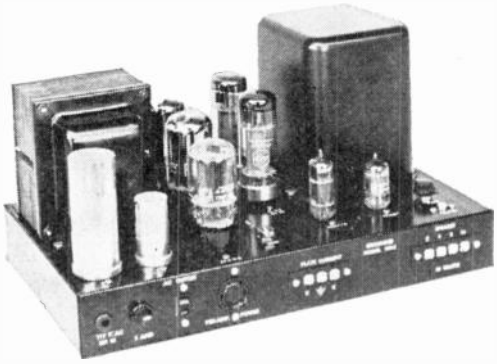
**MODEL 10PA 10 WATT AMPLIFIER**
Controls — Microphone, Phono, Tone, Power Off-On.
Output — 4, 8, 16 and 500 ohms (70 volt line at 10 watts).
Tubes — 12AX7, 6L6GB, 6X5GT. **NET PRICE $32.50**

**MODEL 20PA 20 WATT AMPLIFIER**
Controls — Microphone, Phono, Bass, Treble, Power Off-On.
Output — 4, 8, 16 and 333 ohms (70 volt line at 15 watts.) High impedance output for coupling booster amplifier.
Tubes — 2 - 12AX7, 2 - 6V6GT, 6AX5GT. **NET PRICE $47.50**

**MODEL 30PA-30 WATT AMPLIFIER**
Controls — Microphone-1, Microphone-2, Phono — Bass, Treble, Power Off-On, Slide Switch for operating magnetic phono through channel 2.
Output — 4, 8, 16 and 250 ohms (70 volt line at 20 watts.) High impedance output for coupling booster amplifier.
Tubes — 3 - 12AX7, 2-6L6GB, 5Y3GT. **NET PRICE $59.95**

**MODEL 60PA 60 WATT AMPLIFIER**
Controls — Microphone-1, Microphone-2, Phono, Bass, Treble, Power Off-On, Slide Switch for operating magnetic phono through channel 2.
Tubes — 3 - 12AX7, 2-6CA7/EL34, 2-5U4GB, 6973. **NET PRICE $99.50**

**MODEL 30MPA 30 WATT MOBILE AMPLIFIER**
Controls — Microphone-2, Microphone-2, Phono, Bass, Treble, Off-On switch for battery, combination off-on AC and standby switch for DC, 6 - 12 volt function switch.
Output — 4, 8, 16 and 250 ohms (70 volt line at 20 watts.)
Tubes — 3 - 12AX7, 2-6L6GB, 2-6X5GT. **NET PRICE $129.50**



## "GROMMES LITTLE GENIE" KITS

**LAYER-BUILT COLOR-GUIDE**

This new line of kits features quality components, thoroughly tested circuit designs and the easiest to follow set of assembly instructions ever devised. Each kit is complete with all parts and the Grommes Little Genie layer-built, color-guide instructions for fast, easy fool-proof assembly. See how the Grommes Little Genie does it before you build another kit.

**LJ-6K**—(Little Jewel) 10 watt Amplifier with built-in preamplifier **Net $24.95**

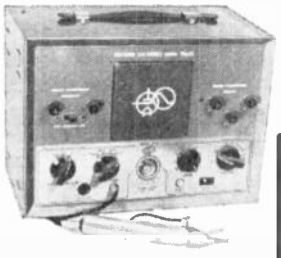
**207-AK**—Hi-Fi Preamplifier (self-powered) Feedback circuit with 10 controls **Net $44.50**

**20-PG8K**—20 Watt Amplifier with built-in preamplifier **Net $59.50**

**250-K**—60 Watt Basic Amplifier for use with a preamplifier (such as 207-AK.) **Net $79.50**

Model 202

**MODEL TVC TELEVISION CLARIFIER**
Wave trap eliminates interference by connecting between antenna and TV set.
**Net $4.50**



## MODEL 202 SIGNAL TRACER

All purpose tester traces signal for antenna to speaker. Use as test speaker, noise locater, audio amplifier and wattmeter. Level indicated on eye tube. Complete with AF probe. **NET PRICE $37.50**
A Probe $4.50, B probe $7.50 extra.

**PRECISION ELECTRONICS, INC.**
**FRANKLIN PARK ILLINOIS**



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SOUND EQUIPMENT BY **STROMBERG-CARLSON**
A DIVISION OF GENERAL DYNAMICS CORPORATION

# MASTER COMPONENT ASSEMBLIES

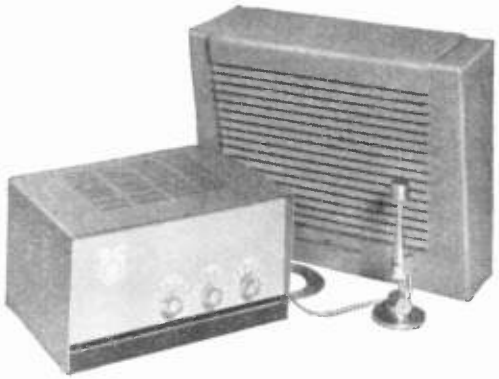
### ECONOMYMASTER I

Ideal for indoor use. The proper matching of the quality components used in assembling Economymaster I assures peak performance at low cost. These budget-priced, hard-working units will combine to serve many purposes with remarkable efficiency.

LIST PRICE $110.00

- AU-62 — 8 watt Amplifier
- Phono Input Jack
- MCX-55 Crystal Microphone
- MS-42 — Microphone Stand
- RH-28 D-Speaker Housing in Desert Sand
- RC-27* — High quality 8" Speaker

* Four speakers may be employed without line-matching transformers. Up to twenty speakers with line-matching transformers.



### ECONOMYMASTER II

For outdoor application, you will find Economymaster II an unbeatable matching of quality components in its price range. Its versatility and performance characteristics make this low cost, highly dependable ensemble worth many times the original cost. The Economymaster II features:

LIST PRICE $120.00

- AU-62 — 8 watt Amplifier
- Phono Input Jack
- MCX-55 Crystal Microphone
- MS-42 — Microphone Stand
- RS-14* — Weatherproof Re-Entrant Loudspeaker with Built-in Driver Unit

* Four speakers may be employed without line-matching transformers. Up to twenty speakers with line-matching transformers.

### MOBILMASTER

Truly mobile outdoor equipment which will provide excellent coverage over an extended area. The Mobilmaster will serve innumerable purposes with unmatched efficiency. Its rugged durability, flexibility and performance make the Mobilmaster outstanding in its field.

LIST PRICE: $180.00

- AM-666 — 8 watt Amplifier The AM-666 Amplifier operates from a 12-volt storage battery.
- MD-33C Close-talking Dynamic Microphone
- Phono Input
- RS-14* — 12 watt, Weatherproof Outdoor Loudspeaker with Built-in Driver Unit

* Additional RS-14 Speakers may be used.

### WORKMASTER I

The Workmaster I is ideally suited for any number of indoor applications. Featuring the perfect matching of highest quality components, the Workmaster I will give years of dependable, highly efficient service. True to its name, it will prove the master of any task assigned to it. The Workmaster I includes:

LIST PRICE: $155.00

- AU-63—16 Watt Amplifier
- Phonograph Input
- MCX-55 Crystal Microphone
- MS-42 — Microphone Stand
- RC-27* — Two High Quality 10 Watt 8" Speakers
- RH-28D — Two Speaker Housings with Desert Sand finish

* Will handle up to four RC-27 Speakers without Line-matching transformers. Up to 40 speakers with line-matching transformers.

**STROMBERG-CARLSON,** ***Division of General Dynamics,*** **Electronics Center, Rochester, N. Y.**



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***For indoor and outdoor applications, these systems are the ideal choice. Proper matching of components assures peak performance and long life — at low cost — when you specify component assemblies by Stromberg-Carlson.***

**WORKMASTER II**

The careful combining of just the right high-quality components assures you that the Workmaster II will master any of the many outdoor duties assigned to it. The quality construction of the components, the rugged dependability and outstanding performance of the Workmaster II make it an indispensable asset.

LIST PRICE: **$175.00**

- AU-63 — Powerful 16 watt Amplifier
- Phonograph Input
- MCX-55 Crystal Microphone
- MS-42 Microphone Stand
- RS-14* — Two 12 watt, Weatherproof Re-entrant Loudspeakers with Built-in Driver Units

* Handles up to 4 speakers without line-matching transformers. Up to 40 speakers with line-matching transformers.

**BROADCASTER**

Designed for true Full Fidelity indoor performance, the Broadcaster offers superior audio reproduction in the finest Stromberg-Carlson tradition. The careful matching of quality components gives the exact balance required for Full Fidelity operation. The versatile Broadcaster includes:

LIST PRICE: **$465.00**

- AU-64 Amplifier — 30 watts of Power Plus
- Phono Input
- MC-41 — Broadcast-type Cardioid Microphone
- MS-12 — Microphone Floor Stand. Easily adjusted.
- RF-473 — Two 32 watt High Fidelity Coaxial Diffuser Speakers
- RH-62 — Two Speaker Enclosures

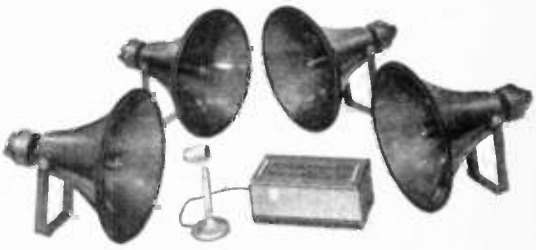
**PERFORMER**

Traditional Stromberg-Carlson quality, dependable, high-efficiency operation and functional versatility put the Performer in a class by itself for outdoor use. Perfectly matched components to assure proper balance guarantee the best performance possible. The powerful Performer features:

LIST PRICE: **$436.00**

- AU-64 — 30 watt Amplifier
- Phono Input
- MD-30C — Dynamic Microphone
- RP-34* — Four rugged outdoor Re-entrant Horns
- RD-24 — Four driver units for RP-34 Horn

* Handles up to 40 horns using RD-21 Driver Units.



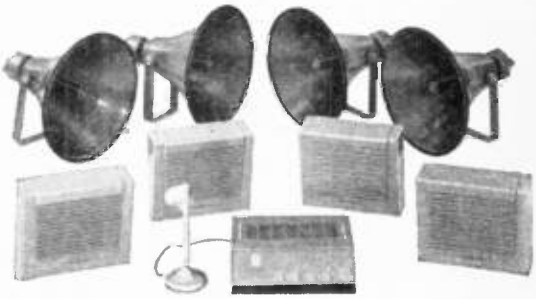
**POWER KING**

King of Kings is an apt description of the Power King. Virtually unlimited in its possible applications and with power to spare, the Power King stands alone in its field. The careful selection of the right components assures the ultimate in power plus long life and efficient performance from the Power King, which includes:

LIST PRICE: **$652.00**

- AU-65 — 65 watt Amplifier with Phono Input
- MD-30C — Dynamic Microphone with Grip-to-Talk Locking Switch
- RC-28 — Four High Quality 8", 12 watt Speakers
- TR-13 — Four Line-Matching Transformers
- RH-28D — Four Speaker Housings
- RP-27 — Four Re-entrant Horns
- RD-21 — Four 30 watt Driver Units

The Power King will handle up to 100 speakers.



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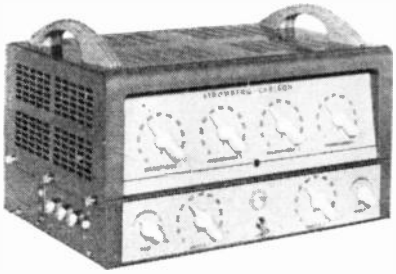
# AMPLIFIERS

*Audio perfection depends on the careful selection of the right amplifier for the job. The wide range of types, plus unsurpassed quality, dependability and economy of Stromberg-Carlson amplifiers assures the finest in audio.*



### MODEL AU-35

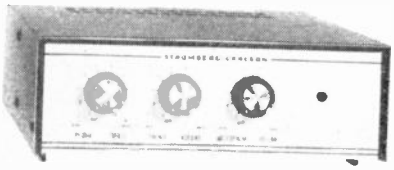
POWER OUTPUT: 50 watts. 25 watts each output channel with less than 5% total harmonic content. FREQUENCY RESPONSE: 50 to 12,000 cps. +0 —3 db. OUTPUT REGULATION: Less than 5 db voltage variation from no load to full load. POWER GAIN: 118 db from 40,000 ohm micro. source; 93 db from 100,000 ohm phono. source. OUTPUT TAPS: 4, 8, 15, 250 and 500 ohms. CONTROLS: 3 micro.; 1 phono; 1 treble attenuator, 1 bass attenuator; 2 volume; on-off switch. POWER SUPPLY: 105-125 V, 50-60 cps, 250 watts. INPUTS: 3 microphone; 1 phonograph (high impedance). WEIGHT: Net 41 lbs. Shipping 50 lbs. SIZE: W—16", D—12"; H—11" (plus knobs and connectors).
Listed under Re-examination service of Underwriter's Laboratories, Inc.

LIST PRICE: **$275.00**

### MODEL AU-36B

POWER OUTPUT 50 watts less than 5% total harmonic content. FREQUENCY RESPONSE: 50 to 12,000 cps 0 —3 db. OUTPUT REGULATION: Less than 3 db voltage variation from no load to full load. POWER GAIN: 125 db from 1 megohm micro source; 117 db from 40,000 ohm micro source; .005 volt input microphone sensitivity; .2 volt input phono sensitivity. OUTPUT TAPS: 4, 8, 16 ohms. CONTROLS: 1 micro; 1 phono; bass attenuator; treble attenuator, on-off. POWER SUPPLY: 105-125 V. 50-60 cps at 245 watts. INPUTS: 1 micro, 1 phono (high impedance). WEIGHT: Net 35 lbs. Shipping 44 lbs. SIZE: W—16"; D—12"; H 11" (plus knobs and connectors).
Listed under Re-examination service of Underwriter's Laboratories, Inc.

LIST PRICE: **$235.00**

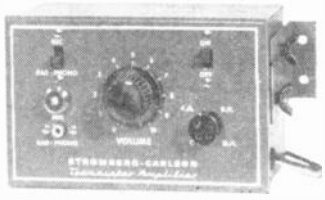


### MODEL AV-70 PREAMPLIFIER—MONITOR AMPLIFIER

OUTPUT: Preamplifier 600 ohm cathode follower: 2 volts to 5 volts. Monitor: 3 watts, 6 to 8 ohm tap and 25 volt (200 ohms). FREQUENCY RESPONSE: Preamplifier 20-20,000 cps ±2 db. Monitor 50-15,000 cps ±2 db. OUTPUT REGULATION: Less than 2 db. no load to full load. POWER SUPPLY: 65 watts, 105-125 volts, 50-60 cps. INPUTS: 1 micro-phone high impedance, 1 phono high impedance: CONTROLS: One microphone, one phono, 1 treble cut. WEIGHT: 10 lbs. SIZE: 12" W, 8½" D, 4¼" H. LIST PRICE: **$100.00**
Listed under Re-examination service of Underwriter's Laboratories, Inc.

### MODEL AM-666—MOBILE TRANSISTOR AMPLIFIER

POWER OUTPUT. 8 watts. Less than 5% distortion. FREQUENCY RESPONSE: 100 to 10,000 cps ±3 db POWER GAIN: 100 db from 10,000 ohm micro; 67 db from 100,000 ohm phono. OUTPUT TAPS 4, 8, 16 ohms. POWER SUPPLY: 12-volt storage battery or dry battery pack. CURRENT DRAIN. 0.3 amps (speech) — 0.5 amps. (music) — 0.15 amps. standby. INPUTS 1 micro 250-600 ohm 1 phono (500,000 ohm). CONTROLS: 1 micro — phono, gain, on-off. WEIGHT: 3 lbs. net. SIZE: 6⅞" W, 4⅛" H, 3⅛" D. LIST PRICE: **$120.00**



### MODEL AU-57

POWER OUTPUT: 25 watts, less than 3% total harmonic content. 48 watts peak. FREQUENCY RESPONSE: 20-20,000 cps ±2 db: 30-15,000 cps +0 —1.5 db. OUTPUT REGULATION: Less than 3 db voltage variation from no load to full load. POWER GAIN: 121 db from 1 megohm micro; 109 db from 40,000 ohm. Equal to .005 volts sensitivity for rated output. OUTPUT TAPS: 4, 8, 16 ohms 25 volts (25 ohms); 70 v. (200 ohms) 12.5 v. (25 volt center-tap): 35 v. (70 volt center-tap). CONTROLS: Micro or phono: 3 remote micros: variable treble boost and roll-off: variable bass boost and roll-off. Power switch on treble control. POWER SUPPLY: 105-125 v., 50-60 cps at 150 watts. INPUTS: 4 micro; or 3 micro and 1 phono or tuner or recorder or similar source with slotted shaft switch. WEIGHT: 25 lbs. net; shipping 29 lbs. SIZE: W—14"; D—8"; H-10" (plus knobs and connectors). Panel Kit for 19" Rack available.
Listed under Re-examination service of Underwriter's Laboratories, Inc.
Remote volume control facilities included for all inputs.

LIST PRICE: **$232.00**

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**MODEL AU-58B**

POWER OUTPUT: 25 watts. Less than 3% total harmonic content. FREQUENCY RESPONSE: 20 to 20,000 cps ±2 db; 30 to 15,000 cps +0-2 db. OUTPUT REGULATION: Less than 3 db voltage variation from no load to full load. POWER GAIN: 121 db from 1 megohm micro source; 109 db from 40,000 ohm source; .005 volt sensitivity for rated ouput; crystal input sensitivity .3 volt; magnetic input sensitivity .01 volt. OUTPUT TAPS: 4, 8, 16 ohms; 25 V (25 ohms); 70 V (200 ohms); 12.5 V (25 V Center Tap); 35 V (70 Volt Center Tap). CONTROLS: Micro; Input (Micro or Phono); Treble continuously variable to 15 db cut at 10,000 cps; Bass (continuously variable to 15 db cut at 50 cps; On-Off on Treble. POWER SUPPLY: 105-125 V, 50-60 cps at 130 watts. INPUTS: Two High Imp. Micro; or 1 Micro and Reluctance Phono or Crystal Phono, Radio Tuner, Tape Recorder or Similar Source with slotted shaft switch. WEIGHT: 25 lbs. net; 29 lbs. shipping. SIZE: W—14"; D—8"; H—10" (plus 1" front, 3" side, 2" back for knobs and connectors). Panel Kit for 19" Rack available.
Listed under Re-examination service of Underwriter's Laboratories, Inc.

LIST PRICE: $178.00

**MODEL AU-62 — High-Gain Audio-Frequency Amplifier**

POWER OUTPUT: Peak 13 watts; rated 8 watts. POWER GAIN: Micro input impedance 2.8 megohms requires less than 10 millivolts for rated output. Phono input impedance .5 megohms requires less than .5 V for rated output. OUTPUT TAPS: 4, 8, 16 ohms. POWER SUPPLY: 105-125 V; 50-60 cps; 60 watts. INPUTS: Two, 1 high imp. micro; 1 crystal or ceramic phono pickup. CONTROLS: Separate volume control for each input. Variable tone; —18 db at 10,000 cps. WEIGHT: 9 lbs.; SIZE: W—11"; D—8"; H—6" (plus connectors).

LIST PRICE: $62.00

**MODEL AU-63 — High-Gain Audio-Frequency Amplifier**

POWER OUTPUT: Peak 24 watts; rated 16 watts. POWER GAIN: Micro. input impedance 2.8 megohms requires less than 6 millivolts for rated ouput. Phono input impedance of .5 megohms requires less than .4 V for rated output. OUTPUT TAPS: 4, 8, 16 ohms, 70 V. POWER SUPPLY: 105-125 V; 50-60 cps, 80 watts. INPUTS: Two; 1 high imp. micro; 1 crystal or ceramic phono pickup. CONTROLS: Separate volume control for each input. Variable Tone —18 db at 10,000 cps.; WEIGHT: 11 lbs.; SIZE: W—13"; D—8"; H—6" (plus connectors).

LIST PRICE: $83.00

**MODEL AU-64 — High-Gain Audio-Frequency Amplifier**

POWER OUTPUT: Peak 42 watts; rated 30 watts. POWER GAIN: Micro input impedance 2.8 megohms requires less than 5 Millivolts for rated output. Phono input impedance .5 megohms requires less than .4 V for rated output. OUTPUT TAPS: 4, 8, 16 ohms, 70 V. POWER SUPPLY: 105-125 V; 50-60 cps; 110 watts. INPUTS: Three; 2 high impedance micro; 1 crystal or ceramic phono. CONTROLS: Separate volume for each input. Variable tone (—18 db at 10,000 cps.) WEIGHT: 16 lbs.; Size: W—16"; D—9½"; H—6" (plus connectors).

LIST PRICE: $113.00

**MODEL PR-5—Phono Top**
With 3-speed record player. Available for the AU-63, AU-64, amplifiers.
LIST PRICE: $48.75

**MODEL PC-17—Portable Case**

Equipped with 2 high-quality 8" speakers, 25 feet heavy-duty cable, and plugs wired to each speaker. Takes any amplifier not over 14" wide by 8" deep. Drilled to permit fastening AU-57 or AU-58 amplifier. Fabrikoid finish.

LIST PRICE: $85.00

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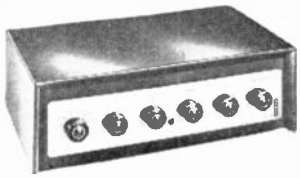
# ARKAY...leads the field!!!

**Arkay** . . . winner of the 1958 Fashion Foundation of America Gold Medal for Distinctive styling.
**Arkay** . . . winner of the HI-FI Music at Home "Commended Performance" award.

## AMPLIFIERS *by arkay*

### FL-30 30 Watt Hi-Fi Amp-Preamp, Transistorized Front End

Exclusive, 30 watt amplifier with completely transistorized pre-amp for use with reluctance pick-up assures high-gain, low noise front end. Amazing FL-30 gives equalization for more than 30 labels (LP, RIAA, EUR, etc.)



Wired and tested **$74.95**
Easy-to-build kit **$49.95**

### FL-10 10 WATT HI-FI AMP-PREAMP

A high fidelity amplifier/preamp, the FL-10 is designed for excellent reproduction from tape, records, tuners, etc. Equalization for over 30 labels is provided. The FL-10 provides a Tape-monitor output jack for simultaneous listening and recording unaffected by the loudness, bass or treble controls.
Wired and tested **$44.95** Easy-to-build kit **$29.95**

### A-12 HI-FI AMP AND PRE-AMP

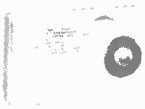
Advanced design of the A-12 provides all functions with a minimum investment. Single chassis construction contains pre-amp, amplifier, and power supply.
Wired and tested **$31.45** Easy-to-build kit **$23.95**

### TR-6 6-TRANSISTOR RECEIVER

Ultra-modern radio kit of advanced design . . . in portable, unbreakable Texon leather case. Uncrowded components, easy to assemble. Has built-in ferrite-loop antenna.
Easy-to-build kit, **$33.95**

### TR-5 5-Transistor Pocket Receiver

Personal-size portable transistor superhet receiver kit. Features 5 transistors, crystal diode in superhet circuit, 2¾" speaker with Alnico V, and 13½ V battery. 5½" x 3¼" x 1½". Shipping weight, 1 lb. Easy-to-build kit **$29.95** (Carrying Case, **$1.75**)



### 2x4 3-WAY PORTABLE RECEIVER

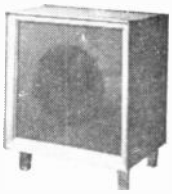
2-band operation. AC/DC power supply. Tuning range, 550-1600 kc; 6-18 mc. 10½"x7"x5½". Shipping weight, 10 lbs.
Easy-to-build kit **$26.95**

### S-5E RADIO RECEIVER

Designed for the beginner . . . a complete radio education in one project. Clear instructions for young and old. Cabinet size, 9"x5"x5". Shipping weight, 5 lbs. Easy-to-build kit **$17.10**

## SPEAKER SYSTEMS *by arkay*

### B-12 HI-FI CABINET AND SPEAKER SYSTEM



An infinite impedance baffle in kit form designed for exceptionally clean audio response ±5 db from 40-13,000 cps. This kit, when completely assembled, measures 17" x 17-1/2" x 15-5/16".

Arkay MODEL B-12 **$12.95**

Arkay MODEL B-12S same as above complete with HI-FI Coaxial Speaker and variable balance control **$25.00**

### B-8 SHELF TYPE SPEAKER SYSTEM

The B-8 brings to the audiophile true, brilliant audio reproduction without the usual "humps" that are prevalent at certain frequencies.
Easy-to-build kit **$35.95**

## LIVING SOUND STEREO *by arkay*

### SP-6 HI-FI STEREO-BINAURAL PREAMP

Unsurpassed in beauty of styling, performance and engineering, the SP-6 is a completely self-powered dual channel pre-amp with dual input and output features. Flick a switch for Monaural or Stereo operation.
Wired and tested **$62.95** Easy-to-build kit **$39.95**

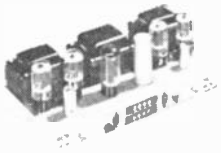
### ST-11 STEREO-BINAURAL AM-FM TUNER

The ST-11 is an AM-FM tuner of the highest sensitivity and flexibility. It includes such features as: variable AFC; dual cathode follower; Monaural AM, FM; stereo; narrow and wide band AM. Arkay's ST-11 has adjustable level controls and gives distortion-free performance.
Wired and tested **$74.50** Easy-to-build kit **$49.95**

### SA-25 STEREO-BINAURAL PREAMP AMP

The SA-25 added to your present amplifier forms a perfect STEREO system. A dual-pre-amp/amplifier, the SA-25 is designed to provide stereo-binaural and monaural reproduction from tape, records, tuners or other dual output program material.
Wired and tested **$89.95** Easy-to-build kit **$59.95**

### SPA-55 STEREO-BINAURAL AMP



The SPA-55 may be used as a STEREO amplifier, a bi-amplifier (for those who do not want to use a crossover) and as a 55 watt monaural unit. The SPA-55 is unsurpassed in quality and performance.

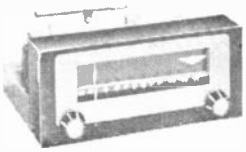
Wired and tested **$79.95**
Easy-to-build kit **$64.95**

## TUNERS *by arkay*

### FM-8 PROFESSIONAL STANDARD TUNER

The ultimate in a high fidelity tuner. Engineering features contained in the FM-8 provide a self-powered AC operated tuner utilizing five I. F. stages and an extremely sensitive tuning meter with unparalleled sensitivity and flexibility of operation. Especially designed for the discriminating audiophile.
Wired and tested **$59.95** Easy-to-build kit **$39.95**

### HFT-7 HI-FI AM-FM TUNER



World renowned as a standard of excellence, the HFT-7 is a compact self-powered AM-FM tuner of superb engineering and performance. Temperature compensated FM RF Circuits and Automatic Frequency Control assures excellent stability and no drift.

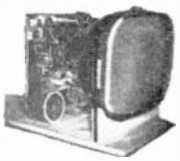
Wired and tested **$49.95**
Easy-to-build kit **$32.00**

### FM-6 HI-FI FM TUNER

Advanced design of the FM-6 provides noise-free reception of the weakest station signals without distortion or interference. Arkay's "Miracle Ear" sensitivity, AFC, six tubes plus standard deemphasis self contained AC power supply, and Foster-Seeley discriminator make the FM-6 the industry's outstanding unit.
Wired and tested **$39.95** Easy-to-build kit **$25.75**

**ARKAY** offers a complete line of radio receiver kits unmatched in performance and engineering features. Transistor portables, miniature receivers, personal radios, table models and many others too numerous to mention . . . all with the perfection of operation for which **ARKAY** has become famous.

### 14T21 TV KIT



Features vertical chassis construction • series string heater-type tubes • vertical retrace blanking circuits • reflects I. F. amplifier • transformerless operation • turret type tuner (completely wired and tested) • 21" picture tube operation. **$79.95**

**ARKAY** MODEL M-853 is a pocket size extremely versatile multitester especially designed for the home experimenter. It is equal to meters costing many times its price and will perform all the functions of a large multitester.

**arkay**
*LEADERS IN AUDIO, TV & HI-FI EQUIPMENT*

**"LIVING SOUND" STEREO**
**NEW YORK 6, N. Y.**



**RETAIL PRICES 5% HIGHER WEST OF THE MISSISSIPPI**

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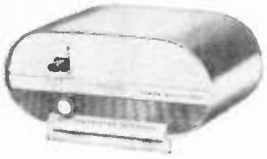
World Radio History

# Fanfare® ALL TRANSISTOR INTERCOMS

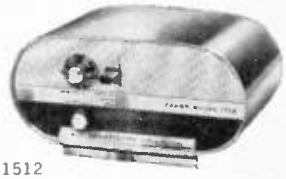
A new concept in intercommunication with new styling and outstanding performance. Features: Four transistors with push-pull output stage. Thermally compensated circuit. Instant operation—no warm up time. Battery used only when talking. Heavy-duty Listen-Talk switch. 13 ohm speaker impedance. 2 watt output. No hum—no shock hazard. Battery life many months with normal use. A variety of decorator colors or in brushed brass.

150



1500

1506



1512

1500—$74.95. Deluxe 2-station system with 50 ft. cable. Sensitive amplifier picks up slightest sounds. Remote has "dictate" position for baby-sitting. Ideal for the home and office. Additional remote may be added. Weight 8 lbs.

150—$17.50. Remote station with call switch for private or non-private operation. Weight 2 lbs.

151—$14.95. Remote station for non-private use only. (Less call switch.) Weight 2 lbs.

156—$24.95. Remote station with 6 position station selector switch. Weight 2 lbs.

1506—$74.95. A six station master for use in INTERMIXED, ALL MASTER or MASTER-REMOTE installations. Weight 4 lbs.

1512—$79.95. A twelve station master for use in INTERMIXED, ALL MASTER or MASTER-REMOTE installations. Weight 4 lbs.

PSA—$29.95. A 115v. AC transformer power supply for optional use. One PSA can be used for up to four master stations. Weight 4 lbs.

NOTE: All intercoms are less battery. Use Eveready #276 or equivalent.

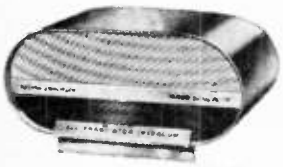
# TELEPHONE SYSTEMS

FANON FONE

**A complete line of telephone intercommunication equipment, designed to meet the needs of any installation for the home, office, factory and institution.**

## COMMON TALKING—SELECTIVE RINGING

8506



PA-TR

**Modern styling in high impact plastic in grey, black and ivory. AC or battery powered. Suitable for desk or wall mounting. Coiled cord. Common talk-line.**

8520—Complete 2 station system consisting of 2 telephones (8501), 50 ft. four conductor cable and battery wall bracket. $69.95.

8501—Single button phone used in conjunction with any multi-station phone. $33.75.

8503—A four-station capacity phone with 3 buzzer buttons. $34.95.

8506—A seven-station capacity phone with 6 buzzer buttons. $37.50.

8510—An eleven-station capacity phone with 10 buzzer buttons. $41.25.

PSA—115v. AC power supply. Only one required per system. $29.95.

FTS-20—A 20 station manual switchboard. Selective ringing and one private talking line. Busy lamps and buzzer. Several units may be ganged for large installations. $299.95.

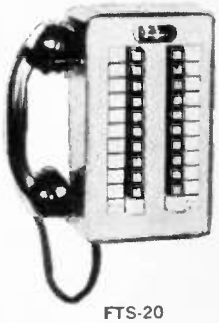
PS-20—115v. AC power supply for FTS-20. $124.95.

8500—Extension phone used with FTS-20. $39.95.

PA-TR—A 4 transistor paging amplifier used with any of above phones. Separate controls for incoming and outgoing volumes. Phono jack to connect paging horn. Relay operated. On only when talking. Can answer calls without using a switch. $89.95.

PST—115v. AC transformer power supply for use with PA-TR paging amplifier. $39.95.

PA-RC—A 3 tube paging amplifier used with any of above phones. Single volume control. Relay operated. On only when talking. Can answer calls without using a switch. Plugs into 115v. source. $64.95.



FTS-20

## SELECTIVE TALKING—SELECTIVE RINGING

5012

FA-22

**Deluxe, precision-made telephones that permit as many separate simultaneous conversations as there are pairs of call buttons. Conference calls possible. Balanced-line operation. Replacing hand-set automatically releases all engaged buttons. Supplied with junction cable and terminal box.**

5006—A six button, seven-station capacity phone. $104.95.

5012—A twelve button, thirteen-station capacity phone. $124.95.

PS-50—115v. AC power supply for above phone. Only one required per system. $39.95

# PRIVATE AUTOMATIC EXCHANGES—P.A.X.

FANON-FONE automatic switchboards are designed for every application. Features: Busy signal, complete privacy, priority lines, paging facilities. Simple installation—economical to operate. Self contained power supply.

FAS-101—Ten line capacity with one trunk.

FAS-152—Fifteen line capacity with two trunks.

FAS-304—Thirty line capacity with four trunks.

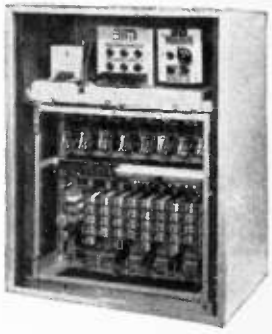
FAS-506—Fifty line capacity with six trunks.

Larger switchboards also available.

FA-11—Automatic dial telephone used with switchboards.

FA-22—Deluxe, modern styled automatic dial phone, used with switchboards.

Prices on PAX equipment quoted upon request.



FAS-304

All prices shown are list. Add 5% west of the Rockies.
For complete details, wiring information, etc., write to the factory.

**FANON ELECTRIC COMPANY, Inc. • Brooklyn 8, N. Y.**

Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada

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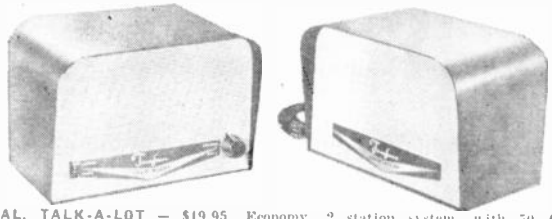
World Radio History

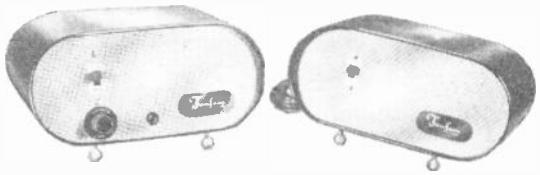
# Fanfare® INTERCOMS

**The complete intercom line styled for the modern office and home at economy prices.**

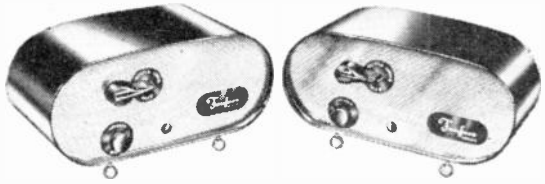
The complete line uses the same proven circuit and components: Three tubes — 12AU6, 50C5 and 35W4. • 3½" Alnico V speaker • Neon pilot light • Press-to-talk switch with long lasting "Coil-Spring" return • AC or DC • Remotes may be private or non-private • 2½ watt output • 20 watt power consumption • Dimensions: 8" x 4" x 4" • Decorator colors in Grey, Tan, Black and White and Brushed Brass.



**TAL, TALK-A-LOT — $19.95.** Economy, 2 station system, with 50 ft. cable. Remote is always open—no switch to operate. Smartly styled, metal cabinets — ideal for baby sitting and the home. Ready to operate — nothing more to buy. Weight: 6 lbs. Extra remote TR may be added: $7.95

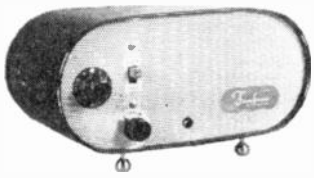


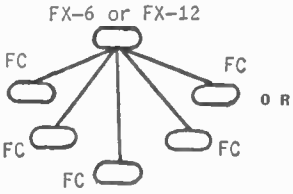
**FX-2, TWIN — $29.95.** Ultra-sensitive 2-station system with 50 ft. cable. Powerful amplifier picks up slightest noise. Remote has TALK-LISTEN switch to permit originating calls to master. Use it anywhere — home or business. Extra remote, FS, may be added: $12.50. Weight: 6 lbs.



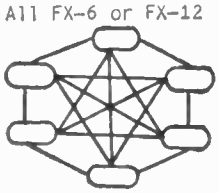
**FW-20, WIRELESS — $79.50.** A complete 2 station system ready to operate. No wires — no installation — just plug into any AC or DC outlet. Four tube plus germanium diode amplifier. Three-way Talk-Listen-Dictate switch. Standard model in ebony — Deluxe model, FW-20D, in brushed brass cabinets. Additional single stations: FW and FWD, $39.75. Weight: 9 lbs.

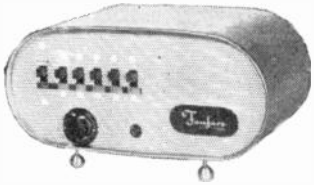
**RB-1, BABY-COM — $19.95.** A one-station, wire-less radio intercom. No installation, no wires required — merely plugs in to any AC or DC outlet and voice is heard through any radio (even car or battery radios). Ideally suited as a portable baby-sitter. Extremely sensitive, can be heard 300 ft. away. Blue or pink cabinets. Weight: 4 lbs.



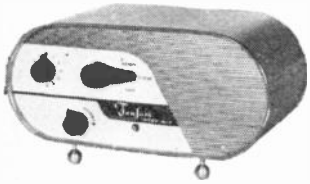


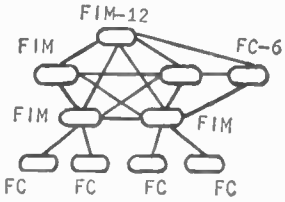

**FX-12, MANAGER — $37.50.** A dual purpose master for use with up to eleven FC remotes, in a MASTER-TO-REMOTE system, or up to twelve masters in an ALL MASTER system. Twelve station rotary selector switch. Six private conversations or conference of all stations, may be held in an all master system. Weight: 4 lbs.



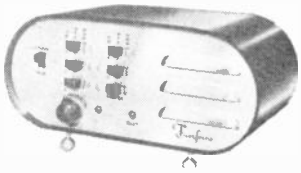



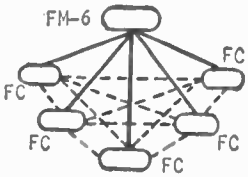
**FX-6, EXECUTIVE—$34.95.** A dual purpose master, for use with up to five FC remotes in a MASTER-TO-REMOTE system, or up to six masters in an ALL MASTER system. Five individual station selector switches. In all master systems, 3 private conversations or conference of all stations may be held. Weight: 4 lbs.



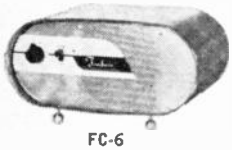



**FIM-12, INTERMIX — $44.95.** A deluxe twelve station intermix master which can be used in any combination of masters and/or remotes. Master has 3 position Talk-Listen-Dictate switch. Use in conjunction with two types of remotes: FC-6 which can selectively call any one of six masters, and FC which can call only one master. Weight: 4 lbs.

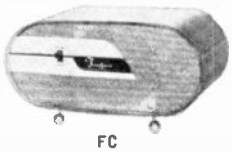





**FM-6, MONITOR — $37.50.** A master used with up to five FC remotes in a MASTER-TO REMOTE system. "Switch-board" feature provides direct remote-to-remote conversations. Master can monitor any or all remotes. Master can "set-up" remotes to monitor other remotes. Remotes can originate calls to master and to other remotes. Busy-light flashes during conversations. Weight: 4 lbs.



FC-6



FC

**FC, REMOTE — $13.25.** Used in conjunction with FX-6, FX-12, FM-6, FIM-12 and Entry-Sentry.

**FC-6, REMOTE — $19.95.** (Far Left) Six station selective remote used with FIM-12 only.

All prices shown are list. Add 5% west of the Rockies.

For detailed information, on any model, write to the factory for free catalogs.

For cable requirements, write to the factory.

**ACCESSORIES**

YX—Wall bracket for any master $1.50

YF—Wall bracket for any remote $1.50

FA-30—Isolation transformer $12.50

PH-5—Paging horn $26.95

TB-9—Nine terminal junction box $5.95

TB-16—Sixteen terminal junction box $7.50

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Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Fanfare® MUSI-TALK®

## Flush-mounting radio-intercom systems, for the home, office, school and industry.

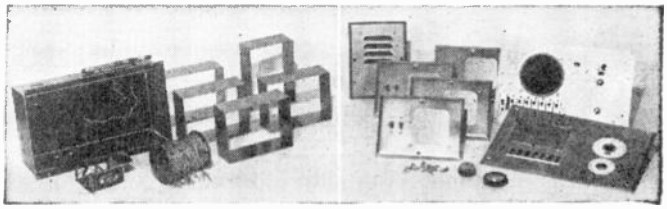
**There are two MUSI-TALK systems — namely system MT (with radio), and MTL (less radio). For easier handling and greater economy the MUSI-TALK systems are packaged in kit-form, as follows:**

**IK, (Installation Kit)** — Consists of 1 master plaster box, 5 remote plaster boxes, 200 ft. of wire and hardware. This installation kit is used in conjunction with either the EK or EKL electronic kits. List, $34.95

**EK, (Electronic Kit)** — Consists of 1 MC Master Control, (with radio), 4 BC Indoor Remotes, 1 BD Door Remote and hardware. List, $115.00

**EKL, (Electronic Kit)** — Consists of 1 MCL Master Control, (less radio), 4 BC Indoor Remotes, 1 BD Door Remote and hardware. List, $85.00

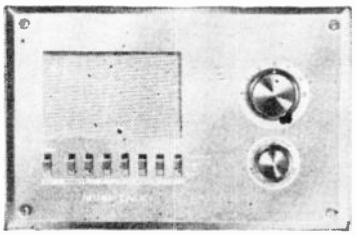
Any of the kits may be purchased separately. If complete kits are not desired, individual component parts may be purchased. (Listed below.)



INSTALLATION KIT — IK  ELECTRONIC KIT — EK or EKL

**Complete Musi-Talk system MT, consists of one EK and one IK.** List, $149.95

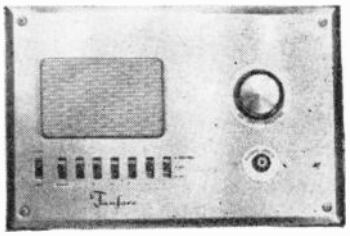
**Complete Musi-Talk system MTL, consists of one EKL and one IK.** List, $119.95



MC — MASTER CONTROL

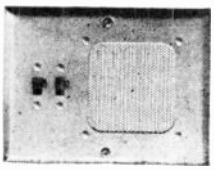
**MC, MASTER CONTROL** — A six tube, six-station master from which you may converse with any or all remotes. The master can "set-up" two or more remotes for direct communication with one another. "Monitor" feature enables master and remotes to eavesdrop any other locations. Powerful printed circuit radio can be "piped" to as many rooms as desired. Simultaneous radio and intercom operation is featured. Stylish satin copper panel is 11" x 7¾". List, $89.95. Rough-in dimensions: 5½" x 10¼" x 3½".

**MCL, MASTER CONTROL** — Has all the intercom features listed above, less the radio. A phono input jack enables you to plug in any external music source for complete music distribution. List, $59.95

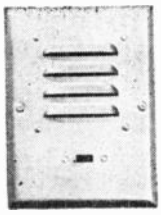


MCL — MASTER CONTROL

**Four BC and one BD remote stations are included in each electronic kit.**
**(Since master controls accommodate 6 stations, any one remote may be added optionally.)**



BC — REMOTE



BD — REMOTE

**BC, INDOOR REMOTE** — Four indoor remotes provide instant 2-way conversation among themselves and the master, as well as radio-music throughout the home. Remotes can originate calls to the master or to other remotes. Remotes may also "monitor" any other locations. Talk-Listen switch and Privacy switch. Satin copper panel is 6¼" x 4¾". List, $11.25

**BD, DOOR REMOTE** — Has weatherproof rubber gasket and "weatherized" speaker to withstand all types of weather. Door remote can originate calls to the master and any indoor remote. Enables you to answer the door from within the house and to "pipe" music to the porch or patio. Copper-finish panel 6¾" x 4¾". List, $9.95

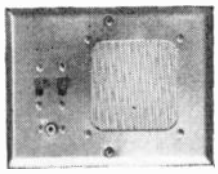
**OPTIONAL EQUIPMENT:**

**BJ, INDOOR REMOTE** — Same as BC, but incorporates a jack and matching transformer. Enables you to "pipe" your hi-fi to any or all rooms. List, $15.95

**BDR, DOOR REMOTE** — Same as BD, but incorporates a bell-button. List, $12.50

**DD, DESK-TOP CABINET** — Wood cabinet for surface installation of MC or MCL Masters. List, $9.95

**PB, PLASTERBOX** — Wall box for mounting all wall-type remotes. Measures 5¼" x 3⅞" x 2". List, $2.50

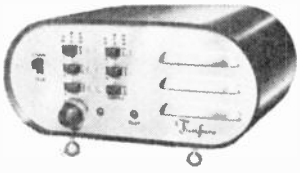


BJ — REMOTE

DD — CABINET

# "ENTRY - SENTRY"®

## *Low cost, home-intercom "package"!*



A new door-answering and intercom system for the home. Ideal for the low-priced home builder and "do-it-yourself" trade. Adds security and comfort to every home.

**ENTRY-SENTRY** consists of: FM-6 Monitor 5-station master, YX wall bracket, two BD weatherproof door remotes and 100 ft. 3 conductor wire. Weight: 9 lbs. Complete system: List, $54.95

Three additional remote stations may be added optionally to above system. **Model BC** for flush wall installation, list, $11.25, or **Model FC** for desk-top use, list, $13.25. Also **Model BJ**, list, $15.95.

## FANON ELECTRIC COMPANY, Inc. • Brooklyn 8, N. Y.

**Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada**

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***



World Radio History

## THESE EXCLUSIVE FEATURES ASSURE LOGE QUALITY

**PATENTED SELECTOR SWITCH ASSEMBLY**

Feather-touch keys provide maximum ease of operation. Patented construction permits instant access for adjustment or minor part replacement.

**MASTER CHASSIS**

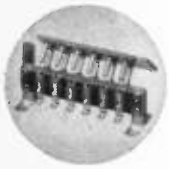
Removable in one minute for service (no extension wires required)...all units AC only (no AC-DC circuits are used).

**VISUAL ANNUNCIATORS**

On all models. Plunger is activated into position by in-coming call... acts as memo message if call is not answered.

**JUNCTION-TYPE TERMINAL CONNECTIONS**

Permits quick installation and interconnection between masters and remotes. Plug-in male and female terminals allow rapid removal for servicing or future expansion.



## KWIK-KALL SENIOR INTERCOMS

*MODEL L-406*
*6-station master*

**$127.50**
*List Price*

*Only Loge offers all this quality...*

- **ADAPTABLE** for every type of business and every size installation. Senior master units are available in 6, 12, 18, 24 and 36-station units which can be interconnected with Loge Junior Masters, remote stations, and paging speakers.
- **PRECISION BUILT** with exclusive Loge engineering features and extra power for wider range adaptability.
- **SOLID WALNUT** cabinets, beautifully styled and finished to harmonize with every office decor.
- **AVAILABLE WITH ACCESSORY FEATURES** including telephone handset, busy light signal, or annunciators.

## KWIK-KALL JUNIOR INTERCOMS

**$69.95**
*List Price*

*MODEL L-100-P System including L-100 Junior Master, one JR-3-45 remote speaker, and 50 ft of cable.*

*PR-50 Paging Speaker*

**$14.50**
*List Price*

*JR-3-45 Remote Speaker*

**$9.00**
*List Price*

*Low cost versatile intercoms for smaller installations*

- **2, 4, 6 AND 12-STATION UNITS** ideal for smaller offices and plants, or for interconnection with Loge Kwik-Kall Senior Masters. Compatible with all Loge remote station speakers and paging speakers.
- **STURDY METAL CASE** with hammertone finish assures rugged construction. Patented switch assembly and other Loge exclusive features. Small, compact, powerful.
- **AVAILABLE IN DESK OR WALL MODELS.** Junior master units can be ordered singly or in the L-100-P complete master-and-remote packaged system.

## KWIK-KALL "NOR" INTERCOMS

**$229.50**
*List Price*

*MODEL L-406A-NOR*
*6-station master with annunciators, telephone, handset, and chime signal.*

*Revolutionary 1-pair wire system for secret 2-way intercom*

- **SECRET INTERCOM** with absolute privacy between any two master stations, yet but a single pair of wires is needed. Conference calls are possible with only desired stations connected. Equipped with telephone handset as well as talk-back.
- **AUDIBLE AND VISIBLE ANNUNCIATORS.** Each call announced by chime or buzzer, and also by plunger signal which acts as memo message until answered.
- **PAGING KEY AVAILABLE** at small additional cost. Power is automatically quadrupled with use of paging key.
- **UNLIMITED INTERCONNECTIONS.** Standard master units available with 6, 12, 18, 24, and 36 stations. Larger units available on special order. In solid walnut cabinet with exclusive Loge construction features. 4-station Junior "NOR" master available in metal cabinet. All units can be interconnected with Loge remote stations and paging speakers. Installations of NOR units can be made up to 10,000 feet with No. 22 wire.
- **ZERO LEVEL** with dual amplification. Can be installed within telephone cable pairs on private or government-owned telephone systems.

**J. M. LOGE • SOUND ENGINEERS** **Los Angeles, California**

PIONEERS IN THE DESIGN AND MANUFACTURE OF INTERCOMMUNICATION SYSTEMS FOR MODERN BUSINESS



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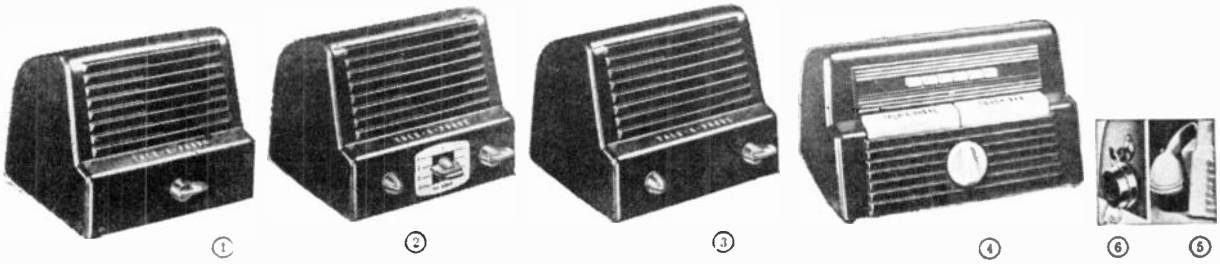
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# TALK-A-PHONE *Intercommunication Systems*

For the Home, Farm, Professional Man, Office and Business. A flick of a finger gives you instant and direct two-way conversation between any two points—anywhere. Designed to withstand continuous day and night use, TALK-A-PHONE operates at but a fraction of a cent a day . . . and it can be installed by anyone. All units are complete, ready to plug in. Walnut impact bakelite cabinets. Cabinets measure 8¼" x 6¼" x 7½".



① ② ③ ④ ⑥ ⑤

## NEW TALK-A-PHONE WIRELESS INTERCOMS

**with the Exclusive "Sonic Gate" Circuit**

### New 2-Station Wireless System (Figure 3)

A quality wireless intercom system for use in Homes, Apartments, Offices, Stores, Factories and Farms. No installation, no wiring, no cables. Just plug in any electrical outlet and talk. More stations can be added at any time, all stations will receive any messages transmitted by any other station. Mobile units can be moved anywhere an electrical outlet is available. Uni-Trans gives you dictat on and supervisory control. When set for Uni-Trans unit provides continuous transmission to other unit to dictate or to "listen in" . . . for example on baby's room. The "Sonic Gate," together with the Talk-A-Phone "Squelch," effectively suppresses line noises and hum while system is in actual operation as well as when in stand-by position. Beautifully styled in sturdy impact bakelite cabinets finished in rich walnut or executive gray. For 110-120 volt AC DC. All units in system must operate from same electric service transformer. Size 8¼" x 6¼" x 7½". Complete with tubes and instructions.

**LC-33** consists of two master stations. Shipping weight 14 lbs. Walnut cabinets. List Price complete $120.00 . . . . . Net **69.95**

**LC-17** Additional single station. Shipping weight 7 lbs. Walnut Cabinet. List Price complete $60.00 . . . . . Net **35.00**

### The New 6-Station Selective Wireless System (Figure 4)

Simple to install: no wiring, simply place each Master where needed, plug into an electrical outlet and talk! Where changes of location are desired, simply pick-up the unit and move it. Each Master Station has a 6-Channel Selector and can converse with any other station selectively, and can receive calls on any channel it elects. Hold as many as 3 separate conversations with 6 Masters. Masters can also setup conferences. Where some locations need not originate calls but must reply when called, Wireless Staff Stations are available. Wireless Staff Stations can also be used to receive Paging calls simultaneously from any Selective Wireless Master Station in the system. Use as many Wireless Staff Stations as needed (all Staffs must operate on same channel for this purpose). Equipped with the most effective noise-free circuit ever developed, the "SONIC GATE CIRCUIT". Operates universally on 110-120 Volts AC DC. All units in system must operate from same electric service transformer. Size: Masters—12" x 9" x 7". Wt. 12½ lbs. Staff—8¼" x 6¼" x 7½", Wt. 7 lbs.

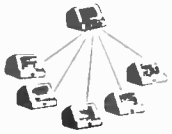
**MODEL LCM-8806**—6 Station Selective Wireless Master, complete with tubes and instructions ready to use. List Price Each $122.50 . . . . . Net Each **72.00**

**MODELS LCS-801* LCS-802*, LCS-803*, LCS-804*, LCS-805* and LCS-806*;** Wireless Staff Stations which receive and reply on single channel only. List Price Each $66.00 . . . . . Net Each **38.80**

***Last number indicates the only channel number on which staffs can receive and reply. (Example: LCS-806 can receive and reply on channel 6 only).**

## NEW TALK-A-PHONE DELUXE SYSTEMS

### Master Selective Systems (Figs. 1 & 2)



A system consisting of one Master Station and one to ten Sub Stations. Master Station can talk and listen to any one Sub station or with all simultaneously. Sub Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub Stations and then add later when necessary. Installation of system has optional feature whereby Sub-Stations can be connected "privately" or "non-privately" and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system persons at sub stations need operate no controls and can reply from a distance. When the system is connected "privately" Master unit cannot listen in on Sub-Stations. However, they can reply when called and also originate calls to the Master. Operates universally on 110-120 volts, AC DC. U.L. Approved. The AC-5406 and AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large areas or noisy locations. Operates on 110-120 volts, AC only. **Only one master station can be used in these systems.**

**Model LM-5** Master Selective Station for 5 Sub-Stations, complete with tubes and easy to follow instructions. Wt. 7 lbs. List Price each $49.95 . . . . . Net each **29.35**

**Model LM-10** Master Selective Station for 10 Sub Stations complete with tubes and easy to follow instructions. Wt. 7 lbs. List Price each $65.00 . . . . . Net each **38.20**

**Model LR-3** Sub-Station for use with LM-5 or LM-10 Masters. Wt. 5 lbs. List Price each $16.95 . . . . . Net each **9.95**

**Model LR-3M** Sub-Station in brown metal case. Wt. 3 lbs. List Price each $16.95 . . . . . Net each **9.95**

**Model AC-5406** Master Station 5 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each $65.00 . . . . . Net each **38.20**

**Model AC-5411** Master Station 10 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each $79.95 . . . . . Net each **47.00**

**Model AR-3** Sub-Station for use with AC-5406 or AC-5411 Masters. Wt. 5 lbs. List Price each $17.95. . . . . Net each **10.50**

**Model AR-3M** Same as AR-3 above but in brown metal case. Wt. 3 lbs. List Price each $17.95 . . . . . Net each **10.50**

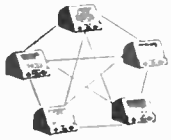
**Model HP-3** Hi-Power Staff Station for wall mounting. Brown metal case. Wt. 8 lbs. List Price each $28.00 . . . . . Net each **16.50**

**Model C-20** Nine-inch weatherproof Re-Entrant Horn. Wt. 5 lbs. List Price each $44.95. Net each **26.50**

**S-100** Wall Switch for origination of call through C-20 or HP-3. List Price each $6.00 . . Net each **3.50**

**No. 5303** (3-conductor) Cable for connecting Sub-Stations to Master. List Price per foot 5c . . . . . Net per foot **.03**

### Super Selective Systems (Fig. 2)



A system of all Master Stations. Any Station can call any other Station. Several completely private 2-way conversations are possible at same time. A versatile low cost intercom system offering extreme flexibility, meeting many requirements in industry, offices, homes, etc. Any Station can call and carry on a conversation with any other Station in the system with absolute "privacy". Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Stations can be located even 1000 feet apart. Variable volume, adjustable at each unit controls incoming voice. You can start with two or three masters and then add later as required. Operates universally on 110-120 volts, AC DC. U.L. Approved.

**Model LS-5** Super Selective Station for five Masters complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $49.95. Net each **29.35**

**Model LS-10** Super Selective Station for ten Masters complete with tubes and easy-to-follow instructions. Wt. 7 lbs. List Price each $65.00. Net each **38.20**

**No. 5506** (6-conductor) Cable for connecting LS-5 Masters. List Price per foot 13c. Net per foot **.07½**

**No. 9911** (11-conductor) Cable for connecting LS-10 Masters. List Price per foot 24c. Net per foot **.14**

### 2—Station Inter-Communication Systems

(Figs. 1 & 3)

Provides voice communication between any two points. For homes, stores, offices, farms, etc. Ideal for nursery. No more getting up and down to see if baby is all right with "Elsie" on the job. "Elsie" is a packaged item complete with a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable lengths are available for greater distances. "Elsie's" Sub-Station can optionally be operated "privately" so that the Master cannot listen in (but Sub-Station can answer calls and also originate calls) or "non-privately" allowing the Master to "listen in" and enabling persons at a distance from the Sub-Station to answer without operation of any controls. The volume can be adjusted from a bare whisper to the full output of the powerful high gain amplifier. Operates universally on 110-120 volts AC-DC. All units are complete, ready to plug in. Walnut impact bakelite cabinets. Cabinets measure 8¼" x 6¼" x 7½". Underwriters Laboratories Approved.

**Model LC-2** 2-Station System complete with tubes, easy-to-follow instructions, and 50 feet of cable. Wt. 11 lbs. List Price complete $51.00. Net complete **29.95**

**No. 5303** (3-conductor) Cable for use where additional lengths are required between the Master and the Sub-Station. List price per foot 5c. . . . . Net per foot **.03**

### Combination Systems (Fig. 2)

For the more flexible type of system requiring operation of more than one Master Station, along with Sub-Stations which need not originate calls. Personnel can answer incoming calls even though they are 25 to 40 feet from their unit. Master Stations may talk to each other and to all Sub-Stations in the system selectively; or you can have one or more Sub Stations which are exclusive to only one Master Station (as illustrated in the diagram above). Master Stations have the option of making themselves "private" or "non-private" at will. You can begin with two stations (at least one must be a Master) and add other units as required. Model CL-5 Master Station has a total inter-connecting capacity of five stations including Masters and Sub-Stations while Model CL-10 Master Station has a total capacity of ten stations. Sub Stations are not plugged in to a source of electric current. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

**Model CL-5** Combination Master for five station use, complete with tubes and easy to follow instructions. Wt. 7 lbs. List Price each $69.00 . . . . Net each **36.40**

**Model CL-10** Combination Master for ten station use complete as above and with addition of junction box attached by 6' cable to unit. Wt. 8½ lbs. List Price each $83.00 . . . . . Net each **48.80**

**Model LR-2** Sub Station for use with either of above Masters. List Price each $15.95. Net each **9.35**

**Model LR-2M** Same as LR-2 but in brown metal case. Wt. 3 lbs. List Price each $15.95. Net each **9.35**

**Model HP-3** Hi-Power Sub Station for wall mounting in brown metal case. Wt. 8 lbs. List Price each $28.00. . . . . Net each **16.50**

**Model C-20** Nine-inch weatherproof re-entrant horn. List Price each $44.95. Net each **26.50**

**No. 6212** (6 pair) Cable for interconnecting CL-5 Masters. List Price per foot 24c. Net per foot **.14**

**No. 6224** (12-pair) Cable for interconnecting CL-10 Masters. List Price per foot 47c. Net per foot **.28**

**No. 6902** (2 conductor) Cable for connecting Sub-Stations to CL-5 or CL-10. List Price per foot 3½c. . . . . Net per foot **.02**

### How To Determine Cable Requirements

**All Models**

For **Master Selective Systems** measure from each Sub-Station to the Master and order total. For **Super Selective Systems**—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For **Combination Systems**—Master cable, measure from first Master to second Master only, from second Master to third Master only, etc., and total, Sub-Station cable; measure from each Sub-Station to nearest Master only.

**EARPHONE**—(Fig. 6)—Available for all units above. List Price per station, add $23.00. Net, add **13.50**

**CRADLEPHONE**—(Fig. 5)—Available for units above. List Price per station, add $49.95. Net, add **29.35**

**EXECUTIVE GRAY** Cabinets available at additional cost. For LC-2, and LC-33. List Price add $6.00 . . . . Net, add **3.60**
For LCM-8806, List Price, add $4.50 . . . . . Net, add **2.70**
All other units, List Price add $3.00 . . . . . Net, add **1.80**

For more complex installations . . . Send for information on the **TALK-A-PHONE "CHIEF"** Intercom Systems.

**Prices slightly higher west of the Rockies.**

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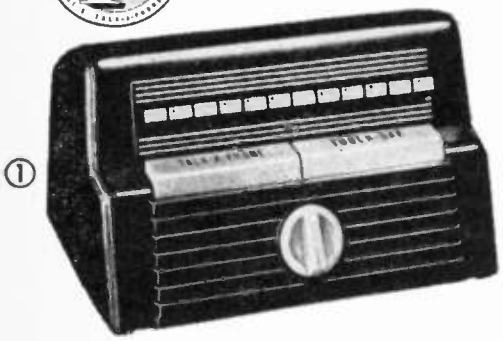
Net

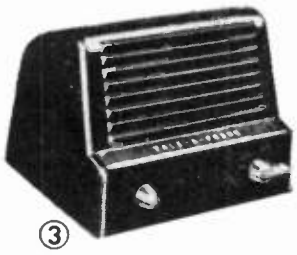


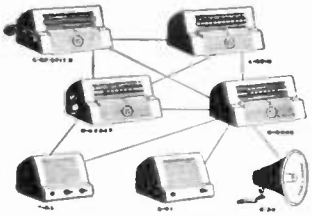
World Radio History

# TALK-A-PHONE The Intercom with the "Built in Brain"

*World's Finest, Most Complete Line of Intercommunication Systems*







## *New* "CHIEF" Talk-A-Phone

### THE ONE MODEL THAT MEETS EVERY REQUIREMENT

### *The Answer to Your Intercommunication Problem*

Setting a new standard in versatility and flexibility, the Talk-A-Phone "CHIEF" meets every intercommunication need of office, factory, institution or home. A touch of a button gives you instant, direct two-way Communication with every department. Saves time, increases efficiency, reduces loads on busy switchboards and enables executives and key personnel to cover more ground. It pays for itself many times over. Beautifully styled in streamlined impact bakelite cabinets. Walnut-finish.

### "Chief" Universal Master Stations (Figure 1)

The "Chief" with its exclusive Dynasonic Design can be used in any combination—with all Master Stations—one Master and Staff Stations—or a number of Masters combined with Staff Stations. Six, 12, 20, 30, 40, 50, and 60, Station Masters, together with Staff Stations can be intermixed in same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can answer all Masters and can originate calls to as many as six Masters, depending upon Staff's capacity. Staff Stations are not connected to electrical outlet.

**Exclusive Features: (1) DYNASONIC DESIGN**—permits intermixing of units, variation of performance and additions to system at any time. Some Staff Stations can be "private," others "non-private." Any Staff Station can be "non-private" to one or more Masters and "private" to others. **(2) MULTI-MAGIC SELECTOR**—enables selection of up to 40 stations with 12 push buttons (50 and 60 stations with 14 push buttons). **(3) UNI-TRANS**—for dictation . . . with no operation of controls necessary while speaking.

**Optional: LD "Long Distance"** (Figure 8)—for use between Master Stations over cables 2,000 ft., 5,000 ft., 10,000 ft. or even greater distances without loss of volume. Built-in at factory. At slight additional cost.

**BUSY SIGNAL**—on Master Stations. (Figure 7.) Visual indication when Master Station called is busy. Built-in at factory. At slight additional cost.

**"CHIEF"** (Figure 1) Master Stations are complete with tubes, junction box with 6-foot cable and instructions. Universal operation, 110-120 volts AC-DC. With push button selector and talk-listen control. Volume control with translucent light indicating when unit is on. Beautifully styled in streamlined impact bakelite cabinets. Walnut finish.
Size 12" wide, 7" high and 9" deep.

**C-4906 Master** 6 station capacity. Wt. 13 lbs. List Price per station $ 99.00 . . Net **58.20**

**C-4912 Master** 12 station capacity. Wt. 14 lbs. List price per station $119.00 . . Net **69.95**

**C-4920 Master** 20 station capacity. Wt. 17 lbs. List Price per station $140.00 . . Net **82.30**

**C-4930 Master** 30 station capacity. Wt. 20 lbs. List Price per station $161.00 . . Net **94.65**

**C-4940 Master** 40 station capacity. Wt. 23 lbs. List Price per station $182.00 . . Net **107.00**

**C-4950 Master** 50 station capacity. Wt. 26 lbs. List Price per station $203.00 . . Net **119.35**

### "Chief" Redi-Power Master Stations (Figure 2)

"Chief" Redi-Power Master Stations have all the operational features listed above, plus the additional feature of built-in extra power for use when needed. This added power (up to 20 watts), gives you the additional volume needed, for example: when calling a number of stations at one time or calling noisy locations. Return speech from called stations is received at normal volume. Needs no separate power booster which would eliminate return speech. "Chief" Redi-Power has self-compensating volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output when you call more stations at one time. One or more Redi-Power Masters can be combined with regular Chief Masters and Staff Stations in same system. 110-120 volts. AC only.

Redi-Power Master Stations are also available with the added feature of pre-selected paging for each master unit as Model C-RP-5911. Provides 11 station capacity with one selector button for paging. Each Master may page its own pre-selected stations without any external paging equipment. 110-120 volts. AC only.

**C-RP-5912** Redi-Power Master 12 station capacity. Wt. 18 lbs.
List Price per Station $179.00 . . . . . Net **105.00**

**C-RP-5911** Redi-Power Master. 11 station capacity with pre-selective paging button.
Wt. 18 lbs. List Price per station $199.00 . . . . . Net **117.00**

**C-RP-5920** Redi-Power Master 20 station capacity. Wt. 21 lbs.
List Price per Station $200.00 . . . . . Net **117.50**

### "Chief" Models Available in Executive Gray Cabinets

For C-41 and C-42 Staff Stations. List Price each add $3.00 . . . . . Net add **$1.80**
For all Master Stations and C-46 Staff Station. List Price each add $4.50 . . Net add **2.70**

### How to Determine Cable Requirements

To Inter-connect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., until the last unit in the system is reached, and total. For C-4920 and C-RP-5920, use two lengths of 6924 Cable, and for C-4930 use three lengths of 6924 Cable, etc. To connect C-41, C-20, HP-2 or HP-3 Staff Stations, measure from Staff Station to the one Master to which Staff Station originates calls. To connect C-42 and C-46 Staff Stations measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each C-42 or C-46, follow same procedure).

**Prices slightly higher west of the Rockies.**

### "Chief" Staff Stations (Figure 3)

For use with any "Chief" Master, Staff Stations may be connected "privately" or "non-privately." Connected "non-privately," persons can answer Master at a distance from the Staff without operation of any controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether connected directly to them or not) and can originate calls to one, two, or up to six Masters, depending upon its capacity. Connected "privately" no one can "listen-in," but any Master can call. Private Staff can originate calls and reply to 1, 2 or 6 Masters depending on its capacity. Staff Stations do not need electrical outlet. Handsomely styled in molded impact bakelite cabinets. Walnut finish. Size: 8¼" wide, 6¼" high, 7½" deep.

**C-41** Staff Station for origination of call to one Master. Wt. 5 lbs.
List Price each $22.95 . . . . . Net each **13.50**

**C-41M** Same operation as C-41, but in brown metal case. Wt. 3 lbs.
List Price each $22.95 . . . . . Net each **13.50**

**C-42** Staff Station for origination of call to two Masters. Wt. 5 lbs.
List Price each $29.95 . . . . . Net each **17.50**

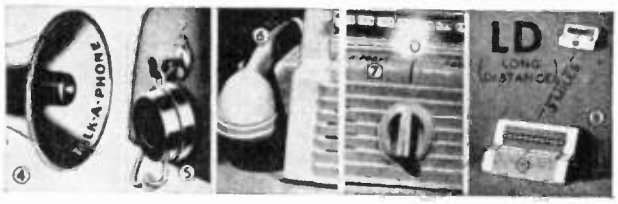
**C-42M** Same operation as C-42, but in brown metal case. Wt. 3 lbs.
List Price each $29.95 . . . . . Net each **17.50**

**C-46** Push Button Staff Station for origination of call to six Masters. Wt. 9 lbs. List Price each $73.00 . . . . . Net each **43.00**

**HP-3** Hi-Power Staff Station for wall mounting. Brown metal case. 5 watt capacity. Wt. 8 lbs. List Price each $28.00 . . . . . Net each **16.50**

**HP-2** Super Staff Station for wall mounting. Brown metal case. 15 watt capacity. Wt. 9 lbs. List Price each $44.95 . . . . . Net each **26.50**

**C-20** Nine-inch Weatherproof Re-Entrant Horn. For greater volume. (Fig. 4.) Capacity, 15 watts, with bracket for wall mounting. Wt. 5 lbs. List Price each $44.95. Net each **26.50**




### Optional Equipment

**Cradle Phone** (Fig. 6) Available on all Models, except metal staffs. Add "H" to Model No. when ordering. List Price each—add $49.95 . . . . . Net add **29.35**

**Earphone** (Fig. 5) Available on all Models. Add "X" to Model No. when ordering. List Price each—add $23.00 . . . . . Net add **13.50**

**Busy Signal** (Fig. 7) Available on all "Chief," and "Chief REDI-POWER" Masters. Add "B" to Model No. when ordering. List Price each—add $12.00 . . . . Net add **7.00**

**LD—Long Distance Feature** (Fig. 8) Available on "Chief," and "Chief REDI-POWER" Masters. Add "LD" to Model No. when ordering. List price each—add $20.00. . . . . Net add **11.75**

**S-101 Wall Switch** For origination of call through C-20, HP-2 or HP-3 in Chief systems. List Price each $6.00 . . . . . Net **3.50**

**S-102 Wall Switch** For origination of call to two Masters through C-20, HP-2 or HP-3 in Chief systems. List Price each $11.00 . . . . . Net **6.50**

**RW-10** Right-of-Way Relay. For use with C-RP-5912 5920 Masters. To call any group of stations with single button. Capacity 10 stations. Add relays for greater number. Connects to one Master, others in system also utilize facility. List price each $63.00 . . . . . Net **37.00**

**HP-30 Power Booster.** Designed for Hi-Power Paging in conjunction with TALK-A-PHONE Intercommunication systems. 30 watts output. Use with separate paging speakers, such as Models C-20 and HP-2. Size: 12"L x 7½"W x 8½"H. Wt. 21 lbs. List Price each $138.00. Net **81.00**

### Cable

**6904** Cable for connecting C-41, C-42, C-46, HP-3, C-20 and HP-2. List price per ft. 10c . . . . . Net per ft. $ **.06**

**6912** Cable for inter-connecting C-4906 Masters. List Price per ft. 24c . . Net per ft. **.14**

**6924** Cable for inter-connecting C-4912, C-4920, C-4930, C-4940, C-4950, C-RP-5911, C-RP-5912 and C-RP-5920 Masters. List Price per ft. 47c . . Net per ft. **.28**

**6902** Cable for connecting HP-3, C-20 and HP-2 without origination of call. List Price per ft. 02½c . . . . . Net per ft. **.02**

**TALK-A-PHONE COMPANY • CHICAGO 23, ILLINOIS**



Net

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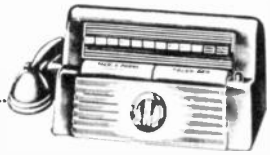
World Radio History

# *New!* AUTOMATION IN INTERCOM!

# TALK-A-PHONE *Super Chief*



**TWO NEW AUTOMATION SERIES to meet the intercommunication needs of modern business.**
**Series 7700 featuring Sensational New AUTOMATIC VOICE CONTROL and AUTOMATIC TRAFFIC CONTROL.**
**Series 7600 featuring AUTOMATIC TRAFFIC CONTROL and manually operated TOUCH CONTROL.**
Both VOICE CONTROLLED and TOUCH CONTROLLED Series can be intermixed.

For the discriminating executive. The TALK-A-PHONE SUPER CHIEF system features many exclusive achievements in intercommunication engineering, including . . .
**• BUILT-IN AUTOMATION • AUTOMATIC VOICE CONTROL • AUTOMATIC TRAFFIC CONTROL • AUTOMATIC REPLY • CONFERENCE CONTROL • DYNASONIC DESIGN • MULTI-MAGIC SELECTOR • AUTOMATIC MONITORING SIGNAL • TOUCH CONTROL WITH UNI-TRANS • CRADLE PHONE and POWER PAGING (both optional).**

**TALK-A-PHONE SUPER CHIEF STAFF STATIONS** are available in both the TOUCH CONTROLLED and VOICE CONTROLLED series. Staff Stations can reply, when called, to any Master Station of either series in the system, but cannot originate calls. Model ACS-7701 VOICE CONTROLLED Staffs can reply at a distance without operating any controls, and are equipped with AUTOMATIC MONITORING SIGNAL which visually indicates when Staff is being monitored. Model ACS-7601 TOUCH CONTROLLED Staff, must manually operate Talk Listen Control to reply. For locations where reply is not necessary use SUPER CHIEF Sub-Stations. Both VOICE CONTROLLED and TOUCH CONTROLLED Masters can call Subs but Subs cannot reply or originate calls.

### HOW TO DETERMINE CABLE REQUIREMENTS

For Master Stations, measure from first Master to second Master only, from second Master to third Master only, etc. until the last Master in the system is reached, and total. For ACS 7720 and ACS 7620 use 2 lengths of 6624 cable and for ACS 7730 and ACS-7630 use 3 lengths of 6224 cable, etc. Connect each Staff Station and each Sub-Station of either series to nearest Master only with TALK-A-PHONE No. 6204 cable. (Although Staff and Sub-Stations are directly connected to only one Master, all Masters in system can call any Staff or Sub-Station; and can receive a reply from Staff, but not from Sub.) Connect Power Supply Unit to one Master Station only with TALK-A-PHONE No 6902 cable.

### CABLES

**6902** (1-pair
List Price per foot .035 Net per foot **.02**

**6204** (2 pair Approx dia 7/32".
List Price per foot .10 Net per foot **.06**

**6212** (6 pair Approximate dia. 3/8".
List Price per foot .24 Net per foot **.14**

**6224** (12 pair Approximate dia. 1/2".
List Price per foot .47 Net per foot **.28**

**EXECUTIVE GRAY CABINETS** available at additional cost. For Master Stations, List Price add $4.50, Net add **$2.70**. For Staffs & Sub-Stations, List Price add **$3.00**, Net add **$1.80**.

**SERIES 7700—WITH THE SENSATIONAL NEW AUTOMATIC VOICE CONTROL. Your own voice automatically operates the Talk-Listen Control for you.**

**MODEL ACS-7704** — Master Station — 4-Station capacity. Wt. 16 lbs.
List Price each $211.00 Net each **124.00**

**MODEL ACS-7710** — Master Station — 10-Station capacity. Wt. 16 lbs.
List Price each $238.00 Net each **140.00**

**MODEL ACS-7720** — Master Station — 20-Station capacity. Wt. 17 lbs.
List Price each $278.00 Net each **163.50**

**MODEL ACS-7730** — Master Station — 30-Station capacity. Wt. 18 lbs.
List Price each $318.00 Net each **187.00**

**MODEL ACS-7740** — Master Station — 40-Station capacity. Wt. 19 lbs.
List Price each $357.00 Net each **210.00**

**MODEL ACS-7701** — Staff Station. Wt. 8 lbs.
List Price each $167.00 Net each **98.00**

**SERIES 7600—Provides all of the quality features of the 7700 Series, except Automatic Voice Control; and is equipped with manually operated TOUCH CONTROL.**

**MODEL ACS-7604** — Master Station — 4-Station capacity. Wt. 16 lbs.
List Price each $160.00 Net each **94.00**

**MODEL ACS-7610** — Master Station — 10-Station capacity. Wt. 16 lbs.
List Price each $177.00 Net each **104.00**

**MODEL ACS-7620** — Master Station — 20-Station capacity. Wt. 17 lbs.
List Price each $199.00 Net each **117.00**

**MODEL ACS-7630** — Master Station — 30-Station capacity. Wt. 18 lbs.
List Price each $221.00 Net each **130.00**

**MODEL ACS-7640** — Master Station — 40-Station capacity. Wt. 19 lbs.
List Price each $243.00 Net each **143.00**

**MODEL ACS-7601**—Staff Station. Wt. 8 lbs.
List Price each $108.00 Net each **63.50**

Sturdy impact bakelite cabinets finished in rich walnut tone. Available in executive gray cabinets at slight additional cost. All Masters have junction box attached with 6 ft. length of flexible cable.

### POWER SUPPLY, SUB-STATIONS, PAGING

**ACS-71** (Bakelite Cabinet) Sub-Station.
**ACS-71M** (Metal Cabinet) Sub Station.
To receive calls from both Voice Controlled and Touch Controlled Masters. (Cannot reply and cannot originate calls). Wt. 5 lbs.
List Price each $36.50 Net each **21.50**

**MODEL ACS-73**—Hi-Power Sub-Station to receive calls from both Voice Controlled and Touch Controlled Masters, (cannot reply, and cannot originate calls.) Wt. 9 lbs.
List Price each $46.00 Net each **27.00**

**MODEL ACS-77**—Power Supply Unit. Will accommodate a system of up to 10 stations. Only one required per system, except where stations are more than 500 feet from Power Supply Unit. Wt. 11 lbs.
List Price each $51.00 Net each **29.95**

**MODEL ACS-77A**—Power Supply Unit. Will accommodate a system of up to 20 stations. Only one required per system, except where stations are more than 500 feet from Power Supply Unit. (For 30 and 40 Stations use two ACS-77A Power Supply Units.) Wt. 12 lbs.
List Price each $66.00 Net each **39.00**

### POWER BOOSTER and ACCESSORIES

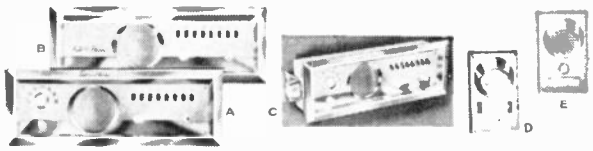
**CRADLE PHONE** (Optional)—Live Microphone. When used with any Super Chief Master or Staff Station, persons at such units do not operate any controls to talk and to listen while conversing over Cradle Phone. List Price per station, add $49.95 Net, add **29.35**

**MODEL HP-30**—Power Booster. Designed for Hi-Power Paging in conjunction with TALK-A-PHONE Intercommunication systems. 30 Watts output. Use with separate paging speakers, such as Models C20 and HP-3. Size: 12" L x 7-1/2" W x 8-1/2" H. Wt. 24 lbs.
List Price each $138.00 Net each **81.00**

Masters, Staffs and Power Supply Units operate on 115-120 volts, 60 cycles, AC only. Masters and Staffs come complete with tubes and instructions, ready to install. Size: Master, 12" W x 9" D, x 7" H. Staff & Sub-Stations, 8" W x 7-1/2" D x 6-1/4" H. Hi-Power Sub-Station, 12" x 8" x 12", Metal Sub-Station Cabinet, 6" W x 4" D x 7" H.

# NEW! *TALK-A-PHONE* All-Transistor Home Intercom Radio System

**• LISTEN-IN ON BABY, CHILDREN OR SICK ROOM** . . . from any room in the house day or night **• ANSWER OUTSIDE DOORS FROM ANY ROOM** . . . in any part of the house—without opening doors to strangers **• TALK FROM ROOM TO ROOM** . . . back and forth, upstairs or downstairs any time, day or night **• LISTEN TO YOUR FAVORITE RADIO PROGRAMS** . . . follow you throughout the house with a flick-of-a-switch




**CENTRAL MASTER STATION.** One and only one Central Master Station (with or without radio) is used per system. It contains the All-Transistor amplifier (and radio when built in) and operates from any 9-volt dry battery * Place in any room. Master can call and converse with any other station, or stations in system and can listen in to any Staff or Sub-Station that has switched itself to "non-private." By a flick of its own switch, Central Master, any Staff and any Indoor Sub can listen to standard broadcast AM radio programs. Additional Masters can be used in rooms where "personal" radio facilities are desired and otherwise provide same intercom facilities as Central Master. Recess Central and Additional Masters in wall for flush mounting; or with optional Housing Assembly HI-SM (Fig. C mount on wall, cabinets, etc., or stand on tables, shelves etc Front Panel: 15-1/4" x 5-1/4". Plaster Ring Approx 14-1/16" W x 4" H x 3" D. Does not plug into electrical outlet. 8 station capacity.

**HI-9** Fig B **Central Master Station.** All Transistor. For flush wall mounting. With plaster ring and full instructions **Without built-in radio.** Less battery.
List Price Each $33.50 Net Each **58.00**

**HI-9R** (Fig A **Central Master Station.** Same as HI 9 **except with built-in radio.**
List Price Each $154.00 Net Each **89.50**

**HI-29R** Fig A **Additional Master Station.** All Transistor For flush wall mounting. With plaster ring and full instructions. **With built-in radio.** Less battery
List Price Each $154.00 Net Each **89.50**

**JUNCTION BOX, BATTERY, POWER SUPPLY UNIT**

**HI-JB Common Junction Box** to connect Masters and Staffs.
List Price Each 7.00 Net Each **4.00**

**BATTERY** *Use any 9 volt dry battery, Ignition or Telephone battery or six standard #6 dry cells in series, which are available from local sources. **When Battery is used, Power Supply is not needed.**

**HI-PS Power Supply Unit. (Optional—not required when battery is used).** Only one necessary per system Plugs into ordinary home electrical outlet of 110-120 volts A.C., placed in basement, attic, closet etc.
List Price Each $27.50 Net Each **15.95**

**STAFF STATION.** Use as many as desired within system's capacity. Can call and converse with any other Station, or Stations, Staff, Master or Sub alike. Any Staff can switch itself "private" or "non-private" as desired. When "non private", as in baby or sick room, another Staff or Master can listen in. At the flick of its own switch, Staff can listen to standard broadcast (AM) radio programs of Central Master. Recess Staff in wall for flush mounting; or with optional Housing Assembly HI SM (Fig. C) mount on walls, cabinets . . . stand on tables or shelves. Front Panel: 15-1/4" x 5-1/4". Plaster Ring Approx.: 14-1/16" W x 4-1/8" H x 3-1/2" D.

**HI-8** (Fig. B). **Staff Station.** For flush wall mounting. Does not plug into electrical outlet. With plaster ring and full instructions.
List Price Each $54.00 Net Each **31.50**

**HI-SM HOUSING ASSEMBLY** Fig. C). To enclose any Master or Staff Station and enable mounting on walls or cabinets or to stand on tables and shelves at any angle. Finished in gray tones with polished chrome finish knobs and brackets. Can be removed anytime so same unit can be recessed in wall.
List Price each $19.00 Net Each **11.00**

### HOW TO DETERMINE CABLE NEEDS

**Masters and Staff Stations:** Use #6224 cable in either one of two methods. 1 Measure from first unit to second unit only; from second unit to third unit only; etc., until last unit is reached, and total. Cable between last and first unit not necessary. 2) OR, PLACE A COMMON JUNCTION BOX (Model HI-JB), in attic, basement, closet, etc. Measure from each Master and Staff to junction box, and total.

**Indoor and Outdoor Sub Stations:** Connect to nearest Master or Staff only. Use #6206 cable for Indoor Sub; #6202 cable for Outdoor Sub. **Battery or Power Supply Unit;** Connect with #6202 cable to Central Master Station only.

**INDOOR SUB-STATION** (Fig. D). Use as many as desired, within system's capacity. Can receive and reply to calls from any Master or Staff Station. Can switch itself to "private" or "non private" (to allow any Master or Staff to listen-in) position, as desired. Ideal for baby's room, and other locations where reply . . . but no origination of-call is desired. At the flick of its own switch, Indoor Sub can listen to standard broadcast (AM) radio programs of Central Master Station (when Central Master is equipped with built-in radio). For flush wall mounting only. Front Panel: 3-5/8" W. 5-5/8" H.

**HI-2 Indoor Sub-Station.** Requires 2-inch square opening, 2 inches deep. Does not plug into electrical outlet. With full instructions.
List Price Each $27.50 Net Each **15.95**

**OUTDOOR SUB-STATION** (Fig. E). For front and rear doors. Complete with push button bell to connect to regular house chime or buzzer, and illuminated nameplate. When caller rings bell you may answer from any Master or Staff Station and converse with caller. Caller operates no controls For flush wall mounting only. Front Panel: 3-5/8" W. x 5-5/8" H.

**HI-1 Outdoor Sub-Station.** Requires 2-inch square opening, 2 inches deep. Does not plug into electrical outlet. With full instructions. List Price Each $27.50 Net Each **15.95**

**CABLE** (For indoor or outdoor use).

**6224** (12-pair). Approx. O.D. 1/2".
List Price per foot .47 Net per foot **28¢**

**6206** (3 pair). Approx. O.D. 1/4".
List Price per foot .14 Net per foot **8½¢**

**6202** (1-pair).
List Price per foot .06 Net per foot **3½¢**

**ARCHITECTS AND CONTRACTORS—HI-PR Plaster Rings.** For Masters and Staffs, also available separately. (Sub-Stations do not use Plaster Ring). Approx. Size: 14-1/16" W x 4-3/8" H x 3-1/2" D. List Price Each $2.50 Net Each **1.45**

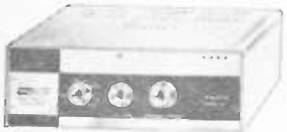
**Prices Slightly Higher West of Rockies**



World Radio History

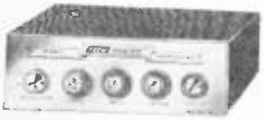
# TECH-MASTER ULTRA HIGH FIDELITY | MONOPHONIC & STEREOPHONIC CUSTOM-QUALITY COMPONENTS

### MODEL 19N—60 WATT AMPLIFIER PREAMP SYSTEM



Combines low-distortion preamp plus basic amplifier. 60-W undistorted from 20 - 20,000 cps; I.M. distortion less than 0.25%; direct interstage coupling; special 10 lb. output xformer tapped for ultra linear connection: output imped. 4, 8 or 16-ohms; hum level 65 db below rated output thru magnetic input; 72 db thru other inputs; accepts all magnetic cartridges; positions for RIAA, AES, NAB, LP and 78; selector for piezo, tuner, TV & tape; cathode-follower tape recording take-off; concentric tone controls. **Size:** 14¼" W x 10¾" D x 5¼" H. **Wgt.** 28 lbs. **Net Price** (compl. with cabinet) **$129.95**

### MODEL 41—TRANSISTOR STEREO PREAMPLIFIER EQUALIZER
**Straight DC Operation**



Separate bass and treble controls for each channel plus common and balancing controls. 6 Hi-imped. inputs. 4 equalized Lo-imped. inputs. Takes both low and high output cartridges without external transformer. 4 outputs for amplifier and tape. Amplifier control switch. With cabinet, less battery. **Size:** 3" H x 9" W x 5½" D. **Wgt.** 4 lbs. **Net Price** **$59.50**

### MODEL 24—HI-FI TRANSISTOR PREAMPLIFIER EQUALIZER

Will control any basic amplifier. Similar to Model 41, but single channel control with 4 inputs and 2 outputs. **Size:** 3" H x 9" W x 5½" D. **Wgt.** 3 lbs. **Net Price** **$34.50**

### MODEL 38—STEREO JUNIOR

Low cost dual channel phono-amplifier for Stereo and monaural. 2 volume and tone controls adjust level and frequency response. 3-watt combined output thru two xfmrs. Match 4 to 8 ohm speakers. Input for high impedance type cartridge. **Size:** 3¼" H x 9¾" W x 5" D. **Wgt.** 4½ lbs. **Net Price** **$19.80**

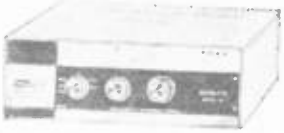
### MODEL 29—MASTERFLEX STEREO 40 WATT SYSTEM
**Complete Binaural-Monaural Assembly**

A complete, flexible system in single cabinet combining AM-FM-STEREO-MULTIPLEX-SIDEBAND. 2 Independent tuners, AM-FM; 2 20-watt Williamson-type amplifiers; 2 High gain-low distortion preamps.; Balancing and common gain controls; 4 bass and treble controls (± 15db); single selector switch for FM, AM, STEREO, MAGNETIC (equalized), XTAL, TAPE, AUX. Multi-point isolated power switch; 21 tubes incl. rectifier; Tape outputs; Frequency response 10-50,000 cps; I.M. distortion below .0025 at normal listening level; Dual output terminals . . . 4, 8, 16 ohm; D.C. on filaments of pre-amp tubes; **Size:** 6½" H x 14" W x 11" D. **Wgt.** 28 lbs. **Net Price** **$279.00**

### MODEL 28—MASTERFLEX STEREO AM-FM TUNER

Flywheel tuning. Visual tuning indicator. FM tap for Multiplex adapter. AM receives side band transmission efficiently. Each tuner has low impedance output for independent monaural or combined stereo operation. 12 tubes (plus rectifier).
FM: sensitivity . . . 2 microvolts; AFC PLUS AGC; transformer isolation; de-emphasis network; 3-gang tuning condenser; cascode RF stage; 4 IF stages; multiplex output jack; cathode follower take-off. AM: sensitivity 100 microvolts; delayed AGC action; 10 KC filter; broadband tuning; transformer isolation; cathode follower take-off. **Size:** 6½" H x 14" W x 11" D. **Wgt.** 15 lbs. **Net price** **$159.00**

### MODEL 21—25 WATT AMPLIFIER-PREAMP SYSTEM



An integrated medium power system. Similar to Model 19 except for the lower power rating of the output tubes and output xformer; performance identical up to 25 watts. Equalizer has RIAA position with exclusive calibrations on treble control for AES, NAB, LP and 78. TUBES 12AX7, 12AU7, 6AN8, 2-6L6GB, 5V4GA, plus rect. for bias; **Size:** 14¼" W x 9" D x 5¼" H. **Wgt.** 22 lbs. **Net Price** (compl. with cabinet) **$99.50**

### MODEL 22—15 WATT CONTROLLED AMPLIFIER WITH BUILT-IN ELECTRONIC CROSSOVER

Hi-Fi amp. and pre-amplifier with two output circuits using EL84s in push-pull for bass thru midrange and 6DE7 single end for highs. Brilliance control for cross-over action. Bass and treble controls. Magnetic, piezo, and auxiliary inputs. Equalization for RIAA. **Stereo Adaptor Socket** for using two Mod. 22 amplifiers binaurally. Removable panel. **Size:** 4" H x 14" W x 6½" D. **Wgt.** 14 lbs. **Net Price** **$49.95**

### MODEL 39—STEREO-MATIC 10 WATT 2 CHANNEL AMPLIFIER

Dual channel . . . independent volume and tone controls. Power transformer supply—good regulation—line isolation. Can be used both bi-naurally and mon-aurally. Uses stereo piezo type cartridge, for all single and dual track records. Tuners, microphones, etc. can be fed into STEREO-MATIC amplifier by adding external switch. Combined output of two channels rated at 10 Watts. **Size:** 3¾" H x 9¼" W x 5" D. **Wgt.** 8 lbs. **Net Price** **$29.95**
**Model 39A.** Same but with built-in selector switch. **Net** **$34.50**

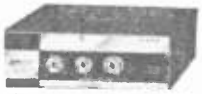
# TECH-MASTER HI-FI KITS | for Optimum Performance at Minimum Cost

### 60 W HI-FI AMP-PREAMP KIT—MODEL 19K

An integrated high-power amplifier in kit form complete with preamplifier at a budget price! Delivers undistorted 60 W from 10 to 20,000 cps. I.M. distortion below 1% at 60W and below 0.25% at ordinary levels. Compensates for all recording characteristics. Simple to assemble from easy instructions. Same features as wired Model 19. Tubes: 12AX7, 12AU7, 6AN8, 2-6550, 5U4GB; sel. rectifier for fixed bias. **Size:** 14¼" W x 10¾" D x 5¼" H. **Wgt.** 28 lbs. **Net Price** (less cabinet) **$79.95.**

**CABINET 19C** **$7.50**

### 25 W HI-FI AMP-PREAMP KIT—MODEL 21K



An integrated amplifier-preamp system in kit form at a new low price. Similar to Model 19K except for 25 W output rating. RIAA equalization. Simple to assemble from easy-to-follow instructions. Tubes include: 12 AX7 pre-amp, 12 AU7 tone, 6 AN8 driver and phase-splitter, 2 6L6GB output, 5V4GA rectifier plus selenium rectifier for fixed bias. **Size:** 14¼" W x 9" D x 5¼" H. **Wgt.** 21 lbs.

**Net price** (less cabinet) **$59.95.**

**CABINET 21C** **$7.50**

### PREAMP-EQUALIZER KIT MODEL 24K

Deluxe HI-FI TRANSITOR control kit assembles quickly with easy to follow instructions and Sub-assembly type construction. Magnetic (RIAA) plus 3 hi-impedance inputs. Amplifier and tape outputs. Wide range bass and treble adjustments. Linear gain control. Operates from single battery. Noise free amplification. Will work indefinitely without replacing parts. **Size:** 3" H x 9" W x 5½" D. **Wgt.** 3 lbs. Complete with cabinet. (less battery).

**Net Price** **$24.50**

### STEREO PREAMP KIT MODEL 41K

TRANSISTOR stereophonic preamplier-equalizer similar to mod. 24K but with dual channel circuitry. Eight inputs—four outputs. Common gain plus balancing controls. Dual bass and treble controls for adjustment of each channel. Pure D.C. operation eliminates all possible line noise or hum. Assembly is simple as monaural unit. Make a Stereo system with T-M kits and save. Can be used as single input originally and then add second amplifier. **Size:** 3" H x 9" W x 5½" D. **Wgt.** 4 lbs. Complete with cabinet.

**Net Price** (less batt.) **$49.50**

### WILLIAMSON TYPE 20 W AMP KIT—MODEL TM 15A

Famous Williamson circuit with modification, for Hi-Fi reproduction at increased power output. Complete with tubes and easy instructions. FEATURES: 20 Watt undistorted; 4-8-16 ohm impedance; hum & noise level is 70 db below rated output; 20 db feedback. Frequency response, 10 cps to 80,000 cps. Tubes: 2-6SN7, 2-5881, & 1-5V4G. **Size:** 9" W x 12" D x 6½" H. **Wgt.** 27 lbs.
**Net Price** **$49.95**



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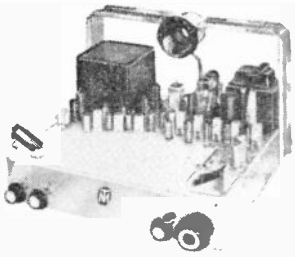
# TECH-MASTER GALAXY OF CUSTOM-BUILT TELEVISION

## ★ THE GOLD MEDAL ★



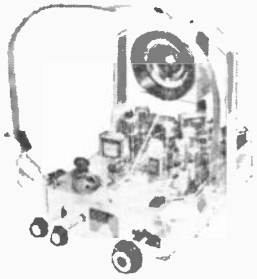
A custom-quality, dependable receiver combining time-proven 630-type circuitry with advanced engineering. Designed for long-life. Flawless video response delivers crisp, clear picture with full tonal gradations. Synchronized tuning of audio & video signals. Efficient amplification offers full-bodied sound.
The GOLD MEDAL is used by top TV engrs. to monitor station and network bdcsts. Those who appreciate the finest buy Tech-Master TV.

**FEATURES—**
High-gain turret tuner; synchrolock xformer in horiz. hold circuit; keyed automatic gain control; hi-sweep auto-transformer; 5 microvolt sensitivity for fringe areas, weak signals or trouble spots; full horiz. & vert. blanking; anti-blooming circuit; local-distance area control; audio take-off for hi-fi systems; phono jack input; takes all 90° tubes from 21" to 27".

**MODEL 2430N**—Has 12' speaker, univ. mtg. brackets and hdwre. **DIM:** 19" W x 16¼" D. **WT:** 65 lbs.
**NET PRICE** ..... **$194.50**

**P-21—Compl.** panel with glass mask & mtg. hdwre. as shown with 2430B. **DIM:** 24" W x 23½" H. **WT:** 17 lbs.
**NET PRICE** ..... **$27.50**

## ★ CONSTELLATION ★

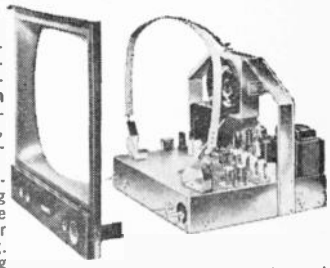


A star performer for conventional cabinet or built-in custom installation. AC transformer powered model. Super sensitive for fringe or troublesome areas, 16 tube, power packed circuit delivers bright, sharp, rock steady picture and clean, undistorted static-free sound.
**Features:** Automatic Gain Control; 3-Stage, stagger-tuned IF; Auto-transformer high voltage system; Wired for low-voltage electrostatic focus kinescopes; for 90 degree picture tubes from 21" to 27"; Sensitivity 5 uv at 20 V peak-to-peak; 2 Stage video amplifier sweep circuit. **Size:** 12" x 16". Complete with mounting hardware, speaker, speaker and knob kit. **Wgt.** 35 lbs.

**MODEL 5816**—Similar to above but for 110 degree deflection. Includes mtg. hardware for new shallow tubes.
**NET PRICE** ..... **$144.50**

**MODEL 5618 NET PRICE $129.50**

## ★ VIDEO MASTER ★



Long range, custom-built 630-type receiver. Especially designed for space-saving installations . . . **only 14" deep!** Both the 2430B and the 2430-10 chassis are shorter than 21" tubes, and only as wide as the kinescope mask itself.
These new, compact models incorporate the same outstanding 30-tube circuitry which has made Tech-Master TV world-famous for superior design and engineering. VIDEO MASTER receivers bring you right into the studio with that true-to-life feeling in sight and sound.

**FEATURES—**
New super-sensitive neutrode tuner; quick-action automatic gain control; anti-blooming circuit; positive horiz. hold with synchrolock transformer; 2-stage audio amplifier; 4-stage video I.F.; phono jack input; hi-fi output connection; Model 2430B takes 90° tubes from 21" to 27"; Model 2430-10 takes 110° tubes from 21" to 24".

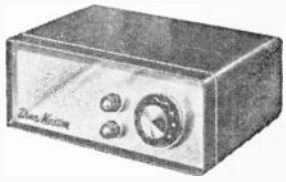
**MODEL 2430B**—For 90° tubes. With 12" speaker, kinescope brackets and hdwre.
**NET PRICE** (less panel) .. **$219.50**
**P-21**—21" panel assembly **$27.50**

**MODEL 2430-10**—Similar to 2430B but with 110° deflection circuit and special brackets for wide angle tubes.
**NET PRICE** ..... **$229.50**

## ★ DUO-MASTER TV TUNER ★

**MODEL 23A—A SUPER-SENSITIVE B & W OR COLOR TV REMOTE CONTROL SYSTEM.**

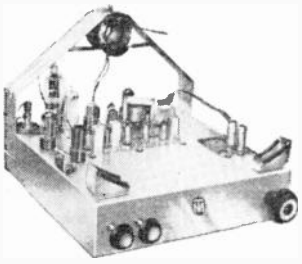
Just plug single thin coaxial lead thru adaptor plug into any TV set to select station, fine-tune picture and sound, and adjust picture intensity from up to 50 ft. from set. Use speaker in the handsome DUO MASTER or plug in headphones for private listening. May also be connected to extension speaker or hi-fi systems.



**Features:** 3 IF stages; 2 audio stages; jacks with low impedance connections for external amplifier or tape recorder take-off; TUBES: 9 plus rectifier; separate audio detector; improved color response thru isolation circuit design. **Size:** 12½" x 8" x 6". **Wgt.** 15 lbs.
**NET PRICE** ..... **$79.50**

# TECH-MASTER TOP QUALITY "DO-IT-YOURSELF" KITS

## ★ TV CRAFT KIT ★



**QUANTITY PURCHASES**
T.V. kits and wired chassis available for schools, export (in all voltages) and other special applications. Quotation and specifications supplied on request.

**MODEL 5516W**—A most up-to-date TV Kit, ideal for school or home project. Coils are factory pre-adjusted. Simple step-by-step instructions are easy to follow. Sockets, terminal strips and connectors riveted to chassis.

**Features:** Super-selective, 12-channel turret tuner; new 600 milliampere low-drain tubes; takes 17" to 21" 70° tubes; circuit-sensitivity of 6 microvolts at 20 V peak-to-peak; 3-stage, stagger-tuned IF uses high gain bil-filar coils; AGC; synchro-guide horiz. hold, with AFC; ceramic core horiz. output xformer with beam power amplifier. (With IF section fully wired and aligned. Uses Std. Tuner (6 uv sensitivity).)

**Dimensions:** 17" W x 17" D x 9" H. **Weight:** 26½ lbs.

**NET PRICE** ..... **$99.50**

## DELUXE AC-DC SUPERHET RADIO KIT

**MODEL 3B5-K** — Complete with modern, handsome Bakelite cabinet (10" x 5½" x 5½"), station selector and control knobs. Tunes AM broadcasts from 550-1720 KC. Super-sensitive, high gain circuit for best reception. Built-in loop antenna. Automatic volume control circuit eliminates blasting or fading. TUBES: 12SA7, 12SK7, 12SQ7, 50L6 and 25Z5 rectifier. Schematic and pictorial diagram with clear assembly instructions supplied for simple assembly. POWER: 115-125 V, 50/60 cy. or D.C. **Wgt.:** 6 lbs.
**NET PRICE** (less wire & solder) ..... **$19.95**

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World Radio History

# ENGINEERED COMPONENTS

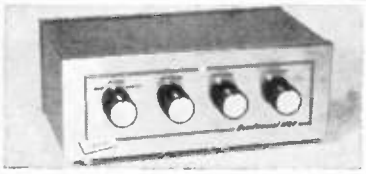
Dynamic ELECTRONICS

## FOR BETTER TV & HI-FI

DYNAMIC PRE-AMPLIFIER to convert existing amplifiers or radio-phonos to operate with variable reluctance pick up or tape recorders . . . using the existing controls.

- Shielded Cable & Molded Pin Plug — Pilot Lite
- Handsome Black & Copper Cabinet
- Phono Input Jack — On & Off Switch — 117 Volt AC

**Model PA-110** List **$12.95**



Excellent 12 Watt HIGH FIDELITY Amplifier with a peak output of 18 watts, undistorted frequency response from 20 to 20,000 CPS — built-in input jacks for phono & AM-FM tuners or tape recorders.

- Separate LOUDNESS, BASS and TREBLE and Auxiliary Controls
- Full Range RECORD COMPENSATOR Controls • Speaker Impedance Taps
- Built-in PRE-AMPLIFIER for Reluctance Cartridges

**Model Q1500-PA** List **$59.50**

DeLuxe CUSTOM LABORATORY STANDARD Hi-Fi Amplifier with built-in pre-amplifier 18 watt peak output Input Jacks for all phono pick ups & AM-FM tuners, tape decks—Impedance Matched Speaker Taps.

- Beautiful Black-Satin Copper & Brass Decorator Styled Cabinet
- Full Range RECORD COMPENSATOR — 20 to 20,000 CPS
- Separate LOUDNESS, BASS and TREBLE and Auxiliary Controls

**Model A2000-PA** List **$69.50**

## 50 Watt Dual Channel Stereo Hi-Fi Amplifier

The ultimate in STEREO amplifiers, 2 completely separate push-pull output stages each using 2 EL84's, 9 tubes in all, amazing Dynamic realism with true Stereo quality — 20 to 20,000 CPS

- 25 Watt Peak Output from each independent channel — 50 watts total
- Function and Compensator Control
- Separate Loudness, Bass and Treble Controls
- Input Jacks for AM-FM Tuners & Tape

**Model ST3000** List **$89.50**

**Model ST3000-PA with built-in Pre amp** List **$99.50**

# ELECTRONIC COMPONENTS · HARDWARE

## HIGH FIDELITY AM FM TUNER

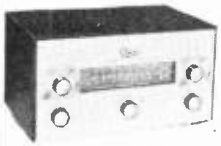
Precision Engineered Laboratory Standard-most advanced circuitry AFC "AUTOMATIC FREQUENCY CONTROL" for guaranteed Lock in Drift Free reception, 7 tubes plus Selenium Rectifier—Extremely sensitive.

- Built in FERRITE Antenna for AM & FM
- 117 V. AC Convenience Power Outlet
- Built-in Output Jack for any amplifier
- Shielded Cable provided with Pin Plugs

Handsome 2 Tone Cabinets in Satin Brass & Ebony with Satin Copper overlay — All Metal.

**Model T2000** List **$99.50**

## 25 WATT AFC AM-FM HI-FI TUNER AMPLIFIER



Featuring all of the characteristics of the T2000 Laboratory Standard Tuner plus a really fine 25 Watt peak output push-pull amplifier using matched EL84's in the output stage — 12 tubes — Handsome 2 Tone Metal Cabinet.

- FUNCTION CONTROL for Radio & Phono & Tape
- LOUDNESS, BASS & TREBLE CONTROLS
- Full Range RECORD COMPENSATOR — 20 to 20,000 CPS

**Model AF250** List **$119.50**

**Model AF250-PA with built-in Pre-amp** List **$129.50**

## 4 SPEED AUTOMATIC RECORD CHANGER

The latest type plays all speed records 16 - 45 - 78 - 33 RPM. Automatically shuts off when last record is played.

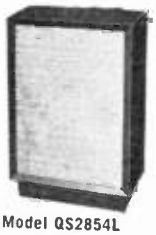
- Mounted on Wood Mahog. Finished Base
- AC Line Cord & Shielded Cable & Pin Plug

**Model 1143 Dual Sapphires, Monaural** List **$59.50**

**Model ST83 Dual Sapphires, STEREO & MONAURAL** List **$69.50**

## QUADNAURAL SPEAKER SYSTEMS

*T.M. Reg.



A remarkable achievement in high fidelity speaker systems at economy prices. Excellent reproduction on any HI-Fi system for MONAURAL or STEREO, use as additional or extension speakers any where in the house.

**Model QS2854L** List **$47.50**

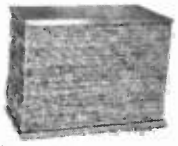
Leatherette finished wood construction, two 8" Woofers, one 5" Mid-Range & one 4" High Frequency Tweeter with an Electronic Crossover Network, Response 30 to 18,000 CPS. 26½" H x 18" W x 10" D.

**Model QS2854W** List **$57.50**

Wood finished enclosure available in fine grained Walnut, Mahog. & Blonde. Other specifications as above.

**Model QS12254W** List **$69.50**

Deluxe Wood finished enclosure available in fine grained Walnut, Mahg. & Blonde. Equipped with Jensen 12" Co-axial Woofer & Mid-Range & Two 4" High Frequency Tweeters & Crossover Network. Full Range 20 to 20,000 CPS. 26½" x 18" x 10".



## BOOKCASE OR SHELF MODELS

**Model S2** List **$29.50**

All wood finished enclosure available in Walnut, Mahg., or Blonde, equipped with one 8" Woofer & one 5" Mid-Range Speaker & Xover. 18 W x 10 H x 10 D.

**Model S4** List **$39.50**

Enclosure as described above but equipped with 4 speakers, one 8" Woofer, two 5" Mid-Range & one 4" High Frequency Tweeter & Xover. 18 W x 14 H x 10 D.

**Model S12** List **$49.50**

DeLuxe Enclosure all fine grained woods in Walnut, Mahg., or Blonde equipped with JENSEN 12" Co-axial Woofer and Mid-Range and a 4" High Frequency Tweeter with Xover. 18 W x 14 H x 10 D.

## MOST DISTINCTIVE LINE OF ALL MOLDED-ON

Shielded Patch & Jumper Cords, Connecting Cables, Feed Thru Adapters — 20 Types for all HI-FI needs.

FREE SELF SERVICE METAL DISPLAY RACK

| Model | Description | List |
|---|---|---|
| MM18 | 18" Cable-Pin Plug Both Ends | 1.25 |
| MM36 | 36" Cable-Pin Plug Both Ends | 1.50 |
| MM72 | 72" Cable-Pin Plug Both Ends | 1.75 |
| MM144 | 12' Cable Pin Plug Both Ends | 2.75 |
| FM18 | 18" Cable-Pin Plug & Pin Jack | 1.40 |
| FM36 | 36" Cable-Pin Plug & Pin Jack | 1.65 |
| FM72 | 72" Cable-Pin Plug & Pin Jack | 1.90 |
| MS18 | 18" Cable-Pin Plug & Tinned Ends. | 1.00 |
| MS36 | 36" Cable-Pin Plug & Tinned Ends | 1.25 |
| MS72 | 72" Cable-Pin Plug & Tinned Ends | 1.50 |
| MS144 | 12 ft. Cable-Pin Plug & Tinned Ends | 2.50 |
| FT10 | Feed Thru-Pin Jack Both Ends | 1.00 |
| FP50 | Phone Plug to Pin Plug Adaptor | 1.95 |
| PFJ50 | Phone Jack to Pin Plug Adaptor | 2.50 |
| FC20 | 72" Shielded Cable—Phono Pin Plug Shielded Phone Plug | 2.95 |
| FC25 | 12 ft. Shielded Cable—Shielded Phone Plug & Shielded Phone Jack | 6.95 |
| FC30 | 12 ft. Dual Zip Cord Conductor Cable-Pin Plug One End & Alligator Clips | 1.95 |
| FC35 | 12 ft. Dual Zip Cord Conductor Cable—Phone Plug One End & Alligator Clips | 2.95 |
| FC40 | 72" Shielded Cable to Shielded Phone Plug, Stripped and Tinned Ends | 2.50 |
| FC45 | 72" Shielded Cable to Tiny Plug, Stripped and Tinned Ends | 2.30 |

**DYNAMIC ELECTRONICS-NEW YORK INC., FOREST HILLS, LONG ISLAND, NEW YORK**
**ENGINEERS-MANUFACTURERS OF QUALITY IN ELECTRONICS**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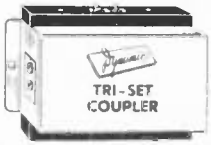
TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

World Radio History

# TELEVISION · FM · HI-FI · ACCESSORIES

All NEW shielded model GUARANTEED to eliminate electrical disturbances in the antenna circuit — AUTOMATICALLY.
- Passes all frequencies above 40 mc
- Rejects all frequencies below 40 mc

**Model T121M** List **$7.50**




Highly efficient coupler to operate any combination of 2 or 3 TV or FM sets off 1 antenna of any type—NO INTERACTION
- Less than 6 db insertion loss
- 40 to 50 db rejection ratio

**Model T130M** List **$7.50**

De Luxe unit to couple up to 3 speakers from 1 audio output — Maximum Flexibility selects any of the 3 speakers individually or any combination of speakers as desired.
- 3 separate toggle selector switches

**Model DS80** List **$7.50**

Guaranteed to eliminate LINE noise caused by motors, industrial RF, neon & appliances on any receiver, recorder, player or TV.
- Automatic Attenuation
- Dual Ferrite Filter Action

**Model DF200** List **$9.50**

De Luxe ADJUSTABLE Lo-Pass LINE filter completely suppresses & eliminates all noise picked up thru the line AC or DC.
- Exclusive Variable filter control
- Automatic attenuation above 10 KC

**Model DAF300** List **$14.50**

## ANTENNA MATCHING "BALUN" Coils

Dual wound on green plastic forms for matching 75 to 300 ohms, impedance ratio 4:1 — replacement for RCA, Philco, Motorola, used in pairs for all types of set couplers.

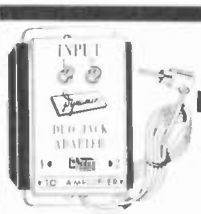
**Model L68**
**Envelope of 2** List **$1.95**

**Model RF190**
List **$9.50**

Reduces or eliminates all Low Frequency rumble or distortion in Phono circuit to be used for Crystal or Ceramic cartridges.
- Attenuates signals below 50 cycles
- In-Out slide switch

Finest precision accessory to be used to obtain maximum quality from all types of recordings — European — Domestic LP's old and new 78's etc. To be used with all types of reluctance cartridges.
- Shielded Lead & Molded Pin Plug
- Pin Jack & Rotary Switch

**Model RC180** List **$9.50**




## DUO-JACK ADAPTER

The newest Dynamic accessory for Hi-Fi, Audio, Phono, Speaker coupling and general use. Makes it possible to convert a single input jack from any source to serve a dual purpose, with switch selection.
- Shielded Lead & Molded Pin Plug
- 2 inputs & Side Switch Selector

**Model DJ66** List **$5.00**

## STEREO ADAPTER

Designed for easy coupling of Stereo phono cartridges, tape heads, or AM and FM tuners to 2 amplifiers or a dual channel amplifier for choice of Stereo or Monaural operation.
- 2 Inputs & Slide Switch Selector
- Choice of Monaural or Stereo
- 2-36" Shielded Leads & Molded-On Pin Plugs

**Model SA70** List **$7.50**

**TRANSISTOR HIGH "Q" FERRITE ANTENNAS**

choice of round or flat tapped loops.
**Model DTL700**
Heavy ½" Rod 4½" long with mount.
List **$2.50**

**Model DFL710**
Flat 2⅜" L x ¾" W x 3/16" thick.
For use with 365 mmfd variable condensers.
List **$2.00**

**ENGINEERED ACCESSORIES BY**

Dynamic ELECTRONICS

**FOR BETTER TV & HI-FI**

# UNMISTAKABLY *the finest* INDOOR TV and FM ANTENNA *because*

Only the CLEAR PICTURE Comes Thru!

with the NEW and AMAZING Dynamic

# FILTER-TENNA

with the *EXCLUSIVE* built-in

**HI-PASS FILTER**

T. M. Reg. Pat. Pend.

THE FIRST TRULY ELECTRONIC INDOOR TV ANTENNA TO GIVE CLEAR FILTERED RECEPTION.

List **$18.95**

SATIN BRASS, SATIN CHROME, SATIN COPPER FINISHES.

*Beautiful!*

UHF
VHF
Color

Model DB 500

***The Secret Is In The Filter!***

**DYNAMIC ELECTRONICS-NEW YORK INC., FOREST HILLS, LONG ISLAND, NEW YORK**
**ENGINEERS-MANUFACTURERS-OF QUALITY IN ELECTRONICS**

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World Radio History

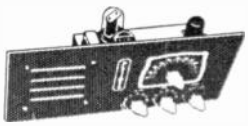
# Philmore GUARANTEED *Electronic* PRODUCTS

## 2-TUBE (Incl. Rectifier Tube) AC-DC RADIO KIT

Designed purposely for easy construction yet uses the most efficient type of circuit. Kits are replicas of parts and circuits used and thoroughly tested in master models and standardized. Simple instructions and diagrams. Uses 1 each 35Z5GT and 12SJ7 tubes. Supplied with punched and formed chassis. Silk screen panel and gray hammertone finish. Attractively packaged in sturdy box.

**No. 7001B**—Complete, less tubes and headset..... .....List Price $12.50
Plus Federal Excise Tax

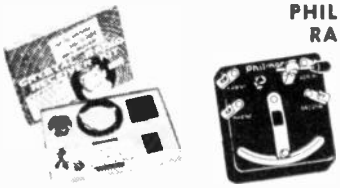
## 3-TUBE (Incl. Rectifier Tube) AC-DC RADIO KIT



More elaborate than the two-tube and much greater in signal strength—permitting use of a 4" P.M. speaker. Simple instructions with pictorial, schematic diagrams. Silk screen panel and gray hammertone finish. Superior in tone and selectivity to many manufactured radios! Uses 1 each 35Z5GT, 50L6GT and 12SJ7 tubes. Completely assembled, you have a TWO BAND set, covering standard broadcast (550-1700 Kc) and SHORT WAVE (6-18 Mc).

**Cat. No. 7001C**—Complete with Speaker, less tubes .....List Price $20.00
Plus Federal Excise Tax

## PHILMORE "SKY-ROVER" RADIO RECEIVER KIT



- Bakelite Cabinet for beauty and long lasting use.
- Supersensitive Crystal for clarity and volume.
- Precision wound Tuning Coil.
- Single crystal High Impedance professional type earphone, with plastic earholder.

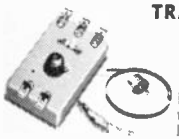
More than just an ordinary "toy," when assembled according to easy-to-follow step by step instructions, the Sky Rover Radio Kit actually brings in loud, clear reception. There are no batteries, no electricity, no cost for operation.
**Cat. No. 400**—Including Earphone .....List Price $4.15
Includes antenna lead-in wire and necessary hardware.
Plus Federal Excise Tax

## 5-TUBE AC-DC RADIO KITS 1 and 2 Band Models

Latest model compact hi-fi quality radios. Single Band: 550-1600 Kc. Two Band: 550-1600 Kc and 5.5-16 Mc. Sturdy walnut bakelite cabinets, loop antenna, punched chassis. All Parts and Tubes included 12SA7GT, 12SK7GT, 12SQ7GT, 50L6GT, 35Z5GT. Size: 9⅛ x 5½ x 5¼".

Model No. 201 Single Band AC/DC.....List Price $34.00
Model No. 202 2-Band AC/DC.....List Price 39.00
Plus Federal Excise Tax

## TRANSISTOR BATTERY RADIO KIT
### Model TR-101



Includes Germanium Diode Crystal Detector and Transistor amplifier. Uses one 1½-volt Penlite "A" Battery, Eveready type 915 or equivalent, which fits inside cabinet, gives long service. Features High "Q" Litz wound coil tuned by variable condenser. Attractive molded polystyrene cabinet, 3¾ x 2½ x 1⅛". Weight with battery: 4 oz.
**MODEL TR-101** Including Earphone (less battery) .....List Price $9.75
Plus Federal Excise Tax

## "LITTLE MIRACLE" One-Tube Portable Battery Radio Kit

Easy to build—works like a Big Set! 550 Kc. to 1650 Kc. Has regular variable condenser and Litzwound coil. Has sensitive regenerative detector circuit. Light, compact. The Carton is the Cabinet! Uses standard A & B Batteries.
**No. 7501**—Complete with earphone, 3V4 Tube, and antenna wire (less batteries, solder, hookup wire)
**List Price $12.25** plus Fed. Excise tax.

## "Supertone" Crystal Radio Receiver KIT

Includes all necessary components, ready wound tuning coil, single phone, with headband, hardware, instructions.
**No. 7001A**.....List $4.90*
*Plus Fed. Excise Tax

## "Supertone" RADIO RECEIVING SET

Built to give everlasting service. Brings in broadcasting loud and clear without distortion or noises. Equipped with a Philmore Super sensitive Crystal which will give excellent results.
**Cat. No. 7001**.....List Price $2.25
Plus Federal Excise Tax

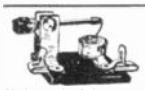
## Junior MICROPHONE
### Carbon Type

For home broadcasting. Push button switch cuts off radio programs and brings in the home broadcaster's voice very clearly. Sensitive, with excellent volume, shock-proof. Easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.
**Cat. No. 500**..... .....List Price $2.50

## HAND MICROPHONE
### Carbon Type

Talk or sing through the radio speaker. Button switch cuts mike in and out of broadcast. Simple to install. Equipped with 9 ft. cord.
**Cat. No. 500H**.....List Price $3.25

## Open Type CRYSTAL DETECTOR



Universal joint on swivel arm provides quick, accurate adjustment. Completely assembled. Includes crystal.
**Cat. No. 7003**.....List Price $.55

## Fixed CRYSTAL DETECTOR

Ideal for reflex or crystal sets. Sensitivity fixed permanently. Enclosed in a bakelite case.
**Cat. No. 7002**.....List Price $1.20

## Plastic Enclosed CRYSTAL DETECTOR

Delicately adjustable. Includes Super-sensitive Crystal. Dustproof.
**Cat. No. 7008**
List Price $.90

## PHILMORE DOUBLE HEADPHONES

Accurately matched. Each unit consists of "double high flux" magnets. Ruggedly constructed of lightweight metal. Polished bakelite ear caps. Concealed terminal type. Plastic covered adjustable headband and cord 4½ feet long. 2000 ohm impedance.
**Cat. No. 2260**.....List Price $5.25

## SINGLE HEADPHONES

Same construction, head band is of spring steel. 1000 ohm impedance
**Cat. No. 2261**.....List Price $2.75

## "NEW ECONOMY MODEL" "LITTLE WONDER" Radio Receiver KIT

Outstanding value! Includes molded bakelite base, precision wound coil, crystal, all hardware. Less phone and aerial wire.
**No. 7000K**.....List $2.00
Plus Fed. Excise Tax

## "LITTLE WONDER" RADIO RECEIVING SET

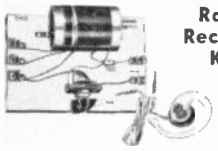
Compact in size but big in results. The open type detector permits fine adjustments. Includes Philmore Super sensitive Crystal.
**Cat. No. 7000**.....List Price $1.75
Plus Federal Excise Tax

## METER TESTED CRYSTAL

No. 7004 Galena Crystal. Indiv. boxed....List $.25

No. 7005 Galena Crystal. Display Card....List $.20

## NEW "SELECTIVE" GERMANIUM DIODE Radio Receiver KIT



Features Variable Capacity Tuning, High "Q" Coil, permanently fixed crystal. Plywood baseboard, with template label. Easy to assemble. All hardware, step-by-step instructions, including earphone.
**No. VC-1000**.....List $5.00
Plus Fed. Excise Tax

## PHILMORE AERIAL KIT

A complete kit of parts for assembly of a professional antenna. Attractively packaged in a multi-colored display box.
1 coil 50 ft. stranded aerial wire.
1 coil 25 ft. lead-in wire.
1 Ground clamp. 2 Nail-it knobs.
1 Lead-in strip. 1 Instruction sheet.
2 Porcelain insulators.
**Cat. No. 2103**.....List Price $1.65

## CAT'S WHISKER

Display card.
No. 7006—Set of 2.
List Price $.20

## Unmounted DETECTOR

Includes stand, crystal cup, arm with cats-whisker, hardware. Less crystal.
**Cat. No. 7010**.....List Price $.25

## PHILMORE "OMEGA" DOUBLE HEADPHONE

Here's a superlative value in headphones! This ruggedly built yet lightweight headset is practically unbreakable. Double High Flux Magnet, highly polished bakelite shell and cap. Hardened steel headband, adjustable. High impedance of these headphones provides very sensitive performance. Equipped with 5-ft. tinsel braided cord.

| Cat. No. | Impedance | List Price |
|---|---|---|
| 2263 | 4000 Ohms | $4.30 |
| 2264 | 2000 Ohms | 4.15 |

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World Radio History

# Philmore *Guaranteed* ELECTRONIC COMPONENTS

## PHILMORE 2-TRANSISTOR RADIO KIT with 4" ALNICO PM LOUDSPEAKER

Completely transistorized, no tubes to burn out. Built-in loop antenna coil, no external aerial or ground required. Powered by single 9-volt "A" battery (RCA VS300, RayOVac 1600, or equivalent). Two transistors and Germanium diode in up-to-date circuit. The tuning range covers broadcast band and police calls. Colorful plastic cabinet 7½x5x2½". Step-by-step instructions included.

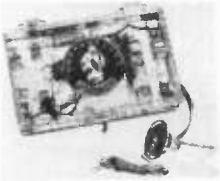
Model TR22 (less battery) ..... List Price $20.45
Plus Federal Excise Tax
Model TCC Leatherette Carrying Case (Optional) ..... List Price $3.40

## PHILMORE TRANSISTOR BATTERY RADIO SET

Wired, ready to operate. Uses transistor and diode, powered by self-contained penlite battery. Plastic case 3¾x3x1½". Includes 1000-ohm earphone with headband, antenna wire, ground wire and battery.

Model TR-8 ..... List Price $10.75
Plus Federal Excise Tax

## PHILMORE TRANSISTOR BATTERY RADIO KIT



No soldering required. Printed template furnished. Uses transistor and germanium diode. Tunes entire broadcast band. Transparent plastic cabinet 5¾x3¾x1½". Kit includes transistor, germanium diode, penlite battery, antenna wire, ground wire, 1000-ohm earphone with headband, and all necessary components required for complete assembly.

Model TR-9 ..... List Price $9.75
Plus Federal Excise Tax

## MAGNETIC EAR CHANNEL PHONE

A triumph of ingenious design! This clever earphone has protruding nodule which engages the helical channel of the outer ear. Holds phone firmly, with complete comfort! Sturdy, light plastic construction, equipped with 5-ft. plastic covered cord. Magnetic type, 1000 ohms impedance.

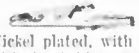
No. 745 ..... List Price $2.35

## D.P.D.T. KNIFE SWITCH

Midget type knife switch, on black plastic base 2⅜x1½x3/16" thick. Nickel plated throughout, screw terminals. Ideal for radio, television and electrical applications.

No. 197 ..... List Price $.35

## ALLIGATOR CLIP



Nickel plated, with Screw connection. Strong spring with hard bite. 2" long. No soldering necessary.

No. 10120 ..... List Price $7.50 per C.

## INSULATED ALLIGATOR CLIPS

Equipped with screw, making it ideal for solderless connections. Overall length 2"; plastic insulating sleeve ⅜".

| No. | Color of Sleeve | List Price per 100 |
|---|---|---|
| 10120B | Black | $12.50 |
| 10120R | Red | $12.50 |

## PHILMORE "SKY ROVER" CRYSTAL RADIO OUTFIT

Sharp reception is made possible by such Philmore features as—

- Crystal Detector of the open type for ease of adjustments to the finest degree.
- Bakelite cabinet for durability.
- Single crystal High Impedance professional type earphone with plastic earholder.

The Sky Rover Outfit comes completely assembled with all necessary equipment—no other accessories are needed. It costs nothing for upkeep and will be a continual source of pleasure and education for the long-lasting life of the set.

Cat. No. 498 ..... List Price $6.00
Plus Federal Excise Tax

## PHONO OSCILLATOR Model PA49

Actually a low-powered transmitter, this unit, when connected to the output from a record player pickup, enables music or speech to be transmitted to and received by any number of radio sets in the house, without any wire connections. Supplied with phono pickup input jacks and on-off slide switch.

Operation: Plug the oscillator into the AC or DC outlet. Set receiver dial at some point between 1000 and 1500 Kc where no station is heard. Then, with a record playing into the phono oscillator, tune the oscillator slowly until the sound is picked up by the receiver. After that, no further adjustment is needed. Small and compact, this phono oscillator can be secured permanently to the record player. Oscillator employs one 12AX7 type tube.

Model No. PA49 (less tube) .... List Price $9.25

## 2-CONDUCTOR SHIELDED DOUBLE PHONE PLUG

Brass, nickel plated. Supplied with fibre insulating tube. Will fit all standard jacks. Diameter of barrel 5/16". Overall length 3⅜".

No. 517S ..... List Price $.70

## BAKELITE PORTABLE JACK

Two conductor single open circuit jack. Overall size: 1⅜", diameter ¾".

No. 518S ..... List Price $.50

## BAKELITE DOUBLE PHONE PLUG

Has sure-grip Molded Bakelite Ribbed Barrel for greater ease in handling. Fits all standard size telephone type jacks. Will take two sets of Cord tips. Supplied in Black or Red.

No. 516 ..... List Price $.42

## SUBMINIATURE PHONE PLUG AND JACK COMBINATION

Consists of a two-conductor phone plug and Single Open and Closed Circuit Jacks. Especially suitable for small radios, recorders, musical equipment, etc. Plug length overall: 1½", barrel diam.: ⅜". Plugs available in Red, Black or Ivory.

No. 501 ..... Per Set, List Price $.50

SHIELDED SUBMINIATURE PHONE PLUG AND JACK COMBINATION. Similar to above, but phone plug has Shielded Nickel Plated Shell.

No. 115 ..... Per Set, List Price $.80

## PHILMORE "HIT PARADER" 4-TRANSISTOR SUPERHET PORTABLE RADIO KIT

No. TR44

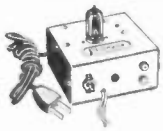
A Superb Performer—and it's EASY to BUILD! Uses latest advanced transistor circuit design, easily assembled, following clear and simple Philmore Step-by-Step instructions. Features:

- SUPERSELECTIVE. 4-transistor superhet plus diode, transformer coupled audio driver.
- 4-INCH PM SPEAKER, large size, powerful.
- LOOP ANTENNA, built-in ferrite type, high "Q".
- TUNING RANGE 550 to 1650 KC.
- VERY ECONOMICAL, low battery drain.
- NIPPLE EARPHONE, for private listening, included; Plugs into jack on back of set.

Compact, "Texon" Leather Cabinet with handle. 7⅞"x5½"x2⅜"; long wearing, good looking; weighs less than 2½ lbs. with battery (9V RCA VS300 etc.).

Cat. No. TR44 Kit, less battery .. List Price $40.00
Plus Federal Excise Tax

## CODE PRACTICE OSCILLATOR

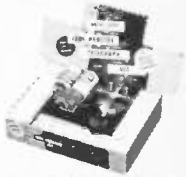


Model
#CO205—Wired
#CO206—Kit

This unit is contained in metal case 4 x 4 x 2" with attractive gray hammertone finish. The circuit is completely isolated from case, insuring maximum safety. Tone pitch is fixed but may be varied by simple circuit change as shown in diagrams supplied. Designed for operation with Earphones. Both models supplied less tube (12AX7 or 12AT7), phone and key. Operates on 110 volts AC or DC.

Model No. C0205—Wired ... List Price $12.50 Ea.
Model No. C0206—Kit .... List Price 8.50 Ea.

## CODE PRACTICE TELEGRAPH SET

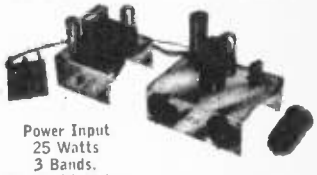


Compact, sturdy, ideal for beginners. It employs a high grade Sig. Corps type key. Adjustable buzzer.

The entire unit is assembled on a plywood base, and clasp holders are provided for two flashlight cells to supply operating voltage of 3 volts. Ordinary 1½ Volt Flashlight cells are used. This set can be used singly, for individual sending and receiving practice. Or, two complete units, connected over a distance by a 3-wire cable, can be used for two-way telegraphic communication. Supplied with complete instructions and hookup diagrams.

Model No. 750 (Less Batteries) .. List Price $6.00
No. HF203 (Buzzer Only) ..... List Price $1.25

## NOVICE TRANSMITTER AND POWER SUPPLY KIT (Including Key)



Power Input
25 Watts
3 Bands.
15, 40, 80 Meters

Easy to assemble, easy to operate. Untuned Pierce type Xtal Osc., uses 6V6 tube. Tuned output Amplifier uses 6L6 tube. Power supply uses 5Y3 tube, 370 Volts DC at 100 Ma. Supplied with tubes and standard key. Foolproof instructions.

Model NT-200 ..... Amateur Net Price $29.40

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## TRANSISTOR FERRITE ROD LOOP ANTENNA COILS

Litz wire space wound. High quality ferrite core. Extremely high "Q" of over 375. More than twice the "Q" of conventional types.
Very high sensitivity and selectivity. Separate (not a tap) low impedance winding, bi-filar wound with tuned winding for correct impedance match into transistor input circuitry.
Also used to increase performance of present day vacuum tube radios. Convenient mounting straps. Total length 6 1/4 x 3/8" diameter.

**No. TL-100** Will match R.F. or Converter tuning condenser of 420 Mmfd. ..... **List Price $1.40**

**No. TL-101** Similar to TL-100, designed to match our No. 51-RC 2-gang Var. Cond. (123 Mmfd.) **List Price $1.50**

**No. TL-102** Similar to TL-100, designed to match a 365 mmfd. Variable Condenser.. **List Price $1.50**

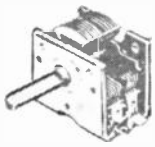
**No. TL-103** Similar to TL-100, designed to match our No. 52-JC 2-gang variable condenser (211 mmfd.) ..... **List Price $1.50**

## FERRITE SLUG-TUNED VARIABLE INDUCTANCE LOOP ANTENNA COIL

Highly sensitive and selective, this hi "Q" antenna coil has a tap for use with transistor or germanium diode input circuits. Also used with tube circuits. 12" pigtail lead for additional pickup. Will match tuning condensers of 365 mmfd. to 420 mmfd. Length of coil 2x3/8" width.

**Cat. No. R841-T** **List Price $1.05**

## TRANSISTOR MINIATURE 2-GANG SUPERHET VARIABLE CONDENSER



Capacity of RF section is 6.3 minimum to 123.1 mmfd. Oscillator section: 5.7 to 78.2 mmfd. Aluminum frame plates. Smooth ball-bearing action over entire 180 rotation. Effective range of trimmers is 15 mmfd. Capacity increases counter-clockwise. Dimensions: 1 3/8" wide, 1-15/16" high, 15/16" deep. Flatted shaft 1/4" diameter by 1 1/4" long.

**No. 51-RC** ..... **List Price $2.50**

## Tiniest Variable Condenser in the World! 2-GANG SUPERHET VARIABLE CONDENSER

This tiny condenser is completely housed in a transparent plastic dustproof enclosure. Size: 5/8x1-1/16 x1-1/16". Capacitance: Antenna section, 13 to 211 mmfd; Oscillator Section, 11 to 101 mmfd. Counter clockwise rotation. Trimmer 12 mmfd. max. Coil inductance Antenna 100 uh. Oscillator 220 uh.

**Cat. No. 52-JC** **List Price $3.00**

## GERMANIUM DIODES

General purpose type diode, equivalent to type 1N34.

**Type PH-4** .....**List Price $.70**

## MIDGET 1½-INCH PM SPEAKER

1½" diameter x 15/16" deep. The magnet weighs .5 oz., is made of Alnico V. 8 ohm or 3.2 ohm voice coil impedance. Also used as a tweeter for Hi-Fi Speaker systems.

**No. 707** **List Price $3.40**

## TRANSISTOR SUBMINIATURE VOLUME CONTROLS

These controls are especially designed for transistor circuits. They have a 1" shaft length, by .156 (5/32") diameter. The 1/4-32 bushing is 1/4" long. Overall diameter of the controls is 5/8".

| Cat. No. | Description | | List Price |
|---|---|---|---|
| PC-50 | 5,000 Ohm | Less Switch | $ .85 |
| PC-51 | 10,000 Ohm | Less Switch | .85 |
| PC-52 | 5,000 Ohm | SPST Switch rated 3 amp. @ 125V. | 1.65 |
| PC-53 | 10,000 Ohm | SPST Switch rated 3 amp. @ 125V. | 1.65 |
| PC-54 | 500K Ohm | SPST Switch | 1.65 |
| PC-55 | 1 meg Ohm | SPST Switch | 1.65 |

## SUBMINIATURE KNOBS

Dia. 5/8", height 3/8", with set screws, to fit 5/32" shaft.

**No. K54** Black .....**List Price, Each $.20**

**No. K55** Walnut .....**List Price, Each $.20**

## TRANSISTOR MINIATURE I.F. TRANSFORMERS

The latest type I.F. Transformers, designed for all transistor circuits.

I.F. Frequency 455 Kc. Size: 1/2x1/2x3/4".

| No. | Description | List Price |
|---|---|---|
| BS-725 | For 1st and 2nd I.F. Stages, input and intermediate..... | $2.35 |
| BS-726 | For output or Diode load..... | $2.35 |

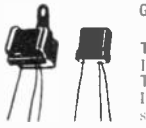
## MATCHED OSCILLATOR COIL

Has tunable iron core for varying inductance to match all types of Loop Antenna Coils.

**No. TC220** ....**List Price $1.25**

## TRANSISTORS

| Transistor Type No. | Current Gain db. | Power Gain db. | Col. Dissipation Mw. | Freq. Cut-Off. | Power Output Milliwatts Mw. | List Price Each |
|---|---|---|---|---|---|---|
| PH-1 | 20 | 36 | 50 | 0.15 Mc. | 25 | $2.40 |
| PH-2 | 40 | 40 | 70 | 500 Kc. | 50 | 2.75 |
| PH-3 | 70 | 30 | 50 | 10 Mc. | — | 3.50 |



### GENERAL INFORMATION ON TRANSISTORS

**Type PH-1** is a general purpose PNP high gain audio transistor. **Type PH-2** is a general purpose PNP power output audio transistor, furnished with a heat sink. **Type PH-3** is a general purpose PNP R.F. transistor, suitable for Radio Frequency and Intermediate Frequency Service.

**Types PH-1, PH-2, and PH-3** correspond in general to 6T222, 81, 761 or equivalent makes, respectively.

## MIDGET TRANSFORMERS FOR TRANSISTORS

These tiny transformers use finest quality cores, made of hydrogen heat processed permalloy. Fine coil wire of 0.025 mm diameter is used. Vacuum impregnated insulation.

| No. | Type | Impedance Primary Ohms | Impedance Secondary Ohms | Net Wt. oz. | List Price Each |
|---|---|---|---|---|---|
| * ST-11 | Driver | 20,000 | 1,000 | 1/4 | $2.25 |
| * ST-12 | Input | 100,000 | 1,000 | 1/4 | 2.50 |
| † ST-13 | Input | 200,000 | 1,000 | 3/8 | 3.00 |
| † ST-14 | Input | 500,000 | 1,000 | 1/2 | 3.75 |
| † ST-21 | Driver | 10,000 | 2,000CT | 1/2 | 2.40 |
| † ST-31 | Output | 500CT | 3.2 | 1/2 | 2.40 |
| † ST-32 | Output | 1,000CT | 8 | 1/2 | 2.40 |

* Overall Size: 3/4x5/8x13/16".
† Overall Size: 13/16x5/8x3/4".

## COMPACT WAFER TYPE VARIABLE TUNING CONDENSER Single Gang 365 to 400 Mmfd.

**Specially Adaptable to Transistorized Circuits**

Requires only 9/16" behind panel. Overall 1 1/2" square, with standard 1/4" knob shaft, 3/4" long. Interleaved insulation prevents shorting between plates.

**No. 1946G** ..... **List Price, Each $.90**

## BROADCAST COIL

**Compact, for Transistorized Circuits**

This Litz-wound HI-Q coil is specifically designed for the Broadcast Band from 550 to 1600 Kc., and matches our No. 1946G tuning condenser shown above. Can be mounted right on the condenser itself. Only 11/16" diam., 1/4" thick

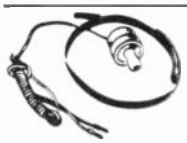
**No. C-110** .....**List Price $.40**

## ANGLE BRACKET

Provides correct mounting for our No. 1946G tuning condenser shown above. Made of cadmium plated steel, this bracket measures 1-5/16" H. x 1-3/16" D.

**No. B-111** .....**List Price $.17**

## MAGNETIC EARPHONE



Miniature type, plugs directly into ear. Equipped with 5-ft. plastic covered cord and headband. Sturdy, light plastic construction. 1000 ohm impedance. Ideal for use with miniature sets.

**No. 743** **List Price $2.25**

## CRYSTAL EARPHONE

Molded plastic shell, miniature type, fits comfortably into the ear. Equipped with 5-ft. plastic covered cord. High impedance, ideal for many applications; crystal element.

**No. 748** **List Price $1.60**

## MINIATURE ELECTROLYTIC CONDENSERS

CAPACITANCE TOLERANCE....—10% +100%
POWER FACTOR...15%, Maximum, Average 10%
LEAKAGE CURRENT....Better than 0.05 C.V. microamps where C is the capacitance in Mfd. and V is the DC working voltage.

These units are encased in solid-drawn single-ended aluminum cans, spun onto plastic end plugs to give moisture-proof seals, and provided with 1 1/2" wire ends. The internal construction is all aluminum. A unique feature is the retention of the well-proven rivetted positive connection, on a smaller scale. Plastic covering insulates the can.

| Cat. No. | Mfd. | DC WV | Dia. | Length | List Price Each |
|---|---|---|---|---|---|
| E-1 | 5 | 6 | 1/4" | 1 1/4" | $.35 |
| E-2 | 10 | 6 | 1/4" | 1 1/4" | .40 |
| E-3 | 25 | 6 | 1/4" | 1 1/4" | .40 |
| E-4 | 50 | 6 | 1/4" | 1 1/4" | .45 |
| E-5 | 75 | 6 | 3/8" | 1 1/4" | .50 |
| E-6 | 100 | 6 | 3/8" | 1 1/4" | .55 |
| E-7 | 150 | 6 | 1/2" | 1 1/4" | .65 |
| E-8 | 5 | 12 | 1/4" | 1 1/4" | .40 |
| E-9 | 10 | 12 | 1/4" | 1 1/4" | .40 |
| E-10 | 25 | 12 | 1/4" | 1 1/4" | .45 |
| E-11 | 50 | 12 | 3/8" | 1 1/4" | .45 |
| E-12 | 75 | 12 | 3/8" | 1 1/4" | .50 |
| E-13 | 100 | 12 | 1/2" | 1 1/4" | .55 |
| E-14 | 5 | 25 | 1/4" | 1 1/4" | .40 |
| E-15 | 10 | 25 | 1/4" | 1 1/4" | .45 |
| E-16 | 25 | 25 | 1/4" | 1 1/4" | .45 |
| E-17 | 50 | 25 | 3/8" | 1 1/4" | .50 |
| E-18 | 75 | 25 | 3/8" | 1 1/4" | .55 |
| E-19 | 100 | 25 | 1/2" | 1 1/4" | .60 |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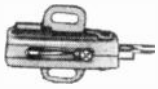
# Philmore *Guaranteed* ELECTRONIC COMPONENTS

## PHONO CRYSTAL CARTRIDGE



Supplied with 2 Mil all purpose sapphire needle, for LP and SP records. Has 5 volt output. Ceramic construction provides protection against heat and moisture. Has bracket for ½" mounting centers. Individually boxed.
**No. CX313** ..... **List $3.00 ea.**

## PHONO CRYSTAL PICKUP

Contains the CX313 crystal cartridge as described above. Includes arm rest and hardware. Threaded bushing ¾" long x ⅜" diameter. Arms are made of aluminum alloy for light weight. Gray hammertone finish. Spring counter, balanced arm. Individually boxed.
**No. C313** ..... **List $4.50 ea.**

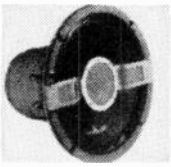
## UNIVERSAL PHONO CRYSTAL CARTRIDGE

Uses single needle. Adaptable for all three speeds. Frequency response is 50-8000 CPS. Has 4 volt output. Standard ½" mounting centers. Provided with screw type chuck for installing needles. Less needle. Individually boxed.
**No. SC5** ..... **List $1.95**

## CRYSTAL PHONO CARTRIDGE

Crystal cartridge with single sapphire needle. Ideal replacement for RCA 45RPM record players, etc. Comes packaged in individual clear plastic box.
**No. 60L** ..... **List $2.50 ea.**

## 8" COAXIAL HI-FI SPEAKER



Includes built-in high pass filter. Construction is rugged to insure trouble free performance indefinitely. Features:
- Voice coil: 6-8 ohms
- Resonant frequency: 60-65 CPS
- Frequency response: 45-16000 CPS
- Maximum power output: 15 watts
- Tweeter: 2½". Acoustically independent tweeter
- Individually boxed

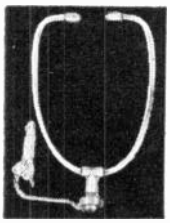
**No. PX8A** ..... **List $29.85 ea.**

## PILLOW SPEAKER

Designed for private listening in home, hospitals, etc. A moisture-proofed crystal element is used making the speaker very sensitive. The unit is enclosed in a colorful plastic case. Comes complete with midget plug and jack assembly and simple operating instructions. Specifications: —
1. High Impedance
2. Size: 2¼" diameter, 11/16" thickness, 9 oz. weight.

**No. R-49** ..... **List $4.20 ea.**

## CRYSTAL HEADSET

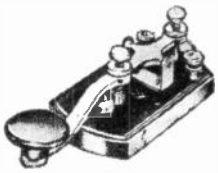


High impedance under-the-chin lightweight headset, provides the utmost in listening comfort. Ideal for all applications where a high impedance unit is required. Supplied with 7 ft. cord. Net weight 1½ ounces.
**No. 749** ..... **List $3.00 ea.**

## DOUBLE HEADPHONE

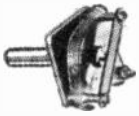
2000 ohm Impedance. Supplied with adjustable headband. The high impedance of these phones assures very sensitive performance. The flexible braid covered cord is 3½ ft. long with standard phone tips. Highly polished bakelite cap and shell. Weight—4½ oz.
**No. SF200** ..... **List $3.05 ea.**

## TELEGRAPH KEY



Fully adjustable spring tension. Ideal for the beginner or ham. All metal parts are nickel plated. Mounted on molded phenolic base. Flat Navy type knob. Coin silver contacts.
**No. B53** ..... **List $1.50 ea.**

## SUB MINIATURE VARIABLE CONDENSER



1 gang 365 Mmfd. Suitable for clockwise or counter-clockwise rotation. Overall 1" square. Depth ⅝". Supplied with standard ¼" knob shaft, 1" long including bushing. Panel mount, interleaved insulation prevents shorting between plates.
**No. 1949G** ..... **List $1.00 ea.**

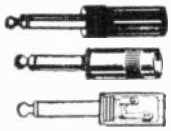
## MIDGET INSULATED ALLIGATOR CLIPS

The compactness of this clip enables Radio and TV servicemen to work in close quarters. Sturdy steel jaws, with plastic red or black thumb rest and barrel. Overall length 1⅜".
**No. 263A** Red or Black clips (please specify color)..**List $.14 ea.**

## MIDGET RUBBER INSULATED ALLIGATOR CLIPS

Same specifications as the No. 263A clips, except that these are furnished with red or black removable rubber insulation. Overall length 2".
**No. 265** Red or Black Clips (please specify color) **List $.20 ea.**

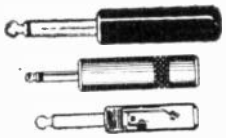
## SHORT SLIM PHONE PLUGS



Suitable where minimum space is required. These plugs are ideal for Public Address Systems, Transmitters, etc. Supplied with red or black ribbed bakelite barrel, or shielded barrel. Two conductor solder lug terminals. All parts nickel plated. Fits all standard type jacks.
- Length of barrel — 1¼"
- Diameter of barrel — ½"
- Overall length — 2½"

**No. 522W** Red or Black Plug please specify color) **List $.40 ea.**
**No. 522WS** Shielded plug..**List $.60 ea.**

## LONG SLIM PHONE PLUGS



A compact plug for panel mounting space economy. Has two screw type terminals. Supplied with red or black barrel, or shielded barrel. All parts nickel plated. Fits al standard type jacks.
- Length of barrel — 1⅝"
- Diameter of barrel — ½"
- Overall Length — 2⅞"

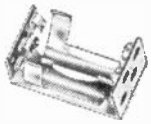
**No. 523W** Red or Black Plug (please specify color) **List $.45 ea.**
**No. 523WS** Shielded Plug **List $.70 ea.**

## SLIM PHONE PLUGS

Solder lug type with cable clamp terminal. Similar to the PL55, plug, except without screws. Supplied with Red or Black bakelite barrel. All parts nickel plated. Fits all standard type jacks.
- Length of barrel — 1⅝"
- Diameter of barrel — ½"
- Overall length — 2⅞"

**No. S623** Red or Black Plug (please specify color) **List $.45 ea.**

## BATTERY HOLDER



Designed to accommodate 4 - 1½ Volt standard Penlite Batteies. Sturdy construction. Has two mounting holes with 2" mounting centers. Specially designed for Transistor Radios and Model Airplanes. Also adaptable for many other uses. Batteries can be connected in series or parallel or any combination.
**No. J4P** ..... **List $.65 ea.**

## JUMPER TEST CORDS

5 pairs of jumper cords consisting of 10 leads, 14" long. Every lead has a miniature insulated alligator clip, at each end, making 20 clips in all. Colors of cords are: Red, Green, Black, Yellow and White. Ideal for servicemen and amateurs for testing purposes, repairs, experimenting, etc.
**No. SA10** ..... **List $2.20 ea.**

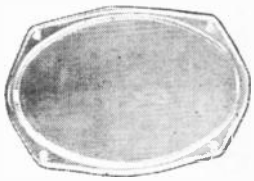
## UNIVERSAL TRANSISTOR SOCKET

Low Loss phenolic socket with three beryllium copper contacts, silver plated, tinned for easy soldering. Supplied with push-on mounting clip.
**No. TR420** ..... **List $.24 ea.**

## WIRE STRIPPER AND CUTTER

Combination wire stripper and cutter with plastic insulated handles. Easily adjusted to strip insulation from any wire up to No. 10 solid or stranded. Calibrated adjustment permits resetting to exact jaw opening. Hardened steel blades. 5⅝" long.
**No. WS7** ..... **List $1.75 ea.**

## REAR SEAT SPEAKER GRILLES



Grilles made of aluminum with cross staggered perforations. Available in two sizes—5" x 7", and 6" x 9". Supplied in the following colors:—Chrome, Gold, Blue, Black, Green and Red. Mounting hardware is supplied with each grille. Grilles are individually packaged in clear plastic envelopes. Pease specify color when ordering.
**No. 607** 5" x 7" Grille..**List $1.40 ea.**
**No. 609** 6" x 9" Grille..**List $1.55 ea.**
**No. 610** 3-Position Auto Switch **List $.35 ea.**

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***



World Radio History

# Philmore *Guaranteed* ELECTRONIC COMPONENTS

### 3-SPEED CRYSTAL CARTRIDGE

Frequency response 50-6500 cps. 3.5 volt output, standard ½" mounting holes. Has screw-type chuck for conventional needles. Individually boxed.

**No. SC2 (Less Needle) ..... List Price $1.95**

### DESK TYPE CRYSTAL MICROPHONE (Uni-Directional)

Has many uses, excellent for tape recording, public address systems, hams, etc. Although microphone needs no extra stand, an adapter is provided for mounting to a floor stand. Brown plastic case. Supplied with 5 foot gray plastic covered shielded cable. Output level minus 50 db high impedance.

Frequency response from 70 to 8500 C.P.S. Size—3x2⅜x1⅛". Net weight—4 ounces.

**No. MC60 ..... List Price $6.50**

### LAPEL TYPE CRYSTAL MICROPHONE (Uni-Directional)

Gives crisp, clear speech reproduction. Specially designed and widely used by lecturers, instructors, speakers, etc. Furnished with lapel spring clip and 6½ foot gray plastic covered shielded cable. Chrome plated finish. Output level minus 50 db high impedance.

Frequency response from 70 to 8000 C.P.S. Size—1⅝" diameter x 11/16". Net Weight—1½ ounces.

**No. MC90 ..... List Price $4.50**

### SUBMINIATURE PLUG AND JACK

Phone plug ideal for thin 2-conductor cable. Length of plug is 1⅛". The single closed-circuit jack mounts in ¼" hole. Supplied as a set. Available in Red, Black or Ivory.

**No. 702 ..... List Price per Set $.40**

### ULTRA-MINIATURE PLUG AND JACK COMBINATION

Consists of 2-conductor plug, overall length 15/16", barrel diam. 5/16"; with matching single Closed Circuit Jack. Plugs available in Red, Black or Ivory. Supplied as a set.

**Cat. No. 660 ..... List Price $.40**

### 8-OHM MAGNETIC EARPHONE

Hearing-aid type. Equipped with 5-ft. plastic covered cord and headband. Sturdy light plastic construction. The 8-ohm impedance makes this earphone suitable for individual hearing on a television or radio set.

**No. 746 ..... List Price $2.25**

### 500-FT. SPOOL TWIN COPPER STRANDED PLASTIC WIRE

Its flexibility makes it ideal for wiring installations on Hi-Fi speakers, as well as wiring to phono cartridges.

**No. A013 .....List Price per Spool $14.00**

### TEST LEADS WITH PHONE TIPS

Plastic Test prod handles 3½" long, ⅜" diameter, with extra long prods 1¾" long. Red and Black. Equipped with 48" kinkless plastic covered leads, with insulated phone tips at other end. Phone tips fit standard American phone tip jacks.

**No. 456 ..... Per Pair, List $.65**

### TEST LEADS WITH BANANA PLUGS

Plastic Test Prod Handles, 3½" long, ⅜" diameter, with long 1¾" prods. Supplied with 48" kinkless plastic covered leads, with standard insulated banana plugs at other end. These banana plugs are spring type, and will fit all standard American Banana Jacks. Supplied in Red and Black pairs.

**No. 457 ..... Per Pair, List Price $.80**

### TEST LEADS WITH SOLDERLESS PHONE TIPS Polystyrene Handles

Red and White Test Prod Handles made of semi-flexible plastic, very durable, 3⅜" long, with 1¾" prods. Equipped with kinkless plastic covered 48" leads, having solderless phone tips at other end. Phone tips fit standard American phone tip jacks. Supplied in Red and Black Pairs.

**No. 582 ..... Per Pair, List Price $1.25**

### TEST LEADS WITH FINGER GRIP PHONE TIPS

Plastic test prod handles 3½" long, ⅜" diam. Extra long prods. Molded plastic finger grip phone tips. 48" plastic red and black leads. Phone tips fit standard American phone tip jacks.

**No. 458 ..... Per Pair, List $1.10**

### TEST LEADS WITH FINGER GRIP BANANA PLUG TIPS

Plastic test prod handles 3½" long, ⅜" diam. Extra long prods. Molded plastic finger grip banana plug tips at other end. 48" plastic red and black leads. Banana plug tips fit standard American Banana jacks.

**No. 459 ..... Per Pair, List $1.15**

### SPLIT TYPE INSULATED BANANA PLUGS

Plastic insulated handle ¾" long, cross slotted plug ¾", overall 1½". Wire connection is made by means of set screw in side of plug. Fits all standard American banana type jacks. Supplied in Red and Black, please specify color.

**No. 2349-G ..... List Price, Each $.10**

### INSULATED PHONE TIP JACKS

Completely insulated, these jacks take all standard American phone tips. Overall length of jack is 13/16", with plastic insulated head, and insulating shoulder washer. Supplied with solder lug and hex nut. Mounts 5/16" hole. Red and Black, please specify color.

**No. 259 ..... List Price, Each $.14**

### INSULATED BANANA JACKS

Accommodates all standard American banana plugs. Plastic insulated head with insulating shoulder washer, solder lug, and hex nut. Overall length ⅝". Mounts in 5/16" hole. Red and Black, please specify color.

**No. 260 ..... List Price, Each $.12**

### INSULATED ALLIGATOR CLIP

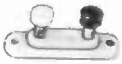
Sturdy steel jaws, with plastic insulated thumb rest and barrel. Overall length 2½". Supplied in Red and Black, please specify color.

**No. 264 ..... List Price $.11**

### ALL INSULATED ALLIGATOR CLIP

Cleverly constructed, compact, only 1¾" over-all, and completely insulated, practically shock-proof. Solder lug connection. Supplied in Red and Black, please specify color.

**No. K-23 ..... List Price $.14**



### TWIN BINDING POSTS

All Molded Plastic. Both posts completely insulated. Mounting centers 1-13/16". Base is 2-3/16" long, 11/16" wide. Supplied with Red and Black knobs.

**No. 121 ..... List $.20**

### FUSE MOUNT

Single fuse mounting base for 3AG fuses, with removable slide-on metal shield cover. Top chassis single hole mount. ⅛" thickness, molded bakelite base.

**No. 107 ..... List Price $.09**

### ⅜-INCH JEWEL PANEL INDICATOR

Mounts in 5/16" diameter hole. Nickel plated, overall height 1-7/16", depth behind panel 1", take standard miniature base pilot light. Smooth faced jewel, available in Red or Green. Specify color.

**No. 565....List Price, Each $.31**

### ROTARY SWITCH

Will Carry 6 Amps.

Single pole, six positions. 180° rotation. Shaft length ½x¼" dia. Includes mounting nut and washer. Exceptionally good detent action. Non-shorting type.

**No. 229.....List Price $.45**

### D.P.D.T. TOGGLE SWITCH

With large colored "on and off" plate

Bat handle, with neutral center, molded bakelite case. Rated 3 amp. 250 volts, 6 amp. 125 volts. Supplied with two mounting nuts, 15/32" shank.

**No. 226A ..... List Price $1.00**

### BAT HANDLE TOGGLE SWITCHES

Supplied with "on-off" plates. Molded bakelite case; rated 3 amp. 250 volts, 6 amp. 125 volts. Complete with two mounting nuts.

| No. | Type | Shank | List Price |
|---|---|---|---|
| 219 | S.P.S.T. | 5/16" | $.40 |
| 220 | S.P.D.T. | 5/16" | .45 |
| 221 | D.P.D.T. | ⅜" | .60 |

### BAR KNOBS

1¼" long, with Brass Inserts, equipped with set screw, to fit ¼" shaft.

No. 277A Black Bar Knob with white indicator line .....List Price $.11

No. 276A White Bar Knob with black indicator line .....List Price $.13

**PHILMORE MFG. CO. INC. . . . . New York 3, N. Y.**



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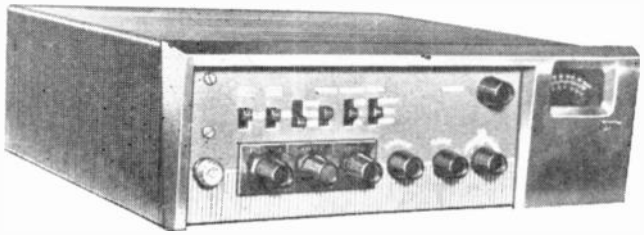
World Radio History

# *Instruments* IN KIT & WIRED FORM . . . precise above all else



And what an amazing list of outstanding features you'll find in the ORPHEON:

• 40 watts of undistorted listening pleasure (Peak 80 watts) • Inputs for Radio, TV, Taps, Microphone and Magnetic or Crystal Phono • Tape and Monitor Outputs • Calibrated Microphonic Probe for AAS*, can also be used as public address microphone or for recording • 24 positions of equalization: DC on input tube filaments • At least 18 db of bass and treble boost attenuation plus additional 20 db with AAS* • Volume and Loudness Controls, 5 mv full output • Rumble Filter • Printed Circuit • Muting Switch • Convenience Outlet • Output meter reads power or tape output voltage • Separate tape output level potentiometer • Cathode-follower tape output • Internal grid-bias control (—80 db for Radio; —60 db for Phono).

**Model AM40A, Factory-wired complete, $189.50**

*Patent Pending*

*Now — for the first time*

## TAILOR YOUR SOUND TO FIT YOUR ROOM

*with Precise Development's*

## Ortho-Linear Monophonic "ORPHEON" Amplifier

*featuring AAS**

The finest amplifiers are "linear" in the lab, but not in the living room! That's because room acoustics play the most important part in amplifier performance.

Now, for the first time, you can actually tailor the performance of a superb amplifier to suit the acoustics of your own room! AAS* — Acoustical Analyzer System — Precise Development's exclusive new feature accomplishes this amazing feat. And AAS* is found only in the great, new ORPHEON amplifier. Using an Acoustic Analyzer Probe you can actually adjust the low frequencies separately to provide perfect linearity to match the acoustics of your own living room! And once the adjustment is set, the ORPHEON remains in balance unless there are major changes of furniture or drapes in the room.

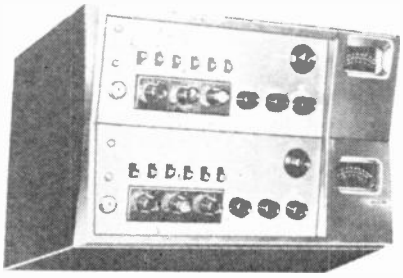
*and . . . an additional Precise Development triumph*

## STEREO SOUND TAILORED TO FIT YOUR ROOM

*with the Ortho-Linear*

## "STEREO-ORPHEON"

*with AAS**



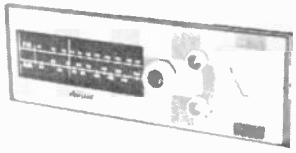
Here's the greatest flexibility ever offered the Audiophile . . . the great ORPHEON amplifier in its superb STEREOPHONIC version. It comprises two systems—each one identical with the monophonic ORPHEON described above. They may be used together to reproduce brilliant, clean, linear stereophonic sound, or each may be used separately to serve two separate areas monophonically with different music . . . or they may be used together as an elaborate mixer for recording.

**MODEL STAM80A,** Total Output Power — 80 watts (Peak 160 watts). Stereo — Each Section — 40 watts. Factory Wired, With AAS* Complete, **$289.50**

**MODEL STAM40A** Total Output Power — 40 watts (Peak 80 watts). Stereo. — Each Section — 20 watts. Factory Wired, With AAS* Complete, **$249.50**

**MODEL ST40** Same as STAM40A, Without AAS* and microphone. Factory Wired, Complete, **$169.50**

## THE CONTINENTAL



Precise Development's "CONTINENTAL" is a superb AM and FM tuner providing not only great beauty, but matched performance.
It handles signals as low as a few microvolts with the same dexterity and assurance as it encompasses nearby stations which are goliaths of power. Coupled with variable automatic frequency control and metered output, it selects each station carefully as though it were serving that one station alone. Gold and real silver are used on the panel as the only true complement to its unsurpassed fidelity.

Test the Continental — and do not consider its price until it is compared with all others — then note how inexpensively you can own one of the finest tuners made today. It's a tribute to beauty, performance and engineering in modern design.

• FM—88 to 108 mc • AM—500 to 1600 KC • Output Meter • Full Wave Rectification • Transformer • Cathode-follower Output • Convenience Outlet • 13" x 4¼" x 9¾" • Phono, FM, AM, TV Switch & Inputs • Foster Seeley Discriminator • Flywheel Tuning • 2 Limiters • Ferri-Loop • 3 Gang Variable • Logging Scale • Cage (At additional cost)

Model TUMK Kit, $49.95 Model TUMW Factory Wired, $69.95

## THE COSMOPOLITAN

Here is the beautiful Continental, complete with all its unequalled features except for the tuning meter.

Model TUK Kit, **$44.95**

Model TUW Factory Wired, **$64.95**

## THE MOZART

Precise Development's Mozart is an amplifier which supports a symphonic orchestra with live, crisp, brilliant, distortion-free performance. Embodied in it is the strength to carry a crescendo, and the gentleness and clarity to deliver the timbre of a Stradivarius across a carpeted room.
Four powerful output tubes guide 40 undistorted watts of crystal tone — more reserve power than ever needed in a living area.
An emphasis on flexibility of controls makes the Mozart the most versatile amplifier in the high fidelity field.

Model AMK Kit, **$69.95** Model AMW Factory Wired, **$89.95**

**LOOK AT THESE FEATURES:**

• 24 positions of equalization: DC on input tube filaments • At least 18 db of Bass and Treble boost and attenuation • Volume and Loudness Controls; 5 mv full output • Rumble Filter • Muting Switch • Convenience Outlet • Output Meter reads power or tape output voltage • Separate tape output level potentiometer • Cathode-follower tape output • Internal grid-bias control; internal grid balance control • Internal hum balancing control (—80 db for radio; —60 db for phono) • Output selector for different impedance speakers; A-AB-B speaker selector • Special patent-pending output transformer • Silver plated, etched front panel • 10 tubes • Fused Supply • 13" x 4½" x 12"

**PRECISE DEVELOPMENT CORP.** OCEANSIDE, NEW YORK

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World Radio History

# Cinaudagraph Speakers

**CINAUDAGRAPH INC.** CHICAGO 26, ILLINOIS

EXPORT DEPT.: 205 WEST WACKER DRIVE
CHICAGO 6, ILL., U.S.A. • Cable: ENOTS

## WORLD'S FINEST

### *HIGH FIDELITY SPEAKERS*

**Hi-Lo Extended Range Single Unit — Direct Radiator Loud Speakers**

**The Cinaudagraph Hi Lo extended range direct radiator speakers are completely new. Designed to meet the demands where fine tone quality is appreciated. Not only is a uniform frequency response obtained but a very low value of harmonic distortion has been achieved and a high rate of decay which overcomes the detrimental effects of "tails" and "hangovers." The active impedance curve of this model is also seen to be surprisingly flat over the operating frequency range, resulting in good power delivery from the output tubes of the amplifier to the voice coil. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . . WARRANTED 5 YEARS.**

| Size | Model No. | †Approx. Gap Energy Level | Voice Coil Imped. | Voice Coil Diam. | Voice Coil Watts | List Price |
|---|---|---|---|---|---|---|
| 8″ | P8FHL | 1.12 | 6-8 | ¾″ | 6.5 | $ 20.00 |
| 8″ | P8FHL-1 | 1.12 | 3-4 | ¾″ | 6.5 | 20.00 |
| 8″ | P8HHL | 1.53 | 6-8 | 1″ | 8.0 | 22.50 |
| 8″ | P8JHL | 2.22 | 6-8 | 1″ | 9.0 | 25.00 |
| 8″ | P8HL | 3.22 | 6-8 | 1¼″ | 10.0 | 35.00 |
| 8″ | P8NHL | 5.00 | 6-8 | 1½″ | 18.0 | 42.50 |
| 8″ | P8PHL | 6.61 | 6-8 | 1½″ | 20.0 | 60.00 |
| 8″ | P8RHL | 12.00 | 6-8 | 1½″ | 25.0 | 77.50 |
| 12″ | P12HHL | 1.53 | 6-8 | 1″ | 9.0 | 24.00 |
| 12″ | P12JHL | 2.22 | 6-8 | 1″ | 11.0 | 27.50 |
| 12″ | P12LHL | 3.22 | 6-8 | 1¼″ | 14.0 | 37.50 |
| 12″ | P12NHL | 5.00 | 6-8 | 2″ | 20.0 | 45.00 |
| 12″ | P12PHL | 6.61 | 6-8 | 2″ | 23.0 | 62.50 |
| 12″ | P12RHL | 12.00 | 6-8 | 2″ | 25.0 | 80.00 |
| 12″ | P12SHL | 15.40 | 6-8 | 2″ | 30.0 | 90.00 |
| 15″ | P15LHL | 3.22 | 6-8 | 1¼″ | 12.0 | 52.50 |
| 15″ | P15NHL | 5.00 | 6-8 | 2″ | 22.0 | 60.00 |
| 15″ | P15PHL | 6.61 | 6-8 | 2″ | 28.0 | 77.50 |
| 15″ | P15RHL | 12.00 | 6-8 | 2″ | 30.0 | 95.00 |
| 15″ | P15SHL | 15.40 | 6-8 | 2″ | 35.0 | 105.00 |

### *HI-LO EXTENDED RANGE SINGLE UNIT*

**Direct Radiator Loud Speakers — Equipped with High Frequency Accentuator (Tweeter)**

**Constructional design achieves greater angle of dispersion of high frequencies than the single unit direct radiators. Engineering and research have provided a design to give dual speaker performance from a single unit radiator. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . WARRANTED 5 YEARS.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 8″ | P8N | 5.00 | 6-8 | 1½″ | 18.0 | $ 47.50 |
| 8″ | P8P | 6.61 | 6-8 | 1½″ | 20.0 | 65.00 |
| 8″ | P8R | 12.00 | 6-8 | 1½″ | 25.0 | 82 50 |
| 12″ | P12N | 5.00 | 6-8 | 2″ | 20.0 | 50.00 |
| 12″ | P12P | 6.61 | 6-8 | 2″ | 23.0 | 67.50 |
| 12″ | P12R | 12.00 | 6-8 | 2″ | 25.0 | 85.00 |
| 12″ | P12S | 15.40 | 6-8 | 2″ | 30.0 | 95.00 |
| 15″ | P15N | 5.00 | 6-8 | 2″ | 22 0 | 65.00 |
| 15″ | P15P | 6.61 | 6-8 | 2″ | 28.0 | 82.50 |
| 15″ | P15R | 12.00 | 6-8 | 2″ | 30.0 | 100.00 |
| 15″ | P15S | 15.4 | 6-8 | 2″ | 35.0 | 110.00 |

### *CINAXIAL SPEAKERS*

**Economical and space-saving Cinaudagraph Cinaxial speakers give finest reproduction. Good baffle conditions extend the response range from 40 to 15,000 c.p.s. Easily connected to all home receivers. Cinaxial speakers are designed for FM, television and all uses requiring finest reproduction over the widest frequency range. The 12-inch Cinaxial speakers have 3½-inch high frequency units; the 15-inch have 5-inch high frequency units. Bridging network is built-in; no controls are required. For the very finest tonal reproduction over the widest frequency range, get a Cinaudograph Cinaxial speaker. Top design and finest materials make Cinaxial speakers the world's best quality. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . . WARRANTED 5 YEARS.**

| Size | Model No. | V.C. Imped. | Power Rating | List Price |
|---|---|---|---|---|
| 8″ | CIN-8A | 6-8 | 6.5-7 | $ 22.50 |
| 8″ | CIN-8B | 6-8 | 7.9 | 25.00 |
| 8″ | CIN-8C | 6-8 | 8-10 | 27.50 |
| 8″ | CIN-8D | 6-8 | 10-12 | 32.50 |
| 10″ | CIN-10B | 6-8 | 8-9 | 27.50 |
| 10″ | CIN-10C | 6-8 | 9-10 | 30.00 |
| 10″ | CIN-10D | 6-8 | 10-12 | 35.50 |
| 10″ | CIN-10E | 16 | 12-14 | 52.50 |
| 12″ | CIN-12C | 6-8 | 10-12 | 32.50 |
| 12″ | CIN-12D | 6-8 | 12-14 | 37.50 |
| 12″ | CIN-12E | 16 | 14-16 | 55.00 |
| 12″ | CIN-12F | 16 | 18-20 | 80.00 |
| 15″ | CIN-15D | 6-8 | 14-16 | 52.50 |
| 15″ | CIN-15E | 16 | 16-18 | 70.00 |
| 15″ | CIN-15F | 16 | 20-25 | 95.00 |
| 15″ | CIN-15G | 16 | 25-30 | 110.00 |

† Approx. Gap Energy Level in Millions of Ergs.

### *HIGH FREQUENCY TWEETERS AND CONVERSION HARDWARE*

**These tweeters are designed to provide extended range high-fidelity characteristics of two-way systems in existing single unit speakers. These are modernization units for radio receivers, phonographs and television sets equipped with 8″, 10″, 12″ or 15″ single unit direct radiator systems. Can be flange mounted directly on baffle board or with use of hardware will convert existing single unit radiator into co-axial speaker. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . . WARRANTED 5 YEARS.**

| Size | Model No. | For Use With | List Price |
|---|---|---|---|
| 2½ x 2½″ | TW2 | 8″ or 10″ | $ 7.00 |
| 3½″ | TW3 | 10″ or 12″ | 9.00 |
| 5″ | TW5 | 15″ | 10.00 |
| 5″ | TW5-S* | 15″ | 16.00 |

* Super Tweeter

**Hardware kits consist of brackets, screws, nuts, washers, gaskets and instruction sheet to convert single unit speakers into co-axials. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . . WARRANTED 5 YEARS.**

| For Use With | Kit No. | Speaker Size to Be Converted into Co-Axial | List Price |
|---|---|---|---|
| TW2 | TK-1 | 8″ | $2.50 |
| TW2 | TK-2 | 10″ | 3.00 |
| TW3 | TK-3 | 10″ | 3.00 |
| TW3 | TK-4 | 12″ | 3.50 |
| TW5 | TK-5 | 15″ | 4.00 |

### *LOW FREQUENCY WOOFER*

**Heavy duty—fine quality. Rugged construction. DESIGNED RIGHT . . . CONSTRUCTED RIGHT . . . WARRANTED 5 YEARS.**

| Size | Model No. | †Approx. Gap Energy Level | Voice Coil Imped. | Voice Coil Diam. | Voice Coil Watts | List Price |
|---|---|---|---|---|---|---|
| 12″ | P12RHLW | 12 | 6-8 | 2″ | 30 | $80.00 |
| 15″ | P15RHLW | 12 | 6-8 | 2″ | 35 | 95.00 |

### *MIGHTY MITES*

**Designed for space saving in intercoms, personal portables, experimentation, test equipment and for replacement. Alnico V permanent magnets. A large selection of voice coil values and magnet sizes. Conservatively rated at 1.5 - 2.5 watts power handling capacity.**

| Size Inches | †Aprx. Gap Energy Level | 3.4 Ohm Voice Coil Model | 3.4 Ohm Voice Coil List | 16 Ohm Voice Coil Model | 16 Ohm Voice Coil List | 45 Ohm Voice Coil Model | 45 Ohm Voice Coil List | 70 Ohm Voice Coil Model | 70 Ohm Voice Coil List |
|---|---|---|---|---|---|---|---|---|---|
| 2½ x 2½ | .25 | P2A1 | $4.75 | P2A16 | $5.50 | P2A21 | $6.00 | P2A70 | $7.00 |
| | .36 | P2B1 | 5.25 | P2B16 | 6.00 | P2B21 | 6.50 | P2B70 | 7.50 |
| | .51 | P2C1 | 6.25 | P2C16 | 7.00 | P2C21 | 7.50 | P2C70 | 8.50 |
| 3 x 3 | .25 | P3A1-1 | 4.75 | P3A16-1 | 5.50 | P3A21-1 | 6.00 | P3A70-1 | 7.00 |
| | .36 | P3B1-1 | 5.25 | P3B16-1 | 6.00 | P3B21-1 | 6.50 | P3B70-1 | 7.50 |
| 1⅞ x 2⅝ | .25 | P23A1 | 5.25 | P23A16 | 6.00 | P23A2-1 | 6.50 | P23A70 | 7.50 |
| | .36 | P23B1 | 5.75 | P23B16 | 6.50 | P23B2-1 | 7.00 | P23B70 | 8.00 |

### *ALL WEATHER SPEAKERS*

**Designed and developed to give dependable service in all outdoor installations. Ruggedly built for trouble-free operation in all variations of humidity and temperature. Water resistant cones and specially treated voice coils. A three-year warranty from date of manufacture guarantees trouble-free performance.**

| Size | Model No. | †Approx. Gap Energy Level | Voice Coil Imped. | Voice Coil Diam. | Voice Coil Watts | List Price |
|---|---|---|---|---|---|---|
| 4″ | P4AW | .25 | 3.2 ohms | 9/16″ | 2.5 | $5.75 |
| 4″ | P4BW | .36 | 3.2 | 9/16″ | 3.0 | 6.25 |
| 4″ | P4CO | .51 | 3.2 | 9/16″ | 3.5 | 7.25 |
| 5″ | P5AW | .25 | 3.2 | 9/16″ | 3.0 | 6.25 |
| 5″ | P5BW | .36 | 3.2 | 9/16″ | 3.5 | 6.75 |
| 5″ | P5CO | .51 | 3.2 | 9/16″ | 3.75 | 7.75 |
| 6″ | P6BW | .36 | 3.2 | 9/16″ | 3.5 | 7 25 |
| 6″ | P6CO | .51 | 3.2 | 9/16″ | 4.0 | 8.25 |

† Approx. Gap Energy Level in Millions of Ergs.

***When Making a SOUND INVESTMENT — Remember CINAUDAGRAPH SPEAKERS***



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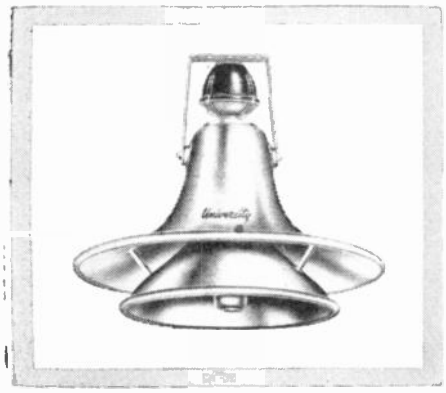
**TRUMPETS** University pioneered the reflex trumpet, now the industry standard where maximum conversion efficiency, intelligibility and distance or noise penetration are essential. Careful, scientific design and meticulous attention to mechanical detail are virtues that are more than skin deep with these University products. Any similarity between these trumpets and other brands is largely in their appearance. For uncompromising performance, University presents a wide and varied selection of directional, wide-angle and radial models to satisfy the most demanding specifications.

## DIRECTIONAL

These models, designed to concentrate acoustic energy in a relatively narrow angle of sound dispersion, are incomparable for applications requiring maximum penetration of distance and noise. Rigid adherence to time-proven design formula achieves peak attainable conversion efficiency, resulting in higher sound pressure output and greater utilization of amplifier power. Four trumpet sizes satisfy every need. The GH has very low cut-off for finest reproduction of music. LH is excellent for general use where music quality, voice intelligibility and penetration are important considerations. The PH has wider dispersion and may be used for both music and voice where cost is a factor. The SMH is ideal for speech and for covering wider areas with good penetrative qualities. All models take any University driver unit; have positive-lock, serrated swivel "U" mtg. bracket.

| MODEL | GH | LH | PH | SMH |
|---|---|---|---|---|
| LOW FREQUENCY CUT-OFF | 85 cps | 120 cps | 150 cps | 200 cps |
| SOUND DISTRIBUTION | 65° | 75° | 85° | 95° |
| AIR COLUMN LENGTH | 6½ ft. | 4½ ft. | 3½ ft. | 2½ ft. |
| *SERIES CAPACITOR FOR HORN CUT-OFF | 40 mfd. | 28 mfd. | 22 mfd. | 16 mfd. |
| HORN LENGTH | 23" | 19" | 15¾" | 12" |
| BELL DIAMETER | 31" | 25¾" | 20⅜" | 16¼" |
| SHIPPING WEIGHT | 22 lbs. | 16½ lbs. | 11¾ lbs. | 8 lbs. |
| LIST PRICE | $65.00 | $44.50 | $31.00 | $26.00 |

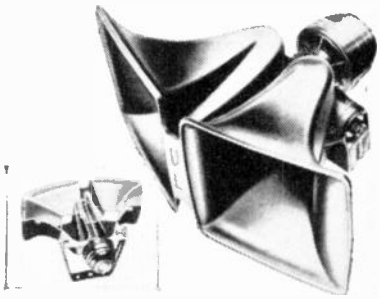


## RADIAL

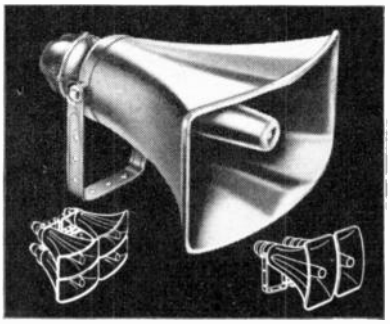
Economical and efficient, these models provide uniform horizontal dispersion in all directions from a single projector. Fewer loudspeakers needed to cover an area. Using University drivers, they give as much as 500% more output than radials using cone speakers. Especially popular for high-ceilinged factories, hangars, church interiors and towers, warehouses, etc. Rugged, weather-resistant; ideal as well in installations subject to high humidity and dust-laden atmosphere. Model RLH has longest air column for maximum low frequency response. RPH has higher cut-off; is suitable for both music and speech in general purpose applications. RSH is good for speech and further cost reduction.

| MODEL | RLH | RPH | RSH |
|---|---|---|---|
| LOW FREQUENCY CUT-OFF | 120 cps | 140 cps | 180 cps |
| SOUND DISTRIBUTION | 360° | 360° | 360° |
| AIR COLUMN LENGTH | 5 ft. | 4 ft. | 3 ft. |
| *SERIES CAPACITOR FOR HORN CUT-OFF | 28 mfd. | 23 mfd. | 18 mfd. |
| OVERALL HEIGHT (Horn Only) | 18½" | 13¾" | 11" |
| BELL DIAMETER | 28⅛" | 25⅛" | 19" |
| SHIPPING WEIGHT | 25 lbs. | 19 lbs. | 13 lbs. |
| LIST PRICE | $59.00 | $47.00 | $41.00 |

## WIDE-ANGLE



**Cobreflex** Unmatched for ruggedness and exceptionally high speech articulation in fixed or mobile applications requiring coverage of areas having greater width than depth. "Dual Exponential Flare" design . . . two identical *one-piece* all die-cast aluminum combination air column/bell castings form a completely integrated, virtually indestructible and scientifically perfect twin wide-angle reflex trumpet. Nothing else like it! Takes any University driver unit; use singly or in clusters. Adjustable, positive-lock "U" mtg. bracket.



**Model CLH** Newest addition to University's expanding line of wide-angle trumpets and paging speakers. The CLH combines longest air column length and new wide-angle bell designed for maximum low frequency response and compact, low silhouette dimensions. New *omni-directional*, positive-lock mtg. bracket permits speaker to be placed where most convenient and rotated horizontally and vertically for optimum projection. Dispersion can be literally *tuned* to avoid echo and reverberation, or used to specifically include elusive "dead spots." CLH is perfect too for multi-speaker cluster arrays; can be "stacked" in any configuration, for any sound distribution pattern. Uses any University driver.

**Model L30-1 CLH Horn Stacking Kit** For clamping bell rims together in any desired configuration. Each kit clamps two horns. Shpg. wt. 6 oz. $1.50 list.

| MODEL | COBREFLEX | CLH |
|---|---|---|
| LOW FREQ. CUT-OFF | 200 cps | 120 cps |
| SOUND DISTRIBUTION | 120° x 60° | 120° x 60° |
| AIR COLUMN LENGTH | 2½ ft. | 4½ ft. |
| *SERIES CAPACITOR FOR HORN CUT-OFF | 16 mfd | 28 mfd |
| BELL MOUTH SIZE | 18½" x 9¼" | 21½" x 11½" |
| DEPTH (Less driver) | 10¼" | 20" |
| SHIPPING WEIGHT | 10¼ lbs. | 15 lbs. |
| LIST PRICE | $38.33 | $44.50 |

*For doubling "Full Range" driver power capacity. Assumes 16 ohm driver. If two drivers with 2YC used, halve capacitor value if drivers wired in series; double if wired in parallel.

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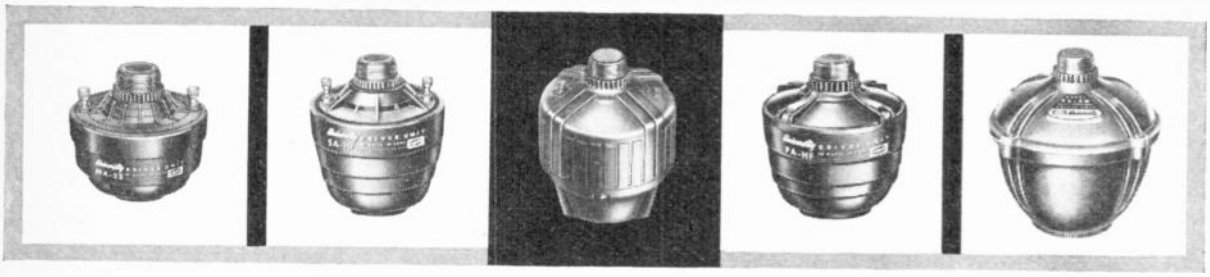
# DRIVERS

**University has a long history of great "firsts" in driver units; among them are wide-range response, breakdown-proof mechanisms, super-efficient "W" magnets, built-in matching transformers, etc. The new line presented below is the largest and most complete selection on the market today, meeting every soundcasting requirement with the highest quality standards. Only the prices are compromised.**



**Model MA-25**
Use this rugged, weather-proof driver unit where response to 6500 cycles is adequate, or to preserve "balance" when used with high cut-off frequency trumpets. Low in cost, high in quality, featuring high efficiency magnet, tropicalized 2" voice coil, *rim-centered* breakdown-proof diaphragm.

**Model SA-HF** – Often called "the workhorse of the sound industry." Meets most p.a. and industrial requirements. Response to 10,000 cycles and more efficient than the Model MA-25. This unit will deliver that extra punch needed to cut through heavy noise. Use for speech or high quality music. Tropicalized and hermetically sealed for continuous top flight performance even under adverse weather conditions.

**Model SA-30** – High efficiency and response of Model SA-HF, *plus* "battleship" construction for maximum durability against abuse or in hazardous environments. *Completely die-cast* aluminum housing and built-in matching transformer for connection to high impedance lines or "constant voltage" systems. Exclusive water-tight dural gland nut cable entrance. Shockproof bi-sectional speaker construction.

**Model PA-HF** – Without question the finest driver unit ever offered. For applications requiring the greatest power handling capacity, maximum sensitivity, widest range frequency response, *plus* rugged lifetime construction. Features bi-sectional construction, super-efficient Alnico 5 *W* magnet, *completely die-cast* aluminum housing. Water-tight voice coil terminals conveniently located at base of housing. Increased sound output cuts amplifier requirements *in half!*

**Model PA-50** – The *ultimate* in deluxe, advance-design. Features extended high and low frequency range, highest continuous duty power capacity, Super *W* magnet, bi-sectional construction, greatest conversion efficiency, husky built-in multi-match transformer with terminals conveniently located at base of unit. Recommended for church chimes, carillons, etc.; fast set-up time ideal for rental or semi-permanent systems. Answer to toughest sound problems. Nothing finer!

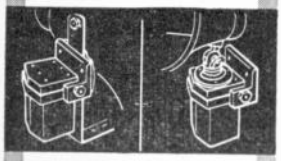
| MODEL | MA-25 | SA-HF | SA-30 | PA-HF | PA-50 |
|---|---|---|---|---|---|
| FREQUENCY RESPONSE | 85 to 6500 cps | 80 to 10,000 cps | 80 to 10,000 cps | 70 to 10,000 cps | 70 to 10,000 cps |
| POWER CAPACITY (Cont. Duty) FULL RANGE *ADJUSTED RANGE | 25 watts 50 watts | 30 watts 60 watts | 30 watts 60 watts | 50 watts 100 watts | 50 watts 100 watts |
| VOICE COIL IMPEDANCE | 16 ohms | 16 ohms | 16 ohms | 16 ohms | 16 ohms |
| TRANSFORMER IMPEDANCES | ---- | ---- | 45/165/250/500/ 1000/2000 ohms | ---- | 16/100/165/250/500/ 1000/2000 ohms |
| 70 V. LINE POWER TAPS | ---- | ---- | 30/20/10/5/2.5 watts | ---- | 50 30/20/10/5/2.5 watts |
| ‡SOUND PRESSURE LEVEL | 127 db | 130 db | 130 db | 134 db | 134 db |
| DIMENSIONS (OVERALL) | 4⅛" dia. 3¾" deep | 4½" dia. 4⅞" deep | 5" dia. 6¼" deep | 4 11/16" dia. 5" deep | 6¾" dia. 6¾" deep |
| SHIPPING WEIGHT | 3¾ lbs. | 4½ lbs. | 5¼ lbs. | 5¾ lbs. | 6¼ lbs. |
| LIST PRICE | $27.50 | $36.00 | $47.50 | $47.50 | $57.50 |

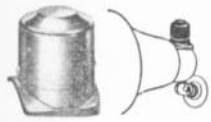
*When input program response limited to above low frequency cut-off of trumpet used.

‡Sound Pressure readings taken at 4 ft. on 6½' horn, with rated Full Range power input. Reduce by 6 db each time distance is doubled. Reduce by 3 db each time power input is halved; add 3 db if power is doubled.

# ACCESSORIES

MODEL CTR





**Model PB-1 Transformer Housing**
New, water-shedding and splashproof transformer housing for MIL, CMH, IB and CIB paging speakers. Use Model 5434 tfmr. or other type with 2" mtg. ctr. and 1-15/16" h. x 1⅝" w. max. dim. Shpg. wt. 1 lb. **$3.75 list.**

## LINE MATCHING TRANSFORMERS & WEATHERPROOF HOUSINGS

**Model CTR Transformer/ Junction Housing** – New all die cast aluminum construction. Complete weather protection with exclusive University gland nut cable entrance and exit. For housing Models 5433, 5434 or other transformers with 2⅜" x 2⅞" x 2⅞" max. dimen. Adjustable slotted adapter mounts transformers with centers 1½" to 2⅞". Also makes a wonderful junction box for terminating and tying speaker transmission lines. Includes bar strap for mounting to trumpet 'U' bracket; and can be screwed directly to wall or super structure; will also hold University paging speakers. Shpg. wt., 2 lbs. **$8.00 List.**

MODEL 5433

MODEL 5434

**Model 5433 Transformer** has a 30 watt capacity and may be used with the MA-25 and SA-HF driver units, or can be used in a speaker transmission line feeding a number of smaller paging speakers like the IB, MIL or CR, etc. The universal secondary impedance permits matching to any series parallel or series parallel combination as well as obtaining unlisted impedance ratios. Pri. Imp. 45/165/200/250/500/1000/2000 ohms. Sec. Imp. 4/8/16 ohms. 70 v. Line Pwr. Taps 30/25/20/10/5/2.5 watts. Overall dimensions 1-15/16" x 2-5/16" x 1¾". Mounting hole centers 2⅜". The 5433 will fit the CTR Weatherproof Housing. Shpg. wt., 1 lb. **$7.00 List.**

**Model 5434 Transformer** has a 15 watt power capacity suiting it to paging speakers or lines carrying a number of the smaller types. Primary impedance ratios have been selected to provide the most practical range; while the multi-tap secondary permits obtaining other unlisted impedances that may be desired. Pri. Imp.: 45/325/500/1000/2000/4000/8000 ohms. Sec. Imp.: 4/8/16 ohms. 70 v. Line Pwr. Taps: 15/10/5/2.5/1.25/.65 watts. Overall dimensions: 1⅝" x 1-15/16" x 1⅝". Mounting hole centers: 2". The 5434 will fit the CTR and PB-1 Weatherproof Housings. Shpg. wt., ¾ lb. **$6.00 List.**

## HORN AND DRIVER ADAPTERS

2YC

PMA

RTA

WEA

SPA

**2YC Connector** – Enables two driver units to be used on any single radial, directional or wide-angle trumpet. Use when unusually high input power is required in speech applications. Shpg. wt., 1 lb. **$12.00 List.**

**PMA Adapter** – Fits standard ½" I.P.S. threaded pipe to any University 'U' mounting bracket. Use in special applications requiring pipe mounting from ceiling, stands, etc. Shpg. wt., ¾ lb. **$2.00 List.**

**RTA Adapter** – Fits University trumpets to Western Electric and RCA drivers having 1-7/16–16 threads, thus obtaining advantage of University projector performance. Shpg. wt., ½ lb. **$3.00 List.**

**WEA Adapter** – Fits University drivers to Western Electric and RCA trumpets having 1-7/16–16 threads, thus obtaining advantage of University driver unit performance. Shpg. wt., ½ lb. **$2.50 List.**

**SPA Adapter** – Replaces standard triangular base used on all University CR and MM 2 series paging speakers in order to mount to ½" threaded I.P.S. pipe. Shpg. wt., ½ lb. **$1.75 List.**



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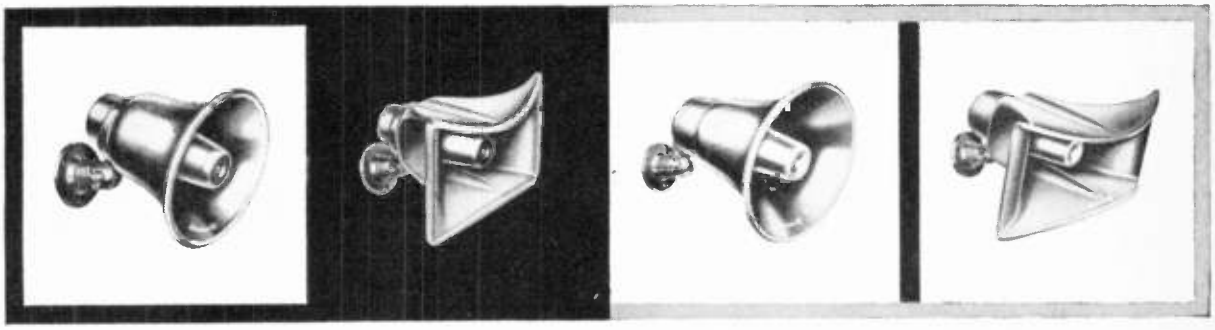
# PAGING AND TALK-BACK

University progress and ever increasing standards of achievement have yielded an exceptionally large series of compact, moderate-power speakers capable of literally incredible performance for their size. The unusual variety of types available for paging and "talk-back" applications is certain to more than satisfy every conceivable technical and installation requirement.

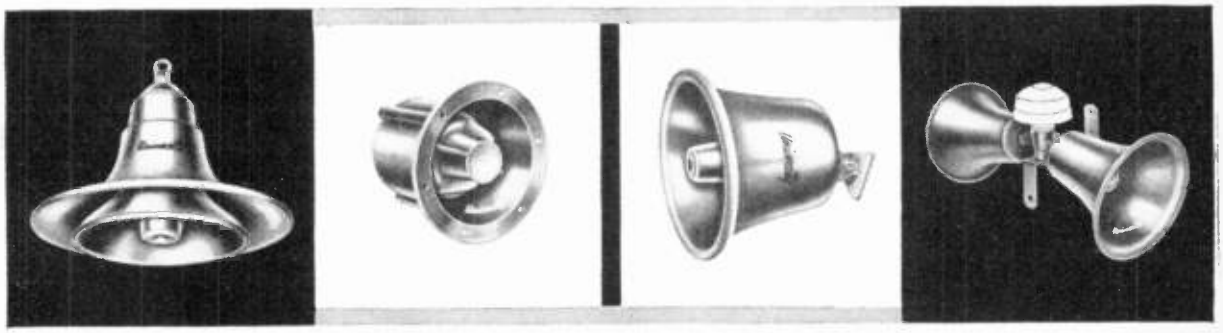


**Model MIL** – Small, compact reflex; excellent for limited areas and filling in "dead" spots. High conversion efficiency *triples* effectiveness of low power paging and intercom systems normally using cone speakers. Tropicalized, hermetically sealed. Exclusive OMNI-LOK swivel mounting bracket; also fastens to ½" pipe without additional fixture.

**Model CMIL** – High efficiency paging and talk-back speaker with University "cobra" horn for effective coverage of wide areas. Eliminates waste of sound where not needed. Tropicalized. Hermetically sealed. Geared omni-swivel mounting bracket with 2-plane positive-lock; also fastens to ½" pipe without additional fixture.

**Model 1B** – World's most widely used medium power speaker. For paging/talk-back. Tropicalized, weatherproof, for trouble-free lifetime operation. High efficiency, special rising frequency characteristic, wide range response and 90° projection assure maximum penetration and intelligibility in noisy areas. Geared 2-plane omni-swivel positive-lock mtg. bracket; also fits ½" pipe.

**Model CIB** – Exclusive University "cobra" horn for uniform wide-angle sound pattern with optimum vertical dispersion. OMNI-LOK swivel mtg. bracket directs sound where desired. Ideal for coverage of wide area where ambient noise level is not excessive. Design minimizes feed-back problems. Highly efficient. Bi-sectional driver mechanism is tropicalized, hermetically sealed for continuously dependable performance.



**Model 1BR** – Exceptionally compact, complete with built-in driver. Uniform 360° sound dispersion offers an economical solution to installations where omni-directional coverage is required but the total number of speakers must be kept to a minimum. For cube-like areas where speakers can be suspended from the ceiling. Tropicalized, hermetically sealed; ideal for both commercial and industrial applications.

**Model MIS** – Compact reflex speaker similar to Model MIL, but designed for flange or flush mounting in cabinets, walls, ceilings, bulkheads, dashboards, etc. Tropicalized, hermetically sealed for total weatherproofing. Ideal replacement for less efficient cone speakers, provides more output gain and greater reliability. Cork-neoprene flange gasket included.

**Model CR** – Big power in a small package. 90° dispersion, built-in driver with heavy-duty 2" voice coil—for the punch and penetration that assures high intelligibility in noisy areas. Its frequency response makes Model CR ideal for paging/talk-back systems that must also reproduce music. Tropicalized, hermetically sealed; serrated swivel bracket.

**Model 2WP** – Bi-directional paging projector enables economical coverage of two oppositely located areas with a single driver unit. Use with MA-25, SA-HF, SA-30 or PA-HF driver. Adjustable mtg. bracket permits output from the two horns to be directed 10° downward or outward for best sound distribution. Mounts on any surface, pipe or superstructure.

| MODEL | 1B | CIB | MIL | CMIL | MIS | CR | 1BR | 2WP |
|---|---|---|---|---|---|---|---|---|
| FREQUENCY RESPONSE | 300-13,000 cps | 300-13,000 cps | 400-13,000 cps | 400-13,000 cps | 500-13,000 cps | 250-8000 cps | 300-10,000 cps | 350 cps horn cut-off |
| POWER CAPACITY (Cont. Duty) FULL RANGE *ADJUSTED RANGE | 15 watts 30 watts | 15 watts 30 watts | 5 watts 10 watts | 5 watts 10 watts | 5 watts 10 watts | 20 watts 40 watts | 15 watts 30 watts | Depends upon driver used |
| IMPEDANCE | 4,8,45 ohms | 4,8,45 ohms | 4,8,45 ohms | 4,8,45 ohms | 4,8,45 ohms | 16 ohms | 4,8,45 ohms | Depends upon driver used |
| DISPERSION | 90° | 120° x 60° | 120° | 120° x 60° | 150° | 90° | 360° | 120° each horn |
| **SOUND PRESSURE LEVEL | 120 db | 118 db | 113 db | 113 db | 111 db | 119 db | 106 db | Depends upon driver used |
| ‡SENSITIVITY AS MICROPHONE | -26 DBM | -22 DBM | -23 DBM | -20 DBM | -22 DBM | -22 DBM | -32 DBM | Depends upon driver used |
| DIMENSIONS | 8½" dia. 9" deep | 7⅜" hi. 14" wide 12" deep | 6⅜" dia. 7" deep | 6¼" hi. 9½" wide 8½" deep | 5½" o.d. 4 7/16" deep 6 holes on 4⅞" mtg. dia. | 11½" dia. 11½" deep | 13" dia. 10¼" high | 8½" dia. each bell 20½" long |
| SHIPPING WEIGHT | 4 lbs | 5½ lbs. | 3¼ lbs | 4 lbs. | 3½ lbs. | 8¾ lbs. | 5¼ lbs. | 4 lbs. |
| LIST PRICE | 8Ω–$34.50 4,45Ω–$36.00 | 8Ω–$42.00 4,45Ω–$43.50 | 8Ω–$26.00 4,45Ω–$27.25 | 8Ω–$29.75 4,45Ω–$31.00 | 8Ω–$24.00 4,45Ω–$25.25 | $45.00 | 8Ω–$45.00 4,45Ω–$46.50 | $28.00 |

*Input program response above speaker low frequency cut-off.
**Sound pressure readings taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled. Reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.
‡DBM re 10 dynes/cm²

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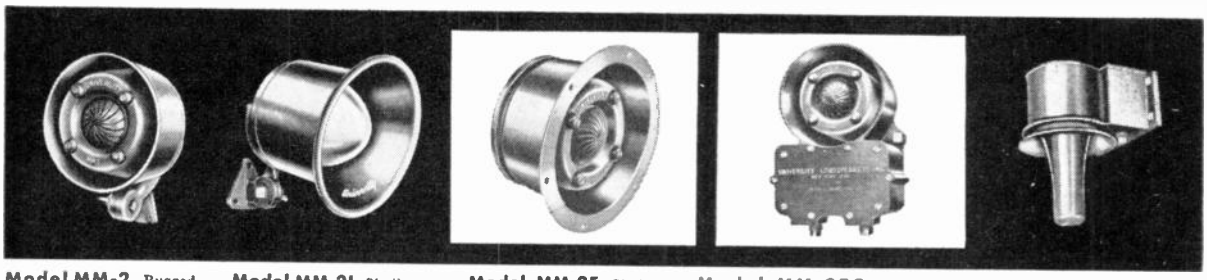
# SUBMERGENCE-PROOF

**University's perception of the many conditions encountered in meeting the more stringent requirements of marine and heavy-industry applications has resulted in this exclusive and unequalled series of submergence-proof speakers that are impervious to dust and dirt, fumes, and salt water spray. They can be relied upon unequivocably to do the job . . . and keep on doing it.**



**Model MM-2**—Rugged, compact . . . power capacity and frequency response ideal for clear, noise-cutting reception. Four screws of reflector permit removal from front to expose diaphragm for cleaning. Serrated die-cast swivel mtg. bracket for fast, reliable adjustment.

**Model MM-2L**—Similar to the MM-2, but has higher power capacity and extended low frequency response. Used where both music and speech, or high power capacity are needed. Swivel mounting bracket can mount directly on CTR watertight transformer housing.

**Model MM-2F**—Similar to the MM-2, but for *flush* mounting in walls, ceilings, bulkheads, dashboards; or where looks or mechanical protection are important. Drains automatically. Cork-neoprene weatherproofing gasket. Six mounting holes on a 6⅜" circle dia.

**Model MM-2TC**—Complete speaker, using cast aluminum combination bell and weatherproof housing with space for a line matching transformer and/or volume control. Control can be mounted right into position provided. For bulkhead, wall or ceiling mounting. MM-2TC T . . . comes wired with multi-impedance transformer and pad attenuator.

**Model MSR**—All die-cast reflexed air column speaker with radial deflector for 360° horiz. dispersion. Hermetically sealed driver easily removed. Provisions for line matching transformer and volume control. Wall /ceiling bulkhead mtg. MSR-T comes wired with muti-impedance transformer and pad.

MODEL ST MODEL SB

**Model ST . . . Transformer/ Junction Box Adapter**

Fits MM-2, MM-2L. Weatherproofed. For bulkhead, wall, ceiling mounting. Houses transformers up to 2¼" x 2¼" x 2¾" with 2" and 2⅜" mtg. centers. Used as terminal or junction box. **$12.50 List.**

**Model SB . . . Bulkhead Mtg. Adapter**

Fits MM-2, MM-2L, MM-2F. 3 mounting holes 120° apart on 5-13/16" mounting circle dia. For flush-fit mounting onto bulkhead, wall, ceiling. **$3.00 List.**

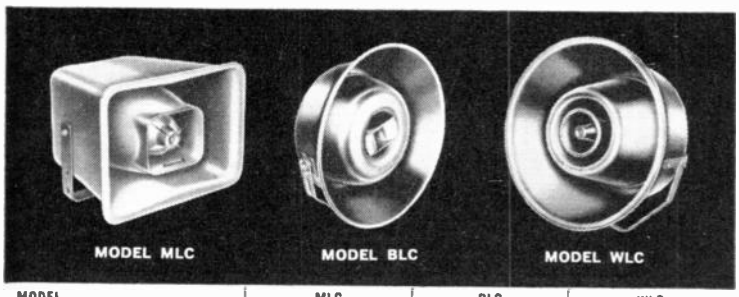
| MODEL | MM-2 | MM-2L | MM-2F | MM-2TC | MSR |
|---|---|---|---|---|---|
| FREQUENCY RESPONSE | 350-10,000 cps | 250-10,000 cps | 350-10,000 cps | 350-10,000 cps | 250-10,000 cps |
| POWER CAPACITY (Cont. Duty) FULL RANGE | 15 watts | 25 watts | 15 watts | 15 watts | 15 watts |
| *ADJUSTED RANGE | 30 watts | 50 watts | 30 watts | 30 watts | 30 watts |
| DISPERSION | 150° | 120° | 150° | 120° | 360° |
| **SOUND PRESSURE LEVEL | 117 db | 120 db | 117 db | 117 db | 114 db |
| IMPEDANCE | 16 ohms | 16 ohms | 16 ohms | 16 ohm | 16 ohms |
| ‡SERIES CAPACITOR FOR ADJUSTED RANGE | 11 mfd | 14 mfd | 11 mfd | 11 mfd | 14 mfd |
| DIMENSIONS (overall) | 6" O.D. 5" deep | 6 13/16" O.D. 6⅞" deep | 7¼" O.D. 3¾" deep | 10" high 6 7/16" W. 4 7/16" deep | 10¾" high 7¾" W. 8¼" deep |
| SHIPPING WEIGHT | 5¼ lbs. | 6¾ lbs. | 5¼ lbs. | MM-2TC—8½ lbs. MM-2TC-T—10¼ lbs. | MSR—10 lbs. MSR-T—10½ lbs. |
| LIST PRICE | $46.00 | $52.00 | $46.00 | MM-2TC—$70.00 MM-2TC-T—$83.50 | MSR—$70.00 MSR-T—$83.50 |

*Input program response above low frequency cut-off. ‡Assumes use of 16 ohm input.

**Sound Pressure readings taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.

# HIGH FIDELITY WEATHERPROOF DUAL-RANGE SYSTEMS

**LC speakers are complete systems . . . designed to simplify indoor and outdoor high fidelity sound installations. Include: tropicalized, heavy-duty low frequency driver, separate compression high frequency reproducer coaxially assembled, electrical frequency divider . . . all wired and housed in compact dual horn projector. Baffled chamber and front folded horn provide optimum loading, assure clean bass. Exceptional uniformity of frequency response and sound distribution helps eliminate reverberation problems. Dependable performers for fixed or mobile applications, indoors or out. Weatherproof, all metal construction. Sturdy "U" mounting bracket for ease of installation and adjustment.**



MODEL MLC MODEL BLC MODEL WLC

| MODEL | MLC | BLC | WLC |
|---|---|---|---|
| POWER CAPACITY (Cont. Duty) | 15 watts | 25 watts | 30 watts |
| FREQUENCY RESPONSE | 150-15,000 cps | 70-15,000 cps | 50-15,000 cps |
| IMPEDANCE | 8 ohms | 8 ohms | 8 ohms |
| DISPERSION | 120° | 120° | 90° |
| *SOUND PRESSURE LEVEL | 117 db | 119 db | 120 db |
| DIMENSIONS DIAMETER (overall) DEPTH (overall) | 12¾" W x 9⅛" H 10⅝" | 22¾" 9¼" | 33½" 20" |
| SHIPPING WEIGHT | 10 lbs. | 21 lbs | 72 lbs. |
| LIST PRICE | $54.50 | $86.00 | $250 00 |

*Sound Pressure taken at 4 ft., 750-1250 cps with 1 cps sweep. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved.

**Model MLC . . . Mighty Midget for Music/Voice**

All new, small sized version of time-tested LC design is for low level speaker distribution, or to cover medium size areas. Incorporates design changes that make it suitable for paging applications. Articulation is exceptional, and musical balance is well preserved. MLC is the ideal speaker for sound reinforcement systems. It carries sound to points that can't be reached unaided, yet retains *naturalness*. Very efficient; easily installed.

**Model BLC . . . For General Applications**

A sensation when introduced, the BLC has set new standards for high fidelity sound in p a for voice and music reproduction . . . indoors and out. Lightweight and easy-to-carry. Shallow depth solves problems where emphasis is on decor or physical limitations. As a complete system, the price is in line with fine trumpet/driver combinations, and can be used in their place except under exceptionally noisy conditions.

**MODEL WLC . . . Heavy Duty System**

The largest of the series, the WLC has a decade of successful performance in concert halls, rinks, auditoriums, stadiums and outdoor theatres throughout the world. Though rated only a few more watts power capacity than the BLC, the WLC with heavy duty, super-efficient components gives greater low frequency response, and higher overall output equal to double the power on a relative basis. Finest full-range response. Simple installation. Completely ignores the weather.



West Coast Prices Slightly Higher

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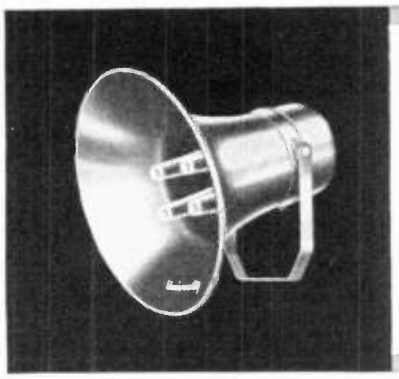
World Radio History

# SUPER-POWER PROJECTORS

University leadership and experience in military requirements has produced highly refined designs for the reproduction and projection of high power sound with no compromise in efficiency, intelligibility and reliability. With the expanding use of soundcasting in civil, commercial, and industrial applications, these highly versatile University speakers are worthy of serious consideration.



**Model 4A4**—Exceptionally versatile, powerful and compact, the 4A4 can be used with Models MA-25, SA-HF, SA-30, or PA-HF drivers . . . depending upon the power capacity, response, efficiency and impedance needed. Four individually reflexed center assemblies united in acoustically correct mixing chamber. Combined output concentrated by a single bell assures maximum penetration of distance and ample reserve power where uninterrupted service is essential. Adjustable 'U' bracket for complete mounting flexibility. Dispersion 80°; bell dia. 30¾"; Length overall 28¾"; Shpg. wt., (less driver) 49 lbs. **$125.00 List.**

**Model B-12P**—Accommodates *twelve* University drivers of the MA-25, SA-HF, or PA-HF types. Achieves fantastic power range . . . reserve power to meet *any* challenge. Drivers screw into patented mixing chamber of heavy cast aluminum construction. Bell is separate assembly . . . easily attaches to mixing chamber. Large spun aluminum coverall protects the drivers and interconnections. Adjustable "U" mounting bracket. Many applications: military, civil defense, church towers, large stadiums, etc. Dispersion 80°; Bell dia. 31½", Length overall 47"; Shpg. wt. (less drivers) 60 lbs. **$395.00 List.**

SPECIFICATIONS—4A4 WHEN USED WITH FOLLOWING DRIVERS

| MODEL | MA-25 | SA-HF | SA-30 | PA-HF |
|---|---|---|---|---|
| FREQUENCY RESPONSE | 120-6500 cps | 120-10,000 cps | 120-10,000 cps | 120-10,000 cps |
| POWER CAPACITY (Cont. Duty) FULL RANGE *ADJUSTED RANGE | 100 watts 200 watts | 120 watts 240 watts | 120 watts 240 watts | 200 watts 400 watts |
| AVAILABLE IMPEDANCES | 4, 16, 64 ohms | 4, 16, 64 ohms | wide variation | 4, 16, 64 ohms |
| ‡SOUND PRESSURE LEVEL | 128 db | 131 db | 131 db | 135 db |

*Input program response limited to above 120 cps.
‡Sound Pressure reading taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.

SPECIFICATIONS—B-12P WHEN USED WITH 12 DRIVERS OF FOLLOWING TYPES

| MODEL | MA-25 | SA-HF | PA-HF |
|---|---|---|---|
| FREQUENCY RESPONSE | 100-6500 cps | 100-10,000 cps | 100-10,000 cps |
| POWER CAPACITY (Cont. Duty) FULL RANGE *ADJUSTED RANGE | 300 watts 600 watts | 360 watts 720 watts | 600 watts 1200 watts |
| AVAILABLE IMPEDANCES | 1.3, 5.3, 12, 21.3, 48, 192 ohms | | |
| ‡SOUND PRESSURE LEVEL | 136 db | 139 db | 143 db |

*Input program response limited to above 100 cps.
‡Sound Pressure readings taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.

## EXPLOSION-PROOF SPEAKERS ...FOR HAZARDOUS DUTY

**Models 7101, 7102** are Underwriters' Labs. approved for use where flammable liquids, gases, dust and other combustibles are present. They enable industries previously denied sound, paging and intercom to install 100% safe systems. Shipped fully assembled, complete with built-in line matching transformer to comply with Government Safety regulations and installation approval. Required conduit entrance is provided as part of the driver housing casting. Model 7101 for Class I, Groups C and D; 7102 for same *plus* Class II, Groups E, F, G.

SPECIFICATIONS—7101 AND 7102

| | |
|---|---|
| FREQUENCY RESPONSE | 200-10,000 cps |
| POWER CAPACITY (Cont. Duty) FULL RANGE *ADJUSTED RANGE | 30 watts 60 watts |
| DISPERSION | 95° |
| **SOUND PRESSURE LEVEL | 7101 122 db 7102 110 db |
| †SENSITIVITY AS MICROPHONE | 7101 −23 DBM 7102 −32 DBM |
| ‡SERIES CAPACITOR FOR HORN CUT-OFF | 16 mfd |
| VOICE COIL IMPEDANCE | 16 ohms |
| TRANSFORMER IMPEDANCES | 45/165/200/250/500/1000/2000 ohms |
| 70 V. LINE POWER TAPS | 30/25/20/10/5/2.5 watts |
| DIMENSIONS BELL DIAMETER LENGTH OVERALL | 15¾" 19" |
| SHIPPING WEIGHT | 23¾ lbs. |
| LIST PRICE | 7101 $125.00 7102 150.00 |

*Input program response limited to above 200 cps.
**Sound Pressure readings taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.
†DBM re 10 dynes/cm² ‡Assumes 16 ohm connection.

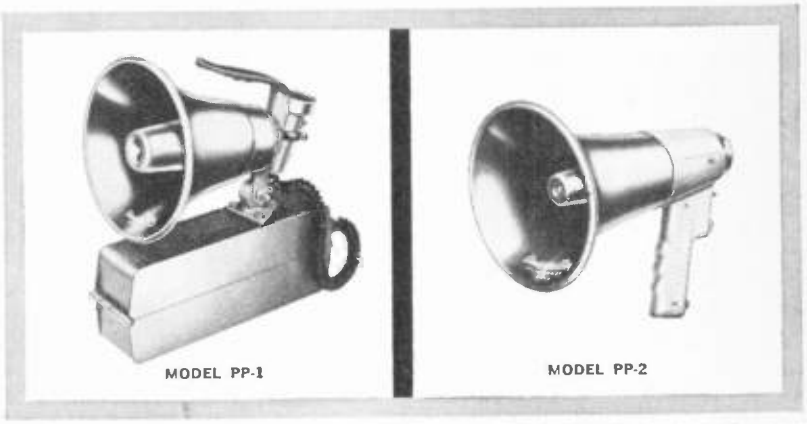
## POWRPAGE—NEW ULTRA-LIGHT PORTABLE SOUNDCASTING SYSTEMS—EXCLUSIVE FEATURES & 1001 APPLICATIONS

### Model PP-1 . . . Portable Powrpage

The most compact, efficient portable system ever devised. Ideal for police, fire, civil defense, railroads, sporting events, etc. High output, weatherproof reflex speaker projects sound in any desired direction. Hand microphone with 11 ft. cable gives full freedom of movement. *Powrsaver* press-to-talk switch controls entire system, gives instantaneous operation without warm-up or power waste. Uses 6 volt standard lantern batteries (Burgess type F-4H or equivalent). Equipped with comfortable carrying handle and convenient microphone clip. Battery housing serves as base stand for entire assembly. Lightweight, easily handled. Shpg. wt., 8 lbs. **$95.00 List.** (Less batteries).

### Model PP-2 . . . Pistol-Grip Powrpage

Aim, press, talk . . . projects crystal clear, powerful sound in any direction . . . as you move. Streamlined, only 3¾ lbs. including batteries. Can be taken anywhere; easy, one-hand use. Ideal for marine, construction, auctions, carnivals, etc. *Slim* handle holds pencil batteries and *Powrsaver* press-to-talk switch. Weatherproof, high-output speaker. Instantaneous operation without warm-up or power waste. Built-in jack can draw 6 to 12 volts from boat or auto ignition system. Shpg. wt., 5¼ lbs. **$75.00 List.** (Less batteries).



MODEL PP-1 MODEL PP-2

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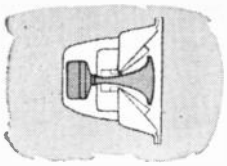
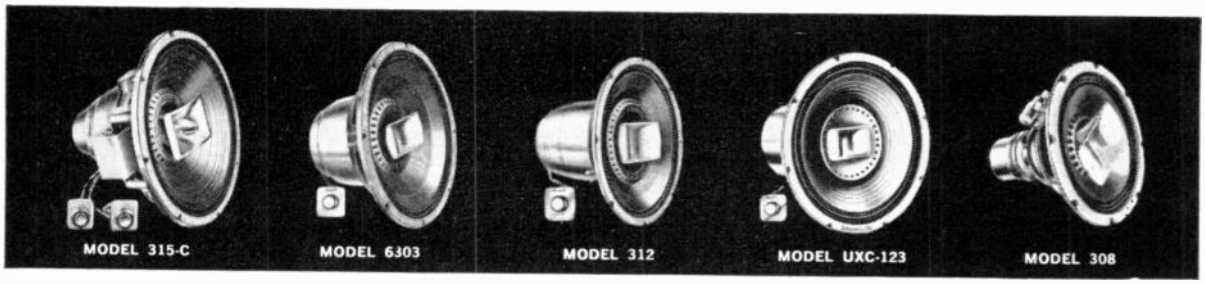


# DIFFAXIALS

**University has ingeniously combined the most advanced principles of audio and acoustic engineering to produce a speaker that is different . . . the Diffaxial . . . an exceptionally high quality extended range speaker, capable of the most magnificent, natural, wide-range reproduction of sound.**

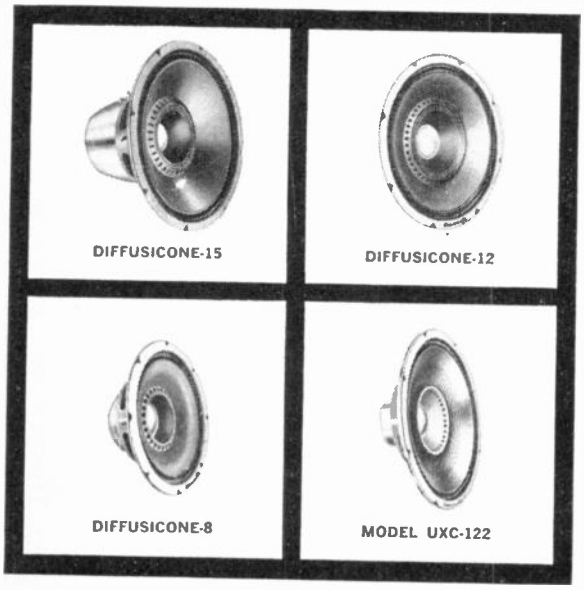


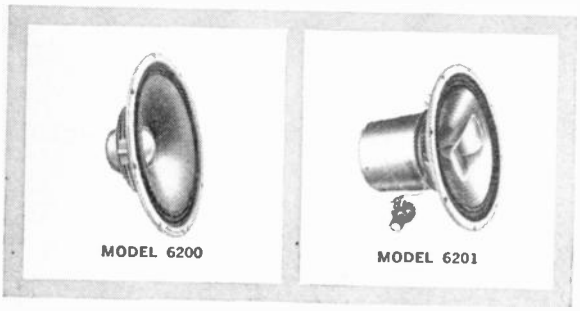

### Model 315-C Super 15" 3-way Diffaxial Speaker

The new, improved 315-C embodies all latest and *exclusive* developments. Big theatre woofer with high excursion, dual spider piston and special anti-breakup low resonance diaphragm achieve clean, rich bass reproduction never before attained. *Patented* multi-element Diffusicone mid-range section crosses over at 1000 cps. Treble range now covered by new heavy duty T-50 Hypersonic driver and *new* true-axially mounted wide-angle horn. Re-designed crossover network includes exclusive "emotional" balance adjustment which alters the overall tonal personality of the speaker to best match room acoustics, baffle contribution, associated electronic equipment characteristics and personal tastes or hearing acuity. Adjustment of tweeter output also provided. Contains 6½ lbs. of Alnico 5 Gold Dot magnet (including tweeter). Response: 25 cps. to inaudibility; 50 watts* power capacity; 8-16 ohms. 12" deep; Shpg. wt., 34½ lbs. **$156.00 user net.**

### Model 6303 15" 3-way Diffaxial Speaker

A tremendous value, with performance capabilities second only to the 315-C. Super-efficient woofer, deluxe multi-element Diffusicone for mid-range with crossover at 1000 cps., famous UXT-5 Super Tweeter with "reciprocating-flare" horn *true-axially* mounted, for sweet, clear treble, crossing over at 5000 cps. and going out to inaudibility. Built-in frequency dividing network includes "Brilliance" balance control. Handles 30 watts* of power; 8-16 ohms impedance; 10" deep; Shpg. wt. 12 lbs. **$83.00 user net.**




### Model 312 Super 12" 3-way Diffaxial Speaker

A completely engineered package . . . University's new Hypersonic HF-206 supertweeter is *true-axially* projected through the center of the 12" woofer. Full-bodied mid-range reproduction is handled by *patented* deluxe multi-element Diffusicone section. Built-in L/C network and variable "Brilliance" control. Crossover is mechanical at 1000 cps. and electrical at 5000 cps. Contains extra heavy 2 lbs. of all-Alnico 5 Gold Dot magnet. Frequency response to inaudibility; 25 watt* power handling capacity; 8-16 ohms; 8" deep; Shpg. wt., 11 lbs. **$70.00 user net.**

### Model UXC-123 12" 3-way Diffaxial Speaker

An integrated 3-way speaker assembly completely wired with built-in L/C network and "Brilliance" control. Employs *exclusive* standard uni-sectional Diffusicone element. UXT-5 Super Tweeter with "reciprocating-flare" horn mounted *through* the center axis of woofer assembly. Highest efficiency, lowest distortion, and true uniform wide-angle dispersion. Super-sensitive all-Alnico 5 magnet. Crosses over mechanically at 1000 cps., electrically at 5000 cps. Response from 45 to 17,500 cps; 25 watts*; 8-16 ohms; 8¼" deep, Shpg. wt., 9 lbs. **$64.00 user net.**

### Model 308 8" 3-way Diffaxial Speaker

Features University's exclusive *true-axial* construction with compression tweeter projected *through* center of woofer. Tweeter employs University's "reciprocating flare" principle crossing over electrically at 5000 cps. . . . mid-range is reproduced from *patented* deluxe multi-element Diffusicone section with 1000 cycle crossover. Woofer has extra large voice coil for enhanced bass. Heavy 1¾ lbs. all-Alnico 5 Gold Dot magnet. Response to 15,000 cps. Handles 25 watts*; 8-16 ohms, 6¼" deep; Shpg. wt., 5 lbs. **$39.75 user net.**

### EXCLUSIVE UNIVERSITY 2-WAY DIFFAXIALS

University's 2-way Diffaxials employ the *patented* deluxe multi-sectional Diffusicone design with 1000 cps. mechanical crossover in 8", 12" and 15" size speakers. Coaxial dual horn loading at apex of cone extends mid and high frequency response. Uniform wide-angle dispersion of highs achieved by means of radial projector with aperture diffraction. Full fidelity at *all* listening points off speaker axis. All models contain heavy super-sensitive all-Alnico 5 Gold Dot magnets for high efficiency.

**DIFFUSICONE-15** – Response from 30 to 14,000 cps., 30 watts*; 1½ lbs. of all-Alnico 5 magnet; 8-16 ohms; 7⅛" deep; Shpg. wt., 8¼ lbs. **$45.00 user net.**

**DIFFUSICONE-12** – Response from 40 to 14,000 cps., 30 watts*; 1½ lbs. of all-Alnico 5 magnet; 8-16 ohms; 4½" deep; Shpg. wt., 6 lbs. **$37.00 user net.**

**DIFFUSICONE-8** – Response from 70 to 13,000 cps., 25 watts*, a full pound of all-Alnico 5 magnet; 8-16 ohms; 3⅛" deep; Shpg. wt., 3¼ lbs. **$26.00 user net.**

### Model UXC-122

12" Diffaxial speaker employing *exclusive* standard uni-sectional Diffusicone element with 1000 cps. mechanical crossover. Coaxial horn loading at the apex of the cone extends mid and high frequency response. Uniform wide-angle dispersion by means of radial projector plus aperture diffraction for full fidelity at all listening points off speaker axis. Extra-large voice coil and one-piece molded woofer cone of special pulp content provide long, trouble-free life and high-power capacity. Contains super-sensitive all-Alnico 5 magnet. Response from 45 to 13,000 cps; 25 watts*; 8-16 ohms; 4⅜" deep; Shpg. wt., 5¼ lbs. **$33.00 user net.**

### Model 6200 12" Extended Range Speaker

Shallow design perfect for wall, flush ceiling, and limited space installations. Contains a full pound of super-sensitive all-Alnico 5 magnet. One-piece molded cone of special pulp content for long, trouble-free life. High efficiency, requires a fraction of the power needed for ordinary 12" speakers. Response from 45 to 10,000 cps.; 30 watts*; 8-16 ohms; 4" deep; Shpg. wt., 5¼ lbs. **$26.00 user net.**

### Model 6201 12" Dual Range Coaxial Speaker

A *true* dual range coaxial system. The tweeter, with compression driver and "reciprocating flare" horn is mounted *through* the center axis of the cone. High efficiency, wide-angle, uniform treble reproduction. Contains heavy super-sensitive all-Alnico 5 Gold Dot Magnet. Built-in L/C network with "Brilliance" control. Response from 45 to 15,000 cps.; 25 watts*; 8-16 ohms; 8⅜" deep; Shpg. wt., 10¼ lbs. **$52.00 user net.**

**Integrated Program*



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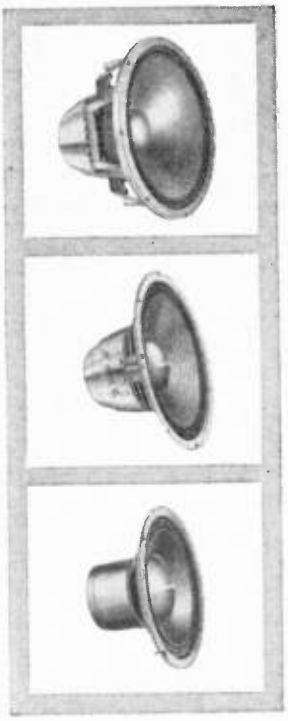
# WOOFERS

University recognition of all the obscure as well as the more apparent engineering concepts involved in multi-speaker and stereophonic systems has resulted in the widest assortment of specialized low frequency reproducers, to suit specific application, technical and budget requirements.



### Model C-15W
### 15" Dual Impedance Woofer

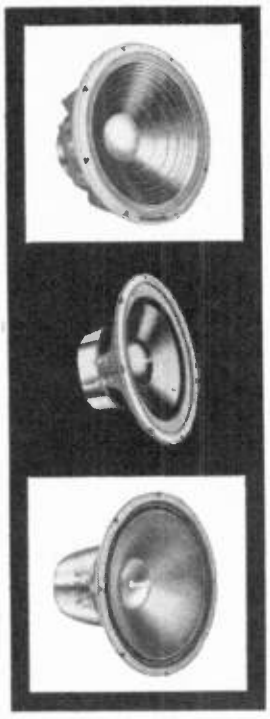
Maximum conversion is maintained by a new type voice coil with greatest axial depth and excursion ever attained. Exclusive *twin* spider arrangement and 6 lbs. of Alnico 5 Gold Dot magnet ensure positive transient control during maximum excursions. Response from below 25 to 1500 cps. Up to 50 watts*. *Exclusive* dual impedance voice coil assembly enables use in any system of 4 to 20 ohms . . . facilitating alteration and expansion of systems, and balancing to associated components of varied efficiency. 10½" deep; Shpg. wt. 26¾ lbs. **$85.00 user net.**

### Model C-12W
### 12" Adjustable Response Woofer

Built-in facilities enable high-end adjustment of response to 700, 2500 or 5000 cps. suiting requirements of most tweeters. Crossover points can be changed to achieve best tonal balance. When used with N-1 adjustable high-pass filter in a 2-way system combination forms a complete L/C network. 1½ lbs. super-sensitive all-Alnico 5 Gold Dot magnet. Response 40 to 6000 cps. (overall); 8 ohms. Up to 30 watts*; 6½" deep. Shpg. wt. 7¼ lbs. **$36.00 user net.**

### Model C-8W 8" Woofer

Ideal for assembling a compact, high quality speaker system. Perfect also for mid-range in low cost 3-way systems. Suitable for crossover up to 5000 cps. Super-sensitive all-Alnico 5 Gold Dot magnet. Response to 50 cps. is achieved when properly baffled. Up to 25 watts*; 8 ohms; 4¼" deep. Shpg. wt., 3 lbs. **$13.50 user net.**



### Model C-15HC
### 15" High Compliance Woofer

Now, for the *first* time, a *high compliance*, low resonance 15" woofer which yields astounding bass depth without compromising power handling ability and clean output. Specifically designed for ultra linear response *throughout* the complete low frequency range. Magnetic assembly employs the NEW Hiflux UNIFERROX-7 magnet material in specially designed twin spider suspension assembly ensuring positive transient control during maximum excursions. Instructions included for use in cabinets of various sizes. Overall response to 800 cycles. Resonance 15 cps. Dual impedance voice coil. 4-8 and 10-20 ohms. Can be used with quality amplifier from 10 watts upwards. 8⅛" deep. Shpg. wt., 24¾ lbs. **$89.50 user net.**

### Model C-12HC
### 12" High Compliance Woofer

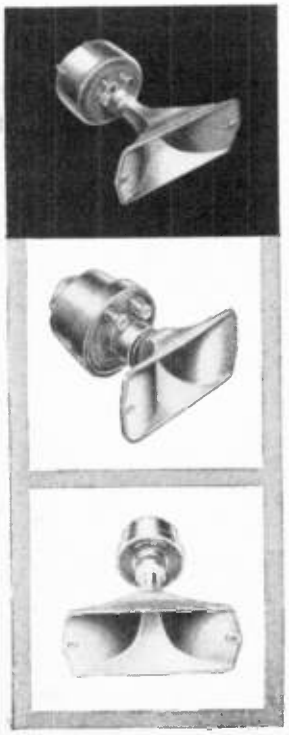
A new high compliance, ultra linear 12" woofer capable of outstanding performance in matched level systems. Can be used with quality amplifier from 15 watts upwards. Instructions included for use in cabinets of various sizes. Response to 2500 cycles permits use in speaker system with addition of only a tweeter. Magnetic assembly employs the NEW Hiflux UNIFERROX-7 magnet material. Cone resonance 18 cps. Dual impedance voice coil. 4-8 and 10-20 ohms. 5½" deep. Shpg. wt., 8½ lbs. **$49.50 user net.**

### Model C-63W
### 15" Adjustable Response Woofer

Highly versatile low frequency speaker with *exclusive* built-in features. Adjustable response limiter sets response to 700, 2500 and 5000 cps. to suit crossover requirements of most tweeters. Combination with N-1 Adjustable High Pass Filter forms a 2-way L/C network with "Brilliance" control. Bass response is smooth to better than 30 cps. with lowest distortion. One-piece molded cone of special pulp content for increased stability. 1½ lbs. of super-sensitive all-Alnico 5 Gold Dot magnet. Response from 30 to 6000 cps. (overall). 30 watts*; 8 ohms; 10" deep; Shpg. wt. 10 lbs. **$49.00 user net.**

# TWEETERS

University research and engineering have achieved new horizons which are leading the art of tweeter design away from the shortcomings of staid, antiquated designs of the past. Here is a wide selection of the very finest, most advanced examples of the art, embodying important patented features which make them outstanding values.



### NEW HF-206 Hypersonic Tweeter

High frequency far beyond audibility. Employs improved die-cast aluminum wide-angle horn based on "reciprocating-flare" principle providing uniform 120° horizontal and 50° vertical dispersion. *New* super-efficient driver mechanism also housed in die-cast aluminum casting. Low end cut-off 3500 cps. Power capacity; 25-50 watts*, depending on crossover frequency used and speaker system set-up. 8 ohms. N-1 or N-2B network for 5000 cps. crossover recommended. 6" x 2¾" x 6-9/16". Shpg. wt. 3½ lbs. **$33.00 user net.**

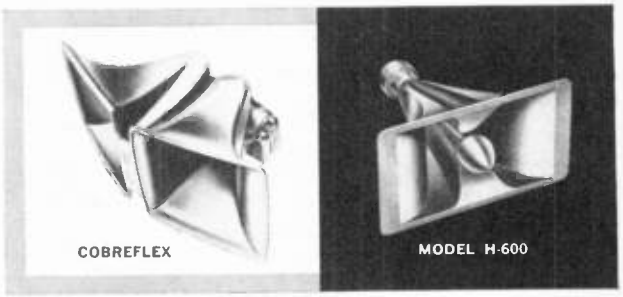
### Model UXT-5 Super Tweeter

A compact super tweeter assembly for crossover at 5000 cps. or above. Employs a genuine compression driver with super-sensitive Alnico 5 magnet, coupled to University's *exclusive* and *patented* "reciprocating flare" horn. Uniform wide-angle response, high conversion efficiency. N-1 or N-2B L/C network recommended. Response from 4500 to 17,500 cps.; 120° horizontal and 50° vertical dispersion 25-50 watts*. 8 ohms; 4¼" x 2½" x 4"; Shpg. wt. 1¾ lbs. **$21.00 user net.**

### Model 4401 Tweeter

Sturdy one-piece die-cast horn using "reciprocating-flare" principle results in 120° horizontal high frequency dispersion and 50° vertical. High conversion efficiency due to use of genuine "driver" mechanism with light weight duralumin voice coil suspension. Hermetically sealed construction. Response from 2000-15,000 cps., 8 ohms. Handles up to 25 watts*. N-1 or N-2B dividing network recommended. 6" x 2¾" x 6 7/16". Shpg. wt., 2 lbs. **$18.00 user net.**

**Integrated Program*




### Model Cobreflex Horn

Unsurpassed as a mid-range horn in 3-way systems when used with T-30 compression driver unit. . . 27" exponentially-flared air column permits crossover as low as 350 cps. *Exclusive* twin-flare design for uniform wide-angle dispersion, 120° horizontal and 60° vertical. Two identical *one-piece* die-castings of extra heavy aluminum. 1⅜"–18 throat; 10¼" x 18½" x 9¾". Shpg. wt. 10¼ lbs. **$23.00 user net.**

### Model H-600 Mid-Range and High Frequency Horn

New and improved, the H-600 is the finest in 600 cycle cut-off wide-angle horns for professional and home hi-fi applications. All-new die-cast design combines famous patented "reciprocating-flare" principle with hemispherical deflection for exceptionally uniform sound distribution thruout the *full* response range. Dispersion: 125° horiz. x 55° vert. Use with T-30 or T-50 drivers and N-2A network. Takes any driver with standard 1⅜"-18 throat. 7¾" x 8¾" x 4¾". Shpg. wt. 2½ lbs. **$18.00 user net.**

### NEW T-30 Mid-Range and High Frequency Driver

Redesigned throughout; new mechanism and housing. For mid-range in 3 and 4-way systems, or as tweeter in 2-way system. Use with H-600 or Cobreflex horns. N-2A network recommended. Response 200 to 15,000 cps.; 8 ohms; 1⅜"–18 throat; 3½" dia., 3¾" deep; Shpg. wt. 2¾ lbs. **$30.00 user net.**

### NEW T-50 Hypersonic High Frequency Driver

Heavy duty super-efficient driver for use with the H-600 horn. Response covers from 600 cps. to inaudibility and is recommended for large theater and auditorium systems, and deluxe home hi-fi where the ultimate in performance is desired. Use with N-2A network. 8 ohms; 1⅜"–18 throat; 4¼" dia.: 4⅛" deep: Shpg. wt. 5 lbs. **$49.50 user net.**

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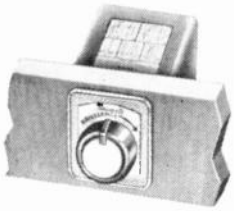
World Radio History

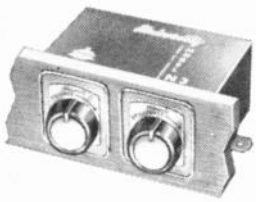
# ADJUSTABLE CROSSOVER NETWORKS

**University offers the most complete line of frequency dividing filters and crossover networks to satisfy all popular requirements. Because of their exclusive features, as well as "adjustable" design that eliminates obsolescence and makes technical exploration possible—these units are a truly worthwhile investment.**



### Model N-1 Adjustable Filter

Adjustable high pass filter with built-in "Brilliance" control, for dividing program between woofer and tweeter in 2-way systems. Crossover and impedance combinations: 2500, 5000, 10,000 cps. at 8 ohms; 1250, 2500, 5000 cps. at 16 ohms; 5000, 10,000 cps. at 4 ohms. Can be used with N-2A L/C network in 3-way system. Fits panels up to 1" thick. 3⅝" x 3¼" x 3". Shpg. wt., 1¾ lbs. **$10.50 user net.**



### Model N-3 Acoustic Baton Network

An adjustable L/C network for 3-way systems. Connections for either 350 or 700 cps. crossover between mid-range and woofer. Tweeter crossover is 5000 cps. Built-in "Presence" and "Brilliance" controls. Adjustable for vertical or horizontal mounting. Fits panels up to 1" thick. 8 ohms; 7" x 5" x 3". Shpg. wt., 5½ lbs. **$28.00 user net.**

MODEL N-2B

MODEL N-2A

### Models N-2A and N-2B Adjustable L/C Dividing Networks

With either or both these units, any combinations of speakers can be used in a great variety of voice coil impedances and popular crossover points. N-2A and N-2B can be used in combination for 3-way speaker systems. 3⅝" x 3¼" x 3". Shpg. wt., each 2¼ lbs.

**N-2A ADJUSTABLE CROSSOVER**
6 db/oct. 2-way L/C network. May be used in pairs as 12 db/oct. network or singly as 12 db/oct. low or high-pass filter. Crossover—350 or 700 cps. at either 8 or 16 ohms; 700 cps. at 4 ohms. **$18.00 user net.**

**N-2B ADJUSTABLE CROSSOVER**
6 db/oct. 2-way L/C network. May be used in pairs as 12 db/oct. network, or singly as 12 db/oct. low or high-pass filter. Crossover—1250, 2500 or 5000 cps. at 8 ohms; 2500 or 5000 cps. at 16 ohms; 2500 at 4 ohms. **$14.00 user net.**

### Model AP-8 "Balance" Control

Effective attenuator pad to regulate speakers of different efficiencies and for balancing sound according to room acoustics and personal taste. Ideal for use with N-2A and N-2B networks. Complete with attractive escutcheon and knob, marked two sides; "Presence" for use in mid-range circuits and "Brilliance" for use with tweeters. Suits 8-16 ohms systems. Fits panels up to 1" thick. Shpg. wt., 7 oz. **$3.95 user net.**

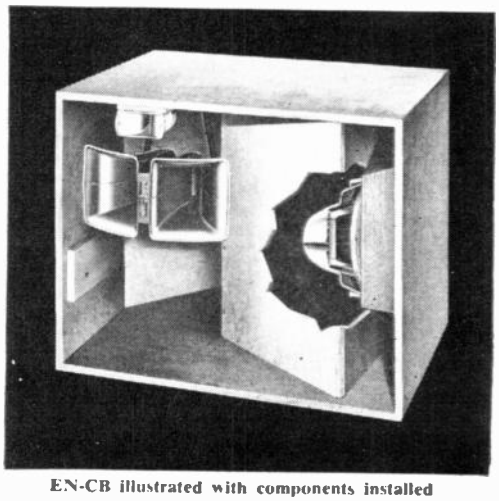
## UNFINISHED UTILITY "CLASSIC" ENCLOSURE AND SYSTEM

### Model EN-CB Unfinished "CLASSIC" ENCLOSURE

A true, self-contained front-loaded folded horn, operating with highest quality wherever placed, independently of walls or floors. Complete in itself with all acoustically correct elements always in place. EN-CB is identical in design to the enclosure used in the famous "Classic" system. Ideal for the do-it-yourself home decorator . . . the many ways to finish the EN-CB are limited only by the imagination. Can be used horizontally or vertically. *Fully assembled*, constructed of select ¾" white birch veneer plywood with lock and miter joints and braced with heavy glue blocks. Supplied unfinished, less base and frame, but with necessary hardware for mounting speakers. Recommended components are Model C-15W Woofer, Model HF-206 Hypersonic Tweeter, Cobreflex Mid-range Horn with T-30 Driver. Model N-3 crossover network. 40½" x 31½" x 23¾" D. Shpg. wt., 135 lbs. **$120.00 user net.**

### Model S-9 Unfinished UTILITY "CLASSIC" SYSTEM

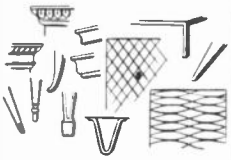
Model S-9 is the EN-CB with the recommended CLASSIC speakers and network completely installed and wired. A real convenience for those who wish to buy the whole system—ready to use or finish. No charge for installation and wiring. Shpg. wt., 170 lbs. **$320.00 user net.**



EN-CB illustrated with components installed

BUILT-INS

ROOM DIVIDERS



PICK A PERIOD

CUSTOM FINISHING



West Coast Prices Slightly Higher

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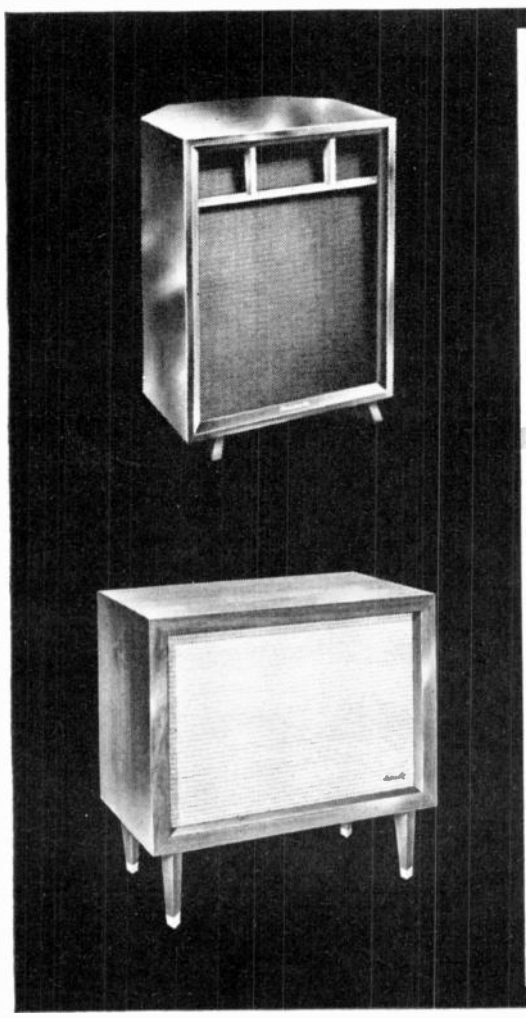
# IDEAL FOR STEREO

Every University stereo system produces the matched performance so essential to highest quality stereo reproduction . . . because final production tests ensure the integrated frequency response and sound pressure level of every University speaker and system to be within 1 db of the response of all others of the same model.



### Model S-5 "The Senior" Multi-Speaker System

Fulfills the need for a top quality performer whenever space and budget are limited. Using the basic C-12W woofer (minus response limiter), H-600/T-30 mid-range combination; the UXT-5 "reciprocating-flare" wide-angle Super Tweeter and Acoustic Baton network . . . this outstanding team of components performs with excellent efficiency to beyond audibility, handling up to 30 watts*. Installed into this highly efficient folded horn enclosure . . . the result is smooth, natural reproduction of music and speech. Made by master craftsmen with same quality of material, workmanship and finish as the finest furniture. Available in mahogany, walnut and blond, Size: 30" H. x 21½" W. x 15¾" D. Shpg. wt., 72 lbs. **User net:** *Mahogany* – **$200.00,** *Blond or Walnut*–**$205.00.**

### Enclosure only—Model EN-12

For use with any University 12" extended range speaker or multiple speaker system with 12" woofer, H-600 with T-30 driver for mid-range or with T-50 for full range; 4401, UXT-5 or HF-206 as tweeter. Available in mahogany, walnut, blond and unfinished. Shpg. wt., 60 lbs. **User net:** *Mahogany* – **$76.00,** *Blond or Walnut*–**$79.50,** *Unfinished*–**$65.50.**

### "Debonaire" Lowboy

**Enclosure: Model EN-1215**
**Systems: Models S-3, S-4**

Another achievement in versatility. The DEBONAIRE enclosure is the smallest lowboy for 2- or 3-way multi-speaker systems using 12" or 15" speakers. Employs the phase inversion principle to augment low frequency response, integrating direct radiation principles to accommodate a wide variety of extended range speakers. Designed to complement both traditional and modern decor. Includes versatile baffle board for use with any University 12" or 15" extended range speaker; or multi-speaker system using 12" or 15" woofer, H-600 horn with T-30 driver for mid-range, or with T-50 driver for full-range; 4401, UXT-5, or HF-206 as tweeter. Complete with tweeter plugs and adapter for 12" speaker. Ideal for University Progressive Speaker Expansion plan. 27⅜" H x 25⅜" W. x 16" D. Shpg. wt., 56 lbs. **User net:** *Mahogany*–**$63.00,** *Blond or Walnut*–**$69.00.**

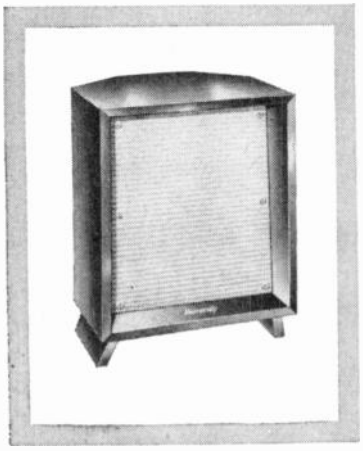
### Model S-3 "Debonaire" System

Comprises identical components as the "Senior," now making this popular system available in lowboy form. Shpg. wt., 68 lbs. **User net:** *Mahogany*–**$196.00,** *Blond or Walnut*–**$199.00.**

### Model S-4 "Debonaire" System

New 3-element system achieves enhanced "presence" and spatial separation in mid-range. Employs 15" 2-way Diffusicone-15 speaker augmented by the H-600/T-50. Balance control for adjustment to room acoustics. Shpg. wt., 71 lbs. **User net:** *Mahogany*–**$197.50,** *Blond or Walnut*–**$200.50.**

## SMALL SYSTEMS & ENCLOSURES IDEAL AS EXTENSION SPEAKERS OR LOW-COST STEREO



### "Tiny Mite"
**Enclosure, Model TM-812**
**Speaker System, Model S-3TM**

Where the cost of the enclosure, loudspeaker and amplifier must be kept to a minimum but *not* at the expense of achieving high fidelity reproduction, the TM-812 TINY-MITE enclosure operating with one of the University high efficiency 8" or 12" extended range speakers is the solution. Sturdy ¾" wood is used throughout. Versatile enclosure is supplied with baffle board cut out for 12" speakers; adapter available for 8" speaker with ample space for tweeter. Baffle board removable from front for easy installation. Beautifully finished, including rear of cabinet. True "cornerless-corner" design permits use in corner, against wall or upside down! TM-812 is available in mahogany, walnut, blond and unfinished. 21¼" H. x 15½" W. x 12½" D. Shpg. wt., 26 lbs. **User net:** *Mahogany*–**$43.50,** *Blond or Walnut*–**$46.50,** *Unfinished*–**$37.75.**

**Model S-3TM** – Incorporates Model 308 3-way 8" Diffaxial Speaker, wired and ready to use. A modestly priced combination of exceptional performance. Shpg. wt., 31 lbs. **User net:** *Mahogany* – **$85.00,** *Blond or Walnut*–**$88.00.**

### Model S-1 "Companionette" 2-Way Speaker System

Decorative and smartly styled, ideal speaker system for limited space application or as extension speaker to an existing high fidelity installation. Makes every room a music room with this true 2-way speaker system using the Model 4401 wide-angle Tweeter and Model C-8W Woofer. The enclosure employs the "distributed port" phase inversion principle for deep, rich bass reproduction. The cabinet is skillfully constructed of the finest and fully cured woods. Ideal for bookcase installations. Wrought iron legs may be purchased from furniture or department store to convert system for floor use. Response to 15,000 cps.; Handles 25 watts*; 8 ohms impedance. Available in mahogany, walnut and blond. Size: 10" H. x 24" W. x 10" D. Shpg. wt., 21 lbs. **User net:** *Mahogany*–**$62.00,** *Blond or Walnut*–**$64.00.**

**Integrated Program*

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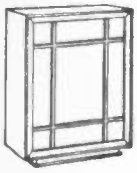
# SPEAKER SYSTEMS AND ENCLOSURES

University

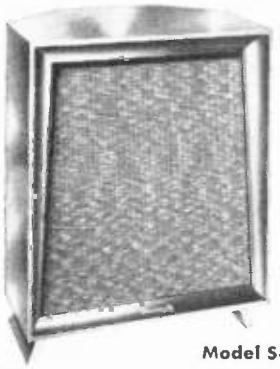
**University enclosures are as important to the realization of fine reproduction as a loudspeaker. They enjoy the full benefit of University's extensive engineering experience and manufacturing know-how. When used together, University speakers and speaker enclosures attain system quality in the highest tradition of audio and acoustic design.**



## HIGH EFFICIENCY SPEAKER SYSTEMS

### Model S-8 "Classic" Deluxe Console Speaker System

The CLASSIC embodies University's many engineering advances. Components comprise the incomparable C-15W 15" woofer, Cobreflex wide-angle dual exponential horn with T-30 driver for rich, full-bodied middles; the new HF-206 Hypersonic Tweeter and N-3 Acoustic Baton network with "Brilliance" and "Presence" controls. The enclosure is a versatile front-loaded, folded horn operating the woofer as a compression driver for maximum efficiency. Thus, the CLASSIC functions independently of walls and floor. Shipped as "lowboy" console—may be used as "highboy." Response: 20 cps. to inaudibility. 50 watt* power handling capacity; 8 ohms. Available in mahogany, walnut and blond. Size: 34½" x 40½" x 25½" D. Shpg. wt., 230 lbs. **User net:** *Mahogany, Blond, or Walnut*—**$420.00.**



Model S-6

### "The Master" Multi-Speaker System

Provides the full response and dynamic range of music . . . at an attractive price for such quality. Integrates the C-15W 15" woofer, the H-600 horn with T-30 driver for mid-range, with the HF-206 Hypersonic Tweeter for natural highs. The N-3 Acoustic Baton completes this quality team of components. Includes "Presence" and "Brilliance" controls. Performance competes with speaker systems considerably larger in size and higher in cost. Handles up to 50 watts*. All are installed in a self-contained folded horn "cornerless-corner" enclosure which permits use either in a corner or flat against wall. Size: 37" H. x 29" W. x 20" D. Available in mahogany, walnut and blond. Shpg. wt., 128 lbs. **User net:** *Mahogany*—**$310.00,** *Blond or Walnut*—**$320.00.**

### Enclosure only—Model EN-15

For use with any University 12" or 15" extended range speaker or multiple speaker combination using 12" or 15" woofer; 8" cone speaker or H-600/T-30 for mid-range; 4401, UXT-5, HF-206 or H-600/T-50 as tweeter. Complete with tweeter plugs and adapter for 12" speaker. Available in mahogany, walnut, blond and unfinished. Shpg. wt., 98 lbs. **User net:** *Mahogany*—**$125.00,** *Blond or Walnut*—**$135.00,** *Unfinished*—**$102.00.**

Model S-12

### "Troubadour" Lowboy Multi-Speaker System

Now, the outstanding tonal range and quality of the "Master" system can be enjoyed in this impeccably styled lowboy. This self-contained folded horn can be used *either* in a corner or flat against a wall for natural, full-range performance. Integrates direct woofer radiation with rear horn loading for enhanced low frequency response. Optimum projection of mid and high frequencies closer to ear level is accomplished by the subtly angled baffle board, which also minimizes reflections within the compression chamber. 29" H. x 34" W. x 19" D. Available in mahogany, walnut, blond. Shpg. wt., 118 lbs. **User net:** *Mahogany*—**$343.50,** *Blond or Walnut*—**$348.50.**

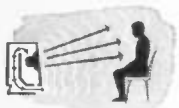
### Enclosure only — Model EN-15LH

Includes versatile baffle board for use with any University 12" or 15" extended range speaker; or multi-speaker system using 12" or 15" woofer, H-600 horn with T-30 driver for mid-range or with T-50 driver for full-range; 4401, UXT-5 or HF-206 as tweeter. Complete with tweeter plugs and adapter for 12" speaker. Ideal for University Progressive Speaker Expansion plan. Available in mahogany, walnut and blond. Shpg. wt., 84½ lbs. **User net:** *Mahogany* — **$139.50,** *Blond or Walnut*—**$144.50.**

**SELF-CONTAINED FOLDED HORN ENCLOSURE KWIKITS . . . ideal for P·S·E† ONLY UNIVERSITY KWIKITS HAVE ALL THESE OUTSTANDING FEATURES**

**Model Ken-15 KwiKit** Includes versatile baffle board for use with any University 12" or 15" extended range speaker or multi-speaker system using 12" or 15" woofer; 8" cone speaker or H-600/T-30 for mid-range; 4401, UXT-5, HF-206, or H-600/T-50 as tweeter. Same acoustical design as EN-15, but with modified front moulding. 35¼" x 29" x 18½" d. Shpg. wt., 68 lbs. **$59.50 user net.** Adapter for 12" speaker, **$1.50 user net.**

**Model Ken-12 KwiKit** Includes versatile baffle board for use with any University 12" extended range speaker or multi-speaker system with 12" woofer; H-600/T-30 for mid-range, or H-600/T-50 for full range; 4401, UXT-5, or HF-206 as tweeter. Same acoustical design and appearance as EN-12. 29½" x 21½" x 15½" d. Shpg. wt., 45 lbs. **$44.75 user net.**



**Room-Balanced Performance**

Tilted baffle board, direct speaker radiation and compensated rear horn loading . . . all combine to blend bass, mid and treble perfectly for uniform response throughout listening areas of room.

**Heavier Construction**

Heavy ¾" first grade, fully cured lumber for top, bottom, sides and back . . . not flimsy ½" commonly used in kits. KwiKits are as much as 30% heavier than others in same price class.

**Place Anywhere in Room**

Self-contained folded horn extends to front of cabinet, projecting low frequencies out into room . . . not into corner or against wall. Use in corner, against wall, even up in air!

**Precision Assembly**

All pieces pre-cut and pre-drilled. Mitered and braced for truly rigid construction . . . eliminates spurious resonances detrimental to clean bass. Everything supplied up to point of final finishing.

**Professional Results**

Genuine hardwood veneer on principle exposed surfaces same as used in fine furniture. Decorative front mouldings and exquisitely textured grille fabric to complement any decor are included.

† *University Progressive Speaker Expansion plan*

* *Integrated Program*



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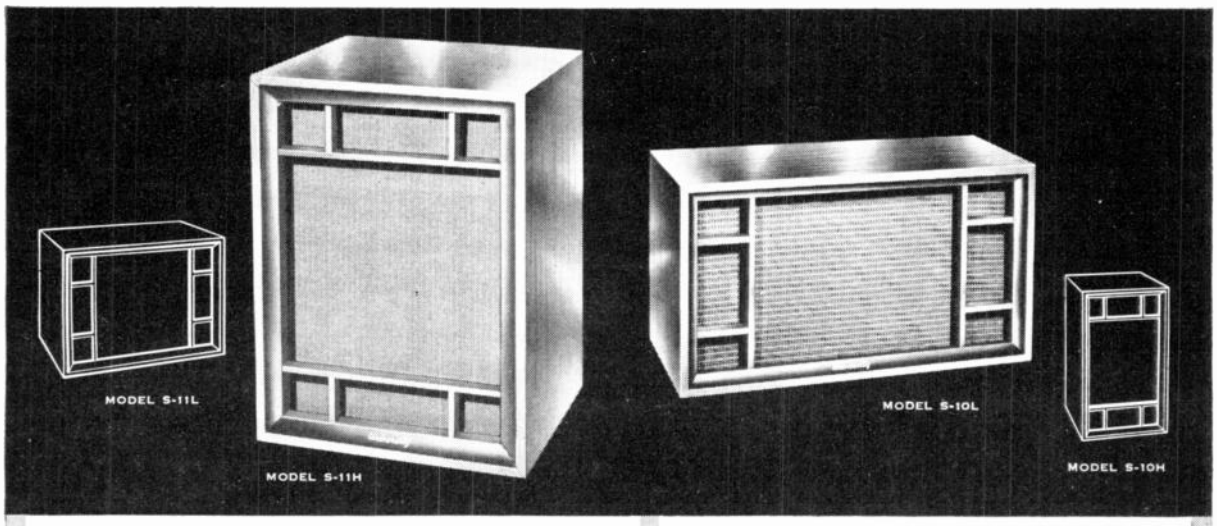
**UNIVERSITY** successfully meets the challenge of achieving high fidelity performance . . . almost the equal of considerably larger systems . . . with small ensembles. Necessitating a completely new electrical and acoustical design concept, the resulting exciting component and enclosure designs are setting new industry standards.

# ULTRA LINEAR RESPONSE SPEAKER SYSTEMS & KITS




## Models S-11H and S-11L 3-Way Systems

Ultra linear response systems make possible for the first time magnificent "big system" performance from enclosures *fully 40 to 80% smaller* than other systems of comparable standards. With a quality amplifier delivering from 10 watts upwards, these systems produce really balanced, distortion-free sound . . . from clean, true bass notes low enough to feel . . . to highs beyond audibility. Small overall size achieved thanks to exclusive University RRL enclosure design which loads the high compliance C-15HC woofer by means of special acoustic coupler. The specially designed HC-3 matched-level network integrates the 2-way Diffusicone-8 Diffaxial in its own compression chamber for mid-range (500 cps crossover) with the special UL/HC Hypersonic Tweeter (2500 cps crossover) for response to beyond audibility. Program Distortion Filter and variable "balance" control are provided. The S-11 will outperform most other systems *regardless* of type, size and cost! Extra heavy construction; beautiful, fine-furniture finishes, styled in good taste to complement any decor. S-11H is upright model; S-11L, lowboy. 8 ohms impedance. Legs on base removable. Available in mahogany, walnut and blond. 26⅞" x 19½" x 17½" D. Shpg. wt., 80 lbs. **User net:** *Mahogany* — **$245.00,** *Blond or Walnut*—**$249.00.**

## Models S-10H and S-10L 2-Way Systems

These systems are intended for use where available space is most restricted, yet highest quality reproduction is essential. Only 25" x 14" x 14½" D.; Model S-10H is for use where minimum width must be considered; S-10L where height must be conserved. Either model can be used without base, for shelf, bookcase, or built-in applications. The new C-12HC 12" high compliance, low resonance woofer is employed with the UL/HC 2500 cps tweeter and the specially matched-level HC-2 crossover network. Program Distortion Filter corrects for inferior radio programs, worn records, tapes, etc. Can be used with quality amplifier from 15 watts upwards. 8 ohms impedance. Features exclusive University RRL enclosure with special acoustic coupler. Heavy ¾" thick double-braced construction; beautiful natural grain, hand-rubbed finish. Legs on base removable. Available in mahogany, walnut and blond. Shpg. wt., 51 lbs. **User net:** *Mahogany*—**$139.00,** *Blond* or *Walnut*—**$143.00.**

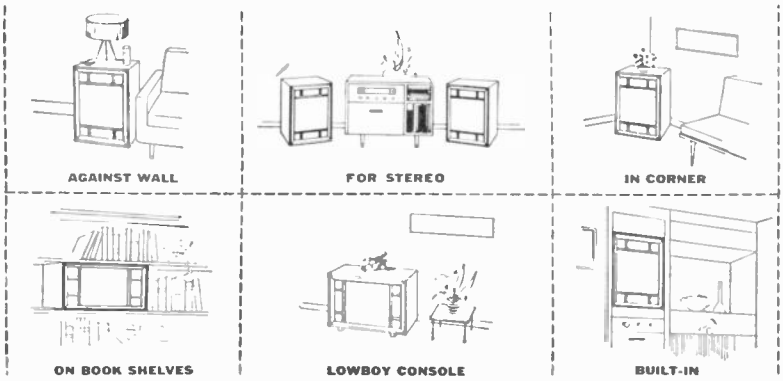
## Ultra Linear Response Component Kits

Now, substantial savings can be enjoyed, as well as the astonishing performance and space-saving features of these exclusive, advanced design ultra linear response systems.

**System Kit CUL-11** Comprises the identical components of Model S-11: C-15HC 15" woofer, 8" mid-range assembly, UL/HC tweeter and fully assembled HC-3 matched-level network with variable "balance" control and Program Distortion Filter, plus wiring cables. Also includes complete instructions for installation in cabinets of various sizes. Shpg. wt. 37 lbs. **User net: $164.50.**

**System Kit CUL-10** For a system that occupies the barest minimum of space, yet leaves nothing to be desired in tonal performance, here are the components of Model S-10: C-12HC 12" woofer, UL/HC tweeter, completely assembled HC-2 matched-level network, with Program Distortion Filter, wiring cables and complete instructions. Shpg. wt. 15 lbs. **User net: $88.50.**

**TYPICAL APPLICATIONS SHOWING VERSATILITY OF THE ULTRA LINEAR RESPONSE SYSTEMS**




## Send for the all-new 64-page UNIVERSITY TECHNILOG

*Invaluable reference and guide book for planning public address loudspeaker systems. $1.00*

The only book of its kind . . . packed with the solid, factual information you need to help you save time and money in planning sound systems. Authoritatively covers in detail, how to select the proper driver for the specific job, directional vs. wide-angle horns, how to best use radial trumpets, high fidelity in P.A., coping with reverberation, methods of overload protection, etc. Includes comprehensive specifications, charts, diagrams, latest product information and the *exclusive* Sound System Design Chart — effective guide for planning typical installations. **Send $1.00 to Desk W-20, University Loudspeakers, Inc., 80 So. Kensico Ave., White Plains, N. Y.**

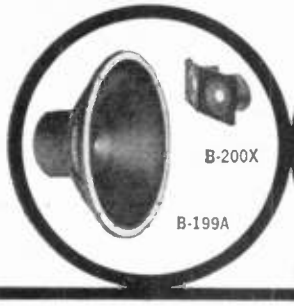


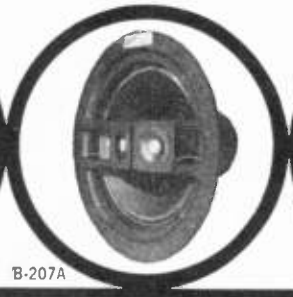
World Radio History

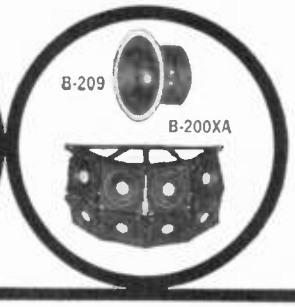
# BOZAK QUALITY LOUDSPEAKERS

There are only three basic Bozak Loudspeakers — bass, mid-range and treble. They are compatible electrically and acoustically, and are designed for use with only the very finest associated equipment. They combine easily into 2-way and 3-way speaker systems, differing in range, realism and power-handling capacity by virtue only of the number of speakers and size of enclosure employed. Any Bozak System may be enlarged at any time by the addition of more Bozaks. The amplifier should have a minimum power of 20 W from 20 to 20,000 cycles; Damping Factor between 8 and 20.

All Bozaks are direct-radiators, with equal velocities of sound propagation, consonant tonalities, and naturally-balanced efficiencies. Their 6-db-per-octave N-10102 Convertible Crossover Network blends the ranges smoothly. Infinite baffling is essential to preserve the range, smoothness and superb transient response of the bass. Bozak cabinets are glued-and-screwed plywood ¾" or thicker, internally lined and braced, and finished in hardwood veneers. Plans are available for most enclosures, and the E-300 comes as a complete kit for the B-300 and B-302A Systems.




## BOZAK LOUDSPEAKERS

| Bozak Speakers | Range cps | Impd ohms | Resonance | Mounting Hole | Weight lbs | Retail Price |
|---|---|---|---|---|---|---|
| **B-207A** Coaxial | 40 - 16,000 | 8 | below 40 c | 12¼" diam. | 13 | $83.85 |
| **B-200X** Treble | 2000 - 16,000 | 8 | — | 6" x 3" | 2¾ | 30.00 |
| **B-209** Mid-Range | 200 - 3500 | 8 16 | none | 5½" diam. | 6½ | 48.00 |
| **B-199A** Bass | 40 - 4500 | 8 | below 40 c | 11½" diam. | 8 | 49.50 |
| **B-200XA** Tweeter Array | 1500 - 16,000 | 8 | — | † | 11¼ | 132.00 |
| **B-100** | B-200XA in enclosure 15¾"W, 10"H, 7"D | | | | | 165.00 |

†—Mounts outside woofer cavity.

## NETWORKS

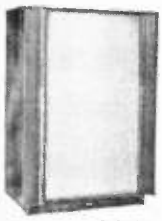
| Bozak Networks | used with | Crossovers cps | Impd ohms | Retail Price |
|---|---|---|---|---|
| **4-mfd** | B-207A | 2500 | 8 | $ 1.50 |
| **N-10102** | B-302/305 | 800-2500 | 8/16 | 27.50 |
| **N-103** | B-305 | 400-2500 | 16 | 37.50 |
| **N-104** | B-310A/400 | 400-2500 | 8 | 37.50 |
| **N-25** | B-310A/400 | Condenser Bank | | 11.60 |

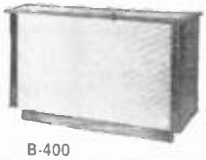
N-103

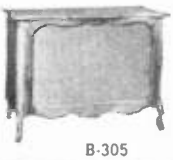
N-104

N-10102

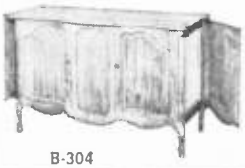
## DISTINCTIVE CABINETRY


B-310A


B-400


B-305

B-302A


B-304

B-305

B-302A

B-304

## COMPLETE SYSTEMS IN ENCLOSURES*

| Bozak Systems | Style | Retail Price | Speaker Complement B-199A | B-209 | B-200X | B-200XA | Network ** | Impd Ohms | Min Amp Power | Range cps |
|---|---|---|---|---|---|---|---|---|---|---|
| **B-300** | Cont | $162.60 | 1 | — | 1 | — | 4-mfd | 8 | 20W | 40c-16kc |
| **B-302A** | Cont | 235.60 | 1 | 1 | 1 | — | N-10102 | 8 | 20W | 40c-16kc |
| **B-302A** | Prov | 295.00 | | | | | | | | |
| **B-304** | Cont | 720.00 | two complete B-302A Systems | | | | N-10102 | 8 | 2/30W | 40c-16kc |
| **B-304** | Prov | 820.00 | | | | | | | | |
| **B-305** | Cont | 390.00 | 2 | 1# | 2 | — | N-10102 | 16 | 30W | 35c-16kc |
| **B-305** | Prov | 495.00 | | | | | | | | |
| **B-310A** | Cont | 770.00 | 4 | 2 | — | 1 | N-104 | 8 | 50W | 28c-16kc |
| **B-400** | Cont | 798.00 | 4 | 2 | — | 1 | N-104 | 8 | 50W | 28c-16kc |

*—Wired and installed in infinite-baffles; Mahogany, Birch, Walnut or Fruitwood veneer.
**—For Crossover Frequencies see "Networks" Table above.
#—16-Ohm Unit.

## PANEL-MOUNTED SYSTEMS†

| Bozak Panels | Dimensions | Retail Price |
|---|---|---|
| **P-302AP** | 23" x 27½" | $165.00 |
| **P-305P** | 34½" x 24" | 249.00 |
| **P-310AP** | 31" x 47" | 522.00 |
| **P-400P** | 46½" x 30½" | 522.00 |

†—Speakers and Networks, wired and installed on ¾" fir plywood panels (1½" for P-310AP and P-400P). Ready for installation in a wall or suitable infinite-baffle enclosure.

All prices are FOB Factory, Norwalk, Connecticut; add 5% in extreme South and Far West. Prices and Specifications subject to change without notice. All Bozak products are covered by a one year Guaranty against defective materials and craftsmanship, subject to registration with us within 10 days of purchase by the original retail purchaser.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World Radio History

# JansZen*

## LOUDSPEAKERS...

### the refinement high fidelity is supposed to be

The perfect loudspeaker would reproduce music with complete faithfulness, neither adding to, nor detracting from the program source. JansZen loudspeakers are the result of that philosophy and, when used with the finest associated equipment, the listener will hear the music with nearly perfect naturalness. They are the refinement high fidelity is supposed to be, because they eliminate coloration and distortion so that all of the original beauty of the music emerges without interference from the speaker.

**Hear the Music . . . Not the Speaker**

### MODEL 130 *Electrostatic*

The most nearly perfect loudspeaker ever developed. The JansZen Electrostatic has been widely acclaimed for its very smooth and wide frequency response, its unmatched power handling capability and its high reliability. Its extremely low distortion—lower than many fine amplifiers—is a result of the careful application of electrostatic principles and rigorous manufacturing techniques.

**SPECIFICATIONS**

Electrostatic transducer comprising 4 radiators and power supply in cabinet

Frequency response: 500 c/s to beyond 30,000 c/s

Type of crossover network: LRC high-pass filter

Power cord input: 117V. 50-60 c/s AC—2 watts drain

Maximum input: 8 ohm: 20 volts RMS (50 watts)
16 ohm: 28 volts RMS (50 watts)

High frequency dispersion: Model 130: 120°
Model 130U: 90°

Distortion: Less than 0.5% total harmonic distortion at 50 watts input below 10,000 c/s

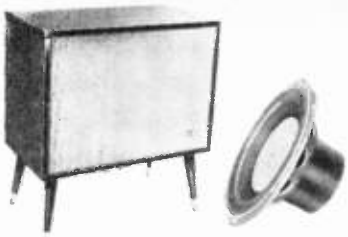
Complete loudspeaker guaranteed for 1 year

Electrostatic radiators guaranteed 2 full years

**NET PRICES, WEIGHTS AND DIMENSIONS**

| | | East Coast | West Coast | Net Weight Pounds | Overall Dimensions |
|---|---|---|---|---|---|
| 130UA | Dull black array utility | $169.00 | $177.50 | 13 | 7¼x22x13 |
| 130B | Birch | 179.00 | 188.00 | 13 | 7¼x22x13 |
| 130M | Mahogany | 184.00 | 193.00 | 13 | 7¼x22x13 |
| 130W | Walnut | 188.00 | 197.50 | 13 | 7¼x22x13 |
| 130U | Dull black square utility (not illustrated) | 161.00 | 169.00 | 13 | 7¼x23½x10 |

*When ordering please specify either 8 ohm or 16 ohm impedance.*



### MODEL 250 DYNAMIC

This cone woofer is specifically designed for use with the Model 130 Electrostatic and can be used either singly or in pairs with it.

**SPECIFICATIONS**

12 in. cone woofer designed specifically for a 2.5 cu. ft. fiberglas-filled enclosure

Frequency response (in enclosure): 30 c/s to 1500 c/s

Fundamental resonance in enclosure: 45 c/s

Frame: Polyester impregnated fiberglas

Magnet: 2.6 lb. Alnico V

Flux density: 10,900 gauss

Maximum input: 28 volts RMS (50 watts)

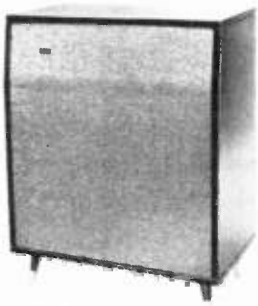
Power handling capability: over 100 watts peak on complex musical content

Impedance: 16 ohms

**NET PRICES, WEIGHTS AND DIMENSIONS**

| | | East Coast | West Coast | Net Weight Pounds | Overall Dimensions |
|---|---|---|---|---|---|
| 250B | Birch | $146.00 | $155.00 | 50 | 28x24¾x14** |
| 250M | Mahogany | 146.00 | 155.00 | 50 | 28x24¾x14** |
| 250W | Walnut | 148.00 | 157.00 | 50 | 28x24¾x14** |
| 250U | Flat black utility | 128.00 | 136.00 | 50 | 18½x24¾x14 |
| 250 | Driver only (includes plans for building enclosure) | 69.75 | 75.00 | 11 | 12x11⅜x 5⅜ |

**(incl. 9½" legs)



### The Z-200 System

Here is a combination of the Model 130-U Electrostatic and the Model 250 Dynamic in a single, compact cabinet, with woofer and tweeter so smoothly matched and blended that nearly perfect realism is attained.

**NET PRICES, WEIGHTS AND DIMENSIONS**

| | | East Coast | West Coast | Net Weight Pounds | Overall Dimensions |
|---|---|---|---|---|---|
| Z-200B | Birch | $329.00 | $339.00 | 76 | 32x24¾x14** |
| Z-200M | Mahogany | 329.00 | 339.00 | 76 | 32x24¾x14** |
| Z-200W | Walnut | 333.00 | 343.00 | 76 | 32x34¾x14** |

**(incl. 4½" legs)

*Designed by: Arthur A. Janszen

**Products of NESHAMINY ELECTRONIC CORP., Neshaminy, Pa.**

Export Division: 25 Warren Street, N.Y.C. 7, Cable Simontrice, N.Y.

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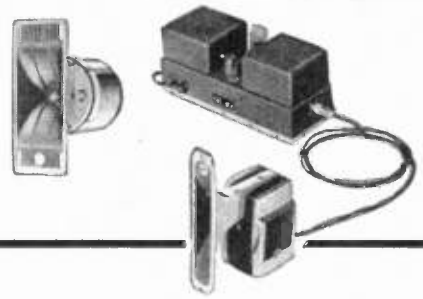
World Radio History

# HIGH FIDELITY by

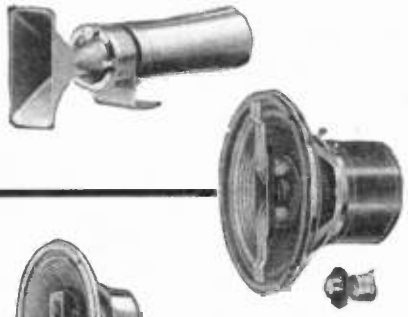
# Electro-Voice®

There is no finer choice than Electro-Voice component high fidelity . . . for here is music faithfully recreated in iridescent brilliance . . . every tantalizing nuance of mood, meaning and tone. But there's more here than superlative sound. The flexibility inherent in the design of E-V custom components complements your musical taste, pleases your budget, integrates with the decor of your home concert hall.

**New!** Ultra-Sonax and Super-Sonax VHF drivers with Avedon Sonophase throat design for cleaner, extended highs . . . and Ionovac, the revolutionary ionized air tweeter, distortion free to beyond 40 kc.



**New!** Unique mid-range assemblies with coaxial drivers. Single diaphragm, open on either side, propagates mid-bass through an exponential horn . . . treble range is dispersed to the front through a diffraction horn.



**New!** Improved integrated 3-way loudspeaker systems use efficient extended-range Super-Sonax VHF drivers and E-V Radax principle for exceptional reproduction in one compact assembly.

PHASE-LOADED

TRADE MARK

**New!** Phase-Loaded enclosures combine high style and functional design with new advances in enclosure acoustics. Matching equipment consoles provide a convenient and attractive addition to your music center.

**And . . . amplifiers, preamps, fm-am tuners, drivers, multi-way systems, do-it-yourself kits**

*See your E-V high-fidelity distributor or write for descriptive literature.*

**ELECTRO-VOICE, INCORPORATED**
**BUCHANAN, MICHIGAN**



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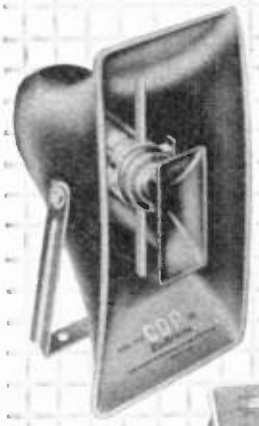
World Radio History

# Electro-Voice P. A. PROJECTORS AND ACCESSORIES



848

848LT

847

844

MUSICASTER

876

RE35

## FOR PERFECT VOICE PENETRATION

**Electro-Voice Compound Diffraction Projector*** provides a loudspeaker system so advanced in concept—so efficient in performance—that there is no basis for comparison with conventional P. A. reentrant horns. The CDP works in the same manner as an optical slit. When the slit width is of a shorter dimension than the wave length of the sound it passes, the sound energy is highly dispersed in the direction of this short dimension. Polar response of the CDP is phenomenal.

An increase in efficiency of three db over multicellular horns is achieved with better dispersion. There is no pinpointing effect since there are no cells to beam the sound path. Elimination of multiple throats at the driver mouth permits greater high-frequency efficiency as compared to multicellular horns.

The bell and diaphragm are fabricated of molded fibreglass. Other parts are diecast zinc and steel treated against corrosion. Edgewise-wound copper ribbon voice coil puts 30% more conductor in the gap, raises the efficiency 20%. In tests the CDP driver has been subjected to months of continuous operation under 30 watts of power at 60 cycles AC without failure for any reason whatsoever. Should it become necessary, the diaphragm is easily replaced in a moment. Silver contacts eliminate the need for soldering operations. The CDP provides superior coverage of the listening area with fewer units and at far lower cost. It is weatherproof, splashproof, blastproof, virtually indestructible. The CDP represents something so entirely new in public address efficiency and fidelity that it is indeed hard to believe such reproduction is possible.

**Model 848 30-Watt CDP**—Conservatively rated at 30 watts, the Model 848 provides peak-free response 150 to 12,000 cps—delivers 2½ octaves more musical range than usual P.A. units. Speech articulation index is substantially increased. Polar distribution pattern exceeds 120°. Utilizes two coaxially mounted horns working from opposite sides of a single diaphragm. Each horn is designed for optimum reproduction within its own range. Lower response is augmented by 100-cps horn taper, which insures at least one-half octave added bass over that possible from larger conventional P.A. horns. The attractive neutral gray color is molded right into the bell material, which is impervious to acids, alkalies and most solvents. Hang up bracket has two mounting positions. Projector may be installed horizontally or vertically for augmented dispersion. 16 ohms impedance. Dimensions at mouth 10½" wide, 20½" high. Overall depth, 20". Shipping Weight, 17 lbs. List Price ..... **$75.00**

**New Model 848LT Long Throw CDP**—Similar to 848 CDP, but contains 1000 cycle concentrating horn to limit dispersion to a selected area. Allows pin-pointing sound to a selected audience, with increased sound level on axis. Retains same wide range and smooth frequency response as standard 848 CDP. Range Response: 150 to 12,000 cps; Power Handling Capacity: 30 watts; Dispersion: 30°; Nominal Impedance: 16 ohms; Size (HWD) 20½" x 10½" x 21"; Net Weight: 16 lbs. 1 oz.; Shipping Weight: 17½ lbs. List Price ..... **$75.00**

**Model 847 25-Watt CDP**—Compact, extremely efficient wide-range paging unit. Has low distortion and gives high articulation, permitting lower volume levels with high intelligibility. Response 200 to 13,000 cps, allows clear, clean music reproduction because of unusual low-frequency balance. EIA sensitivity rating is 51 db. Polar coverage is 135 degrees; power handling is 25 watts. Impedance is 16 ohms. Weatherproof, splashproof and blastproof. Size 11¼" wide, 7¾" high, 10" deep. Shipping Weight, 7 lbs. List Price ..... **$46.33**

**New Electro-Voice 844 Paging Unit**—The Electro-Voice Model 844 Paging Unit is a compact, general purpose speaker system, designed for high intelligibility, rugged construction, and economical use. The 844 consists of a diecast reentrant horn, a detachable 30-watt driver, and a universal mounting bracket. Its high power handling capacity combined with excellent intelligibility and rugged construction make the 844 ideal for car-top mounting (such as police cars) and its economical price makes it ideal for use in paging systems. The 844 is tropicalized and weatherproofed for lifetime operation. Response Range: 250 to 13,000 cps. Power Handling Capacity: 30 watts; Nominal Impedance: 8 ohms; Dispersion: 90°; EIA Sensitivity Rating: 51 db; Sound Pressure Level: 120 db; Dimensions: 9⅞" diameter x 8⅞" deep; Net Weight: 5 lbs. 10 oz.; Shipping Weight: 7½ lbs. List Price ..... **$34.50**

**New Electro-Voice Musicaster High-Fidelity Speaker System**—The Electro-Voice Musicaster is a complete, weatherproof high-fidelity speaker system, designed for music reproduction and the most demanding quality public address applications. The Musicaster uses a diecast, back loaded folded horn to extend bass response to 60 cps. High frequencies are directly radiated for extended range and excellent dispersion. The diecast horn is aluminum for light weight, and has provisions for quick mounting in permanent or temporary installations. Integral, diecast feet allow the Musicaster to be placed on any flat surface for portable, carry-round use.
The high power handling capacity of the Musicaster makes it ideal for general coverage public address applications where realistic reproduction is desired, indoors or out. Frequency Response: 60-16,000 cps. Impedance, Nominal: 8 ohms; Dispersion: 120°; Sound Pressure Level: 121 db; Dimensions: (HWD) 21½" x 21½" x 8½". Net Weight: 23 lbs. Shipping Weight: 25 lbs. List Price ..... **$80.00**

## ACCESSORIES FOR CDP

**New Model RE35 Range Extender**—Range extender kit for use with 848CDP. Extends high frequency response beyond the limits of audibility, increases dispersion, and provides smoother frequency response for wide range reproduction. Range extender easily mounts in 848 horn. Comes complete with crossover network, mounting bracket, accessory hardware and all instructions. Response Range: 3500-18,000 cps. Power Handling Capacity: 30 watts (above crossover point). Nominal Impedance: 16 ohms; Crossover Point, 3500 cps; Net Weight: 3½ lbs. Shipping Weight: 4½ lbs. List Price ..... **$40.00**

**New Model HC1000 Concentrating Horn**—Adapts standard 848CDP to 848LT. Diecast concentrating horn replaces standard diffraction horn on 848CDP. Attaches in seconds. Complete with instructions. Size: 9¾" diameter x 5⅞" deep. Net Weight: 3 lbs. 2 oz. Shipping Weight: 4 lbs. List Price ..... **$10.00**

**Model 876 25-Watt Line Matching Transformer**—In protective case for mounting on rear of Model 848 system. Primary taps for 25, 10, 5, and 2.5 watts with 70-volt line. Impedance taps of 45, 200, 500, 1000 and 2000 ohms. Transformer bypasses frequencies below Model 848 horn cutoff. Case extends 3½" behind projector when mounted. 5½" maximum diameter. Shipping Weight, 5 lbs. List Price ..... **$16.50**

**Model 877 Line Matching Transformer**—Same as Model 876, but with added full-range thermal breakable relay for maximum protection against overload. Size: Same as Model 876. Shipping Weight, 5 lbs. List Price ..... **$17.50**

**Model 870 12-Watt Line Matching Transformer** for 844, 847; mounts on side. Primary taps for 12, 8, 4, 2, 1 watts with 70-volt line; impedance taps for 45, 500, 2500 and 5000 ohms. Size 2½" x 2½" x 3". Shipping Weight, 2 lbs. List Price **$12.00**

**Model 879 Joining Kit**—Required for fastening multiple Model 848's together in any array; use one Model 879 kit for each junction between horns. Shipping Weight, 1 lb. List Price ..... **$2.75**

*Design Patent 169,904.
Additional Patent Pending.

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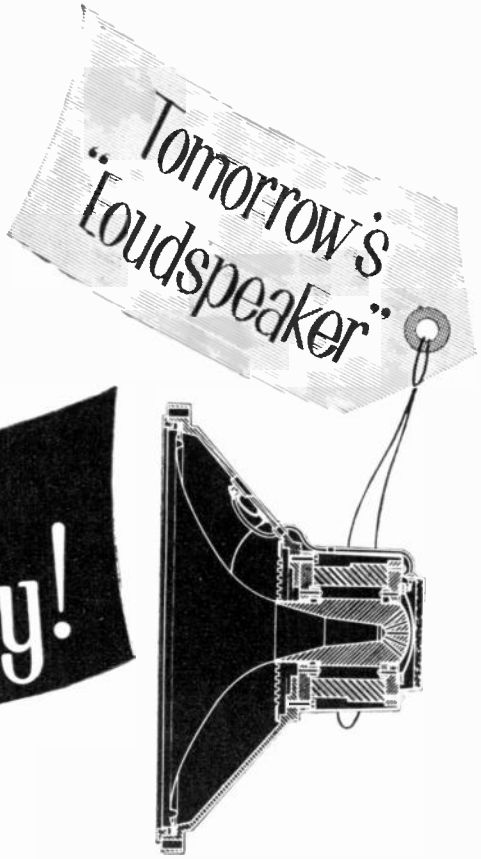
World Radio History

# TANNOY

## DUAL CONCENTRIC

±3dB 35 to 20,000 cps with less than 2% total harmonic distortion. Excellent in monaural systems.

*Superb in stereo.*



The Tannoy Dual Concentric makes the word "loudspeaker" completely out of date. Here is a precision acoustic transducer which sets a new standard in high fidelity reproduction . . . an instrument rather than a mere mechanism, designed with the most exacting American standards firmly in mind, and built by skilled British engineers in the best traditions of British craftsmanship.

## THE TANNOY RANGE INCLUDES:

PRE-AMPLIFIER AND POWER AMPLIFIER
STEREO AND MONAURAL CARTRIDGES
SPEAKERS: 12" & 15" DUAL CONCENTRICS
12" WIDE RANGE DIRECT RADIATOR
HORN LOADED HIGH FREQUENCY TWEETER
12" & 15" LOW FREQUENCY WOOFERS
HORN LOADED 'GRF' SPEAKER SYSTEM

MEMBER INSTITUTE OF HIGH FIDELITY MANUFACTURERS INC.

**Write To Us For Dealership And Literature**

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## TANNOY (AMERICA) LIMITED

East Norwich, L. I., N. Y.



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World Radio History

# STEREO SOUND SYSTEMS
# HIGH FIDELITY REPRODUCERS

## utah RADIO PRODUCTS CO., INC.
HUNTINGTON, INDIANA

### UTAH STEREO SOUND SYSTEMS

**FEATURES:**

- Finger Touch Balance Control
- Modern Simplicity Styling
- Easily Matched Decorators Grille Cloth
- All Speakers Employ 8-12 Ohm Voice Coils

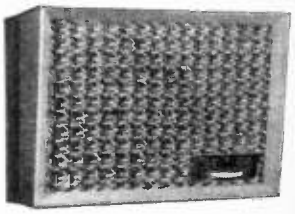
**WALL-DESK OR TABLE MODEL ST101**

Ideal for small offices, your den, or wherever space is at a premium. The applications are unlimited.

Size: 9½" high x 12" wide x 6" deep (max.).

Stereo audio watts: 5.

Available with speaker system B.



ST101

### BOOKSHELF MODEL ST102

A stereo-Flex type enclosure with useability and beauty as its keynotes. It may be used for bookshelves, wall, table, or, by adding legs, made into matching end tables.

Size: 10" high x 20" wide x 10¼" deep.

Stereo audio watts: 10.

Available with speaker system C or D.

### CONSOLE MODEL ST103

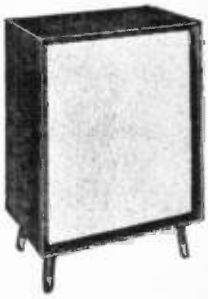
Designed expressely for clean, brilliant stereophonic reproduction. The ST103 has an especially engineered "Preble"—Presence/Brilliance Control—incorporated in the system . . . a Utah listening pleasure plus factor.

This outstanding unit will give unmatched performance, when utilized with a high quality input source and a well designed amplifier.

Size: 30¾" high x 21½" wide x 14" deep.

Stereo audio Watts: 20.

ST103 Model available with speaker system E or F.



ST103

| Wall-Desk Table Model | Speaker System | List Price | Bookshelf Model | Speaker System | List Price | Console Model | Speaker System | List Price |
|---|---|---|---|---|---|---|---|---|
| ST101B | S8EFC | $29.50 | ST102-C | UD8J | $54.95 | ST103E | *UD12S & UDMT8J | $125.70 |
| | | | ST102-D | G8J & GT5FN | 63.50 | ST103F | *G12S, GM8J & GT5FN | 138.50 |
| | | | | | | | *With Presence Control | |

SPECIFY FINISH: W-Walnut; M-Mahogany; O-Oak; F-Fruitwood.

### UTAH CONTINENTAL SERIES
"Line of Distinction"

UTAH • LINE OF DISTINCTION • CONTINENTAL SPEAKERS WITH SENSATIONAL, NEW C-R (CONTROLLED RESPONSE) FEATURE • DISTINCTIVE WRINKLE-GREY FINISH EMPHASIZED BEAUTIFULLY WITH SOFT-GOLD TRIM • SOLDERLESS TERMINALS, PHASE-CODED FOR EASY INSTALLATION • MODELS C8S, C8R, C12S, C12R, AND C15R EQUIPPED WITH CLOTH SKIVER ROLL FOR EXTREME SMOOTHNESS OF FREQUENCY RESPONSE.

C8S

| Model No. | Size and Description | Magnet Weight Ozs. | Voice Coil Dia. | Voice Coil Imp. (Ohms) | Peak Audio Watts | Ship. Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| C8S | 8" Expanded Range | 1 lb. | 2" | 16 | 20 | 6½ | $44.50 |
| C8R | 8" Low Frequency | 2 lbs. | 2" | 16 | 25 | 9 | 50.50 |
| C12S | 12" Expanded Range | 1 lb. | 2" | 16 | 25 | 9½ | 48.50 |
| C12R | 12" Low Frequency | 2 lbs. | 2" | 16 | 30 | 12 | 55.20 |
| C15R | 15" Low Frequency | 2 lbs. | 2" | 16 | 40 | 13 | 61.20 |
| *CT5JN | 5" Hi-Frequency Expanded Range | 6.80 | 1" | 16 | 40 | 3 | 19.25 |

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World Radio History

# HIGH FIDELITY REPRODUCERS
# PUBLIC ADDRESS · TRANSFORMERS

utah

## RADIO PRODUCTS CORP.
HUNTINGTON, INDIANA

### UTAH UNIDRIVE SERIES

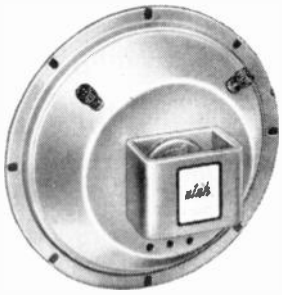
| Model No. | Size | Magnet Weight (Oz.) | Voice Coil Dia. | Voice Coil Imp. Ohms | Peak Audio Watts | Shipping Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| UD8J | 8 | 6.80 | 1 | 8 | 12 | 3 | $17.50 |
| UDMT8J | 8 | 6.80 | 1 | 8 | 25* | 3¾ | 18.95 |
| UD8S | 8 | 1 lb. | 2 | 8 | 20 | 5 | 35.10 |
| UD12J | 12 | 6.80 | 1 | 8 | 15 | 5¾ | 19.95 |
| UD12S | 12 | 1 lb. | 2 | 8 | 25 | 7½ | 39.50 |
| UD15M | 15 | 14.70 | 1¼ | 8 | 25 | 9½ | 39.50 |
| UD69J | 6 x 9 | 6.80 | 1 | 8 | 12 | 2½ | 15.95 |

*UDMT8J PEAK AUDIO WATTS: 25, WITH 600 CYCLE CROSSOVER NETWORK.
Registered Trade Mark

UMT8J

### UTAH FABULOUS "G" SERIES EXTENDED RANGE AND COAXIAL MODELS

| Model No. | Size and Description | Magnet Weight (Ozs.) | Voice Coil Dia. | Voice Coil Imp. (Ohms) | Peak Audio Watts | Shipping Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| G8J | 8" Ext. Range | 6.80 | 1 | 8 | 12 | 3 | $13.80 |
| GM8J | 8" Mid Range | 6.80 | 1 | 8 | 25 W-Crossover | 3 | 13.80 |
| G8S | 8" Low Freq. | 1 lb. | 2 | 8 | 20 | 5 | 32.25 |
| G12J | 12" Ext. Range | 6.80 | 1 | 8 | 15 | 4¾ | 17.30 |
| G12S | 12" Low Freq. | 1 lb. | 2 | 8 | 25 | 7½ | 35.90 |
| G12P | 12" Low-Mid Range | 21.5 | 1½ | 8 | 30 | 7¾ | 39.50 |
| G15P | 15" Low-Mid Range | 21.5 | 1½ | 8 | 35 | 10½ | 42.65 |
| G15R | 15" Low Freq. | 2 lbs. | 2 | 8 | 40 | 12½ | 56.75 |
| G12J3 | 12" Co-Axial | 6.80 | 1 | 8 | 15 | 6½ | 39.75 |
| G12P5 | 12" Co-Axial | 21.5 | 1½ | 8 | 30 | 9½ | 57.50 |
| G15P5 | 15" Co-Axial | 21.5 | 1½ | 8 | 35 | 12 | 65.00 |
| GT5F | 5" Hi-Freq. | 3.16 | ¾ | 8 | 30 | 1¼ | 8.75 |
| GT5FN | 5" Hi-Freq. W/Crossover | 3.16 | ¾ | 8 | 30 | 1¾ | 12.50 |



GM8J

### PUBLIC ADDRESS SPEAKER GROUP

| Group Size | Model Number | Mag. Wt. (Ozs.) | V.C. Dia. | V.C. Imp. (Ohms) | Audio Watts (Nom.) | Ship. Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| "HE" Series | | | | | | | |
| 6" | PA6D | 1.47 | ¾ | 8 | 4 | 1¼ | $ 5.95 |
| 8" | PA8D | 1.47 | ¾ | 8 | 6 | 1¾ | 8.10 |
| Suspreme Series | | | | | | | |
| 8" | PA8M | 14.70 | 1¼ | 8 | 15 | 3¾ | 25.95 |
| 10" | PA10M | 14.70 | 1¼ | 8 | 15 | 4¼ | 27.50 |
| 12" | PA12M | 14.70 | 1¼ | 8 | 20 | 6 | 33.50 |
| 12" | PA12P | 21.50 | 1½ | 8 | 25 | 7¾ | 39.50 |
| 15" | PA15P | 21.50 | 1½ | 8 | 25 | 12¼ | 42.65 |
| 15" | PA15R | 31.80 | 2 | 8 | 35 | 13¼ | 56.75 |
| Deluxe Series | | | | | | | |
| 6" | PA6F | 3.16 | ¾ | 8 | 6 | 1½ | 7.50 |
| 8" | PA8F | 5.16 | ¾ | 8 | 8 | 2 | 10.50 |
| 8" | PA8J | 6.80 | 1 | 8 | 8 | 3¼ | 13.80 |
| 10" | PA10J | 6.80 | 1 | 8 | 8 | 3¾ | 14.95 |
| 12" | PA12J | 6.80 | 1 | 8 | 8 | 4½ | 17.30 |

G12S

### UTAH TRANSFORMER REPLACEMENT

| Model No. | Style | IMPEDANCE Primary | IMPEDANCE Secondary | Nom. Watts | Core Size | DIMENSIONS | | | Ship. Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 1633 | A | 500-1000<br>1500-2000 | 3-4 & 6-8 | 4 | ½ x ½ | 1 5/16 | 1 11/16 | 1¼ | ½ | $2.95 |
| 8747 | B | 500-1000<br>1500-2000 | 3-4 & 6-8 | 8 | ⅝ x ⅝ | 1⅝ | 1 13/16 | 1⅜ | ¾ | 3.19 |
| 8749 | C | 500-1000<br>1500-2000 | 3-4 & 6-8 | 12 | ¾ x ¾ | 2 5/16 | 1 15/16 | 1½ | 1¼ | 3.85 |

PA8M

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World Radio History

# UTONE FAMOUS LINE • WALL BAFFLES
## WALL • CORNER • ANGLE CORNER

utah

**RADIO PRODUCTS CORP.**
HUNTINGTON, INDIANA

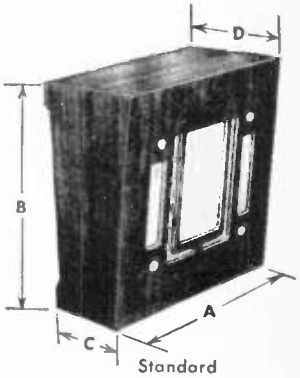
### UTONE STANDARD LINE BAFFLES

**Wall Style**

| Size | MODELS Mahogany | MODELS Blonde | A | B | C | D | Price List |
|---|---|---|---|---|---|---|---|
| 6" | MB-6 | BB-6 | 8¼" | 9⅜" | 2 11/16" | 4⅝" | $ 5.95 |
| 8" | MB-8 | BB-8 | 9¾" | 10 11/16" | 3⅞" | 5 13/16" | 7.50 |
| 10" | MB-10 | BB-10 | 11⅝" | 12½" | 4 11/16" | 6 13/16" | 8.95 |
| 12" | MB-12 | BB-12 | 13⅞" | 14⅞" | 5 1/16" | 8 5/16" | 11.50 |

**Corner Style**

| Size | MODELS Mahogany | MODELS Blonde | A | B | C | List Price |
|---|---|---|---|---|---|---|
| 8" | CM-8 | CB-8 | 9½" | 9½" | 6¼" | $ 6.75 |
| 12" | CM-12 | CB-12 | 13½" | 13½" | 8¾" | 10.50 |



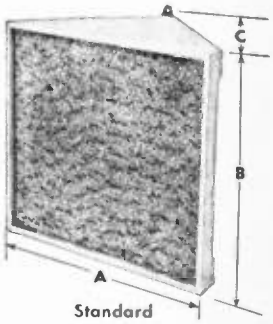
Standard Wall Style

### DeLUXE SERIES BAFFLES

| Size | MODELS Mahogany | MODELS Blonde | A | B | C | D | Price List |
|---|---|---|---|---|---|---|---|
| 8" | DM-8 | DBB-8 | 12" | 9½" | 4 5/16" | 6" | $10.50 |
| 12" | DM-12 | DBB-12 | 17" | 13½" | 5⅞" | 8 5/16" | 14.95 |

**Corner Style**

| Size | MODELS Mahogany | MODELS Blonde | A | B | C | D | E | List Price |
|---|---|---|---|---|---|---|---|---|
| 8" | DCM-8 | DCB-8 | 15½" | 14" | 4¼" | 8⅛" | 7¾" | $12.10 |
| 12" | DCM-12 | DCB-12 | 19½" | 17⅞" | 6½" | 10¼" | 12" | 16.60 |



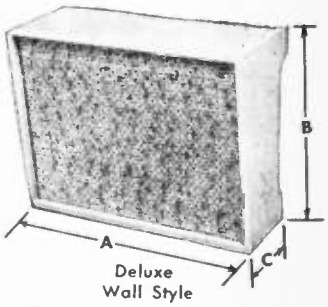
Standard Corner Style

### UTONE BAFFLE ADAPTER BOARDS*

AVAILABLE FOR MOUNTING 5", 6", 8" and 10" speakers in 6", 8", and 12" baffles.

| Model Number | Speaker to Baffle | List Price |
|---|---|---|
| AD-56 | 5" speaker to 6" baffle | $ .75 |
| AD-68 | 6" speaker to 8" baffle | .90 |
| AD-810 | 8" speaker to 10" baffle | 1.10 |
| AD-812 | 8" speaker to 12" baffle | 1.25 |
| AD-1012 | 10" speaker to 12" baffle | 1.25 |

*For use in Standard Corner, Standard and Deluxe wall styles only.

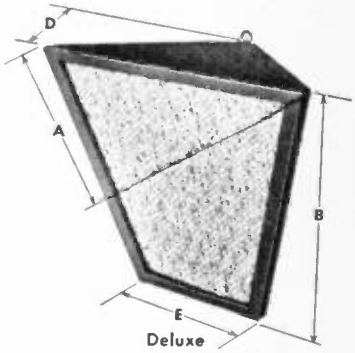


Deluxe Wall Style

### UTONE SIDE PANEL ADAPTER KIT

Complete conversion kit for adapting UTONE CORNER BAFFLES to flat wall mounting for directional applications.

| Size | Kit Model No. | Finish | Use With Utone Baffle—Model No. | List Price |
|---|---|---|---|---|
| 8" | CP8M | Mahogany | CM-8 | $1.50 |
| 12" | CP12M | Mahogany | CM-12 | 2.25 |
| 8" | CP8B | Blonde | CB-8 | 1.50 |
| 12" | CP12B | Blonde | CB-12 | 2.25 |



Deluxe Corner Style

### UTAH CONDUIT BOX ADAPTER KIT

Mounting bracket designed specifically for installing Utone Standard and Deluxe Wall Baffles to standard acoustical outlet boxes.

| Model No. | List Price |
|---|---|
| Z-701 | $1.00 |

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World Radio History

# THE WIDEST LINE OF REPLACEMENT SPEAKERS AVAILABLE TO THE TRADE

utah

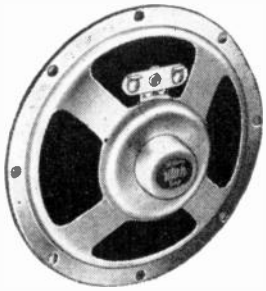
## RADIO PRODUCTS CORP.
HUNTINGTON, INDIANA

### MICRO-GAP SPEAKERS

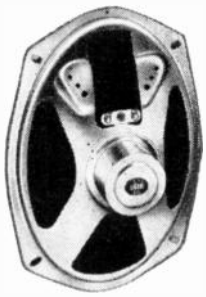
| Model No. | Size and Description | Magnet Weight (Oz.) | Voice Coil Dia. | Voice Coil Imp. Ohms | Peak Audio Watts | Shipping Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| SP25A | 2½" Sq. | .68 | 9/16 | 3-4 | 2 | ¼ | $ 3.95 |
| SP27B | 2¾" Rnd. | 1.00 | 9/16 | 3-4 | 2 | ½ | 4.90 |
| SP3A | 3" Sq. | .68 | 9/16 | 3-4 | 3 | ½ | 3.90 |
| *†SP35A | 3½" Sq. | .68 | 9/16 | 3-4 | 3 | ¾ | 3.95 |
| *†SP35B | 3½" Sq. | 1.00 | 9/16 | 3-4 | 3 | ¾ | 4.35 |
| SP4Y | 4" Sq. | .53 | 9/16 | 3-4 | 4 | ½ | 2.95 |
| SPL4A | 4" Sq. | .68 | 9/16 | 3-4 | 4 | ½ | 3.35 |
| *†SP4A | 4" Sq. | .68 | 9/16 | 3-4 | 4 | ¾ | 3.95 |
| *†SP4B | 4" Sq. | 1.00 | 9/16 | 3-4 | 4 | 1 | 4.35 |
| SP4D | 4" Sq. | 1.47 | ¾ | 3-4 | 5 | ¾ | 4.45 |
| SP5Y | 5" P.C. | .53 | 9/16 | 3-4 | 4 | ½ | 3.50 |
| SPL5A | 5" P.C. | .68 | 9/16 | 3-4 | 4 | ½ | 3.80 |
| SPR5A | 5" Rnd. | .75 | ¾ | 3-4 | 4 | ¾ | 3.90 |
| *†SP5A | 5" P.C. | .68 | 9/16 | 3-4 | 4 | ¾ | 4.10 |
| *†SP5B | 5" P.C. | 1.00 | 9/16 | 3-4 | 4 | 1 | 4.45 |
| SP5D | 5" P.C. | 1.47 | ¾ | 3-4 | 5 | 1 | 4.60 |
| †SP52B | 5¼" P.C. | 1.00 | ¾ | 3-4 | 5 | ½ | 4.75 |
| †SP6A | 6" P.C. | .75 | ¾ | 3-4 | 4 | ¾ | 4.75 |
| †SP6B | 6" P.C. | 1.00 | ¾ | 3-4 | 4 | ¾ | 4.90 |
| †SP6D | 6" P.C. | 1.47 | ¾ | 3-4 | 6 | 1 | 5.40 |
| *†SP6EL | 6" P.C. | 2.15 | ¾ | 3-4 | 8 | 1½ | 5.95 |
| SP7B | 7" P.C. | 1.00 | ¾ | 3-4 | 6 | 1¼ | 5.45 |
| SP8B | 7½" P.C. | 1.00 | ¾ | 3-4 | 5 | 1¼ | 6.45 |
| *SP8D | 7½" P.C. | 1.47 | ¾ | 3-4 | 6 | 1½ | 6.95 |
| SP8E | 7½" P.C. | 2.15 | 1 | 3-4 | 8 | 1½ | 7.25 |
| SP8EF | 8" Rnd. | 2.65 | 1 | 3-4 | 8 | 1½ | 8.10 |
| SP8G | 8" Rnd. | 3.16 | 1 | 3-4 | 10 | 2 | 8.50 |
| *SP8J | 8" Rnd. | 6.80 | 1 | 3-4 | 12 | 3¼ | 9.55 |
| *†SP10D | 10" Rnd. | 1.47 | ¾ | 3-4 | 6 | 2½ | 8.75 |
| †SP10G | 10" Rnd. | 3.16 | 1 | 3-4 | 12 | 2½ | 10.50 |
| *SP12D | 12" Rnd. | 1.47 | ¾ | 3-4 | 6 | 3½ | 10.00 |
| SP12EF | 12" Rnd. | 2.65 | 1 | 3-4 | 8 | 3½ | 11.50 |
| SP12G | 12" Rnd. | 3.16 | 1 | 3-4 | 10 | 4 | 12.50 |
| *SP12J | 12" Rnd. | 6.80 | 1 | 3-4 | 15 | 4¾ | 14.55 |
| SP46Y | 4 x 6 Oval | .53 | 9/16 | 3-4 | 3 | ½ | 3.95 |
| SP46A | 4 x 6 Oval | .75 | ¾ | 3-4 | 4 | ½ | 4.50 |
| SP46B | 4 x 6 Oval | 1.00 | ¾ | 3-4 | 4 | ¾ | 5.00 |
| SP46D | 4 x 6 Oval | 1.47 | ¾ | 3-4 | 5 | ¾ | 5.20 |
| SP57Y | 5 x 7 Oval | .53 | 9/16 | 3-4 | 3 | ¾ | 4.50 |
| SP57A | 5 x 7 Oval | .75 | ¾ | 3-4 | 4 | ¾ | 4.95 |
| SP57B | 5 x 7 Oval | 1.00 | ¾ | 3-4 | 4 | 1 | 5.25 |
| *SP57D | 5 x 7 Oval | 1.47 | ¾ | 3-4 | 5 | 1 | 5.75 |
| *SP57E | 5 x 7 Oval | 2.15 | ¾ | 3-4 | 8 | 1½ | 6.75 |
| *SP69A | 6 x 9 Oval | .68 | 9/16 | 3-4 | 4 | 1 | 6.50 |
| SP69B | 6 x 9 Oval | 1.00 | ¾ | 3-4 | 4 | 1¼ | 6.75 |
| *SP69D | 6 x 9 Oval | 1.47 | ¾ | 3-4 | 6 | 1¼ | 7.40 |
| SP69E | 6 x 9 Oval | 2.65 | 1 | 3-4 | 8 | 1¾ | 8.50 |
| SP69EF | 6 x 9 Oval | 3.16 | 1 | 3-4 | 10 | 2 | 9.40 |
| SP69G | 6 x 9 Oval | 6.80 | 1 | 3-4 | 12 | 3 | 10.95 |
| *SP69J | 6 x 9 Oval | 2.16 | 1 | 3-4 | 8 | 1¾ | 7.75 |

*Models indicated are not powdered iron construction.

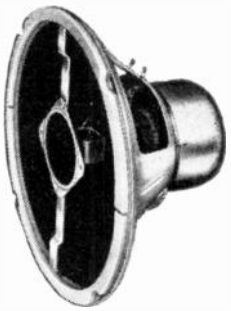
†Models indicated have transformer mounting bracket or facilities Utah's Z-575 exclusive angle mounting bracket for use on Models SP35A, SP35B, SP4A, SP4B, SP5A, SP5B, and SP69A available at 30¢ each.



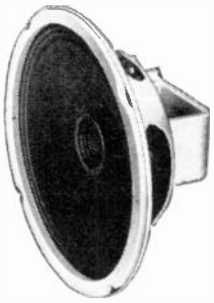
SPR5A



SP69G



CSP12H3



SP8GC

### UTAH SCOTSMAN SERIES • BUDGET PRICED HIGH FIDELITY

| Model No. | Size and Description | Magnet Weight (Oz.) | Voice Coil Dia. | Voice Coil Imp. Ohms | Peak Audio Watts | Shipping Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| CS8G2 | 12" Co-Axial | 3.16 | 1 | 8 | 10 | 3¾ | $18.25 |
| CSP12H3 | 8" Co-Axial | 4.64 | 1 | 8 | 15 | 6 | 25.00 |
| CSP15H5 | 15" Co-Axial | 4.64 | 1 | 8 | 20 | 9 | 39.50 |
| TSP35A | 3½" Hi-Freq. | 1.68 | 9/16 | 8 | 10 | ¾ | 5.50 |
| TSP5D | 5" Hi-Freq. | 1.47 | 8 | 8 | 20 | 1¼ | 6.60 |
| SP8GC | 8" Dual Cone | 3.16 | 1 | 8 | 10 | 3 | 12.95 |
| SP15J | 15" Low & Mid. Rnd. | 6.80 | 1 | 8 | 20 | 6 | 22.75 |

• All models have 8 ohm voice coil impediance • All speakers are of the highest quality but stripped of all expensive unnecessary accessories to bring you "Budget Priced" High Fidelity • The same heavy duty CAD-X electro-plating used on the Outdoor and Automotive speakers. • All coaxial speakers equipped with magnet shields • All magnets of High Energy Alnico V material • Utah's unique ruggedized construction used on all models—seamless cones bonded permanently with adhesives "stronger than steel" to give a lifetime of trouble-free pleasure. • All fibre parts moisture resistant—makes these speakers suitable for difficult applications.

**EXPORT DEPT. FIDEVOX INTERNATIONAL CORP., CHICAGO, ILLINOIS**



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# AUTOMOTIVE REAR DECK SOUND SYSTEMS
## OUTDOOR REPLACEMENT • INTER-COMM • AIRCRAFT

utah

# RADIO PRODUCTS CO., INC.
HUNTINGTON, INDIANA

## AUTOMOTIVE REAR DECK SOUND SYSTEMS

**Deluxe Series**

| Model No. | Size | Speaker Model | List Price |
|---|---|---|---|
| RF57BZ | 5 x 7" | C57BZ | $11.50 |
| RF57EZ | | C57EZ | 12.50 |
| RF69BZ | 6 x 9" | C69BZ | 12.50 |
| RF69EZ | | C69EZ | 13.50 |

**High Fidelity**

| | | | |
|---|---|---|---|
| RFD69E | 6 x 9" | SPD69E | 19.95 |

All the above models are equipped with exclusive Utah Edge-Operated Fader control.
Included in the above systems—Edge-Operated Fader control, one piece mounting grill, sufficient wire for any installation, mounting hardware and Utah Automotive speaker and instruction sheet.

## UTONE "DUO" REAR DECK SPEAKER SYSTEMS

| Model No. | Size | Magnet Weight | List Price |
|---|---|---|---|
| R57A | 5 x 7" | .68 | $ 7.35 |
| R57B | | 1.00 | 7.70 |
| R57DC | | 1.47 | 11.50 |
| R69A | 6 x 9" | .68 | 8.55 |
| R69D | | 1.47 | 9.40 |
| RD69DC | 6 x 9" | 1.47 | 12.50 |

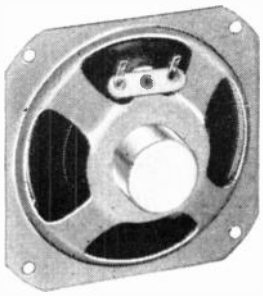
Included in the above systems are: Utah Fader Control, High Energy Permanent Magnet Speaker, One Piece Mounting Grille, Hardware, Wire, and Complete Instructions.

FINISHES—BRUSHED CHROME STANDARD, GREY FINISH
AVAILABLE AT NO EXTRA COST

C69EZ

## AUTOMOTIVE REPLACEMENT SPEAKER GROUP

| Model Number | Size and Description | Magnet Weight | V.C. Diameter Inches | V.C. Imp. | Peak Audio Watts | Shipping Weight | List Price |
|---|---|---|---|---|---|---|---|
| C52BZ | 5¼" Pin. | .45 | ¾" | 3-4 | 2-4 | ½ lb. | $ 5.10 |
| C6BZ | 6" Pin. | 1.00 | ¾" | 3-4 | 4-6 | ¾ lb. | 5.95 |
| C7BZ | 7" Pin. | 1.00 | ¾" | 3-4 | 4-9 | 1¼ lb. | 6.50 |
| C57BZ | 5 x 7" | 1.00 | ¾" | 3-4 | 4-9 | 1 lb. | 5.95 |
| C57EZ | 5 x 7" | 2.15 | 1" | 3-4 | 4-9 | 1¼ lb. | 6.95 |
| SP57DC | 5 x 7" | 1.47 | ¾" | 3-4 | 4-9 | 1¼ lb. | 7.75 |
| C69BZ | 6 x 9" | 1.00 | 1" | 3-4 | 4-9 | 1¼ lb. | 6.95 |
| C69EZ | 6 x 9" | 2.15 | ¾" | 3-4 | 4-9 | 1½ lb. | 7.95 |
| SP69DC | 6 x 9" | 1.47 | ¾" | 3-4 | 4-9 | 1¼ lb. | 9.00 |
| SP69E | 6 x 9" | 2.15 | ¾" | 3-4 | 4-9 | 3 lb. | 16.80 |



SP4BZP

## OUTDOOR REPLACEMENT—3/4" VOICE COIL

| Model No. | Group Size | Magnet Weight | V.C. Imp. | Audio Watts | Shipping Weight | List Price |
|---|---|---|---|---|---|---|
| SP4BZP | 4" | 1.00 | 3-4 | 2-4 | ½ | $6.00 |
| SP4BZO | 4" | 1.00 | 3-4 | 2-4 | ½ | 4.60 |
| SP5BZO | 5" | 1.00 | 3-4 | 2-4 | ½ | 4.75 |

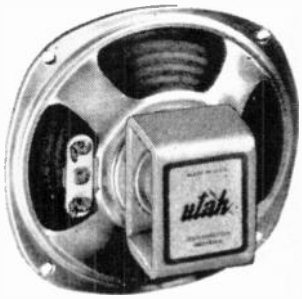
## INTER-COMMUNICATION—9/16" VOICE COIL

| | | | | | | |
|---|---|---|---|---|---|---|
| SP35AI | 3½" | .68 | 45 | 2-4 | ¾ | 3.75 |
| SP4AI | 4" | .68 | 45 | 2-4 | ¾ | 3.95 |
| SP5AI | 5" | .68 | 45 | 2-4 | ¾ | 4.10 |

## AIRCRAFT SPEAKERS

| | | | | | | |
|---|---|---|---|---|---|---|
| A5FI | 5" | 3.16 | 45 | 5-9 | 1¼ | 7.75 |
| A5CI | 5" | 1.47 | 45 | 3-5 | 1 | 6.95 |
| *A5C13 | 5" | 1.47 | 30 | | 1 | 6.95 |

*Designed especially for Aircraft Transistor Inter-communication units.



A5FI

**EXPORT DEPT. FIDEVOX INTERNATIONAL CORP., CHICAGO, ILLINOIS**

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



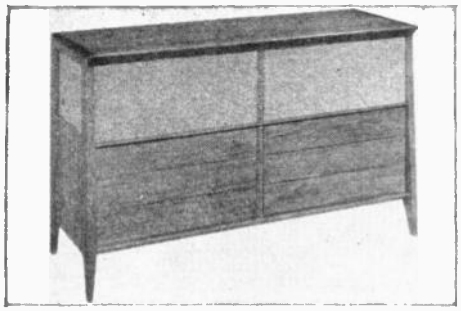
World Radio History

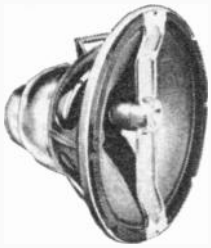
# Jensen

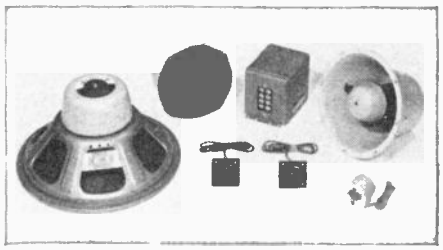
# HI-FI SPEAKERS... REPRODUCERS... ENCLOSURES

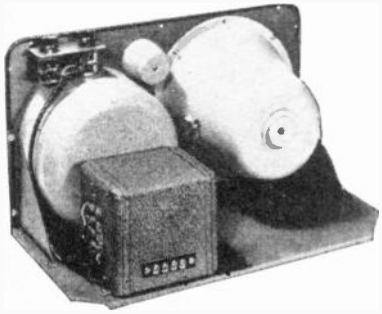
## *for* MONOPHONIC... *for* STEREOPHONIC SOUND

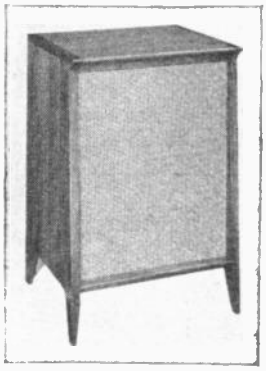
For all your hi-fi speaker needs, whatever the application, choose Jensen, the world's most extensive high fidelity loudspeaker line. Whether it be unitary, 2-way or 3-way assemblies, you'll find the greatest selection and price range in Jensen's Unax, Duax, 3-element, coaxial or Triaxial* (the only true 3-way) loudspeakers . . . for the do-it-yourselfer, there is a wide choice of speaker kits without equal in every price class . . . Jensen complete reproducers incorporate the extreme bass capability of the new amazing "Flexair*" woofer in combination with up-to-the-minute advances in midchannel and super-tweeter design and engineering . . . and they all incorporate the newest high-fashion "Flair Line" living-wise furniture . . . for stereo, the sensational Jensen "Stereo Director*" *that sends the sound to you.* For monophonic . . . for stereophonic sound—Jensen is *the* speaker line for you!

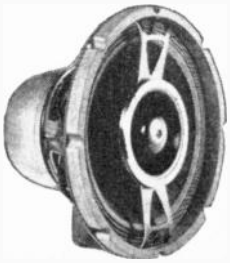












*Complete speaker information is yours upon request—write your dealer for Jensen's newest High Fidelity Catalog—*

*T.M., Patents applied for.



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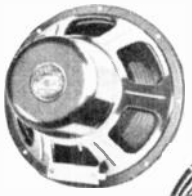
World Radio History

# Jensen Concert & Viking Speakers

## JENSEN CONCERT SERIES SPEAKERS

P314-T


P12-N

P10-S

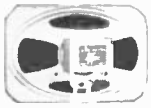
P8-R

P69-V

P57-U

P275-Y

P4-W


P46-W

### CONCERT SERIES PM SPEAKERS

| Nom. Size Inches | Jensen No. | Mag. Wt.,* Oz. | Voice Coil Imp., Ohms | Voice Coil Power Watts | Voice Coil Dia., In. | Dimensions, Inches H. & W. | Dimensions, Inches Depth | Dimensions, Inches Baffle Opening | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 2¾ | P275-Y | 0.65 | 16 | 0.15 | 9/16 | 2¾ | 1.1 | 2 7/8 | $ 6.25 |
| 3 | P3-W | 1.00 | 3.2 | 3.5 | 9/16 | 3 | 1 15/16 | 2 7/8 | 4.30 |
| 3½ | P35-W | 1.00 | 3.2 | 4.0 | 9/16 | 3½ | 2 | 3⅛ | 4.20 |
| 4 | P4-W | 1.00 | 3.2 | 4.5 | 9/16 | 4 5/16 | 2¼ | 3½ | 4.20 |
| 4 | P4-WV | 1.00 | 45 | 4.5 | 9/16 | 4 5/16 | 2¼ | 3½ | 4.35 |
| 4 | P4-V | 1.47 | 3.2 | 5.0 | 9/16 | 4 5/16 | 2¼ | 3½ | 4.80 |
| 4 x 6 | P46-W | 1.00 | 3.2 | 4.5 | 9/16 | 4¼ x 6⅛ | 2 5/16 | 3 11/16 x 5 11/16 | 4.95 |
| 4 x 6 | P46-V | 1.47 | 3.2 | 5.0 | 9/16 | 4¼ x 6⅛ | 2 5/16 | 3 11/16 x 5 11/16 | 5.50 |
| 5 | P5-W | 1.00 | 3.2 | 5.0 | 9/16 | 4¾ | 2 5/16 | 4 | 4.55 |
| 5 | P5-WV | 1.00 | 45 | 5.0 | 9/16 | 4¾ | 2 5/16 | 4 | 4.70 |
| 5 | P5-V | 1.47 | 3.2 | 5.5 | 9/16 | 4¾ | 2 5/16 | 4 | 4.85 |
| 5 | P5-T | 3.16 | 3.2 | 6.0 | ¾ | 4¾ | 2 5/16 | 4 | 7.40 |
| 5¼ | P525-W | 1.00 | 3.2 | 5.5 | 9/16 | 5¼ | 2 5/16 | 4½ | 4.75 |
| 5¼ | P525-V | 1.47 | 3.2 | 6.0 | 9/16 | 5¼ | 2 5/16 | 4½ | 5.25 |
| 5 x 7 | P57-V | 1.47 | 3.2 | 6.0 | 9/16 | 5 x 7¼ | 2⅝ | 4¼ x 6½ | 5.95 |
| 6 | P6-W | 1.0 | 3.2 | 6.0 | 9/16 | 6⅛ | 2¾ | 5¼ | 4.85 |
| 6 | P6-V | 1.47 | 3.2 | 6.5 | 9/16 | 6⅛ | 2¾ | 5¼ | 5.30 |
| 6 | P6-T | 3.16 | 3.2 | 7.5 | ¾ | 6⅛ | 3 5/16 | 5¼ | 7.80 |
| 6 x 9 | P69-V | 1.47 | 4 | 7.5 | 9/16 | 6⅛ x 9⅛ | 3 5/16 | 5¼ x 8⅛ | 7.50 |
| 7 | P7-V | 1.47 | 3.2 | 7.0 | ¾ | 7 | 3⅛ | 6 | 7.00 |
| 8 | P8-U | 1.73† | 3.2 | 9.0 | 1 | 7 11/16 | 3 | 6¾ | 7.65 |
| 8 | P8-T | 2.5‡ | 3.2 | 10.0 | 1 | 7 11/16 | 3 5/16 | 6¾ | 8.90 |
| 8 | P8-S | 4.64 | 8 | 11.0 | 1 | 7 11/16 | 3 13/16 | 6¾ | 11.35 |
| 8 | P8-R | 6.8 | 8 | 12.0 | 1 | 7 11/16 | 4 | 6¾ | 13.25 |
| 10 | P10-T | 2.5‡ | 3.2 | 11.0 | 1 | 10⅛ | 5¼ | 8¾ | 10.75 |
| 10 | P10-S | 4.64 | 8 | 12.0 | 1 | 10⅛ | 5¼ | 8¾ | 14.35 |
| 12 | P12-T | 2.5‡ | 3.2 | 12.0 | 1 | 12⅛ | 6 1/16 | 10½ | 11.80 |
| 12 | P12-S | 4.64 | 8 | 13.0 | 1 | 12⅛ | 6 1/16 | 10½ | 15.85 |
| 12 | P12-R | 6.8 | 8 | 14.0 | 1 | 12⅛ | 6 1/16 | 10½ | 17.35 |
| 12 | P12-P | 14.6 | 8 | 18.0 | 1½ | 12⅛ | 6 7/16 | 10½ | 33.60 |
| 12 | P12-N | 27.0 | 8 | 20.0 | 1½ | 12 7/16 | 7 | 10½ | 52.50 |
| 14 x 3 | P314-T | 3.16 | 3.2 | 7.5 | ¾ | 3½ x 14¾ 16 | 3⅛ | 2¾ x 13⅝ | 12.75 |
| 15 | P15-P | 14.6 | 8 | 20.0 | 1½ | 15⅛ | 8 | 13¾ | 45.25 |
| 15 | P15-N | 27.0 | 8 | 25.0 | 1½ | 15⅛ | 8 | 13¼ | 61.50 |

*All Magnets DP Alnico 5. All 10", 12" and 15" speakers equipped with magnet covers. ‡Performance equivalent to EIA 3.16 oz. †Performance equivalent to EIA 2.15 oz.

### CONCERT SERIES FIELD COIL SPEAKERS

| Nom. Size In. | Model No. | Stock No. | Voice Coil* Power Watts | Voice Coil* Dia. In. | Field Resist. Ohms | Field Power Watts | Dimensions, Inches H. & W. | Dimensions, Inches Depth | Dimensions, Inches Baffle Opening | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | F4-X | ST-196 | 3.5 | 7/16 | 450 | 4.5 | 4⅛ | 2¼ | 3½ | $4.50 |
| 5 | F5-X | ST-882 | 4.0 | 9/16 | 85 | 4.5 | 4¾ | 2 1/16 | 4 | 4.65 |
| 5 | F5-X | ST-194 | 4.0 | 9/16 | 450 | 4.5 | 4¾ | 2 1/16 | 4 | 4.65 |
| 5 x 7 | F57-W | ST-884 | 5.5 | 9/16 | 85 | 5.0 | 5 x 7¼ | 2¾ | 4¼ x 6½ | 6.25 |
| 6 | F6-X | ST-189 | 5.0 | 9/16 | 450 | 4.5 | 6⅛ | 2 5/16 | 5¼ | 5.50 |

*All Voice Coil Impedances are 3.2 Ohms.

### CONCERT SERIES SPECIAL OVAL GROUP FOR AUTO USE

| Nom. Size Inches | Model No. | Mag. Wt.* Oz. | Voice Coil Imp. Ohms | Voice Coil Power Watts | Voice Coil Dia. In. | Dimensions, Inches H. & W. | Dimensions, Inches Depth | Dimensions, Inches Baffle Opening | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 5 x 7 | P57-U | 1.73† | 3.2 | 8.0 | 1 | 5 x 7¼ | 2½ | 4¼ x 6½ | $7.20 |
| 5 x 7 | P57-T X§ | 2.5‡ | 3.2 | 9.0 | 1 | 5 x 7¼ | 2 9/16 | 4¼ x 6½ | 8.35 |
| 6 x 9 | P69-U | 1.73† | 3.2 | 9.0 | 1 | 6⅛ x 9⅛ | 3⅛ | 5¼ x 8⅛ | 7.80 |
| 6 x 9 | P69-T | 2.5‡ | 3.2 | 10.0 | 1 | 6 x 9¼ | 3 5/16 | 5¼ x 8⅛ | 8.65 |
| 6 x 9 | P69-T X§ | 2.5‡ | 3.2 | 10.0 | 1 | 6 x 9¼ | 3 5/16 | 5¼ x 8⅛ | 8.95 |

§High Fidelity Model. *All Magnets DP Alnico 5. †Performance Equivalent to EIA 2.15 oz. ‡Performance Equivalent to EIA 3.16 oz.

## JENSEN VIKING SERIES REPLACEMENT SPEAKERS

12J10, 10J10

7J9

6J6, 8J9

57J9

525J6

46J6

35J6

| Nom. Size In. | Model No. | Mag. Wt. Oz.† | Pwr. Watts | V.C. Dia. In.* | Dimensions in Inches H. & W. | Dimensions in Inches Depth | Dimensions in Inches Baffle Opening | List Price |
|---|---|---|---|---|---|---|---|---|
| 3 | 3J6* | 0.85 | 3.0 | 9/16 | 3 | 1 1/16 | 2 | $3.70 |
| 3½ | 35J6* | 0.85 | 3.5 | 9/16 | 3½ | 1 9/16 | 3¼ | 3.60 |
| 4 | 4J6* | 0.85 | 4.0 | 9/16 | 4⅜ | 1¾ | 3½ | 3.60 |
| 4 x 6 | 46J6‡* | 0.85 | 4.0 | 9/16 | 4⅜ x 6⅛ | 1 15/16 | 3 11/16 x 5 11/16 | 4.70 |
| 5 | 5J6 | 0.85 | 4.5 | 9/16 | 5 | 1 15/16 | 4 | 4.05 |
| 5¼ | 525J6* | 0.85 | 5.0 | 9/16 | 5¼ | 2⅛ | 4¼ | 4.15 |
| 5 x 7 | 57J9‡ | 1.47 | 6.0 | ¾ | 5 x 7¼ | 2 9/16 | 4¼ x 6¼ | 5.85 |
| 6 | 6J6* | 0.85 | 5.5 | 9/16 | 6⅛ | 2 1/16 | 5¼ | 4.35 |

| Nom. Size In. | Model No. | Mag. Wt. Oz.† | Pwr. Watts | V.C. Dia. In.* | Dimensions in Inches H. & W. | Dimensions in Inches Depth | Dimensions in Inches Baffle Opening | List Price |
|---|---|---|---|---|---|---|---|---|
| 6 x 9 | 69J9‡ | 1.47 | 7.5 | ¾ | 6 x 9⅛ | 2 9/16 | 5¼ x 8⅛ | $6.50 |
| 7 | 7J9 | 1.47 | 7.0 | ¾ | 7 | 2 9/16 | 6 | 6.25 |
| 8 | 8J9 | 1.47 | 8.0 | ¾ | 7 11/16 | 2 9/16 | 6¾ | 6.25 |
| 10 | 10J10 | 1.73 | 10.0 | 1 | 10⅛ | 3⅞ | 8¾ | 9.00 |
| 12 | 12J10 | 1.73 | 11.0 | 1 | 12⅛ | 4½ | 10½ | 10.00 |

*3.2 ohm voice coils †Alnico 5 magnets. ‡Oval design *CTM-1 univ. mtg. bracket free on request; also holds 1½" sq. transformer.

632-58A



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World Radio History

# Jensen Professional Series

D-30

D-40

DD-100

## NEW HYPEX* LIFETIME DRIVER UNITS

The new Jensen Hypex* Lifetime Driver Units have many new features which contribute to increased performance and reliability. Frequency range is based on achieving substantially higher conversion efficiency, higher power ratings and improved reliability over comparable units previously available, while affording good fidelity in the reproduction of speech and music. Lower cutoff frequency is somewhat below those of the horns with which they will be used; the specifications show the maximum upper limiting frequencies, but response has been shaped to give emphasis to the 3-5 kc region, which is extremely important in high efficiency sound projection. As a result of these design choices and special research on ruggedization, the D-30 can be rated at 30 watts speech and music, D-40 at 40 watts, and a **Lifetime Guarantee extended against failure under normal conditions of use!**

The DD-100 100-watt superpower Driver Unit, similarly guaranteed, is the first double acting integrated sound chamber driver unit ever to be offered; it is also the first 100 watt unit available, achieving a higher power input rating to a single projector or an array, than has ever been possible before.

Magnetic structures are the most efficient that research has been able to develop, yielding the highest magnetic energy from the generous sized Alnico V magnets which scientific proportioning of magnet material and soft iron structure can provide. Specially shaped reinforced plastic diaphragms combine ruggedness with excellent acoustic properties and freedom from "breakup". Voice Coils are varnish wound, baked and aged on treated, heat and moisture resistant bobbins, resulting in a rigid assembly that is indestructible in normal service. Berylium copper leads are indefinitely fatigue-resistant. Models D-40 and DD-100 have precision self-centering moving system assemblies which are added insurance for dependability under severe operating conditions. External leads connect to heavy binder screw terminals; added reliability for wiring is provided by strain reliefs on all units. All units are threaded 1⅜"-18.

### SPECIFICATIONS

| Model | Power Rating† | Impedance | Frequency Range | Length | Diameter | Weight, lbs. Net | Weight, lbs. Shpg. | List Price |
|---|---|---|---|---|---|---|---|---|
| D-30 | 30 w. | 16 ohms | 75-7,000 cps | 4 7/16" | 4½" | 3¼ | 3½ | $27.50 |
| D-40 | 40 w. | 16 ohms | 75-10,000 cps | 4 7/16" | 4½" | 4 | 4¼ | 36.00 |
| DD-100 | 100 w. | 8/32 ohms | 75-10,000 cps | 5 7/16" | 8½" | 7½ | 8 | 96.50 |

†Integrated speech and music program material. For sine wave or siren signal input, reduce ratings one-half. Ratings apply only for frequencies above horn cutoff.

HF-100

VH-91A

VR-11

## JENSEN COMPLETE HYPEX* PROJECTORS

### HF-100 WEATHERPROOF TWO-WAY HIGH FIDELITY PROJECTOR

Here is a real high fidelity projector for use indoors or out, under all weather conditions. Consists of a heavy duty 8" "woofer" feeding a folded horn plus a horn-loaded compression driver "tweeter". Low frequency unit feeds horn by a combination of direct radiation and phase-inversion bass reflex ports for superior efficiency in the low frequency region. The high frequency horn has a 90° fold and is mounted so that the driver unit is at the top, thus providing self-draining and making it impossible for rain, sleet or snow to reach the driver unit.

Horn outer section is spun aluminum with baked enamel finish. Central enclosure is glass fibre reinforced polyester in matching natural molded Modern Tan finish. Sturdy "U" mounting bracket is fully adjustable and positive locking.

**SPECIFICATIONS: HF-100 PROJECTOR**

**Type:** Coaxial assembly of separate low and high frequency units.
**Frequency Range:** 70 to 15,000 cycles.
**Power Rating:** 25 watts.
**Impedance:** 16 ohms.
**Rated Coverage Angle:** 120°.
**Overall Diameter:** 24⅛".
**Overall Depth:** 11¾".
**Net Weight:** 23 lbs.
**Shipping Weight:** 30 lbs.
**HF-100**—List Price **$129.50.**

Jensen VH-91A and VR-11 Hypex* projectors are the most compact in the line and their use is indicated where speech reproduction is the only important consideration and where size or cost are controlling factors. Designed for maximum efficiency in the upper frequency range, these units provide excellent penetration of noise. Small in size, they can also be located near areas of extreme noise. Magnetic structures are highly efficient, using Alnico V magnets in ample soft iron structures. Corrosion-resisting finishes and materials such as plastic cloth base diaphragms insure long life under outdoor and industrial atmospheric conditions. For further protection driver units are completely enclosed inside the rigid outer shell.

### MODEL VH-91A HYPEX* PROJECTOR

Equipped with new universal mounting bracket for adjustment in any direction and secure locking with a single wing nut. Extremely rigid vibration-proof clamping allows three hole flange mounting on flat surface, single hole mounting with ¼" lag or machine screw through center, or mounting on top of standard ½" pipe

### MODEL VR-11 HYPEX* RADIAL PROJECTOR

For application requiring 360° coverage in horizontal plane, such as low ceiling industrial areas. Equipped with sturdy eye-bolt for clamping or suspension from above.

### SPECIFICATIONS

| Model | Power Rating | Impedance | L-F Range | Mouth Dia. Over All | Over All Lgth. | Air Column Path Lgth. | Rated Coverage Angle | Net Wt. Lbs. | Shpg. Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| VH-91A | 15 | 8 | 300 | 8⅝" | 7 7/16" | 16" | 100° | 3⅛ | 3¼ | $35.80 |
| VR-11 | 15 | 8 | 280 | 11" | 10⅛" | 18" | 360° | 4 | 5 | 46.50 |

## BV-1 BLAST VALVE

The BV-1 Blast Valve is an accessory device for protecting the driver unit from high pressures due to explosive forces. Valve is the same as used in Jensen military blastproof loudspeakers. Under the positive blast pressure phase, the valve moves inward to seal off the driver unit from the horn throat. On the negative phase the valve moves outward, again effecting a seal. With the valve in neutral position, attenuation of sound is negligible. Screws between horn and driver unit. Overall diameter 3". Fits all Jensen driver units and horns.

Net weight, ½ lb. Shipping Weight, ¾ lb.
**BV-1**—List Price **$15.00.**

*T. M. Reg. Jensen Mfg. Co.

78X-58A


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World Radio History

# Jensen *Professional Series*

H-150

H-200

H-240

## NEW JENSEN HYPEX* PROJECTOR HORNS

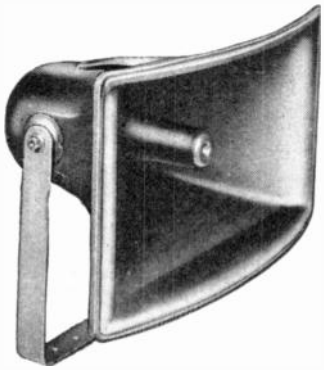
These new projector horns are acoustically coordinated in design for best performance with Hypex* Driver Units D-30, D-40 and DD-100, any one of which may be used on any of the horns. The horn expansion formula is the hyperbolic exponential (U. S. Patent 2,338,262) providing low frequency reproduction superior to that obtained with conventional horns of the same mouth size. Horns (with the exception of RT-20) are spun aluminum with weather-resistant baked tan enamel finish. Horns are threaded 1¾"-18 and may be used with any driver units with this thread. Sturdy steel mounting "U" brackets allow horn to point in any desired direction; horn locks in desired position by means of new positive action trunnion clutches

(See separate description and specifications on RT-20 Rectangular Horn).

| Specifications | H-150 (15") | H-200 (20") | H-240 (24") | R-242 (24" Radial) |
|---|---|---|---|---|
| Mouth diameter, over all | 15¾" | 20¾" | 25¼" | 25¼" |
| Length, over all (less driver) | 12" | 14 7/16" | 20 9/16" | 14½" |
| Air column length | 31" | 41" | 59" | 40" |
| Low frequency cutoff | 200 cycles | 150 cycles | 120 cycles | 140 cycles |
| Rated coverage angle | 95° | 85° | 75° | 360° |
| Net weight (less driver) | 6 lbs. | 8½ lbs. | 12¾ lbs. | 10½ lbs. |
| Shipping weight | 7¾ lbs. | 12¾ lbs. | 19¾ lbs. | 14½ lbs. |
| List price | $26.00 | $31.00 | $45.00 | $47.00 |

*T.M. Reg. Jensen Mfg Co.

R-242

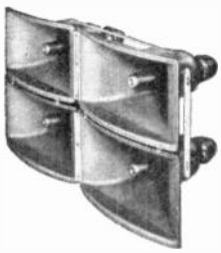


## MODEL RT-20 RECTANGULAR HORN

These versatile new horns may be used in a variety of ways to provide projector systems of almost any desired directional characteristics and total power rating. They may be used singly just as round horns are used and in such cases, the rectangular shape is frequently an advantage in appearance, minimizing obstruction to vision, and facilitating mounting.

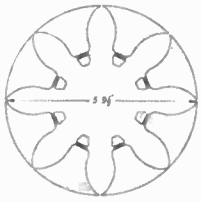
RT-20 Horns are designed so that they may be stacked in plane or circular arrays. Eight units, each with a geometric sector angle of 45 degrees, form a complete circle with a diameter of 5' 9½", giving 360° horizontal coverage. Fewer units are used where less than 360° coverage is required as indicated below:

| Number of Units | Horizontal Coverage Angle |
|---|---|
| 1 | 80° |
| 2 | 125° |
| 3 | 170° |
| 4 | 215° |
| 5 | 260° |
| 6 | 305° |
| 8 | 360° |



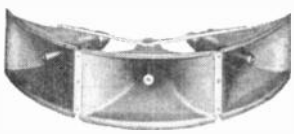
Horns may be "double decked," which will concentrate the sound in a narrower angle in the vertical plane. A stack two units high will give a vertical coverage angle of approximately 30 degrees; at the same time, there is a gain in sound pressure on the axis of 2.5 db, due to the restricted angle of radiation.

The horn is molded of high impact strength glass fibre reinforced polyester. Natural molded finish in Modern Tan color.




### SPECIFICATIONS—RT-20

**Mouth Size:** 25" wide by 12½" high.
**Horn Length,** overall, less driver: 16¾".
**Air Column length:** 41".
**Low Frequency cutoff:** 140 cycles.
**Rated Coverage angle:** 80° horizontal. (See data for arrays).
**Net Weight,** less driver unit: 10¾ lbs.
**Shipping Weight:** 15 lbs.
**RT-20**—Horn only. List Price.....$46.50



## ACCESSORIES

### MA-1 PIPE ADAPTER

A sturdy malleable iron casting which bolts to the "U" bracket of Hypex* Projector Horns and provides ¾" pipe thread for pipe mast mounting. Baked tan enamel finish.
Net weight: ¾ lb.
Shipping Weight: 1 lb.
**MA-1** – List Price **$2.30.**

### MA-3 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns side by side.
Net weight: 2¼ lbs.
Shipping Weight: 2¾ lbs.
**MA-3** – List Price **$5.30.**

### MA-4 STACKING HARDWARE

Complete set of hardware for joining two RT-20 horns double decked.
Net weight: 1½ lbs.
Shipping Weight: 2 lbs.
**MA-4**—List Price **$4.60.**



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World Radio History

# Jensen *Professional Series*

## JENSEN SPEECH MASTER LOUDSPEAKERS

JENSEN Speech Master loudspeakers are specialized units designed for applications where highly intelligible speech reproduction is a prime requisite. Good basic design and sturdiness of construction as well as pleasing appearance and functional styling are outstanding features of these units. All loudspeakers in this group use high efficiency direct radiator driver units of the permanent magnet type.

AP-10

AR-10

RK-61

P5-VC

### MODEL AP-10 SPEECH MASTER

Attractively styled desk type unit. Heavy cast base with felt pad. Specially designed for superior intelligibility in the presence of static and acoustic background noise. Excellent "talk-back" characteristics. Driver Unit, a sturdy 5" speaker, fully enclosed with protective front screen. Mounting facility for ½" x ½" transformer (inside cover) locking tilt adjustment. Power rating, 5 watts maximum speech signal. 36" rubber cable. 6¼" H.; 5⅛" D.; 5" W. Gray finish. Shipping Weight 5¼ lbs.
**ST-590.** 3-4 ohms. List Price **$19.30.**
**ST-591.** 45-50 ohms. List Price **$20.30.**

### MODEL AR-10 SPEECH MASTER PROJECTOR

Specially designed for intercom and paging systems. Reentrant horn directs sound and adds speech range efficiency. Used in factories, warehouses, garages, etc. Sturdy P5-VC driver shielded from direct exposure. ½" x ½" transformer fits in cover. Power rating 6 watts. 22" rubber cord. 10" dia. Gray hammer finish. Shipping Weight 6½ lbs.
**ST-643.** 3-4 ohms. List Price **$23.50.**
**ST-644.** 45-50 ohms. List Price **$24.50.**

### MODEL RK-61 "CORRIDOR" SPEECH MASTER

Designed for two-direction sound in corridor or office. Heavy steel case perforated on both sides for high quality speech coverage in both directions protected heavy duty 6" loudspeaker driver unit. Sturdy mounting bracket welded to case provides flexibility in installation. Standard ¾" conduit (not supplied) can be used. 24" heavy SJ cable for connections. Transformers up to ⅝" x ⅝" mount on speaker frame inside case. Excellent "talk-back" characteristics. Quality on music is also acceptable for many areas. Power rating 8 watts. Case diameter 8"; thickness 3¼"; overall distance from wall 9¼". Gray hammer finish.
**ST-850.** 3-4 ohms. List Price **$12.60.**

### MODEL P5-VC SPEAKER

This loudspeaker is offered for installation in radio communications, intercom and paging equipment. May be panel mounted, wall mounted or installed in a small case as required with excellent results. Provides the performance of the AP-10 Speech Master in your equipment. Power rating, 5 watts. Depth, 2⅛"; OD, 5"; baffle opening 4"; Shipping Weight 1 lb.
**ST-916.** 3-4 ohms. List Price **$5.30.**

## JENSEN PROFESSIONAL SERIES TRANSFORMERS

### MODEL W-1 WEATHERPROOF TRANSFORMER CASE

Thoroughly weatherproof for permanent outdoor installations for maximum protection to transformers. Designed for upright mounting on U-bracket of Jensen Types H, RT and R Hypex* horns or on pipe by means of clamp. Also suitable for screw mounting to side wall or other flat surface. Accommodates transformers of standard nominal core sizes of 1 x 1, ⅞ x ⅞, ¾ x ¾ and ⅝ x ⅝, with maximum transformer height of 4". Cable entry holes provide for up to four Type SJ cables. Cast aluminum base and spun aluminum cover with bayonet locking. Rich tan baked enamel finish. Complete with transformer mounting and clamp hardware. Net weight 1 lb., shipping weight 1¼ lbs. List **$10.50.**
*T.M. Reg. Jensen Mfg. Co.

### TYPE ZC "CONSTANT VOLTAGE" TYPE TRANSFORMERS

These transformers are designs especially for the distribution systems commonly referred to as 70-volt constant voltage systems. They are designed to draw a predetermined amount of power from a 70-volt line as indicated in the tables. All are mountable in W-1 Weatherproof Transformer Case except ZC-3514, as noted.

Models ZC-100, ZC-200, ZC-300, and ZC-400 are equipped with adjustable terminal board with handy pin jack adjustment for the desired input power. Heavy duty screw terminals are provided for speaker and line connection. Completely impregnated and dip processed for operation in outdoor and industrial atmospheres.

Models ZC-3514 and ZC-3515 are similar except color coded pigtail leads replace the terminal board. Non-weatherproof, recommended for indoor and less severe locations.

| Model No. | Nominal Core Size | Input Watts‡ | Input Imped., Ohms | Sec. Imped., Ohms | Mtg. Ctrs. | List Price |
|---|---|---|---|---|---|---|
| ZC-100 | 1" x 1" | 30 | 167 | 4/8/16 | 3⅛" | $11.50 |
| | | 15 | 333 | | | |
| | | 7½ | 667 | | | |
| ZC-200 | 1" x 1" | 25 | 200 | 4/8/16 | 3⅛" | 13.00 |
| | | 10 | 500 | | | |
| | | 5 | 1000 | | | |
| ZC-300 | ⅞" x ⅞" | 20 | 250 | 4/8/16 | 3⅛" | 9.65 |
| | | 10 | 500 | | | |
| | | 5 | 1000 | | | |
| ZC-400 | ⅝" x ⅝" | 5 | 1000 | 4/8/16 | 2⅛" | 7.00 |
| | | 2½ | 2000 | | | |
| | | 1¼ | 4000 | | | |

Response characteristics:
Type ZC-200: plus or minus 1 db, 30-15,000 cycles.
Type ZC-100, ZC-300, ZC-400:
plus or minus 2 db, 70-10,000 cycles

| Model No. | Nominal Core Size | Input Watts‡ | Input Imped., Ohms | Sec. Imped., Ohms | Mtg. Ctrs. | List Price |
|---|---|---|---|---|---|---|
| ZC-3514* | 1" x 1¼" | 16 | 313 | 3/16 | 2"x2⅛" | $13.00 |
| | | 8 | 625 | | | |
| | | 4 | 1,250 | | | |
| | | 2 | 2,500 | | | |
| ZC-3515 | ⅝" x ⅝" | 4 | 1,250 | 8 | 2⅛" | 4.75 |
| | | 2 | 2,500 | | | |
| | | 1 | 5,000 | | | |
| | | ½ | 10,000 | | | |
| | | ¼ | 20,000 | | | |
| | | ⅛ | 40,000 | | | |

Response Characteristics: plus or minus 1 db 30-15,000 cycles.

*Not mountable in W-1 Case.
‡Marked VA (volt-amperes) on terminals.

### ADJUSTABLE IMPEDANCE TRANSFORMERS

The Type ZY adjustable impedance transformers have long been popular for use on 500-ohm line systems. Equipped with sturdy terminal board with pin jack adjustment of impedance. Type ZL transformers are similar except for solder lug terminals for impedance adjustment and pig-tail secondary leads. Vacuum wax impregnated for general purpose applications. Can be installed in Model W-1 Weatherproof Transformer Case.

| Model No. | Nom. Core Size, In. | Power Rating, Watts | Input Imped., Ohms | Sec. Imped., Ohms | Mtg. Ctrs. | List Price |
|---|---|---|---|---|---|---|
| ZY-2005 | 1x1 | 25 | 500/1000/1500/2000 | 8 | 3⅛" | $11.85 |
| ZY-2003 | ⅞x⅞ | 16 | | 8 | 3⅛" | 9.92 |
| ZY-2002 | ¾x¾ | 10 | | 8 | 2 13/16" | 8.25 |
| ZY-4004 | ¾x¾ | 10 | | 4 | 2 13/16" | 8.25 |
| ZY-4005 | ⅝x⅝ | 6½ | | 8 | 2⅛" | 6.15 |
| ZY-4002 | ⅝x⅝ | 6½ | | 4 | 2⅛" | 6.15 |

Response characteristics:
Plus or minus 2 db, 70-10,000 cycles.

### TYPE "Z" TRANSFORMERS

Model Z-3422 is a high fidelity autotransformer for interconnecting 4, 8 or 16 ohm circuits. Model Z-3345 is particularly designed to properly match 8 ohm loudspeakers and projectors to 45-50 ohm intercommunication systems. Vacuum wax impregnated and mountable in Model W-1 Weatherproof Transformer Case.

| Model No. | Nom. Core Size, In. | Power Rating, Watts | Input Imped., Ohms | Sec. Imped., Ohms | Mtg. Ctrs. | List Price |
|---|---|---|---|---|---|---|
| ZL-2022 | ⅝x⅝ | 6½ | 500/1000/1500/2000 | 8 | 2⅛" | $ 4.65 |
| ZL-2021 | ½x½ | 3½ | | 4 | 2" | 3.75 |
| Z-3422 | 1x1 | 25 | 4/8/16 | ..... | 3⅛" | 8.58 |
| Z-3345 | ⅝x⅝ | 6½ | 45-50 | 8 | 2⅛" | 5.30 |

Response characteristics:
Types ZL-2021, ZL-2022 and Z-3345:
Plus or minus 2 db, 70-10,000 cycles.
Type Z-3422: plus or minus 1 db, 30-15,000 cycles.



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Jensen *Professional Series*

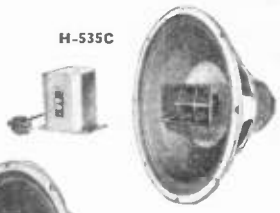
## TWO-WAY AND THREE-WAY UNITARY HIGH FIDELITY LOUDSPEAKERS

These outstanding unitary two-way and three-way loudspeakers have been especially designed for institutional, industrial and commercial sound systems where high fidelity music and realistic voice reproduction are essential. They may be mounted in proscenium arch or underneath a canopy; flush or in small enclosures on walls; in large or small cabinets. In enclosures they may stand on floor or be suspended overhead for large audience coverage. In wide angle coverage of entire frequency range and in sound quality, they are markedly superior to projector type speakers. Ideal for school rooms, auditoriums, arenas and the like.

Moving systems and other parts have been moisture-proofed so that they are highly satisfactory for protected outdoor service where not directly exposed to rain, sleet, or snow. Durable finishes and materials are used throughout. Construction is rugged to insure trouble-free performance indefinitely. Terminals are provided for insertion of fixed or adjustable pads if desired (not furnished—see control listings) in the "tweeter" circuits. All units have full dividing networks (mounted on housing in H-525C and H-225C). Input terminals are screwdriver type. Housing finish is baked tan enamel; horns, etc., at the front of the units are finished in black enamel for minimum visibility through grille cloth. All units are thoroughly dustproofed.

These units incorporate Alnico 5 magnets in highly efficient conservatively designed magnetic structures. Table shows loudness efficiency relative to Model H-225C.

G-615C



H-535C

H-525C

H-225C

| Model No. | Relative Efficiency |
|---|---|
| G-615C | +5 db |
| H-535C | +3 db |
| H-525C | +1 db |
| H-225C | 0 db |

### G-615C 15" THREE-WAY LOUDSPEAKER

The TRIAXIAL®, a unitary three-way loudspeaker, has three electrically and acoustically independent speaker elements, each handling a portion of the frequency range. Separate three-way 600 and 4000 cycle crossover network with provision for easily adding m-f and h-f balance controls (not supplied—see separate listing). Heavy duty curvilinear l-f diaphragm and compression horn-type m-f and h-f units in exclusive Jensen design. Excellent damping and high conversion efficiency. Power rating 35 watts. Impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅝"; depth 10¼"; net weight 29 lbs.; shipping weight 48 lbs.

**Model G-615C**—
List Price **$350.00;**

®T. M. Reg. Jensen Mfg. Co.

### H-535C 15" TWO-WAY LOUDSPEAKER

An outstanding unitary loudspeaker of the coaxial type. Employs a heavy duty low frequency unit with heavy magnet to handle the range below 2000 cycles, with high conversion efficiency and good damping. High frequency range is reproduced by an efficient multicell horn-loaded compression driver unit. Excellent high frequency distribution. Separate plug-connected 2000 cycle crossover network with provision for adding h-f balance pad (not furnished—see separate listing). Impedance 16 ohms. Power rating 30 watts. Recommended baffle opening 13¼" dia.; OD 15⅝"; depth 9"; net weight 17 lbs.; shipping weight, 25 lbs.

**Model H-535C**—
List Price **$192.00;**

### H-525C 15" TWO-WAY LOUDSPEAKER

A coaxial unitary two-way loudspeaker like Model H-535C above, except built-in crossover network and lighter magnetic structures on l-f and h-f units. Power rating 25 watts. Impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅝"; depth 8½"; net weight 10½ lbs.; shipping weight 16 lbs.

**Model H-525C**—
List Price **$112.50;**

### H-225C 12" TWO-WAY LOUDSPEAKER

A coaxial unitary two-way loudspeaker like Model H-525C above, except 12-inch l-f unit. Power rating 25 watts. Impedance 16 ohms. Recommended baffle opening 13¼" dia.; OD 15⅝"; depth 7⅝"; net weight 9 lbs.; shipping weight 13 lbs.

**Model H-225C**—
List Price **$81.50;**

P-4VC

P-5TC

P-8PC

P-8RC

P-12RC

P-12-NC

## EXTENDED RANGE HIGH FIDELITY LOUDSPEAKERS

Here is a complete line of loudspeakers of latest designs especially for commercial and general purpose applications, all field tested for the exacting and rigorous requirements of professional service. There is a loudspeaker for every need—ruggedly dependable units which have enjoyed the position of "world's quality standard" for many years in the professional field.

These heavy duty loudspeakers are of the extended range high fidelity type with performance suitable for applications where two-way and three-way speakers are not needed. High efficiency is assured with carefully designed magnetic structures using Alnico 5 magnets and ample soft iron circuits. Moisture-resistant cones and other materials contribute to long life expectancy. The units are especially suitable for protected outdoor locations not directly exposed to rain, sleet and snow, as well as for indoor use.

Extended h-f range insures excellent music reproduction. The l-f range will depend on the enclosure size and design. Commonly used in small enclosures or ceiling baffles. Models P8-SC and P12-SC are practically standard in the industry for interior low level music distribution systems.

Sizes from 4" to 15" offer the best performance possible in each size and cost class. Choices as to efficiency and power ratings are available in some sizes. Relative loudness efficiency is shown in the table referred to the P4-VC. A speaker with relative loudness efficiency of +3 db will be noticeably louder than the P4-VC for the same power; only one-half the power will be required to be equally as loud as the P4-VC.

| Nominal Size | Model No. | Power Rating Watts | Magnet Wt., Oz., Alnico 5 | Relative Loudness Efficiency | Imped., Ohms | V. C. Dia. Inches | Baffle Cutout Dia., In. | Overall Dia. Inches | Depth Inches | Ship. Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15" | P15-NC | 20 | 27 | +7½ db | 8 | 1½ | 13¼ | 15⅝ | 7 | 7 | $59.50 |
| 12" | P12-NC | 18 | 27 | +7 db | 8 | 1½ | 10½ | 12⅞ | 6 | 10 | 51.00 |
| 12" | P12-RC | 12 | 6.8 | +4½ db | 8 | 1 | 10½ | 12⅛ | 5⅝ | 6 | 16.65 |
| 12" | P12-SC | 10 | 4.64 | +3½ db | 8 | 1 | 10½ | 12⅛ | 5¼ | 6 | 15.20 |
| 10" | P10-SC | 9½ | 4.64 | +3½ db | 8 | 1 | 8¾ | 10⅛ | 4⅞ | 4 | 13.75 |
| 8" | P8-PC | 10 | 14.6 | +5 db | 8 | 1½ | 6¾ | 8⅛ | 4 | 5½ | 31.80 |
| 8" | P8-RC | 9 | 6.8 | +2½ db | 8 | 1 | 6¾ | 8⅛ | 4 | 3 | 14.80 |
| 8" | P8-SC | 8 | 4.64 | +1½ db | 8 | 1 | 6¾ | 8⅛ | 3⅞ | 3 | 12.70 |
| 6" | P6-TC | 6 | 3.16 | +1½ db | 4 | ¾ | 5¼ | 6 11/16 | 3⅛ | 2 | 8.50 |
| 5" | P5-TC | 5 | 3.16 | +1½ db | 4 | ¾ | 4 | 5 | 2⅛ | 2 | 8.15 |
| 4" | P4-VC | 4 | 1.47 | 0 db | 4 | 5/8 | 3½ | 5 | 2⅛ | 1½ | 5.25 |



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World Radio History

SOUND EQUIPMENT BY **STROMBERG-CARLSON**
A DIVISION OF GENERAL DYNAMICS CORPORATION

# SPEAKERS AND HOUSINGS

***Stromberg-Carlson's years of world leadership guarantee the very finest in sound-engineered speakers designed for high quality sound reproduction. All "RC" and "RF" speakers employ high-efficiency Alnico V magnets, aluminum voice coil forms and one-piece, molded cones.***

**Model RC-27** — 8" Cone Speaker — Alnico V Magnet. Frequency Response: 55 to 13,000 cps. Power Rating: 10 watts (program). Cone Resonance: 105 cps. Flux Density: 8000 gauss. Voice Coil Impedance: 8 ohms. Sensitivity: 88 db. Speaker Mounting: 8 equally spaced holes on 7⅝" diameter bolt circle. Size: 8⅛" dia., 3½" deep. Weight: 2 lbs. **LIST PRICE: $10.00**

**Model RC-28** — 8" Cone Speakers. Frequency Response: 50—13,500 cps. Power Rating: 12 watts (program). Cone Resonance: 105 cps. Flux Density: 13,000 gauss. Voice Coil Impedance: 8 ohms. Sensitivity: 90 db. Speaker Mounting: 8 equally spaced holes on 7⅝" dia. bolt circle. Size: 8⅛" dia., 4 1/16" deep. Weight: 2¼ lbs. **LIST PRICE $16.00**

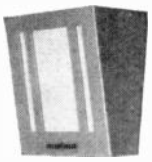
**Model RC-58** — 12" Cone Speaker — Alnico V Magnet. Frequency Response: 55 to 13,000 cps. Power Rating: 16 watts (program). Cone Resonance: 80 cps. Flux Density: 8,500 gauss. Voice Coil Impedance: 8 ohms. Sensitivity: 85 db. Speaker Mounting: 8 equally spaced holes on 11 1/16" diameter bolt circle. Size: 12⅛" dia., 4¾" deep. Weight: 2½ lbs. **LIST PRICE $14.00**

**Model RC-62** — 12" Cone Speaker — Alnico V Magnet. Frequency Response: 50 to 13,500 cps. Power Rating: 20 watts (program). Cone Resonance: 80 cps. Flux Density: 13,000 gauss. Voice Coil Impedance: 8 ohms. Sensitivity: 87 db. Speaker Mounting: 8 equally spaced holes on 11 1/16" dia. bolt circle. Size: 12¼" dia., 4¾" deep. Weight: 2¾ lbs. **LIST PRICE $20.00**

**Model RH-28D** — Attractive high-impact styrene plastic cabinet for 8" cone speakers. Solid Desert Sand color.

LIST: **RH-28D—$14.50**

**Models RH-35** — Steel flush-mounting speaker baffles, in Desert Sand color, for mounting on standard Columbia box. Model RH-35 accommodates 8" speaker, is 13" square. LIST: **$13.00**



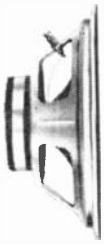
**Models RH-34 and RH-54** — Ruggedly constructed tilt-type wall mounting cabinets in Desert Sand finish. RH-34 made for 8" speaker. RH-54 for 12" speaker. RH-34 housing easily converted to 2-way use by addition of RA-8 back panel.
LIST: **RH-34—$15.00**
**RH-54—$22.00**

## NEW HIGH FIDELITY SPEAKERS

### RF-480 8-INCH WIDE RANGE TRANSDUCER

**Power Handling Capacity:** 18 watts. **Effective Frequency Range:** 30 to 17,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 52 to 12,000 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **IM Distortion:** 200 cps and 7,000 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 3.9%. **Free Air Resonance:** 80 cps, plus or minus 5 cps. Price: **$24.95** (Consumer Net).

### RF-481 12-INCH WIDE RANGE TRANSDUCER



**Power Handling Capacity:** 50 watts Program Material. **Effective Frequency Range:** 35 to 16,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 43 to 10,000 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **IM Distortion:** 200 cps and 7,000 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 3.5%. **Free Air Resonance:** 50 cps plus or minus 5 cps. Price: **$39.95** (Consumer Net).

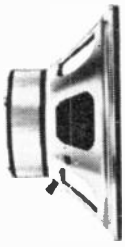
### RF-482 12-INCH COAXIAL TRANSDUCER

**Power Handling Capacity:** Woofer—50 watts Program Material; Tweeter — 32 watts Program Material. **Effective Frequency Range:** 30 to 17,000 cps for 10.1 average loudness ratio re. 32 sones (90 phons). 39 to 14,500 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **IM Distortion:** 200 cps and 7,000 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 0.4%. **Free Air Resonance:** 50 cps plus or minus 5 cps. Price **$59.95** (Consumer Net).

### RF-483 15-INCH COAXIAL TRANSDUCER

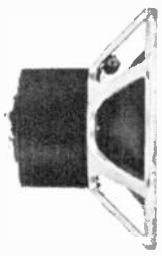
**Power Handling Capacity:** Woofer — Over 100 watts Program Material; Tweeter — 32 watts Program Material. **Effective Frequency Range:** 25 to 18,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 32 to 14,500 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **IM Distortion:** 200 cps and 7,000 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 1.4%. **Free Air Resonance:** 45 cps plus or minus 5 cps. Price: **$99.95** (Consumer Net).

### RF-484 15-INCH COAXIAL TRANSDUCER WITH INDUCTION TWEETER



**Power Handling Capacity:** Woofer — Over 100 watts Program Material; Tweeter — Over 50 watts Program Material. **Effective Frequency Range:** 15 to 20,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 15 to 20,000 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **IM Distortion:** 100 cps and 700 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 0.3%. **Free Air Resonance:** 20 cps plus or minus 5 cps. Price: **$149.95** (Consumer Net).

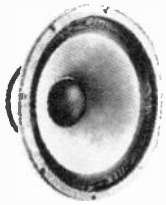
### RF-475 15-INCH COAXIAL TRANSDUCER



**Power Handling Capacity:** Woofer — more than 100 watts; Tweeter — more than 32 watts. **Frequency Range:** Woofer — 30-1500 cps (when mounted in Stromberg-Carlson Acoustical Labyrinth, 20-1500 cps). Tweeter — 1500 to 20,000 cps. **IM Distortion:** 1.4% — 200 cps and 2,000 cps at 5.5 volts. 1:1 ratio. This input corresponds to an instantaneous power input of 6 watts. **Free Air Resonance:** Woofer — 38 cps. Price: **$229.95** (Consumer Net).

### RW-489 12-INCH SOFT SKIVER WOOFER

**Power Handling Capacity:** More than 50 watts. **Effective Frequency Range:** 15 to 5,500 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 18 to 4,600 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **Free Air Resonance:** 30 cps plus or minus 5 cps. Price: **$49.95** (Consumer Net).



### RW-490 15-INCH SOFT SKIVER WOOFER

**Power Handling Capacity:** More than 100 watts. **Effective Frequency Range:** 15 to 5,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 15 to 4,200 cps for 5:1 average loudness ratio re. 32 sones (90 phons). **Free Air Resonance:** 20 cps plus or minus 5 cps. Price: **$99.95** (Consumer Net).

### RT-476 2¾" TWEETER

**Power Handling Capacity:** 32 watts. **Effective Frequency Range:** *800 to 18,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons) *800 to 14,500 cps for 5:1 average loudness ratio re. 32 sones (90 phons). *When used with 3,000 cps crossover network. Price: **$9.95** (Consumer Net).

### RT-477 INDUCTION TWEETER

**Power Handling Capacity:** More than 50 watts. **Effective Frequency Range:** *800 to 20,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). *800 to 20,000 cps for 5:1 average loudness ratio re. 32 sones (90) phons). *When used with 3,000 cps crossover network. Price: **$49.95** (Consumer Net).

**STROMBERG-CARLSON, *Division of General Dynamics*, Electronics Center, Rochester, N. Y.**



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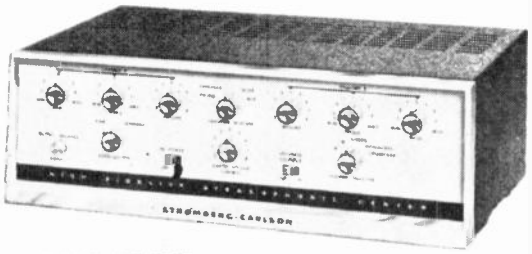
World Radio History

SOUND EQUIPMENT BY **STROMBERG-CARLSON**
A DIVISION OF GENERAL DYNAMICS CORPORATION

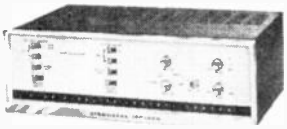
# "Custom Four Hundred" HIGH FIDELITY EQUIPMENT

## PROGRAM SOURCES

*True High Fidelity performance can be achieved only with the highest quality, most skillfully engineered components designed to work together as a team. The units illustrated here are designed and made to reproduce the full range of the audio scale.*



**ASR-433 STEREO AMPLIFIER**
**Power Output:** 24 watts (2-12 watt channels). **Frequency Response:** 20-20,000 cycles ± 1 db. **Harmonic Distortion:** Less than 1.5%. **Noise Level:** 63 db down. **Inputs:** Magnetic Phono, Ceramic Phono, Tape Head, Tuner and Aux. Tape. **Outputs:** 4, 8, 16 ohms and dual Tape Out. **Loudness Control:** In-out, continuously variable. **Tone Controls:** Bass 15 db droop, 15 db boost. Treble 14 db droop, 12 db boost. **Equalization:** RIAA Mag. Phono. NARTB Tape Head. **Tubes:** 2-12AX7/7025, 2-6AV6, 2-6U8, 4-EL84. **Channel Selector:** Channel "A", Channel "B", Stereo, Monaural, Crossover (at 3000 cycles). **Stereo Tone Ba'ance:** Aural balance control. **Dimensions:** 13½" W, 13⅜" D, 4⅝" H. Price: **$129.95** (Consumer Net).



**AR-431 CONTROL AMPLIFIER**

**Power Output:** 20 watts. **Frequency Response:** 20-20,000 cycles ± .9 db at full output. **Harmonic Distortion:** Less than 1% at full output. **IM Distortion:** Less than 1% program level. **Noise Level:** 65 db down. **Scratch Filter:** Two-position switch. In effect on all inputs. Price: **$99.95** without top cover (Consumer Net).

**AR-430 CONTROL AMPLIFIER**

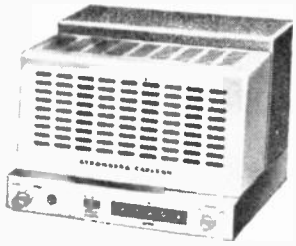
**Power Output:** 12 watts. **Frequency Response:** 20-20,000 cycles ± 1 db. **Harmonic Distortion:** Less than 1.5%. **Noise Level:** 63 db down. **Tubes:** 1-7025/12AX, 1-6AV6, 1-6U8, 2-6BQ5/EL84, 1-6CA4/EZ81. Price: **$59.95** with top cover (Consumer Net).

**AR-432 CONTROL AMPLIFIER**

**Power Output:** 30 watts. **Frequency Response:** 20-20,000 cycles ± .9 db at full output. **Harmonic Distortion:** 0.7% at full output. **IM Distortion:** Less than 1% program level. (60:7kc/4:1). **Noise Level:** 70 db down. **Tubes:** 1-5V4GA, 1-6U8, 2-7025/12AX7, 2-7027. Price: **$119.95** without top cover (Consumer Net).

**SR-440 AM-FM TUNER**

Wide peak-to-peak separation ratio detector. **Sensitivity:** On 72 ohm matched antenna input, .9 uv for 20 db quieting. On 300 ohm antenna input, 1.8 uv for 20 db quieting. **Controls:** AM-FM selector switch. AFC switch. Local-distant switch for both AM and FM. Broad-sharp switch for AM. Tuning and gain controls. Multiplex output. Price: **$159.95** without top cover (Consumer Net).

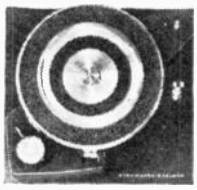


**AP-437 POWER AMPLIFIER**
**Power Output:** 40 watts. **Frequency Response:** 20-20,000 cycles ± .1 db at 40 watts. 10-60,000 cycles ± 1 db at 40 watts. 10,-100,000 cycles ± 1 db at 10 watts. **Harmonic Distortion:** 0.1% mid frequencies at 40 watts. 0.5% 20-20,000 cycles at 40 watts. **IM Distortion:** 0.4% at 40 watts. (60:7kc/4:1). **Noise Level:** 90 db down. **Tubes:** 2-6550, 1-12BH7, 1-7025, 1-5AR4/GZ34. Price: **$145.00** with top cover (Consumer Net).

**PR-488 AUTOSPEED CHANGER**
**Autospeed:** Automatically changes speeds and intermixes records for 33 and 45 RPM with stylus at microgroove position, without regard to sequence. Operates at 78 RPM automatically with stylus in 78 position. **Change Cycle Stop:** Turntable comes to a complete and immediate stop during record change and does not start again until the arm is in play position, so that one record does not grind against another. **Model PR-488 DS:** Equipped with GE VRII Diamond/Sapphire Cartridge . . . **$84.95. Model PR-488 SS:** Equipped with GE VRII Dual Sapphire Cartridge . . . **$74.95.** (Prices Consumer Net).

**PR-499 AUDIOPHILE TURNTABLE**

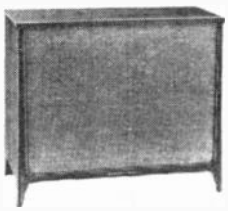
**Noise Level:** 55 db down. **Wow:** Less than 0.25% peak (0.18% RMS). **Flutter:** 0.14% peak (0.09% RMS). **Speeds:** Continuously variable from 14 to 80 RPM, guaranteed to be completely constant at any setting. **Stroboscopic Window Pilot Light:** Visual guide to accurate speed. **Double Suspension System:** Turntable and arm are suspended above mounting plate, motor is suspended beneath mounting plate. Complete isolation is achieved. Price: **$99.95** (Consumer Net).



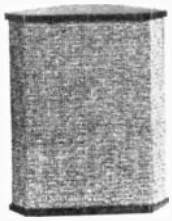
## ENCLOSURES AND SPEAKER SYSTEMS

**RH-418C EQUIPMENT CABINET**

**Dimensions:** 32¼" high, 33¾" wide, 16¾" deep. Price: **$129.95** (Consumer Net).



**MSS-491 ACOUSTICAL LABYRINTH SPEAKER SYSTEM**
The housing is a quarter wave length labyrinth path and is a highly effective damping and loading device. The system resonance is 16 cps and its effective frequency range is from below audibility (less than 16 cps) to above audibility (22,000 cps plus). Price: **$379.95** Mahogany; **$389.95** Walnut and Oak. Also available as speaker enclosure in Mahogany — **$129.95**; Limed Oak — **$139.95**; Walnut — **$139.95.** (Prices Consumer Net).



**RS-461 STEREO COMPONENT ACOUSTICAL LABYRINTH® SPEAKER SYSTEM**
Its effective frequency range is from 40 to 18,000 cps. This is complete in cabinet. Price: **$69.95.** Also available as speaker enclosure in Mahogany at **$34.95.** Oak or Walnut, **$39.95.** (Prices Consumer Net).

**MSS-492 ACOUSTICAL LABYRINTH SPEAKER SYSTEM**
The housing is a quarter wave length labyrinth path and is a highly effective damping and loading device. The system resonance is 20 cps and its effective frequency range is from below audibility (16 cps) to above audibility (22,000 cps). Price: **$249.95** Cherry or Walnut. Also available as speaker enclosure in Cherry or Walnut at **$129.95.** (Prices Consumer Net).

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World Radio History

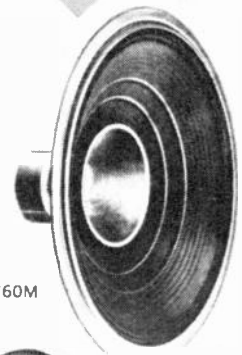
*from the audio research center of the world*

# NORELCO®

**HI-FI components**

## *Engineered by Philips of the Netherlands*

Every art, craft or technology tends to have its world center, where it is carried to its highest degree of development. In automobiles it's the United States . . . in watches it's Switzerland . . . in cameras it's Germany . . . and in the relatively young science of high-fidelity sound reproduction it's the Netherlands, where the renowned firm of Philips, world's largest electronics concern outside of America, has in just a few years opened up entirely new avenues in audio technique. The new audio tube types used in the finest amplifiers throughout the world . . . the new ferrite materials which are rapidly superseding conventional magnets in many quality high-fidelity components . . .



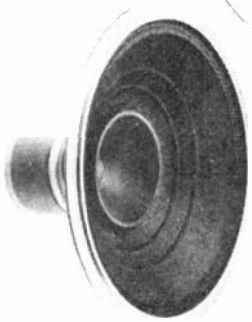
Model 9760M

## NORELCO *frs* LOUDSPEAKERS

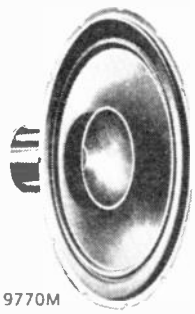
Preferred by professionals to many famous brands in much higher price brackets, this complete line of 5" to 12" high-fidelity units offers that characteristically suave loudspeaker sound prized by the discriminating music lover — undistorted, uncolored, unexaggerated. With dual cones for genuinely extended, flat frequency response . . . extra-long air gaps for linear voice coil movement . . . unusually powerful Ticonal magnets for high flux density . . . constant impedance throughout the audio range . . . these speakers are the world's greatest buys on the basis of listening quality per dollar.

| Model | Size | Power (watts) Continuous | Peak | Impedance (ohms) | Total Flux (maxwells) | Flux Density (gauss) | Efficiency at 400 cps | Frequency Response (cps) | Audiophile Net |
|---|---|---|---|---|---|---|---|---|---|
| 9762M | 12" | 20 | 30 | 6 to 8 | 133,000 | 11,000 | 14% | 35-18,000 | $59.97 |
| 9760M | 12" | 20 | 30 | 6 to 8 | 97,000 | 8,000 | 7% | 35-18,00 | $32.97 |
| 9758M | 10" | 10 | 15 | | | | | | $29.97 |
| 9710M | 8" | 10 | 15 | 6 to 8 | 97,000 | 8,000 | 5% | 40-20,000 | $23.97 |
| 9750M | 8" | 6 | 10 | 4 to 6 | 58,300 | 13,500 | 10% | 50-20,000 | $22.17 |
| 9770M or AD-3800M* | 8" | 6 | 10 | 4 to 6 | 26,200 | 11,000 | 6% | 75-19,000 | $9.90 |
| AD-3500M* | 5" | 3 | 5 | 4 to 6 | 26,200 | 11,000 | 4% | 130-19,000 | $8.34 |
| AD-3690M* | 6x9" | 6 | 9 | 4 to 6 | 26,200 | 11,000 | 5.5% | 70-18,000 | $7.95 |
| AD-2690M* | 6x9" | 6 | 9 | 4 to 6 | 15,200 | 8,500 | 2.5% | 70-16,000 | $6.75 |

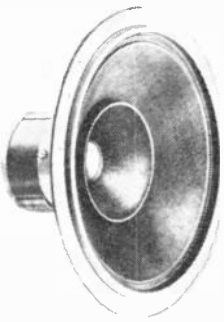
*with standard EIA (RETMA) mounting holes



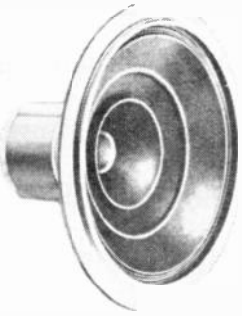
Model 9762M



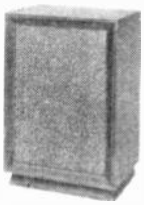
Model 9770M



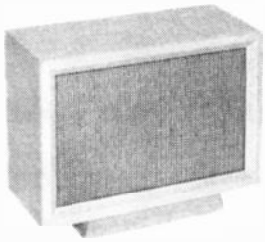
Model 9710M



Model 9750M



Model
FRS III
(for 9770M or AD3800M speakers)
Audiophile Net
Walnut $35.00
Blonde $33.25
Mahogany $31.60



Model
FRS I
(for 9762M or 9760M speakers)
Audiophile Net
Walnut $119.95
Blonde $113.35
Mahogany $107.70

## NORELCO *frs* SPEAKER ENCLOSURES

Acoustically designed to match the exact bass characteristics of NORELCO loudspeakers, these enclosures are the last word in both audio engineering and furniture styling. Built without compromise, in hand-rubbed mahogany, walnut and blonde veneers, they enhance the performance of fine loudspeakers and the elegance of fine homes. The base is removable in Models FRS I and FRS III for either horizontal or vertical cabinet placement.

Model
FRS II*
(for 9760M, 9750M or 9710M speakers)
Audiophile Net
Walnut $73.50
Blonde $69.95
Mahogany $65.50

*supplied with insert baffle for 8" opening



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these and many other basic advances in the field of electronic sound reproductions are largely Philips developments.

The NORELCO high-fidelity components listed here are all designed and engineered by Philips of the Netherlands. They represent the collective know-how of the world's most forward-looking electro-acoustic research group. That means more than just ivory-tower superiority, as indicated by initial performance characteristics in the laboratory — it means practical excellence, under the most varied and haphazard conditions of use, year after year, without change, and at a price which the typical music lover or hi-fi enthusiast can realistically afford.

## HERE IT IS:
## The new STEREO version of the world-famous 'Continental':

**Tape Speeds:** 7½, 3¾ and 1⅞ inches per second
**Tracks:** Dual/Stereo (Stacked Heads)
**Frequency Response:** 40 to 16,000 cps at 7½ ips; 50 to 10,000 cps at 3¾ ips; 60 to 5,000 cps at 1⅞ ips
**Signal-to-Noise Ratio:** 54 db
**Wow and Flutter:** 0.15% at 7½ ips; 0.2% at 3¾ ips; 0.35% at 1⅞ ips
**Volume Indicator:** Magic eye (Type EM-84)
**Loudspeaker:** 5-inch, wide-range
**Controls:** Piano-key pushbuttons
**Fast Forward and Reverse:** Less than 2 minutes for 1200′ of tape
**Automatic Stop:** At end of reel with metalized tape
**Program Indexer:** Built-in
**Inputs:** 1 radio/phono; 1 microphone
**Outputs:** Total of 5 — 1 for external speaker; 1 for monitoring; 3 for external amplifier in stereo/monaural combinations
**Microphone:** High-impedance dynamic
**Tubes:** (2) EF-86, (2) ECC-83, ECL-82, EZ-90, EM-84
**Line Voltage:** 117 volts AC @ 60 cycles
**Power Consumption:** 55 watts
**Dimensions:** 15¾" x 13" x 8"
**Weight:** Approx. 30 lbs.

## the NORELCO Stereo 'Continental'

world's most advanced portable stereo tape recorder . . . **$299.50**

- engineered by Philips of the Netherlands, world pioneers in electronic design
- precision-crafted by Dutch master technicians
- styled by the Continent's top designers
- three speeds . . . twin tracks . . . push-button controlled . . . easily portable . . . rugged
- special narrow-gap (0.0002 in.) head for extended frequency response
- built-in, wide-range Norelco speaker
- can also be played through external hi-fi system

**Matched stereo playback unit** (incorporating second amplifier and second loudspeaker, in portable case) .....**$95.00**

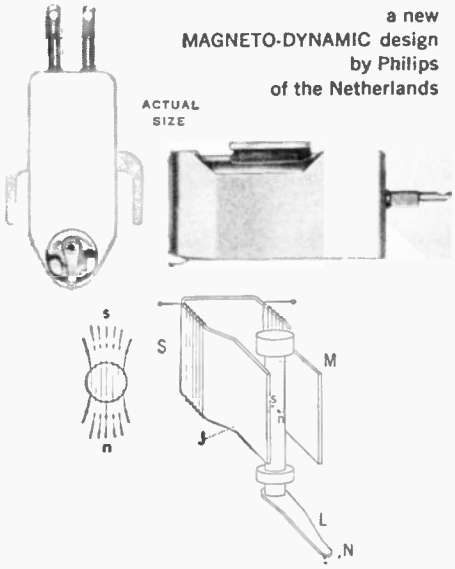
**ALSO:** The original 'Continental' Model EL 3516, similar to the above but with monaural facilities only.... .....**$269.50**

## NORELCO Model AG3121
### *the world's* ***second finest**** *pickup cartridge*

*The world's finest pickup cartridge is carefully guarded at the great Philips audio research center in Eindhoven, the Netherlands. It is the laboratory prototype of the new NORELCO "Magneto-Dynamic" pick-up cartridges — a special pilot model hand-built to zero tolerances by Europe's most renowned electro-acoustic research team. This reference standard must, of necessity, be a shade superior to the production models, which are constantly quality-controlled against it. It is an indispensable laboratory tool that obviously cannot be sold. But the world's second finest pickup cartridge — meaning any and every NORELCO production model — can be and is sold — for the astonishingly low price of **$29.95**, with diamond stylus.

**THE MAGNETO-DYNAMIC PRINCIPLE** — Armature M, made of high-coercivity ferrite, is magnetized perpendicularly to its axis (s-n) and is axially rotated by the transverse vibrations of stylus bar L, which is driven by the 1-mil diamond stylus N. This rotation induces a varying flux in the core J, which results in a corresponding AC voltage in the coil S. Advantages of the system include very high compliance (more than 5 x $10^{-6}$ cm/dyne), very low dynamic mass (2.8 milligrams), high output (35 millivolts at 10 cm/sec), low stylus force (5 grams), and vanishingly low distortion. Frequency response is flat within 2 db from 10 to 20,000 cps.

a new MAGNETO-DYNAMIC design by Philips of the Netherlands

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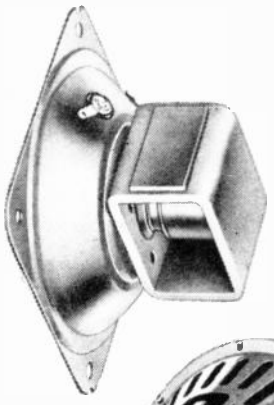
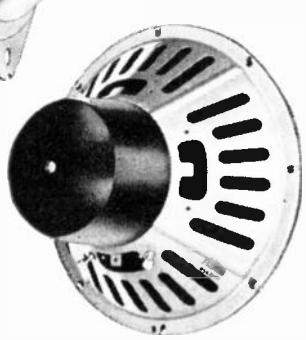
# OXFORD Speakers—

# HIGH FIDELITY — Tempo Series





## OXFORD TWEETERS

| Model No. | Size | Alnico V Mag. Wt. Oz. | V.C. Size | Power Handling Capacity in Watts | Frequency Response in C.P.S. | Resonance in C.P.S. | Sugg. List |
|---|---|---|---|---|---|---|---|
| T3C208 | 3" | 1.47 | 9/16" | 2-4 | 1800-15,000 | — | $7.25 |
| T5C208 | 5" | 1.47 | 9/16" | 2-4 | 1100-15,000 | — | 8.50 |

## FULL RANGE SPEAKERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| F8J408 | 8" | 6.80 | 1" | 15 | 50-13,000 | 85 | $24.95 |
| F12J408 | 12" | 6.80 | 1" | 15 | 50-12,000 | 75 | 32.50 |
| F12L608 | 12" | 14.00 | 1½" | 25 | 40-10,000 | 70 | 49.25 |

## OXFORD WOOFERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| W12K508 | 12" | 10.0 | 1¼" | 15 | 4,000 roll off | 50 | $39.50 |
| W12M608 | 12" | 20.0 | 1½" | 25 | 3,000 roll off | 45 | 57.50 |
| W15M608 | 15" | 20.0 | 1½" | 25 | 2,000 roll off | 40 | 65.00 |

## COAXIAL SPEAKERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C8J408 | 8" | 6.8 | 1" | 8 | 50-15,000 | 75 | $35.00 |
| C12J408 | 12" | 6.8 | 1" | 15 | 40-15,000 | 75 | 42.50 |
| C15L608 | 15" | 14.0 | 1½" | 25 | 30-15,000 | 50 | 72.50 |

**HIGH FIDELITY 3 SPEAKER SYSTEM**
**with 3 way crossover network**

**Kit No. 3W20**

3 way—3 element network with nominal crossover frequencies of 600 cycles and 5000 cycles: Attenuation rate of approximately 6db per octave on either side of crossover frequencies and insertion loss of approximately 1db.

**3 WAY SYSTEM**

| Item | Model No. | Ship. Wt. | Audiophile Net |
|---|---|---|---|
| **3 WAY SYSTEM** Complete less cabinet | 3W20 | 14 lbs. | $39.00 |
| **CROSSOVER NETWORK** (Available separately) | OXN-31 | 13 lbs. | 12.30 |

RESPONSE: of system is substantially flat from 35 cycles to 15,000 cycles, when used in acoustically matched cabinets.
INPUT IMPEDANCE: 8 ohm output
POWER HANDLING: 20 watts peak (of program material) is recommended. Oxford Bass Reflex Cabinets available in red mahogany, cherry, and blonde oak.

## EXTENDED RANGE SPEAKERS

| Model No. | Size | Mag. Wt. in Oz. | V.C. Size | Watts | List Price |
|---|---|---|---|---|---|
| HF8JB | 8" | 6.8 | 1" | 10 | $16.50 |
| HF10JB | 10" | 6.8 | 1" | 10 | 18.95 |
| HF12JB | 12" | 6.8 | 1" | 10 | 22.50 |
| HF12LN | 12" | 14.00 | 1½" | 25 | 36.75 |
| HF15LN | 15" | 14.00 | 1½" | 25 | 44.95 |
| GP12JB | 12" | 6.8 | 1" | 12 | 32.50 |
| HP8JB* | 8" | 6.8 | 1" | 10 | 17.50 |
| HP12L5N* | 12" | 14.0 | 1½" | 25 | 48.50 |

OXFORD

**Oxford Components, Inc., subsidiary of OXFORD ELECTRIC CORP., Chicago 6, Illinois**

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO • EXPORT: ROBURN AGENCIES, NEW YORK CITY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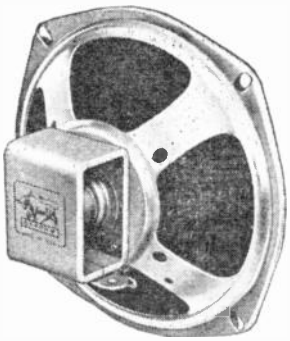
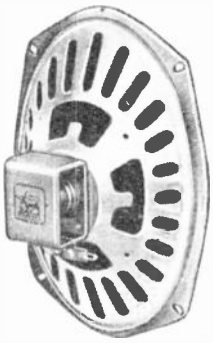
World Radio History

# OXFORD Speakers—



For Radio & Television

For Auto Radios



## SPACE-SAVER "H" Series SPEAKERS

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 2½" Square | H2A | .68 | $4.15 |
| 3½" Square | H3A | .68 | 4.05 |
| 4" Square | H4A | .68 | 4.10 |
| 5" Round | H5A | .68 | 4.30 |
| 4" x 6" Rectangular | H46A | .68 | 4.85 |

## PERMANENT MAGNET SPEAKERS AUTO REPLACEMENT SPEAKERS* 3.2 ohm

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 5" Pin Cushion | 5PCM-20 | 1.47 | $5.35 |
| 5¼" Pin Cushion | 52BM-21 | 1.00 | 4.70 |
| 5½"x7½" Elliptical | 5575FS-9 | 3.16 | 9.25 |
| 6" Pin Cushion | 6EV-46 | 2.15 | 7.00 |
| 7" Pin Cushion | 7CV-2 | 1.47 | 6.60 |
| 4"x6" Rectangular | 46CM-31 | 1.47 | 5.35 |
| 5"x7" Elliptical | 57AM-1 | .68 | 5.60 |
| 5"x7" Elliptical | 57CV-2 | 1.47 | 7.00 |
| 5"x7" Elliptical | 57EV-10 | 2.15 | 7.75 |
| 6"x9" Elliptical | 69AM-1 | .68 | 6.45 |
| 6"x9" Elliptical | 69CV-5 | 1.47 | 7.85 |
| 6"x9" Elliptical | 69EV-11 | 2.15 | 8.60 |
| 6"x9" Elliptical | 69FS-6 | 3.16 | 9.35 |

Each and every OXFORD Speaker is backed by over thirty years of manufacturing experience, and production and engineering facilities which are unequalled anywhere in the world. Now, seven separate and complete factories produce Oxford Speakers for original equipment and replacement applications for hundreds and hundreds of leading manufacturers and electronics parts distributors.

All Oxford Speakers are made to meet the most rigid specifications and include only Alnico V Permanent Magnets.

## PERMANENT MAGNET SPEAKERS STANDARD REPLACEMENT LINE 3.2 ohm

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 2" Square | 2AMS | .68 | $3.75 |
| 2" Square | 2BMS | 1.00 | 4.25 |
| 2" Square | 2CMS | 1.47 | 4.75 |
| 3" Square | 3AMS | .68 | 3.75 |
| 3" Square | 3BMS | 1.00 | 4.40 |
| 3" Square | 3CMS | 1.47 | 4.75 |
| 4" Square | 4AMS | .68 | 4.00 |
| 4" Square | 4BMS | 1.00 | 4.25 |
| 4" Square | 4CMS | 1.47 | 4.60 |
| 5" Round | 5AMS | .68 | 4.25 |
| 5" Round | 5BMS | 1.00 | 4.50 |
| 5" Round | 5CMS | 1.47 | 4.85 |
| 5" Round | 5ECS | 2.15 | 6.05 |
| 5" Pin Cushion | 5PAMS | .68 | 4.35 |
| 5" Pin Cushion | 5PBMS | 1.00 | 4.60 |
| 5" Pin Cushion | 5PCMS | 1.47 | 5.00 |
| 5¼" Pin Cushion | 52AMS | .68 | 4.35 |
| 5¼" Pin Cushion | 52BMS | 1.00 | 4.60 |
| 5¼" Pin Cushion | 52CMS | 1.47 | 5.00 |
| 5¼" Square | 55CMS | 1.47 | 5.25 |
| 6" Pin Cushion | 6AMS | .68 | 4.85 |
| 6" Pin Cushion | 6BMS | 1.00 | 5.10 |
| 6" Pin Cushion | 6CMS | 1.47 | 5.50 |
| 6" Pin Cushion | 6CVS | 1.47 | 5.75 |
| 6" Pin Cushion | 6EVS | 2.15 | 6.90 |
| 6" Pin Cushion | 6FOS | 3.16 | 8.15 |
| 7" Pin Cushion | 7CVS | 1.47 | 6.50 |
| 7" Pin Cushion | 7EVS | 2.15 | 7.10 |
| 7" Pin Cushion | 7FOS | 3.16 | 8.00 |
| 7½" Pin Cushion | 82CVS | 1.47 | 7.25 |
| 7½" Pin Cushion | 82EVS | 2.15 | 7.50 |
| 8" Round | 8CMS | 1.47 | 6.85 |
| 8" Round | 8CVS | 1.47 | 7.10 |
| 8" Round | 8EVS | 2.15 | 7.35 |
| 8" Round | 8FOS | 3.16 | 8.50 |
| 8" Round | 8HBS | 4.64 | 12.20 |
| 8" Round | 8JBS | 6.80 | 14.10 |
| 10" Round | 10CVS | 1.47 | 8.75 |
| 10" Round | 10EVS | 2.15 | 9.50 |
| 10" Round | 10FOS | 3.16 | 10.50 |
| 10" Round | 10HBS | 4.64 | 13.85 |
| 10" Round | 10JBS | 6.80 | 15.60 |
| 12" Round | 12CVS | 1.47 | 9.75 |
| 12" Round | 12EVS | 2.15 | 10.50 |
| 12" Round | 12FOS | 3.16 | 11.50 |
| 12" Round | 12HBS | 4.64 | 15.00 |
| 12" Round | 12JBS | 6.80 | 17.00 |
| 15" Round | 15JBS | 6.80 | 26.20 |
| 4"x6" Elliptical | 46AMS | .68 | 4.50 |
| 4"x6" Elliptical | 46BMS | 1.00 | 4.75 |
| 4"x6" Elliptical | 46CMS | 1.47 | 5.25 |
| 5"x7" Elliptical | 57AMS | .68 | 5.40 |
| 5"x7" Elliptical | 57BMS | 1.00 | 5.85 |
| 5"x7" Elliptical | 57CMS | 1.47 | 6.50 |
| 5"x7" Elliptical | 57EVS | 2.15 | 7.70 |
| 5"x7" Elliptical | *57EV-11 | 2.15 | 8.25 |
| 5"x7" Elliptical | 57FOS | 3.16 | 8.75 |
| 6"x9" Elliptical | 69AMS | .68 | 6.35 |
| 6"x9" Elliptical | 69BMS | 1.00 | 6.60 |
| 6"x9" Elliptical | 69CMS | 1.47 | 7.00 |
| 6"x9" Elliptical | 69CVS | 1.47 | 7.10 |
| 6"x9" Elliptical | 69EVS | 2.15 | 7.85 |
| 6"x9" Elliptical | *69EV-16 | 2.15 | 9.10 |
| 6"x9" Elliptical | 69FOS | 3.16 | 9.25 |

*Includes High Fidelity Dual Cone

## RECTANGULAR SPEAKERS

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| | 2510CMS | 1.47 | $10.00 |

## TRANSISTOR SPEAKERS

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 2¾" Round | 27AAT-S12 | .45 | $4.70 |
| 2¾" Round | 27AT-S12 | .68 | 4.90 |

OXFORD

**Oxford Components, Inc., subsidiary of OXFORD ELECTRIC CORP., Chicago 6, Illinois**

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO • EXPORT: ROBURN AGENCIES, NEW YORK CITY

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World Radio History

# OXFORD Speakers—

Dual Cone Speakers

## DUAL CONE HIGH FIDELITY AUTO REPLACEMENT SPEAKERS*

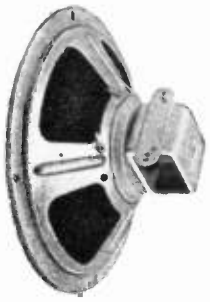
| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 5"x7" Elliptical | 57AM-2 | .68 | $6.15 |
| 5"x7" Elliptical | 57CV-3 | 1.47 | 7.55 |
| 5"x7" Elliptical | 57EV-11 | 2.15 | 8.25 |
| 6"x9" Elliptical | 69AM-2 | .68 | 6.95 |
| 6"x9" Elliptical | 69CV-19 | 1.47 | 8.35 |
| 6"x9" Elliptical | 69EV-16 | 2.15 | 9.10 |

## PUBLIC ADDRESS SPEAKERS 8 ohm

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 8" Round | 8CMS-7 | 1.47 | $7.35 |
| 8" Round | 8EVS-7 | 2.15 | 7.85 |
| 8" Round | 8FOS-7 | 3.16 | 9.00 |
| 8" Round | 8HBS-7 | 4.64 | 12.70 |
| 8" Round | *8HB-15A | 4.64 | 12.25 |
| 8" Round | 8JBS-7 | 6.80 | 14.60 |
| 7½" Pin Cushion | 82FO-2 | 3.16 | 9.75 |
| 10" Round | 10EVS-7 | 2.15 | 10.00 |
| 10" Round | 10FOS-7 | 3.16 | 11.00 |
| 10" Round | 10HBS-7 | 4.64 | 14.35 |
| 10" Round | 10JBS-7 | 6.80 | 16.10 |
| 12" Round | 12CVS-7 | 1.47 | 10.25 |
| 12" Round | 12EVS-7 | 2.15 | 11.00 |
| 12" Round | 12FOS-7 | 3.16 | 12.00 |
| 12" Round | 12HBS-7 | 4.64 | 15.50 |
| 12" Round | 12JBS-7 | 6.80 | 17.50 |
| 15" Round | 15JBS-7 | 6.80 | 27.60 |

*Moisture Resistant Cone

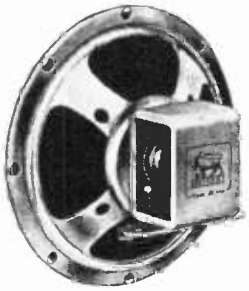
For Public Address



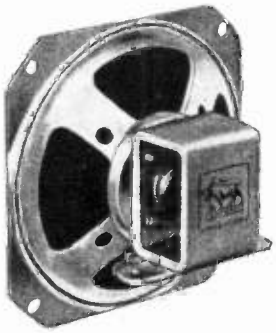
## INTERCOM SPEAKERS 45 ohm

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 2" Square | 2AM-S45 | .68 | $4.25 |
| 2" Square | 2BM-S45 | 1.00 | 4.25 |
| 2" Square | 2CM-S45 | 1.47 | 4.85 |
| 3" Square | 3AM-S45 | .68 | 3.90 |
| 3" Square | 3BM-S45 | 1.00 | 4.75 |
| 3" Square | *3BM-S45W | 1.00 | 4.95 |
| 3" Square | 3CM-S45 | 1.47 | 4.90 |
| 4" Square | 4BM-S45 | 1.00 | 5.00 |
| 4" Square | *4BM-S45W | 1.00 | 5.20 |
| 4" Square | 4CM-S45 | 1.47 | 5.25 |
| 5" Round | 5BM-S45 | 1.00 | 5.25 |
| 5" Round | *5BM-S45W | 1.00 | 5.40 |
| 5" Round | 5CM-S45 | 1.47 | 5.35 |
| 8" Round | 8EV-S45 | 2.15 | 8.35 |
| 8" Round | 8HB-S45 | 4.64 | 12.70 |

*Also Weatherproofed



For Intercoms



For Outdoor Applications

## ALL-WEATHER SPEAKERS 3.2 ohm

| SIZE | MODEL NUMBER | MAG. SIZE OZ. | SUGG. LIST |
|---|---|---|---|
| 3" Square | 3CM-SW | 1.47 | $5.25 |
| 4" Square | 4AM-65 | .68 | 4.70 |
| 4" Square | 4BM-SW | 1.00 | 5.00 |
| 4" Square | 4CM-27 | 1.47 | 5.75 |
| 4" Square | 4CM-SW | 1.47 | 5.25 |
| 5" Round | 5BA-3 | .68 | 4.45 |
| 5" Round | 5CM-SW | 1.47 | 5.50 |
| 5" Round | 5CM-51 | 1.47 | 5.35 |
| 6" Pin Cushion | 6CM-SW | 1.47 | 6.15 |
| 8" Round | *8HB-15A | 4.64 | 12.25 |
| 4"x6" Rectangular | 46CM-SW | 1.47 | 5.95 |

*8 ohm

**If you need standard speakers immediately . . . or, special speakers which require original creative talents, specify OXFORD SPEAKERS . . . then . . . you'll know why we say:**

**OXFORD SPEAKERS are *Preferred for Original Equipment . . . Proven for Replacement.***

OXFORD

**Oxford Components, Inc., subsidiary of OXFORD ELECTRIC CORP., Chicago 6, Illinois**

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World Radio History

# OXFORD REAR DECK SPEAKER KITS and ACCESSORIES

## Super Deluxe Hi-Fi Line
**2.15 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| TE57S | Chrome | $12.15 |
| TE57S | Grey | 11.60 |
| TE57SA | Chrome* | 13.00 |
| TE57SA | Grey* | 12.45 |
| TE57F | Chrome | 13.20 |
| TE57F | Grey | 12.65 |
| TE57FA | Chrome* | 14.00 |
| TE57FA | Grey* | 13.45 |
| TE69S | Chrome | 13.15 |
| TE69S | Grey | 12.65 |
| TE69F | Chrome | 14.15 |
| TE69F | Grey | 13.60 |

## Deluxe Hi-Fi Line
**1.47 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| TC57S | Chrome | $11.55 |
| TC57S | Grey | 11.00 |
| TC57SA | Chrome* | 12.35 |
| TC57SA | Grey* | 11.80 |
| TC57F | Chrome | 12.60 |
| TC57F | Grey | 12.05 |
| TC57FA | Chrome* | 13.40 |
| TC57FA | Grey* | 12.85 |
| TC69S | Chrome | 12.50 |
| TC69S | Grey | 12.05 |
| TC69F | Chrome | 13.55 |
| TC69F | Grey | 13.00 |

## Economy Hi-Fi Line
**.68 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| TA57S | Chrome | $10.10 |
| TA57S | Grey | 9.55 |
| TA57SA | Chrome* | 10.90 |
| TA57SA | Grey* | 10.35 |
| TA57F | Chrome | 11.20 |
| TA57F | Grey | 10.65 |
| TA57FA | Chrome* | 11.95 |
| TA57FA | Grey* | 11.45 |
| TA69S | Chrome | 11.05 |
| TA69S | Grey | 10.55 |
| TA69F | Chrome | 11.45 |
| TA69F | Grey | 10.95 |

## Grille Assemblies

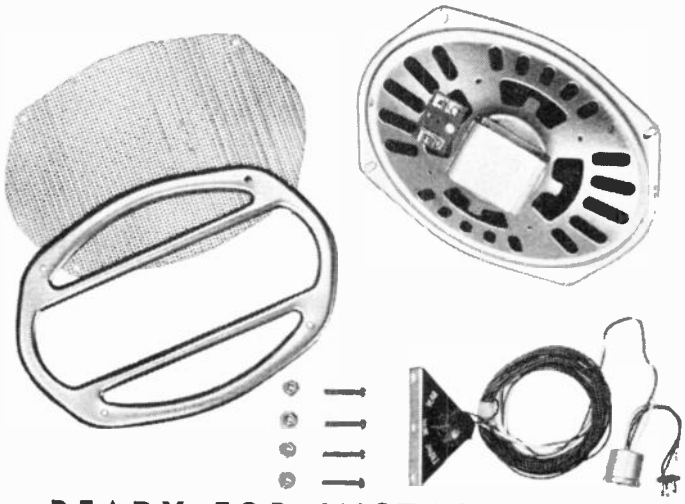
| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| G57 | Chrome | $2.05 |
| G57 | Grey | 1.50 |
| G69 | Chrome | 2.20 |
| G69 | Grey | 1.65 |

## Complete Kits Less Switch Accessory
**SINGLE CONE**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| RM57 | Chrome | $ 9.00 |
| RM57 | Grey | 8.50 |
| RM69 | Chrome | 10.00 |
| RM69 | Grey | 9.45 |
| E57 | Chrome | 9.00 |
| E57 | Grey | 8.50 |
| E57A | Chrome* | 9.80 |
| E57A | Grey* | 9.30 |
| E69 | Chrome | 10.00 |
| E69 | Grey | 9.45 |
| C57 | Chrome | 8.40 |
| C57 | Grey | 7.80 |
| C57A | Chrome* | 9.20 |
| C57A | Grey* | 8.70 |
| C69 | Chrome | 9.40 |
| C69 | Grey | 8.85 |
| A57 | Chrome | 7.15 |
| A57 | Grey | 6.65 |
| A57A | Chrome* | 7.95 |
| A57A | Grey* | 7.45 |
| A69 | Chrome | 8.20 |
| A69 | Grey | 7.65 |

**HI-FI TWIN CONE**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| TRM57 | Chrome | $ 9.40 |
| TRM57 | Grey | 8.90 |
| TRM69 | Chrome | 10.35 |
| TRM69 | Grey | 9.80 |
| TE57 | Chrome | 9.40 |
| TE57 | Grey | 8.90 |
| TE57A | Chrome* | 10.20 |
| TE57A | Grey* | 9.70 |
| TE69 | Chrome | 10.35 |
| TE69 | Grey | 9.80 |
| TC57 | Chrome | 8.80 |
| TC57 | Grey | 8.35 |
| TC57A | Chrome* | 9.65 |
| TC57A | Grey* | 9.15 |
| TC69 | Chrome | 9.80 |
| TC69 | Grey | 9.25 |
| TA57 | Chrome | 7.65 |
| TA57 | Grey | 7.15 |
| TA57A | Chrome* | 8.45 |
| TA57A | Grey* | 7.95 |
| TA69 | Chrome | 8.65 |
| TA69 | Grey | 8.10 |



## READY FOR INSTALLATION

***OXFORD REAR SEAT SPEAKER KITS are ready for easy installation***

Each kit includes a wiring harness which will simplify installation.

In most cases there is no need of splicing wires or soldering, since the connections are either of a plug in or snap in type.

The Oxford speakers included in these kits are equipped with spring type terminals for ease in wiring. In all cases detailed instructions are included.

All Speaker Kits are attractively packaged in Display Cartons.

Grilles are available in Chrome finish or Grey baked enamel.

## Complete Kits Less Speaker

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| 57RMA | Chrome | $6.00 |
| 57RMA | Grey | 5.55 |
| 57RMB | Chrome | 5.35 |
| 57RMB | Grey | 4.90 |
| 57RMC | Chrome | 6.90 |
| 57RMC | Grey | 6.45 |
| 57RMD | Chrome | 4.95 |
| 57RMD | Grey | 4.50 |
| 69RMA | Chrome | 6.15 |
| 69RMA | Grey | 5.70 |
| 69RMB | Chrome | 6.75 |
| 69RMB | Grey | 6.30 |
| 69RMC | Chrome | 6.21 |
| 69RMC | Grey | 5.76 |
| 57S | Chrome | 4.80 |
| 57S | Grey | 4.30 |
| 57SA | Chrome* | 5.65 |
| 57SA | Grey* | 5.10 |
| 57F | Chrome | 5.85 |
| 57F | Grey | 5.30 |
| 57FA | Chrome* | 6.65 |
| 57FA | Grey* | 6.10 |
| 69S | Chrome | 5.15 |
| 69S | Grey | 4.60 |
| 69F | Chrome | 6.10 |
| 69F | Grey | 5.60 |

## Oxford Economy Line
**.68 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| A57S | Chrome | $ 9.25 |
| A57S | Grey | 8.70 |
| A57SA | Chrome* | 10.05 |
| A57SA | Grey* | 9.50 |
| A57F | Chrome | 10.35 |
| A57F | Grey | 9.80 |
| A57FA | Chrome* | 11.10 |
| A57FA | Grey* | 10.60 |
| A69S | Chrome | 10.20 |
| A69S | Grey | 9.70 |
| A69F | Chrome | 10.60 |
| A69F | Grey | 10.10 |

## Oxford Deluxe Line
**1.47 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| C57S | Chrome | $10.55 |
| C57S | Grey | 10.00 |
| C57SA | Chrome* | 11.35 |
| C57SA | Grey* | 10.80 |
| C57F | Chrome | 11.60 |
| C57F | Grey | 11.05 |
| C57FA | Chrome* | 12.40 |
| C57FA | Grey* | 11.85 |
| C69S | Chrome | 11.50 |
| C69S | Grey | 11.05 |
| C69F | Chrome | 12.55 |
| C69F | Grey | 12.00 |

## Oxford Super Deluxe Line
**2.15 Oz. Alnico V Magnet**

| PART NUMBER | | SUGGESTED LIST |
|---|---|---|
| E57S | Chrome | $11.15 |
| E57S | Grey | 10.60 |
| E57SA | Chrome* | 12.00 |
| E57SA | Grey* | 11.45 |
| E57F | Chrome | 12.20 |
| E57F | Grey | 11.65 |
| E57FA | Chrome* | 13.00 |
| E57FA | Grey* | 12.45 |
| E69S | Chrome | 12.15 |
| E69S | Grey | 11.65 |
| E69F | Chrome | 13.15 |
| E69F | Grey | 12.60 |

| | | |
|---|---|---|
| Three Way Switches | W15C (with wire) | 2.45 |
| | WO15C (switch only) | 1.70 |
| Fader Controls | W15M (with wire) | 3.40 |
| | WO15M (control only) | 2.70 |
| Enclosures | CPO57 | 5.85 |
| | CPO69 | 6.00 |

*These kits have a 6 x 9 grille and an adapter plate for utilizing the 5 x 7 speaker.

OXFORD

**Oxford Components, Inc., subsidiary of OXFORD ELECTRIC CORP., Chicago 6, Illinois**

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# QUAM *Adjust-a-Cone*® SPEAKERS

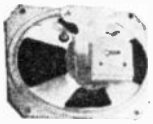
Fig. E

Fig. F

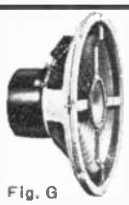
Fig. G

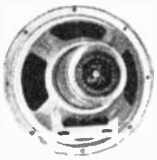
Fig. H

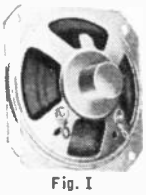
Fig. I

**QUAM speakers have been produced under the same management since 1923 and are used by leading set and sound manufacturers throughout the world. Only QUAM speakers use the Adjust-a-Cone feature and the U shaped coil pot. Fully protected by patents—their use insures customer satisfaction.**

## Replacement Speakers *(Cont'd)*

**Voice coil impedance 3.2 ohms ± 10%**

| TYPE | CAT. No. | SIZE | FIGURE | FIELD | POWER HANDLING WATTS | DIMENSIONS IN INCHES C | D | E | SHIP. WT., LBS. | LIST PRICE |
|---|---|---|---|---|---|---|---|---|---|---|
| ED | 8EV6 | 8" | C | 6 Volt | 7 | 1-1/4 | 3-9/32 | — | 1-3/4 | 7.50 |
| | 8E10 | 8" | C | 1000 Ohms | 7 | 1-1/4 | 3-9/32 | — | 1-3/4 | 7.50 |
| | 8E18 | 8" | C | 1800 Ohms | 7 | 1-1/4 | 3-9/32 | — | 1-3/4 | 7.50 |
| | 8E50♯‡ | 8" | C | 45-55 Ohms | 7 | 1-1/4 | 3-9/32 | — | 1-3/4 | 7.50 |
| | 8E90♯‡ | 8" | C | 85-95 Ohms | 7 | 1-1/4 | 3-9/32 | — | 1-3/4 | 7.50 |
| PM | 8A21 | 8" | C | 2.15 oz. Alnico V | 7 | 1-1/8 | 3-13/32 | — | 1-1/2 | 7.20 |
| | 8A31 | 8" | C | 3.16 oz. Alnico V | 9 | 1-3/8 | 3-21/32 | — | 2-1/4 | 8.50 |
| ED | 10E60‡ | 10" | B | 600 Ohms | 10 | 1-3/4 | 5-1/16 | — | 4 | 12.00 |
| | 10E10‡ | 10" | B | 1000 Ohms | 10 | 1-3/4 | 5-1/16 | — | 4 | 12.00 |
| | 10E65♯‡ | 10" | B | 60-70 Ohms | 10 | 1-3/4 | 5-1/16 | — | 4 | 12.00 |
| | 10E90♯‡ | 10" | B | 85-95 Ohms | 10 | 1-3/4 | 5-1/16 | — | 4 | 12.00 |
| PM | 10A31 | 10" | B | 3.16 oz. Alnico V | 9 | 1-3/8 | 4-1/2 | — | 2-3/4 | 10.50 |
| | 10A4A | 10" | B | 4.64 oz. Alnico V | 10 | 1-3/8 | 4-1/2 | — | 3-1/4 | 11.70 |
| | 10A6A | 10" | B | 6.8 oz. Alnico V | 12 | 1-7/16 | 4-5/8 | — | 3-1/2 | 13.60 |
| ED | 12E60‡ | 12" | B | 600 Ohms | 12 | 1-3/4 | 5-5/8 | — | 5 | 14.00 |
| | 12E10‡ | 12" | B | 1000 Ohms | 12 | 1-3/4 | 5-5/8 | — | 5 | 14.00 |
| | 12E15‡ | 12" | B | 1500 Ohms | 12 | 1-3/4 | 5-5/8 | — | 5 | 14.00 |
| | 12E90♯‡ | 12" | B | 85-95 Ohms | 12 | 1-3/4 | 5-5/8 | — | 5 | 14.00 |
| PM | 12A31 | 12" | B | 3.16 oz. Alnico V | 10 | 1-1/4 | 4-19/32 | — | 3-3/4 | 11.35 |
| | 12A4A | 12" | B | 4.64 oz. Alnico V | 12 | 1-3/8 | 5-1/8 | — | 4 | 12.65 |
| | 12A6A | 12" | B | 6.8 oz. Alnico V | 14 | 1-7/16 | 5-1/4 | — | 4-1/2 | 14.50 |

## OUTDOOR SPEAKERS

**Voice coil impedance 3.2 ohms ± 10%**

These Quam speakers have the new exclusive Humi-Gard Cone of plastic impregnated synthetic fiber fabric that outlasts ordinary moisture-proofed cones 3 to 1, yet has the response of an untreated paper cone. Resists sand and dirt abrasion. Air gap surfaces cadmium plated and enameled. No transformer mounting bracket or threaded holes in pot on speakers listed below. Quantity quotations on request.

All Quam speakers are available weather-proofed for an additional 70c list. When ordering weather-proofed speakers use part numbers appearing in this catalog and add suffix "OT" to part number. (Humi-Gard Cone available only on 3½", 4", 5", and 6½" speakers.)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PM | 3A07 OT* | 3½" | A | .68 oz. Alnico V | 2.5 | 3/4 | 1-19/32 | 1-3/16 | 1/2 | $ 4.00 |
| | 4A1 OT | 4" | A | 1.0 oz. Alnico V | 3 | 1 | 2-3/16 | 1-9/16 | 3/4 | 4.25 |
| | 5A15 OT | 5" | C | 1.47 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.85 |
| | 6A15 OT | 6" | C | 1.47 oz. Alnico V | 5 | 1 | 2-5/8 | 2 | 1 | 5.20 |

## PUBLIC ADDRESS SPEAKERS

**Voice coil impedance 8 ohms**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PM | 8A21PA | 8" | C | 2.15 oz. Alnico V | 8 | 1-3/8 | 3-9/16 | — | 1-1/2 | $ 8.20 |
| | 8A31PA | 8" | C | 3.16 oz. Alnico V | 10 | 1-3/8 | 3-9/16 | — | 2-1/4 | 9.20 |
| | 8A4PA | 8" | B | 4.64 oz. Alnico V | 12 | 1-3/8 | 3-3/4 | — | 2-3/4 | 10.20 |
| | 8A6PA | 8" | B | 6.8 oz. Alnico V | 12 | 1-7/16 | 3-7/8 | — | 3-1/4 | 12.10 |
| PM | 10A31PA | 10" | B | 3.16 oz. Alnico V | 12 | 1-3/8 | 4-13/32 | — | 2-3/4 | 10.75 |
| | 10A4PA | 10" | B | 4.64 oz. Alnico V | 14 | 1-3/8 | 4-1/2 | — | 3-1/4 | 11.70 |
| | 10A6PA | 10" | B | 6.8 oz. Alnico V | 14 | 1-7/16 | 4-5/8 | — | 3-1/2 | 13.60 |
| | 10A10PA | 10" | B | 10 oz. Alnico V | 20 | 1-3/8 | 4-21/64 | — | 3-1/2 | 18.00 |
| PM | 12A31PA | 12" | B | 3.16 oz. Alnico V | 12 | 1-3/8 | 5 | — | 3-3/4 | 11.60 |
| | 12A4PA | 12" | B | 4.64 oz. Alnico V | 15 | 1-3/8 | 5-1/8 | — | 4 | 12.65 |
| | 12A6PA | 12" | B | 6.8 oz. Alnico V | 15 | 1-7/16 | 5-1/4 | — | 4-1/2 | 14.50 |
| | 12A10PA | 12" | B | 10 oz. Alnico V | 25 | 1-3/8 | 4-15/16 | — | 4-3/4 | 19.00 |

## HIGH IMPEDANCE SPEAKERS

**Voice coil impedance 45 ohms ± 10%**

Speakers with voice coil impedances other than those listed are supplied at an increase of $1.00 list. Those cataloged are most frequently used but any other model can be supplied with special voice coil impedance.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PM | 3A07Z45* | 3½" | A | .68 oz. Alnico V | 2.5 | 3/4 | 1-19/32 | 1-3/16 | 1/2 | $ 4.25 |
| | 4A07Z45* | 4" | A | .68 oz. Alnico V | 3.0 | 3/4 | 1-23/32 | 1-5/16 | 1/2 | 4.25 |
| | 4A1Z45 | 4" | A | 1.0 oz. Alnico V | 3.0 | 1 | 2-3/16 | 1-9/16 | 3/4 | 4.50 |
| | 5A07Z45* | 5" | C | .68 oz. Alnico V | 3.5 | 3/4 | 1-7/8 | 1-7/16 | 3/4 | 4.45 |
| | 5A1Z45 | 5" | C | 1.0 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.70 |

## HIGH FIDELITY SPEAKERS

| TYPE | CAT. No. | SIZE | FIGURE | SPEAKER TYPE & SIZE | FREQUENCY RESPONSE-CPS | Power Handlg. Watts | V.C. Impedance | SHIPPING WEIGHT LBS. | LIST PRICE |
|---|---|---|---|---|---|---|---|---|---|
| PM | 15A10CO | 15" | G | Coaxial, 2000cps. Xover | 25-15,000 | 20 | 8 | 8-1/2 | $47.50 |
| | 12A6CO | 12" | G | Coaxial, 2000cps. Xover | 50-15,000 | 14 | 8 | 6-1/2 | 30.00 |
| | 12A10X | 12" | H | Extended range | 50-12,000 | 15 | 8 | 4-3/4 | 26.00 |
| | 10A10X | 10" | H | Extended range | 50-12,000 | 12 | 8 | 3-3/4 | 24.00 |
| | 8A10X | 8" | H | Extended range | 60-12,000 | 10 | 8 | 3-1/4 | 20.00 |
| | 15A10L | 15" | H | Low frequency woofer | 25-5,000 | 10 | 8 | 7 | 35.00 |
| | 12A10L | 12" | H | Low frequency woofer | 50-5,000 | 10 | 8 | 4-3/4 | 26.00 |
| | 5A15T | 3" | B | High frequency tweeter | 2,000-15,000 | 10 | 14 | 1 | 6.50 |
| | 3A15T | 3" | A | High frequency tweeter | 2,000-15,000 | 10 | 14 | 3/4 | 5.75 |
| | CO2-50 | | | Crossover Unit for use with 5A15T, 3A15T | | | | 1/2 | 2.00 |

♯ TV speaker. ‡ Equipped with hum bucking coils. * Very shallow construction. ★ Round basket † Rotated pot.
¶ Square basket • without Adjust-a-Cone suspension. § No mounting bracket or threaded holes in pot.


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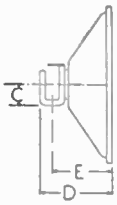
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

# QUAM *Adjust-a-Cone*® SPEAKERS

**These speakers are engineered and manufactured solely for replacement, public address, high fidelity and outdoor applications. EIA standard dimensions. Fully dust-proofed. Baked aluminum enamel finish. EIA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all 3½" to 6½" speakers and may be attached to any two of the FOUR threaded mounting holes in the U-shaped pot. Any Quam speaker can be supplied with voice coil impedances other than those listed for an additional $1.00 list.**



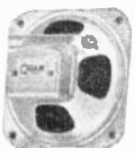



Fig. A

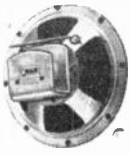


Fig. B

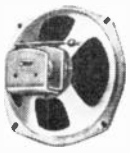


Fig. C

Fig. D

### QUAM ADJUST-A-CONE® SUSPENSION

This patented QUAM feature is your added assurance of trouble-free operation. In other speakers the spider is cemented in place with no means of accurate adjustment. The Adjust-a-Cone suspension permits precision centering of the voice coil as a final production operation.

### QUAM U-SHAPED COIL POT

Another QUAM exclusive, this patented U-shaped coil pot construction, used throughout the QUAM replacement line, provides an unbroken flux path of sufficient cross-section to carry the full energy of the magnetic field.

*ED — Electro Dynamic Speakers*

## REPLACEMENT SPEAKERS

**Voice coil impedance 3.2 ohms ± 10%**

*PM — Permanent Magnet Speakers*

| TYPE | CAT. No. | SIZE | FIGURE | FIELD | POWER HANDLING WATTS | DIMENSIONS IN INCHES C | D | E | SHIP. WT., LBS. | LIST PRICE |
|---|---|---|---|---|---|---|---|---|---|---|
| PM | 25A07• | 2½" | A | .65 oz. Alnico V | 2 | 11/16 | 1-1/4 | 7/8 | 1/2 | $ 4.00 |
| ED | 3E45‡• | 3½" | A | 450 Ohms | 2.5 | 1-1/4 | 1-51/64 | 1-1/4 | 3/4 | 5.25 |
| PM | 3A05*• | 3½" | I | .55 oz. Alnico V | 2 | 7/16 | 1-13/32 | —— | 1/2 | 2.95 |
| | 3A07*• | 3½" | A | .68 oz. Alnico V | 2.5 | 3/4 | 1-33/64 | 1-7/64 | 1/2 | 4.00 |
| ED | 4E45‡ | 4" | A | 450 Ohms | 3 | 1-1/4 | 2 | 1-7/16 | 1 | 5.25 |
| | 4E62‡‡ | 4" | A | 55-65 Ohms | 3 | 1-1/4 | 2-5/16 | 1-5/8 | 1 | 5.25 |
| PM | 4A05*• | 4" | I | .55 oz. Alnico V | 2.5 | 7/16 | 1-13/32 | —— | 1/2 | 2.95 |
| | 4A06*§ | 4" | A | .58 oz. Alnico V | 2.5 | 11/16 | 1-23/32 | —— | 1/2 | 2.95 |
| | 4A07* | 4" | A | .68 oz. Alnico V | 3 | 3/4 | 1-23/32 | 1-5/16 | 1/2 | 4.00 |
| | 4A07R*★ | 4" | B | .68 oz. Alnico V | 3 | 3/4 | 1-23/32 | 1-5/16 | 1/2 | 4.00 |
| | 4A1 | 4" | A | 1.0 oz. Alnico V | 3 | 1 | 2-3/16 | 1-9/16 | 3/4 | 4.25 |
| | 4A1R★ | 4" | B | 1.0 oz. Alnico V | 3 | 1 | 2-3/16 | 1-9/16 | 3/4 | 4.25 |
| | 4A15 | 4" | A | 1.47 oz. Alnico V | 3 | 1 | 2-3/16 | 1-9/16 | 3/4 | 4.70 |
| ED | 46E45‡ | 4"x6" | E | 450 Ohms | 3.5 | 1-5/64 | 2-15/64 | 1-5/8 | 1-1/4 | 6.25 |
| | 46E90‡‡ | 4"x6" | E | 85-95 Ohms | 3.5 | 1-5/64 | 2-15/64 | 1-5/8 | 1-1/4 | 6.25 |
| PM | 46A07* | 4"x6" | E | .68 oz. Alnico V | 3.5 | 3/4 | 1-15/16 | 1-27/64 | 3/4 | 4.45 |
| | 46A1 | 4"x6" | E | 1.0 oz. Alnico V | 3.5 | 1 | 2-1/4 | 1-9/16 | 1 | 4.75 |
| | 46A15 | 4"x6" | E | 1.47 oz. Alnico V | 3.5 | 1 | 2-1/4 | 1-9/16 | 1 | 5.15 |
| ED | 5E45‡ | 5" | C | 450 Ohms | 3.5 | 1-1/4 | 2-1/8 | 1-19/32 | 1 | 5.50 |
| | 5E10 | 5" | C | 1000 Ohms | 3.5 | 1-1/4 | 2-1/8 | 1-19/32 | 1 | 5.50 |
| | 5E62‡‡ | 5" | C | 55-65 Ohms | 3.5 | 1-1/4 | 2-7/16 | 1-19/32 | 1-1/4 | 5.50 |
| | 5E90‡‡ | 5" | C | 85-95 Ohms | 3.5 | 1-1/4 | 2-7/16 | 1-19/32 | 1-1/4 | 5.50 |
| PM | 5A05*• | 5" | I | .55 oz. Alnico V | 3 | 7/16 | 1-11/16 | —— | 3/4 | 3.25 |
| | 5A07* | 5" | C | .68 oz. Alnico V | 3.5 | 3/4 | 1-7/8 | 1-7/16 | 3/4 | 4.20 |
| | 5A07R*★ | 5" | B | .68 oz. Alnico V | 3.5 | 3/4 | 1-7/8 | 1-7/16 | 3/4 | 4.20 |
| | 5A1 | 5" | C | 1.0 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.45 |
| | 5A1R★ | 5" | B | 1.0 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.45 |
| | 5A15 | 5" | C | 1.47 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.85 |
| | 5A15R★ | 5" | B | 1.47 oz. Alnico V | 3.5 | 1 | 2-5/16 | 1-11/16 | 1 | 4.85 |
| ED | 52E50‡‡ | 5¼" | C | 45-55 Ohms | 4 | 1-1/4 | 2-17/32 | 1-27/32 | 1 | 6.00 |
| | 52E90‡‡ | 5¼" | C | 85-95 Ohms | 4 | 1-1/4 | 2-17/32 | 1-27/32 | 1 | 6.00 |
| PM | 52A1 | 5¼" | C | 1.0 oz. Alnico V | 4 | 1 | 2-25/64 | 1-25/32 | 1 | 4.65 |
| | 52A1SQ¶ | 5¼" | A | 1.0 oz. Alnico V | 4 | 1 | 2-25/64 | 1-25/32 | 1 | 4.65 |
| | 52A21 | 5¼" | C | 2.15 oz. Alnico V | 4 | 1-1/8 | 2-21/32 | 1-25/32 | 1-1/4 | 5.70 |
| | 52A21SQ¶ | 5¼" | A | 2.15 oz. Alnico V | 4 | 1-1/8 | 2-21/32 | 1-25/32 | 1-1/4 | 5.70 |
| ED | 57E45‡ | 5"x7" | D | 450 Ohms | 5 | 1-1/4 | 2-13/16 | 2-9/64 | 1-1/2 | 7.25 |
| | 57E62‡‡ | 5"x7" | D | 55-65 Ohms | 5 | 1-1/4 | 2-13/16 | 2-9/64 | 1-1/2 | 7.25 |
| PM | 57A1 | 5"x7" | D | 1.0 oz. Alnico V | 5 | 1 | 2-11/16 | 2-5/64 | 1 | 5.40 |
| | 57A15 | 5"x7" | D | 1.47 oz. Alnico V | 5 | 1 | 2-11/16 | 2-5/64 | 1 | 5.80 |
| | 57A21 | 5"x7" | D | 2.15 oz. Alnico V | 5 | 1-1/8 | 2-61/64 | 2-13/64 | 1-1/4 | 6.45 |
| ED | 6EV6 | 6½" | C | 6 Volt | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| | 6E45‡ | 6½" | C | 450 Ohms | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| | 6E10 | 6½" | C | 1000 Ohms | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| | 6E18 | 6½" | C | 1800 Ohms | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| | 6E62‡‡ | 6½" | C | 55-65 Ohms | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| | 6E90‡‡ | 6½" | C | 85-95 Ohms | 5 | 1-1/4 | 2-23/32 | 2-1/32 | 1-1/2 | 6.50 |
| PM | 6A1 | 6½" | C | 1.0 oz. Alnico V | 5 | 1 | 2-5/8 | 2 | 1 | 4.80 |
| | 6A1R★ | 6½" | B | 1.0 oz. Alnico V | 5 | 1 | 2-5/8 | 2 | 1 | 4.80 |
| | 6A15 | 6½" | C | 1.47 oz. Alnico V | 5 | 1 | 2-5/8 | 2 | 1 | 5.20 |
| | 6A15R★ | 6½" | B | 1.47 oz. Alnico V | 5 | 1 | 2-5/8 | 2 | 1 | 5.20 |
| | 6A21 | 6½" | C | 2.15 oz. Alnico V | 5 | 1-1/8 | 2-7/8 | 2-1/8 | 1-1/4 | 5.85 |
| | 6A31 | 6½" | C | 3.16 oz. Alnico V | 6 | 1-3/8 | 3-11/64 | 2-9/32 | 2 | 6.75 |
| ED | 69EV6 | 6"x9" | D | 6 Volt | 8 | 1-31/64 | 3-1/2 | —— | 2 | 7.50 |
| | 69E10 | 6"x9" | D | 1000 Ohms | 8 | 1-31/64 | 3-1/2 | —— | 2 | 7.50 |
| PM | 69A2* | 6"x9" | D | 1.4 oz. Alnico V | 8 | 7/8 | 2-15/16 | —— | 1-1/2 | 7.50 |
| | 69A3 | 6"x9" | D | 3.2 oz. Alnico V | 10 | 1-1/4 | 3-5/16 | —— | 2 | 8.95 |
| ED | 7EV6 | 7" | F | 6 Volt | 7 | 1-9/32 | 2-3/4 | —— | 2 | 7.50 |
| | 7EV6A† | 7" | F | 6 Volt | 7 | 1-9/32 | 2-3/4 | —— | 2 | 7.50 |
| PM | 7A21* | 7" | F | 1.4 oz. Alnico V | 6 | 7/8 | 2-31/32 | —— | 1-1/4 | 7.25 |
| | 7A31 | 7" | F | 3.16 oz. Alnico V | 9 | 1-1/4 | 3-1/32 | —— | 1-3/4 | 8.50 |

‡‡ TV speaker. ‡ Equipped with hum bucking coils. * Very shallow construction. ★ Round basket † Rotated pot.
¶ Square basket • Without Adjust-a-Cone suspension. § No mounting bracket or threaded holes in pot.

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World Radio History

# Cletron Cathedral series...

## ...of High Fidelity Speakers

## COAXIAL HIGH-LOW DUETS

(with built-in crossovers)

Model C-15PC

### MODEL C-15PC

The most magnificent of the Cathedral Series, this 15" co-axial speaker combines the very best in wide range reproduction. The woofer element is the C-15PW with a 21 oz. Alnico V magnet and 2" aluminum form voice coil. The tweeter is the C-4FT with a 3/16" voice coil and a 3.16 Alnico V magnet. The capacitive crossover functions at 1800 cycles. Power handling capacity is 35 watts and the frequency range is 30-18,500 cycles ±5 DB. Free air resonance is 35 cycles. An excellent speaker to use in infinite baffle applications. Overall depth 8". Matching impedance 8 ohms.

**Audiophile net $59.00**

Model C-15NC

### MODEL C-15NC

Where wide range reproduction is desired with a minimum of mounting area available, the co-axial speaker is the ideal answer. A high efficiency 15" woofer and 4" tweeter combination, Model C-15NC has a power handling capacity of 30 watts with a frequency range of 30 to 18,500 cycles ±5 DB with a free air resonance of 40 cycles. The 15" woofer has a 2" aluminum form voice coil and a 1 lb. Alnico V magnet, developing an air gap intensity of 12,500 gauss. The 4 FT tweeter responds to frequencies of 1800 to 18,500 cycles. Overall depth 8". Matching impedance 8 ohms.

**Audiophile net $52.50**

Model C-12PC

### MODEL C-12PC

To many people the 12" speaker represents the ultimate in good speaker design. Here in the co-axial C-12PC, the extra heavy 21 oz. Alnico V magnet in the woofer unit develops an air gap intensity of 14,500 gauss around the 2" aluminum form voice coil giving extreme dampening and a power handling capacity of 25 watts. The C-4CT tweeter has a 3/16" voice coil and a 1.47 Alnico V magnet. Free air resonance is 35 cycles and the response is 35 to 18,500 cycles ±5 DB. Overall depth 7". Matching impedance 8 ohms.

**Audiophile net $53.50**

Model C-8JC

### MODEL C-8JC

This is the perfect speaker to use in applications where space is of prime importance and moderate power and frequency are required. The co-axial C-8JC has an 8" woofer unit with a 6.8 oz. Alnico V magnet developing an air gap intensity of 9500 gauss around the 1" aluminum form voice coil. The C-3AT, 3" tweeter, has a 3/16" voice coil and a .68 Alnico V magnet. Free air resonance 65 cycles. Frequency range 60 to 12,500 cycles ±5 DB. Overall depth 5". Matching impedance 8 ohms. Power handling capacity 8 watts.

**Audiophile net $18.00**

## WOOFERS

Model C-15PW

### MODEL C-15PW

A good woofer is basically an air pump with low frequency characteristics and high efficiency and power handling capacity. Model C-15PW is a 15" speaker with a free air resonance of 35 cycles and operates in the piston regions of 30-5000 cycles ±5 DB. The 21 oz. Alnico V magnet and 2" aluminum form voice coil give it a power handling capacity of 35 watts. Air gap intensity is 14,500 gauss. Ideal application is in a cabinet having a cavity of 25-30 cubic feet when lowest organ tone reproduction is desired. Overall depth is 8". Matching impedance 8 ohms.

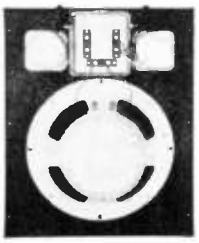
**Audiophile net $52.50**

Model C-12PW

### MODEL C-12PW

This is the same fine construction as the woofer unit used in the C-12PC but is designed for the person who prefers separate tweeters rather than a co-axial unit. Model C-12PW is a 12" speaker with a 21 oz. Alnico V magnet which develops an air gap intensity of 14,500 gauss around the 2" aluminum form voice coil. Free air resonance is 35 cycles and the response is from 30 to 5000 cycles ±5 DB. Power handling capacity is 25 watts. Overall depth 7". Matching impedance 8 ohms.

**Audiophile net $50.50**



Model C-1233

## WOOFER-TWEETER COMBINATION with SOUNDING BOARD and CROSSOVER NETWORK

The crossover in the C-1233 functions at 1800 cycles and "crosses over" at the rate of 12 DB per octave.

Designed for either wall installation on 16" joist centers, installation in a back-loaded enclosure or for conversion of an older console to high fidelity sound.

Consists of one 12" Woofer with a 21 oz. Alnico V magnet and 2" voice coil, two 3" tweeters with 1.47 oz. Alnico V magnets and 3/16" voice coils and a completely shielded L-C crossover network, all mounted on a plywood mounting board 16 x 20 with a depth of 7" from the front of the baffle to the back of the speakers. Matched for 16 ohms impedance, frequency response 30 cycles to 18,500 cycles, free air resonance 35 cycles, power rating 35 watts.

**Audiophile net $60.00**

Cletron has long been a pioneer in the production of fine sound equipment and now, in the Cathedral Series of High Fidelity Speakers, offers a full line of high-quality, faithful reproduction speakers at a moderate cost. Perfectly engineered and backed by years of production acceptance, Cletron speakers are available in ranges of price and performance to suit every need. Wide frequency range and balanced tone with minimum distortion assures you that your Cathedral speaker system will deliver all of the fine performance you expect of it. You will find a thrilling new world of listening enjoyment in the full range, vitality and naturalness made possible through your Cathedral speakers . . . high fidelity in its truest sense.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World Radio History

# Cletron Cathedral series...

## ...of High Fidelity Speakers

## TWEETERS

Model C-4FT

### MODEL C-4FT

To give that bell-like clarity to high frequency sounds, a cone type tweeter is an essential in any high fidelity system. Model C-4FT is an excellent 4" tweeter in the range of 1800 to 18,500 cycles ±5 DB. The heavy 3.16 Alnico V magnet develops an air gap intensity of 10,000 gauss around the 9/16" aluminum form voice coil. Power handling capacity is 10 watts and the matching impedance is 8 ohms. May be used with a capacitive or inductive type cross-over network.

**Audiophile net $6.50**

Model C-4CT

### MODEL C-4CT

Similar in construction to the C-4FT, the 4" C-4CT tweeter is for use in applications where less power output is required. The 1.47 Alnico V magnet develops 9500 gauss around the 9/16" aluminum form voice coil giving a power rating of 8 watts. Frequency range is from 1800 to 18,500 cycles ±5 DB. Matching impedance is 8 ohms. May be used with a capacitive or inductive type cross-over network.

**Audiophile net $5.60**

Model C-3CT

### MODEL C-3CT

The 3" C-3CT tweeter is designed primarily for multiple speaker installations with series-parallel voice coil connections and where two tweeters are to be used. It may, however, be used as a single tweeter where it is not desirable to over-accentuate the high frequencies. The 1.47 Alnico V magnet develops an air gap intensity of 9,500 gauss around the 9/16" aluminum form voice coil. Power handling capacity 6 watts. The frequency range is 1800 to 18,500 cycles ±5 DB. Matching impedance is 8 ohms.

**Audiophile net $4.75**

Model C-3CT4

### MODEL C-3CT4

The 3" tweeter is similar to the C-3CT tweeter but is supplied with a 4 ohm voice coil. This heavier voice coil permits a frequency response of 1800 to 12,500 cycles ±5 DB. Model C-3CT4 is used where two tweeters are used in series and connected to an 8 ohm matching network. Power handling capacity is 4 watts.

**Audiophile net $5.30**

## FULL SCALE—WIDE RANGES

**with high frequency diffusers**

Model C-15NR

### MODEL C-15NR

This excellent 15" speaker can be described as a "Wide Range Woofer" which is designed to cover the bass and middle ranges where extreme highs are not required, or to be used in conjunction with a high frequency tweeter for true high fidelity reproduction. Model C-15NR is a dual cone speaker with a frequency range of 30-12,500 cycles, ±5 DB and a free air resonance of 35 cycles. The 1 lb. Alnico V magnet develops an air gap intensity of 12,500 gauss around the 2" aluminum form voice coil. Power handling capacity is 30 watts. Overall depth 8". Matching impedance 8 ohms.

**Audiophile net $40.00**

Model C-12NR

### MODEL C-12NR

This is the finest single unit speaker to be obtained at any comparable price. The C-12NR is a double cone 12" Speaker with a wide range response of 30 to 16,000 cycles with a power handling capacity of 25 watts. Ideal for use in a back loaded enclosure with or without a tweeter unit. The 1 lb. Alnico V magnet develops an air gap intensity of 12,500 gauss around the 2" aluminum form voice coil. Free air resonance is 30 cycles. Overall depth 7". Matching impedance 8 ohms.

**Audiophile net $33.30**

Model C-8NR

### MODEL C-8NR

A truly fine mid range speaker for use in multiple speaker systems with high power requirements or as a single speaker where excellent mid range reproduction is required. Model C-8NR is a double cone 8" speaker with a frequency range of 60-12,500 ±5 DB. Free air resonance is 65 cycles. The 1 lb. Alnico V magnet develops an air gap intensity of 12,500 gauss around the 2" aluminum form voice coil. Power rating 16 watts. Matching impedance 8 ohms. Overall depth 5".

**Audiophile net $27.00**

Model C-8FR

### MODEL C-8FR

This wide range speaker is popular in High Fidelity applications of moderate power or as a perfect speaker for excellent public address applications. C-8FR is a double cone 8" speaker with a frequency range of 65 to 16,000 cycles ±5 DB and a free air resonance of 70 cycles. The 3.16 Alnico V magnet develops an air gap intensity of 9500 gauss around the ¾" aluminum form voice coil. Power rating is 8 watts, overall depth 3¼". Matching impedance 8 ohms.

**Audiophile net $15.00**

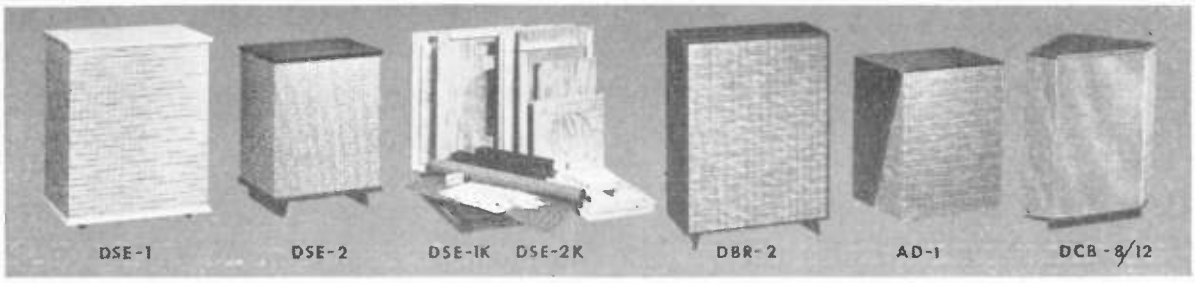
From the deep, vibrant tones of extreme low bass to the clean, crisp notes of the highest registers, perhaps no instrument is more qualified to represent the full range of musical sound than a majestic Cathedral organ. With equal ability it can sing a sweet soprano solo or burst forth in the full richness of a mixed choir. How appropriate, then, that the speakers designed to faithfully reproduce its full tonal ranges should carry the connotation of its name . . . the Cathedral Series. Cletron Cathedral Series Speakers are designed especially for high fidelity use. Many types and sizes are available from 3 inch tweeter units through 15 inch woofers and all are designed to deliver good tonal balance. Frequency ranges extend from below to above the accepted standards of human hearing. In the complete Cathedral Series you are sure to find a speaker ideally suited to your needs whether you plan a single speaker installation or a more elaborate multi-speaker system . . . and at a moderate cost.



World Radio History

# Argos PRODUCTS COMPANY — *Craftsmanship in Cabinets*

## NEW HI-FI CABINETS, BAFFLES, TUBE CADDIES




## *The Californian* . . . DE LUXE HI-FI CABINETS

Panelyte top is most durable wood-grained surface known. Solid mahogany wood trim (dark or bleached). Acoustone decorator grille cloth. New Jensen Bass Ultraflex* principle. Fiberglas acoustic padding.

**DSE-1**—The Californian (Factory-built). Takes 15" or 12" woofer and tweeter or coax speaker. Size 24" W. x 29" H. x 15" D. Ship. wt. 43 lbs. Blonde or Mahogany, same price Net $54.50

**DSE-2** — The Californian Jr. (Factory-built) Takes 12" or 8" woofer and tweeter or coax speaker. Size 19½" W. x 23⅜" H. x 13½" D. Ship. wt. 30 lbs. Blonde or Mahogany, Net $44.50

The Californian cabinets described at left are also available in pre-finished kits. All parts are pre-cut. Entire top and bottom sections finished.

**DSE-1K** — The Californian (Kit). Will take 15" or 12" woofer and tweeter or coax speaker. Size 24" W. x 29" H. x 15" D. Ship. wt. 41 lbs. Blonde or Mahogany, same price Net $40.50

**DSE-2K**—The Californian Jr. (Kit). Will take 12" or 8" woofer and tweeter or coax speaker. Size 19½" W. x 23⅜" H. x 13½" D. Ship. wt. 28 lbs. Blonde or Mahogany, same price Net $32.50

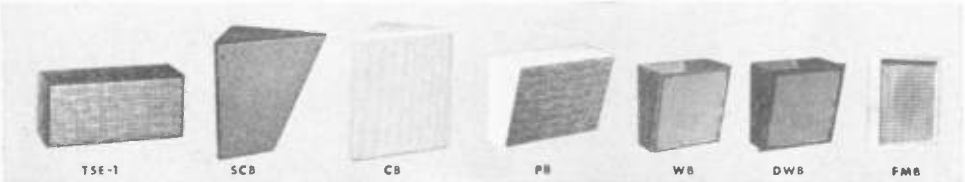
## MODERATELY PRICED SPEAKER ENCLOSURES

All three units below use Jensen Bass Ultraflex* principle to extend low end of responsive curve. Fiberglas acoustic lining. Heavy scuff-resistant pryroxylin fabric. Tweeter port cover, all hardware and speaker reducing ring.

New "Forward Front" permits slim size with same 4.3 cu. ft. vol. Can be used upright as shown or on side (Base is shipped unattached). Takes either 15" or 12" woofer and separate tweeter or a coax speaker. Size 23" W. x 30" H. x 15" D. Ship wt. 43 lbs. **DBR-2A**—Blonde or Mahogany Net $36.50

Equal in fine tonal qualities to cabinets costing up to twice the price. Ideal height for use as lamp table. Takes either 12" or 8" woofer and separate tweeter or a coax speaker. Size 19¼" W. x 23⅜" H. x 13½" D. Ship. wt. 31 lbs.
**AD-1**—Blonde or Mahogany Net $24.95

Better tone than any comparable cabinet because of (1) Bass Ultraflex* system, and (2) corner location. Use on wall or floor. Takes either 12" or 8" woofer and separate tweeter or a coax speaker. Size 22½" W. x 25" H. x 14½" D. Wt. 22 lbs.
**DCB-8/12**—Blonde or Mahogany Net $22.50




**TSE**—NEW DUCTED PORT Speaker enclosure for table or bookshelf. Amazing bass. Place for tweeter. Mah. or bl.
**SCB**—SLANTING CORNER BAFFLE. Forward Front gives 22% more internal vol. Bass reflex. Mah. or bl. pyroxylin fabric.
**CB**—CORNER BAFFLE. Forward Front gives 19% more internal vol. Bass reflex. Mahog. or bl. pyroxylin fabric.
**PB**—NEW PRESTIGE BAFFLES. Greater width improves appearance; almost twice cubic vol. for small extra cost. Mah. or bl.
**DWB**—DELUXE WALL BAFFLES in genuine wood. Blonde Mahogany or mahogany-finished, same price.
**WB**—WALL BAFFLES. Heavy ribbed fabric over thick plywood or hardboard. Mahogany or blonde, same price.
**FMB**—CEILING MOUNTING BAFFLE. 12" sq. size for fitting into standard acoustic ceiling tiles. Heavy ribbed fabric.
**R-8/12**—REDUCING RING for mounting 8" speaker in any 12" cabinet. All hardware. Ship. Wt. 1 lb. Net $1.20
R-12/15 REDUCING RING. Same only 12"—15" size. Ship. Wt. 1½ lbs. Net $1.65

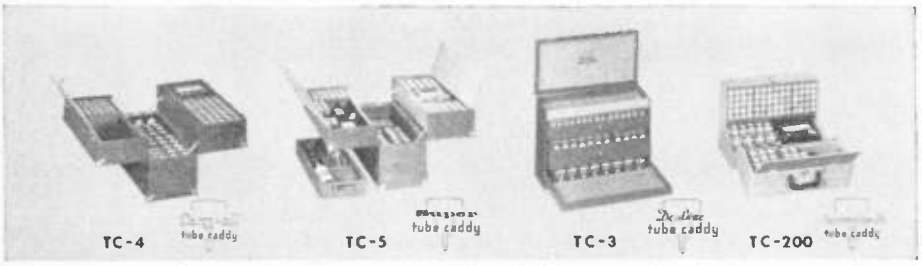
| Model | Speaker In. | Width, Height Depth, In. | Cubic Inches | Ship. Wt. Lbs. | Net Each |
|---|---|---|---|---|---|
| TSE-1 | 8 | 24 x11 x10½ | 2165 | 17 | 16.50 |
| SCB-8A | 8 | 21 x15 x10½ | 680 | 5 | 7.90 |
| SCB-12A | 12 | 21 x21¼x10½ | 1240 | 9 | 10.95 |
| CB-8C | 8 | 12¼x14 x 6½ | 525 | 4½ | 7.41 |
| CB-12C | 12 | 18 x20¼x 9 | 1520 | 9 | 10.50 |
| PB-8 | 8 | 14 x10⅜x 7 | 690 | 8° | 5.25 |
| PB-12 | 12 | 18¼x13¾x 9 | 1580 | 15° | 7.80 |
| DWB-8 | 8 | 9⅜x10½x 6½ | 380 | 4½° | 6.00 |
| DWB-12 | 12 | 13¼x14¼x 9 | 800 | 7½° | 8.40 |
| WB-4/5A | 4/5 | 6 x 6 x 4¼ | 80 | 2½° | 2.80 |
| WB-6A | 6 | 7½x 8½x 5 | 175 | 3½° | 3.40 |
| WB-8A | 8 | 9⅜x10½x 6½ | 380 | 5½° | 4.05 |
| WB-10A | 10 | 11½x12¼x 7¾ | 715 | 7½° | 4.80 |
| WB-12A | 12 | 13¼x14¼x 9 | 800 | 9½° | 5.55 |
| FMB-8 | 8 | 12 x12 x 1½ | — | 5° | 4.50 |

°Shipping weight of 2 in carton.

**PLASTI-KOTE SPRAYS**

ACRYLIC. No. 274. Highest dielectric strength—800 volts/mil. 16 oz. Net $1.27
MFR Moisture-Fungus-Resistant Varnish. No. 277. Meets mil. specs. 16 oz. Net $1.33
FIRE EXTINGUISHER. No. 275. Non-toxic. 16.4 oz. Net $1.27
RUST SOLVENT, PENETRANT. No. 276. 16 oz. Net $1.13
ENAMEL. Detachable professional nozzle. 16.4 oz.

No. 250 Black — No. 264 Clear
No. 251 White — No. 266 Gray
No. 259 Alum. — No. 260 Gold
Others on Req. Net $1.27




They make work easier and quicker and you are more efficient. Regimented drawers give INVENTORY at a GLANCE. Shop owners say a tube caddy PAYS FOR ITSELF IN THREE WEEKS' TIME. Men are checked in and out faster and always arrive with the tubes they need.

**CARRY-ALL TUBE CADDY***
"Break-away" design gives gives quick access. Holds up to 262 tubes, plus tools, meter. 21" w. x 15" h. x 8" d. Ship. Wt. 12 lbs.
**TC-4**—Net Each $15.95

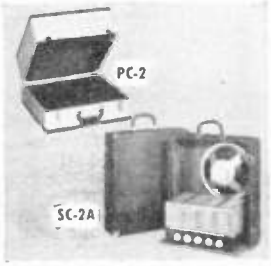
**NEW PACEMACKER CADDY***
**TC-100.** Similar to above, priced for economical buyer. Same size, wt. Net $12.35

**TUBE CADDY* JUNIOR**
**TC-2A.** Like TC-4, smaller. 143 tubes, tools. 15¾" w. x 12½" h. x 8" d. Wt. 9 lbs. Net $10.50

**NEW SUPER TUBE CADDY***
Carries ⅓ more, gets more jobs done on the spot. Separate tool tray. 3300 cu. in. vol. Size 24" w. x 16½" h. x 8½" d. Ship. Wt. 16 lbs.
**TC-5**—Net Each $21.95

**DELUXE TUBE CADDY***
Convenient tool tray (2⅛" deep). Holds up to 225 tubes. Slip-out hinges. 18" w. x 14½" h. x 9¼" d. Ship. Wt. 14½ lbs.
**TC-3**—Net Each $16.95

**NEW PACEMACKER JR.**
New small size, folding model, economically priced. Holds up to 143 tubes, tools. Size 15¾" w. x 12½" h. x 8" d. Ship. Wt. 9½ lbs.
**TC-200**—Net Each $8.95




**SOUND CADDY**
Accommodates two 12" speakers and amplifier. Brackets for cables. Heavy plywood, steel corner angles. Brown fabric covering. 17¾" w. x 22" h. x 13⅛" d. Shipping Wt. 22 lbs.
**SC-2A**—Net $19.50

*Registered TM of Argos Co. All prices slightly higher West of Rockies.

*Trade-mark of and Licensed by Jensen Manufacturing Co.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World Radio History

# ATLAS SOUND CORP. *the complete line for all P.A.*

**KING COBRA-JECTOR-P. A. SPEAKER**

**ALL MODELS EQUIPPED WITH OMNI-DIRECTIONAL MOUNTING BRACKETS**

## *INDESTRUCTIBLE FIBERGLASS*

**CJ-44**—All purpose, wide angle, P.A. speaker, complete with built-in "Acoustic-Matched" driver unit. "Controlled Response" offers smooth reproduction, free from peaks which so often create and sustain acoustic feedback.

**CJ-30**—Versatile all purpose speaker in amazing power package for the really "tough jobs". The 30" air column results in an adequate response for industrial type music systems.

**CJ-14**—Excellent for inter-com systems for paging and talk-back. Super efficient when used with low power inter-comms.

| Model: | CJ-44 | CJ-30 | CJ-14 |
|---|---|---|---|
| †Power: | 30 watts | 15 watts | 5 watts |
| *Impedance: | 16 ohms | 8 ohms | 8 ohms |
| Frequency: | 150-9000 cps. | 250-9000 cps. | 400-9000 cps. |
| Dispersion: | 90° x 60° | 120° x 60° | 120° x 60° |
| Dimension: | Bell 23"x12" | Bell 14"x6" | Bell 9½"x5½" |
| Overall Length: | 19" | 14" | 8½" |
| List Price: | $72.50 | $40.00 | $28.00 |

*All models available in 45 ohms—add $1.00 to list.
† Power ratings may be doubled with equalized response.

## ATLAS SUPER-POWER ALNICO-V-PLUS DRIVER UNITS

All models include Atlas "Alnico-V-Plus" super-efficient magnetic circuit—magnetically shielded, hermetically sealed. One-piece unbreakable, high temperature and fatigue-proof phenolic diaphragm. Deluxe PD-5VT and PD8VT include built-in "Uni-Match" transformer for universal matching to constant impedance and constant voltage systems. All transformer taps and direct voice coil connections are brought out to waterproof "terminal window" on rear of phenolic unit housing 1⅜"-18 thread.

PD-5VH

PD-4V

PD-5VT
PD-8VT
PD-8VL

| Model | Continuous Power | Equalized Response† | Impedance | Frequency | List |
|---|---|---|---|---|---|
| PD-4V | 25 watts | 50 watts | 16 ohms | 90-6000 | $27.50 |
| PD-5VH | 25 watts | 50 watts | 16 ohms | 80-9000 | 35.00 |
| PD-5VT | 25 watts | 50 watts | 16 ohms* | 80-9000 | 45.00 |
| PD-8VT | 30 watts | 60 watts | 16 ohms* | 80-10,000 | 50.00 |
| PD-8VL** | 30 watts | 60 watts | 16 ohms | 80-10,000 | 42.50 |

*Actual voice coil impedance. "Uni-Match" transformer offers 165, 250, 500, 1000, 2000 ohms and variable 70-volt line connections.
**Identical to Model PD-8VT, but supplied less transformer.
†Input range limited to frequencies above horn cut-off.

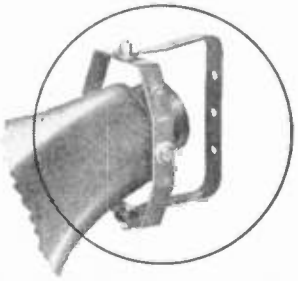
## ATLAS 'DR' WEATHERPROOF DOUBLE-REENTRANT PROJECTORS

The modified exponential taper has proved most efficient for overall performance. All acoustical paths are clean and uniform. Reflex turns are smooth and flowing. Ruggedly constructed of heavy castings, precision stampings, accurate die castings and uniform metal spinnings. Bell rim dampened and mechanically protected with formed rubber rim. All metals specially processed by chemical and electro-chemical means to impart complete weather-protection. Heavy "U" bracket mountings, securely fastened to main body casting of each model, do not fail even under extreme stress, strain or vibration. 1⅜"-18 thread.

| Model | Air Column | Low Frequency | Lgth. | Diam. | List Price |
|---|---|---|---|---|---|
| DR-32 | 2½ ft. | 175 c.p.s. | 12 in. | 14 in. | $26.00 |
| DR-42 | 3½ ft. | 135 c.p.s. | 15 in. | 21 in. | 31.00 |
| DR-54 | 4½ ft. | 105 c.p.s. | 18 in. | 23 in. | 43.00 |
| DR-72 | 6 ft. | 85 c.p.s. | 25 in. | 31 in. | 70.00 |

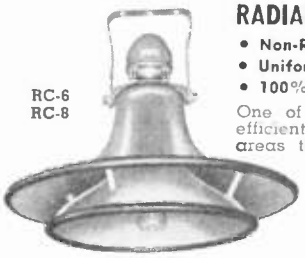
### UNIVERSAL MOUNTING BRACKET MODEL GB-1 FOR CJ-44 AND ALL MODELS OF "DR" PROJECTORS

This useful accessory is easily and quickly atached to all Atlas projectors using U type bracket mounting. It permits the speaker to be quickly adjusted in both a horizontal and vertical plane and securely locked in position for the most effective sound coverage. Average adjustment limits 160° on the horizontal and 65° on a vertical direction. Constructed of bonderized steel, finished in baked enamel, all hardware supplied. Shipping weight 3 lbs. Model GB-1 **List $5.00**



### RADIAL DRIVER PROJECTORS

- **Non-Resonant**
- **Uniform 360° Coverage**
- **100% Stormproof**



RC-6
RC-8

One of these models often is more efficient for large and high noise level areas than several ordinary projectors. For speech and music. All-aluminum construction—smooth, uniform response. Thread 1⅜"-18.

| | RC-8 | RC-6 |
|---|---|---|
| Air Column | 5 feet | 4 feet |
| Bell Diameter | 29" | 25" |
| Overall Ht. (incl. bracket) | 26" | 21½" |
| Low Frequency Cutoff | 120 | 150 |
| List (horn only) | $55.00 | $45.00 |

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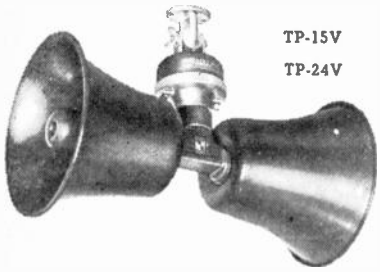
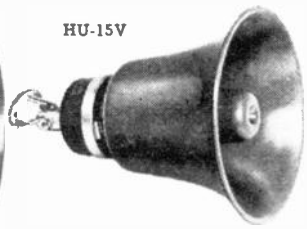
World Radio History

## ALNICO V-PLUS PAGING and TALK BACK SPEAKERS — all with OMNI-DIRECTIONAL BRACKET.


TP-15V
TP-24V

HU-24V


HU-15V

HU-12

| Model | HU-12 | HU-15V | HU-24V | TP-15V | TP-24V |
|---|---|---|---|---|---|
| Power* | 5 watts | 15 watts | 15 watts | 15 watts | 15 watts |
| Impedance | 8 ohms † | 8 ohms † | 8 ohms † | 8 ohms † | 8 ohms † |
| Frequency | 375-9000 c.p.s. | 300-7000 c.p.s. | 200-7000 c.p.s. | 250-7000 c.p.s. | 190-7000 c.p.s. |
| Length | 7½ in. | 11 in. | 14½ in. | 15½ in. | 22 in. |
| Diameter | 6¼ in. | 8½ in. | 10 in. | 8½ in. | 10 in. |
| Air Column | 13½ in. | 16½ in. | 24 in. | 19½ in. ea. side | 27 in. ea. side |
| **List** | **$25.00** | **$32.50** | **$35.75** | **$47.50** | **$52.00** |

*Power ratings may be doubled with equalized response

†All models available in 45 ohms. (Add 45 after Model No. — Example HU 15V-45.) Add $1.00 to list price.

This series of speakers includes models suitable for every conceivable industrial application. The Atlas "Alnico V-Plus" feature incorporated in Atlas speakers does much to increase the high conversion efficiency inherent in speakers of this design.

**EFFICIENT**—These speakers are particularly efficient in the voice frequency range and provide the extra "punch" that over-rides high level background noise.

**TALK-BACK**—All of these models have been designed to offer a maximum sensitivity to voice pickup for in excess to any other speakers.

**MOUNTING**—The mounting bracket design of all models permits both a vertical and horizontal adjustment.

**FINISH**—Weatherproof high lustre gray enamel protects all parts and results in a fine appearance. The driver units are hermetically sealed and are 100% weatherproof under every conceivable climatic condition.

## MODEL T-13—30 WATT WEATHERPROOF TRANSFORMER

For use with CJ-44 and all models of high power driver units. Complete with die-cast weatherproof enclosure. Transformer supplied with large non solder screw terminals. Universal strap mounting for wide choice of mounting.

**Specifications:** Primary 160 250, 500, 1000 and 2000 ohms. Secondary 8 and 16 ohms. Also calibrated in steps of 3 db for use on 70 volt amplifiers. **List Price $16.50**

**MODEL T-14:** Transformer only—less enclosure. **List Price $9.50**

**MODEL TH-1:** Enclosure and bracket only for use in special applications. Inside diameter 3⅞ x 3¼" deep. **List Price $7.00**

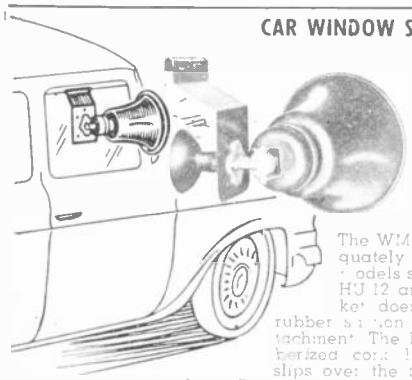
## MODEL T-11—15 WATT WEATHERPROOF TRANSFORMER

For use with all models CJ HU and TP speakers. Convenient wall bracket mounts under speaker bracket.

**Specifications:** Primary 500 1000, 1500 and 2000 ohms. Secondary 4 and 8 ohms. Also calibrated for constant voltage, 70 volt line in steps of 3db.

**List Price $8.50**

## CAR WINDOW SPEAKER SUPPORT



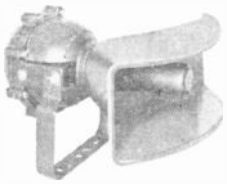
This bracket can be quickly attached to any car or truck window without the use of tools. It will not cause damage to the paint finish, window glass or adjustment mechanism.

The WM 1 bracket will adequately support speaker models such as the HU 15V HU 12 and CP 14. The bracket does not rely on the rubber suction cup for secure attachment. The bracket has a rubberized cork lined channel that slips over the top of the window glass. Raising the window locks it tightly against the top window slot. **List Price $5.00**

**Model WM-1**

## HIGH EFFICIENCY EXPLOSION-PROOF SPEAKERS

**Approved by Underwriters Laboratories for Hazardous Locations**



**HLE-30**

**HLE 42**

Both models are rated at 30 watts [illegible] voice coil impedance 16 ohms (45 ohms also available). HLE 30 type [illegible] length [illegible] opening 14 [illegible]. HLE 42 type overall length 25 [illegible] opening 21" diameter.

Approved T-30 line matching transformer available. **List $8.50**

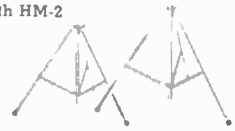
**COMPLETE DESCRIPTIVE SHEET ON REQUEST**

**HLE-1-30** Class I **List $110.00** **HLE-1-42** Class I **List $125.00**
**HLE-2-30** Class II **List 135.00** **HLE-2-42** Class II **List 150.00**

## SPEAKER SUPPORT STANDS

**Model SS-2**

**Model SS-2 with HM-2**



**SS-2**—Folding legs automatically level on uneven ground. Supports a cluster of speakers. Double clutch protection against accidental release. "Easy-off" top fitting permits attachment or removal of projector without tools. Ht. extension 5-10 ft. Wt. 20 pounds.

**HM-2 Horn Mounting Accessory**—Permits 3 speakers on SS 2 Stand and their orientation in any direction.

**MODEL SS-2:** Speaker Support Stand **List Price $38.00**

**MODEL HM2:** Two Horn Mounting Fixture **List Price $16.50**

## TWO-WAY ENCLOSURE for 8" Cone Speaker

**TW-8**

Speakers front and back wave are used for good coverage in long corridors and central locations. Adjustable wall or ceiling mounting brackets and speaker mounting screws supplied. Outside diam. 10", depth 5".

**Model TW-8** **List Price $9.00**



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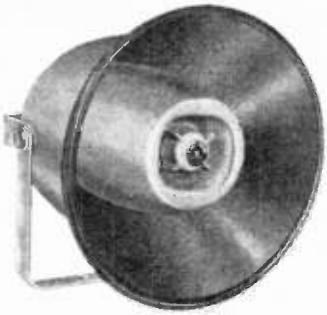
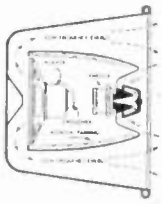
## ATLAS COAX-PROJECTOR *Model* WT-6





**for wherever HI-FI is a MUST,** indoors or out . . . **entertainment** places: theatres, auditoria . . . **industrial** music & paging systems . . . **outdoors:** carnivals, pools, boat clubs . . . **home** patios, gardens . . . **permanent** or **portable** installations.

**all-weather** — install it, forget it! — **high-efficiency** . . . **compact** . . . True HIGH FIDELITY **TWO-WAY** system — not just a "compromise" of two horns coupled to a single diaphragm. The WT-6 comprises a weather-proof cone type driver (with 6-inch throat) coupled to its individual woofer horn; a separate pressure-type driver loaded to its separate tweeter horn. The built-in crossover electronic filter supplements the electro-mechanical frequency-limiting characteristics of the 2 individual reproducers — providing for smooth frequency division as each speaker functions within its engineered range of frequencies. Universally adjustable "U"-type rugged steel mounting . . . finished in high temperature baked modern beige enamel.

### SPECIFICATIONS

| | |
|---|---|
| Type | Coaxial-Individual High and Low Drivers |
| Power Rating | 15 watts (continuous duty) |
| Frequency Range | 140-15,000 cps |
| Impedance | 8 ohms |
| Dispersion | 120° average |
| Sound Level* | 118 db. |
| Crossover | 1,000 cps (approximate) |
| Dimensions | Bell Opening 15"<br>Overall Depth 12" |
| Net Weight | 11½ lbs. |
| Shipping Weight | 14 lbs. |

*Sound pressure measured at four feet, 800 to 1300 cps sweep with rated power.

**Model WT-6** **List $57.50**

## ATLAS CONE-PROJECTOR *Model* W-6

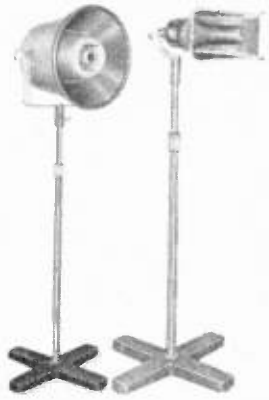
Model W-6 is identical in engineering size, construction and general appearance to the WT-6, except that it is not equipped with an individual high-frequency driver unit and horn. Response is adequate for applications where good musical reproduction is desired but the ultimate in high-frequency response is not necessary (juke box extension speakers, industrial music systems, outdoor installation, etc.)

### SPECIFICATIONS

| | |
|---|---|
| Type | Cone Speaker Projector |
| Power Rating | 15 watts |
| Frequency Range | 140 to 8,000 cps |
| Impedance | 8 ohms |
| Dispersion | 120° approximate |
| Dimensions | Bell Opening 15"<br>Depth 12" |
| Net Weight | 9 lbs. |
| Shipping Weight | 12 lbs. |

**Model W-6** **List $42.50**

## ATLAS Loudspeaker TELESCOPING SUPPORT STAND



Excellent all-purpose speaker stand, suitable for manifold applications. Designed for use with all speakers of medium weight & size, such as WT-6, W-6, CJ-30, etc. The answer to a quick & simple rental installation — eliminates problem of speaker placement. Supplied with "easy-off" top adapter & fittings so various models of speakers may be quickly attached or removed. Cast-iron base supplies adequate stability yet minimum floor space. Attractive full chrome upright, gun metal shrivel base. Extends well over 6 ft. high sufficient for all applications. Shipping wt. 20 lbs.

**Model SS-4** **List $21.00**

## ATLAS Weather-Proof LINE MATCHING TRANSFORMER

T-11

Required only for multiple speaker installations or where the speaker is located farther than approximately 200 feet from the amplifier. For use with either W-6 or WT-6, this 15-watt transformer is complete with weatherproof housing and convenient bracket mounting. **Specifications:** Primary 500, 1000, 1500 & 2000 ohms. Secondary: 4 & 8 ohms. Also calibrated for constant voltage (70 volt line).

**Model T-11** **List $8.50**

### ATLAS SUPER-TWEETER

HR-3

Versatile, super-efficient. Goes "over the top" in response. Silky smoothness, wide-angle distribution pattern, distortion-free, "Precision-controlled" construction.

| | |
|---|---|
| Freq. Response | 2,000 to 17,500 cps |
| Impedance | 12 to 16 ohms |
| Power (prog. cap.) | 35 watts (prox.) |
| Cabinet opening required | 6" x 2" |

**Model HR-3** **List $27.50**

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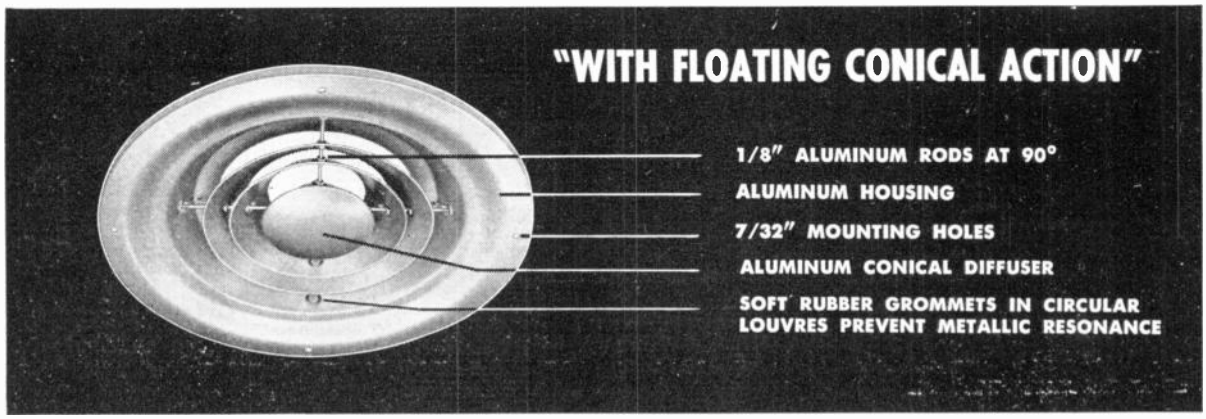
# LOWELL STL SERIES

## New Low Ceiling Type Baffles




*Patented in U.S.A. and Canada*

| Model No. | Speaker Size | Will Mount to |
|---|---|---|
| STL-6 | 6" | CP8, XCP8, PR8 |
| STL-7 | 7" | STP8, XSTP8, XSTPR8 |
| STL-8 | 8" | STP8, XSTP8, XSTPR8 |
| STL-10 | 10" | STP1012, XSTP1012, XSTPR12 |
| STL-12 | 12" | STP1012, XSTP1012, XSTPR12 |

These new, unusual additions to the Lowell line of speaker baffles are top quality heavy 18 gauge spun aluminum in a buffed satin finish. Designing assures controlled 360° dispersion of undistorted sound. Echo and feedback are at the minimum. Louvres and conical diffuser "float" on very small soft rubber grommets. Baffles are coated with clear lacquer which also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request.

Shipped complete with hardware and instructions for mounting to Lowell Protective Speaker Enclosures illustrated.

From architecture to acoustics, Lowell STL series meets every requirement — in ultra-modern design . . . for even, undistorted low-level sound distribution throughout 360°. Recommended baffle placement is usually 25' from center to axis. Where straight line placement is impossible, triangulating the baffles in the ceiling is highly effective.

**STP SERIES**

**XSTP SERIES**

**XSTPR SERIES**

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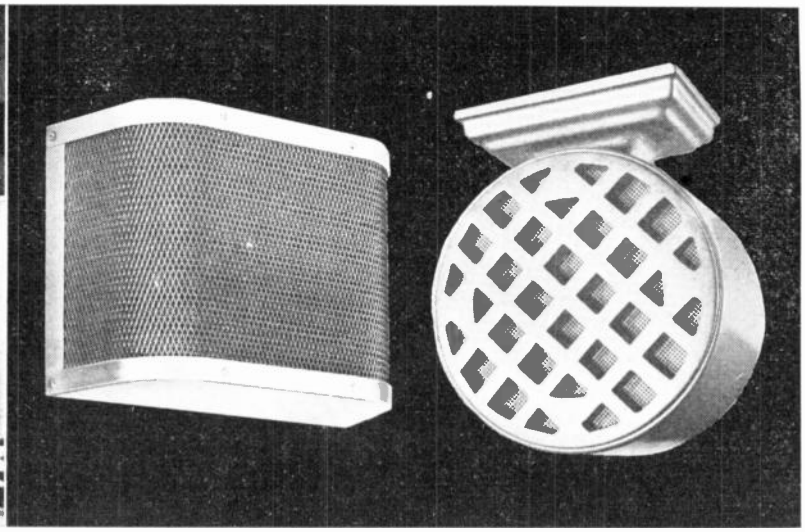
# LOWELL SPECIAL APPLICATIONS



## HI-FI-LITE

Hi-Fi sound and outdoor light now combined in a beautiful, all-weather lamp. Ideal for residential and commercial installations. Finished in anodized midnight black or gold. The perfect companion to modern American outdoor living.

## THE 'DRAMATONE' BASE REFLEX WALL BAFFLE

Especially designed for installations where a modern trend is desired. Beautiful plastic grille cloth mounted directly in back to conceal the loudspeaker. Baffle operates with a bass reflex principle. Interior completely lined with jute to prevent metallic resonance.

## HEAVY-DUTY PENAL INSTITUTIONAL BAFFLE

Bi-directional type mounts to any standard single or double electrical outlet box. Tamper-proof machine screws, which fasten the baffle together, cannot be removed without a special screwdriver. Rugged construction withstands severe punishment. Both speaker face plates are covered from behind with perforated metal to prevent sharp objects from piercing the speaker cone.

The entire baffle is prime coated and finished in silver grey hammertone.

Order screwdriver with 6-32 and 8-32 tip.

## SPECIFICATIONS

### HI-FI-LITE

| MODELS: | DESCRIPTION: |
|---|---|
| PBA-8 | With pipe and lite (For 8" speaker) Complete unit |
| PBA-7 | With pipe and lite (For 7" speaker) Complete unit |
| PBC-8 | With pipe only (For 8" speaker) No lite |
| PBC-7 | With pipe only (For 7" speaker) No lite |
| PBF-8 | With lite only (For 8" speaker) No pipe |
| PBF-7 | With lite only (For 7" speaker) No pipe |
| PB-8 | With top section only (No pipe or lite) For 8" speaker |
| PB-7 | With top section only (No pipe or lite) For 7" speaker |

### 'DRAMATONE' BASE REFLEX WALL BAFFLE

DIMENSIONS: 13¾" x 5⅝" depth x 9¾" height.
MODELS: DD6-A
DD7-A
DD8-A

### PENAL INSTITUTIONAL BAFFLE

| MODELS | SPEAKER SIZE |
|---|---|
| BRLK-5 | 5" |
| BRLK-6 | 6" |
| BRLK-7 | 7" |
| BRLK-8 | 8" |

Model RLK series is very similar to Model BRLK with the exception that these models do not have a cradle base. Mount to ceiling or wall or standard electrical outlet boxes.

| MODELS | SPEAKER SIZE |
|---|---|
| RLK-5 | 5" |
| RLK-6 | 6" |
| RLK-7 | 7" |
| RLK-8 | 8" |

NOTE: Order only by model numbers

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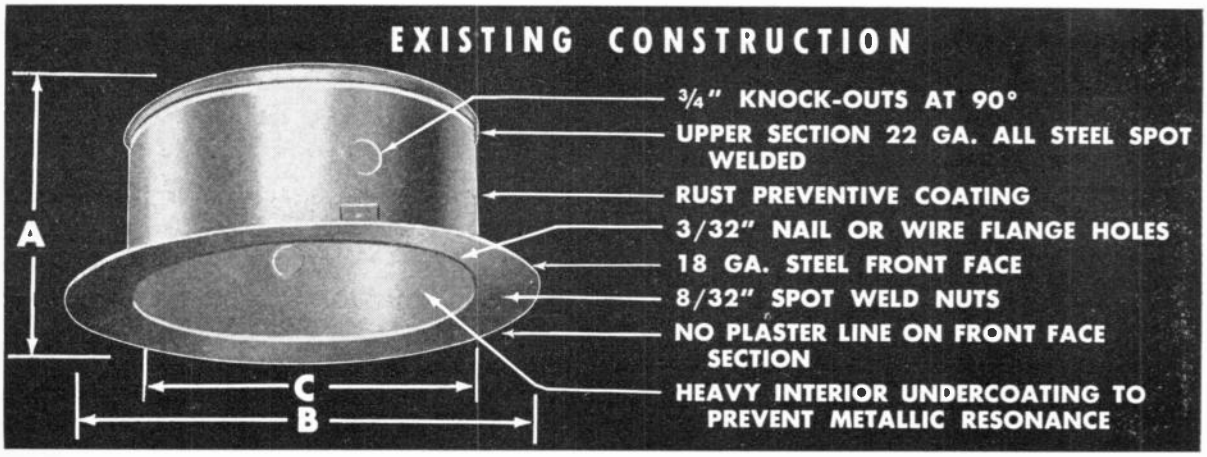
# LOWELL XCP SERIES

## Back Cover Protective Speaker Enclosure




| Model | A | B | C | Speaker Size Accommodation |
|---|---|---|---|---|
| XCP6 | 4" | 10 1/4" | 7 3/8" | 6" |
| XCP8 | 2 1/2" | 11 3/4" | 8 1/2" | 8" |
| XCP8 | 4 1/4" | 11 3/4" | 8 1/2" | 8" |
| XCP8 | 7" | 11 3/4" | 8 1/2" | 8" |
| XCP8 | 10" | 11 3/4" | 8 1/2" | 8" |
| XCP1012 | 7" | 16" | 12 3/8" | 10" & 12" |
| XCP15 | 10 3/4" | 21 1/8" | 14 5/8" | 15" |
| XSTP8 | 7" | 13 3/4" | 12 1/2" | 8" |
| XSTP1012 | 10" | 17 1/2" | 14 1/2" | 10" & 12" |

**USES:** Designed for quick labor-saving wall or ceiling installation of sound systems in EXISTING CONSTRUCTION, ready for plastering.

**DESCRIPTION:** All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. 1/2" and 3/4" knockouts at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete mounting hardware and mounting instructions furnished to meet problems of various types of installations.

**Note:** Special overall depths (where space in walls and ceilings allow) and additional "loading" may be ordered at slightly higher price.

**IMPORTANT:** When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath:

Model XCP6—7 1/4" dia.
Model XCP8—8 5/8" dia.
Model XCP1012—12 5/8" dia.
Model XCP15—14 3/4" dia.
Model XSTP8—12 5/8" dia.
Model XSTP1012—14 5/8" dia.

**FOR SUSPENDED CEILINGS:**
Mount XCP Series back enclosures to Model SS24 or 48 Steel Support Channels for positive strength.

**FEATURES:** Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Installation time reduced.

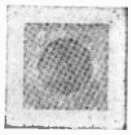
**Speaker Baffles That Will Mount to XCP Series Protective Speaker Enclosures:**

| Enclosure Model No. | Speaker Baffle Model No. |
|---|---|
| XCP6 | AL6-A, RS5-A, RS6-A, |
| XCP8 | AL7-A, AL8-A, RS7-A, RS8-A, CE, JG8, M-8 PS8, STL6 |
| XSTP1012 | AL10-A, AL12-A, RS10-A, RS812-M, AL812-M, RS12-A, JG12 |
| XCP15 | AL15, RS15-A |
| XSTP8 | STL8 |
| XCP1012 | STL10 STL12 |

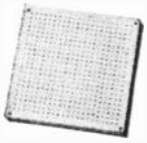
**AL SERIES**

**RS SERIES**

**JG SERIES**



**M SERIES**



**PS8 BLOCK PAN**

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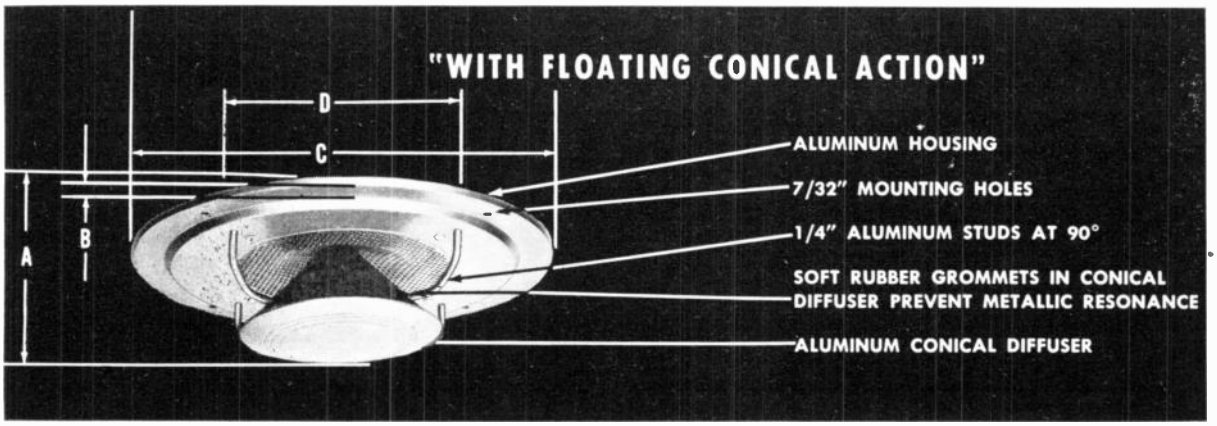
# LOWELL AL SERIES

## Flush Mounting Low Ceiling Baffles




*Patented in U.S.A. and Canada*

| Speaker Baffle Model | Size Speaker Accommodated | Mount to Speaker Enclosure Models | Dimensions A | B | C | D | Baffle Flange | No. of Flange Mtg. Holes | Dia. of Required Hole in Ceiling | Weight (lbs.) Net | Shpg. | No. per Shipping Carton |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL6-A | 6" | CP6, XCP6, PR6 PS | 2½" | ½" | 10¾" | 5¼" | 1" | 4 | 7" | ½ | ¾ | 12 |
| AL7-A | 7" | CP8, XCP8, PR8 PS | 2½" | ½" | 12⅝" | 5¼" | 1" | 4 | 8½" | ¾ | 1 | 15 |
| AL8-A | 8" | CP8, XCP8, PR8 PS | 2½" | ½" | 12⅝" | 6⅜" | 1" | 4 | 8½" | ¾ | 1 | 15 |
| AL10-A | 10" | CP1012, XCP1012 PR10 | 3" | ½" | 16⅞" | 8½" | 1" | 4 | 13" | 1 | 1½ | 6 |
| AL12-A | 12" | PR12, CP1012, XCP1012 | 3" | ½" | 16⅞" | 10⅜" | 1" | 4 | 13" | 1 | 1½ | 6 |
| AL15-A | 15" | PR15, XCP15 CP15 | 5" | 2" | 21¾" | 13" | 1¾" | 8 | 15½" | 3 | 3½ | 1 |
| AL812-M | 8" | PR12, CP1012 XCP1012 | 2½" | ½" | 16⅞" | 6¼" | 2" | 4 | 8½" | ¾ | 1 | 6 |

Top quality, heavy gauge satin finished spun aluminum. Assures controlled 360° diffusion of undistorted "ear-level" sound with minimum of echo and feedback. Conical diffuser "floats" on soft rubber grommets forming a press fit to aluminum support studs which thread to speaker housing ring. Clear lacquer coating also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request. Shipped complete with hardware for mounting to Lowell Protective Speaker Enclosures illustrated.

### 360° Coverage Low "Ear-Level" Sound

Even undistorted sound. Recommended baffle placement 25' from center of axis. Where straight line placement is impossible, triangulating baffle in ceiling is highly effective.

**CP SERIES**

**XCP SERIES**

**PR SERIES**

**PS BLOCK PAN**

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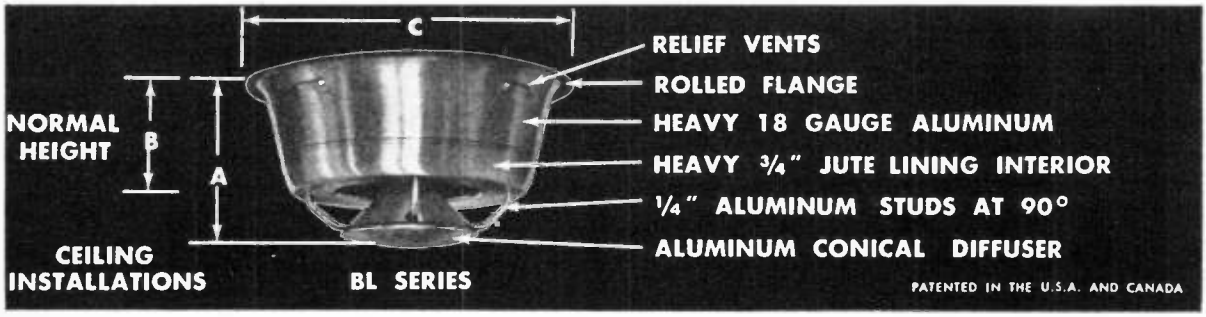
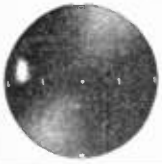
# SURFACE MOUNTING CEILING BAFFLES

## "WITH FLOATING CONICAL ACTION"




| Model No. | Speaker Size | A | B | C | Will Mount To |
|---|---|---|---|---|---|
| BL6-A | 6" | 7¼" | 4¼" | 12 7/16" | PL6 |
| BL7-A | 7" | 8⅛" | 5" | 14¾" | PL7 |
| BL8-A | 8" | 8⅛" | 5" | 14¾" | PL8 |
| BL10-A | 10" | 9¼" | 6¾" | 18⅝" | PL10 |
| BL12-A | 12" | 9¼" | 6¾" | 18⅝" | PL12 |

**IMPORTANT NOTE:** When added cubical area is required, CP or XCP Series may be installed in ceiling. Choose model to suit speaker size selected for installation.



PL Series Steel Discs for mounting BL Series to concrete ceilings. Heavy 18 gauge steel. All holes punched for standard electrical outlet boxes.

**GENERAL INFORMATION:** Designed for surface mounting constructed of heavy gauge aluminum. Accurately engineered for normal ceiling sound reinforcement. Perfect speaker cone loading holds feed-back to minimum. Exclusive "Floating Conical Action" assures controlled 360° sound coverage. High frequency diffuser supported to housing by four ¼" aluminum studs and threaded on one end mounted to housing. Press fit to diffuser through soft rubber grommets prevents metallic resonance. Recommended placement of baffles under normal ceiling heights is 25' off center of axis in straight line placement. All models finished in brushed satin and coated with colorless lacquer. Acts as excellent base coat or primer for on-the-job painting. All models available in colored lacquers at slightly higher price. Complete information on request

# TYPE RS recessed wall type directional speaker baffles

**TYPE RS RECESSED WALL TYPE DIRECTIONAL SPEAKER BAFFLES:**

Excellent speaker trim for modern installations. Especially recommended for Dress Shops, Department Stores, Night Clubs. Provides concealment of speaker. Easily installed.

**DESCRIPTION:** Made of aluminum with ½" mounting flange. Standard finish — satin-aluminum. Improved one-piece construction. Four screws are supplied to mount speaker. Mounts to LOWELL TYPE CP or XCP enclosures where speakers must be protected. The RS8-a and RS12-a are now one-piece construction.

| Model No. | Speaker Size | Dimensions | Wall Hole Size |
|---|---|---|---|
| RS4-A | 4" | 7½" dia. x 7'16" depth | 5" dia. |
| RS5-A | 5" | 10¾" dia. x 7/16" depth | 7" dia. |
| RS6-A | 6" | 10¾" dia. x 7/16" depth | 7" dia. |
| *RS7-A | 7" | 12⅝" dia. x 7/16" depth | 8½" dia. |
| RS812-M | 8" | 16⅞" dia. x 1/2" depth | 8½" dia. |
| RS8-A | 8" | 12⅝" dia. x 1/2" depth | 8½" dia. |
| RS8-A (1½" deep) | 8" | 12⅝" dia. x 1½" depth | 8½" dia. |
| RS10-A | 10" | 16⅞" dia. x 1/2" depth | 12½" dia. |
| RS12-A | 12" | 16⅞" dia. x 1/2" depth | 12½" dia. |
| RS15-A | 15" | 21¾" dia. x 3" depth | 17" dia. |

* For RCA 7" Accordian Speaker. Information on colored lacquer furnished on request for both models.

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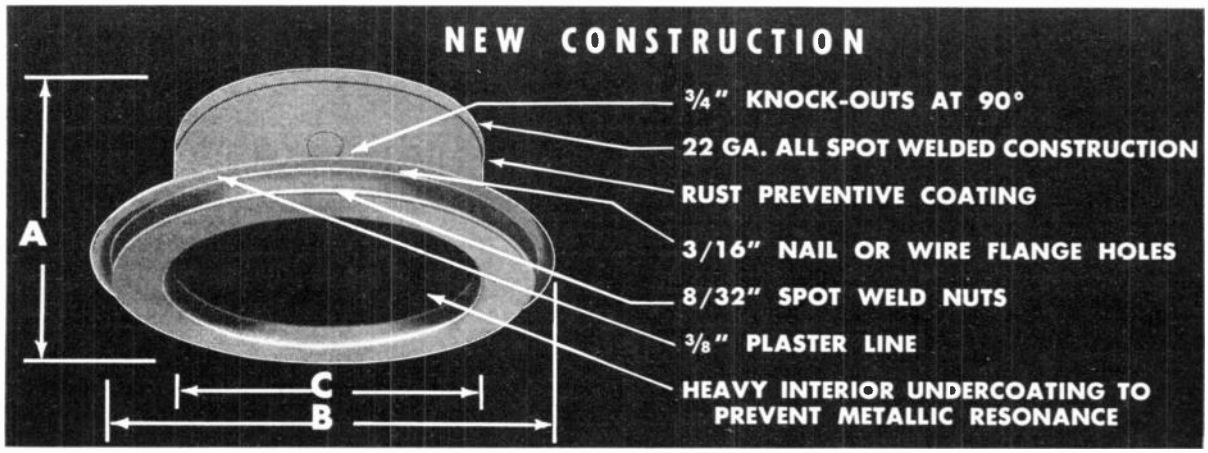
# LOWELL CP SERIES

## Back Cover Protective Speaker Enclosure




| Model | A | B | C | Speaker Size Accommodation |
|---|---|---|---|---|
| CP6 | 4" | 11¼" | 7" | 6" |
| CP8 | 2½" | 13⅛" | 8½" | 8" |
| CP8 | 4½" | 13⅛" | 8½" | 8" |
| CP8 | 7" | 13⅛" | 8½" | 8" |
| CP8 | 10" | 13⅛" | 8½" | 8" |
| CP8 | 12" | 13⅛" | 8½" | 8" |
| CP1012 | 7" | 17⅛" | 12½" | 10" & 12" |
| CP15 | 11" | 21½" | 14⅝" | 15" |
| STP8 | 7" | 14⅞" | 12⅜" | 8" |
| STP1012 | 10" | 18⅞" | 14¾" | 10" x 12" |

**USES:** Designed for quick, labor-saving wall or ceiling installation of sound systems in NEW CONSTRUCTIONS, ready for plastering.

**DESCRIPTION:** All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. ¾" and ½" knock-outs at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete with mounting hardware and mounting instructions to meet problems of various types of installation.

**Note:** Special overall depths (where space in walls and ceilings allow) and additional "loadings" may be ordered at slightly higher price. Available with removable cylinder and stationary front plaster ring in adjustable face models—DCP series.

**IMPORTANT:** When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath.

Model CP6—7" dia.
Model CP8—8½" dia.
Model CP1012—12½" dia.
Model CP15—14¾" dia.
Model STP8—12½" dia.
Model STP1012—14½" dia.

**FOR SUSPENDED CEILINGS:**

Mount CP Series back enclosures to Model SS 24 or 48 Steel Support Channels for positive strength.

**FEATURES:** Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Reduces installation time.

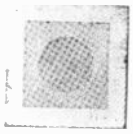
**Speaker Baffles That Will Mount to CP Series Protective Speaker Enclosures:**

| Enclosure Model No. | Speaker Baffle Model No. |
|---|---|
| CP6 | AL6-A, RS5-A, RS6-A |
| CP8 | AL7-A, AL8-A, RS7-A, RS8-A, JG8, M-8, PS8, STL6 |
| CP1012 | AL10-A, AL12-A, RS10-A, RS12-A, JG12, RS812-M, AM812-M |
| CP15 | AL15, RS15-A |
| CTP8 | STL8 |
| STP1012 | STL10, STL12 |

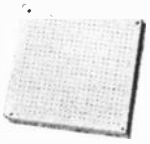
**AL SERIES**

**RS SERIES**

**JG SERIES**



**M SERIES**



**PS8 BLOCK PAN**

HEARD EVERYWHERE **Lowell** MANUFACTURING COMPANY

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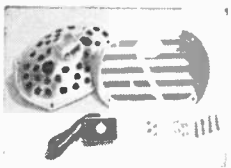
World Radio History

# ARKAY PRODUCTS MFG. CO.

**LOS ANGELES 16, CALIF.**

*The Original Duo-Sonic Speaker Kits for All Cars*

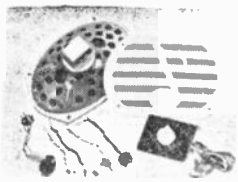
## HOLLYWOOD SPEAKER KITS



### UNIVERSAL

The UNIVERSAL kit is designed to fit all cars and includes hi quality ALNICO #5 speaker, beautiful grille, flocked screen — three position switch, wired — dial plate — knob — mounting hardware — and complete simple instructions for easy installation.

| Cat. No. | | | |
|---|---|---|---|
| HU57H—Hammertone | 5x7 | HU69H—Hammertone | 6x9 |
| HU57P—Chrome | 5x7 | HU69C—Chrome | 6x9 |



### CUSTOM DELUXE

DELUXE kits are complete and include top quality armored housing type automotive speakers—flocked grille screen—. Three position switch permits easy operation of either front or rear speaker — or both. 20 feet of plastic insulated wire — all necessary hardware — a selection of custom harnesses designed to plug directly into receptacles already provided in your radio. Complete instructions for easy installation — including descriptive pictures.

| Cat No. | | | |
|---|---|---|---|
| HC57H—Hammertone | 5x7 | HC69H—Hammertone | 6x9 |
| HC57C—Chrome | 5x7 | HC69C—Chrome | 6x9 |

## HI-FI SPEAKER KITS

### UNIVERSAL

- The original "Duo-Sonic" Hi-Fi Auto Speaker Kits.
- Acoustically engineered for sound reproduction.
- Scientifically perfected "woofer" and "Tweeter."
- 3-position control switch: front, rear or both.
- Two speaker sizes. Choice of friller finishes.
- Lustrous dual chrome plates . . . or grey hammertone.
- Packed with complete set of hardware & Fittings.
- Simple do-it-yourself installation instructions.

| Cat. No. | |
|---|---|
| HFU57H—Hammertone | 5x7 |
| HFU57C—Chrome | 5x7 |
| HFU69H—Hammertone | 6x9 |
| HFU69C—Chrome | 6x9 |

### CUSTOM

- The original "Duo-Sonic" Hi-Fi Auto Speaker Kits.
- Acoustically engineered for sound reproduction.
- Scientifically perfected "woofer" and "Tweeter."
- 3-position control switch: front, rear or both.
- Two speaker sizes. Choice of friller finishes.
- Lustrous dual chrome plates . . . or grey hammertone.
- Packed with complete set of hardware & Fittings.
- Simple do-it-yourself installation instructions.
- Includes custom adaptors for all cars.

| Cat No. | |
|---|---|
| HFC57H—Hammertone | 5x7 |
| HFC57C—Chrome | 5x7 |
| HFC69H—Hammertone | 6x9 |
| HFC69C—Chrome | 6x9 |

### DUAL HI-FI SPEAKER KIT

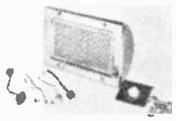
DHF-69

A scientifically engineered "Woofer" and "Tweeter" pre-assembled and mounted — joined together with true cross-over hookup to give the discerning listener the ultimate in fidelity reproduction of both high and low tones. Now, enjoy Concert Hall clarity as you ride. Each kit contains custom adapters to fit all popular cars, making soldering unnecessary. Complete easy to follow instructions are provided to make the installation simple and quick. The two speakers fit into the 6x9" space already provided by the Automobile Manufacturer without any cutting or drilling.

- Available in a choice of grill finishes
- Each Kit contains all necessary hardware and fittings
- Nothing extra to buy
- Individually boxed

### STATION WAGON KIT

- Wafer Thin
- Inverted Yoke Speaker
- Tone Engineered for Quality
- Custom Adapters for All Cars
- Complete Installation Instructions
- No Soldering—No Drilling



Cat. No. SWK-7

**Enhances the Interior of Your Wagon**

Arkays new Duo-Sonic Station Wagon Speaker Kit is easily installed over rear door—side window or back of rear seat in your Station Wagon.
The Kit contains cleverly designed bracket for easy, adjustable mounting. Available in Grey or Polished Chrome finish.

### CONVERTIBLE KIT

- Twin Matched Speakers
- Weatherproofed Construction
- Complete Installation Instructions
- Custom Adaptors for All Popular Cars
- Easy to Install
- No Soldering

Cat. No. CDK-8

Ride with added luxury surrounded by Arkay's Engineered listening. Now you can listen to your favorite programs despite the noises created by the wind when your top is down. Available in Grey or Polished Chrome Finish.

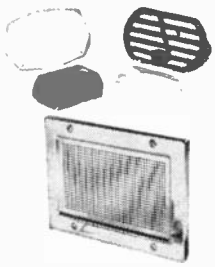
### SPEAKER SWITCHES

Arkay's switch line includes the dual speaker switch for 3 way speaker control, the vari-control for fader action and the rear volume control for rear passenger operation. All come completely wired in attractive packaging.

Cat. No.

**WS-15—Dual Speaker Switch**
**WVC-20 Vari-Control**
**RVC-1 Rear Volume Control**

### DELUXE SPEAKER GRILLES



Available in brilliant chrome or baked grey Hammertone finish. Complete with flocked screen and speaker mounting hardware.

Cat. No.

| | |
|---|---|
| SG-57—Chrome | 5x7 |
| SG-69—Chrome | 6x9 |
| SG57B—Hammertone | 5x7 |
| SG69B—Hmamertone | 6x9 |

### SELECT-O-VISION REMOTE CONTROLS

One of America's finest complete remote control units. Permits full control of the TV from across the room. Ideal for shut-ins and for those who want a bit of "lazy" luxury. Fits most popular brand TV sets. Colors: Ivory, Mahogany, Ebony.

Cat. No.
1012, 1013, 1014

### LITTLE CHAMP

S-300

The "poor man's remote control. Provides a remote speaker and volume control for TV, radio, record player, etc. Colors: Ivory, Maroon, Ebony.

### ANTENNA HARDWARE

**UVC-7—Universal Vent Clamp for mounting TV antenna to vent pipe up to 5".**

**FBC-1—Vent Clamps for mounting TV antenna to 2" vent pine.**

**R-130—2 set coupler — for connecting 2 TV sets to 1 antenna.**

**RAC-10—Antenna Clips.**

***Arkay Also specializes in bulk speakers and in custom wire cutting and stripping.***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World Radio History

# RACON ACOUSTICAL EXCELLENCE

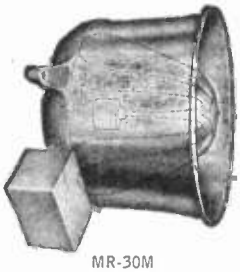
SINCE 1922

DOUBLE RE-ENTRANT MARINE SPEAKERS
RE-ENTRANT PAGING SPEAKERS
CONE SPEAKER ENCLOSURES

## DOUBLE RE-ENTRANT MARINE SPEAKERS

The Models MR-30M, MG-21J, MG-21B and MN-15B marine speakers are designed primarily to meet the vigorous sound systems requirements aboard ship.

The driver unit and connecting leads are all enclosed, resulting in a completely waterproof speaker. Heavy aluminum spinnings are used throughout and back base is a husky, non-corrosive aluminum casting. A baked chromatic undercoat plus an outside lacquer finish is assurance of lasting service under severe conditions of humidity and temperature. Designed for three legged flush rear mounting. All models provided with cast aluminum transformer housing. Model MN-15B supplied with "U" bracket; "U" bracket for other models on request at slight additional cost.



MR-30M

MG-21B
MG-21J
MN-15B

| Model No. | Frequency Range | Distribution Angle | Bell Diam. | Capacity (watts) Oper. | Peak | Imp. | No. Driver Units | Over-all Length | Ship. Wt. lb. | Code | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MR-30-M | 250-6000 | 50° | 14" | 30 | 60 | 15 | 1 | 10" | 29¼ | REDIX | $185.00 |
| MR-32M | 250-6000 | 50° | 14" | 60 | 120 | 8 | 2 | 18½" | 43 | REDIT | 275.00 |
| MG-21J | 350-5000 | 55° | 9½" | 25 | 50 | 15 | 1 | 6¾" | 13¾ | RASOM | 76.00 |
| MG-21-B | 350-6000 | 55° | 9½" | 20 | 35 | 15* | 1 | 6¾" | 9¼ | RASOB | 71.50 |
| MN-15B | 450-6000 | 65° | 6¼" | 20 | 35 | 15* | 1 | 4¾" | 6¼ | REDUP | 56.00 |
| MN-15C | (same as MN-15B, but less "U" bracket) | | | | | | | | | REDUT | 53.75 |
| MN-15D | (same as MN-15B, but less "U" bracket and less transformer box) | | | | | | | | | REDUZ | 50.00 |

* 8 ohms on request at same price. Four or 45 ohm 1.00 list additional.

## RE-ENTRANT PAGING SPEAKERS

RE-15 RE-12

DW-9R

These weatherproof re-entrant paging speakers are capable of high intelligibility in locations where high noise levels prevail. Construction is non-vibratory throughout and consists of heavy aluminum spinnings and castings. Voice coils are designed to provide a high degree of efficiency when these speakers are also used as microphones in "talk-back" systems. Ideal for replacing conventional cone speakers. RE-12 and RE-15 provided with heavy cast aluminum ratchet bracket. DW-9R is supplied with flange for flush mounting. SR-12R and SR-15R are of the 360° radial type.

| Model No. | Frequency Range | Distribution Angle | Operating Capacity | Imp. | Bell Diam. | Over-all Length | Ship. Wt. lb. | Code | List Price |
|---|---|---|---|---|---|---|---|---|---|
| RE-15 | 350-8,500 | 60° | 20 watts | *15 ohms | 9" | 9¾" | 6 | REMAC | $38.50 |
| RE-12 | 450-10,000 | 65° | 10 watts | *15 ohms | 7" | 6½" | 3¼ | REMAB | 30.00 |
| DW-9R | 750-10,000 | 70° | 8 watts | *15 ohms | 5" | 2½" | 2 | REDOX | 37.50 |
| SR-12R | 450-10,000 | 360° | 10 watts | *15 ohms | 7" | 9" | 4 | RADAB | 31.50 |
| SR-15R | 350-8,000 | 360° | 20 watts | *15 ohms | 9" | 12" | 7 | RADAS | 39.75 |

* 8 ohms on request at same price. Four or 45 ohm 1.00 list additional.

## NEW PAGING AND TALK-BACK SPEAKERS

MODEL RE-20, RE-11

**RE-20** — Model RE-20 has a nominal rating of 25 watts and incorporates a varnish vacuum impregnated transformer provided with a removable weatherproof aluminum spinning. Primary impedances are 625, 1250, 2500 and 5000 ohms and the secondary is tapped at 4, 8, and 16 ohms. By connecting directly to and between these terminals, the resulting impedances of 310, 625, 1250, 2500, 3650, 5000, 7300, 10000, 14,500 and 29,000 ohms are equivalent to 16, 8, 4, 2, 1.3, 1.0, 0.7, 0.5, 0.34 and 0.17 watts respectively when connected across a 70 volt line. Weatherproof construction throughout.

**RE-11** — Similar to the RE-20, but has a higher cutoff and a nominal rating of 12 watts. The built-in 10 watt transformer has primary impedances of 500, 1000, 1500 and 2000 ohms and a secondary tapped at 8 and 15 ohms.

**RE-18** — This is the economical answer to all paging and "talk-back" applications where low to medium power levels are necessary and where "specs" do not call for line transformers. Bell and back cover are integrally spun of aluminum to assure weatherproof performance of the 12 watt driver unit. Complete with adjustable "U" bracket.

### SPECIFICATIONS

| MODEL NO. | RE-20 | RE-11 | RE-18 |
|---|---|---|---|
| Power | 25 W. | 12 W. | 12 W. |
| Range (cps.) | 350-8,500 | 450-10,000 | 350-10,000 |
| Dist. Angle | 60° | 65° | 60° |
| V C Imp. | †8 ohms | †15 ohms | ‡15 ohms |
| *Sensitivity | 107.5 db. | 104 db. | 104 db. |
| Bell Dia. | 9" | 7" | 9" |
| Length | 12.5" | 9.75" | 9.25" |
| Weight (net) | 7 lbs. | 4 lbs. | 3 lbs. |
| Weight (ship.) | 9 lbs. | 5.5 lbs. | 3.5 lbs. |
| | List Price $53.50 | List Price $45.00 | List Price $33.00 |

* 4 ft., 1 watt input, warble signal 1,200-2,000 cps.
‡ 8 ohm available at same price. 4 and 45 ohm $1.00 list additional.
† Built-in transformer. See text.

MODEL RE-18

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World Radio History

# RACON ACOUSTICAL EXCELLENCE

SINCE 1922

STRAIGHT EXPONENTIAL TRUMPETS • COBRA-TYPE HORN
CELLULAR HORN TWEETERS • CROSSOVER NETWORKS
RE-ENTRANT TRUMPETS • RADIAL HORNS & SPEAKERS

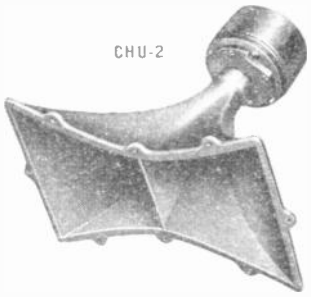
## STRAIGHT EXPONENTIAL TRUMPETS

Output from any straight trumpet is approximately 2 DB higher than corresponding re-entrant type because it lacks the attenuation inherent in all re-entrant horns. **"Stormproof"** Trumpets are made of non-vibratory **RACON ACOUSTIC CLOTH.** Weather-treated for indoor or outdoor use. **"All Aluminum"** Trumpets are made of heavy gauge aluminum spinnings with rolled beaded edge and cast aluminum throat sections. **"Unbreakable"** Trumpets are made of heavy gauge aluminum spinnings reinforced and damped with Patented **RACON ACOUSTIC MATERIAL.**

| Model No. | Air Column (length) | Units Required | Cut-off (cycles) | Distribution Angle | Bell Diam. | Material | Ship. Weight | Code | List Price |
|---|---|---|---|---|---|---|---|---|---|
| *ST-415A | 6 | 1 | [illegible] | 45° | 30" | Unbreakable | 37 lb. | REGON | $160.00 |
| *ST-414A | 6' | 1 | 115 | 45° | 30" | Stormproof | 39 lb. | RIDER | 140.00 |
| *ST-417A | 6' | 1 | 115 | 45 | 30" | All Aluminum | 35 lb. | RHINO | 130.00 |
| **ST-412A | 4½' | 1 | 145 | 50° | 25" | Stormproof | 34 lb. | RACEY | 82.50 |
| *ST-413A | 4½' | 1 | 145 | 50° | 25" | All Aluminum | 27 lb. | RIANT | 80.00 |
| **ST-411A | 3½' | 1 | 195 | 50° | 22" | Stormproof | 28 lb. | RENEW | 52.50 |
| **ST-251A | 2' | 1 | 250 | 55° | 12" | Stormproof | [illegible] lb. | RISAT | 19.00 |
| **ST-251B | 2' | 1 | 250 | 55° | 12" | All Aluminum | 5 lb. | RIMAD | 18.50 |

* Delivery, 4 weeks. ** Delivery, 1-2 weeks. NOTE: Models with 2 [illegible] and 8 unit throat available. Prices on request.

## CAST ALUMINUM HORN TWEETERS




Response is essentially uniform to 20,000 cycles. Horn design permits wide angle distribution. Alnico V magnets, featherweight drawn dural diaphragms and aluminum wound voice coils are a few of their outstanding characteristics.

### SPECIFICATIONS—MODEL CHU-2 AND CHU-5

| Model | Response | Power | Imped. | Crossover | Disp. | Dim. | Weight Net | Weight Ship. | Audiophile Net Price |
|---|---|---|---|---|---|---|---|---|---|
| CHU-2 | 900-20,000 cps | 10 W. (program material) | 8 ohm * | 1000 cps | 120° H × 50° V | 10½ W 6⅝ H 8⅝ D | 4.5 | 6 lbs | 28.50 |
| CHU-5 | 1500-20,000 cps | 10 W. (program material) | 8 ohm | 2000 cps | 120° H × 50° V | 6½ W 2½ H 6" D | 3.5 | 4.5 lbs | 23.65 |

*15 ohms on request at same price.

## Waterproof Permanent Magnet Driver Units

These four units employ Alnico V magnets and Armco magnetic iron throughout. All soft steel parts are doubly plated to prevent corrosion. An automatic electromagnetic cut-out switch is used in the magnetizing process, assuring maximum flux density in the gap and high uniformity. Units are individually measured for flux density. Each unit is tested with special equipment for power handling capacity as well as a 350-volt ground test.

Long life plastic diaphragms and formers are supplied. Voice coil leads are non-fatiguing beryllium copper, insuring lifetime performance. All units are completely waterproof, yet permit ready replacement of diaphragm where needed.

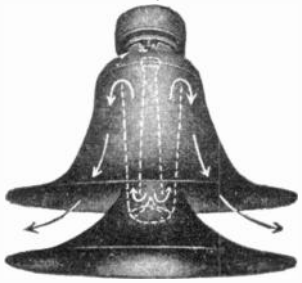
### NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

| Model No. | Weight Net | Weight Ship. | Flux Density per sq. cm. | Frequency Range | Imp. | Diam. | Ht. | Thread | Capacity (watts) Peak | Capacity (watts) Oper. | Code | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM-623 | 6 lbs. | 6.5 lbs. | 15,500 gausses | 80-7000 | 15 | 5" | 5" | 1⅜"-18 | 45 | 25 | RETIX | $52.50 |
| PM-615 | 6.5 lbs. | 7 lbs. | 13,500 gausses | 90-7000 | 15 | 5" | 4½" | 1⅜"-18 | 60 | 30 | RETIN | 40.00 |
| PM-609 | 4 lbs. | 4.5 lbs. | 12,000 gausses | 90-7000 | 15 | 4" | 3¼" | 1⅜"-18 | 60 | 30 | RETEG | 31.50 |
| PM-708TR* | 6 lbs. | 6.5 lbs. | 11,000 gausses | 90-7000 | 15 | 4½" | 5½" | 1⅜"-18 | 50 | 25 | RETOY | 42.75 |

*NOTE: Contains built-in 25 watt line matching transformer, primary tapped at 500, 1000, 1500, 2000; secondary; secondary 8 and 15 ohms.

## Re-Entrant Trumpets, Radial Horns and Speakers

RE-35 RE-50 RE-60



SR-35R SR-60R

Racon re-entrant horns and speakers incorporate exponential design throughout, for maximum efficiency. Castings and spinnings are aluminum. "U" bracket mounting (ratchet swivel type on request). Thread 1-3/8"-18. (1-7/16"-16 on request). Models SR-35R and SR-60R are of the 360° radial type.

| Model No. | Acoustic Length | Bell Diam. | Over-all Length | Cut-off (cycles) | Distrib. Angle | Ship. Wt. lb. | Code | List Price |
|---|---|---|---|---|---|---|---|---|
| **RE-60 | 6' | 26" | 28" | 112 | 45° | 21 | REMOL | $75.00 |
| **RE-50 | 4½' | 25¼" | 23½" | 140 | 50° | 19 | REMOY | 62.50 |
| **RE-35 | 3½' | 19" | 16¼" | 175 | 55° | 12½ | REMOX | 38.50 |
| **RE-25 | 2½' | 13½" | 11" | 225 | 60° | 9 | REMOD | 29.50 |
| **SR-60R | 6½' | 36" | 34½" | 115 | 360° | 47 | RADAL | 130.00 |
| **SR-35R | 4' | 17" | 16" | 175 | 360° | 16 | RADAK | 52.50 |

** horn only



Net

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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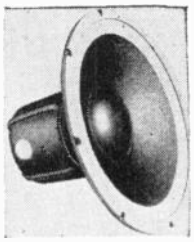
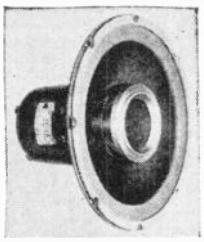
World Radio History

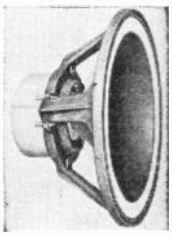
# HIGH FIDELITY LOUDSPEAKERS



12-CW 12" Woofer
15-AW 15" Woofer



12-CX 12" Tri-Cone
15-HTX 15" Tri-Cone



18-HW 15" Woofer

12-CD 12" Dualcone
15-AD 15" Dualcone

## TRI-CONE, DUAL CONES, WOOFERS

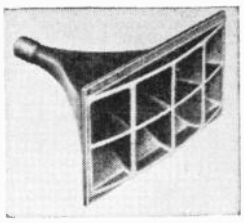
### HIGH FIDELITY LOUDSPEAKERS

These seven models use a patented cellular plastic surrounding to provide pneumatic damping and a lowered resonant frequency. Featherweight stiffening struts are cemented radially to the rear of the cone to prevent "breakup". Mid range in dual and tri-cone models is achieved by a separate cone fastened near the apex of main cone. Combined compression and direct radiator tweeter covers the upper range to limits of audibility. Baskets in models 18HW and 12CX are aluminum castings.

### SPECIFICATIONS

| Model | 15-HTX | 15-HD | 15-HW | 18-HW | 12-CX | 12-CD | 12-CW |
|---|---|---|---|---|---|---|---|
| Response | 20-20,000 | 20-14,000 | 20-4000 | 10-1500 | 35-18,000 | 35-12,000 | 35-5000 |
| Power | 25 w | 25 w | 25 w | 25 w | 20 w | 20 w | 20 w |
| Impedance | 8 ohm | 8 ohm | 8 ohm | 8 ohms | 8 ohm | 8 ohm | 8 ohm |
| Res. Freq. | 24 cps | 24 cps | 24 cps | 19 cps | 40 cps | 40 cps | 40 cps |
| Flux | 14,500 g. | 14,500 g. | 14,000 g. | 16,000 | 10,500 g. | 10,500 g. | 10,500 g. |
| Crossover | 2000 5000 | 2000 | | | 2000 5000 | 2000 | |
| Dispersion | 100° | 100° | 100° | 100° | 100° | 100° | 100° |
| Dimensions | 15⅛" d x 8½" | 15⅛" d x 8½" | 15⅛" d x 8½" | 18¼" d x 10" | 12⅛" d x 7" | 12⅛" d x 7" | 12⅛" d x 7" |
| Shpg. Wt. | 27 lbs. | 26 lbs. | 26 lbs. | 58 lbs. | 15½ lbs. | 12 lbs. | 12 lbs. |
| Audiophile Net | 109.50 | 79.50 | 69.50 | 150.00 | 55.00 | 41.50 | 39.50 |

## MODEL COB21 WIDE ANGLE HORN



COB-21

The COB-21 is a one piece cast aluminum horn with a design cutoff of 600 cycles. It incorporates an integrally cast 8 cell configuration to provide a uniform sound pattern. It may be used in a two or three way system or as a midrange and high frequency speaker in a three way system. The CHU high freqpency unit is recommended for the COB-21.

### SPECIFICATIONS—MODEL COB-21

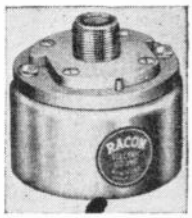
CUTOFF: 600 cycles
HI-FREQ. DISPERSION: 120°
DIMENSIONS: 11" W, 6" H, 11" L
WEIGHT: 5 lbs.
PANEL OPENING REQ.: 5" x 10⅜"
PRICE: $17.00 AUDIOPHILE NET

## MODEL CHU WIDE RANGE DRIVER UNIT

Although designed to power the COB-21 horn, it may be used in any application requiring uniform response from 600-20,000 cycles. High flux density is obtained from an oversized ALNICO V magnet. Diaphragms are made from cold tempered dural, hydraulically drawn. Voice coils are wound with aluminum wire for low mass.

### SPECIFICATIONS—CHU DRIVER UNIT

POWER: 40 watts (program material above 600 cycles)
FREQ. RESPONSE: 600-20,000 cycles
*IMPEDANCE: 8 ohms
DIMENSIONS: 3¼" Dia. x 3" H.
THREAD SIZE: ⅞"-18
WEIGHT: 3½ lbs.
PRICE: $21.50, AUDIOPHILE NET
*15 ohms on request at same price.



CHU

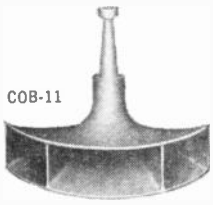
## CROSSOVER NETWORKS

The CON-20 and CON-30 are identical except for crossover and are recommended for the CHU-2 and CHU-5 tweeters respectively. Both are of the ¼ section type, attenuation 6 db per octave. The CON-6 (½ section type) has crossovers at 600 and 5000 cycles, for use in a two or three way system. The CON-4M provides crossovers at 300, 600, 1200 or 5000 cycles for a wide variety of crossovers. Selection of crossover is made by strapping terminals as shown by data on panel.

### CROSSOVER NETWORK SPECIFICATIONS

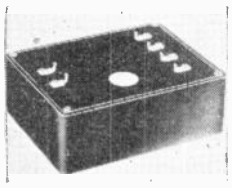
| Model | Impedance (input & output) | Crossover Frequency | Dimensions | Audiophile Net Price |
|---|---|---|---|---|
| CON-20 | 8 ohm | 1000 cycles | 3¾ W, 6¼ D, 2¼ H | 15.50 |
| CON-30 | 8 ohm | 2000 cycles | 3¾ W, 6¼ D, 2¼ H | 15.50 |
| CON-6 | 8 ohm | 600, 5000 cycles | 5¼ W, 6¾ D, 2½ H | 18.50 |
| CON-4M | 8 ohm | 300, 600, 1200, 5000 cycles | 5¼ W, 6¾ D, 2½ H | 28.50 |

## COBRA TYPE HORN



COB-11

CON-30, CON-20, CON-6, CON-4M



Cut-off, 250 cycles; Dispersion, 120° H, 40° V; *Thread, 1⅜"—18; Dimensions, 17⅝" H, 22¼" W, 13⅜" D; Net Wt., 12 lbs.; Shipping Wt., 17 lbs.; Code, ROBON; List Price, $82.50.
*1-7/16"-16 on request at same price.

The RACON COB-11 "cobra" type horn is designed for public address systems requiring high clarity reproduction with maximum concentration of sound in a horizontal plane. It is of "straight" horn design and exponentially flared for maximum transfer of energy. The low cutoff of 250 cycles results in crisp, highly articulate quality without a trace of boominess. The horn consists of a heavy two-piece non-vibratory aluminum casting and is provided with a two-section serrated mounting bracket. Finish is baked gray hammertone over a zinc chromate primer.

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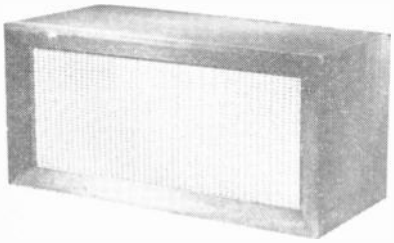
World Radio History

# able wood products manufacturing corporation

BROOKLYN NEW YORK

The A8, A12 and A12D are designed with the needs of the modern apartment dweller in mind. Requiring neither corners, high ceilings nor barn-like rooms in which to function, resonator type cabinets make possible the maximum base performance from the minimum enclosure space. Barely larger than the speaker itself, their phenomenal capacity to produce clean, full rich bass is based upon special interior design, which affords immediate transmission of all low frequencies and unimpeded direct dispersion of the high frequencies. Despite their compact size, these extraordinary cabinets can be depended on never to dwarf the full capacities of even the largest speaker.

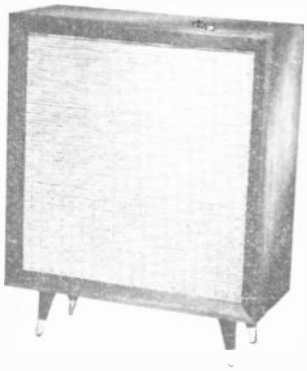


## A8

### RESONATOR TYPE BOOKSHELF ENCLOSURE

For 8" speaker only
Size 22¼" x 11" x 10½"
Shipping weight: 17 lbs.

**Finished** ..... $34.95
**Unfinished** ..... $29.95



## A12

### RESONATOR TYPE FLOOR OR BOOKSHELF ENCLOSURE

Size: 22¼" x 22¼" x 10½"
Shipping weight: 35 lbs.
For 8" or 12" speakers

Supplied with 8" reducer board and 4" legs with brass ferrules

**Finished** ..... $44.95
**Unfinished** ..... $39.95

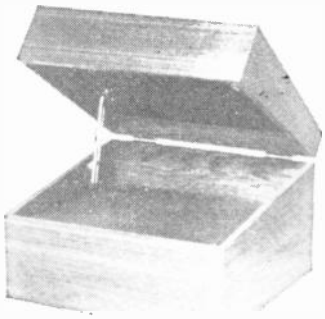
## A12D

### RESONATOR TYPE ENCLOSURE

For 8" or 12" speakers
Size: 22¼" x 22¼" x 16"
Shipping weight: 40 lbs.

Supplied with 8" reducer board and 4" legs with brass ferrules

**Finished** ..... $59.95
**Unfinished** ..... $54.95



## ACH

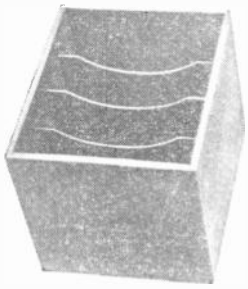
### RECORD CHANGER ENCLOSURE

Size: (outside dimensions)
17" x 14½" x 9"½
(inside dimensions)
16" x 13½" x 9"

Shipping weight: 15 lbs.

Supplied with uncut mounting board (3" below, 6" above mounting board) $34.95

The basis of all good design is clarity. Here at last is a changer box devoid of all usual housing problems. Light, clean, sweeping lines highlight the basic simplicity of this superior cabinet. Its dust-free, flip up lid is audio engineering's answer to the audiophile's perpetual problem of how to portect his changer yet operate it with ease. Deep, diagonal side cut design has produced a cabinet with no front wall obstruction to the direct approach of controls. Changer can be approached and viewed with facility at chest, waist or table level. Fashioned of only the finest hardwoods, this smart, contemporary styled cabinet boasts a satin-like hand-rubbed finish. Can be set in a book-shelf, on a highboy, or on a table.



## ARS

### THE DISC-O-FILE

Dimensions: 15¾" wide, 13" deep, 14" high

Completely cartoned, ready for shipment

Fruitwood, Walnut, Mahogany, Ebony, Natural $14.50

A "must" starter unit for all record collectors. The "disc-O-file's" spacious compartments hold more than 80 lp records, safely protected from warping or dust.



Net

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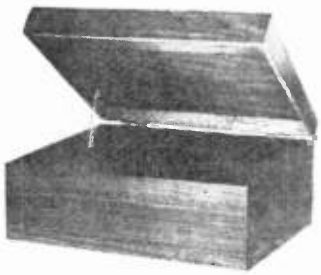
World Radio History

# able wood products manufacturing corporation

BROOKLYN NEW YORK



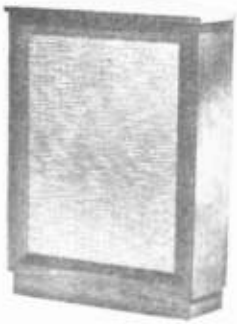
## ATT

### TURNTABLE ENCLOSURE

Size: (outside dimensions) 23" x 18" x 10½"
(inside dimensions) 22" x 17" x 10¼"
Shipping weight: 25 lbs.

**$44.95**

An entirely new approach to the basic problem of enclosing a professional turntable, the ATT is deep enough to house most any turntable unit and arm. This revolutionary new design provides the audiophile with an easy, unobstructed path to his equipment. The ATT cabinet's diagonal side cut, liftup lid does away with old fashioned deep front cabinet walls which obscure mechanism from easy view and handling. No more peering and grappling to change a record or replace a head. Open front construction allows direct approach to turntable whether mounted on a low shelf or table top. Cabinets are cut from the finest hardwoods with deep, natural grain finishes, hand-rubbed to a soft, satin-like lustre.



## A1C

### BASS REFLEX ENCLOSURE

**$124.95**

Shipping weight: 80 lbs.
Size: 35½" x 30" x 21½"
Volume: Approx. 6 cubic feet

Decorator designed contemporary styling produces a bass reflex cabinet slightly smaller than the A2 series. Finished in the most luxuriant solid and veneer core ¾" hardwoods to fit tastefully into the most opulently furnished living rooms, this elegantly crafted unit provides an excellent speaker housing for 15" and 12" speakers. Deliberately designed somewhat smaller in scope than the A2 series but entirely sufficient in cubic volume, the A1C meets the most exacting space requirements of present day living. Structurally, most small living rooms demand a speaker enclosure whose design presupposes their distinct acoustic limitations. The A1C has been created to answer those specific needs. Possessing no coloration of its own, it is constructed singularly free of resonance, yet is capable of a full, resonant bass sound.

As in all fine furniture, value should be proportionate to outlay. But this rule applies only to masterwork cabinetry: a piece which can be made the focal point of any living room. It is natural to want finishes whose subtle lustre bespeak their quality under any lighting and whose textures complement the many-varied veneers of the family's most cherished furniture. Careful examination will prove that where appearance is foremost the mark ABLE WOOD symbolizes superiority to the accepted standard in the cabinet industry.

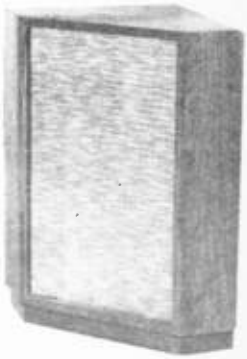
Besides fine craftsmanship, ABLE WOOD fulfills the engineering needs so difficult to cope with. Even the hard-bitten professional would like to close his eyes and have his equipment bring him the wonders of sound in all their glory. He requires exceptional range and realism from every register. If you strive for high fidelity, as he does, then you must make the same demands upon the equipment you buy. True high fidelity can only be achieved if the sound as reproduced by your components is faithfully transmitted. No one can underestimate the part a speaker enclosure plays in the full reproduction of sound. This is most noticeable in the bass range where additional coloration and resonance can destroy the fidelity of even the most carefully chosen system. The ABLE WOOD A2C, A2L and A2R are constructed with materials the density of which eliminates virtually all cabinet vibration and panel resonance. 1⅛" lumber core and plywood throughout insures rigidity that guarantees freedom from coloration and boom. An adjustable tuning port makes it possible to satisfy the requirements of even the most critical speaker. The versatility of these ABLE WOOD bass reflex cabinets (A2C, A2L and A2R) is best demonstrated by the fact that they can be turned into infinite baffles by simply closing the adjustable port. Careful calculation by ABLE WOOD engineers has determined that 8 cubic feet is the most favorable volume requirement for maximum efficiency in the lower frequencies for 15" and 12" speakers.

## A2C

### BASS REFLEX ENCLOSURE and/or INFINITE BAFFLE

Size: 40½" x 36" x 25"
Shipping weight: 130 lbs.
Volume: Approx. 8 cubic feet
Materials: 1⅛" lumber core and plywood

**$154.95**

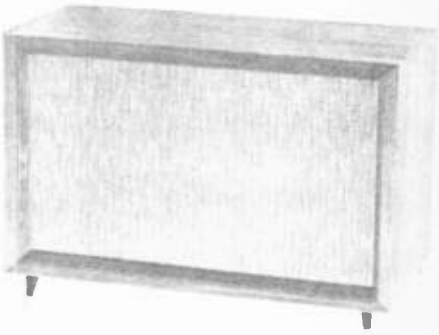


## A2L

### LOWBOY BASS REFLEX ENCLOSURE and/or INFINITE BAFFLE

Size: 36½" x 30" x 18"
Shipping weight: 120 lbs.
Volume: Approx. 8 cubic feet
Materials: 1⅛" lumber core and plywood

**$154.95**

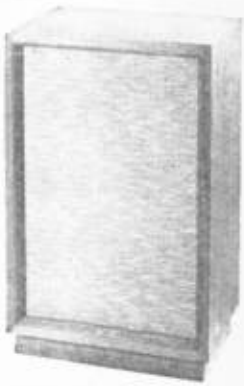


## A2R

### BASS REFLEX ENCLOSURE and/or INFINITE BAFFLE

Size 40½" x 26" x 18"
Shipping weight: 120 lbs.
Volume: Approx. 8 cubic feet
Materials: 1⅛" lumber core and plywood

**$149.95**



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World Radio History

# J. W. DAVIS CO.

## Watterson SPEAKER BAFFLES

*Americas Most Complete Line

### DELUXE

| Model | Speaker Size | List | Net |
|---|---|---|---|
| 6-5 | 6" or 5" | $7.50 | $4.50 |
| 8 | 8" | 9.50 | 5.70 |
| 10 | 10" | 12.00 | 7.20 |
| 12 | 12" | 13.25 | 7.95 |

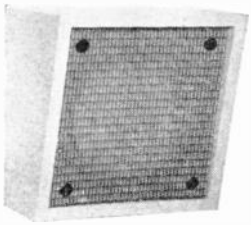
Walnut or Natural Blond

### CORNER

| Model | Speaker Size | List | Net |
|---|---|---|---|
| C-8 | 8" | $16.25 | $9.75 |
| C-12 | 12" | 22.50 | 13.50 |

Walnut or Natural Blond

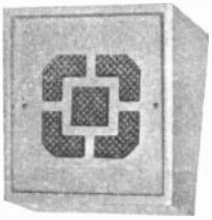
### MODERN



| Model | Speaker Size | List | Net |
|---|---|---|---|
| 80 | 8" | $9.38 | $5.63 |
| 120 | 12" | 12.50 | 7.50 |

Mahogany or Blond Lacquer

### STANDARD



| Model | Speaker Size | List | Net |
|---|---|---|---|
| 8E | 8" | $8.13 | $4.88 |
| 12E | 12" | 11.25 | 6.75 |

Brown Hommertone, Natural Blond, or Blond Lacquer

MODEL C-800

### CORNER HORN BAFFLE

FOR 8" SPEAKER

| List | Net |
|---|---|
| $15.63 | $9.38 |

Walnut or Natural Blond

MODEL SA-18

### ALUMINUM CEILING BAFFLE

FOR 8" SPEAKER

SA-18

### PROTECTIVE ENCLOSURE

MODEL B-5

### PLASTIC BAFFLE

FOR 5" SPEAKER

For desk or wall mounting. Baffles turn on base-bracket 90°.

| List | Net |
|---|---|
| $5.95 | $3.59 |

Ivory or Brown

Since 1933 J.W.DAVIS & CO. DALLAS, TEXAS

### WOOD PLATE

| Model | Speaker Size | List | Net |
|---|---|---|---|
| P6 | 6" | $3.38 | $2.03 |
| P8 | 8" | 4.13 | 2.48 |
| P12 | 12" | 5.38 | 3.23 |

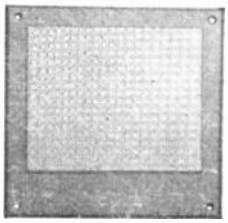
Walnut, Mahogany, or Blond

### CORRIDOR

| Model | Speaker Size | List | Net |
|---|---|---|---|
| CR-88 | one 8" | $13.75 | $8.25 |

Walnut or Natural Blond

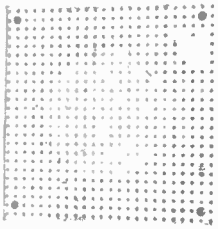
### METAL PLATE



| Model | Speaker Size | List | Net |
|---|---|---|---|
| MP-68 | 6" or 8" | $7.00 | $4.20 |

White, Gray, Brown, Beige, Blond

### ACOUSTICAL TILE



| Model | Speaker Size | List | Net |
|---|---|---|---|
| AC-6 | 6" | $6.25 | $3.75 |
| AC-8 | 8" | 6.25 | 3.75 |

Dull White



Net

TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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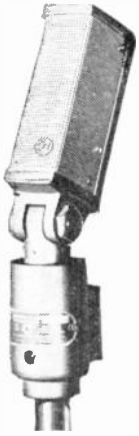
World Radio History

# SHURE STUDIO MICROPHONES

## UNI-DIRECTIONAL RIBBON MICROPHONE



Model "333"
Studio Uni-Ron

Here is the dependable "333," a truly fine and rugged microphone created for discriminating users with the most exacting professional requirements. Here, indeed, is a major advance in microphone development and design! This small, ultra-cardioid "333" is highly recommended for motion-picture studios, TV studios, radio stations, professional recording, and all other uses where quality requirements are of the highest. Here is performance never before achieved in such a small and slender microphone! Here is ruggedness and reliability! Here is matchless beauty and striking design to appeal to users who demand the finest! The "333" is ultra-cardioid, uni-directional—reduces the pickup of random noise energy by 73%——prevents the pickup of moving props, scuffling feet and moving "dollies," so common when conventional broadcast microphones are used. Following are the features that make the "333" Studio so outstanding in performance, so dependable in operation: (1) patented, world-famous "Uniphase" system; (2) a true ultra-cardioid pickup pattern; (3) horn-loaded ribbon transducer provides extended smooth response, production uniformity guaranteed to plus or minus 2½ db, 30-15,000 c.p.s.; (4) multi-impedance switch; (5) voice-music switch; (6) anti-"Pff" filter screen; (7) Shure self-adjusting "lifetime" swivel; (8) high output; (9) sturdy, one-piece metal case; (10) vibration-isolation unit mounted in live rubber; (11) Cannon XL connector. All these important features, plus the striking design of the Studio "333," make it ideal for critical studio applications that call for the highest possible broadcast quality, small size and matchless beauty——plus the ability to withstand the rough work-a-day handling by the sound crew. The "333" has two-tone "Baked Bronze" non-reflecting finish. Head dimensions: Width, 1 1/8"; height, 3 9/16"; depth, 1 3/4".

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| Low—50 ohms | 60 db below 1 Milliwatt per 10 microbar signal |
| Medium—150 ohms | 59 db below 1 Milliwatt per 10 microbar signal |
| High-Medium—250 ohms | |

**Model S33**
Broadcast
Desk Stand
For use with Models 300, 333, 525, 535 and 556S
List Price $15.00

| MODEL | LIST PRICE |
|---|---|
| "333" | $250.00 |

## OMNI-DIRECTIONAL DYNAMIC MICROPHONE

Model "525"
Studio Slendyne

The new Studio "525" is an exceptionally fine probe microphone of broadcast quality. It features: (1) frequency response 40-15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db; (2) a moving-coil mounted in a highly efficient magnetic structure; "Alnico V" magnet; (3) multi-impedance switch; (4) high output; (5) long life "Duracoustic" diaphragm——specially designed to withstand moisture, heat, cold and physical shock. The "525" is furnished with a 20 ft., two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached; swivel adapter; adjustable lavalier assembly (cord and clip), and a belt clip assembly. The "525" Studio has a non-reflecting "Baked Bronze" finish——which makes it blend into the background, giving the spotlight to the performer. Body diameter, 1"; length, 8 17/32".

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| 50 ohms | 61 db below 1 Milliwatt per 10 microbar signal |
| 150 ohms | |
| 250 ohms | |

**Model S33**
Broadcast
Desk Stand
List Price: $15.00

| MODEL | LIST PRICE |
|---|---|
| "525" | $200.00 |

## BI-DIRECTIONAL GRADIENT[1] MICROPHONE

Model "300"
Studio Gradient[1]

This rugged, high fidelity, multi-impedance microphone is widely used for television, radio broadcasting, professional recording and high-fidelity uses. The "300" reduces reverberation and the pickup of random noise by 66%. The "300" combines the best features of conventional velocity microphones with advanced acoustic design—including an anti-"PFF" filter screen. Its bi-directional polar pattern is effective over a broad frequency range. It provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. One of the outstanding features of the "300" is the fact that the microphone can be placed at a 73% greater distance from the performer than is possible with omni-directional microphones! The "300" has a non-reflecting "Baked Bronze" finish, so it blends into the background, gives the spotlight to the performer. The "300" has a readily accessible Voice-Music switch, vibration-isolation unit mounted in live rubber, and a multi-impedance switch, providing low medium and high impedance. Extended response, production uniformity guaranteed to plus or minus 2½ db, 40-15,000 c.p.s. Furnished with a 20-foot two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached.

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| L—35-50 ohms | 59 db below 1 Milliwatt per 10 microbar signal |
| M—150-250 ohms | 60 db below 1 Milliwatt per 10 microbar signal |
| H—High | 57 db below 1 volt per microbar |

**Model S33**
Broadcast
Desk Stand
List Price: $15.00

| MODEL | LIST PRICE |
|---|---|
| "300" | $150.00 |

See Page E-200 For High Fidelity Pickups

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World Radio History

# GENERAL PURPOSE MICROPHONES

SHURE

## OMNI-DIRECTIONAL DYNAMIC MICROPHONES

Model "535"
Slendyne

The new Slendyne 535 is the most versatile fine quality probe microphone ever developed — actually five microphones in one because of its practical design and useful accessories! The "535" is a moving-coil dynamic microphone built to provide wide range reproduction of music and voice. It can be used for indoor or outdoor applications in the following manner: (1) in the hand, (2) on a floor stand, (3) on a desk stand, (4) hung around the neck on a lavalier cord. Add to these factors an on-off switch adapter and a dual-impedance switch and you have the most completely versatile fine quality probe ever developed. Frequency response is 60 to 13,500 c.p.s..

The Slendyne 535 is ideal for high quality public address, theater-stage sound systems, and all recording applications where an omni-directional microphone is desired. The microphone is ruggedly built to withstand hard usage, and is unaffected by temperature and humidity variations. The 18-foot, high quality, shielded, two-conductor cable is supplied with a microphone plug equivalent to the Amphenol 91-MC3M plug. The "535" meets the requirements for maximum quality and minimum size. It is finished in rich satin chrome. A self-adjusting swivel adapter is supplied with the microphone, and permits it to be tilted from 90° from vertical to horizontal, making it possible to tilt the microphone at the source of sound. Also includes on-off switch adapter.

The "535" is specially recommended for "interview-type" use where the "hand-a-bility" is important. Of special interest to P.A. technicians and recording enthusiasts is the quick-disengaging feature that permits the microphone to be instantaneously removed from the stand swivel adapter, for use as a hand microphone during audience participation shows, interviews, and for home recording sessions.

The Model 530 Slendyne is the deluxe broadcast Slendyne, finished in an attractive black and gold anodized finish. It has a frequency range of 50 to 15,000 c.p.s., and is furnished with a 20-foot, high quality, two-conductor shielded cable with a Cannon XL-3-11 cable connector. Furnished with swivel adaptor, deluxe lavalier cord and belt clip, on-off switch adaptor.

| MODEL | IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|---|
| "535" | L—50-250 ohms | 61 db below 1 Milliwatt per 10 microbar signal |
| | H—High | 61 db below 1 volt per microbar |
| "530" | L—50-250 ohms | 61 db below 1 Milliwatt per 10 microbar signal |
| | H—High | 61 db below 1 volt per microbar |

| MODEL | LIST PRICE |
|---|---|
| "535" | $72.50 |
| "530" | $110.00 |

Model "530"
Broadcast Slendyne

## BI-DIRECTIONAL GRADIENT[1] MICROPHONE

This rugged high fidelity multi-impedance microphone is recommended for fine quality general purpose uses. It features a frequency response of 50 to 12,000 cps—will reproduce voice and music in a clear, natural tonal quality, which makes it ideal for use in auditoriums, night clubs, schools and churches. The "315" is similar in features and design to the Studio Model 300. It is ideal for those numerous public address applications where its streamlined design and striking beauty lend dignity and prestige to any setting in which it is used. This gradient microphone is a favorite of professional performers and educators because it provides unusual freedom of motion on the platform — making it possible for the user to stand at a 73% greater distance from the microphone than is possible with omni-directional microphones. Its bi-directional "Fig. 8" pickup pattern extends over a broad frequency range — and it permits the sound system to be operated at a level almost 6 db higher than is possible with non-directional (omni-directional) microphones! The "315" picks up voices and music from front to back — is "dead" at the sides, reduces reverberation and the pickup of random noises by 66%. This feature means the "315" can be used in those critical installations where feedback makes it impossible or impracticable to use conventional microphones. It is "PFF"-proof — filters out the "PFF"-type noises often heard over conventional microphones. Here again is another fine quality Shure microphone made under scientific control conditions, which are your guarantee that it can be used month after month without deviation from its original standards. Dimensions: height 6"; width 1 7/16"; depth 1 3/32". The "315" is furnished with an 18-foot, high quality, two conductor, shielded cable, supplied with the equivalent of the Amphenol 91-MC3M plug.

Model "315"
Gradient

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| L—35-50 ohms | 59 db below 1 Milliwatt per 10 microbar signal |
| M—150-250 ohms | 60 db below 1 Milliwatt per 10 microbar signal |
| H—High | 57 db below 1 volt per microbar |

| MODEL | LIST PRICE |
|---|---|
| "315" | $89.50 |

See Page E-200 For High Fidelity Pickups



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# GENERAL PURPOSE MICROPHONES

SHURE

NEW

## UNI-DIRECTIONAL RIBBON MICROPHONE

Model "330"
"Professional Uni-Ron"

The striking-looking 330 "UNI-RON" Microphone has been designed to meet the exacting requirements of professional tape recording and highest quality indoor public-address systems. The "UNI-RON" is basically a member of the Shure Studio Microphone family, similar in appearance and performance to the Model "333". The "UNI-RON" has a super-cardioid pickup pattern — reduces the pickup of undesired random noise energy by 73%!

It has a smooth, peak-free response from 30 to 15,000 cps. The Professional "Uni-Ron" is equipped with multi-impedance (50, 150 and 250 ohms) switch, life-time swivel, and special vibration-isolation shock mount, as well as Cannon XL-3-11 cable connector and 20 ft. 2-conductor shielded broadcast-type cable. The microphone is finished in beautiful satin-chrome with natural anodized aluminum grille.

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| L—50 ohms | 59 db below 1 milliwatt per 10 microbars |
| M—150 ohms | 57 db below 1 milliwatt per 10 microbars |
| H—250 ohms | 58 db below 1 milliwatt per 10 microbars |

This rugged performer has been developed to achieve optimum operating performance — for those applications where highest quality is essential, yet cost is a factor.

**Model "330"** **List Price $120.00**

## UNI-DIRECTIONAL DYNAMIC MICROPHONES

Model "55S"
"Small Unidyne"

The small Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. A sturdy construction provides immunity of the moving-coil system to abnormal atmospheric conditions and severe mechanical shock. Model 55S is highly recommended for fine quality public address, theater-stage sound systems, recording and remote broadcasting. It is also the field-proved standard for fixed station use in the police, fire, transportation, forestry and commercial services. The smooth frequency response of the 55S ranges from 50 to 15,000 c.p.s. It is furnished with an 18-foot, high quality cable and plug assembly. Special Note: Both of the famed Unidynes are now 41% higher in output — can be used with low gain tape recorders and P.A. systems.

Model "556S"
"Small Broadcast"

Model 556S is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. It is a moving-coil type microphone with a frequency range of 40 to 15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db. The Broadcast Unidyne is ideal for high quality station and remote broadcasting, public address, theater-stage sound systems and recording applications. As a further precaution against mechanical vibration pickup, the 556S is provided with an additional isolation unit. This isolation unit is of live rubber construction in combination with the stand connector and a built-in high quality cable connector. The microphone is furnished with a 20-foot, high quality, shielded, 2-conductor cable with a Cannon microphone plug attached. Both the 55S and the 556S feature the world-renowned patented "Uniphase" network system.

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| L—35-50 ohms | 54 db below 1 Milliwatt per 10 microbar signal |
| M—150-250 ohms | 55 db below 1 Milliwatt per 10 microbar signal |
| H—High | 57 db below 1 volt per microbar |

| MODEL | LIST PRICE |
|---|---|
| 556S | $135.00 |
| 55S | $ 83.00 |

## MULTI-IMPEDANCE HIGH OUTPUT DYNAMIC

Model "51"
"Sonodyne"

The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. It is widely used by bands, instrumentalists and professional recording artists because of its outstanding reproduction of both voice and music. Widespread usage by home users of tape recorders indicates that the Sonodyne is the ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. The wide range frequency response is 60 to 10,000 c.p.s. This rugged microphone is of the pressure type, with conventional semi-directional characteristics, and it may be used for close-talking without undue low frequency emphasis. The Sonodyne is a multi-impedance microphone, providing the versatility of three microphones in one —for low, medium and high impedance. Has built-in receptacle and a 15-foot, two-conductor shielded cable with microphone plug attached. Satin chrome finish.

**Model "51"**

**List Price $49.50**

**Multi-Impedance Switch on Models "55S", "556S", "51". "300", "315"**

| IMPEDANCE TABLE | OUTPUT LEVEL |
|---|---|
| L—35-50 ohms | 53.0 db below 1 Milliwatt for 10 microbar signal |
| M—150-250 ohms | 52.5 db below 1 Milliwatt for 10 microbar signal |
| H—High | 52.0 db below 1 volt per microbar |

**See Page E-200 For High Fidelity Pickups**

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World Radio History

# SHURE GENERAL PURPOSE MICROPHONES

## "COMMANDO" ALL-PURPOSE MICROPHONES

The new Commando series represents a significant achievement in providing quality performance at nominal cost. These dramatic looking, rugged microphones can be used indoors or outdoors. Models 415 and 430 provide practical versatility of operation. They can be held in the hand, set on a floor stand or on a desk stand — can be inserted or withdrawn from the stand in a second, without the use of any tools. Model 420 is of more compact design and is intended primarily for use as a lavalier microphone. It is readily detachable from its lavalier clip for use as a hand held unit. Coupled with this versatility of usage, the Commandos are ideal for general-purpose applications where both voice and music reproduction are of critical importance. Commandos can be used for tape recording in the home; theater-restaurant public address systems; lecturing; paging and dispatching systems; interview-type shows; outdoor public address systems for carnivals, picnic and special events.

Model 430 in the Hand

All three units are ruggedly constructed of attractive, non-reflecting gray, impact resistant polystyrene. The lower part of Models 415 and 430 are of die cast zinc with a satin chrome finish.

The Commandos are omni-directional units with a frequency response of 60-10,000 cps. They are controlled magnetic units and are unaffected by extremes of temperature and humidity. Models 420 and 430 are equipped with readily changeable pin jacks for a choice of two impedances (L — 150 to 250 ohms and H — High), without soldering.

Model 430 on Floor Stand

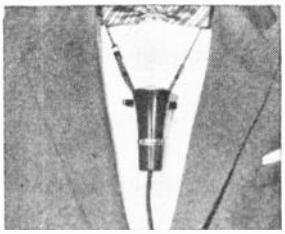
**Model 430** includes on-off switch, dual-impedance feature and Amphenol MC2M cable conductor. Furnished with 15 Ft. of 2-conductor shielded cable, black Model A25-type swivel adapter and switch locking plate for keeping switch in "on" position. List Price: **$38.50**

**Model 420** includes dual impedance feature and lavalier cord and clip assembly. Furnished with 20 ft. of non-detachable 2-conductor shielded cable. List Price: **$30.00**

**Model 415** includes black Model A25-type swivel adapter and 7 ft. of non-detachable single-conductor shielded cable. High impedance only. List Price: **$27.50**

**S38B** Desk Stand for use with Models 415 and 430. List Price: **$4.50**

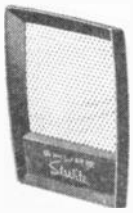
| IMPEDANCE | OUTPUT LEVEL |
|---|---|
| 150-250 | —54 db below 1 volt per microbar |
| HIGH | —55 db below 1 milliwatt per 10 microbars |


Lavalier Model 420

Model 430 on S38 Desk Stand

Model 415 in the Hand

## "STARLITE" MICROPHONES


Model 215 and 715

These beautifully designed microphones are excellent for voice and music reproduction. Their extremely low price and good quality make them a "natural" for home recording, intercom systems and inexpensive public address systems. The "Starlite" microphones can be held in the hand, or used on a desk by simply releasing a built-in retractable stand which is an integral part of the back of the microphone case. They are semi-directional, high impedance units, in impact resistant polystyrene cases.

Model 215, *a ceramic unit*, has a response from 50-8000 cps; Model 715, *a crystal unit* has a response range from 50-10,000 cps. Both microphones are supplied with 5 ft. fabric covered single conductor shielded cable.

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 215 Ceramic | 56.5 db below 1 volt per microbar | $8.00 |
| 715 Crystal | 50 db below 1 volt per microbar | $8.00 |

## CABLE TYPE TRANSFORMER

Model A86A

Model A86A is a high-quality, cable-type transformer which makes it convenient to run a long microphone line from a low impedance microphone to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case. Connection terminals are easily accessible, and compression fittings crimp the microphone and amplifier inputs. The A86A matches 35-50 ohm and 150-250 ohm microphones to high impedance amplifier inputs. This type of system usually solves the problem of excessive high frequency loss and objectionable hum pickup when long lengths of microphone cable are necessary. The A86A offers additional versatility when used in conjunction with Shure Models 51, 55S, 556S, 300, 315, 330, 333, 525, 530 and 535 Dynamic and Ribbon Microphones. And in addition to these the Model A86A may be used in specialized applications which require high impedance to low impedance circuit connections. The transformer is finished in an attractive two-tone gray and is furnished with a 2-foot cable. Frequency response: 20 to 20,000 c.p.c., plus or minus 1 db.

**Model —A86A** List Price: **$17.50**

**See Page E-200 For High Fidelity Pickups**



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# SHURE CRYSTAL MICROPHONES

## THE VERSATILE "SLIM-X" ALL-PURPOSE MICROPHONE

**FOR:**

- **Low Cost P. A. Systems**
- **Home Recording**
- **Hams**
- **General Purpose**

In Cradle On S38 Desk Stand

On S38 Desk Stand (With A25 Swivel)

In Cradle On Floor Stand

In the Hand

The "777" Slim-X Microphones are rugged little microphones weighing only 6 ounces! They are designed for good-quality voice and music reproduction. Their versatility and "hand-ability" make them ideal for use by lecturers, announcers, instructors, and Hams; for audience participation shows; carnivals; panel and quiz shows; and use with home-recorders. When mounted on either cradle or swivel, the "777" can be removed in a flash (no tools necessary)—simply by lifting it out of the holder. This makes it an ideal "walk-around" hand-held microphone.

TECHNICAL INFORMATION: Smooth frequency response—60 to 10,000 c.p.s.; Moisture-proof "Metal Seal" crystal for long operating life; high impedance; 7 ft. single-conductor cable, disconnect type. Dimensions: (Microphone only) Length, 4½"; Diameter, 1". Finish: Rich satin chrome overall.

**Note: All Models are furnished with Lavalier Cord, for suspension of microphone around neck.**

### "SLIM-X" ASSEMBLIES

**MODEL 777A** includes 777 Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
**Model: 777A** List Price: $33.00

**MODEL 777SA** includes 777S Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
**Model: 777SA** List Price: $35.00

### ACCESSORIES FOR "777"

**MODEL S-38 STAND** is a heavy die-cast base. Includes metal screw machine stud for connecting microphone adaptor to stand base.
**Model: S-38** List Price: $4.50

**MODEL A-25 SWIVEL ADAPTOR** features a long-life, high-quality swivel connector. Is lined with a long-life nylon sleeve—for noise-free and scratch-free insertion and removal of microphone.
**Model: A-25** List Price: $5.50

| Model | Output | List Price |
|---|---|---|
| 777 | 62 db below 1 volt per microbar | $25.00 |
| 777A | | $33.00 |
| 777S With Switch | | $27.00 |
| 777SA With Switch | | $35.00 |

*(Price includes cradle for mounting on stand.)

Fig. A

Fig. B

Fig. C

Fig. D

Fig. E

### "MONOPLEX" (Fig. A)

The only Super-Cardioid Crystal Microphone made—far superior to conventional Crystal Microphones! Excellent for high-quality public address, communications, recording, and similar applications. The 737A operates under adverse conditions of background noise and reverberation—where a conventional microphone would be practically useless! Reduces pickup of random sound by 73%! Moisture-proof "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. Has 15 ft. shielded cable. Rich satin chrome finish. High impedance.

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 737A | 55.0 db below 1 volt per microbar | $46.00 |

### THE "REX" (Fig. B)

Its low price makes this hand-held microphone a natural for "Hams" and low-cost public address system. A rugged unit designed for high speech intelligibility. Saves extra costs, as it needs no desk stand! Has a broad base, complete with stand adapter for mounting on floor stand. Sits firmly on a table top without tipping over. Die cast case. Frequency response 60 to 9,000 c.p.s. 5 ft. shielded cable. Beautiful Bergundy-red metallic finish. Only 2⅔" wide, 3¼" high, 1⅛" thick. High impedance.

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 710A | 50 db below 1 volt per microbar | $12.00 |
| 710S (with switch) | 50 db below 1 volt per microbar | $14.00 |

### MODEL 707A (Fig. C)

Ideal for low-cost P.A. systems, amateur 'phone transmitters and similar applications. Good-quality performance at low cost. Has typical semi-directional pickup. Has 7 ft. shielded cable. High impedance. Pearl Gray case with rich satin chrome finish on front grille. Diameter 2⅜".

Model 707A designed to be used with Shure Model S34B or S36A Desk Stands (see page D-179).

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 707A | 51.0 db below 1 volt per microbar | $19.50 |

**See Page E-200 For High Fidelity Pickups**

### LAPEL MICROPHONE (Fig. D)

Specially designed unit widely used by lecturers, instructors, speakers, etc. High speech intelligibility. Response from 40 to 6,000 c.p.s. 1⅞" diameter. Has lapel clip. 20-foot shielded single-conductor cable. High impedance.

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 76B | 57 db below 1 volt per microbar | $29.00 |

### STRATOLINER (Fig. E.)

An expensive-looking crystal microphone at moderate cost. Wide-range response for good reproduction of either voice or music. Placed horizontally, the 708A is semi-directional; used vertically it becomes non-directional. Swivel permits 90° tilting of microphone. 7 ft. shielded cable and plug assembly. High impedance. Pearl Gray finish.

| MODEL | OUTPUT | LIST PRICE |
|---|---|---|
| 708A | 51.0 db below 1 volt per microbar | $31.00 |

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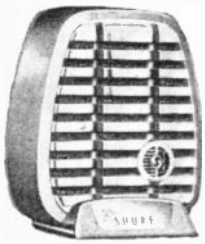
# CONTROLLED MAGNETIC MICROPHONES

SHURE

## THE "HERCULES"



The "Hercules" is a hand-held unit, ideal for general purpose use in tropical countries and in all coastal areas where heat and humidity are a problem. The "510" provides the ruggedness, clear reproduction and high output for public address, communications and recording where high speech intelligibility is vital. It is recommended for Announcing; Mobile Public Address Systems; Communications; Home Recording, and High Quality Intercommunication. The Hercules can be used either Indoors or Outdoors, fits snugly in the hand, sits firmly on a desk. High impedance. Frequency response 100 to 7000 c.p.s. Furnished with 7 ft. shielded cable. Green metallic finish. Diecast case. Furnished with stand adapter. Dimensions: 2 2/3" wide, 3 1/4" high, 1 1/2" thick. Model 510 Series designed to be used with S34B or S36A Desk Stands. (See page D-7)

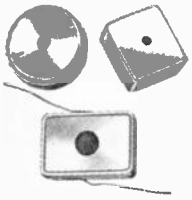
| MODEL | OUTPUT LEVEL | IMPEDANCE | LIST PRICE |
|---|---|---|---|
| 510C | 52.5 db below 1 volt per microbar | HIGH | $17.00 |
| 510S (with switch) | 52.5 db below 1 volt per microbar | HIGH | $19.00 |

## THE "GREEN BULLET"

The "Green Bullet" is designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7000 c.p.s. Furnished with 7 ft. single-conductor shielded cable. High Impedance. The "Green Bullet" is highly recommended for those public address systems where low cost is a must, good reproduction is essential and ruggedness is a necessity. Model 520 series designed to be used with Shure Model S34B or S36A Desk Stands. (See page D-7)

| MODEL | OUTPUT LEVEL | IMPEDANCE | LIST PRICE |
|---|---|---|---|
| 520 | 52.5 db below 1 volt per microbar | HIGH | $22.50 |
| 520B | 51 db below 1 milliwatt per 10 microbars | 150-250 ohms | $22.50 |

## MINIATURE MICROPHONES



Small microphones specially designed for use in vacuum-tube devices such as small, compact amplifiers, transmitters, dictating equipment—wherever size and weight are important factors. They also are highly recommended for use in small transistor-type devices. They are immune to varying conditions of heat and humidity.

**Model MC11**
(Circular)
Impedance: 1,000 ohms
Frequency Response: 400 to 3,000 cps
Output Level: —75 db (0 db - 1 volt per microbar)
Dimensions: Dia. 1 1/64", thickness 25/64"
**List Price: $12.50**

**Model MC20**
(Rectanglar)
Impedance: 1,100 ohms
Frequency Response: 400 to 4,500 cps
Output Level: —75 db (0 db - 1 volt per microbar)
Dimensions: width 10/16", thickness 5/16", length 15/16"
**List Price: $14.00**

**Model MC30**
(Rectangular)
Impedance: 1,850 ohms
Frequency Response: 400 to 3,500 cps
Output Level: —76 db (0 db - 1 volt per microbar)
Dimensions: width .5", length .5", thickness .265"
**List Price: $20.00**

## THE "DISPATCHER"

**MODEL 520SL**

This new Controlled Magnetic unit is designed to handle the most severe field requirements of paging and dispatching systems. The unit is supplied with 7 feet of 2-conductor shielded cable, and is wired to operate both microphone and relay circuits. The "Dispatcher" is ideal for police, taxi-cab, railroad, airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact.

(NOTE: Complete assembly furnished as illustrated.)

| MODEL | OUTPUT LEVEL | IMPEDANCE | LIST PRICE |
|---|---|---|---|
| 520SL | 52.5 db below 1 volt per microbar | High | $45.00 |

## THE "RANGER"

The new Shure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, ham, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty double-pole, single-throw, leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Model 505B is furnished with 5 ft. four-conductor shielded cable. Model 505C is furnished with 5 ft. three-conductor shielded cable. Model 505K is the replacement for General Electric Model EMIOA and is furnished with Amphenol MC4M connector and 5½ ft. coiled 3-conductor (1-conductor shielded) cable. Frequency response is 200 to 8,000 cps.

| MODEL | OUTPUT LEVEL | IMPEDANCE | SHPG. WT. | LIST PRICE |
|---|---|---|---|---|
| 505B | 50.0 db below 1 milliwatt per 10 microbar signal | 150-250 ohms | 1 5/8 lbs. | $32.00 |
| 505C | 50.5 db below 1 volt per microbar | High | 1 5/8 lbs. | $32.00 |
| 505K* | 50.5 db below 1 volt per microbar | High | 1 5/8 lbs. | $37.50 |

* Replacement for General Electric EMIOA

**505 SERIES**

**See Page E-200 For High Fidelity Pickups**



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# SHURE COMMUNICATIONS MICROPHONES

## MODEL "100" SERIES CARBON MICROPHONES

Used around the world for police, taxi, bus, truck, and commercial applications — *more than all other makes combined!* Rugged unit with clear, crisp voice response and high output. Heavy duty switch for push-to-talk performance. Furnished with bracket for wall mounting, plus coiled-cord cable. Adopted as standard microphone by G.E., Link, Motorola, R.C.A. and others for 2-way radio communications equipment. Output level: 5db below 1 volt for 100 microbar speech signal.

**REPLACEMENT CHART**

| MANUFACTURERS MODELS | REPLACEMENT MODEL |
|---|---|
| CB10, CB10B, CB10C, CB10D, CB15, CB15D, | 101C |
| CB10E | 101E |
| CB12, CB12A, CB12C, CB12D | 102C |
| CB12E | 102E |
| CB15F | 103 |

| Model | Cable | Switch Arrangement | List Price |
|---|---|---|---|
| 101C | Standard Coiled Cord 11" retracted; 5' extended | Two Wire Relay Switch normally open. (No microphone switch) | $30.00 |
| 101E | Tinsel Coiled Cord 11" retracted; 5' extended with Amphenol MC4M Connector | | $33.00 |
| 102C | Standard Coiled Cord 11" retracted; 5' extended | Relay normally open. Microphone switch normally open. | $30.00 |
| 102E | Tinsel Coiled Cord 11" retracted; 5' extended with spade lugs | | $33.00 |
| 103 | Standard Coiled Cord 11" retracted; 5' extended with Amphenol MC4M Connector | Two Wire Relay Switch normally open. (No microphone switch) | $31.00 |

## CARBON MICROPHONE CARTRIDGE

**Model R10 and Model 99A149**

Rugged microphone cartridge replacement for "CB", "100", and "120" Series Carbon Microphones. Furnished with necessary mounting hardware and complete installation instructions. Direct replacement for the cartridge used in the Models 101A, 101B, 101C, 102A, 102B, 102C, 120, CB10, CB10B, CB10C, SB10E, CB11, CB11B, CB12, CB12A, CB12B, CB12C, CB12D, CB12E, CB14, CB14A, CB15, CB15B, CB15C, CB15D, CB15F, CB20, CB162, 91A27 carbon microphones.
**Model: R10** **List Price: $8.50**

Model 99A149 is the replacement for cartridges used in microphone models: CB20, CB21, CB50 and 115.
**Model 99A149** **List Price $8.50**

## "RANGER" TRANSISTOR-AMPLIFIER FOR CARBON MICROPHONE REPLACEMENT

Model 505T is the perfect improvement-replacement for carbon microphones. A self-contained transistor amplifier, powered by the carbon microphone circuit, does not require an additional power source. Provides unusual speech clarity and freedom from ageing under severe vibration conditions. Same size and appearance as "100" series microphones. Output level 1 db below 1 millivolt per 100 microbars.
**Model 505T** **List Price $48.50**

### MODEL R5T

Model R5T is a conversion kit containing a controlled magnetic cartridge and transistor amplifier. It is designed to convert carbon microphones into improved controlled magnetic transistorized microphones. Conversion takes only a matter of minutes—and all that is necessary is a screwdriver, a long-nose plier and a soldering iron.

**SPECIFICATIONS FOR MODEL R5T**

List Price: $25.00
Type: Controlled magnetic with transistor amplifier.
Frequency Response: 200 to 4,000 cps
Output Level: -1 db loaded with 500 ohms (0 db — 1 milliwatt per 100 microbars)
Polar Pattern: Semi-directional

## COILED CORD SETS

**Tinsel Coiled Cord** with trimmed and tinned leads and Amphenol MC4M connector attached (3 conductor shielded) for use with General Electric EM10A and 505K microphones.
**Model: C10C** **List Price $12.00**

**Standard Copper Coiled Cord** with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.
**Model: C15C** **List Price: $6.25**

**Tinsel Coiled Cord** with Amphenol MC4M Connector for use with General Electric equipment.
**Model: C16C** **List Price: $9.50**

**Tinsel Coiled Cord** with spade lugs for use in Motorola equipment.
**Model: C17C** **List Price: $7.75**

**Standard Coiled Cord** with Amphenol MC4M Connector for use with Motorola equipment.
**Model: C18C** **List Price: $9.50**

**Tinsel Coiled Cord** with Amphenol MC4M Connector for use with Motorola equipment.
**Model: C19C** **List Price: $9.50**

# SWITCHES AND ACCESSORIES

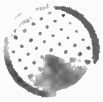
## MICROPHONE REPLACEMENT CARTRIDGES

CONTROLLED MAGNETIC

**Model R5 & Model R5B**

Direct replacement for cartridges used in the following Shure microphone models: 510C, 510MD, 510S, 520, 520SL and 505C. Also ideal for replacement of crystal cartridges in Shure cases of the Model 707A and 708A Series, where heat and humidity are a problem. Supplied with rubber mounting ring.
**Model: R5** **List Price: $11.00**

Model 99C86 is used in models 505B and 520B. Is physically identical to Model R5; but low impedance (150 to 250 ohms).
**Model: R5B** **List Price: $11.00**



CRYSTAL

**Model R7**

Model R7 Crystal Microphone. Available for service installation as a replacement for the cartridges in the Shure Crystal Microphones of the 707A and 708A Series, and other microphones of similar design. High output—48 db below 1 volt per microbar. Cartridge supplied with rubber mounting rings and installation instructions.
**Model: R7** **List Price: $8.25**

**SLIM-X CARTRIDGE**

Model 99A186 for the 777 Series Slim-X Microphones. Crystal element metal-sealed for long life. Requires only one solder connection.
**Model: 99A186** **List Price: $10.00**

## "GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

Heavy-Duty Switch withstands the most severe field requirements of paging and dispatching systems. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand. Rich satin chrome finish.
**Model: A88A** **List Price: $12.50**

**Model A88A**

## ON-OFF PRESS-TO-TALK SWITCHES

Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-connector type Shure microphone.
**Model: A83B** **List Price: $11.00**

Model A84B. Momentary Press-to-Talk "On-Off" switch.
**Model: A84B** **List Price: $11.00**

Model A85C. Momentary Press-to-Talk Relay-Type Switch.
**Model: A85C** **List Price: $11.50**

## TAKE-APART STAND

**Model S34B**

Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle.
**Model: S34B** **List Price: $4.50**

## MODERN DESK STAND

**Model S36A**

Model S36A. Streamlined Desk Mount fits all Shure connector-type microphones. Adapter provided for mounting other type microphones. Ideal for use with A88A switch.
**Model: S36A** **List Price: $6.50**

**See Page E-200 For High Fidelity Pickups**

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World Radio History

# SHURE CRYSTAL and CERAMIC PICKUP CARTRIDGES

## Fine Groove Cartridges For 33⅓, 45 RPM Records

| MODEL NO. | ILLUS-TRATION | TYPE | LIST PRICE | OUTPUT LEVEL | MIN. NEEDLE FORCE | RESPONSE TO | NET WEIGHT | SHURE NEEDLE NO. |
|---|---|---|---|---|---|---|---|---|
| WC20 # | Fig. C | Ceramic | $ 9.50 | .58V | 2½-3 grams | 12,000 cps | 2¼ grams | A20S |
| W21F* | Fig. B | Crystal | 8.90 | 1.5V | 6 grams | 10,000 cps | 4½ grams | A63MG |
| W31AR | Fig. A | Crystal | 7.50 | 2.1V | 7 grams | 7,500 cps | 5½ grams | A53MG |

## "Twin-Lever" Cartridges For 33⅓, 45 And 78 RPM Records

| MODEL NO. | ILLUS-TRATION | TYPE | LIST PRICE | OUTPUT LEVEL | | MIN. NEEDLE FORCE | RESPONSE TO | NET WEIGHT | SHURE NEEDLE NO. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | MG. | STD. | | | | |
| WC6 § | Fig. H | Ceramic | $14.50 | .5V | .7V | 4-6 grams | 15,000 cps | 7 grams | A6S |
| WC6TM ▲ Top Mount | Fig. R | Ceramic | $14.50 | .5V | .7V | 4-6 grams | 15,000 cps | 7 grams | A6S |
| W9 ♭ | Fig. J | Crystal | 9.50 | 3.5V | 5.0V | 11 grams | 10,000 cps | 7 grams | A9 |
| WC10 § | Fig. H | Ceramic | 9.50 | .78V | 1.0V | 7 grams | 12,000 cps | 7 grams | A10S |
| WC10D § | Fig. H | Ceramic | 34.00 | .78V | 1.0V | 7 grams | 12,000 cps | 7 grams | A10DS |

## Turnover Cartridges For 33⅓, 45, And 78 RPM Records

| MODEL NO. | ILLUS-TRATION | TYPE | LIST PRICE | OUTPUT LEVEL | | MIN. NEEDLE FORCE | RESPONSE TO | NET WEIGHT | SHURE NEEDLE NO. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | MG. | STD. | | | | MG. | STD. |
| W22 | Fig. D | Crystal | $ 9.50 | 1.2V | 1.4V | 8 grams | 10,000 cps | 4½ grams | A65MG | A61A |
| W22-T | Fig. E | Crystal | 10.00 | 1.2V | 1.4V | 8 grams | 10,000 cps | 12½ grams | A65MG | A61A |
| WC24 | Fig. F | Ceramic | 8.75 | 0.6V | 0.6V | 8 grams | 7,000 cps | 4½ grams | A53MG | A52A |
| WC24-T | Fig. G | Ceramic | 9.25 | 0.6V | 0.6V | 8 grams | 7,000 cps | 12½ grams | A53MG | A52A |
| WC25 | Fig. K | Ceramic | 9.50 | .65V | .7V | 8 grams | 7,000 cps | 6 grams | A65MG | A61A |
| W72 †§ | Fig. L | Crystal | 8.50 | 3V | 4V | 10-15 grams | 5,000 cps | 7 grams | A69A | A70A |

## All Purpose Single Needle Cartridges For 33⅓, 45, 78 RPM Records

| MODEL NO. | ILLUS-TRATION | TYPE | LIST PRICE | OUTPUT LEVEL | | MIN. NEEDLE FORCE | RESPONSE TO | NET WEIGHT | SHURE NEEDLE NO. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | MG. | STD. | | | | |
| W26 | Fig. B | Crystal | $ 6.50 | .87V | 1.0V | 8 grams | 8,000 cps | 4½ grams | A67U |
| WC38 | Fig. A | Ceramic | 7.50 | .9V | .92V | 9 grams | 10,000 cps | 5½ grams | A58U |
| W66B | Fig. O | Crystal | 7.00 | 2.0V | 2.3V | 8 grams | 4,500 cps | 12 grams | A66U |
| W70 | Fig. P | Crystal | 4.95 | 3.0V | 3.8V | 10-15 grams | 5,000 cps | 16 grams | A77U |

## Standard Cartridges For 78 RPM Records

| MODEL NO. | ILLUS-TRATION | TYPE | LIST PRICE | OUTPUT LEVEL | MIN. NEEDLE FORCE | RESPONSE TO | NET WEIGHT | SHURE NEEDLE NO. |
|---|---|---|---|---|---|---|---|---|
| W56N ** | Fig. N | Crystal | $10.00 | 4.3V | 1 oz. | 10,000 cps | 12 grams | A68D |
| W68 † | Fig. O | Crystal | 7.50 | 1.6V | 1 oz. | 4,500 cps | Dual Wt. 25 grams or 12 grams | A62A |
| W78 ‡ | Fig. M | Crystal | 5.55 | 4.0V or 2.0V | 1 oz. | 6,000 cps | Dual Wt. 25 grams or 12 grams | None |

Fig. A

Fig. B

Fig. C

Fig. D

Fig. E

Fig. F

Fig. G

Fig. H

Fig. J

Fig. K

Fig. L

Fig. M

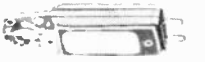
Fig. N

Fig. O

Fig. P

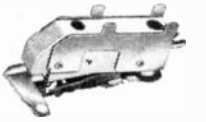
Fig. R

*With .453 Mount for Oak Changer.
**Cutter-Cartridge for Wilcox-Gay "Recordette." Equipped with bifurcated needle.
†Dual-Weight Cartridge. With weight-slug, net weight 25 grams. Without weight-slug, net weight 12 grams.
‡Dual-Weight Cartridge. Has same weight-slug as Model W68, with same net weight differential. In addition, Model W78 has capacitor, furnished as accessory. Without capacitor, output is 4.0 volts. With capacitor, output is 2.0 volts.
§Not a turnover type. Needles are set into tracking position by ingenious "Twin Lever" needle shift system.
#For Columbia 16 2/3 Highway Hi-Fi Records.
♭Model W9 has Capacitor furnished as accessory. Without Capacitor output is as shown above. With Capacitor output it 1.7 volts for 33 1/3, 45 RPM; 2.5 volts for 78 RPM.
†§Model W72 has a slip-on Capacitor furnished as an accessory. With the Capacitor, output is 2 volts for 78 RPM, 1.5 volts for 33 1/3 45 RPM. Without the Capacitor, output is 4 volts for 78 RPM, 3 volts for 33 1/3, 45 RPM.
▲ Top mounting for Magnavox cartridge replacement

**Note: For replacement information, write for free Replacement Manual No. RM-58**

**See Page E-200 For High Fidelity Pickups**



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World Radio History

# MAGNETIC TAPE and WIRE RECORDING HEADS SHURE

Fig. A
Record-Playback-Erase

Fig. B
Record-Playback

Fig. C
Record-Playback Also Erase

Fig. D
Record-Playback-Erase

Fig. E
Record-Playback Also Erase

Fig. F
Record-Playback Also Erase

Fig. G
Record-Playback-Erase

## TECHNICAL DATA—MAGNETIC TAPE AND WIRE RECORDING HEADS

| Model | Recording Speed | Bias & Erase Frequency | Std* Recording Level | Operating Bias Current | Erase** Current | Impedance Erase Coil | Impedance Recording Coil |
|---|---|---|---|---|---|---|---|
| 815 (Fig. A) | 3.75" per sec<br>7.5" per sec<br>3.75" per sec | 25KC<br>50KC<br>DC | .05 ma<br>.05 ma<br>.095 ma | 1.25 ma<br>1.5 ma<br>.35 ma | 27 ma<br>30 ma<br>25 ma | 750 ohm at 25KC<br>1300 ohm at 50KC<br>12 ohm | 1450 ohm at 1000 cps<br>1450 ohm at 1000 cps<br>180 ohm |
| 815H (Fig. A) | 3.75" per sec<br>3.75" per sec | 25KC<br>DC | .03 ma<br>.056 ma | .72 ma<br>.24 ma | 27 ma<br>25 ma | 750 ohm at 25KC<br>12 ohm | 5800 ohm at 1000 cps<br>556 ohm |
| 816 (Fig. B) | 3.75" per sec<br>3.75" per sec | 25KC<br>DC | .03 ma<br>.07 ma | .80 ma<br>.26 ma | | | 5500 ohm at 1000 cps<br>556 ohm |
| 817 (Fig. C) | 3.75" per sec<br>3.75" per sec | 25KC<br>DC | .06 ma<br>.175 ma | 3.6 ma<br>.42 ma | | | 1860 ohm at 1000 cps<br>180 ohm |
| TR30 & TR35 (Fig. E & Fig. F) | 1.875" per sec<br>3.75" per sec<br>7.5" per sec | 25KC<br>50KC<br>50KC | .054 ma<br>.056 ma<br>.057 ma | .50 ma<br>.57 ma<br>.62 ma | | | 3000 ohm at 1000 cps<br>3000 ohm at 1000 cps<br>3000 ohm at 1000 cps |
| TE2 (Fig. C) Without case | 3.75" per sec<br>3.75" per sec<br>3.75" per sec | 25KC<br>50KC<br>DC | | | 30 ma<br>35 ma<br>25 ma | 750 ohm at 25KC<br>1300 ohm at 50KC<br>12 ohm | |
| TE30 & TE35 (Fig. E & Fig. F) | 3.75" per sec | 25KC<br>50KC<br>75KC | | | 12 ma<br>12.5 ma<br>12 ma | 8000 ohm<br>14,000 ohm<br>21,000 ohm | |
| TR21C (Fig. G) | 7.5" per sec | 75KC | .040 ma | 1.0 ma | | | 4000 ohm at 1000 cps |

*Determined in accordance with RTMA Standard REC.-134 August 1949.
**Erase current chosen for 50 db Erasure of Saturated 400 C.P.S. Recording.

Recording Medium—Minnesota Mining & Mfg. Co., Tape No. 111 5RBA1. Pressure Pad Force (Area—.025 sq. in.) Two Ounces.

**RECORDING HEAD DIMENSIONS**

| | |
|---|---|
| **Models 815, 815H (Fig. A) & 816 (Fig. B)**<br>Width 1.240" Depth 1.031" Height .695" | **Models TE2 (Fig. C)**<br>Width .516" Depth .830" Height .715" |
| **Model 817 (Fig. C)**<br>Width .552" Depth .830" Height .765" | **Models TR30 & TE30 (Fig. E) & Models TR35 & TE35 (Fig. F)**<br>Width .635" Depth 1.13" Height .460" |
| **Model TR21C (Fig. G)**<br>Width .600" Depth .821" Height .775" | |

## NUMERICAL LIST OF SHURE TAPE HEADS USED IN ORIGINAL EQUIPMENT

| MODEL | ILLUSTR. | LIST PR. | DESCRIPTION | OPERATING DATA |
|---|---|---|---|---|
| 812 | Fig. D | $ 20.00 | Wire Recording Head. | Not Shown |
| 815 | Fig. A | 15.00 | Upper track recording. Low impedance record-playback coil. | See 815 |
| 815H | Fig. A | 15.00 | Upper track recording. High impedance record-playback coil. | See 815H |
| 816 | Fig. B | 12.00 | Upper track recording. High impedance record-playback coil. | See 816 |
| 817 | Fig. C | 9.00 | .093" record track width. Low impedance record-playback coil. | See 817 |
| TR5B | Fig. A | 17.00 | Upper track recording with 14-inch completely insulated leads. Cinch Plug attached. | See 815* |
| TR5N | Fig. A | 16.00 | Special Shield. Special Leads. Special Plug. | See 815* |
| TR5Z-2 | Fig. A | 18.50 | Upper track recording. High impedance record-playback coil. | See 815H |
| TR6 | Fig. B | 12.00 | Lower track recording. Low impedance record-playback coil. | Not Shown |
| TR6G | Fig. B | 12.00 | Lower track recording. High impedance record-playback coil. | See 816** |
| TR6H | Fig. B | 12.00 | Upper track recording. Low impedance record-playback coil. | Not Shown |
| TR16 | Fig. C | 9.00 | .093" record track width. High impedance record-playback coil. | Not Shown |
| TR26 | Fig. C | 11.00 | .093" record track with (¼ mil gap). High impedance record-playback coil. | Not Shown |
| TR30 | Fig. E | 20.00 | Microgap .093" record track width (¼ mil gap). 500 mh inductance. | See TR30 |
| TR35 | Fig. E | 20.00 | Microgap .093" record track width (¼ mil gap). 500 mh inductance. | See TR35 |
| TE2 | Fig. C | 7.00 | Erase head. .116" erase track width. | See TE2 |
| TE30 | Fig. F | 20.00 | Microgap .110" erase track width. | See TE30 |
| TE35 | Fig. F | 20.00 | Microgap .110" erase track width. | See TE35 |
| TR21C | Fig. G | 14.00 | .093" Record Track Width. Record-Playback Coil. | See TR21C |

*Operating data only. 815 does not replace. **Operating data only. 816 does not replace.

**Note: For replacement information, write for free Replacement Manual No. RM-58**

**See Page E-200 For High Fidelity Pickups**

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World Radio History

Capps

CAPPS & CO., inc.
valley stream, n.y.

# CAPPSCUTTERS

Patent No. 2187512 and 2530284

CAPPS CUTTERS are the finest examples of precision hand craftsmanship available in this country today. Each one is made by a series of hand shaping and polishing operations on delicate facets so small that they can be covered by a human hair. Each is individually disc tested to assure the highest possible recording standards. PRODUCTION TOLERANCES: Included angle-Plus 7, minus 3 degrees: Radius, plus or minus .0003: Burnishing facet, plus or minus .00025 (measured at radius tip): Noise meter reading of minus 55db or better at an 8" record diameter.

## SAPPHIRE CUTTERS

| Cat. No. | Duty | Shank | Shank Matl. | Included Angle (degrees) | Radius (Mils) | List Price | Resharpening List Price |
|---|---|---|---|---|---|---|---|
| 780S | For general course pitch work 78 and LP. | Short | Dural | 87 | 1.5 | $8.25 | $3.75 |
| 780L | " | Long | Dural | 87 | 1.5 | 8.25 | 3.75 |
| 702S | " | Short | Dural | 70 | 2.0 | 8.25 | 3.75 |
| 702L | " | Long | Dural | 70 | 2.0 | 8.25 | 3.75 |
| 330S | Routine microgroove | Short | Dural | 87 | 0.5 to 1.0 | 8.25 | 3.75 |
| 330L | " | Long | Dural | 87 | 0.5 to 1.0 | 8.25 | 3.75 |
| B2S | Utility stylus | Short | Brass | 87 | to 1.0 | 6.60 | 3.25 |
| B2L | " | Long | Brass | 87 | to 1.0 | 6.60 | 3.25 |

## STELLITE CUTTERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 871S | Harder than steel—softer than sapphire | Short | Brass or Dural | 87 | to 1.0 | 2.50 | 1.40 |
| 871L | " | Long | Brass or Dural | 87 | to 1.0 | 2.50 | 1.40 |

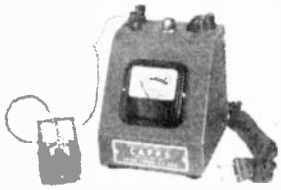
**CUSTOM MADE AND SPECIAL DESIGN STYLI AVAILABLE (MRS, ANM and FEATHER EDGE)**

Eccentric styli, Advance balls, Shaving knives, Wax points, Embossing styli, Replaceable Sapphire reproducing needles, Cartridge assemblies with Sapphire points.

**CAPPS RESHARPENING SERVICE**

Most CAPPS MADE styli can be resharpened upwards of five times depending on whether they are simply dull or badly chipped (Thermo styli cannot be resharpened this many times because of the wiring which limits the available area of sapphire.) CAPPS "RESHARPS" are given the same exacting care and attention as CAPPS new styli and are returned to the sender promptly.

# HOT STYLUS UNIT



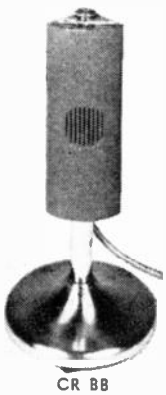
The CAPPS HOT STYLUS UNIT is used for applying heat to disk recording styli, softening the disk material at the point of contact thereby producing smoother more accurate grooves. This results in a substantial reduction in surface noise, especially at the inner diameter and minimizes the mechanical load on the cutting head increasing its efficiency and frequency response.

When ordering specify make and model number of cutter head and stylus requirements.

| Model No. | | |
|---|---|---|
| CU-I | Supplied without stylus | $60.00 net |
| CU-IR | Supplied with regular duty stylus, LP or 78 | 66.50 net |
| CU-IC | Supplied with custom made stylus to customer's specification | 70.50 net |

# MICROPHONES

## CONDENSER MICROPHONES



CR BB

CAPPS CONDENSER MICROPHONES are acoustically faithful, distortion free, omnidirectional, blast proofed, and have a smooth frequency response from 20 to 20,000 c.p.s. Their excellent transient response make them ideal for those who must have the ultimate in acoustical transmission. They are complete with preamplifier, power supply and cable.

CM 2001 "PROFESSIONAL." The lowest priced condenser microphone available. Combines all of the features above with low cost achieved through mass production. Available for high impedance input (Grid Input). A boon to high fidelity enthusiasts.

CM 2001 ..... Net Price $150.00*

CAPPS "STUDIO" Condenser Microphones are completely equipped with Cannon Connectors and swivel head.

CM 2030A—30 Ohms ..... Net Price $225.00*

CM 2250A—250 Ohms ..... Net Price $225.00*

CM 2011A—Hi Imp. (Mic Input) ..... Net Price $225.00*

CM 2030A
CM 2250A
CM 2011A

## CRYSTAL MICROPHONE WITH CONTROLLABLE *BASS BOOST*

(Patent Pending)

Designed to compensate for frequency response deficiencies inherent in many tape recorder and p.a. systems, this microphone has a control knob which causes the acoustic chamber of this microphone to increase the bass response of the microphone up to 12 db from 50 to 150 c.p.s. with smooth rise and roll off below peak boost. Smooth frequency response 20-12,000 c.p.s. Output level —55 db re 1V/dyne/CM². Omnidirectional. 5/8"-27 thread for stand mounting or lay flat for desk use. Supplied with 15' of shielded microphone cable.

CR BB ..... List Price $36.00

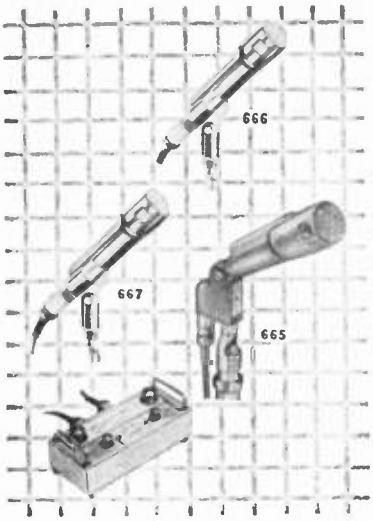


World Radio History

# Electro-Voice MICROPHONES AND STANDS

## BROADCAST—TV DYNAMICS

E-V research engineers have worked closely with national TV and BC networks in determining exactly the requirements for professional microphones. This is your assurance of higher quality, ease of application, and economy in sustained, trouble-free operation.




### CARDIOID UNIDIRECTIONAL MICROPHONES

**Model 666 Super Cardioid Microphone**—Totally new concept in directional microphone design uses Variable D principle. High discrimination against sounds from back hemisphere. Highly resistant to mechanical shock. Model 666 affords another octave of uniform HF response over that found in conventional broadcast cardioids. Permits close talking with no bass accentuation. Increases working distance over pressure microphones by factor of 1.7:1 due to reverberation reduction. Designed for operation on boom, stand or in hand. Uses only one moving element with exclusive, rugged Acoustalloy diaphragm. Response range, typical 30-16,000 cps; output: −55 db. Impedance changed on internal terminal board. Wired for 50 ohms, taps at 150 and 250 ohms. Aluminum cast case finished in TV gray. Built-in Cannon UA-3 connector. Clamp-on stand mount included with ⅝"-27 thread and ½" pipe thread adapter. 20' cable. Size, 7½" long, 1⅝" diameter. Net Weight, 11 oz. List Price . **$255.00**

**Model 667 Variable Response Cardioid**—This all-purpose microphone fulfills requirements of wide-range reproduction under a great variety of acoustic conditions. The 667 combines the same excellent cardioid operations of the Model 666, listed above, with an in-line transistor preamplifier, with bass, treble and presence controls providing 40 distinct frequency response characteristics. Maximum output level: 50 ohms, −30 db; 150 ohms, −32 db; 250 ohms, −33 db. Microphone specifications, accessories, similar to Model 666 except response: 35-16,000 cps; finish brown and gold. Preamplifier noise level −123 db referred to input. Controls: Bass (4-position: +3 db, flat, −5 db, −9 db at 100 cps); Treble (5-position: +9 db, +6 db, +3 db, flat, −6 db at 10 kc); Gain (4-position); Power On-Off switch. Long-life mercury battery supplied. Steel case, brushed chrome finish. Size, 9" l., 3⅞" w., 3 11/16" h. Net Wt., 3¼ lb. Supplied with 50' cable, UA-3-11, UA-3-12 connectors; 20' cable with UA-3-11 connector, hardwood carrying case for complete unit. List Price . . . . . **$600.00**

**Model 665 Cardioid**—Similar in design and function to the Model 666, but for less exacting applications. Uniform response 40-15,000 cps. Recessed switch provides 50 or 250 ohms. Pressure-cast zinc case. Nonreflecting gray finish. Diameter, 1⅝", length 7 9/16". 18' cable. Net Weight, 1 lb. 10 oz. List Price . . . . . **$150.00**

### OMNIDIRECTIONAL MICROPHONES

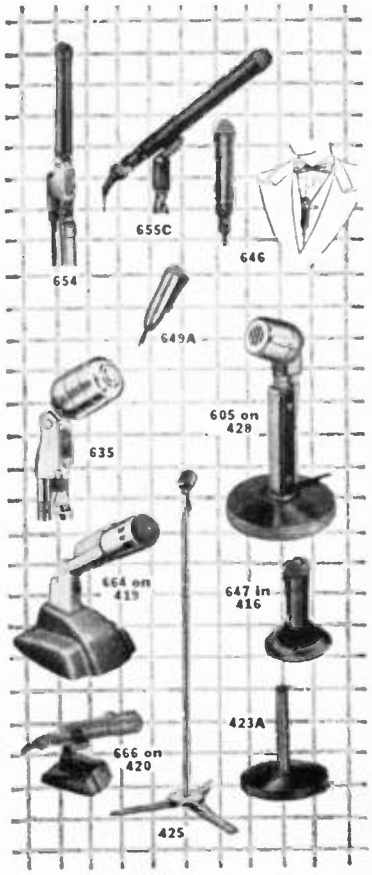
**Model 655C Slim-Trim TV Dynamic**—Frequency response 40-20,000 cps. Output level −55 db. Has widest range response of any microphone commercially available. Used in many laboratories as test standard. Excellent level affords high signal-to-thermal noise ratio. Can be used on stand, in hand or on boom. Easily concealed in studio props. Acoustalloy diaphragm. Pop-proof grille. Impedance 50, 150 and 250 ohms. Impedance easily changed at internal terminal board. Cannon UA-3 connector. Clamp-on stand mount included with ⅝"-27 thread and ½" pipe thread adapter. Size, 10½" long w/o connector, 1" diam. 20' cable. Net Wt., 11 oz. List . **$200.00**

**Model 654 Slim-Trim Broadcast Dynamic**—Frequency Response 50-15,000 cps. Output level −55 db. Recessed selector provides 50 or 250 ohms. Built-in Cannon XL-3 connector. Acoustalloy diaphragm. ⅝"-27 thread. 18' cable. 10" long with stud. 1" diam. Net Weight, 15½ oz. TV gray enamel. List Price . . . . . **$100.00**

**Model 646 Lavalier Dynamic**—For chest, desk or hand use. Neck cord and support clips supplied. Response 50-10,000 cps; output level −57 db. Choice of either 50, 150, 250 ohms impedance. Omnidirectional. Acoustalloy diaphragm. Built-in connector. Gray enamel. 30' cable. 7 9/16" x 1" diam. Net Weight, less cable, 7 oz. List . **$147.50**

**Model 649A Miniature Lavalier**—Smallest dynamic lavalier—weighs only 2 oz. without cable: 3 11/16" long x ⅝" diameter. Ideal for programming where unobtrusive or concealed microphone placement is desirable. The 649A may be hidden in corsages, under the lapel or tie, behind a book—almost anywhere. Frequency response 60-12,000 cps. Output: −60 db. Nondirectional. Matches all low impedance. 30' shielded cable. Aluminum case finished in TV gray. Complete with neck cord assembly and belt clip. List Price . . . . . **$105.00**

**Model 635 Broadcast Dynamic**—Compact, rugged, versatile. Omnidirectional. Response, 40-15,000 cps. Output level −55 db. 50-250 ohms impedance selector. Head tilts through 90° arc. Cannon XL-4 connector. ⅝"-27 thread; size, 2" x 6¼". Satin chrome finish. 18' cable. Net Weight, 1 lb. List Price . . . . . **$82.00**




### MICROPHONE STANDS

**Model 415 Reclining Desk Stand**—Mounts 615, 715, 915 at 15° tilt. Satin chrome. Size 2⅞" x 2¾" x 1". Net Weight, 4 oz. List Price . . . . . **$1.75**

**Model 416 Stand**—For semipermanent mounting of 646, 647 microphones. Black rubber. Size 3¼" diameter, 1" high. Net Weight, 2 oz. List Price . . . . . **$5.00**

**Model 418 Desk Stand**—Use with microphones using small-type stud such as Models 611, 623, 630, 635, 636, 911, and 950. Die cast base. Gray finish.
List Price . . . . . **$10.00**
**Model 418-S**—With switch . . **$15.00**

**Model 419 Desk Stand**—Similar to Model 418 but for use with microphones using large-type stud such as Models 650, 654, 726, 731, 664 and 665.
List Price . . . . . **$10.00**
**Model 419-S**—With Switch . . **$15.00**

**Model 420 Desk Stand**—Heavy cast iron stand finished in TV gray. Specifically designed for use with E-V 666, 655C, 646 or microphones with 1" diameter. Clamp attachment for mounting 1" cylindrical mikes, without tools. Base holds mike in position when subjected to ordinary strain. Net Weight, 3 lbs.
List Price . . . . . **$20.00**

**Model 423-A Desk Stand**—Sturdy smartly styled, round die-cast base, 5⅛" diameter. Rests firmly on rubber base buttons. Rich satin chrome. ⅝"-27 thread. Choice of 3" or 5" matching stem riser. Net Weight, 1 lb. List **$5.00**

**Model 428 Touch-To-Talk Stand**—Fits standard ⅝"-27 thread. Lever-type switch for relay operation or microphone On-Off—closes or opens instantly or locks in "talk" position. Satin chrome; gray plastic switch lever with locking button. 7" x 5¼" base diameter. Net Weight, 1¾ lbs.
SPDT. List Price . . . . . **$17.50**
DPDT. List Price . . . . . **$17.50**

**Model 425 Deluxe Floor Stand**—Button at top gives one-hand height control from 37" to 66". Locks automatically on release. Shaft can be rotated without any adjustment device. Locking-type adjustable legs permit stand to be placed flush against wall. Modern, die-cast base. Three-leg spread 17". Net Weight, 7½ lbs. List Price . . . . . **$30.00**

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World Radio History

# Electro-Voice MICROPHONES AND ACCESSORIES

## DYNAMIC MICROPHONES

### CARDIOID UNIDIRECTIONAL MICROPHONES

**Model 664 Cardioid Dynamic**—Similar to Model 666 in function, but designed specifically for PA. Cardioid pattern at all frequencies. Permits close talking without "booming" or bass accentuation. Provides better discrimination against unwanted sound. Less feedback than any cardioid PA microphone built. Blast filter minimizes wind effect. Acoustalloy diaphragm shielded from dust and magnetic particles. Response 40-15,000 cps. Output −55 db. On-Off switch. 150-ohm and high impedance. Impedance changed by moving one wire in MC-1 cable connector. Pressure cast case. Chrome finish. 18' cable. Size 7 3/16" long, less stand coupler, 1 7/8" diameter. Net Weight, 1 lb. 10 oz. List Price.....**$85.00**

**Model 664G**—Gold Finish. List Price.....**$90.00**

### OMNIDIRECTIONAL MICROPHONES

**Model 636 "Slimair" Dynamic**—Exceptionally fine for PA, recording and general use. Response 60-15,000 cps, output −55 db. Pop-proof head. Wide pickup range. On-Off switch. Satin chrome finish. Tiltable head. Built-in MC-4 connector. 5/8"-27 thread. Hi-Z or Lo-Z by changing one wire in connector. 18' cable. 10 1/4" long including stud. 1 1/8" max. diameter. List Price.....**$72.50**

**Model 636G**—Gold Finish. List Price.....**$77.50**

**Model 630 High Fidelity, High-Output Dynamic**—Famous for quality at low cost. Response 60-11,000 cps; output level −55 db. Unaffected by heat or humidity. Acoustalloy diaphragm. Tiltable head. Built-in MC-3 connector. On-Off switch. Satin chrome finish. Available in 50, 250 ohms, or Hi-Z. Size 2" x 6 1/4". 18' cable. Net Weight, 1 lb. List Price.....**$52.50**

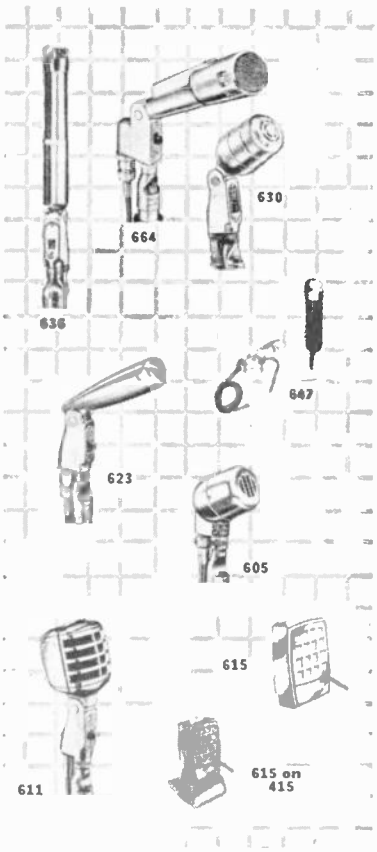
**Model 647 PA Lavalier Dynamic**—Small, rugged; for chest, desk or hand use. With neck cord, support clips and 18' cable. Response 60-10,000 cps; output level −57 db. Available in 150 ohms or Hi-Z. Acoustalloy diaphragm. Built-in connector. Gray enamel finish. 5" long, 1" dia. Net Weight, less cable, 4 oz. List Price.....**$82.50**

**Model 623 Slim Dynamic**—Ideal for PA, recording and general use. Use on stand or in hand. Omnidirectional. Response 60-12,000 cps; output level −56 db. Hi- or Lo-Z by changing one wire in connector. Pressure cast, satin chrome finish. Tiltable head. On-Off switch. Built-in MC-4 connector. 5/8"-27 thread. 7 1/2" x 1 5/16". 18' cable. Net Weight, 15 oz. List Price.....**$57.00**

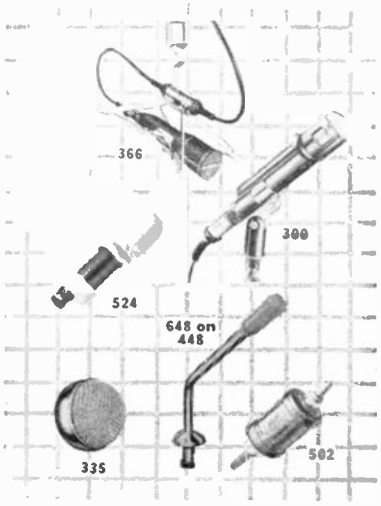
**Model 611 "Mercury" Dynamic**—Traditional styling, fine performance for general sound pickup. Response 50-9000 cps; output level −55 db. Nondirectional. Acoustalloy diaphragm. Tiltable head. On-Off Switch. Built-in MC-3 connector. 5/8"-27 thread. Satin chrome finish. Available in 50, 150, 250 ohms or Hi-Z. Lo-Z balanced to grd. 2 5/8" x 3 1/8" x 6 1/4" inc. stud. 18' cable. Net Weight, 1 1/4 lbs. List Price **$45.00**

**Model 605 Durable Dynamic**—For dependable, general purpose use. Response 65-8000 cps. Output level −55 db. Nondirectional, becoming directive at higher frequencies. Acoustalloy diaphragm. Head at 22° fixed tilt. Built-in MC-1 connector. Satin chrome. Choice of 50, 250 ohms or Hi-Z. Low impedance not balanced to ground. 3 1/4" x 2 1/2" x 2" dia. Net Weight, 12 oz. With 18' cable. List Price.....**$32.50**

**Model 615 "Century" Dynamic**—Incomparable for paging, home recording, amateur, or any low-cost applications. Can be used in hand, on table, on stand, or overhead. Nondirectional. Acoustalloy diaphragm. Withstands extreme temperature, humidity, corrosion and shock. Response 80-8000 cps. Output −55 db. 50 ohms or Hi-Z. Lo-Z not balanced to ground. 5' cable. Pressure cast case, satin chrome. Rugged, lightweight. Size 3" x 2 3/16" x 1". With 5/8"-27 thread stand adapter. AC-DC insulated. List Price.....**$25.50**




### MICROPHONE ACCESSORIES




**Model 366 Suspension Shock Mount**—Extremely light boom suspension shock mount. Combined weight of 366 and 666 microphone is 17 oz. Designed for use with 666 microphone. No tools required for installing mike. Pigtail cable connection with UA-3 connectors provides cable loop isolating boom shock noises. Made for any microphone with 1" diameter. List Price.....**$40.00**

**Model 345 Shock Mount**—Dual-type external shock mount prevents reproduction of external shocks and stand vibrations. Permits tilting microphone head. 5/8"-27 thread. Easily attached or removed. Satin chrome. 1 1/2" x 3 7/8". Net Weight, 10 oz. List Price.....**$15.00**

**Model 346 Shock Mount**—Designed specifically for use with Model 666 microphone. Similar in every feature to Model 345, but constructed for 11 oz. microphone. List Price.....**$15.00**

**Model 300 Detachable Microphone Clamp**—Light weight adapter fits any cylindrical microphone with 1" diameter. Provides positive means to mount on stand. Easily installed without tools with finger operated clamp. Rubber insert prevents slippage on mike. 1/2" pipe thread adapter for 5/8"-27. List Price.....**$10.00**

**Model 524 Wind Screen**—Designed specifically for use with Model 666 microphone. Minimizes wind effect on boom operation or when used outdoors. Made of Acoustifoam rubber. Net Weight, 2 oz. List Price.....**$8.00**

**Model 335 Blast Filter**—Acoustically treated, scientifically curved grille stops wind and breath blasts. Does not affect frequency response. Easily fits over head of E-V Models 630, 635, and 605 mikes. Satin chrome finish. List Price **$5.50**

**Model 448 Swivel Boom Mount**—Designed specifically for use with Model 648 microphone. Holds mike 11 7/8" off mounting surface. 62° elbow bend. MC-2M connector. Satin chrome finish. Extends 4" below mounting surface. 2 1/2" diam. mounting base. Net Weight, 1 lb. 5 oz. List Price.....**$24.00**

**Model 502 Matching Transformer**—Designed for mounting on amplifier chassis or in series with mike line. Transformer windings have low distributed capacity and are amply shielded against inductive hum by a shield inside pressure cast case. Designed for 50, 250 and 500 ohms—to Hi-Z. Broadcast fidelity. Response 40-20,000 cps ± 1 db for speech or music. MC-4 input connector. 2 7/8" x 2" diameter. List Price.....**$17.50**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World Radio History

# Electro-Voice MICROPHONES

## CRYSTAL AND CERAMIC MICROPHONES

**Model 951 Cardioid Crystal**—Uses same new Variable D principle as E-V's BC-TV cardioids to obtain uniform directivity at all frequencies, high discrimination against unwanted sound. The 951 is an excellent wide-range, all-purpose PA microphone for a great variety of acoustic conditions, and especially useful where background noise and reverberation are a problem. Response 50-11,000 cps. Output −60 db. Hi-Z. On-Off switch. Pressure-cast case, satin chrome finish. 18' cable, MC-1 connector. 5⅜" l. (excluding stud). 1¾" dia overall. Net wt., less cable, 1¼ lbs. List . . **$49.50**

**Model 911 "Mercury" Crystal**—Same smart design and fine performance as Model 611. Response 50-9000 cps. Output −50 db. Metal Seal Crystal. MC-1 connector Hi-Z. 18' cable. Net Weight 1¼ lbs. List Price . . . . . **$32.50**

**Model 926 Slim Crystal**—Level and response ideal for general purpose use. Response 60-8000 cps; output level −60 db. Hi-Z. Pressure cast case, satin chrome finish. Tiltable head. ⅝"-27 thread. 6¾" x 1 3/16". 18' cable with integral strain relief. Net Weight 11 oz. List Price . . . . . **$29.50**

**Model 920 "Spherex" Crystal**—All-direction pick-up. Response 60-7000 cps; output level −50 db. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Hi-Z. Satin chrome. ⅝"-27 thread. Diam. 2¼". 18' cable. Net Weight 8 oz. List . . **$27.50**

**Model 727 Slim Ceramic**—A new approach to the design of ceramic microphones for PA, recording and general use. Withstands extremes of temperature and humidity. Response 60-8000 cps. Output −55 db. High impedance only. 5' cable. Available with or without "on-off" switch. Metalustre gray front with medium gray back. Size 7⅞" x 1½" x 1¼". Supplied with attractive desk stand and floor stand coupler. Net Weight less cable, stand, 9 oz. List Price . . **$18.00**

**Model 727S**—With switch. List Price . . . . . **$20.00**

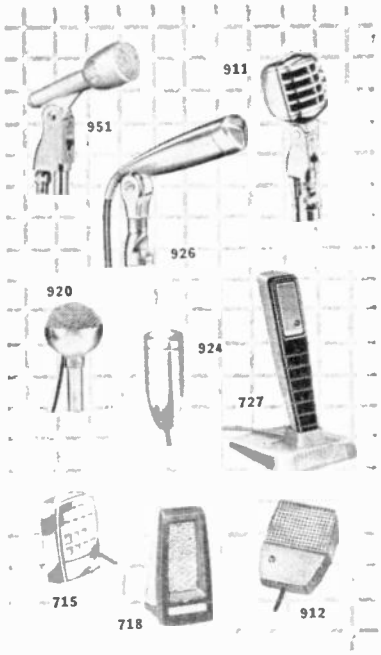
**Model 924 Lavalier Crystal**—Unique crystal lavalier for chest or hand use. Supplied with neck cord, support clips and 18' cable. Satin chrome finish. Wire mesh head acoustically treated for wind and moisture protection. Output −60 db. Response 60-8000 cps. Hi-Z. 3 1/16" x 1 7/16". Cable has integral strain relief. Net Weight 8 oz. List Price. **$20.00**

**Model 715 "Century" Ceramic**—Use in any position—in hand, on table, on stand or overhead. Ceramic element. 60-7000 cps output −55 db. Hi-Z. 5' cable. Non-directional. Satin chrome finish. Rugged, lightweight. 3" x 2 3/16" x 1". With ⅝"-27 adapter, AC-DC insulated. 6 oz List Price . . . . . **$13.00**

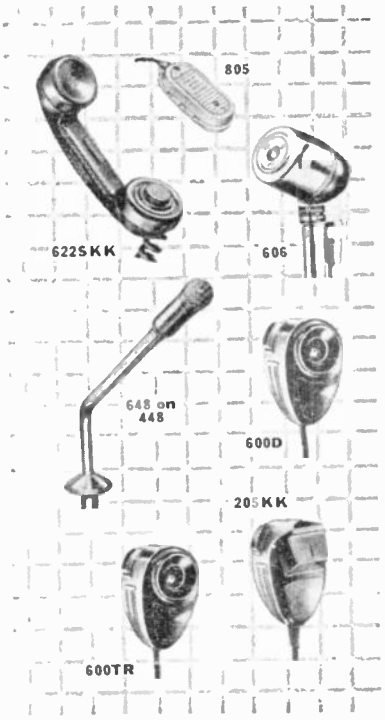
**Model 715S**—With switch. List Price . . . . . **$15.00**

**Model 718 Ceramic**—With attractive contemporary styling, the new 718 is designed particularly as an improved replacement for inexpensive home recording microphones. Convenient to use in hand or on flat surface. 5' cable includes a molded-on phono plug, with adapter, to match all late model home recorders. Improved high-level (−55 db) ceramic element resists damage from temperature, humidity extremes. Response 60 to 6000 cps. 3 5/16" x 1¼" x 1 13/16". Net Weight 8 oz. List . **$12.00**

**Model 912 Crystal**—Low cost crystal microphone. Fits need of limited PA, home recording, paging and general use. Handheld. Moisture sealed crystal. Response 70-7000 cps. High output −50 db. Hi-Z. Attractive gray Styron case. Size 3" x 2¼" x 1⅜". 5' cable. Net Weight 4 oz. List Price . . . . . **$10.00**




## DIFFERENTIAL AND SPECIAL PURPOSE MICROPHONES




**Model 622SKK Dynamic Handset**—For paging, intercom and communications. Light, sturdy bakelite, 150-ohm magnetic receiver with response 200-4000 cps. Switch closes mike and relay circuit. Response 100-5000 cps, output level −55 db. Impedance 250 ohms. 5' 5-conductor cable. List Price . . . . . **$78.00**

**Model 625SKK Dynamic Differential Handset Microphone**—Noise-cancelling microphone designed for use where background noise is at high level. Enables user to speak in a normal voice. Appearance and characteristics similar to Model 622SKK. Supplied with five-conductor, unshielded cable. DPST switch also will handle relay or other remote control in addition to turning on mike. Press button to talk. Size 9" x 3" x 2 ⅛". Net Weight, 1¾ lbs. List Price . . . . **$85.00**

**Model 805 Contact**—For guitar, banjo, etc. Hi-Z. Sealed crystal. Chrome finish. 15' cable. List Price . . . . . **$20.00**

**Model 606 Differential Dynamic**—Close-talking, noise-cancelling. Response 100-5000 cps. Output (at ½") −55 db. Acoustalloy diaphragm. Head at 22° fixed tilt. ⅝"-27 thread. Built-in MC-1 connector. Satin chrome. 2" x 3¼" x 2½" inc. stud. 50, 250 ohms or Hi-Z. Low impedances not balanced to ground. 18' cable. List Price . . . . . **$52.50**

**Model 648 Intercom Microphone**—Extremely versatile paging, intercom, or PA mike. Can be mounted on desk or floor stand, boom, gooseneck, or special fixtures. Cable is concealed when used with Model 448 swivel boom. Response 50-10,000 cps. Output −58 db. Choice of 50, 150, 250-ohm impedance. Omnidirectional. Acoustalloy diaphragm. Nonreflecting gray. Less Cable. Size 6 1/16" x 1" (including ⅝"-27 thread adapter). Net Weight (with adapter), 8½ oz. List Price . . . . . **$56.00**

**Model 600TR Microphone**—Has compact, one-stage transistor amplifier built into case. Complete circuit including transistor, transformers, and associated equipment. Spiralcord, four-wire lead, press-to-talk switch may also actuate relay to control transmitter. Same sensitivity as carbon mike without change in auxiliary equipment. Output −21 db. Amplifier power gain approximately 34 db. Size 2¼" x 2" x 4". Black phenolic case with mounting bracket, 5' cable. Net Weight less cable 13 oz. List Price . . . . . **$82.50**

**Model 602TR Microphone**—Similar in type and appearance to Model 600TR, but designed for close-talking, noise-cancelling work. Speech is clear, crisp, distinct. May be used to replace carbon microphone with no change in auxiliary equipment. Net Weight less cable 13 oz. List Price . . . . . **$93.00**

**Model 600D Dynamic Mobile-Mike**—Lightweight, hand-held, extra-rugged. Output −55 db. Press-to-talk switch. Acoustalloy diaphragm. 2¼" x 2" x 4". 50, 250 ohms or Hi-Z. 5' cable. Net Weight less cable 8 oz. List . . . **$47.50**

**Model 210KK Carbon**—Similar to Model 600D but single-button carbon. Output −50 db. Press-to-talk switch. 5' coiled cord. List Price . . . . **$35.00**

**Model 602 Differential Dynamic**—Similar to 600D but close-talking, noise-cancelling. List Price . . . . . **$57.50**

**Model 205KK Differential Carbon**—Close-talking, noise-cancelling, single button carbon. Maximum intelligibility under high ambient noise. Blastproof, waterproof, shock resistant. Output at ¼" −50 db. Black phenolic case. Press-to-talk switch. Mounting bracket. 5' coiled cord. Size 2¼" x 2¼" x 4". Net Weight less cable 8 oz. List . . . **$45.00**

**Model 205STCKK**—CAA Type approved certificate No. 1040 with coiled cord. List Price . . . . . **$56.50**

**Model 205STCKKP**—Similar to above with WE-309 plug. List Price . **$61.25**

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World Radio History

# THE ASTATIC CORPORATION

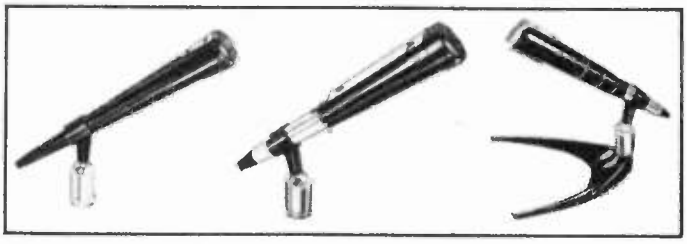
KNOWN THE WORLD OVER

CONNEAUT OHIO

## ASTATIC PROFESSIONAL MICROPHONES FOR SOUND STAGE—TAPE RECORDING—TV AND BROADCAST

A new trend in precision microphones. Strikingly styled, superior performance. Omni directional, widest range, pop and blast proof mylar diaphragm. Pressure cast body. Complete with lavalier assembly, swivel adaptor and 20 feet of two conductor cable.

**MODEL 788:** Excellent for tape recording, orchestras and PA. Dual impedance 150 ohms and high. High output —55 db, Frequency Response 50-13,000 cps. Built in on-off switch. Finish—satin black body, satin gold trim. List Price —$79.50. Shipping weight—12 oz.



**MODEL 888:** Designed for wide applications; sound stage, tape recording, TV and broadcast. High output —56 db, Frequency Response 50-15,000 cps, multi-impedance selection. Finish—black body with chrome trim. List Price—$110.00. Shipping weight—1 ½ lbs.

**MODEL 988:** Extended range (40-20,000 cps) professional microphone for TV broadcast, group pickup. High output —58 db, Frequency Response 40-20,000 cps, multi-impedance selection 50-150-250 ohms. Finish—satin black body with satin gold trim. List Price—$150.00.

## CARDIOID DYNAMIC MICROPHONES

**MODEL 77:** *THE MOST POSITIVE ANTI-FEED BACK MICROPHONE EVER BUILT.* A high fidelity unidirectional dynamic cardioid microphone. New advanced styling. Front to back pickup, differential of 18 db. Cartridge is suspended in rubber like material, no need for external shock mount. Built in impedance selector switch. Low impedance 30 to 50 ohms, Medium 150 to 250 ohms, High 40,000 ohms. Output —52 db, Frequency Response 30-15,000 cps all models. Satin chrome finish.

**MODEL 77**—Complete with on-off switch, with provision for locking in on position. List—$82.50. Shipping weight 2 lbs. 14 oz.

**MODEL 77L**—Head only for mounting on Astatic G Stand. List—$72.50. Shipping weight 1 lb. 14 oz.

**MODEL G77**—Includes Astatic G Stand and 8 feet of cable. List—$97.45. Shipping weight 3 lbs. 10 oz.

**MODEL 77 (Gold)**—List Price $92.50

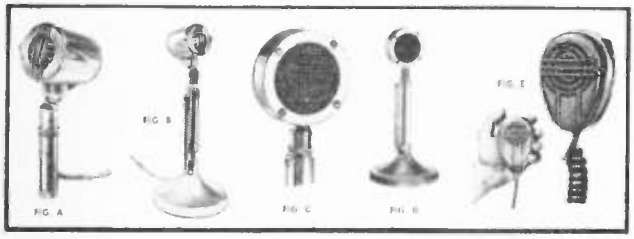
**MODEL 77L (Gold)**—List Price—$82.50

MODEL 77

MODEL 77L

MODEL G77

## FOR SSB-AMATEUR—AM—PAGING AND INDUSTRIAL USE




**MODEL 10C, 10D:** The tailored response, the higher talk power makes these microphones ideal for SSB and AM transmitter use. Also ideal for industrial paging, semi-directional. Pressure cast body. MODEL 10C—contains ceramic element which is immune to temperature and humidity. Finish Opalescent Grey. Output —54 db, Frequency Range 300-3000 cps. MODEL 10D—contains dynamic unit. Finish Bright Chrome. Output —54 db, Frequency Range 300-3000 cps.

| | | | |
|---|---|---|---|
| FIG. A—List Price | 10C | $29.70 | Shipping weight 1 lb. 4 oz. |
| FIG. A—List Price | 10D | $39.70 | Shipping weight 1 lb. 10 oz. |
| FIG. B—List Price | G10C | $49.90 | Shipping weight 2 lbs. 12 oz. |
| FIG. B—List Price | G10D | $59.90 | Shipping weight 3 lbs. 2 oz. |

**FIG. C—MODEL D-104, D-104C:** "The Premier" The Radio Amateur's first choice. Balanced performance for maximum intelligibility throughout the voice range. Machine brass parts. Bright chrome finish. 5 feet of single conductor cable. MODEL D-104—High output crystal —47 db, Frequency Range 30-7500 cps. List Price—$31.00. Shipping weight—1 ¾ lbs. MODEL D-104C—with ceramic element, Output —51 db, Frequency Range 30-7500 cps. List Price—$31.00. Shipping weight 1 ¾ lbs.

**FIG. D—MODEL GD-104**—Complete with Astatic G Stand, List Price—$51.20. Shipping weight 3 ¾ lbs. MODEL GD-104C—Complete with Astatic G Stand, List Price—$51.20, Shipping weight—3 ¾ lbs.

## MOBILE AND COMMUNICATIONS MICROPHONES

**FIG. E—MODEL 10M5A:** "The Communicator" Popular rugged carbon microphone, light weight, high sensitivity. Built in RF filter. Ideal for portable or mobile communication such as police, fire department, taxi cab. Heavy duty thumb switch. Pressure cast housing. Finish opalescent grey. 5 feet of self coiling cable, includes anti-rattle hang-up bracket. Power level 2 db above 6 M.W. List Price—$29.50. Shipping weight —1 lb. 3 oz.



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World Radio History

## TAPE RECORDING MICROPHONES

**FIG. F—MODEL M-332, M-332-S:** New slim high fidelity crystal microphones. Excellent for improving tape recording and for PA work. Designed for hand, and stand, with lavalier. Precision made. Pressure cast body. Chrome finish. Output —53 db, Frequency Range 30-15,000 cps. Both models complete with lavalier and stand adaptor. 8 feet of single conductor cable. **MODEL M-332-S**—Same as M-332 except has on-off switch.

**MODEL M-332** List Price—$17.90, Shipping weight 1 lb.

**MODEL M-332-S** List Price—$19.90, Shipping weight 1 lb.

**FIG. G—MODEL M-101, M-102:** "The Economike" Lowest cost, wide range home recording microphone designed for hand held use. Durable, light weight plastic, 5 feet of single conductor shielded cable. **MODEL M-101**—Ceramic. Output —52 db, Frequency range 30 8000. List Price—$8 75, Shipping weight 1 lb. **MODEL M-102**—Crystal. Output —46 db. Frequency range 30-10,000 cps. List Price—$9.70, Shipping weight 1 lb.

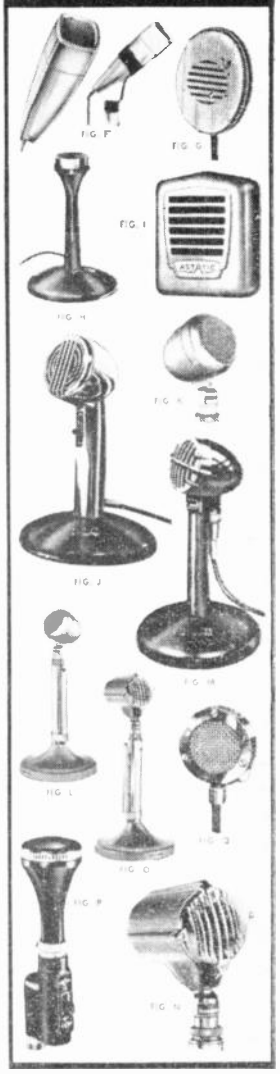
**FIG. H—MODEL 54M3:** The Universal Model 54M3. Nondirectional crystal microphone. Designed for PA and recording. Pressure cast housing, quick lock on base, brown finish. 5 feet of single conductor cable. Output —51 db, Frequency Range 30-10,000 cps. List Price—$17.95, Shipping weight 2 lbs.

**FIG. I—MODELS M-301 AND M-302:** "The Gold Standard" Unique modern styling superior performance, wide range, high output makes this microphone ideal for tape recording use. Pressure cast housing, finish in metallic gold. Hinge in back recesses in and out making it a versatile microphone for hand or desk.

**MODEL M-301**—Ceramic. Output —53 db, Frequency Range 30 10 000. List Price—$11 50, Shipping weight 1 lb.

**MODEL M-302**—Crystal. Output —47 db, Frequency Range 30-10,000. List Price—$12.50, Shipping weight 1 lb.

THE Astatic CORPORATION, CONNEAUT, OHIO




## ALL PURPOSE CRYSTAL MICROPHONES

**FIG. J—MODEL 200:** "Velvet Voice" All purpose, low cost, hand held, desk-floor stand. Crystal high impedance microphone. Pressure cast housing, gold finish chrome grille Complete with 10 feet of cable. **MODEL 200**—wide range, Output —50 db, Frequency Range 30 10,000 cps. **MODEL 200-S**—wide range with switch **MODEL 241-S** rising characteristics with switch, Output —50 db Frequency Range—rising characteristics, from 1500 to 5500 cps.

**MODEL 200**—List Price $19.50, Shipping weight 2 lbs.

**MODEL 200S AND 241S**—List Price—$21 50, Shipping weight 2 lbs.

**FIG. K—MODEL T-3:** "The Pioneer" Industry standard High output —52 db, Frequency Range 30 10 000 cps tilting head provides for semi or non-directional pickup. Pressure cast housing. Finish bright chrome body and grille. 15 feet of single conductor cable. **MODEL GT-3** includes Astatic G Stand.

**MODEL T-3**—List Price—$29 30, Shipping weight 2 lbs.
**MODEL GT-3**—FIG. L—List Price—$49 50,

**FIG M—JT-30** Crystal, **JT-30C** Ceramic "The Spokesman" High quality low cost, specially designed for PA recording and communications Pressure cast body and base Finish—opalescent grey, chrome grille. **MODEL JT-30**—Crystal, 10 feet of cable Output —50 db, Frequency Range 30 10,000 **MODEL JT-30C**—Ceramic, 5 feet of cable. Output —54 db, Frequency Range 30 10,000 cps.

**MODEL JT-30** List Price—$18 40, Shipping weight 1 lb.

**MODEL JT-30C** List Price—$18 90, Shipping weight 2½ lbs.

**FIG Q—MODEL L-1**— The Lecturer Small and efficient—High quality—Inconspicuous crystal microphone Spring clip for attachment to speaker's coat lapel or other garment Precision built, wide range performance Wire mesh front and rear grilles Black melamine finish 15 ft small diameter single conductor shielded cable High impedance. Output —62 db Range 30 10,000 cps. List Price—$27.35.

## ALL DIRECTIONAL DYNAMICS

**FIG. N—MODEL DN-50, DN-HZ** "The Commentator" Famous Astatic dynamic microphones for communication and general purpose use. Rugged construction, tilting head. Pressure cast body. Opalescent grey finish with bright chrome grille **MODEL DN-50**—Low impedance, Output —51 db, Frequency Range 50 7000. 5 feet of cable. **MODEL DN-HZ**—High impedance. Output —55 db, Frequency Range 50 7000 cps 10 feet of cable.

**MODEL DN-50**—List Price—$33 50, Shipping weight 2 lbs.

**MODEL DN-HZ**—List Price—$39 70, Shipping weight 2½ lbs.

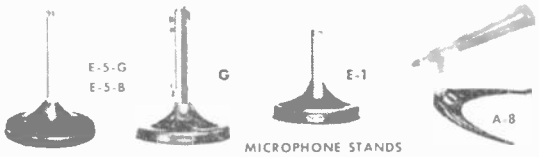
**FIG. O—MODEL GDN-50**—Low impedance with Astatic G Stand. List Price—$52 70, Shipping weight 3 lbs.

**MODEL GDN-HZ**—High impedance with Astatic G Stand. List Price—$59 90, Shipping weight 3 lbs. 8 oz.

**MODEL UGDN-50**—Low impedance with Astatic UG Stand (balanced line). List Price—$56 00, Shipping weight 3 lbs. 8 oz.

**FIG P—MODELS M-350 AND M-352**—"The Dynamike," Low Cost Wide Range Dynamic Microphone Versatile, all around high or low impedance dynamic microphone for P A, tape recording communications, industrial applications **MODEL M-350** High impedance, output level —56 db, response 50 10 000 cps, complete with adaptor for ⅝" 27 thread. 18 ft. single conductor shielded cable. Finish non reflecting satin black with brushed chrome trim **MODEL M350-S.** Same as above with switch adaptor. **MODEL M-352** Same as M-350 but low impedance 50 ohms balanced and 18 ft two conductor shielded cable. **MODEL M-352-S.** Same as **MODEL M-352** but with switch adaptor. Net weight 16 oz.

List Price—M-350 (high impedance) $41.50
List Price—M-350S (with switch) $46 50
List Price—M-352 (low impedance) $37.50
List Price—M-352S (with switch) $44.75




MICROPHONE STANDS

**MODEL G STAND**—Has grip to talk on off switch sliding bar for "lock on" Use with DN-50, DN-HZ, T-3, D-104 Finish bright chrome grey Hammerln base List Price $24 95

**MODEL UG STAND**—Incorporates grip to talk on off switch with sliding bar for "lock on Use with DN-50 microphone *balanced line* List Price $28 30

**MODEL E-5-G, E-5-B DESK STANDS**—Finish grey or brown Hammerln base with bright chrome stem Has ⅝" 27 thread Overall height 8" List Price $7 75

**MODEL E-1 DESK STAND**—Finish grey Hammerlin base bright chrome stem Has ⅝"-27 thread. Overall height 5½". List Price $8 25

**MODEL A-8 DESK STAND**—Futura microphone stand Also may be used for other standard microphone Finish smooth satin black Has ⅝" 27 thread List Price $8 25

MC 320 MC-226 MC-551 MC-151 MC-205 MC 451
MC 321 MC-552 MC 127

ASTATIC REPLACEMENT MICROPHONE CARTRIDGES

| | |
|---|---|
| MC-151—Used in models CX, CX-1, 200, 241, JT-30, JT-40, T-3 | List Price $ 7 00 |
| MC-127 Used in models CC, CC-1, VC, VC-1, JT-30C, JT-40C, T-3C | List Price $ 7 00 |
| MC-451—Used in models 10M5, 11M5 | List Price $ 8 75 |
| MC-226—Used in models DN-50 DN-500 DN-HZ, DN-MZ. | List Price $16 50 |
| MC-320—Used in model D-104 | List Price $ 9 50 |
| MC-321—Used in model D-104C. | List Price $ 7 00 |
| MC-551—Used in model M-301 | List Price $ 7 00 |
| MC-552—Used in models M-300, M-302. | List Price $ 7 00 |
| MC-205—Used in models 12M3, 54M3, N-30. | List Price $ 7 00 |

## ASTATIC PICKUP CARTRIDGES

### LEADER WITH ORIGINALS—FIRST WITH REPLACEMENTS

Astatic designs and manufactures **THE WORLD'S MOST COMPLETE LINE OF PICKUP CARTRIDGES FOR BOTH ORIGINAL EQUIPMENT MANUFACTURERS AND DISTRIBUTORS.** As the pioneer of the pickup cartridge industry, and as its largest single supplier for **OVER A QUARTER OF A CENTURY,** Astatic leadership continues unabated through constant research and product development for business and industry.

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World Radio History

# TRC Triple-Duty Microphones

*for hand, stand, or lavalier. Omnidirectional.*

American Microphone

## D204 DYNAMIC TRC MICROPHONE

**D204 LIST PRICES**

**LOW IMPEDANCE**

D204 with 6' shielded cable, no plug ..... $17.00*

D204A with 6' shielded cable, RCA type phone plug ..... $17.25*

D204B with 6' shielded cable, miniature type phone plug ..... $18.30*

**HIGH IMPEDANCE**

D204T with 6' shielded cable, no plug ..... $23.00*

D204TA with 6' shielded cable, RCA type phone plug ..... $23.25*

D204TB with 6' shielded cable, miniature type phone plug ..... $24.30*

*Clip on stand and lavalier cord included in price

**SPECIFICATIONS**

**RESPONSE:** 70 to 9,500 c.p.s.

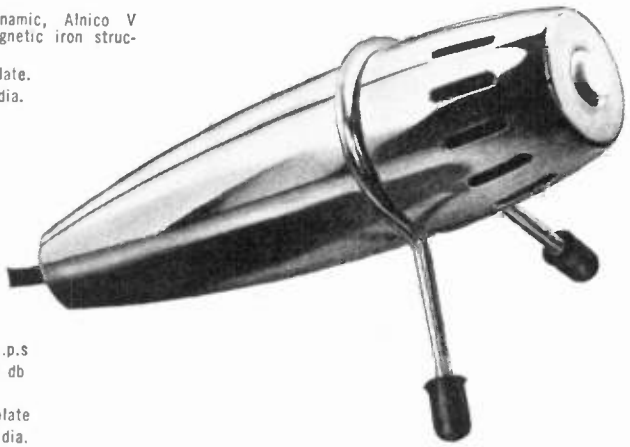
**OUTPUT LEVEL:** Low Impedance—Minus 57 db (0 db = 1V/dyne/cm²)
High Impedance—Minus 55 db (0 db = 1V/dyne/cm²)

**MAGNETIC CIRCUIT:** Dynamic, Alnico V magnet with Armco magnetic iron structure.

**FINISH:** Polished chromeplate.

**SIZE:** 4⅞" long; 1-5/16" dia.

**WEIGHT:** Approximately 9 ounces.



## X204 CRYSTAL TRC MICROPHONE

**X204 LIST PRICES**

X204 with 6' shielded cable, no plug ..... $16.00*

X204A with 6' shielded cable, RCA type phone plug ..... $16.25*

X204B with 6' shielded cable, miniature type phone plug ..... $17.30*

*Clip on stand and lavalier cord included in price

**SPECIFICATIONS**

**RESPONSE:** 70 to 10,500 c.p.s

**OUTPUT LEVEL:** Minus 58 db

**IMPEDANCE:** High

**FINISH:** Polished chromeplate

**SIZE:** 4⅞" long; 1-5/16" dia.

**WEIGHT:** Approximately 6 ounces.

---

## 504 SERIES

*Extra-rugged carbon microphone for motorcycle two-way equipment; uni-directional, low impedance*

**SPECIFICATIONS**

### C504A

**FREQUENCY RESPONSE:** 300-3000 cps

**IMPEDANCE:** 40 ohms

**OUTPUT:** Minus 13 db (1 volt/100 dyne/cm²)

**WEIGHT:** 9 ounces

**FINISH:** Black Bakelite

**DIMENSIONS:** 2⅛" x 1-5/16"

**CABLE:** 5 ft. 3 conductor

**C504A:** LIST PRICE: (Code: MOSTR) ..... $31.00

**C504B:** C504A with 5 ft. extended, 11 inches retracted, Koiled Kord. LIST PRICE: (Code: MOKKA) ..... $33.00

**C504C:** C504A with Koiled Kord and PL68 or PJ068 plug. LIST PRICE: (Code: MOPLA) ..... $38.00

**C504D:** C504C with 100 ohms impedance. LIST PRICE: (Code: MOVIA) ..... $38.00

**C504H:** C504A with PL68 or PJ068 plug. LIST PRICE: (Code: MOBUP) ..... $34.00

All models furnished with mounting bracket and screws.

## H602 SERIES

*dynamic*

**SPECIFICATIONS**

### H602AA

**RECEIVER OUTPUT:** 107 db above .000204 dynes/cm² for 1 milliwatt input at 1,000 c.p.s., 6 C.C. coupler.

**TRANSMITTER OUTPUT:** Minus 67 db RE 1 volt/28 dyne/cm² into a 50-ohm load.

**IMPEDANCE:** 35 ohms

**PATTERN:** Close talking

**DIMENSIONS:** 9-1/16" x 3¼" x 2½".

**CABLE:** 5 feet 2 conductor (1 shielded).

**H602AA:** USER'S NET PRICE: (Code: SICAT) ..... $25.80

**HH602BA:** H602AA, with 5 ft. extended, 11 in. retracted Koiled Kord.
USER'S NET PRICE: (Code: SICAK) ..... $27.25

**H602CA:** H602AA, with SPST switch, normally open.
USER'S NET PRICE: (Code: SICAS) ..... $28.50

**H602DA:** H602AA, with 5 ft. extended, 11 in. retracted Koiled Kord and SPST switch, normally open.
USER'S NET PRICE: (Code: SICOR) ..... $30.75

**H602EA:** H602AA with DPST switch. Mic normally open, relay normally open.
USER'S NET PRICE: (Code: SICRE) ..... $29.00

**H602FA:** H602AA with Koiled Kord and DPST switch. Mic normally open, relay normally open.
USER'S NET PRICE: (Code: SIKRE) ..... $31.75

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*Net*

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# D22 Dynamic Omni-Directional Microphone

*variable impedance—low and high*

**D22 LIST PRICE:** (Code: DOALL) ..... **$99.50**
Shown on ND stand (available at small additional cost)

**FREQUENCY RESPONSE:** From 40 13,000 c.p.s.

**OUTPUT LEVEL:** minus 55 db at high impedance. (0 db 1 volt/dyne/cm²).

**IMPEDANCE:** May be easily and quickly changed to low (50) or high (40,000) ohms impedance by removing nameplate and changing linkage bar to impedance desired.

**DIAPHRAGM:** Micro-Metal alloy diaphragm; unaffected by temperature extremes; treated for protection against corrosion.

**MAGNETIC CIRCUIT:** Alnico V and Armco magnetic iron.

**CASE:** Precision machined Duraluminum.

**FINISH:** Permanent gold and black, anodized.

**MICROPHONE TERMINATION:** Cannon XL-3-50 receptacle.

**CABLE:** 25 feet of single conductor shielded with Cannon XL-3-11 "Latch-Lock" plug.

**STAND COUPLINGS:** ⅝"-27 thread on combination swivel and "Slide Lock".

**SLIDE LOCK:** For quickly and easily removing microphone from stand.

**WEIGHT:** Complete microphone (including swivel and "Slide-Lock") 8 ounces.

**DIMENSIONS:** Overall height 8¼ inches. Diameter 1⅛ inch.

# D4T Dynamic Omni-Directional Microphone

*high impedance, extra rugged*

Broad versatility permits use in public address work, amateur applications, home recording, paging, communications, and as a booster microphone for single instrument pickup. Smooth response approaches studio and broadcast requirements. Shock resistant, guarded grill, swivel head.

**D4T LIST PRICE:** (Code: DFORT) ..... **$31.00**

With slide switch, D4TS: (Code: DEFORS) ..... **$35.50**

**SPECIFICATIONS**

**FREQUENCY RESPONSE:** 50-8,000 c.p.s.

**OUTPUT LEVEL:** Minus 52 db at high impedance. 0 db 1 volt/dyne/cm²).

**IMPEDANCE:** 40,000 ohms. (200 or 500 ohms available).

**MICROPHONE TERMINATION:** Amphenol PC1MK receptacle.

**CABLE:** 12½ ft. single-conductor shielded with Amphenol MC1F plug.

**STAND COUPLING:** ⅝"-27 thread on swivel.

**DIMENSIONS:** Height 4"; diameter 2".

**WEIGHT:** 13 ounces.

# Crystal Microphones

## C7H

*high impedance, high quality crystal*

**FREQUENCY RESPONSE:** 100-6,000 c.p.s.

**OUTPUT LEVEL:** Minus 55 db at high impedance. (0 db — 1 volt/dyne/cm²).

**IMPEDANCE:** 40,000 ohms.

**MICROPHONE TERMINATION:** Amphenol PC1MK receptacle.

**CABLE:** 12½ feet single-conductor shielded with Amphenol MC1F plug.

**STAND COUPLING:** ⅝"-27 thread on swivel.

**DIMENSIONS:** Length 3½"; diameter 2½".

**WEIGHT:** 15 ounces.

**C7H LIST PRICE:** (Code: CSEVN) **$21.75**

## RC

*high impedance*

Complete with non-breakable plastic stand.

**FREQUENCY RESPONSE:** 100-6,000 c.p.s.

**OUTPUT LEVEL:** Minus 55 db at high impedance (0 db — 1 volt/dyne/cm²).

**IMPEDANCE:** 40,000 ohms.

**CABLE:** 6 feet single-conductor shielded.

**STAND COUPLING:** Base easily removed by ½ turn of bayonet lock for use as hand microphone. Handle has ⅝"-27 thread; microphone unit has ⅝"-27 thread for mounting on floor stand.

**DIMENSIONS:** Height 10".

**WEIGHT:** 1 pound.

**RC LIST PRICE:** (Code: ARCEE) .. **$13.50**

With slide switch RCS (Code: ARCEX) ..... **$16.00**

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# D501 SERIES MOBILE DYNAMIC MICROPHONES

**SPECIFICATIONS**

*D501A—low impedance*

**FREQUENCY RESPONSE:** 300-3,000 c.p.s.
**OUTPUT LEVEL:** minus 54 db at 50 ohms impedance. (0 db = 1 MW/10 dyne/cm²).
**SWITCH:** DPST. Microphone normally open. Relay normally open.
**CABLE:** 5 feet 4 conductor (2 shielded)

**D501A:** LIST PRICE ..... $25.50
**D501B:** D501A with medium impedance. LIST PRICE ..... $29.50
**D501D:** D501A with 5 ft. extended, 11 inches ret., 4 conductor Koiled Kord. LIST PRICE ..... $28.50
**D501E:** D501A with medium impedance and 4 conductor Koiled Kord. LIST PRICE ..... $34.00
**D501F:** D501A with microphone normally closed. Relay normally open. LIST PRICE ..... $25.50

*D501C—high impedance*

**FREQUENCY RESPONSE:** 300-3,000 c.p.s.
**OUTPUT LEVEL:** Minus 50 db at high impedance. 0 db = 1 volt/dyne/cm²).
**SWITCH:** DPST. Microphone normally closed. Relay normally open.
**CABLE:** 5 feet 3 conductor, one shielded.

**D501C** LIST PRICE ..... $29.50
**D501G** D501C with 3 conductor tinsel (1 shielded) Koiled Kord. LIST PRICE ..... $34.00

## ACCESSORIES AND REPLACEMENT PARTS

**X804 CRYSTAL MICROPHONE ELEMENT**

*Replacement element for RC and RCS microphones.*

**Frequency Response:** 100-6,000 c.p.s.
**Output Level:** Minus 55 db (0 db = 1 volt/dyne/cm²).
**Impedance:** High
X804 List Price ..... $5.75

**AG-1-B BASE**

Fits AG-I-H and DH-I-M handles.
**Base:** Round, diameter 3¾ inches.
**Weight:** 7 ounces.
**Finish:** Polished chrome.
AG-1-B List Price: (Code: AGBAS) ..... $5.00

**ND-1-M DESK STAND**

**Microphone Mounting:** Standard ⅝"-27 thread.
**Finish:** Satin black.
**Height:** Three inches.
**Weight:** One pound.
ND-1-M List Price: (Code: SHORT) ..... $12.80

**DD-1-M DESK STAND**

**Microphone Mounting:** Standard ⅝"-27 thread.
**Base:** Round base, diameter 5 inches.
**Finish:** Polished chrome.
**Height:** 4¾ inches overall.
**Weight:** 1¼ pounds.
DD-1-M List Price: (Code: DYNES) $7.60

**AG-1-H HANDLE**

Easily attached to AG-I-B base by half-turn bayonet lock.
**Microphone Mounting:** Standard ⅝"-27 thread.
**Finish:** Polished chrome.
AG-1-H List Price: (Code: AGHAN) ... $5.00

**DH-1-M HANDLE**

Easily attached to AG-I-B base by half-turn, bayonet lock.
**Switch:** Press contact. DPST. Microphone normally closed. Relay normally open.
**Microphone Mounting:** Standard ⅝"-27 thread.
**Finished:** Polished chrome.
DH-1-M List Price: (Code: DEPAH) ..... $8.35

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*a complete line of*

# PHONOGRAPH CARTRIDGES

Elgin's well-known precision miniaturization skills are reflected in the compactness and in the exacting performance of American cartridges. Light weight reduces needle hiss and drag on recordings, permitting the full brilliance of the recorded performance to be realized. New, exclusive "spider bearing" design in all crystal cartridges permits friction-free transmission of force from record to crystal. Chuck design minimizes breakage from rough use.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

| Illustration | Osmium Needle | | Sapphire Needle | | Output Level | | Response To | Needle Pressure | Needle Data | | Speed Application |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Model No. | List Price | Model No. | List Price | Std. | Mg. | | | Std. | Mg. | |
| **SINGLE NEEDLE CRYSTAL CARTRIDGES** | | | | | | | | | | | |
| Fig. 1 | CR1 (1) | 3.90 | | | 3.0 Volts | | 8,000 c.p.s. | 1¼ oz. | None Supplied (1) | | 78 RPM |
| Fig. 1 | CR2 (1) | 3.90 | | | 1.5 Volts | | 7,000 c.p.s. | 1⅛ oz. | None Supplied (1) | | 78 RPM |
| Fig. 3 | X105B | 6.50 | X105C | 7.00 | | 1.0 Volt | 15,000 c.p.s. | 6 Grams | | 1 Mil Point | 45-33⅓ RPM |
| Fig. 3 | X106B | 6.50 | | | 1.2 Volts | | 7,000 c.p.s. | 8 Grams | 3 Mil Point | | 78 RPM |
| Fig. 3 | X107B | 6.50 | X107C | 7.00 | 1.2 Volts | 1.0 Volt | 15,000 c.p.s. | 8 Grams | 2 Mil Point | | 78-45-33⅓ RPM |
| Fig. 2 | X108 (2) | 5.50 | | | 6.0 Volts | 4.0 Volts | 8,000 c.p.s. | 12 Grams | None Supplied (2) | | 78-45-33⅓ RPM |
| Fig. 1 | X109 (2) | 4.95 | | | 4.0 Volts | 3.0 Volts | 5,000 c.p.s. | 12 Grams | None Supplied (2) | | 78-45-33⅓ RPM |
| Fig. 4 | X111B | 6.50 | X111C | 7.00 | | 4.0 Volts | 6,000 c.p.s. | 10 Grams | | 1 Mil Point | 45-33⅓ RPM |
| Fig. 4 | X112B | 6.50 | X112C | 7.00 | 6.0 Volts | 4.0 Volts | 6,000 c.p.s. | 10 Grams | 2 Mil Point | | 78-45-33⅓ RPM |
| Fig. 4 | X113B | 6.50 | | | 6.0 Volts | | 5,000 c.p.s. | 10 Grams | 3 Mil Point | | 78 RPM |
| **TURNOVER CRYSTAL CARTRIDGES** | | | | | | | | | | | |
| Fig. 5 | X101B | 8.00 | X101BC (3) | 8.50 | 6.0 Volts | 4.0 Volts | 7,000 c.p.s. | 10 Grams | 3 Mil Point | 1 Mil Point | 78-45-33⅓ RPM |

Fig. A

Fig. B

Fig. C

| Illustration | Osmium Needle | | Sapphire Needle | | Output Level | | Response To | Needle Pressure | Needle Data | | Speed Application |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Model No. | List Price | Model No. | List Price | Std. | Mg. | | | Std. | Mg. | |
| **SINGLE NEEDLE CERAMIC CARTRIDGES** | | | | | | | | | | | |
| Fig. A | B101B | 6.50 | B101C | 7.00 | | 1.0 Volts | 12,000 c.p.s. | 8 Grams | | 1 Mil Point | 45-33⅓ RPM |
| Fig. A | B102B | 6.50 | B102C | 7.00 | 1.2 Volts | 1.0 Volts | 12,000 c.p.s. | 8 Grams | 2 Mil Point | | 78-45-33⅓ RPM |
| Fig. A | B103B | 6.50 | | | 1.2 Volts | | 7,000 c.p.s. | 8 Grams | 3 Mil Point | | 78 RPM |
| **TURNOVER CERAMIC CARTRIDGES** | | | | | | | | | | | |
| Fig. B | | | B110C (4) | 7.00 | 1.2 Volts | 1.0 Volts | 12,000 c.p.s. | 8 Grams | 3 Mil Point | 1 Mil Point | 78-45-33⅓ RPM |
| Fig. C | | | B810C (5) | 6.00 | 1.2 Volts | 1.0 Volts | 12,000 c.p.s. | 8 Grams | 3 Mil Point | 1 Mil Point | 78-45-33⅓ RPM |

NOTES: (1) No needle supplied. Best operation is obtained with offset type needle.
(2) No needle supplied. Permo #B310, Jensen #J752 or Equal recommended.
(3) Sapphire needle supplied on LP side only. Osmium needle supplied on 78 RPM side.
(4) Includes mounting bracket.
(5) Replacement "throwaway" element for B110C cartridge.

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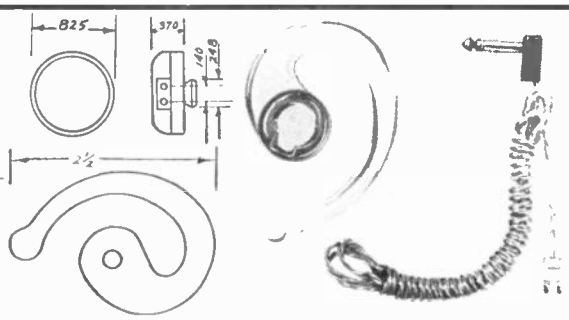
# RYE SOUND CORP. *Mamaroneck, N.Y.*

## *ear sets* FOR TRANSISTOR RADIOS, TELEVISION SETS. DICTATING MACHINES, AIRCRAFT AND OTHER ELECTRONIC USES.

High quality moving iron type earphone available in the following impedances: 15 - 50 - 120 - 150 - 500 - 1000 - 2000 - 5000 - 8000 ohms

Soft polyethylene ear clip for holding earphone firmly in place. Adaptable for left or right ear.



Colorful carton serves as a counter display and contains 6 earsets.

Each earset is packed in a plastic box, labeled by code and type; each box contains one superquality MAGNETIC receiver with plastic earloop for use on either ear, and one cord and plug.

### FOR SET DISTRIBUTORS

| CODE # | TYPE | LIST |
|---|---|---|
| R-30 | Zenith 500 | $6.95 |
| R-37A | Philco T5 | 6.95 |
| R-31 | Regency | 6.95 |
| R-35 | Admiral | 6.95 |
| R-37 | Philco (except T5) | 6.95 |
| R-39 | Roland | 6.95 |
| R-40 | Travler | 6.95 |
| R-42 | Emerson | 6.95 |
| R-44 | DeWald | 6.95 |
| R-32 | RCA | 6.95 |
| R-34 | Motorola (except 6X28) | 6.95 |
| R-34A | Motorola 6X28 | 6.95 |
| R-47 | Arvin | 6.95 |
| R-36 | Magnavox | 6.95 |
| R-38 | Bulova | 6.95 |
| R-45 | Sonora | 6.95 |
| R-48 | Sylvania | 6.95 |
| R-41A | Westinghouse 587 | 6.95 |
| R-41 | Westinghouse 611 & 617 | 6.95 |
| R-33 | GE (Plastic Case) | 6.95 |
| R-43 | GE (Leather Case) | 6.95 |
| R-46 | Revere 400 | 7.50 |
| R-49 | Hoffman | 6.95 |
| R-50 | Zenith (except #500) | 6.95 |
| R-51 | Sony | 6.95 |

### FOR PARTS DISTRIBUTORS

| CODE # | TYPE | LIST |
|---|---|---|
| R-80 | Zenith 500, Philco T5, Motorola 6X28 | $6.95 |
| R-81 | Regency, Admiral, Zenith, Philco, Roland, Travler, DeWald, Hoffman, Sony, Emerson | 6.95 |
| R-82 | RCA, Motorola, Arvin | 6.95 |
| R-83 | Magnavox Bulova, Sonora, Sparton | 6.95 |
| R-84 | Westinghouse 587, Sylvania | 6.95 |
| R-41 | Westinghouse 611 & 617 | 6.95 |
| R-33 | GE (Plastic Case) | 6.95 |
| R-43 | GE (Leather Case) | 6.95 |
| R-89 | Motorola TV | 7.50 |
| R-90 | Emerson TV & Revere 400 | 7.50 |
| R-91 | Zenith TV | 7.50 |

**R-200 Universal TV Earset, 20' Cord with Alligator Clips, List $7.95**

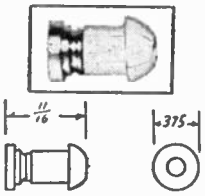
| CODE # | IMPEDANCE OHMAGE | PLUG | CORD LENGTH | LIST |
|---|---|---|---|---|
| R-100 | 120 | standard phone plug | 5' | $7.50 |
| R-101 | 1000 | standard phone plug | 5' | 7.50 |
| R-102 | 2000 | standard phone plug | 5' | 7.50 |
| R-103 | 500 | standard phone plug | 5' | 7.95 |
| R-104 | 50 | standard phone plug | 5' | 7.50 |
| R-105 | 15 | standard phone plug | 5' | 7.50 |
| R-107 | 5000 | standard phone plug | 5' | 7.95 |
| R-108 | 8000 | standard phone plug | 5' | 7.95 |
| R-120 series | (120, 1000, 2000, 500, 50, 15) | right angle 9/16" x 9/64" | 3' | 6.95 |
| (R-127 R-128) | 5000, 8000 | right angle 9/16" x 9/64" | 3' | 7.50 |
| R-130 series | (120, 1000, 2000, 500, 50, 15) | right angle 5/8" x 9/64" | 3' | 6.95 |
| (R-137 R-138) | 5000, 8000 | right angle 5/8" x 9/64" | 3' | 7.50 |
| R-140 series | (120, 1000, 2000, 500, 50, 15) | right angle 3/4" x 9/64" | 3' | 6.95 |
| (R-147 R-148) | 5000, 8000 | right angle 3/4" x 9/64" | 3' | 7.50 |
| R-150 series | (120, 1000, 2000, 500, 50, 15) | right angle 13/64" x 9/64" | 3' | 6.95 |
| (R-157 R-158) | 5000, 8000 | right angle 13/64" x 9/64" | 3' | 7.50 |
| R-160 series | (120, 1000, 2000, 500, 50, 15) | right angle 27/32" x 9/64" | 3' | 6.95 |
| (R-167 R-168) | 5000, 8000 | right angle 27/32" x 9/64" | 3' | 7.50 |
| R-170 series | (120, 1000, 2000, 500, 50, 15) | open end cord | 3' to 4' | 6.50 |
| (R-177 R-178) | 5000, 8000 | open end cord | 3' to 4' | 6.95 |
| R-180 series | (120, 1000, 2000, 500, 50, 15) | phone tips | 5' | 7.50 |
| (R-187 R-188) | 5000, 8000 | phone tips | 5' | 7.95 |
| R-190 series | (120, 1000, 2000, 500, 50, 15) | banana plugs | 3' | 7.95 |
| (R-197 R-198) | 5000, 8000 | banana plugs | 3' | 8.50 |

### EXTRA CORDS

are available in lots of 12 of a length for any of the above as well as for our R-30, R-40, R-50, R-80 & R-90 series earsets as follows:

| Lenth of Cord | Additional Amount Per Cord to be added to List Price |
|---|---|
| 3' | $1.50 |
| 6' | 1.80 |
| 9' | 2.10 |
| 12' | 2.40 |
| 15' | 2.70 |
| 24' | 3.30 |

EARTIP, for use instead of earloop, fits into ear and directs entire output into ear-canal
Model T-11 List $1.00




STETHOSCOPE-TYPE attachment, for use instead of earloop, to direct output into both ear-canals.
Model S-57 List $4.95

STETHOLOOP, Lightweight, binaural tube attachment for use instead of earloop. Sound reaches one ear 1/1000 second after other for clear, three dimensional hearing. Earphone plugs into assembly simply.
Model S-58 List $3.95

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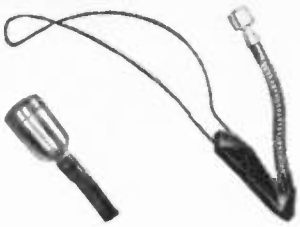
**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# Turner specialty microphones and stands



Model 132 Model 82-3H

Model L-100

Model 142

Model SR-90

Model 52

Model 139

Model G-12

Model C-3

Model G-7

Model C-4

Model BL-6

A variety of Turner stands are available. All bases are made of heavy die-cast zinc alloy and have standard 5/8" — 27 thread terminals.

MODEL 132—DYNAMIC

A new mike for applications calling for a minimum size dynamic on the Turner Third Hand. Model 95 head permanently installed on gooseneck, with transformer concealed in breastplate. 20-ft. cable. Available in high impedance, 200 ohm, or 50 ohm models. Response 100-10,000 cps. Level, —58 db.

**List Price, mounted on Turner Third Hand** ..... **$42.50**

MODEL 82-3H—CRYSTAL

Tiny Model 80 microphone head. Permanently installed on Turner "Third Hand." Attached 20-ft. single conductor shielded cable permits freedom of movement.

**List Price** ..... **$22.75**

**Third Hand alone** ..... **$ 5.00**

MODEL L-100—CRYSTAL

Excellent speech reproduction characteristics, chest sounds damped out. Grey plastic case. Strong rubber-padded clip adjusts to any desired position. 20-ft. single conductor shielded cable attached. Response, 50-10,000 cps. Level, —52 db.

**List Price** ..... **$12.50**

**Replacement Cartridge No. 26, List Price** ..... **$ 6.50**

MODEL 142—DYNAMIC

Here's the first lavalier dynamic in its field to be list-priced under $50. Tops in economy and performance. Response, 70-12,000 cps. Level, —59 db. Impedance, 2 models; high and 50/200 ohm.

**List Price, complete with lavalier assembly** ..... **$45.00**

**#G-14 matching stand, List Price** .. **$ 5.75**

MODEL SR-90R CARBON,

Ideal hand-held mikes for mobile communications. Clear voice reproduction. Designed to fit hand comfortably with switch in normal grip. Zinc alloy case in permanent satin chrome. Furnished with hook for hanging and bracket for wall or dash mounting. Standard Model SR-90R Carbon—Response, 200-4,000 cps. Level, —38 db. 11-inch retracted unshielded Koiled Kord.

**List Price, SR-90R** .... **$26.50**

**Replacement Cartridge No. 25, List Price** ..... **$ 8.00**

MODEL SR90D DYNAMIC

Response, 200-10,000 cps. Level, —48 db. at high impedance, 11" (retracted) shielded Koiled Kord.

**List Price, SR-90D..$42.50**

**Replacement Cartridge No. 13C, List Price** ..... **$11.00**

MODEL 52—CRYSTAL

Designed as a hand microphone, the Model 52 features slim modern lines, excellent performance. Recommended for tape recorder and general public address work. Response, 60-8,000 cps. Level, —45 db. 6-ft. single conductor shielded cable. Brown finish.

**List Price** ..... **$12.00**

MODEL 139—DYNAMIC

First modern-styled slender dynamic which offers advantages of multi-impedance switch. Select 50, 200, 500 ohm or high impedance by turning the built-in switch on back of mike. Response, 60-10,000 cps. Level, —52 db at high impedance.

**List Price** ..... **$45.00**

**Model S-139 (with on-off switch) List Price** ..... **$49.00**

**Matching G-8 stand, List Price** ..... **$ 8.00**

## TURNER MICROPHONE STANDS

| Model | Finish | Upright | List Price | Style |
|---|---|---|---|---|
| C-2 | Chrome | 1" | $ 5.50 | C-3 |
| C-3 | Chrome | 4¾" | 5.50 | C-3 |
| C-4 | Chrome | — | 6.50 | C-4 |
| C-5 | Chrome | 2⅜" | 5.50 | C-3 |
| * C-7 | Chrome | None | 9.50 | BL-6 |
| B-3 | Brown | 4¾" | 4.50 | C-3 |
| G-3 | Gunmetal | 4¾" | 4.50 | C-3 |
| G-4 | Grey | Clip | 5.75 | C-4 |
| * G-6 | Grey | None | 7.50 | BL-6 |
| * G-7 | Light Grey | None | 8.00 | G-7 |
| * G-8 | Gunmetal | None | 8.00 | G-7 |
| G-10 | Grey | Clip | 6.50 | Not Shown |
| G-12 | Chrome | 35"-65" | 15.00 | Floor Stand |
| G-14 | Grey | — | 5.75 | C-4 |
| BL-5 | Black | 2⅜" | 4.50 | C-3 |
| * BL-6 | Black | None | 7.50 | BL-6 |
| 144 | Light Grey | Clip | 4.50 | Not Shown |

* Shock-mount base.

# TURNER MICROPHONES FOR SOUND PERFORMANCE

TURNER

**THE TURNER COMPANY**

**CEDAR RAPIDS, IOWA**

**IN CANADA:** *Canadian Marconi Co. • Toronto, Ontario and Branches*

**EXPORT:** *Ad Auriema, Inc. • 85 Broad Street, New York 4, N. Y.*

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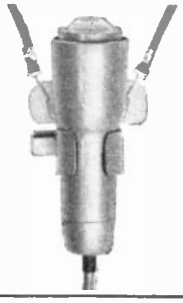
World Radio History

# TURNER BROADCAST & TV MICROPHONES

Model 58

Model 210A



Model 220A

Model 98

Model 57

MODEL 58—DYNAMIC

High performing, compact, miniature lavalier-type. Hides discreetly behind necktie or handkerchief, may be concealed in table decorations or props. Support clip and neck cord are furnished. Non-directional sensitivity. Turner Dynaflex diaphragm. Neutral grey finish. Wired for high or low (150 ohm) impedance. 25-ft. 3-conductor shielded cable. Response, 50-13,000 cps. Level, —57 db. (Model 58A wired for selection of 50 or 200 ohm. Same price.) Model G-4 desk stand and G 10 floor stand adapter available.

**List Price . . . . . .$57.00**

MODEL 210A

For motion picture studio, TV, broadcast and hi fidelity recording users, the new Turner 210A is designed to satisfy the most exacting professional requirements. Low impedances only. Response, 40-20,000 cps. Level, 50 ohm: —86 db. 200 ohm: —80 db.

**List Price . . . . . .$125.00**

MODEL 57—DYNAMIC

Smooth, high-level response at a reasonable price makes the Model 57 the best buy on the market. Hinged coupler with 5/8"—27 thread. Dynaflex diaphragm. Satin black finish. Quick disconnect Cannon XL-4 connector, 20-ft. 3-conductor shielded cable. Response, 50-15,000 cps. Level, —55 db. Impedance, wired for selection of high or 150 ohm. (Model 57A wired for selection of 50 or 200 ohm only. Same price.) Matching BL-6 stand available.

**List Price . . . . . .$65.00**

**List Price (with on-off slide switch) S-57 . . . . . .$69.00**

MODEL 220A

Turner has put fidelity performance and utility foremost in the 220A. Its great sensitivity and wide response make it an incomparable lavalier microphone. Response, 60-20,000 cps. Level, 50 ohm: —90 db. 200 ohm: —84 db.

**List Price . . . . . .$125.00**

MODEL 98—CARDIOID

Combines modern, compact design with excellent directional characteristics. These characteristics make it live to sounds originating in front of it, dead to sounds from the rear. This feature reduces unwanted audience noises, mechanical equipment noises and background noise from ventilating, heating or air conditioning equipment. In P.A. work it eliminates acoustical feedback. Truly outstanding performance for very little cost. Single dynamic element construction. Includes 20-ft. cable. Response, 65-11,000 cps. Front-to-back ratio: 20 db. Level, —52 db. Matching G-7 stand available.

**List Price (Light grey) . . $59.50**

**List Price (Satin chrome) . $69.50**

For on-off switch models, specify S-98 and add $4.00 to above prices.

Model 51

MODEL 51—DYNAMIC

High output interior and advanced circuit design for ultra wide range high fidelity. No closely associated auxiliary equipment needed. Hinged coupler with 5/8"—27 thread mounting . . . quick disconnect. Finished in umber grey. 12-ft. balanced line cable. Response, 50-15,000 cps. Level, —55 db. at high impedance. Specify high impedance or low (wired for selection of 50 or 200 ohm.) Matching G-6 stand available.

**List Price . . . . . .$72.50**

# TURNER GENERAL PURPOSE MICROPHONES

Model 200

Model 95

Model 33

Model 124

MODEL 200

With Turner engineered accessories, the new 200 quickly switches from hand to stand, desk or lavalier mike. Gives you the versatility for broadcast, TV, P.A., recording or intercom. Available as crystal—Response, 60 to 10,000 cps. Level, —51 db.; as dynamic—Response, 60 to 13,000 cps. Level, —53 db.; as ceramic—Response, 60 to 10,000 cps. Level, —60 db.

**List Prices:**

Crystal, 201X with desk stand, 202X with floor stand adapter, 203X with lavalier . . . . . $28.00

Dynamic, 201D with desk stand, 202D with floor stand adapter, 203D with lavalier . . . . . .$43.00

Ceramic, 201C with desk stand, 202C with floor stand adapter, 203C with lavalier . . . . . .$30.00

MODEL 95D—DYNAMIC

Beautiful styling, good performance, and attractive price make this a popular P.A. mike. High impedance wired single ended (single-conductor shielded 20-ft. cable). 50 and 200 ohm models wired for balanced line (two-conductor shielded 20-ft. cable). Response, 100-10,000 cps. Level, —58 db.

**List Price . . . . . .$37.50**

**List Price (with on-off switch) S-95D . . . . . .$41.00**

**Replacement Cartridge No. 66, List Price . . . . . .$24.00**

MODEL 33X—CRYSTAL

High output over wide frequency range gives fine reproduction. Head tilts 90°. Satin chrome finish. 5/8"—27 thread coupler mounting. 20-ft. removable cable set. Moisture sealed crystal. Response, 60-9,000 cps. Level, —52 db. Also available at same price with ceramic interior. Specify Model 33C.

MODEL 33D—DYNAMIC

Same general design as 33X, but with dynamic interior. 50 ohm, 200 ohm, or high impedance. Complete with 20-ft. removable cable. High impedance wired single ended; Low impedances balanced line (2-conductor shielded). Response 100-9,000 cps. Level, —54 db. at high impedance.

MODEL 124—DYNAMIC

A slender, modern mike which sells for much less than other mikes of comparable quality. Impressive performance makes the Turner 124 an excellent buy for broadcast, recording, or P.A. work. Spring-clip stand adapter permits instant conversion to hand use. Response, 50-13,000 cps. Level, —58 db. 12 ft. cable. Impedance specify 50 ohm, 200 ohm or high. Gunmetal grey finish chrome trim. Matching G-8 stand available.

**List Price . . . . . .$49.00**

**List Price (with on-off switch) S-124 . . . . . .$54.00**

**Model 33X List Price . . . . . .$27.50**
**List Price (with on-off slide switch) S-33X. . . . . .$30.00**
**Model 33X Replacement Cartridge No. 28, List Pr. . . . . .$8.00**
**Model 33C Replacement Cartridge No. 28C, List Pr. . . . . .$8.00**

**Model 33D List Price . . . . . .$31.90**
**List Price (with on-off slide switch) S-33D . . . . . .$34.40**
**Replacement Cartridge No. 13C, List Price. . . . . .$11.00**

**THE TURNER COMPANY** Cedar Rapids, Iowa



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World Radio History

# TURNER GENERAL PURPOSE MICROPHONES

Model 22

Model BX-BD

Model 141

Model 808-807-809

Model U9S

Model 9D

Model 80
Model C-4 Stand

Model 908

MODEL 22X—CRYSTAL

Popular P.A. and amateur radio model. Head tilts 90°. 20-ft. removable cable set. Satin chrome finish ⅝"—27 thread coupler mounting. Humidity protected crystal in mechanical shock-proof mounting. Response, 60-9,000 cps. Level, —52db. Also available as ceramic microphone at same price. Specify Model 22C.

**List Price** . . . . . **$29.50**

**List Price (with on-off switch) S-22X** . . . . . **$32.50**

**Model 22X Replacement Cartridge No. 2B, List Price** . . . . . **$ 8.00**

**Model 22C Replacement Cartridge No. 2BC, List Price** . . . . . **$ 8.00**

MODEL 22D—DYNAMIC

Dynamic version of 22X. 50 ohm, 200 ohm, or high impedance. High impedance wired single ended (20-ft. single-conductor shielded cable). Low impedance wired for balanced line (two conductor shielded cable). Response, 100-9,000 cps. Level, —54 db. at high impedance.

**List Price** . . . . . **$35.00**

**List Price (with on-off slide switch) S-22D** . . . . . **$37.50**

**Replacement Cartridge No. 6, List Price** . . . . . **$11.00**

MODEL U9S—DYNAMIC

Sturdy all-purpose mike with multi-impedance transformer. Select 50, 200, 500 ohms or high impedance with built-in switch. Unaffected by heat, cold, or humidity. Adjustable saddle with ⅝"—27 thread coupler, gunmetal metalster finish. 3-pin polarized locking connector. 20-ft. balanced line low-capacity cable. Response, 80-9,000 cps. Level, —52 db. at high impedance.

**List Price** . . . . . **$49.50**

**Replacement Cartridge No. 9, List Price** . . . . . **$12.50**

MODEL BX—CRYSTAL

Low-cost crystal microphone. Attractive streamlined case with brown metalustre finish, ⅝"—27 thread mounting, 7-ft. single-conductor attached cable. Response, 60-7,000 cps. Level —48 db.

**List Price** . . . . . **$11.75**

**Replacement Cartridge No. 17, List Price** . . . . . **$ 6.50**

MODEL BD—DYNAMIC

Same appearance and finish as BX. High output dynamic interior. Complete with 7-ft. single conductor attached cable. High impedance wired single ended; Low impedances balanced line (2-conductor shielded) 50 ohm, 200 ohm or high impedance. Response, 100-6,000 cps. Level, —52 db. at high impedance.

**List Price** . . . . . **$21.00**

**Replacement Cartridge No. 10, List Price** . . . . . **$10.00**

MODEL 9D—DYNAMIC

Rugged, handy microphone. Balanced for hand; has hook for hanging. ⅝"—27 thread stand mounting. Die cast zinc alloy case, satin chrome finish. Standard model equipped with on-off slide switch. Wide choice of interiors and switch arrangements (write for details). Response, 150-7,000 cps. Level, —52 db. at high impedance.

**List Price** . . . . . **$32.50**

**Replacement Cartridge No. 13C, List Price** . . . . . **$11.00**

MODEL 141—CRYSTAL

Highest output small microphone on the market. Easily adapts to hand, stand or lavalier use for P.A. and intercom systems, tape recording or demonstration work. Response, 60-10,000 cps. Level, —52 db. 6-ft. single conductor shielded cable. Light grey case.

**List Price** . . . . . **$13.50**

MODEL 80—CRYSTAL

Small, inconspicuous satin chrome plated mike. Slender, compact and graceful. Can be adapted for stand or hand use. Total weight: 5 oz. Equipped with 7-ft. attached single conductor shielded cable. Response, 80-7,000 cps. Level, —54 db.

**List Price** . . . . . **$15.95**

**Replacement Cartridge No. 23, List Price** . . . . . **$ 8.00**

**C-4 Stand** . . . . . **$ 6.50**

MODEL 808—CRYSTAL AND 807 CERAMIC

Die cast alloy case finished in baked-on grey enamel. 3 7/16" high x 2⅜" wide x 1-11/32" thick. ⅝"—27 thread adapter for stand mounting. 6-ft. attached fabric-covered cable. Response, 60-8,500 cps. Level, —45 db. (With ceramic interior, same price. Response, 80-7,000 cps. Level, —57 db. Specify Model 807.)

**List Price** . . . . . **$10.85**

**List Price (with on-off slide switch) S-808** . . . . . **$12.85**

MODEL 809—MAGNETIC

Same as Model 808 but with magnetic interior. Excellent for use under extreme climatic conditions. Response, 100-8,000 cps. Level, —52 db. High impedance.

**List Price** . . . . . **$14.95**

**List Price (with on-off slide switch) S-809** . . . . . **$16.95**

MODEL 908—CRYSTAL

A new Turner microphone with high sensitivity for tape recorder use. The microphone is priced to meet modest budgets. Durable polystyrene case, designed for hand or desk use—weighted to avoid tipping. Response, 60-8,500 cps. Level, —45 lb. (Microphone also available with ceramic interior at the same price. Same response. Level, —55db. Specify Model 907.)

**List Price** . . . . . **$ 8.00**

## TURNER MICROPHONES FOR SOUND PERFORMANCE

**THE TURNER COMPANY**
**Cedar Rapids, Iowa**

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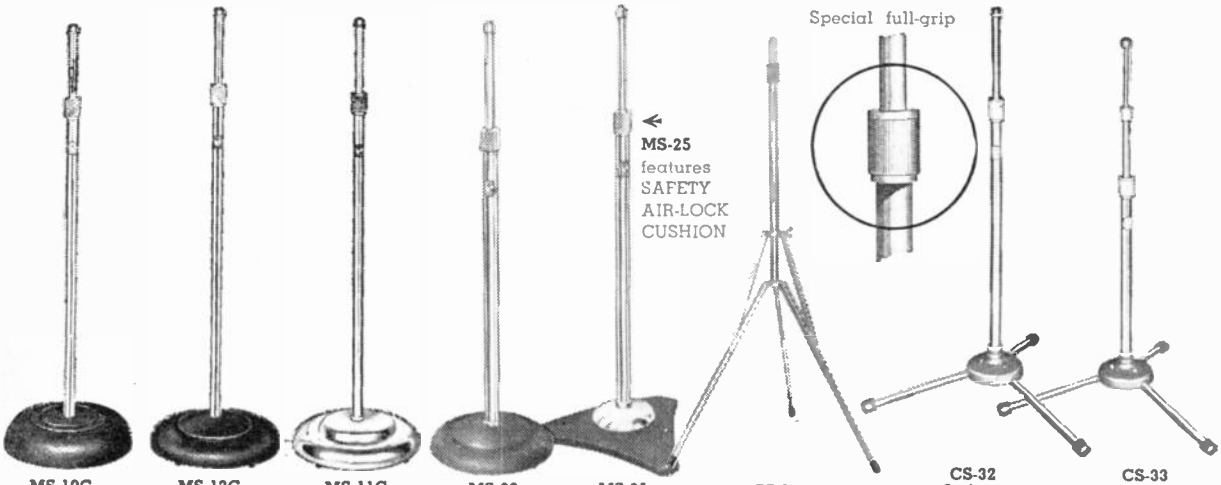
World Radio History

# ATLAS SOUND CORP. *the complete line for all P.A.*

## MICROPHONE STANDS featuring SPECIAL FULL-GRIP VELVET ACTION CLUTCHES — maximum STABILITY, QUIET and EASE




MS-10C Leader | MS-12C Standard | MS-11C Standard DeLuxe | MS-20 Professional | MS-25 Studio DeLuxe | CS-1 Collapsible | CS-32 2-piece Demountable | CS-33 3-piece Demountable

The "Full-Grip" Clutch offers an extended length clutch body, permitting a secure, full-hand grip. The clutch mechanism is inner-lined with a wearproof bakelite locking collet which grips without jamming, slipping, or sudden dropping. All bases are functionally designed to offer maximum stability for a given base weight. The maximum base mass is located at the outer periphery of the casting where the concentrated weight is most useful. All bases include self-leveling, shock-absorbent base pads, plus three additional "anti-tip" points located between the base pads. The complete tube assemblies of all models are "super-chrome" plated, assuring "life-time" wear. All models terminate in a 5/8"-27 carefully machined thread.

| MODEL | Weight | Base Finish | Height Adjust. | Base Diam. | LIST PRICE |
|---|---|---|---|---|---|
| MS-10C | 9 lbs. | Gray Shrivel | 35" to 64" | 10" | $ 9.75 |
| MS-12C | 12 lbs. | Gray Shrivel | 35" to 65" | 10" | 10.50 |
| MS-11C | 12 lbs. | Full Chrome | 35" to 65" | 10" | 13.00 |
| †MS-20 | 15 lbs. | Gray Shrivel | 37" to 66" | 12" | 15.50 |
| †MS-25 | 24 lbs. | Chrome & Gray Shrivel | 37" to 66" | 17" | 25.00 |
| §CS-1 | 5 lbs. | Cadmium Plated | 23" to 62" | Collapsible | 17.00 |
| *CS-32 | 4 lbs. | Chrome & Gray | 36" to 64" | Demountable | 11.00 |
| *CS-33 | 3 lbs. | Hammerloid | 26" to 64" | Demountable | 12.50 |

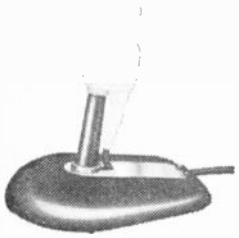
**All telescoping tube assemblies finished in full chrome.**

*Each stand is individually packed complete in a single carton.

†The MS-20 and MS-25 use large diameter, oversize, telescoping tube assemblies (7/8" telescoping tube — 1 1/8" base tube) resulting in a handsome and fine appearing stand that supplements the professional appearance of high quality microphones.

§Collapsible to a minimum overall length of 23 inches.

## DESK STAND



Modern — Attractive — Functional
Stable!

**"THE STREAMLINER" Desk Stand**
Compliments appearance of any mike. Conceals mike cable in slot beneath center section of chromium trim and directs it out at rear of base. Adequate space under base for installation of "on-off" or "press-to-talk" switch.

**Model DS-10** **List Price $5.00**

## ADJUSTABLE BANQUET STAND

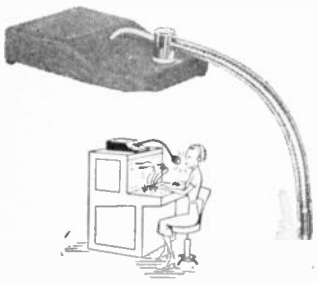
Features "Full-Grip Velvet-Action" adjustment. Tube and base handsome super-chrome finished. Adjustable 14 1/2" to 26". Base diameter 8". Wt. 5 lbs.
**Model TS-6** **List Price $9.00**

## 'VELVET ACTION' DESK STAND

**DS-5 and DS-7 Desk Stands**—Same fine finish and workmanship as floor models. Adjustable DS-7 has heavy duty 5/8" and 7/8" tubing. Felt base pads included. Base diameter 6", gray shrivel finish; tube chromium plated.

| Model | Adj. Height | List Price |
|---|---|---|
| DS-5 | Fixed 6" | $3.00 |
| DS-7 | 8" to 13" | 5.00 |

## DISPATCHER AND SWITCHBOARD MICROPHONE SUPPORT

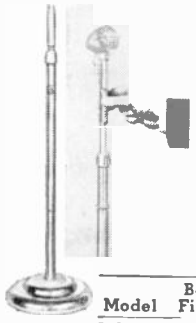


Designed for use in supporting a microphone over conventional types of telephone switch boards, and many other useful applications for a stand of this type, such as a desk support, dispatcher's office, dais, banquet table, etc.

The 12 inch long, flexible, chrome plated "goose neck" arm is mounted on a spring loaded swivel so that the microphone can be swung aside when not in use.

The heavy, functionally designed, 13 Lb. base casting is rear loaded so that the base will not tip forward. Rubber bumpers fastened to the base prevents "skidding" and protects against damage to fine furniture finishes.

**Model SB-1** **List Price $14.00**



## Automatic "SLEEVE-ACTION" STANDS

"Sleeve-Action" clutch mechanism permits fully automatic height adjustment by slight downward or upward pressure applied to the telescoping section. Quiet, smooth — no rasp, jolt, jar or creep. Lifetime durability.

| | Model | Base Finish | Tube Finish | Ht. Adj. | Base Dia. | Wt. |
|---|---|---|---|---|---|---|
| LIST | MS-12S $19.00 | Gray Shrivel | Full Chrome | 35" to 65" | 10" | 12 lbs. |
| LIST | MS-11S $21.50 | Full Chrome | Full Chrome | 35" to 65" | 10" | 12 lbs. |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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

World Radio History

## PROFESSIONAL BOOM STAND

**BS-36W' Mobile**

**Model** — Identical to BS-36 but features DeLuxe base having ball-bearing hard-rubber swivel castors that permit entire stand to be wheeled about.

**List Price $70.00**

**New model!** All advantages of "Floating Action" and "Safety Air-Lock Cushion" that prevents accidental slippage. All parts "Velvet Smooth" in operation. Boom easily removable to use upright as a conventional floor stand. Gyromatic swivel joint assures mike always hangs in proper position.

**Specifications:** Boom length 62" (more extension addable). Adjustable vertical extension 48"-72". Base diam. 17". Tubular sections super-chrome plated. Modernistic base finished in chrome and gun metal shrivel. "Snap On" hangers furnished to hold mike cable to boom section. Ship. wt. 33 lbs.

**List Price $60.00**

## 'SNAP ON' MICROPHONE ATTACHMENT

Permits any mike to be attached to or removed from any floor stand — instantly, safely, without on-and-off threading. SO-1 is ball-bearing spring sleeve attachment: one section is attached to mike, other section is permanently fastened to stand.

**Model SO-1** **List Price $2.75**

## FLEXIBLE GOOSE NECK

Attachable to any mike stand or fixture. Ends have 5/8"-27 male and female threads. GN-6 is 6" long; GN-13 is 13" long; GN-19 is 19" long. Finished in polished chrome.

**Model GN-13—List Price $2.75** **Model GN-19—List Price $3.75**
**Model GN-6—List Price $2.00**

## 'BABY BOOM' ATTACHMENT

Easily attached to any mike stand and locked in any position. Also effectively used with bracket clamps BC-1 and SK-1. Boom length 32", chrome plated. Castings in gun metal shrivel. 5/8"-27 threads. Ship. wt. 4 lbs.

**Model BB-1** **List Price $7.50**

## SKY HOOK

Answers many mike positioning problems. Fastens securely to ledges, round pipes, stanchions*. Has 5/8"-27 thread for any mike. Can also be used in combination with SW-1, GN-13, etc. Casting finish, gun metal shrivel; 3" long tube, chrome.

*Excellent for attaching an extra mike to a conventional floor stand.

**Model SK-1** **List Price $3.50**

## TS-7 BANQUET STAND (Only)

For use with TB-1. Heavy base, 10" diam. All parts super-chrome plated. Adjustable tube assembly. Easily placed on and moved along speaker's table. Ship. wt. 11 lbs.

**Model TS-7** **List Price $10.00**

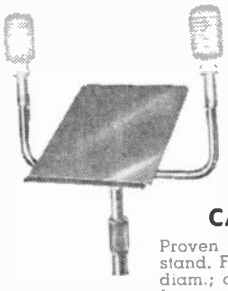
## ← GYROMATIC SWIVEL

Permits any mike to be adjusted and locked into any angle on any floor or desk stand. Also useful with SK-1, BC-1, etc. Precision die castings, super-chrome finish. 4½" long. 5/8"-27 male and female threads.

**Model SW-1** **List Price $4.50**

## DUPLEX MIKE MOUNT

### With Desk Attachment



Permits use of 2 mikes on any single stand. Reduces "off mike" possibility. Desk attachment and mike support arms detachable. Thus one mike alone may be used—to one side or rear of desk. Finished in chrome and cadmium. Moulded composition desk, 9" x 11". Ship wt. 2½ lbs.

**TB-1** **List $10.00**

## CABLE HANGER →

Proven necessity on every mike stand. Fits all tubes, 7/8" to 1¼" diam.; attached and removed by 1 screw. All parts chrome finish.

**Model CH-1** **List Price $2.50**

## NECK SUPPORTED MIKE HOLDER

**FULFILLS EVERY PRACTICAL REQUIREMENT FOR A MICROPHONE CHEST SUPPORT**

The "Chesty" permits a quick and simple "three way" adjustment. Mike is always in a suitably "close talking" position reducing acoustic feed back problems caused by excessive spacing between mike and speakers mouth.

Wide comfortable chest support prevents rolling due to sudden movement. Flexible goose neck quickly removed if desired for use as hand held mike. Entire assembly can be placed on table top and used as conventional desk stand. Cool and lightweight weighing only 6 oz.

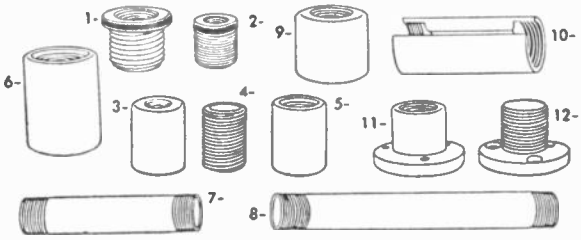
**Model NS-1** **List Price $5.00**

## ← BRACKET CLAMP

Very versatile. Usable with BB-1, GN-13, etc. Clamp can be removed and top flange screwed or bolted into position. Chrome tube 6" long. 5/8"-27 thread.

**Model BC-1** **List Price $3.50**

## MICROPHONE ADAPTORS & FITTINGS




| MODEL | Description | LIST PRICE |
|---|---|---|
| AD-1 | 5/8"-27 female to ½" pipe thread male (RCA Adaptor) | $ .85 |
| AD-2 | ⅛" pipe female to 5/8"-27 male | .60 |
| AD-3 | ⅛" pipe female to 5/8"-27 female | .60 |
| AD-4 | ¾" long, 5/8 '-27 male running thread | .30 |
| AD-5 | 5/8"-27 female to 5/8"-27 female coupling | .60 |
| AD-6 | 7/8"-27 female to 7/8"-27 female coupling | 1.00 |
| AD-7 | 3" long tube 5/8"-27 male each end | .60 |
| AD-8 | 6" long tube 5/8"-27 male each end | .70 |
| AD-9 | 7/8"-27 female to 5/8"-27 female | .70 |
| AD-10 | 5/8"-24 female to 5/8"-27 female (W. E. Adaptor) | 1.20 |
| AD-11 | Flange, 5/8-27" female. Base Diameter 1¼" | .70 |
| AD-12 | Flange, 5/8"-27 male. Base holes on 7/8" mounting centers | .70 |
| AD-13 | 7/8"-27 male to 5/8"-27 female | .85 |
| AD-14 | Right angle bent tube: 5/8"-27 male and female each end | 1.50 |

**Note:** Thread sizes specified as ⅛" pipe is I.P.S. (Electrical fitting) Measures Approx. 3/8" dia. All adaptors chrome plated.

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World Radio History

# TRIMM

## HEADSETS AND ACCESSORIES

### FEATHERWEIGHT

The original light weight headset. Extensively used by amateurs, dx listeners, commercial operators, etc. Bakelite shell and cap; 6 ft. water-resistant cord, concealed terminals; choice of variety of headbands. Weight 4½ oz. Available in all standard ohmages.

**AMATEUR SPECIAL — 24,000 Ohm Impedance**

**No. 106**—Double headset, single metal-band headband (as pictured above) 5M ohms d.c. resistance ..... **$11.00**

**No. 107**—Double, fabric covered double wire band headband (as pictured at right) 5M ohms d.c. resistance ..... **$11.00**

**STANDARD** — Specify Ohmage in Ordering

Standard Featherweight headsets available in 4, 152, 2M and 4M ohms d.c. resistance — (Impedance approx. 5 times d.c. resistance)—

**No. 100**—Double headset, single metal band headband (as pictured above) ..... **$11.00**

**No. 104**—Double, fabric covered double wire band headband (as pictured to right) ..... **$11.00**

### PROFESSIONAL

The original TRIMM headset, and the choice of countless users. Watch case bi-polar design. Cap and shell of molded bakelite. Tinsel conductor, braided cord, 5 ft. long, enclosed terminals. Adjustable vinyl plastic covered wire headband. Recommended for general radio communication, electronic testing applications, etc. Standard resistances for double headsets 4, 78, 2M, 3M, and 4M ohms d.c. (Impedance approx. 7 times resistance.)

**No. 70**—Double (4M ohms furnished if not specified) ..... **$5.80**

**No. 72**—Single (2M ohms max.) ..... **3.30**

**No. 76**—Single (2M ohms max.) 4 ft. cord. Has eyelet attached to unit to permit hanging on hook. No headband supplied. Used on intercom systems, etc. ..... **3.30**

### ACME

The superior low-cost, light weight headset. Used on crystal sets, educational electronic kits, Geiger counters, etc. Cap and shell of molded bakelite. Cord, 4½ ft. long; double headsets, braided cord sets, single earphones, flexible vinyl covered cord, concealed terminals. Several headband styles. Specify ohmage.

**No. 24** —Double 2M ohms, vinyl covered headband ..... **$4.20**
**No. 24** —Double 4M ohm, vinyl covered headband ..... **4.35**
**No. 24-5**—Double 4 ohm, vinyl covered headband ..... **4.10**
**No. 25** —Double 2M ohm, metal headband (as pictured) ..... **3.60**
**No. 25** —Double 4M ohm, metal headband ..... **3.90**
**No. 25-5**—Double 4 ohm, metal headband ..... **3.50**
**No. 27** —Single 1M ohm, metal headband ..... **2.15**
**No. 27** —Single 2M ohm, metal headband ..... **2.35**
**No. 27-5**—Single 2 ohm, metal headband ..... **2.10**

### DEPENDABLE

When a high grade headset is desired, but price must be considered, choose the Dependable. Used by institutions, on general radio applications, etc. Bi-polar construction, bakelite cap and shell. Forged magnet. Tinsel conductor braided cord, 5 ft. long, concealed terminals. Vinyl covered wire headband, adjustable.

**No. 65** —Double, 2M ohms ..... **$4.80**
**No. 65-5**—Double, 4 ohms ..... **4.80**
**No. 67** —Single, 1M ohm ..... **3.00**
**No. 65-3**—Double, 2M ohms, similar to No. 65 except uses special 6 ft. plastic covered cord No. 890. Designed especially for use on institutional radio systems as cord can be washed, etc. ..... **5.75**

### REX

The lowest cost TRIMM bi-polar headset. Bakelite shell and cap. Cord 4½ ft. long; double headsets braided, single earphones vinyl covered, concealed terminals. Adjustable headband. Specify ohmage.

**No. 30** —Double 2M ohms ..... **$4.35**
**No. 30** —Double 3M ohms ..... **4.70**
**No. 30-5**—Double 4 ohms ..... **4.35**
**No. 32** —Single 1M ohms ..... **2.55**
**No. 32** —Single 1½M Ohms ..... **2.75**
**No. 32-5**—Single 2 ohms ..... **2.55**

### COMMERCIAL

Extremely light weight yet one of the most rugged headsets built. Originally developed for marine and aircraft service. Recommended for heavy duty commercial radio service, amateur radio, etc. High impact bakelite cap and shell. Cord, 6 ft. long, tinsel, plus rubber insulation, plus high grade mercerized cotton outer braid, enclosed terminals. No. 156 and 157 have 501 plug attached, others without plug. No. 151 and 152 have off-the-shoulder cords. Rubber covered headband.

**No. 156**—Double (600 ohms impedance) **$15.00**

**No. 157**—Double (17M ohms impedance) **15.00**

**No. 158**—Double (600 ohms impedance) **13.50**

**No. 159**—Double (17M ohms impedance) **13.50**

**No. 151**—Double (specify ohmage). Headband similar to type used on No. 100 **12.10**

**No. 152**—Double (specify ohmage). Headband fabric covered wire type similar to type used on No. 104 ..... **12.10**

### EAR CUSHIONS

Provide the user with maximum comfort in wearing headsets, also exclude outside disturbing noises if present. All prices per pair.

**No. 654** —Sponge rubber, fits TRIMM Featherweight, Commercial, Acme, Rex, and "E" types ..... **$ 1.60**

**No. 655** —Solid rubber, military type MC-162A. Fits TRIMM "S" and Permoflux headsets, military type ANB-H-1 units ..... **3.00**

**No. 656** —Sponge rubber face, solid rubber back, military type MX-41/AR. Fits same types as No. 655 but recommended as being better choice ..... **4.20**

**No. 658** —Chamois donut type cushion, military type NAF 48490-1. Fits same types as No. 655 ..... **8.50**

**No. 658-2**—Same general design as No. 658 but fits Brush type A headset ..... **11.00**

**No. 660**—Sponge rubber. Fits TRIMM Dependable, Professional, "K", and "W" headsets ..... **2.50**

Ohmages given are d.c. resistance unless specifically indicated as Impedance which is about 4—7 times the d.c. resistance.

### ARMY-NAVY

Built for severe use. Design has been accepted standard in years past. Bakelite cap, metal shell. Rubber covered headband. Waterproof cord. Available in two impedances.

**No. 28**—Double, 112 ohms d.c.—600 ohms impedance ..... **$20.00**

**No. 29**—Double, 2200 ohms d.c.—20M ohms impedance ..... **20.00**

See Facing Page for TRIMM hearing aid equipment and other headsets and accessories.

See Pages L-596, 597 for listing of TRIMM Plugs, Jacks, Patch Cords, and Jack Panels.

For complete listing see Trimm General Catalog.

Prices subject to change without notice.



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World Radio History

# TRIMM

## HEADSETS AND ACCESSORIES

### GROUP HEARING AID COMPONENTS

#### Single Earphones

The most widely used single earphones for group hearing aid systems in churches, theatres, mortuaries, etc. are of the TRIMM Featherweight type. Available with either lorgnette handles, or with single headbands. Standard ohmages: 76, 1000, and 2000 ohms d.c. For use with low (less than 100 ohm), medium (100-500 ohm) and high (500 ohms and over) lines respectively. Require phone plug such as TRIMM No. 512 for use with Outlet Boxes described below.

**No. 110**—Headband type (specify ohmage) ..... **$7.15**
**No. 120**—Lorgnette type (specify ohmage) ..... **8.25**

### OUTLET BOXES and CONTROLS

Boxes No. 460 and 461 are recommended for the majority of installations, combines volume control and jack in one unit. Box has all rounded corners and edges. No. 460 has brown hammertone finish, No. 461 glossy ivory for improved visibility in theatres. Standard ohmages: 1000 ohms for low impedance lines, 10,000 for high. Other ohmages available, i.e. 500M ohms for crystal earphones, at slightly higher cost.
A large variety of variations of basic box and volume controls, switches, jacks, etc. available to order for centralized radio systems.

**No. 460**—Outlet Box (specify ohmage) ..... **$5.00**
**No. 461**—Outlet Box (specify ohmage) ..... **5.00**
**No. 477**—Outlet Box, dual jacks, no control, brown finish ..... **3.85**
**No. 478**—Outlet Box, dual jacks, no control, ivory finish ..... **3.85**
**No. 484**—Outlet Box, single jack, no control, brown finish ..... **3.30**
**No. 485**—Outlet Box, single jack, no control, ivory finish ..... **3.30**

### FLAT NON-PROTRUDING PLUG

TRIMM No. 512 provides a compact, non-protruding design widely used in group hearing aid installations. Bakelite body practically non-breakable. Fits standard jacks. Cord pin tips held by set screws.

**No. 512**—Black ..... **$0.87**
**No. 512-1**—Red ..... **0.87**
**No. 512-2**—Black with hook for hanging headset ..... **1.32**

### "S" HEADSET

Designed particularly for broadcast stations and other high fidelity applications. Response is substantially flat through all essential frequencies.
Shell and cap of molded plastic, Alnico V magnet, floating diaphragm with controlled compliance provide uniform response unaffected by temperature. Units usually provided with TRIMM No. 656 ear cushions, but other types available. Headband leather covered double band with mounting for unit providing restricted rotation to prevent cord snarl.
Available for military applications in modified form under various code numbers such as HS-33A, etc.

**No. 35** —Double Headset, 8 or 600 ohms impedance, two conductor off-the-shoulder type flexible neoprene cord terminated with TRIMM No. 501 plug ..... **$28.00**

**No. 35-14**—Binaural Headset, 4 or 300 ohms impedance per unit. Split circuit three conductor off-the-shoulder type braided cord terminating with TRIMM No. 509 plug ..... **32.00**

### BINAURAL HEADSET

All TRIMM headsets in addition to No. 35-14 listed above can be supplied with special cords for binaural reception. Below are two other commonly produced types.

**No.187** —Commercial Series, with No. 509 plug attached ..... **$19.80**
**No. 70-14**—Professional Series with No. 513 plug attached ..... **10.50**

### "L" HEADSET

Intended especially for high quality communications systems requiring extended frequency range. Embodies a new electro-magnetic design. Lightweight, and more comfortable wearing than most high grade headsets.

Floating diaphragm provides response unaffected by temperature. Available in 8 ohms, 600 ohms, and 7M ohms impedance per headset; (one half this per unit for binaural types).

**No. 50** Double Headset, (Specify ohmage), with nylon braided, waterproof Y-shaped cord and No. 501 plug attached **$22.00**
**No. 50-5** Double Headset, Military version, equivalent to No. 49985A. **$28.00**
**No. 50-14** Binaural Headset, Split circuit three conductor Y-shaped braided cord terminated with No. 508 plug (0.206" dia.) **$26.00**

### PILLOW-PHONE

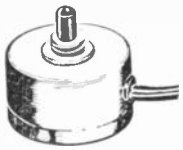
Designed for use as a miniature speaker for under pillow use at home, in hospitals, etc. Very thin disc shaped, 2" dia. x 27/64" thick. Sealed unit is entirely moisture-proof and tamper-proof. Face of stainless steel, back of molded high impact bakelite. Flexible rubber cord, 6 ft. long, is anchored to unit under terminal cover plate that cannot be readily removed by user. Normally furnished with standard TRIMM No. 501 plug, but other types available. May be cleaned in disinfecting solutions. Supplied in 8, 300, and 2000 ohms impedance.

**No. 85** — (Specify ohmage) ..... **$11.00**

### HANDSET

Several types of handsets meeting military specifications are produced. Write for specific information and availability.

### "STOP-IT" COMMERCIAL TRIMMER



Permits user to turn off audio signal of TV or radio set without getting up from chair, giving listener freedom to choke off unwanted commercials. Other uses that suggest themselves are to suppress loudspeaker when phone rings, etc.

**No. 639**—"STOP-IT" (Illustrated at left) consists of housing containing switch to which is attached 15 ft. cord ready to install in accordance with instructions with each unit ..... **$3.40**

### HEADSET KITS for TV and RADIO

Kits described provide simple means of attaching headset or extension speaker to TV or radio sets. Consists of one of several types of headsets and a small outlet box with attached 15 ft. cord. Box has remote on-off switch for loudspeaker and volume control for headset. Two jacks provided for multiple listening.

**No. 631**—Outlet Box only ..... **$ 7.15**
**No. 632**—Kit—Outlet Box plus one double Acme headset and plug ..... **12.15**
**No. 632-1**—Kit—Outlet Box plus one single Acme earphone and plug ..... **10.35**
**No. 633**—Kit—Outlet Box plus one double Dependable headset and plug ..... **12.75**
**No. 634**—Kit—Outlet Box plus one double Featherweight headset and plug ..... **18.95**
**No. 635**—Kit—Outlet Box plus one single Commercial earphone and plug. Recommended for hard of hearing ..... **15.10**
**No. 637**—Kit—Outlet Box plus one Pillow-Phone and plug ..... **16.90**

See General Catalog for added information on "STOP-IT" and Headset Attachment Kits.

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World Radio History

# TELEX electro-acoustic products

### TELE-FI

Sound reaches one ear shortly after the other ear to provide "depth of sound" and 30% better understanding. Ideal for secretaries, order board operators, monitoring, etc. Weight of only ½ oz. Replaceable foam ear-tips assure maximum comfort. Standard phone plug and 5' cord included.

No. 18135—TELE-FI, 15 ohm..... No. 18020—TELE-FI, 1000 ohm....
No. 18035—TELE-FI, 128 ohm..... No. 18160—TELE-FI, 2000 ohm....

### BOOM TYPE HEADSET

Telex quality two-way communicating headset. Extreme light weight (3.5 ounces), adjustable tone arms which conduct sound to ear, miniature carbon microphone, and adjustable featherweight metal boom combine for maximum comfort. Single cord enables complete freedom of movement.

No. 9600—Headset, 500 ohm, w/double receivers NO CORD.....
No. 9645—Split Headset, 500 ohm, w/double receivers NO CORD.....
No. 9650—Single Headset, 500 ohm, w/single receivers NO CORD.....
No. 9259—Cord Unit, w/term. lugs packed sep. NO PLUG.....
No. 9261—Cord Unit, aircraft type, w/PL-55 and PL-68 or equivalent...
No. 12061—Cord Unit, aircraft type, w/PL-55 and PL-68 or equivalent, and push to talk switch.....
No. 9262—Cord Unit, standard, w/single PL-68 or equivalent.....
No. 9263—Cord Unit, switchboard type, w/double plug.....
No. 9297—Y-Cord, 6 conductor, for headset No. 9645, w/terminal lugs packed sep. NO PLUG.....

### MONOSET

Here's the ORIGINAL under-chin, lightweight headset. Ideal for listening systems, business machines, radio and record listening, broadcasting, and nearly any other application. Weighing only 1.2 oz., it is complete with 5' cord and standard phone plug.

No. 18183—Monoset, 128 ohm, complete, std. cord.....
No. 18184—Monoset, 2000 ohm, complete, std. cord.....
No. 18185—Monoset, 128 ohm, with volume control cord.....
No. 18186—Monoset, 2000 ohm, with volume control cord.....
No. 18110—Monoset, 128 ohm, NO CORD.....
No. 18165—Monoset, 2000 ohm, NO CORD.....

### MINIATURE JACKS AND PLUGS

Miniature phone plugs and jacks, ⅓ the size of standard models, are ideal for applications where space or weight is a problem, as well as for nearly every industrial use.

No. 9245—Jack, closed circuit panel mounted, 3 lugs (bent).....
No. 12102—Jack, open circuit panel mounted, 2 lugs (bent) and washer..
No. 9231—Plug, miniature straight.....
No. 12162—Plug, two pronged, std. switchboard plug, Nylon housing, for switchboards and broadcast jack panels.....

### TWINSET

Perfect for amateur, commercial, and industrial communications, the TWINSET is CAA approved and is standard equipment on most airlines. Comfort replaces listening fatigue. Adjustable tonearms pipe sound into ears, blocking out background noise, yet ear-tips need not even touch user's ear. Weighs 1.6 oz. and has 5' cord and standard phone plug.

No. 3791—TWINSET, 64 ohm imp, complete.....
No. 3775—TWINSET, 1000 ohm imp, complete.....
No. 3781—TWINSET, 64 ohm imp. LESS CORD.....
No. 3776—TWINSET, 1000 ohm imp. LESS CORD.....
No. 2846—Volume Control Cord, 64 ohm imp.....
No. 2845—Volume Control Cord, 1000 ohm imp.....

### TV LISTENER

Youngsters can view TV without disturbing family. Also ideal for institutions and hard-of-hearing. Two can use at the same time. Switch for TV speaker, volume control, and 15' cord included. Child can use easily and safely.

No. 9900—LISTENER, complete, one Earset.....
No. 9338—Extra Earset, cord & plug.....

### TRANSISTOR RADIO EARSETS

An outstanding earset for transistor radio application. Provides maximum understanding, fidelity, and measurable flatter response than any other similar unit available. Complete with receiver, 3 foot cord, and metal earframe in plastic box.

No. 18311—Transistor Earset, for Motorola, Philco, Dewald, RCA, Hoffman, Trav-ler, Regency, Roland, Western Auto, Admiral, Zenith 500 and 800. Complete as described above.....
No. 18312—Transistor Earset, for Emerson, GE T-710 and T-725. Complete as described above.....
No. 18313—Transistor Earset, for GE 675 and 715. Complete as described above.....
No. 18314—Transistor Earset, for Magnovox, Sonora, Sentinel, Spartan, Bulova 900B, Westinghouse. Complete as described above.....
No. 18315—Transistor Earset, assortment—box of 4—including one of each above.....

### PILLOW SPEAKERS

Dynamic and magnetic. Dynamic features stainless steel housing with a hanger. Weighs 4 oz. and measures 3¾" x 1⅛". Comes with 5' cord and standard phone plug. Magnetic type has unit molded maroon case. Copper diaphragm is nickel plated and hermetically sealed. Can be sterilized by submerging in alcohol. Weighs 2.6 oz. and measures 2¼" x ⅝". Comes with 5' cord and standard plug. Miniature plug available.

No. 8110—Dynamic Pillow Speaker, 3.2 ohm.....
No. 8130—Dynamic Pillow Speaker, 10 M ohm.....
No. 4500—Magnetic Pillow Speaker, 128 ohm.....
No. 4530—Magnetic Pillow Speaker, 2000 ohm.....
No. 4501—Magnetic Pillow Speaker, 128 ohm, less cord.....
No. 4531—Magnetic Pillow Speaker, 2000 ohm, less cord.....
No. 2846—Volume Control Cord, MAGNETIC, 128 ohm.....
No. 2844—Volume Control Cord, MAGNETIC, 2000 ohm.....
No. 9200—Standard Cord—Miniature Plug.....

## CUSTOM FACILITIES AT TELEX

Telex is a pioneer in miniaturization. For over 25 years, the design, production, and testing facilities at Telex have been geared to the specialized requirements of miniaturization. If your requirements are miniaturization, maximum reliability, and rigid environmental conditions . . . Talk To Telex.

Telex manufacturing space is air conditioned and controlled to 30% relative humidity. Specialized encapsulation equipment provides evacuating, impregnating, recorded temperature controlled curing oven for highest product quality. We maintain collateral equipment to support these specialized facilities.

Remember . . . for custom facilities . . . Talk To Telex.

**Write for descriptive folder on Audio Transformers, as well as current price list covering all components described above.**

## TELEX INDUSTRIAL COMPONENTS

**Talk to Telex . . . for toroidal coils, cupcore inductors subminiature audio transformers, or whenever you require specialized custom packaged components. For highest product quality, use highest quality components . . . Talk to Telex.**

**TELEX** ® TELEX PARK • ST. PAUL 1, MINNESOTA



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World Radio History

# MURDOCK HEADPHONES

## P-23 Aviation Headphone

C.A.A.T.C. 1200

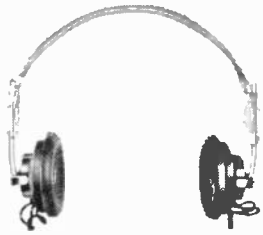
*Specifications:*

*Receivers:* "Solid-Built" type. Best quality Alnico magnets. Moulded bakelite coil forms impregnated to resist moisture. Moulded bakelite case and cap. Standard impedance 600 ohms. Lightweight sponge rubber cushions.

*Headband:* All metal parts stainless steel and passivated to prevent corrosion. Headband and earphones are easily adjusted by cleverly designed guide and plate.

*Cord:* Phones connected within band, making a single cord to instrument panel. Standard set has 5 foot plastic-covered tinsel cord with phone plug attached.

**LIST $12.00**



## No. 131 "CW" *Designed for Code Communication*

*Specifications:*

*Receivers:* Same "Solid-Built" construction as P-23. Standard impedance 10,000 ohms. Equipped with wafer-thin rubber cushions.

*Headband:* Double stainless steel bands with plastic covering. Stainless steel guides and yokes permit adjustment on vertical and horizontal planes.

*Cord:* Six foot Y type plastic-covered tinsel cord with phone plug attached.

**LIST $12.00**

## No. 112 Lightweight Headphone

***Lightness and scientific fit of these headphones make them comfortable to wear for a considerable length of time.***

*Specifications:*

*Receivers:* "Solid-Built" one-twelve type with Alnico magnet. Standard set has 10,000 ohms impedance. Standard concealed terminals.

*Headband:* Easy operating controls permit adjustment of the earphones. Bands are ¼" stainless steel.

*Cord:* Six foot Y type plastic-covered tinsel cord with pin tips.

**No. 112 LIST $5.50**
**No. 116 Single LIST $3.50**

## No. 111 Institutional Headphone

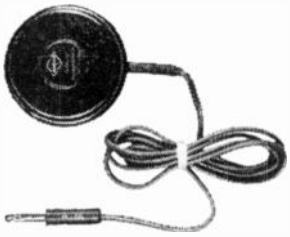
*Specifications:*

*Receivers:* "Solid-Built" one-eleven type. Magnets are fine quality chrome steel. Moulded black bakelite case and cap. Standard set has 10,000 ohms impedance. Standard concealed terminals.

*Headband:* Stainless steel bands covered with plastic. Guides and yokes are solid brass, nickel plated.

*Cord:* Six foot Y type plastic-covered tinsel cord with pin tips.

**LIST $8.50**



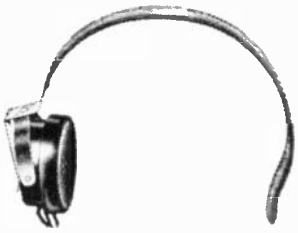
## Magnetic Underpillow Speaker

*Specifications:*

*Speaker:* Rugged, durable bakelite case in walnut or gray finish. 3½" diameter. Alnico V magnet.

*Cord:* Six foot plastic extension cord and phone plug. Mounting jack supplied with switch in jack. Available in impedances from 5 ohms to 10,000 ohms or higher.

**LIST $10.95**



## No. 115 Laboratory Headphone

*Specifications:*

*Receiver:* "Solid-Built" one-eleven type.

*Headband:* Special one-fifteen. Yoke is spring brass, nickel plated. Covered with fine quality plastic.

*Cord:* Five foot single type, plastic-covered tinsel with pin tip.

**LIST $5.50**

HEADSET impedances are available up to 17,000 ohms. Cotton-covered or other special cords and special terminals are available to meet individual requirements.

*Write today for complete information and FREE CATALOG.*

**WM. J. MURDOCK CO.** MURDOCK RADIO **CHELSEA, MASS.**

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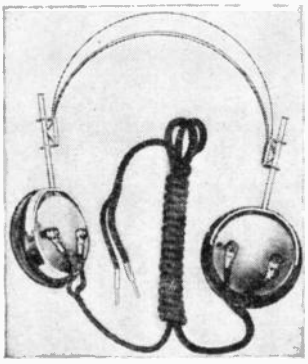
World Radio History

# HEADPHONES By C. F. CANNON CO.

## THE "CHIEF"
### *Cannon-Ball Bakelite Headset*

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is $2\frac{1}{16}$". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4½ ft. long.

CC-2—2000 ohms D.C. ..... List $4.00
CC-3—3000 ohms D.C. ..... List 4.25
CC-5—5000 ohms D.C. ..... List 5.75
CC-11—11 ohms D.C. ..... List 4.00



## BRANDES "SUPERIOR"
### *Matched Tone Headset*

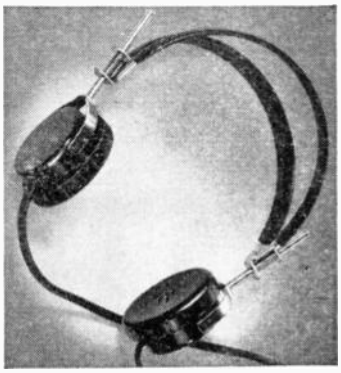
A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2⅛" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjustment. 4½ ft. cotton covered cord.

BS-2—2000 ohms D.C. ..... List $4.15

## BRANDES "ADMIRAL"
### *Matched Tone Headset*

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C. ..... List $4.15
BA-3 3000 ohms D.C. ..... List 4.65
BA-5—5000 ohms D.C. ..... List 6.00



## CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

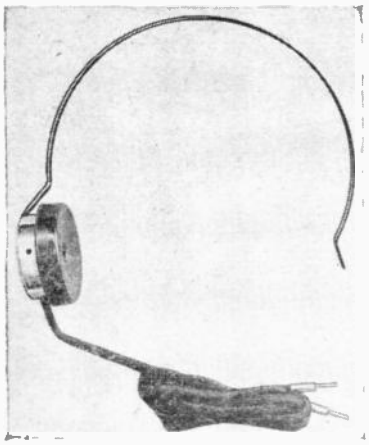
The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2⅛". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2 ..... List $6.50
AM-25-3 ..... List 7.00
AM-25-5 ..... List 8.50

## ALNICO MAGNETIC No. 15

A new, small size, extra sensitive double headset, light in weight. Diameter of diaphragm 1⅞". Molded cap and case. Steel adjustable headband. 4½ ft. cord.

AM-15-2 ..... List $3.50
AM-15-3 ..... List 3.75



## CANNON-BALL "ALNICO"
### *Single Headphone*

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1⅞". Bakelite case and caps. Alnico magnet, double coils. 1½ ft. cord. Spring steel headband permanently attached.

AM-15-1—1000 ohms D.C. ..... List $2.00

## THE "MASTER"
### *Cannon-Ball Headset*

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable head band with no removable parts. Diaphragm $2\frac{1}{16}$" diameter. Double coils. Chrome steel magnets. 4½ ft. cotton-covered cord.

MC-2—2000 ohms D.C. ..... List $4.15
MC-3 3000 ohms D.C. ..... List 4.50
MC-5—5000 ohms D.C. ..... List 5.75

## CANNON-BALL "EMPIRE"
### *Lightweight Headset*

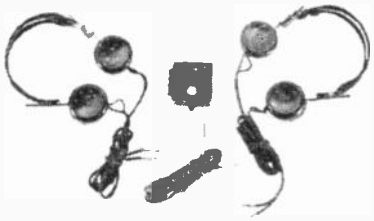
A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1⅞". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4½ ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C. ..... List $3.65
EC-3—3000 ohms D.C. ..... List 3.90

## THE "DIXIE"
### *Cannon-Ball Headset*

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside. Bakelite case Alnico magnets.

CD-2—2000 ohms D.C. ..... List $3.75
CD-3—3000 ohms D.C. ..... List 4.00



## CANNON-BALL HEARING AID FOR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any television set and permits listening to phones alone, speaker alone, or both together.

FOR TELEVISION

Kit complete with 15 foot cord, phone volume control and two sets of phones ..... List $16.50
With one headset ..... List 12.50

## MOLDED RUBBER CUSHIONS

Fit standard size headsets. Molded-in air chamber provides maximum wearing comfort.

List ..... per pair $1.00

***Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.***

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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

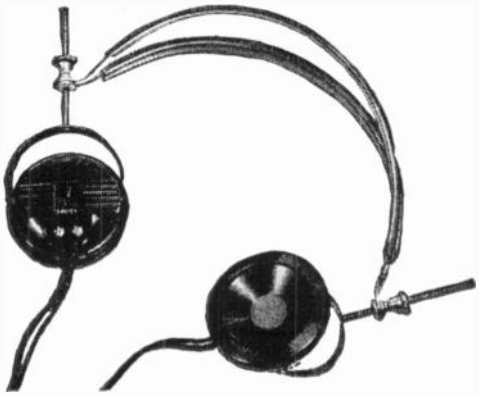
# CLEVITE-BRUSH HEADPHONES

CLEVITE BRUSH

## Brush Headphones...

*for Hi-Fi and Binaural Listening*

Brush crystal phones possess wider range response with more uniform output. They furnish smooth, air-tight fit for excellent bass response. The Bimorph* crystal drive element is of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones. Light-weight, rugged, shock-proof construction is standard. All headphone models are available with special cords for binaural listening.



### HIGH FIDELITY

Designed for use in exacting applications where smooth, exceptionally flat frequency response is of paramount importance. Impedance of 50,000 ohms at 1000 cps; no transformer required. Line or circuit characteristics not affected when monitored by these phones. High sensitivity . . . ideal for multiple installation. Low distortion . . . smooth, comfortable, air-tight fit. Available in single, double, and lorgnette models.

**BA-206 . . . . . Double. . . . . $20.80 net**
**Net Wt. 8 oz. Shipping Wt. 2 lbs.**

### BRUSH BINAURAL HEADPHONES

All Brush headphones are available with special cords for binaural applications. These feature the same high quality performance provided by all Brush headphones.

**1. BA-206 B . . . . . $22.00**
**2. BA-205 B . . . . . 21.00**
**3. BA-200 B . . . . . 14.10**

**Extended Range**

For use where extended frequency response is of paramount importance. (100 to 10,000 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar applications. Impedance over 75,000 ohms at any frequency within audio range. Headset complete with 5' cord and headband.

**BA-205 . . . . . $19.80 net**
**Net Wt. 6 oz. Shipping Wt. 2 lbs.**

**General Purpose**

For laboratory, studio and skilled amateur home use. Wide range response (100 to 8,000 cps.) High impedance; high sensitivity, ideal for multiple installations. Headset complete wth 5' cord and adjustable headband.

**BA-200 . . . . . $12.90 net**
**Net Wt. 6 oz. Shipping Wt. 2 lbs.**

**Single Phone**

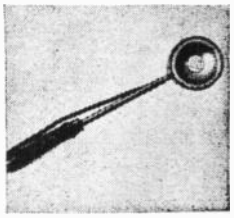
Particularly adapted to individual or group hearing aid and radio applications. Light-weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber cushion to eliminate slipping. Single phone complete with 5' cord and headband.

**BA-201 . . . . . $8.10 net**
**Net Wt. 3 oz. Shipping Wt. 1 lb.**

**Lorgnette Phone**

Designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light-weight, easy to handle, and complete with 5' cord and lorgnette handle.

**BA-202 . . . . . $10.00 net**
**Net Wt. 3 oz. Shipping Wt. 1 lb.**



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# CLEVITE ELECTRONIC COMPONENTS

DIVISION OF CLEVITE CORPORATION CLEVELAND 14, OHIO

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World Radio History

# REK-O-KUT COMPANY

***Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.***

## ALL REK-O-KUT RECORDING TURNTABLES

are made of cast aluminum, lathe-turned for accuracy and driven with shock-mounted hysteresis synchronous motors equipped with lamitex pulleys.

### MODEL R-16H DELUXE 2 SPEED (33-78) 16" RECORDING TURNTABLE With Accessory Idler For 45 rpm Speed

The outstanding value in the recording field. Ruggedly constructed and precisely machined, the Model R-16H turntable will maintain the constant, wow-free speed and smoothness demanded in broadcast work. The Model M-5S Overhead Cutting Mechanism mounts to the R-16H turntable in a matter of moments.

**CHASSIS:** Radial-ribbed aluminum casting. Designed for flush mounting in rectangular cut-out.
**IDLERS:** Neoprene compound for maximum traction and silent operation.
**OILING:** Shafts and bearings are self-oiling. Require infrequent lubrication.
**SPEED CHANGE:** Mastermatic self-locking instantaneous speed shift.
**FINISH:** Gray wrinkle.
**DIMENSIONS:** 18¾" x 20". Fits existing consoles and cabinets with slight modification.
**TURNTABLE:** Solid cast aluminum-Lathe turned.
**SHIPPING WT:** 34 pounds.

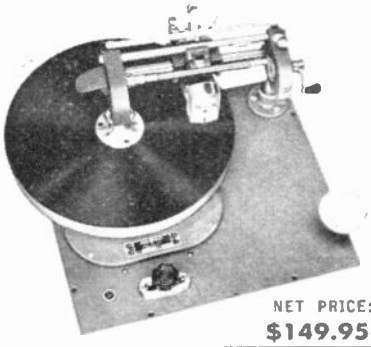
**NOTE:** Model R-16H Recording Turntable mounts directly on Model C-7B Console without use of either screw or bolts. (E-8)

NET PRICE:
**$250.00***

### MODEL TR-43H 2 SPEED (33-78) 12" RECORDING TURNTABLE With Accessory Idler for 45 rpm Speed

Design and construction of the Model TR-43H is similar to the Rek-O-Kut 16" professional recording tables. The Model M-12S Overhead Recording mechanism is mounted to the chassis in a few moments.

**CHASSIS:** Cast ribbed aluminum drilled to accommodate the M-12S Lathe.
**IDLERS:** Neoprene compound for maximum traction.
**OILING:** Shafts and bearings are self-oiling. Require infrequent lubrication.
**SPEEDS:** Instantaneous speed shift engages either 78 or 33-1/3 rpm idlers.
**FINISH:** Gray wrinkle.
**DIMENSIONS:** Front to back 16½"; width 16"; height above motor board 1⅜"; depth below motor board 5".
**SHIPPING WEIGHT:** 20 lbs.



NET PRICE:
**$149.95***

**LEADSCREWS FOR OVERHEAD LATHES**

| Lines/inch | Model M-5S | Net Price |
|---|---|---|
| 120 | MS-120 | $39.95 |
| 150 | MS-150 | 39.95 |
| 210 | MS-210 | 49.95 |
| 216 | —— | —— |
| 240 | MS-240 | 49.95 |
| 270 | MS-270 | 49.95 |

| Lines/inch | Model M-12S | Net Price |
|---|---|---|
| 120 | M12S-120 | $35.95 |
| 150 | M12S-150 | 35.95 |
| 210 | M12S-210 | 44.95 |
| 216 | —— | —— |
| 240 | M12S-240 | 44.95 |
| 270 | M12S-270 | 44.95 |

| Lines/inch | Model M-12 | Net Price |
|---|---|---|
| 120 | M12-120 | $19.95 |
| 150 | —— | —— |
| 210 | —— | —— |
| 216 | M12-216 | 29.95 |
| 240 | M12-240 | 29.95 |
| 270 | —— | —— |

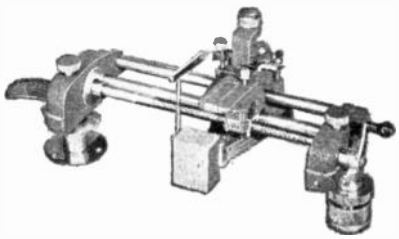
Leadscrews of 210 lines/inch or more = microgroove.

## MASTER-PRO OVERHEAD RECORDING LATHES

### MODEL M-5S 16" OVERHEAD LATHE

A precise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a micro finish. The Master-Pro is a universal machine that can be readily attached to all 12" and 16" recording turntables as well as the Rek-O-Kut model R-16H recording table.
**HANDCRANK:** For run-in and run-off spiral grooves.
**DUAL CLUTCH SPIRALING CONTROL:** Eliminates danger of disc spoilage while crank handle is in motion.
**ANGLE OF CUT:** Controlled by simple adjustment.
**DIMENSIONS:** Length 16"; width 6½"; height 9".
**WEIGHT:** 16 lbs.
**Supplied with 120-line leadscrew.**

**MODEL M-5S less cutter** NET PRICE **$200.00***
**MODEL M-5S with R-56 cutter (50-10,000 cycles)** **$260.00***
**MODEL R-56 Cutter Only** **$60.00**



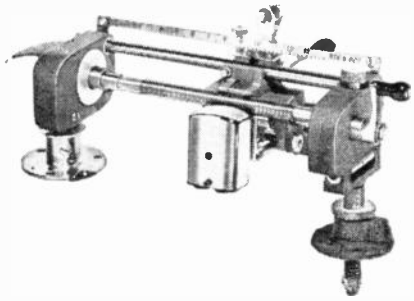
### MODEL M-12S 12" OVERHEAD LATHE

This professional lathe is designed to very exacting specifications and features the following:

- Interchangeable Leadscrews
- Hand-crank for run-in and run-off Spiral Grooves.
- Timing Scale
- Accommodate Standard Cutting Heads.
- Depth of Cut Adjustment.

**LIFT-O-MATIC:** Automatically lifts cutter from disc as it approaches end of lead-screw.
Designed for instantaneous replacement of the M-12.
**Supplied with 120-line leadscrew**

**MODEL M-12S less cutter NET PRICE** **$150.00***
**MODEL M-12S with R-56 cutter (50-10,000 cycles) WEIGHT: 10 lbs.** **$210.00***
**MODEL R-56 Cutter Only** **$60.00**



* All prices slightly higher West of Rockies.

### ALL REK-O-KUT OVERHEAD LATHES

have micrometer depth-of-cut controls and tilt-level adjustments. Leadscrews are stainless steel and lapped to matched feed-nuts. Drive gears are enclosed and protected.

The policy of Rek-O-Kut Co., Inc. is one of continual improvement in design and manufacture. Hence, we reserve the right to change specifications and design without notice.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World Radio History

# REK-O-KUT COMPANY

***Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.***

# DISC RECORDING EQUIPMENT

## Imperial

The "Imperial," America's finest professional 13¼" disc recorder, is built to meet the respective needs of the Professional Recordist, Musician, Educator and Recording Enthusiast who wants to make permanent, professional recordings. The "Imperial" embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features incorporated in the "Imperial" simplify and improve the art of disc recording.

### PROFESSIONAL DISC RECORDER AND PLAYBACK REPRODUCER

**FREQUENCY RESPONSE:** ± 1 db from 30 to 20,000 cycles at normal setting of equalizer controls.
**POWER OUTPUT:** 13.5 watts at less than 3% total harmonic distortion into resistive load.
**TREBLE EQUALIZER:** Boost of 14 db and attenuation of 15 db above 8000 cycles, continuously variable.
**BASS EQUALIZER:** Boost of 14 db and attenuation of 14 db below 50 cycles, continuously variable.
**INPUT CHANNELS:** Two for high impedance microphone, one for phono (magnetic cartridge) and one high level for radio and tape.
**GAIN:** Microphones — 120 db; Phono — 90 db; Radio — 80 db.
**OUTPUT IMPEDANCES:** 4, 8, 15 and 500 ohms for cutter and speaker.
**OUTPUT SELECTOR:** Three positions providing — recording, playback and public address. Microphones are muted in play-back position.
**MONITORING:** A switch is provided giving three positions of monitor level — off, medium, loud. Speaker or headphones may be used. Meter on front panel indicates correct recording level.
**HUM AND NOISE:** 64 db below 13.5 watts with all controls turned for maximum hum and noise output.
**CONTROLS:** Microphone "1", microphone "2", radio-phone fader, output selector, treble equalizer, bass equalizer, monitor.
**TUBE COMPLEMENT:** (2) 6SJ7; (2) 6SL7; (1) 6SC7; (2) 6VC; (1) 5Y3.
**POWER REQUIREMENTS:** 105-125 volts, 50-60 cycles.
**POWER CONSUMED:** 100 watts.
**SPEAKER:** 10" PM type. Custom-built rigid REK-O-KUT specifications for extra power and wide range. Mounted into detachable cover of case.
**CASE:** Sturdy plywood cover with rich gray leatherette. Built to withstand rough usage. **DIMENSIONS:** 25 x 22 x 12 inches.
**WEIGHT:** 77 lbs.

Equipped with 120-line Leadscrew — IMPERIAL NET PRICE **$599.95***

LEADSCREWS—for Imperial—See Model M-12S; page E-212

### SPECIFICATIONS:

**MOTOR:** Hysteresis Synchronous motor fitted with lamitex drive pulley. Suspended in shock mounts to prevent transmission of motor vibration.
**RECORDING AREA:** Records from 6" up to 13¼" masters.
**SPEEDS:** Simple, finger-tip speed control. Records at both 33-1/3 & 78 R.P.M. Includes Idler and Adapter for 45 R.P.M. recordings.
**OVERHEAD RECORDING LATHE:** Model M-12S Lathe.
- HAND CRANK for run-in and run-off spiral grooves.
- PROVISION FOR INTERCHANGING LEADSCREWS for Standard and Microgroove.
- LIFTOMATIC SAFETY CAM prevents double cutting and stylus damage. Automatically raises cutter as center of disc is approached.
- CALIBRATED SCALE FOR TIMING.

**RECORDING HEAD:** Model R-56 — response from 50-10,000 cycles.
**PLAYBACK ARM:** Model S-160 for records up to 16" — with dual-sapphire magnetic cartridge.
**AMPLIFIER:** Model R-8A Universal Recording Amplifier.

Model R-8A Available Separately ..... **$159.95***
Model C-85 Portable Amplifier Case ..... **22.95***

## RECORD PLAYERS

These record players are designed to operate into any amplifier or for dubbing records onto tape, wire or disc. May be used with radio, TV receiver, sound projector, recorder, etc. Models with magnetic cartridges require preamplifiers. Mounted in sturdy plywood, leatherette-covered case with detachable covers.

**P-34C** with 2-speed L-34 (33-45) Turntable and S-120 Arm with dual sapphire needles and ceramic cartridge. NET PRICE. **$124.95***

**P-37C** with 2-speed L-37 (33-78) Turntable and S-120 Arm with dual sapphire needles and ceramic cartridge. NET PRICE. **$124.95***

**F-34M** with 2-speed L-34 (33-45) Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE. **$129.95***

**P-37M** with 2-speed L-37 (33-78) Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE. **$129.95***

**P-VC** with Variable Speed CVS-12 Turntable and S-120 Arm with dual needles and ceramic cartridge. NET PRICE..... **$139.95***

**P-VM** with Variable Speed CVS-12 Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE. **$144.95***

### VARIABLE-SPEED TURNTABLE CVS-12

The CVS-12 permits continuous speed variation from 25 rpm to 100 rpm without resetting or stopping the record. It can therefore be used with 33-1/3, 45 and 78 rpm records, and permits them to be slowed down to as little as 1/3 normal tempo or speeded up to as much as 300%. It is standard equipment with the P-VC and P-VM players. NET PRICE. **$89.95***

**NOTE:** This turntable operates at either 50 or 60 cycles. At 50 cycles speed can be varied from 20 rpm to 85 rpm.
Shipping Weight: 15 lbs.

**NOTE:** All Rek-O-Kut Players and Turntables are supplied for 110-120 volts, 60-cycle AC operation. Available for other voltages and frequencies at additional cost.

*** All prices slightly higher West of Rockies.**

The policy of Rek-O-Kut Co., Inc. is one of continual improvement in design and manufacture. Hence, we reserve the right to change specifications and design without notice.

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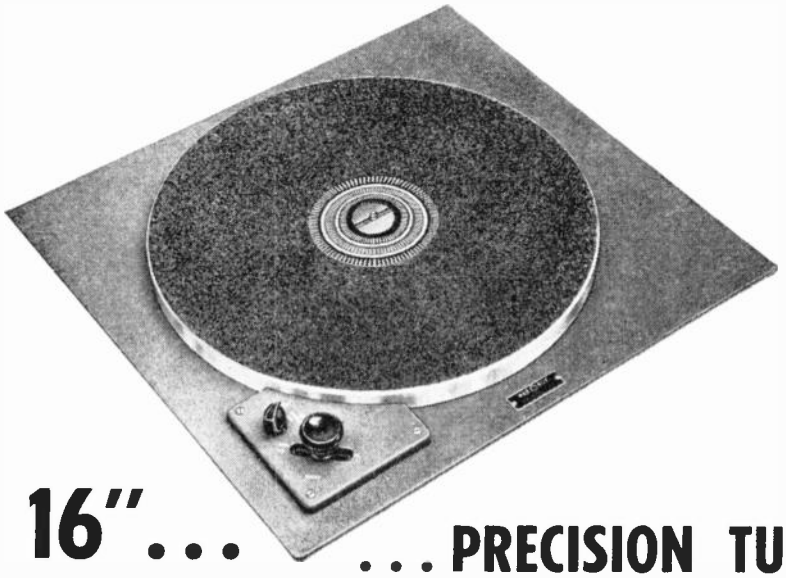
World Radio History

# REK-O-KUT COMPANY

*Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.*



# 16"... ...PRECISION TURNTABLE

## The MODEL B-16H *3 Speeds*

Offers the broadcaster and recording studio the finest professional performance at the lowest cost. The turntable itself is precision lathe-turned, non-magnetic, cast aluminum — dynamically balanced — and with an extra-heavy rim for effective flywheel action. Turntable diameter is standardized at 15¾ inches to allow a ⅛-inch overhang for cueing. It is internally rim-driven by means of neoprene compound idlers. All inter-moving parts are case-hardened and ground to a micro finish. Rotates on a single-ball pivot which takes the entire thrust of the turntable shaft.

Extremely low distortion has been achieved through effective acoustical damping — through special attention to motor bearings, motor suspension, idler design, concentricity of pulleys and all the other elements essential to smoothness, quiet and overall quality of performance. Rumble, wow and flutter and speed regulation are well within NARTB standards. Requiring no more than routine maintenance, all parts are readily and easily accessible.

### SPECIFICATIONS:

**SPEEDS:** 33⅓, 45 and 78 rpm.

**SPEED SELECTION:** Mastermatic, self-locking, instantaneous shift. Engages either idler without stopping turntable or removing disc.

**STARTING:** From standing start to operating speed —
at 78 rpm. ..... ¾ turn
at 33⅓ and 45 rpm ..... ¼ turn

**MOTOR:** Self-lubricating, custom-built hysteresis synchronous.

**NOISE LEVEL:** 50 db below average recording level.

**45 RPM HUB:** Built-in — retractable — requires no external adapter.

**STROBE DISC:** Permanently affixed — permits instantaneous checking of all speeds.

**CHASSIS DECK:** Radial-ribbed aluminum casting. Designed for flush mounting in rectangular cut-out. PRE-DRILLED: For ready mounting of Rek-O-Kut Turntable Arm Model 160.

**DIMENSIONS:** 18¾" x 20". Fits existing consoles and cabinets with slight modification.

**CLEARANCE REQUIRED:** Above Deck — 1½". Below deck — 6½".

**FINISH:** ..... Wrinkle gray.

**SHIPPING WEIGHT:** ..... 34 pounds.

NET PRICE **$250.00***

### CONSOLE CABINET

*for B-16H & other REK-O-KUT Turntables*

Designed to accommodate the B-16H Turntable without the use of either screws or bolts. Floats on felt. Has 2 storage compartments and piano-hinged doors with flush ring-latches. Includes built-in electrical outlet and adjustable leveling domes. Metallic gray finish. Dimensions: 33" high x 22" wide x 20½" deep.

MODEL C-7B NET PRICE.... **$115.00***

Shipping weight: 65 lbs.

Identical to C-7B but with the addition of a ¾" motor board to accommodate various REK-O-KUT turntables.

MODEL C-7BT NET PRICE... **$124.95***

Shipping weight: 70 lbs.

**NOTE:** All Rek-O-Kut Turntables are supplied for 110-120 volt, 60-cycle AC operation. Available in other voltages and frequencies at additional cost.

*All prices slightly higher West of Rockies.

The policy of Rek-O-Kut Co., Inc. is one of continual improvement in design and manufacture. Hence, we reserve the right to change specifications and design without notice.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World Radio History

# REK-O-KUT COMPANY

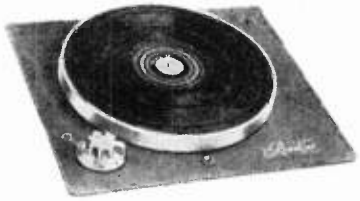
***Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.***

## 12" PRECISION TURNTABLES

### RONDINE

**Model B-12H 3 Speeds**

The aristocrat of the RONDINE Series. As a record reproducing device, it represents the closest approach to perfection ever attained.



#### SPECIFICATIONS:

**NOISE LEVEL:** Better than 57 db below average recording level.
**MOTOR:** Self-lubricating, custom-built HYSTERESIS SYNCHRONOUS.
**SPEEDS:** 33-1/3, 45 and 78 rpm.
**SPEED SELECTION:** Single selector knob. Switching to speed position starts motor. Setting to 'off' position adjacent to speed shuts off motor and disengages idler.
**STROBE DISC:** Permanently affixed — permits instantaneous checking of all speeds.
**45 RPM HUB:** Built-in — retractable — requires no external adapter.
**PILOT LIGHT:** Jewelled neon light acts as 'on/off' indicator.
**CHASSIS DECK:** Cross-ribbed cast aluminum. Designed for flush-mounting in rectangular cut-out.
**MINIMUM DIMENSIONS FOR CABINET INSTALLATION:** Left to Right 17¾"; Front to Back 16"; Height above Deck 3"; Height below Deck 6½".
**TURNTABLE:** Solid Cast Aluminum-Lathe Turned.
**FINISH:** .....Silvertone Aluminum
**SHIPPING WEIGHT:** .....19 lbs.

NET PRICE **$129.95***

### *NEW* RONDINE

**Model B-12GH 3 Speeds**

All specifications are identical to the B-12H with the following exceptions:
**NOISE LEVEL:** 53 db.
**MOTOR:** New design, self-lubricating, HYSTERESIS SYNCHRONOUS.

NET PRICE **$99.95***

### RONDINE

**Model B-12 3 Speeds**

All specifications are identical to B-12H with the following exceptions:
**NOISE LEVEL:** 50 db below average recording level.
**MOTOR:** Induction — 4-pole built to REK-O-KUT specifications.

NET PRICE **$84.95***

### *NEW* RONDINE Model N33H

**NOISE LEVEL:** 53 db below average recording level.
**MOTOR:** New design, self-lubricating, Hysteresis Synchronous with special winding for reduction of coasting.
**CHASSIS DECK:** 15⅞ x 15 Aluminum.
**SPEED:** 33-1/3 RPM.
**BELT:** Special endless woven fabric with thickness held to micrometer tolerances. Adjustable tension for noise level control.

### Single Speed Belt Drive

**STROBE DISC:** Permanently affixed—permits instantaneous checking of speed.
**MINIMUM DIMENSIONS FOR CABINET INSTALLATION WITH REK-O-KUT S-120 ARM:** 17¾ x 16⅜.
**TURNTABLE:** Solid Cast Aluminum Lathe Turned; Tapered for easy disc handling.
**FINISH:** Charcoal Grey & Two-tone Aluminum.

NET PRICE **$69.95***

### RONDINE *Jr.*

**Model L-34: 33⅓ & 45 rpm**
**Model L-37: 33⅓ & 78 rpm**

#### SPECIFICATIONS:

**NOISE LEVEL:** 40 db below average recording level.
**MOTOR:** Induction — 4-pole — built to Rek-O-Kut specifications.
**SPEEDS:** Model L-34 — 33-1/3 and 45 rpm; Model L-37 — 33-1/3 and 78 rpm.
**SPEED SELECTION:** Slide shift with intermediate 'off.' Locks in either speed position.
**STROBE DISC:** Permanently affixed — permits instantaneous checking of both speeds.
**45 RPM HUB:** Built-in — retractable — requires no external adapter on L-34.
**MINIMUM DIMENSIONS FOR CABINET INSTALLATION:** Left to Right 16½"; Front to Back 16½"; Height above Deck 3"; Height below Deck 5¼".
**TURNTABLE:** Solid Cast Aluminum Lathe Turned.
**FINISH:** .....Silvertone Aluminum
**SHIPPING WEIGHT:** .....15 pounds

NET PRICE **$59.95***

## 12 and 16-inch STEREO TONE ARMS

Both arms are identical in design and construction except for length and offset angle. Non-ferrous metal alloys are used throughout.

#### SPECIFICATIONS and FEATURES:

- Tubular Arm Body
- Interchangeable cartridge shell secured to arm body by bayonet lock
- Silver-plated, spring-loaded pin terminals establish positive contact between shell and arm.
- Shells accommodate all standard cartridges.
- Arm resonance well below audible band.
- Adjustable for turntable height.
- Dual, ball bearing races for horizontal movement.
- Vertical movement pivots in 1mm. chrome-steel ball bearings.
- Stylus pressure adjusted by means of self-locking, threaded counterweight.
- Dual-function arm rest clamps and secures arm when not in use.

NET PRICES

MODEL S-120 for records up to 12" **$27.95***
MODEL S-160 for records up to 16" **$30.95***
Extra Cartridge Shell, Model PS-20.....$5.95 ea.
Note: prices less cartridge

## RONDINE TURNTABLE KIT

**Model K-33**

**Single Speed Belt Drive**

REK-O-KUT quality combines with "do-it-yourself" convenience to produce the first high-fidelity turntable in kit form.

Furnished only in kit form.

**ASSEMBLY TIME:** Approximately 30 minutes with simple tools.
**NOISE LEVEL:** 47 db below average recording level.
**MOTOR:** Induction — 4-pole — built to Rek-O-Kut specifications.
**SPEED:** 33-1/3 RPM.
**BELT:** Special endless woven fabric with thickness held to micrometer tolerances. Adjustable tension for noise level control.
**STROBE DISC:** Permanently affixed — permits instantaneous checking of speed.
**MINIMUM DIMENSIONS FOR CABINET INSTALLATION WITH REK-O-KUT S-120 ARM:** 17¾x16⅜.
**TURNTABLE:** Solid Cast Aluminum Lathe Turned. Tapered for easy disc handling.
**FINISH:** Charcoal Grey and Two-tone Aluminum.

NET PRICE **$39.95***

## RONDINE TURNTABLE BASES

For B-12, B-12GH and B-12H (16½"x17"x6") with S-120 Arm.

Model RW, American Walnut.....**$26.95***
Model RK, Blonde Korina.....**$28.95***

For L-34 & L-37 (16½"x17"x4½") with S-120 Arm.

Model LW, American Walnut.....**$26.95***
Model LK, Blonde Korina.....**$28.95***

For B-12, B-12GH and B-12H (21"x17½"x6") with S-160 Arm.

Model RW-16, Walnut.....**$32.95***
Model RK-16, Korina.....**$35.95***

**SHIPPING WEIGHTS:** Models L & R Bases...10 lbs.
16" Bases .....13 lbs.

The policy of Rek-O-Kut Co., Inc. is one of continual improvement in design and manufacture. Hence, we reserve the right to change specifications and design without notice.

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# Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

**The** *Radio-Electronic* **MASTER**

World Radio History

# Garrard

**World's finest record players**

## ALL GARRARD RECORD PLAYERS ARE WIRED FOR STEREO AND MONAURAL RECORDS

**RC98**—"Crown II" 4-Speed Super-Auto · Manual Changer, less cartridge, 100/130 volts, 60 cycles A.C. (50 cycle pulley available).
**RC98/GE**—Same as RC98 but has GE cartridge with Sapphire styli.
**RC98/GED**—Same as RC98 but has GE cartridge with Diamond/Sapphire styli.

**RC88** — "Triumph II" Deluxe 4-Speed Auto-Manual Changer, less cartridge, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
**RC88/GE** — Same as RC88 but has GE cartridge with Sapphire styli.
**RC88/GED**—Same as RC88 but has GE cartridge with Diamond/Sapphire styli.

**Model 301**—"Professional" Transcription Turntable, 100/130, 200/250 volts, 60 cycles A. C. (50 cycle pulley available).
**M301** — Unfinished 2-piece mounting board, takes any 12" or 16" arm, with spirit level indicator.
**B301E** — 2-piece wood base, takes any 12" or 16" arm, with spirit level indicator and adjustable feet. In Ebony, Mahogany and Walnut finishes.

**NEW!**
**RC121/II** -4-Speed Auto · Manual · Intermix Changer. Garrard's most compact, most economical high fidelity changer. Less cartridge, 100/130 or 200/250 volts, 60 cycles A.C (50 cycle pulley available).
**RC121/II/GE**—Same as RC121/II. but has GE cartridge with Sapphire styli
**RC121/II/GED**—Same as RC121 II but has GE cartridge with Diamond/Sapphire styli.

**Model TmK II** — "Crest" 4-Speed Manual Player, less cartridge, 100/130, 200/250 volts, 60 cycles A.C. (50 cycle pulley available).
**TmK II/GE** — Same as Model Tmk II but has GE cartridge with Sapphire styli.
**TmK II/GED** — Same as Model TmK II but has GE cartridge with Diamond/Sapphire styli.

Garrard accessories include bases, motor boards, carrying cases.

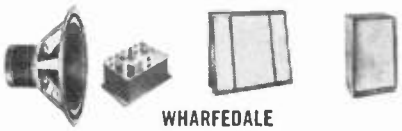
**STYLUS PRESSURE GAUGE** — Accurately measures the weight exerted by a stylus upon a record. Use with any tone arm, any pickup.

**NEW!**

Model 4HF Deluxe 4-speed manual transcription player. 12" heavy-duty turntable, variable + or — speed adjustment. Professional tone arm with plug-in universal shell.
**4HF/GE**—Same as 4HF but has GE cartridge with Sapphire styli.
**4HF/GED**—Same as 4HF but has GE cartridge with Diamond/Sapphire styli.

**LEAK AMPLIFIERS**
**TL/50 PLUS**—0.1% dist. at 50 watts
**TL/25 PLUS**—0.1% dist. at 25 watts
**TL/12 PLUS**—0.1% dist. at 12 watts
**NEW! "STEREO 20" and "STEREO 50" Amplifiers**

**LEAK PREAMPLIFIERS**
**Varislope III**—Features exclusive filter and slope control with turnover infinity adjustable.
**"POINT ONE PLUS"**—Features 6 position input selector (for 4 record equilization, plus tuner and tape).
**NEW! "STEREO POINT ONE" Preamplifier and FM Tuner**



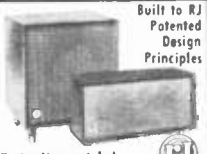
**WHARFEDALE**

**Designed & built under the direction of G. A. Briggs**

**SPEAKERS**

**Super 3-3"** treble speaker
**Super 8/FS/AL-8"** full range (also for use as tweeter).
**W10/FSB**—10" full range
**Super 12/FS/AL** — 12" full range.
**W12/FS**—12" low frequency driver.
**W15/FS**—15" low frequency driver.
1000 cycle crossover.
3000 cycle crossover.
3 way crossover (800 & 500 cycles).

**ENCLOSURES AND READY TO PLAY SYSTEMS**
**SFB/3**—Custom 3-way system, sand filled baffle.
**SFB/3**—Deluxe 3-way system, sand filled baffle.
**W/AF/1** — Acoustic-filter 2-Speaker system with 10" woofer.
**W/AF/2** — Acoustic-filter 2-Speaker system with 12" woofer.
**AF/10/CAB** — Acoustic-filter enclosure for 10" speaker.
**AF/12/CAB** — Acoustic-filter enclosure for 12" speaker.
**C-500**—"Briggs" 3-way corner enclosure.
**C-500**—Deluxe "Briggs" 3-way corner enclosure deluxe style.



Built to RJ Potented Design Principles

Entire line restyled—

**RJ ENCLOSURES**
**RJ/8**—Single shelf model for 8" speaker. 11" H x 10" D x 23½" L.
**RJ/12-S** — Double shelf model for 12" speaker. 24" H x 10" D x 21" L.
**RJ/12-F**—Floor model for 12" speaker. Tapered legs with brass ferrules. 20" H x 16" D x 20" L.
**RJ/15** — Floor model for 15" speaker. Tapered legs with brass ferrules. 20" H x 16" D x 20" L.
**RJ/Super 8**—RJ/8 enclosure with Wharfedale Super 8/FS/AL installed.

**Available in unfinished Birch Hardwood and in Mahogany, Walnut or Blonde RJ custom finishes.**

**RIVER EDGE CUSTOMIZED CABINETS AND DO-IT-YOURSELF KITS**
Equipment and loudspeaker cabinets, crafted of fine woods, meticulously finished; made to hold components of all manufacturers. Panels and pull-out drawers factory pre-cut for easy installation.

**BRITISH INDUSTRIES CORPORATION - PORT WASHINGTON, N. Y.**

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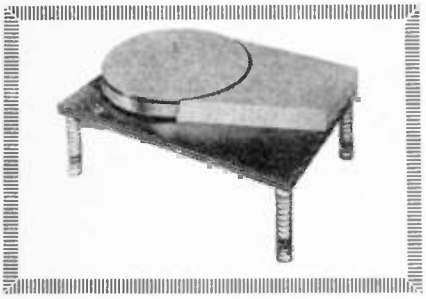
# PROFESSIONAL TURNTABLES and ACCESSORIES by COMPONENTS



### MODEL PBT4 — 4 SPEED PROFESSIONAL TURNTABLE

The Professional PBT turntables are designed for the finest turntable performance available. They are shock mounted and have a 25 pound turntable.

*Specifications:*
*Noise Level:* Better than 70 db below average recording level.
*Motor:* Precision Bodine constant speed two phase capacitor run induction motor.
*Speeds:* 16⅔; 33⅓; 45; 78 rpm
*Speed Accuracy:* ¼ of 1%
*Wow and Flutter:* 1/20 of 1%
*Dimensions:* 13½" x 19½" x 8½"
*Shipping Weight:* 45 lbs.
Blonde or Mahogany Audiophile Net: **$109.50**

### MODEL PBT — 3 SPEED PROFESSIONAL TURNTABLE

*Specifications:*
*Noise Level:* Better than 70 db below average recording level.
*Motor:* Precision Bodine constant speed two phase capacitor run induction motor.
*Speeds:* 33⅓; 45; 78 rpm
*Speed Accuracy:* ¼ of 1%
*Wow and Flutter:* 1/20 of 1%
*Dimensions:* 13½"x19½"x8½"
*Shipping Weight:* 45 lbs.
Blonde or Mahogany Audiophile Net: **$99.50**

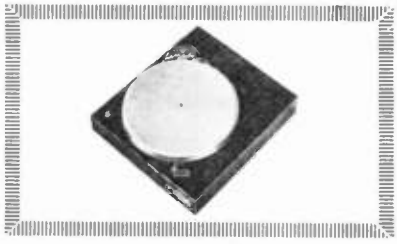
**BELT-DRIVEN**

### PROFESSIONAL DUO-SPEED TURNTABLE

An extremely fine two-speed turntable engineered to the quality standards of the Professional line.

*Specifications:*
*Speed Control:* Positive action lever. Does not touch belt except during change of speed.
*Noise Level:* Better than 65 db below average recording level.
*Motor:* 4-pole, constant speed motor with special magnetic shielding.
*Speeds:* 33⅓ and 45 rpm or 33⅓ and 78 rpm
*Speed Accuracy:* ½ of 1%
*Wow and Flutter:* less than 1/10 of 1% r.m.s.
*Dimensions:* 12" x 12" x 3½"
*Shipping Weight:* 9 lbs.

Model 45: for 33⅓ and 45 rpm, features pop up 45 center, Audiophile Net: **$49.50**
Model 78: for 33⅓ and 78 rpm. Audiophile Net: **$49.50**



**BELT-DRIVEN**

### PROFESSIONAL JUNIOR TURNTABLE

While the Junior is basically a single speed turntable, pulleys are easily interchanged permitting operation at all 4 speeds.

*Specifications:*
*Noise Level:* Better than 60 db below average recording level.
*Motor:* Constant speed 4 pole induction motor.
*Speeds:* 33⅓ standard, also 16⅔; 45; 78 rpm available
*Speed Accuracy:* ½ of 1%
*Wow and Flutter:* Under ¼ of 1%
*Dimensions:* 12" x 12" x 3½"
*Shipping Weight:* 9 lbs.

Audiophile Net: **$39.50** — extra pulleys **$2.50 each**

### POWER CORD SET — TYPE LCP

An easy to use, do-it-yourself power cord set. Installs with a screwdriver and pair of pliers. Contains 9 ft. cord, toggle switch, click suppressor filter, nylon strain relief, two wire nuts, turntable mounting screws. Audiophile Net: **$4.50**

### TURNTABLE BASES

#### JUMBO BASE

For Duo-Speed and Junior Turntables — cut out for turntable and drilled for power switch.
*Dimensions:* 15" x 15" x 3"
*Shipping Weight:* 3½ lbs.
*Finish:* Blonde or Mahogany
Audiophile Net: **$10.00**

#### DELUXE WALNUT BASE

For Duo-Speed and Junior Turntables — cut out for turntable and drilled for power switch.
*Dimensions:* 14½" x 16¼" x 3"
*Shipping Weight:* 4 lbs.
*Finish:* Hand Rubbed Walnut
Audiophile Net: **$16.50**

### TEST RECORDS

Six Professional test records are now available to test your turntable, stylus and pickup.

No. 1106 Wow! and Flutter, Too! Wow and Flutter Test.

No. 1107 How's Your Stylus? Stylus Wear Test.

No. 1108 Quiet Please! Turntable Rumble Test.

No. 1109 Tracking Special. Pick-up Arm Resonance Test.

No. 1110 Vertical/Lateral Response. Pickup Response Test.

No. 1111 What? No Hum? Location and Cure of Hum.

**—89c each**

## COMPONENTS
**CORPORATION**
**DENVILLE, NEW JERSEY**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World Radio History

# PRESTO RECORDING CORP.

# RECORDING DISCS STYLI

## PRESTO RECORDING DISCS

| | Type Number | Overall Thickness in Inches | Diameter in Inches | List Price |
|---|---|---|---|---|
| **MASTERS** | | | | |
| PRESTO MASTERS represent the ultimate development in the art of recording disc manufacturing. Every step of their production is carefully checked, and the final inspection is one of the most rigorous in the industry. Over twenty-five years of experienced leadership assures you of the finest possible cutting and plating characteristics. Proof of quality and reliability lies in the continued insistence by leading studios on MASTERS by Presto. Single side MASTERS are identical to double side, except that only one side is warranted perfect. Specify if drive hole is desired. Separate envelopes are provided on request. Shipped with spacers between discs in wood crate or time proved Presto Pak. | | Double Side | | |
| | 620A | .050 | 10 | $2.50 |
| | 621A | .050 | 11⅞ | 3.20 |
| | 623A | .050 | 13¼ | 4.05 |
| | 626A | .050 | 16 | 5.95 |
| | 627A | .064 | 17¼ | 6.95 |
| | | Single Side | | |
| | 820B | .050 | 10 | 1.95 |
| | 821B | .050 | 11⅞ | 2.50 |
| | 823B | .050 | 13¼ | 2.95 |
| | 826B | .050 | 16 | 4.70 |
| | 827B | .064 | 17¼ | 5.10 |
| **GREEN LABEL** | | | | |
| GREEN LABEL recording discs are of the same high quality as Presto MASTERS. They are ideal for the most critical recording purposes. Both sides are warranted flawless. GREEN LABELS differ from MASTERS in that 3 drive holes are provided as well as an embossed green label. The exclusive GREEN LABEL seal is your guarantee of complete satisfaction. Separate envelopes are provided. Shipped with spacers between discs in the user approved Presto Pak carton. | 610A | .040 | 10 | 1.55 |
| | 611A | .050 | 11⅞ | 2.55 |
| | 616A | .050 | 16 | 4.60 |
| **BROWN LABEL** | | | | |
| BROWN LABEL recording discs represent a real saving when a disc is desired of GREEN LABEL quality, but where only one perfect side is required. The "second" side is usually suitable for test cuts, reference recordings, etc. BROWN LABELS are identified by an embossed brown seal and are packed with spacers between each disc in the full protection of the Presto Pak carton. Separate envelopes are provided. | 810B | .040 | 10 | 1.30 |
| | 811B | .050 | 11⅞ | 2.00 |
| | 816B | .050 | 16 | 3.70 |
| **WHITE LABEL** | | | | |
| WHITE LABEL recording discs offer an opportunity for savings when full GREEN LABEL quality is not required. They are excellent for test cuts, reference recordings, playbacks or better quality amateur recording. The same quality lacquer and aluminum base material used in GREEN LABELS and MASTERS is used in the making of WHITE LABELS. A white embossed seal identifies this "best-buy" disc. They are packed with spacers separating the discs, plus separate envelopes in the sturdy Presto Pak carton. Available in limited quantities. | 510A | .040 | 10 | 1.30 |
| | 511A | .050 | 11⅞ | 2.00 |
| | 516A | .050 | 16 | 3.70 |
| **ORANGE LABEL** | | | | |
| ORANGE LABEL—the same quality lacquer used in the finest Presto discs is also used for ORANGE LABELS. However a lighter gauge aluminum base is utilized. This combination provides excellent recording quality at reasonable cost. ORANGE LABELS are popular with schools, amateur recordists, and studios where cost is an important factor, but where quality cannot be sacrificed. Distinctive Orange paper labels are attached. Records are in individual envelopes inside the strong shipping cartons. | 306A | .035 | 6½ | .50 |
| | 308A | .035 | 8 | .75 |
| | 310A | .035 | 10 | 1.05 |
| | 311A | .040 | 11⅞ | 1.55 |

## PRESTO RECORDING STYLI

| | Type Number | Size | Shank Length | List Each |
|---|---|---|---|---|
| **DURAL SHANK SAPPHIRE** | | | | |
| DURAL SHANK SAPPHIRE cutting needles complement the high quality of Presto recording discs. Discriminating recordists have found them to make consistently quiet cuts with excellent polishing characteristics. Careful and skilled workmanship to rigid specifications plus individual testing is your assurance of quality. 87° included angle is standard, 70° is available on special order. Available with long shank for Presto 1-D recording head, or short shank for all other recorders. With care, sapphires can be used for many hours before resharpening is required. | 603A | Standard | Short | $8.25 |
| | 603M | Micro | Short | 8.25 |
| | 604A | Standard | Long | 8.25 |
| | 604M | Micro | Long | 8.25 |
| **RESHARPENING SAPPHIRE — DURAL SHANK** | | | | 3.75 |
| **BRASS SHANK SAPPHIRE** | | | | |
| BRASS SHANK SAPPHIRE cutting needles can be utilized where extended high frequency response is not required. They are popular with schools and home recordists. 87° included angle. Not available for microgroove. Resharpening service available. Life expectancy similar to dural shank. | 320A | Standard | Short | 6.60 |
| | 321A | Standard | Long | 6.60 |
| **RESHARPENING SAPPHIRE — BRASS SHANK** | | | | 3.25 |
| **STELLITE** | | | | |
| STELLITE Needles produce a clean quiet cut, but are limited to a few hours of life. They are particularly suited to home or student applications where tip breakage of the more costly sapphires could be a problem. 87° included angle. Resharpening service available. Recording life limited to several hours. | 330A | Standard | Short | 2.50 |
| | 331A | Standard | Long | 2.50 |
| **RESHARPENING STELLITE** | | | | 1.40 |
| **STEEL** | | | | (pkg. of 3) |
| STEEL cutting needles are produced with the same care as other Presto needles but because of the material used, do not have the extended range or long life of the more expensive types. The ruggedness of steel needles makes them ideal for beginners where cost is important. Cannot be resharpened. 15 to 30 minute life. | 350A | Standard | Short | 1.00 |
| | 351A | Standard | Long | 1.00 |
| | | | | (12 pkgs.) |
| | 350B | Standard | Short | 12.00 |
| | 351B | Standard | Long | 12.00 |

## PLAYBACK NEEDLES

| | Type | Size | List Price |
|---|---|---|---|
| **SAPPHIRE** | | | |
| SAPPHIRE playback needles are the finest obtainable for replaceable needle reproducers. Excellent fidelity and long wear are a result of extreme care in manufacture. Dural shank. | 420A | Standard | 1.25 |
| **TRANSCRIPTONE** | | | |
| TRANSCRIPTONE playback needles are made from an extremely hard steel alloy. These unbreakable needles are useable for several hours of playing time without excessive wear. | 430A | Standard | 1.00 |

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World Radio History

# PRESTO RECORDING CORP.

## PROFESSIONAL TAPE AND DISC EQUIPMENT

# NEW 2-speed disc recorder ... the 66-H by PRESTO

**Now, a precision disc recorder with perfect total speed regulation, on both 33⅓ and 45 rpm, plus provision for 78 rpm. Includes famous PRESTO dual motor gear drive and PRESTO 1-D cutter. A very economical unit of extremely high quality. Overhead mechanism is same as that on the renowned PRESTO 6N recorder.**

The 66-H is the simplest type of very high quality gear driven recording equipment. It is an ideal unit for broadcast station or recording studio, where quality must be maintained. The Presto dual motor direct gear drive gives 100% perfect program timing. The 1-D cutting head has flat response between 50 and 12,000 cycles per second, plus ample output to assure an excellent signal-to-noise ratio. Accessories such as pickups, equalizers, and microscopes can be added to the 66-H if desired. Engineers appreciate the 66-H design because of the minimum amount of maintenance needed and perfect speed regulation. Presto amplifiers are designed especially for recording and are of unusually high quality. The type recommended for use with the 66-H recorder is the A93, 30 watt, rack mounting unit. Other types, if desired, will also give complete satisfaction.

**66-H Disc Recorder** ..... **List, $1930.50**
**TA-6 Adaptor for 78 rpm** ..... **List, 214.50**

**SPECIFICATIONS**

**Frequency range of 1-D cutter:** 50 to 12,000 cps. **Cutting head impedances:** 15 or 500 ohms. **Turntable speeds:** 33⅓ and 45 rpm. 78 rpm optional with TA6 adapter. **Motors:** two, 117 volt 60 cycle 1800 rpm synchronous. 220 volt 50 cycle units available. **Speed regulation:** zero deviation from 33⅓ and 45 rpm. **Noise:** better than 50 db below program level. **Cabinet:** Heavy hardwood cabinet finished in two-tone grey. **Feedscrews:** Standard: 112 LPI outside-in. Microgroove: 224 LPI outside-in. Other pitches and direction available. **Weight:** packed, 269 lbs.—net, 200 lbs. **Dimensions unpacked:** 25½" wide x 24½" deep x 38½" high.

# 64-B TRANSCRIPTION TURNTABLE

The Presto 64-B transcription turntable is designed especially for broadcast station transcription and record reproduction. Its drive mechanism is unique in that it is directly gear driven at both 33⅓ and 45 rpm. A separate motor is employed for each speed and there is no mechanical speed shift whatsoever. This type of construction produces a mechanism which always operates at the correct speed and requires no adjustment of any sort. The mechanical construction is very heavy, insuring unusually long life under continuous operation.

Seventy-eight rpm may be added by the installation of a third motor which drives through a rubber idler against the mechanical filter of the main drive system.

**64-B Transcription Turntable** ..... **List, $1023.00**
**TA-5 Adaptor for 78 rpm** ..... **List, 214.50**

**SPECIFICATIONS—Mechanical Noise:** 50 db below average program level. **Speed Regulation:** Overall variations none, instantaneous variation 0.25%. **Power Requirements:** 115 volts, 60 cycles (50 cycles available), 0.75 amp. **Dimensions:** 24" x 24" x 33".


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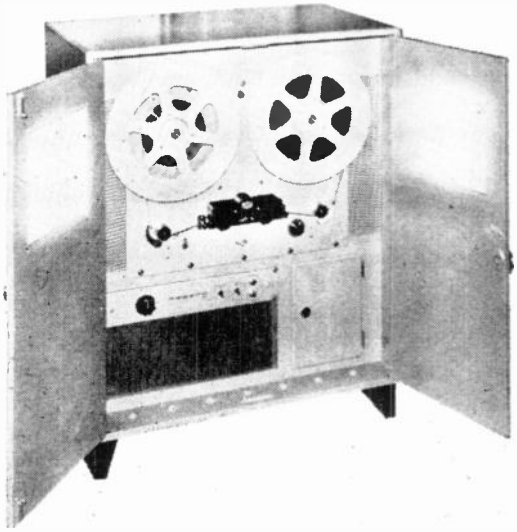
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# PRESTO RECORDING CORP.

# PROFESSIONAL TAPE AND DISC EQUIPMENT



## PB-17C TAPE REPRODUCER

The Presto PB-17C unit is a dual-track, reversing magnetic tape reproducer designed for use by wired music services, industrial plants, and other organizations where a constant source of background music is desired. This unit provides automatic, continuous repetition of previously taped program material at a tape speed of 3¾" per second (7½ ips optional) with a frequency response of 50 to 7500 cycles per second.

The PB-17C uses a 14" diameter reel with a total playback time of eight hours.

The PB-17C may be furnished for vertical rack mounting or supplied for vertical operation in CC-7 console cabinet. The mechanism is designed for use with the Presto A-909 preamplifier (shown in console).

**PB-17C Tape Reproducer (chassis only)** ..... **List, $785.50**
**A-909 Preamplifier** ..... **List, $132.00**
**CC-7 Console** ..... **List, $201.25**

### SPECIFICATIONS

TAPE—**Tape Used:** Standard ¼" dual track, prerecorded at 3¾" per second. **Tape Speed:** 3¾" per second (7½ ips optional). **Playing Time:** (14" dia. reel, 4,800 ft. tape length): One track—4 hrs., Both tracks—8 hrs. PERFORMANCE (When used with Presto A-909 Preamplifier)—**Frequency Response:** ±2 db from 50 to 7500 cps. **Signal-To-Noise Ratio:** Better than 45 db. **Flutter and Wow** (Speed Variation): Not more than 0.35%. **Power Requirements:** 115 volts, 60 cycles, single phase. Transport—190 watts, A-909 Preamplifier—35 watts. DIMENSIONS: Overall size, 19" wide x 24½" high x 10" deep.

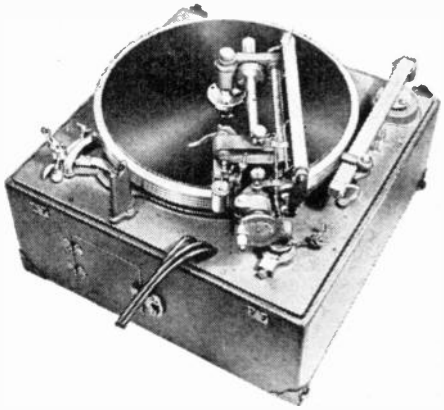
## 6-N 3-SPEED DISC RECORDER

**33⅓, 45, 78 R.P.M.**

The Presto 6-N recorder is the ideal unit for high quality work under all conditions calling for either a portable or a stationary recorder. Broadcasting stations for a decade have found the 6-N to be an ideal and economical mechanism for master work, delayed programs, and local program recording. Standard equipment includes the Presto 1-D cutting head, spiraling feedscrew, vertical damper, time scale, and lateral reproducer. 33⅓, 45 and 78 R.P.M.

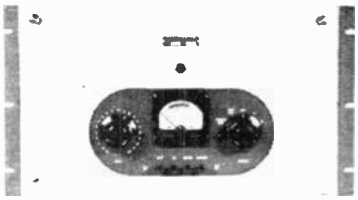
For portable use the 6-N is unusually sturdy. The entire overhead mechanism can be dismounted and secured in a special compartment in the side of the carrying case.

**6N-S Disc Recorder (with 1-D cutting head; 1 standard feedscrew)** ..... **$1283.50**
**6N-M Disc Recorder (with 1-D cutting head; 1 microgroove feedscrew)** ..... **$1283.50**
**6N-SM Disc Recorder (with 1-D cutting head; 1 each microgroove and standard feedscrews)** ..... **$1360.00**
**Carrying Case Extra.**



### SPECIFICATIONS

**Frequency Response:** 50-10,000 cps. **Mechanical Noise:** 40 db below average program level. **Impedances:** 1-D cutting head, 500 or 15 ohms (specify which). Reproducer output, 500 ohms. **Feedscrew Pitches available:** 96, 112, 120, 136, also 224 microgroove (specify which). **Speed Regulation:** Overall 0.5%, instantaneous 0.25%. **Power Requirements:** 115 volts, 60 cycle—0.6 amp. (50 cycles available). **Dimensions:** In carrying case, 20¼" x 20" x 15". **Weight:** In carrying case, 82 lbs.



## A-93 DISC RECORDING AMPLIFIER

The Presto A-93 is a power amplifier primarily intended for disc recording purposes.

**A-93 Disc Recording Amplifier** ..... **List, $387.00**

1. Pushbutton control provides choice of frequency response.
2. Provision for Radius Equalizer to compensate for changing diameter of disc.
3. Rated output of 30 watts assures ample reserve for recording.
4. Harmonic distortion is less than 0.3%, intermodulation distortion less than 1%, at normal recording levels.
5. Meter monitors recording level and checks output tube current.

### SPECIFICATIONS

**Input Impedance:** 50, 200, or 500 ohms, line; or 15,000 ohms, bridging.
**Output Impedance:** 8, 15, 250, or 500 ohms.
**Power Gain:** Line input, 83 db; bridging input, 68 db.
**Signal-to-Noise Ratio:** Better than 55 db at normal record level.
**Frequency Response:** ±1 db from 20 to 17,000 cps.
**Tube Complement:** Two each 807 and 6SN7; one each 12AX7, 5U4G, and OA2.
**Dimensions:** 10½" x 19" x 10¾" deep.
**Weight:** 72 lb. gross; 40 lb. net.
**Power Input:** 115 volts, 50/60 cycle, 135 watts.

**PRESTO EXPORT: 25 Warren Street, New York 7, N. Y. • Cable: SIMONTRICE**
**PRESTO IN CANADA: Instantaneous Recording Service, 42 Lombard St., Toronto, Ontario**

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World Radio History

Here's a new hi-fi turntable that works on an absolutely new principle—The Thorens "Roto-Drive," actually two turntables in one — *to give the lowest flutter, wow and rumble of any 12″ turntable with equal or less moment of inertia* . . . Performance far exceeds broadcast standards for wow, flutter and rumble . . . exceeds that of turntables with hysteresis synchronous motors. What's more, the TD-124 gives you a truly outstanding combination of features. Check them!

✳ Continuously running, heavy 10-lb. rim-concentiated cast-iron lower table or fly wheel that—
1. Provides high inertia (3 times as heavy as aluminum; outweighs 16″ aluminum turntables).
2. Completely shields pickup from strong hum fields.

✳ Light aluminum cover table with attractive mat that—
1. Forms precision rotating surface.
2. Allows fast starts and stops (¾ rev. max.)
3. Prevents attraction of pickup magnet to flywheel.

✳ Exclusive Thorens clutch instantly joins heavy and light tables, makes starts fast, makes cuing easy. Saves records; you can start turntable *after* you've placed stylus.

✳ Four speeds 16⅔, 33⅓, 45, 78.

✳ Built-in illuminated strobe disc for all speeds.

✳ Plus or minus 3% speed adjustment for all speeds.

✳ Built-in turntable level for easy leveling.

✳ Built-in knurled leveling screws accessible from top of unit.

✳ Easily detached, standard 12″ arm mounting board. (16″ board available as accessory.) You can change arms without leaving unsightly marks.

✳ Shock-mounted "Roto Drive" motor is completely vibration isolated by limp, extremely compliant belt drive, plus large idler.

✳ Easy to mount, only 2¾″ clearance required below mounting board. Top surface requires 15 ½″ x 12 ⅞″ with 12″ arm mounting board; 18″ x 12 ⅞″ with 16″ board. (NOTE: These are minimum dimensions; arms with rear overhang may require slight additional space allowance.)

✳ Comes with power line cord, shielded pickup cable and solder plate.

✳ May be used on 50 or 60 cycle alternating current. 100-120, 125-150, and 200-250 volts. Easy to change over.

HI-FI COMPONENTS • LIGHTERS • SPRING-POWERED SHAVERS • MUSIC BOXES

THORENS FULL YEAR GUARANTEE SWISS MADE PRODUCTS

**THORENS** SWISS MADE PRODUCTS
NEW HYDE PARK, NEW YORK



World Radio History

**THORENS**
changers
players
turntables

# model CD-43 HI-FI CHANGER

Combines speed constancy, silence and a unique combination of operating features. Plays 12", 10" and 7" records; intermixes 10" and 12"; will replay any record size. Has control for completely manual operation. Includes pause and reject control permitting intermediate record reject plus adjustable pauses between the records on the stack. Automatically shuts off after last record is played.

**$79.95** net.

$59.95 net.

**Model CBA-83 Automatic Player**
turntable performance . . .
automatic operation!

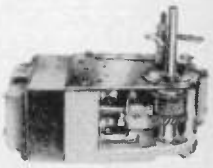
The hand never touches the tonearm. A button for each record size (12", 10", 7") actuates turntable, tonearm lowers into lead-in groove. After play, arm returns and motor shuts off. Has record reject, control for manual operation, condenser to prevent switch noise to speaker. With 2 plug-in shells for all popular cartridges, and 45 rpm adapter.

$48.00 net.

**Model CB-33P Manual Player**
rated with costlier turntables
. . . immediate installation

Has finer-tracking pre-assembled tone arm, with tracking weight and cartridge alignment adjustments. Automatically shuts off at end of record. Condenser switch prevents transmission of switch noise to speaker. Equals the performance of costlier turntables. CB-33P is a "must" for those who want top quality sound at lowest cost.

**Massive Swiss-Precision Direct Drive Motor in CD-43, CBA-83 and CB-33 units! Less rumble, wow and flutter.**



• Huge 4-pole direct drive motor has separate gear for each speed. • Speed selector has integral fine-tuning knob for "exact pitch" adjustment. • Precision gears eliminate undesirable noise or speed variations. • Rugged cast-iron frame and mechanical filter further act to reduce rumble content. • Flyball governor on the electronically-balanced rotor shaft provides freedom from undesirable wow.

**Accessories**

| | | NET |
|---|---|---|
| WB-TD | Wooden base, for TD-124. Finishes: Blond-Mahogany | $9.00 |
| AS-16 | 16" arm mounting board for TD-124. Finishes: Blond-Mahogany-Ebony | 3.40 |
| AS-12 | 12" arm mounting board for TD-124. Finishes: Blond-Mahogany-Ebony (one AS-12 is supplied with each TD-124) | 3.00 |
| MB | Mounting board for CB, CBA & CD units | 3.00 |
| WB-M | Wooden base for CB, CBA & CD units (mahogany) | 6.00 |
| WB-B | Wooden base for CB, CBA and CD units (blond) | 6.00 |
| 45-S | 45 RPM record spindle for CD-43 | 5.95 |
| BTT | Brass turntable for all units, except TD-124 | 7.50 |
| XPX | Extra plug-in shells for tone arm models (black or ivory) | 1.50 |
| STD | Standard spindle for CD-43 record changer | 4.50 |
| THK | Extra thick spindle for CD-43 | 4.50 |

*All prices are subject to change without notice.*

HI-FI COMPONENTS • LIGHTERS • SPRING-POWERED SHAVERS • MUSIC BOXES

THORENS FULL YEAR GUARANTEE SWISS MADE PRODUCT

**THORENS** SWISS MADE PRODUCTS
NEW HYDE PARK, NEW YORK



World Radio History

# WORLD'S FINEST IMPORTED HI-FI EQUIPMENT

## COAXIAL 700 SERIES MARK III

A new series of the famous R & A loudspeakers designed to fill a need for higher fidelity at a reasonable price. 8", 10" and 12" models — all with flux densities of 12,000 Gauss produce sound far in excess of what the modest prices suggest.

| Model | Size | Fundamental Resonance | Handling Power Capacity |
|---|---|---|---|
| 780 | 8" | 80 cycles | 15 Watts |
| 7100 | 10" | 65 cycles | 20 Watts |
| 7120 | 12" | 60 cycles | 25 Watts |

1" VOICE COIL; IMPEDANCE 8 OHMS

## Ferrograph

## WORLD'S FINEST HI-FI TAPE RECORDER

The tape recorded selected by professionals and musicians as the answer to studio quality. Portable and custom types available in dual-speed, twin track models, monaural, stereo both for recording and replay. All instruments feature 3 motors, capstan drive via hysteresis synchronous with heavy duty shaded pole for both rewind and wind-on. Frequency response ± 2 db between 40 and 15,000 cps (at 15 ips). Wow and flutter less than 0.2%.

| | | |
|---|---|---|
| F-100 | FERROGRAPH PROFESSIONAL RECORDER Model 66 N. tape speeds 3.75–7.5 IPS for custom installation | $399.50 |
| F-101 | FERROGRAPH PROFESSIONAL RECORDER Model 3A N. tape speeds 3.75–7.5 IPS portable with inbuilt elliptical speaker | 379.50 |
| F-102 | FERROGRAPH PROFESSIONAL RECORDER Model 3A NH. tape speeds 7.5–15 IPS portable with inbuilt elliptical speaker | 425.00 |
| F-103 | FERROGRAPH PROFESSIONAL RECORDER Model 66/H. tape speeds 7.5–15 IPS for custom installation | 425.00 |
| F-120 | Model 88, tape speeds 7.5–15 IPS. Twin recording amplifiers and twin replay pre-amplifiers terminating in 600 ohms balanced feeds | 595.00 |

*Available with factory installed Ferrodexer, add $20.00*

## Chapman

## GLOBEMASTER

AM
FM
SW

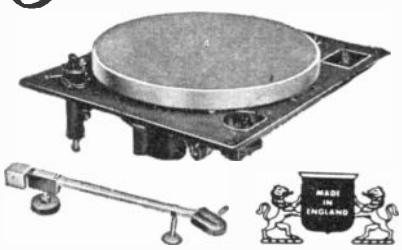
## HI FI TUNER

The only tuner offering drift-free FM with better than 4 MV sensitivity (20 db quieting) plus a superb AM and a world band shortwave tuner. Dual inputs and outputs including cathode follower, tuning eye and 7/10 kc whistle switch. Handcrafted in England to laboratory standards.

**Chassis only, $149.95; finished blonde or mahogany hardwood cabinet, $17.95**

## Connoisseur

## VARIABLE 3-SPEED TURNTABLE



Traditionally fine English quality, non-magnetic 12" lathe-turned table, hysteresis motor. Rumble; better than 50 db down (7 cm/sec. and 500 cps). Wow: less than 0.15% of rated speed. Size 13½" x 15¾". **$110.00**

PICKUP: Frequency Response 20 20,000 cps ± 2 db at 33⅓ rpm; Effective Mass—4 mg; Impedance—400 ohms at 1000 cps.

**"Dynabalanced" tone arm with Mark II super-lightweight pickup with diamond stylus, $49.50; with sapphire stylus, $34.50**

## VITAVOX

## DUPLEX COAXIAL FULL RANGE LOUD SPEAKER

*Made in England*

DU 120 $89.50

Vitavox speakers are designed for only those who are interested in the ultimate in sound reproduction. The frequency response of the DU 120 coaxial has been reported by independent sources as below 25 to above 20,000 cps. Other models including 12 and 15" types, pressure mid/high drivers and matching horns, **from $39.95 to $149.50**

## Dekamix

1958 Model D-100 MARK II

## HIGH FIDELITY RECORD CHANGER

A newly developed model of the already popular intermix record changer. Precision constructed to careful tolerances giving minimum rumble and flutter making possible employment of the new stereo pickups to provide stereo disc reproduction. Heavy duty shaded 4 pole motor, 4 speeds, muting switch and balanced non-magnetic turntable. Acoustically balanced tone arm and jamproof push button operation.

**Changer (less cartridge and plug-in shells), $39.95; Plug-in shells, each $1.50; Ronette crystal cartridge in plug-in shell, $4.50.**

*Made in England*

## BIB TAPE SPLICER

The finest yet simplest splicing device designed insures strong neat joining of recording tape. Constructed of (non-magnetic) heavy chromed brass — supplied on flocked wooden base, easily mounted on all tape recorders. **$3.95**

*Made in England*

## MIRAGRIP RECORD HANDLER

The only safe way to handle records! For safe and easy handling of all records. Prevents fingerprints, scratches and accidental damage. Leaves no marks—does not touch music grooves. Used in many leading broadcasting and record studios and by thousands of private collectors throughout the world. **$4.95**

*Made in England*

## WEARITE DE-FLUXER

***A MUST FOR EVERY TAPE ENTHUSIAST***

Insures maximum signal/noise ratio from any tape recorder; protects valuable recorded tapes from cumulative background noise and attenuation of the upper frequencies; extremely simple to use without removing head screening can; use regularly, maintains Head in perfect condition. **$9.95**

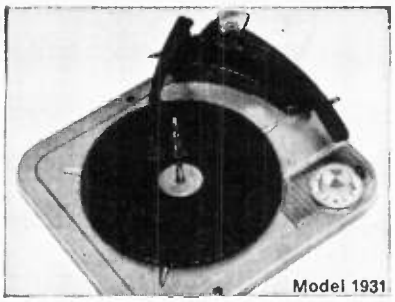
**EXCLUSIVE U. S. REPRESENTATIVE FOR THE BELLING & LEE LINE OF COMPONENTS**

# ERCONA CORPORATION (ELECTRONIC DIVISION) NEW YORK, N. Y.



World Radio History

# NEW! 1959 WEBCOR STEREO-DISKCHANGERS




### Webcor Imperial "Magic Mind" Stereo-Diskchanger

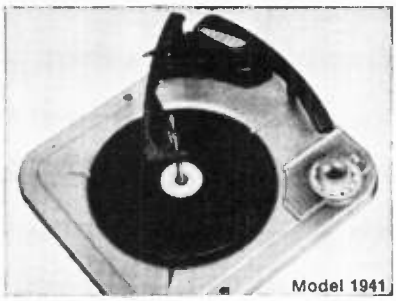
Plays stereo and monaural records. Changes 33 and 45 rpm records stacked in any sequence. Plays all 4 speeds. Has jam-proof mechanism—4-pole dynamically balanced motor—automatic shut-off—top-of-arm stylus pressure adjustment—manual tone arm handle. Stereo-Monaural Selector Switch.

**Model TR-1931-1:** Has ceramic, wide-range Stereo cartridge • Turnover stylii • .7 mil Diamond tip for Stereo and Standard microgroove records • 3 mil Sapphire tip for 78 rpm records • Illuminated speed selector.

**Model TR-1931-21:** Has G.E. magnetic Stereo cartridge .7 mil single Diamond tip for Stereo and Standard microgroove records.

**Model TR-1931-27:** Has two plug-in heads with standard ¼" mounting centers to accommodate most Monaural and Stereo cartridges.

In Golden Beige and Brown.




### Webcor Custom "Magic Mind" Stereo-Diskchanger

Budget-price Stereo-Diskchanger offering most of the exclusive Webcor features. Plays stereo and monaural records. Changes 33 and 45 rpm records stacked in any sequence. Plays all 4 speeds. Has jam-proof mechanism—automatic shut-off. Stereo-Monaural Selector Switch.

**Model TR-1941-1:** Has ceramic, wide-range Stereo cartridge • Turnover stylii • .7 mil Sapphire tip for Stereo and Standard microgroove records • 3 mil Sapphire tip for 78 rpm records.

**Model TR-1941-21:** Has G.E. magnetic Stereo cartridge .7 mil single Sapphire tip for Stereo and Standard microgroove records.

In Golden Beige and Brown.

### Webcor Custom "Magic Mind" Stereo-Diskchanger on Base Pan

Has all features of Model 1941, including ability to play both stereo and monaural records. Changes 33 and 45 rpm records stacked in any sequence. Plays all 4 speeds. Is mounted on a base pan for plug-in operation. Automatic shut-off. Stereo-Monaural Selector Switch.

**Model TS-1942-1:** Has ceramic, wide-range Stereo cartridge • Turnover stylii • .7 mil Sapphire tip for Stereo and Standard microgroove records • 3 mil Sapphire tip for 78 rpm records.

**Model TS-1942-21:** Has G.E. magnetic Stereo cartridge .7 mil single Sapphire tip for Stereo and Standard microgroove records • 3 mil Sapphire tip available for 78 rpm records.

In Golden Beige and Brown.

### CHECK THESE ADDITIONAL WEBCOR FEATURES

**Positive Manual Operation:** Permits manual play of records without activating an automatic change cycle.

**Jam-Proof Mechanism:** Tone arm has "torsion spring" suspension. Permits handling of tone arm at any time without jamming or damaging changer. Automatic retracting idler prevents flat spots on drive wheel.

**Tone Arm:** Adjustable stylus pressure from 5 to 11 grams. Velocity trip changing mechanism prevents lateral pressure on delicate record side walls.

**Needle Guard:** Guard on mainplate protects needle and cartridge if tone arm is accidentally dropped.

**Turntable and Mainplate:** Rubber matted turntable. Mainplate has exclusive "Anti-Rumble Rib" construction to absorb vibrations for negligible rumble. Extra long turntable bearing reduces rumble and wow. Mainplate is spring mounted.

**Installation:** 2 fono cables, 2 stereo pin plugs, and AC power cord and plug included. Template. Operates on 110-120 volts, 60 cycle AC. Easy to install.

### Webcor Stereofonic Tape Deck—Model ED-2950

Monaural record and playback • Stereofonic playback • 3 speeds • Plays 3", 5", 7" reels at 1⅞, 3¾ and 7½ ips • Plays in vertical or horizontal position Power amplifier and 2 pre-amplifiers • 7 tubes incl. rectifier • Pin plug type output jacks • Normal voice frequency at 1⅞ ips—50–10,000 at 3¾—40–15,000 cycles at 7½ ips • Signal to noise ratio— 40 DB • Webcor 4-pole induction type motor • Wow and flutter—less than .4% at 7½ and 3¾ ips Power requirements 110 volts, 60 cycle AC, 80 watts • Height 8", depth 13", width 13½" • In-line (stacked) stereo playback heads • Edit key • Input jack, external speaker jack, ext. amp. jacks • Equipped for "Aural Balance" Remote Control.

### Webcor Accessories

Webcor Mounting Board for Diskchangers • Webcor provides rigid, long-lasting mounting boards for diskchangers, pre-cut to exact size with pre-positioned holes. Made of durable plywood, they give a professional appearance to any installation. Catalog No. A-1921.

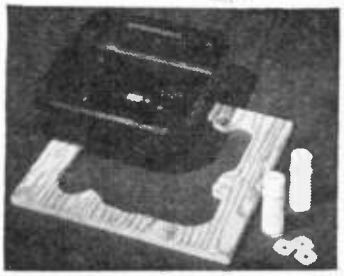
Minimum mounting board space for all Webcor Diskchangers: 13½" deep x 14¹¹⁄₁₆" wide x 9½" high (5½" above, 4" below mounting board)

Webcor 45-rpm Spindle • This spindle changes 7" 45-rpm records automatically without record inserts. Model A1930.

Webcor 45-rpm Record Inserts • Easily inserted in large center hole of 45-rpm records. These metallic adapters add weight to records, thus preventing slippage when playing 45-rpm records automatically. Last indefinitely. Records with these adapters can be played automatically or manually on all Webcor Fonografs. Catalog No. RS-46.

Webcor Plug-In Head ... T-1900

Webcor Base Pan ... T-1911 • Use it to convert your Webcor Diskchanger to an attractive Plug-In Fonograf!



**WEBCOR, INCORPORATED • • CHICAGO 39, ILLINOIS**

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World Radio History

## this is where stereo begins

# *Collaro* STEREO RECORD CHANGERS

Collaro transcription changers are specifically designed to meet the rigid quality standards imposed by the new stereo discs. The new transcription type tone arms are all wired to accommodate any standard stereo cartridge. Arm resonance is below the level of audibility. Vertical and horizontal friction are reduced to the lowest possible level. Tracking error and rumble are virtually eliminated. Stereo muting switch (both channels) eliminates all extraneous noises. Every Collaro changer is tested at the factory for wow, flutter, stylus pressure and correct set-down position. These qualities convert the Collaro into a new instrument—with true turntable quality—at a record changer price.

### THE CONTINENTAL II MODEL TC-540 S

Features the all new two-piece stereo transcription-type tone arm. This is a spring-damped, counter-balanced unit which permits the last record to be played with the same low stylus pressure as the first. There is less than a gram difference in tracking pressure between the top and bottom of a stack of records.

Features include:

4 speeds; manual switch to permit playing of a single record or portion of a record; wow and flutter specifications — ¼% RMS at 33⅓ RPM — superior to any changer in the world; automatic shut-off after last record; automatic intermix, plays 7", 10" or 12" records in any order; heavy duty 4 pole, shaded pole induction motor; heavy rim-weighted balanced turntable; removable heavy rubber turntable mat; jam proof machinery; pre-wiring for easy installation; attractive two tone color scheme to fit any decor; tropicalization to operate under adverse weather and humidity conditions; easy mounting on pre-cut board or base. **The Continental II (TC-540 S) $49.50**

### THE CORONATION II MODEL TC-440 S

This fine stereo changer is equipped with the new Collaro stereo plug-in two piece transcription-type tone arm featured on The Continental (TC-540 S). In addition, many of the fine custom features of The Continental are included in The Coronation.

Features include:

Wow and flutter specs less than ¼% RMS at 33⅓ RPM; heavy duty 4 pole, shaded pole induction motor; heavy duty 4 pole, shaded pole induction motor; action; 4 speeds plus manual switch for turntable operation; automatic shut off after final record; elimination of extraneous noises through muting switch and pop filter; removable heavy rubber turntable mat; attractive two tone colors to fit any decor; pre-wiring for easy installation; easy mounting on pre-cut mounting board or base; tropicalization to operate under adverse weather and humidity conditions. **The Coronation II (Model TC-440 S) $42.50**

### THE CONQUEST II MODEL TC-340 S

A radically new budget-priced precision changer with a new 1-piece transcription-type stereo tone arm. This unit incorporates many excellent custom features and compares favorably with other changers costing substantially more.

Features include:

Heavy duty 4 pole, shaded pole induction motor; heavy removable rubber turntable mat; 4 speeds and manual switch for turntable operation; heavy rim-weighted turntable; automatic shut-off after last record; jam-proof machinery; muting switch and pop filter to eliminate extraneous noises; wow and flutter less than 0.25% RMS at 33⅓ RPM; fast eight-second change cycle, independent of record speed; handling of 7", 10" and 12" records stacked in order of decreasing size; two-tone color fits any decor; easy mounting on pre-cut mounting board or base; tropicalization to operate under adverse weather conditions. **The Conquest II (Model TC-340 S) $38.50**

**ROCKBAR CORPORATION**
MAMARONECK, NEW YORK

ROCKBAR Corporation

Rockbar is the American Sales Representative for Collaro, Ltd. and other fine companies.

RC 1



Net

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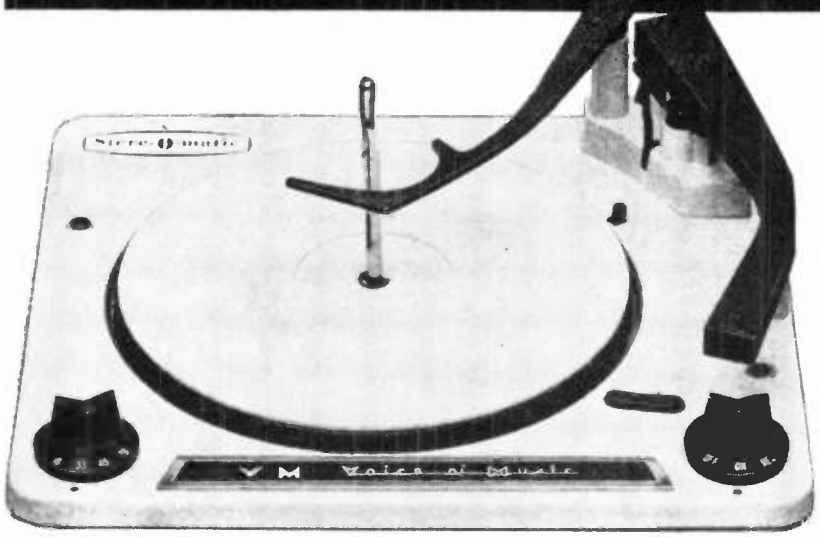
World Radio History

You expected the finest Stereo record changer from VM...

# THIS IS IT!

## V-M Model 1201--ALL NEW, NEW IN CONVENIENCE, VERSATILITY, FEATURES! THE STEREO CHANGER WITH TRANSCRIPTION-TURNTABLE PERFORMANCE!



Here, without embroidery, are the FACTS on the ALL-NEW V-M MODEL 1201—The Big Change in Changers!

**RUMBLE:**
—48 db for 120 cycle rumble when tested on Columbia XLP414 test record (recorded velocity approximately 3.4 cm/sec. at 1,000 cycles).

**MOTOR SPEED:**
Constant, positive, permanent for true pitch.

**WOW and FLUTTER:**
¼ RMS

**TURNTABLE:**
Balanced to assure constant speed. Bearing materials and finishes controlled for minimum noise and friction. Spindle bearing area centerless ground to reduce frictional drag.

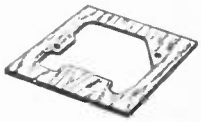
**TONE ARM:**
Resonance-free. Easily adjustable for any cartridge weight. Compensated to eliminate variation from bottom-to-top of stack. Tracking angle variation reduced to 2° maximum. Jewel-type anti-friction bearings eliminate vertical friction. Stereo cartridge installed.

**DIMENSIONS:**
Model 1201—12⅜" x 13¾" x 8 5/16"
Model 1202—Same (Has 4-pole motor, plug-in head for magnetic cartridge.)
Model 1226—Same as Model 1201 (On metal base)
Model 1228—Same as Model 1202 (Has 4-pole motor, plug-in head for magnetic cartridge, metal base pan)
Models 1201 and 1202—8 lbs.
Models 1226 and 1228—11 lbs.

**ELECTRICAL SPECIFICATIONS:**
110-120V; 60 cycles A.C.
Special voltages and frequencies upon request.

**APPROVALS:**
Listed by Underwriters Laboratories, Inc.

V-M 45 RPM Spindle Fits any V-M Tri-o-matic® Spindle. Model 9759. $2.95 List*



V-M Pre-Cut Mounting Board for all V-M automatic record changers. $1.50 List*
*Slightly higher in the West

V-M WARRANTS THESE PRODUCTS TO BE FREE OF DEFECTIVE WORKMANSHIP AND MATERIALS UNDER TERMS OF STANDARD V-M PRODUCT WARRANTIES

the Voice of Music®

V-M CORPORATION • BENTON HARBOR, MICHIGAN
World Famous for the Finest in Record Changers, Phonographs and Tape Recorders

**CALL YOUR LOCAL PARTS DISTRIBUTOR HE HAS ALL THE DETAILS!**

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World Radio History

# ALLIANCE PHONOMOTORS

**THE ALLIANCE MANUFACTURING CO., INC. • ALLIANCE, OHIO**

**FOR HI-FI AND STEREOPHONIC**

# Phonomotors

**Three and four speed phonomotors for record players 16, 33 1/3, 45 and 78 RPM records**

**Single speed 78 RPM phonomotors**

# General Purpose Motors

The Model JS Alliance Sub-fractional Motors are mass produced with minor variations to meet the demands of specific jobs which require a highly efficient miniature power plant. It can be used as the vital power source on all kinds of electrical and mechanical devices for electronic, electric, radio and time controls, TV and radio tuners, turntable drives for phonographs and Hi-Fi, valve and heating controls, animated displays, coin operated mechanisms, switches, signals, business machines, and other special uses. These motors are equipped with oilless bronze bearings for continuous duty. They can be furnished with or without internal fans and for clockwise or counter-clockwise rotation.

The specifications shown can be varied within limits to meet your design requirements. This would include such things as corrosive resistant finish, water resistant (impregnated coil), threaded or stepped shaft, and variation of the mounting arrangement.

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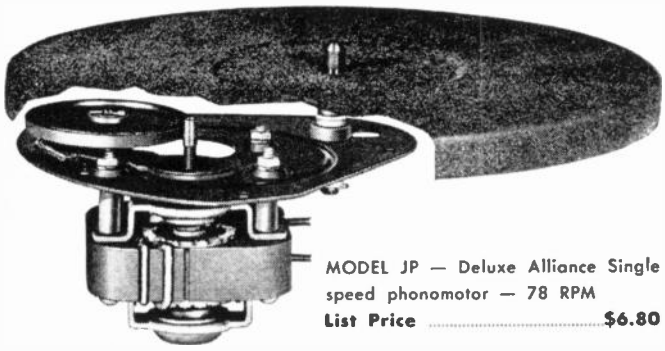
## ALLIANCE SINGLE SPEED
## 78 RPM PHONOMOTOR MODEL JP
## Available in 45 and 33 1/3 RPM on customer order only



MODEL JP — Deluxe Alliance Single speed phonomotor — 78 RPM
**List Price** ..... **$6.80**

Model JP — The most economical player motor on the market. Available with 6½" and 8" turntable diameters. Same basic motor as used on JPT and JPQ models. Same mounting cutout as three and four speed units. Turntables available in choice of colors. Also available with motor winding for use in series with Z5L6 vacuum tube filament. Scintered metal tip on turntable spindle revolves with record.

**THE ALLIANCE MANUFACTURING COMPANY, INC., ALLIANCE, OHIO**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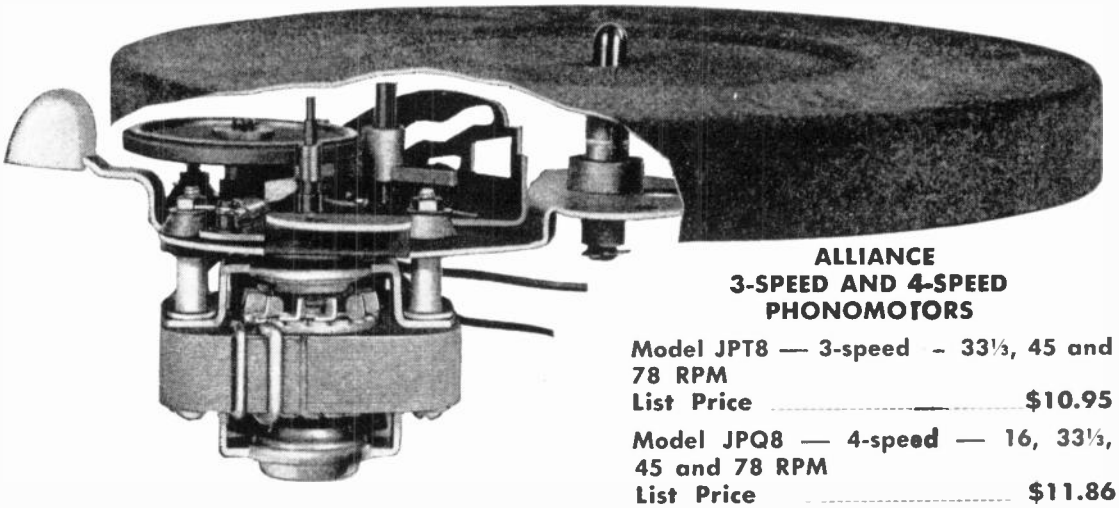
# ALLIANCE PHONOMOTORS

## FOR HI-FI AND STEREOPHONIC



**ALLIANCE**
**3-SPEED AND 4-SPEED**
**PHONOMOTORS**

**Model JPT8 — 3-speed - 33⅓, 45 and 78 RPM**
**List Price ..... $10.95**

**Model JPQ8 — 4-speed — 16, 33⅓, 45 and 78 RPM**
**List Price ..... $11.86**

## THREE AND FOUR SPEED PHONOMOTORS

### *THE LARGEST SELLING PHONOMOTORS IN THE WORLD*

MODEL JPT — A completely new design. Retains all of the features of original model, which became the standard of the industry, with many added improvements. Adequate reserve power in motor. Elimination of stepped pulley reduces possibility of wow and rumble. Added neutral position on shifter lever removes drive shaft from contact with rubber tire when instrument is not in use. Attractive plastic knob on shifter lever available in color. TURNTABLES AVAILABLE IN CHOICE OF COLORS. Furnished with plastic 45 RPM center disc. Can be furnished with winding for operation in series with 25 L6 tube filament if desired. Furnished with speed indicator escutcheon plate. Same mounting plate cut-out as single speed 78 RPM unit illustrated, thus providing greater versatility for manufacturers of phonograph equipment.

The model JPT provides unimpaired performance at all speeds. Single lever shifts and indexes speeds with freer movement. Electronic dynamically balanced rotor. Vibration-proof mountings. Minimum rumble and hum. Unexcelled speed regulation. Designed to meet U. L. requirements. Occupies minimum space. Millions have been sold.

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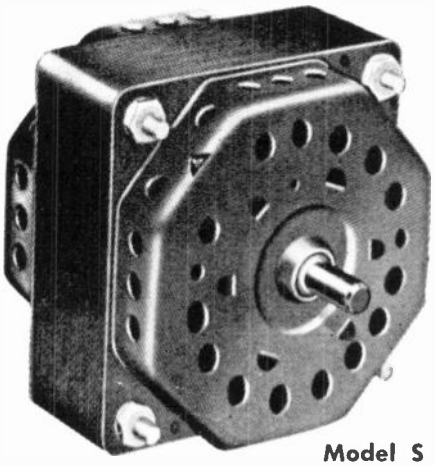

**Model S**

## MODEL S

This motor was specifically designed for transcription type turntables, stereo tape, stereo disc, and Hi-Fi applications. For further information on this motor, please contact:

The Alliance Manufacturing Cormpany, Inc.
Alliance, Ohio
Component Division — Plant #1

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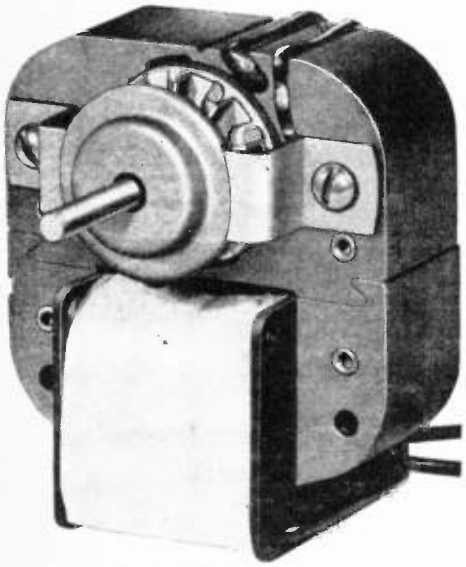
# ALLIANCE MOTORS

## MODEL JS MOTOR—

This new model is an extremely versatile motor of high efficiency and compact design. In reality JS is a "big brother."



Model JS

### SPECIFICATIONS

| SPECIFICATION NO. | JS0300 | JS0600 | JS0750 | JS0800 | JS1100 | JS1200 |
|---|---|---|---|---|---|---|
| Stack Thickness | 0.350 | 0.600 | 0.750 | 0.850 | 1.100 | 1.250 |
| Voltage | 117 | 117 | 117 | 117 | 117 | 117 |
| Frequency | 60 | 60 | 60 | 60 | 60 | 60 |
| Locked Amps—Cold | 0.30 | 0.71 | 0.88 | 0.92 | 0.93 | 1.0 |
| Locked Watts—Cold | 15 | 35 | 45 | 50 | 55 | 62 |
| Starting Torque—Cold Oz. In. | 0.66 | 1.75 | 2.35 | 2.70 | 2.95 | 3.20 |
| Idle Amps—Hot | 0.25 | 0.54 | 0.65 | 0.67 | 0.60 | 0.70 |
| Idle Watts—Hot | 11 | 22 | 28 | 30 | 30 | 40 |
| Idle RPM—Hot | 3350 | 3470 | 3475 | 3475 | 3500 | 3500 |
| Full Load Amps | 0.26 | 0.57 | 0.70 | 0.76 | 0.72 | 0.82 |
| Full Load Watts | 13 | 29 | 38 | 42 | 44 | 53 |
| Full Load Torque Oz. In. | 0.75 | 2.70 | 3.60 | 4.20 | 5.10 | 5.30 |
| Full Load RPM | 2900 | 2900 | 2900 | 2900 | 2900 | 2900 |
| Full Load HP | 0.002 | 0.008 | 0.010 | 0.012 | 0.015 | 0.015 |
| "A" Dimension (Internal Fans) | 1 23/32 | 1 31/32 | 2 1/8 | 2 7/32 | 2 15/32 | 2 5/8 |
| "A" Dimension (No Fans) | 1 9/16 | 1 13/16 | 1 15/32 | 2 1/16 | 2 5/16 | 2 15/32 |
| Weight | 12 oz. | 1 lb. 2 oz. | 1 lb. 6 oz. | 1 lb. 8 oz. | 1 lb. 13 oz. | 2 lb. 1 oz. |
| Duty | Cont. | Cont. | Cont. | Cont. | Cont. | Cont. |

117 volts 60 cycles, continuous open rating with 65° centigrade temperature rise. Motor can be supplied with internal fans for mechanical duty. Mounting hole 1 7/8" center.

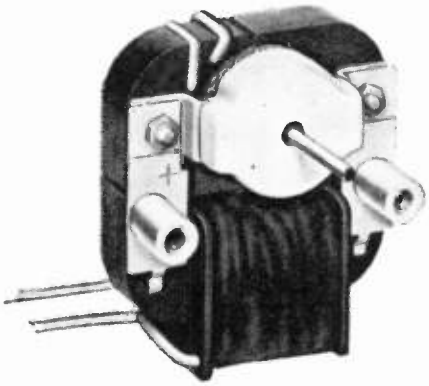
Prices vary with stack thickness

## JSO500

### SPECIFICATIONS

**Dual Bearing Long Life**

| | |
|---|---|
| Stack Thickness inches | 0.500 |
| Voltage | 115 |
| Frequency — CPS | 60 |
| Locked Amps — Hot | 0.170 |
| Locked Watts — Hot | 10 |
| Starting Torque, Hot — oz. in. | 0.70 |
| Idle Amps — Hot | 0.150 |
| Idle Watts — Hot | 7.8 |
| Full Load Torque — oz. in. | 0.5 |
| Full Load RPM | 2500 |
| Full Load HP | 0.0012 |
| Weight | 1 lb. 1 oz. |
| Duty | Continuous |



Model JSO500

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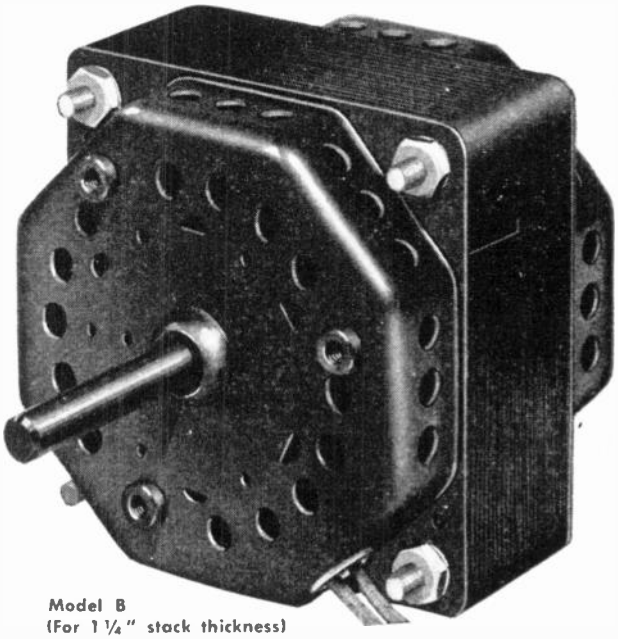
# ALLIANCE MOTORS
## GENERAL TYPES FOR SMALL LOADS

# MODEL B Shaded Pole Induction Motor

### FOR HI FIDELITY PLAYERS FANS — RECORDERS — HEATERS and OTHER DEVICES

Model B is a 4-pole shaded pole induction motor, especially adapted for such devices as fans, unit heaters, blowers, air circulators, disc, tape and wire recorders. Comes in three standard lamination stack thicknesses. The range of power is from 1/100 h.p. up to 1/25 h.p. Where necessary the motor can be supplied completely enclosed.

Important advantages for Model B are economy of operation, low induced hum, low magnetic field, cool running, flexible power range and compactness. A real Hi-Fi power plant.



**Model B**
**(For 1 1/4" stack thickness)**
**List Price** ..... **$15.10**

## SPECIFICATIONS

### MECHANICAL

3 3/8" square, with length of 2 1/8" over the end bracket for the 1 1/4" stack. 5/16" diameter shaft.

Porous bronze, oil-less type, self aligning bearings — amply proportioned, with large oil reserves.

Semi-open or fully enclosed construction. Can be supplied with oil tubes if required.

Four No. 10-32 bolts equally spaced for end mounting or motor can be supplied with mounting bushings on end covers.

3/4", 1 1/4" and 1 3/4" lamination stacks depending on rating required.

Max. weight — approx. 5.6 lbs. for largest stack thickness.

Single Phase, 4-pole, shaded pole induction motor with squirrel cage rotor.

Approx. 1/25 h.p. for fans — approx. 1/40 h.p. for mechanical loads without external cooling. Entire power range runs from 1/100 h.p. to 1/25 h.p. for semi-enclosed construction.

Starting torque approx. 40% of torque at full load rating. 1550 r.p.m. full load speed.

A. C. only — 115 volts, 60 cycles. Clockwise or counter clockwise rotation — not reversible. Can be wound for 50 cycles and other voltages.

Internal cooling fans on each end.

**FOR DETAILED INFORMATION . . . CATALOG SHEETS OR ADVICE ON SPECIAL PROBLEMS WRITE THE FACTORY**

**THE ALLIANCE MANUFACTURING COMPANY**

***Division of Consolidated Electronics Industries Corp.***

ALLIANCE, OHIO

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AT LEAST THEY AGREE ON FIDELITONE—Competitive Radio-TV-Hi-Fi servicemen may disagree on tweeters and woofers but it's handshakes all around when it comes to phonograph needles. Every serviceman knows that Fidelitone is first in the field of quality — preferred by his customers. Fidelitone's thirty-year reputation of leadership is your best assurance of customer satisfaction, profitable repeat calls. Stock and sell the needles that most record buyers know and want. Ask your distributor for Fidelitone.

# Fidelitone

Chicago 26, Illinois

*"Best buy on records"*



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World Radio History

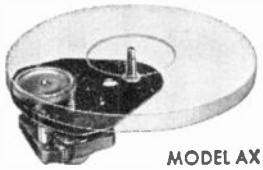
# GENERAL INDUSTRIES Co.

ELECTRIC PHONOMOTORS • HOME RECORDING & PHONOGRAPH ASSEMBLIES • RECORDING MOTORS

*Rely on G.I.*

Suitable for every phonograph instrument where low cost, dependable performance, compactness, light weight and quietness of operation are important considerations. GI phonomotors are even in speed and have ample power to play 10" and 12" records. Fan cooling permits use in partially closed cabinets. Designed to comply with Underwriters' Laboratories' requirements.

## CONSTANT SPEED ELECTRIC PHONOMOTORS



MODEL AX

**MODEL AX—78 R. P. M.** ..... **List Price, $6.25**

**115 volts a. c., 60 cycles**

A low-priced 78 R.P.M. 2-pole, rim drive motor suitable for installation where size and cost are prime factors. Furnished with 8" turntable and mounting plate ready for installation.

Dimensions: Length—3½"; width—2½"; depth—1 $\frac{7}{32}$" below mounting plate. Packed in indivdual cartons. Shipping weight—3 lbs.

---

**MODEL RM4 —78 R. P. M.** ..... **List Price, $21.50**

**MODEL RM4-3 —33-1/3 R. P. M.** ..... **List Price, 21.50**

**MODEL RM4-45—45 R. P. M.** ..... **List Price, 21.50**

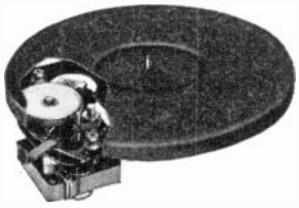
**115 volts a. c., 60 cycles**

Heavy duty, rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for exceptionally quiet operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin in turntable permits playing standard records without adjustment. Efficient performance is assured by positive alignment of driving pulleys, idler and turntable in one plane. Furnished 10" weighted turntable and complete plate ready for installation.

**Dimensions:** Length—3⅜"; Width—3⅜"; Depth—2 $\frac{15}{16}$" below mounting plate. Packed in individual cartons. Shipping weight—9 lbs.

**Model RM4 Model RM4-3**
**Model RM4-45**

## DUAL-SPEED PHONOGRAPH MOTORS



**MODEL DS—45, 33-1/3 R. P. M.** **115 volts a. c., 60 cycles**

A novel 45-33-1/3 R.P.M. rim drive, 2-pole motor. Very compact. Employs a Neoprene belt for the 33-1/3 R.P.M. speed. 45 R.P.M. speed is obtained direct from motor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction for new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 8" or 9" turntable, using same mounting plate. **List Price, $10.40**

**Dimensions:** Length—3⅛"; Width—2¼"; Depth—2 $\frac{9}{16}$" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.

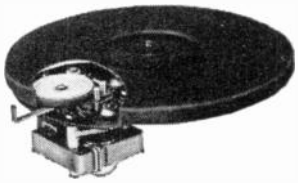
**MODEL DM—33-1/3, 78 R. P. M.** **MODEL DE—45, 78 R. P. M.**

**115 volts a. c., 60 cycles**

Novel and ingenious rim drive, 2-pole motors. Very compact. Employs a Neoprene belt for slow speeds. 78 R. P. M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction for new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 9" turntable.

**List Price, $10.40**

**Dimensions:** Length—3⅛"; Width—2¼"; Depth—2⅜" below mounting plate. Furnished complete with 9" turntable and mounting plate ready for installation. Shipping weight—4 lbs.



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**MODEL DR — 78, 33-1/3 R. P. M.** • **MODEL DZ — 78, 45 R. P. M.**

**MODEL DV — 45, 33-1/3 R. P. M.** **115 volts a. c., 60 cycles**

Deluxe rim drive, 4-pole motors with a simple and positive mechanism for shifting from one speed to the other. Speed change is accomplished by means of an external push-pull lever. An ingenious mechanism raises and lowers the entire idler assembly, disengages the idler wheel from the two-diameter motor shaft and moves the idler wheel from one diameter to the other. At the slow speed the idler wheel engages the small diameter of the motor shaft; at the fast speed it engages the large diameter. **List Price, $20.95**

**Dimensions:** Length—6"; Width—5⅝"; Depth—2⅜" below mounting plate. Furnished complete with 10" turntable and mounting plate ready for installation. Shipping weight—6½ lbs.

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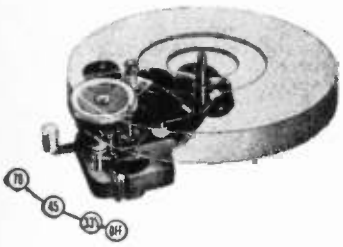
# GENERAL INDUSTRIES Co.

ELECTRIC PHONOMOTORS • HOME RECORDING & PHONOGRAPH ASSEMBLIES • RECORDING MOTORS

*Rely on G.I.*

## PLURAL-SPEED PHONOGRAPH MOTORS

### 3 AND 4-SPEED TWO-POLE PHONOGRAPH MOTORS




Model SS

**MODEL SS 3** — 78, 45, 33-1/3 R. P. M. 115 volts a. c., 60 cycles
**MODEL SS 4** — 78, 45, 33-1/3 and 16 2/3 R. P. M. 115 volts a. c., 60 cycles

Very compact, three or four-speed phonograph motors using the vertical idler shifting principle. Idler wheel drives the turntable directly from the appropriate step on the motor shaft. Precision construction throughout. Uses a ribbed main mounting plate to assure stability and proper relationship of all components. Rumble and wow are held to a minimum. Motor uses oilless bearing and dynamically balanced rotor. Turntable shaft revolves with turntable and is grooved for turntable clip. Available with 8" turntable. A 45 R.P.M. record adapter and a speed indicator dial are furnished with each motor.

List Price SS 3, $10.95
List Price SS 4, $11.75

Dimensions: Length—5"; width—4 23/32"; Depth—2 15/32" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Packed in individual cartons. Shipping weight—4 lbs.

### DELUXE THREE-SPEED RIM DRIVE FOUR-POLE MOTOR

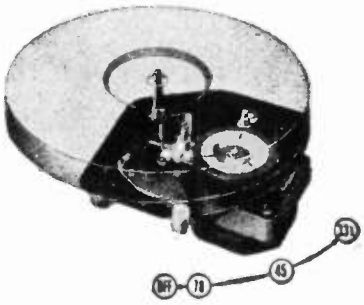
**MODEL DSS** — 78, 45, 33-1/3 R. P. M. 115 volts a. c., 60 cycles

Simple speed change is accomplished by shifting the idler wheel vertically to the appropriate diameter on the motor shaft for desired turntable speed. When shifting speed selector to off position, a switch turns the motor off and the idler wheel is disengaged from the motor shaft. The driving motor is of the four-pole, shaded-pole type resulting in absolute minimum of stray field radiation—ideally suited for use with all types of pickups including magnetic. Motor uses oilless bearings and motor is dynamically balanced to a fine degree.

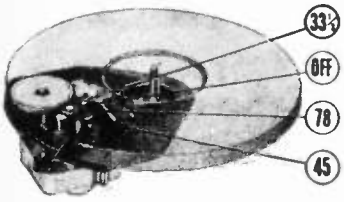
Precision construction throughout — low friction oilless turntable bearing—radially operated shift lever—10 inch turntable.

List Price, $24.50

Dimensions: Length—6⅝"; width—6 1/16"; Depth—2 21/64" below mounting plate. Furnished complete with 10 inch turntable, speed indicator dial. 45 RPM record adapter, off-on switch, and mounting plate ready for installation. Packed in individual cartons. Shipping weight—6½ lbs.




Model DSS




Model TR

**MODEL TR** — 78, 45, 33-1/3 R. P. M. 115 volts a. c., 60 cycles

Deluxe three-speed rim drive, 2-pole motor. Turntable speeds of 33⅓, 45 and 78 R.P.M. are secured through three separate pulleys running on oil-impregnated bearings and mounted on a turret plate. By means of a simple lever, the desired pulley is brought into contact with the idler wheel. The two pulleys not in contact with the idler wheel remain stationary. Symmetrical electrical and mechanical design results in minimum stray field and maximum performance. Ingenious locking device holds turret plate firmly in driving position at any of the three speeds. Available with 8" or 9" turntable. A 45 R.P.M. record adapter and speed indicator dial are furnished with each motor.

List Price, $12.45

Dimensions: Length—3⅛"; Width—2¼"; Depth—2¾" below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.



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# GENERAL INDUSTRIES Co.

ELECTRIC PHONOMOTORS • HOME RECORDING & PHONOGRAPH ASSEMBLIES • RECORDING MOTORS

*Rely on G.I.*

## SINGLE & 3-SPEED BATTERY POWERED PHONOGRAPH MOTORS

Model BX

**MODEL BX-45** — 45 R. P. M. ..... $12.75

**MODEL BX** — 45, 33-1/3, 16-2/3, R.P.M. ..... $14.50

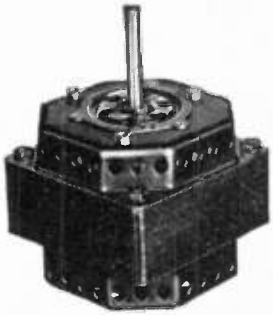
**MODEL BXX** — 78, 45, 33-1/3 R.P.M. list price ..... $14.50

**GI "firsts"**

These extremely compact low-current drain phonomotors give up to 135 hours normal service from 4 flashlight cells. All-new non-slip plastic turntables, enclosed motors, rubber-grommet mounts, self-aligning, self-lubricating bearings, low radio interference level. Ball thrust shafts. Model BX has feather-touch speed control which can be located either side of turntable; neutral "off" position. Special turntable adaptor.

**Dimensions:** Length 6½"; Width 4½"; Height 2¾". Depth below mounting surface 2". Shipping weight 1 pound.

## TAPE, WIRE AND DISC RECORDING MOTORS



### MODEL D-10

Heavy duty 4-pole, shaded pole induction motors. 1/70 H. P. Free speed: 1740 R.P.M. Maximum running torque: 11 ounce-inches.

Features include: A locating and locking arrangement for both top and bottom covers which assures high accuracy in alignment of rotor within the stator bore; new air intake; dual cooling fans and self-aligning, oil-impregnated sleeve bearings.

These high-torque motors are used in practically all tape, wire and disc recorders now being manufactured. Clockwise or counter clockwise rotation. List Price, $15.00

**Dimensions:** Length—3⅜"; Width—3⅛"; Depth—3" below mounting plate. Shaft diameter—$\frac{3}{16}$".

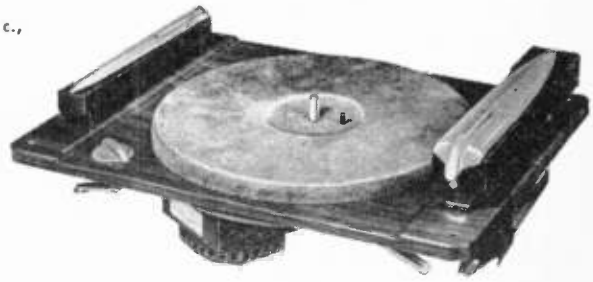
115 volts a. c., 60 cycles

## HOME RECORDING AND PHONOGRAPH ASSEMBLIES

**MODEL GI-R85L** —LP, 78 and 33-1/3 R. P. M. with conversion spring for changing the 33-1/3 R. P. M. speed to 45 R. P. M. } 115 volts a. c., 60 cycles

The model GI-R85L incorporates a dual purpose pickup cartridge and an excellent and simple adjustment for playing the LP records and standard records. It cuts 160 lines per inch. In a separate envelope is furnished a conversion spring for changing the 33⅓ R.P.M. with mounting instructions printed thereon.

The GI-R85L cuts records up to 10" diameter. To shift motor from one speed to the other, merely turn the speed change dial. Beautiful walnut wood grain on steel base plate. Streamline plastic trim on pickup and cutter arm attractively engraved with legends "Reproducer" and "Recorder". Turntable recessed into well in base plate. Merely lower cutting arm over record disc to start recording. Convenient, depth-of-cut adjustment. Dynamically-balanced, rim drive, 4-pole motor.



**MODEL GI-R85L — LP** List Price, $59.50

Assembly includes dual speed motor, 10" weighted turntable, crystal cutter, crystal pickup, pickup and cutter arm rests; drawn steel base plate with formed down edges.

Above prices include crystal cutter.
For (M41 10) magnetic cutter add $3.50 each.

**Dimensions:** Base Plate—15" wide; 11½" front to back; height above lower edge of base plate—2¾"; depth below lower edge of base plate —3⅞". Packed in individual cartons. Shipping weight—17 lbs.

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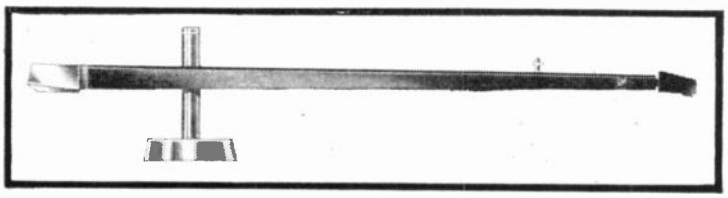
ALL PRICES AND MODELS SUBJECT TO CHANGE WITHOUT NOTICE
TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY



World Radio History

# SHURE STUDIO *Dynetic* PHONO REPRODUCER

**For selective high fidelity enthusiasts...for the most critical high fidelity applications in broadcast and recording studios.**



For the first time—reliable, consistent, 1-gram tracking force...with the Shure Studio Dynetic Phono Reproducer that makes it impossible to scratch records!

Featuring—the gram of prevention—never again need you worry about scratching your records with the Studio Dynetic.

It has long been recognized that elimination of record and stylus wear requires that tracking force be reduced below the level of 2 grams. However, attempts to utilize conventional cartridges and arms with these extremely light forces were uniformly unsatisfactory, providing for a completely new basic-research approach to a practical, integrated arm and cartridge—developed specifically for use at a tracking force of 1 gram. As a result of such a research program, carried out in the Shure Acoustical Development Laboratories, the Studio Dynetic Phono Reproducer came into being.

The Studio Dynetic will track at 1 gram, without any sacrifice of those other features so necessary for truly highest quality reproduction of the sound from your phonograph records—not just on the first few playings, but on the one hundredth or one thousandth playing. This means, that you will not only get the finest reproduction but never under any circumstances scratch your records. Even delicate "lacquer masters" can be played with complete safety, eliminating the need for "deep-freezing" to achieve record hardening.

### SPECIFICATIONS:

Tracking Force: 1 gram

Frequency Response: 20 to 20,000 cps plus or minus 2 db

Sensitivity: Output at 1000 cycles—14 millivolts for 10 cms/sec

DC Resistance: 180 ohms

Recommended Input Impedance: 10,000 ohms

Inductance: 130 millihenrys

Stylus: .0007" Diamond

Needle Compliance: 7 x $10^{-6}$

Needle Tip Mass: 1.25 milligrams

### SPECIAL FEATURES

1. Dynetic Principle—a moving magnet within a stationary coil. Prevents the pickup of hum.
2. Friction Free Suspension—jewel bearings throughout. This means complete friction-free operation.
3. Safety Control—provides for remote retraction of the cartridge and stylus without danger of damage to record and stylus from careless handling.
4. Dynamic Damping—arm counterbalance floats on a dampened suspension bar.
5. Geometric Configuration—arm is reinforced, tapered channel of durable aluminum. The proper tracking angle—avoiding the complications of curved tone arms or offset cartridges.
6. Ease of Installation—The Studio Dynetic can be used with any high quality transcription type turntable.
7. Laboratory Production—Each Studio Dynetic Phono Reproducer is custom-produced in a special Shure engineering laboratory. It is individually tested electrically, acoustically and mechanically.

**Model M16**—Studio Dynetic Phono Reproducer including M1 cartridge with .0007" diamond stylus (for playing records up to 16") Net Price $79.50

**Model M12**—Studio Dynetic Phono Reproducer including M1 cartridge with .0007" diamond stylus (for playing records up to 12") Net Price $79.50

**M1**—Studio Dynetic Cartridge for LP records with .0007" diamond stylus Net Price $42.00

**M2**—Studio Dynetic Cartridge for 78 rpm records with .0007" diamond stylus Net Price $42.00

**N1**—Studio Dynetic Stylus with .0007" diamond tip Net Price $21.00

**N2**—Studio Dynetic Stylus with .0027" diamond tip Net Price $21.00

**Model A29R**—Adapter Plate for use with Model M12 for mounting with the Rek-O-Kut turntable Net Price $2.40

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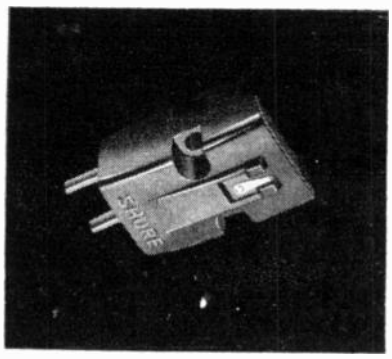

# PROFESSIONAL DYNETIC PHONO CARTRIDGE

**...For high fidelity enthusiasts who want performance that surpasses any other separate cartridge...**

The new Shure Professional Dynetic Phono Cartridge is for use in record-changers and transcription-type arms—in installations where premium quality is paramount. It is rapidly becoming known among critical music lovers as the pre-eminent high fidelity monaural phono cartridge.

### SPECIFICATIONS:

Frequency Response: 20 to 20,000 cps

Sensitivity: Output at 1,000 cycles—21 millivolts for 10 cms/sec

Recommended Load Impedance: 27,000 ohms or more

Compliance: 3 x $10^{-6}$

Tracking Force: 3 to 6 grams

Inductance: 350 millihenrys

DC Resistance: 440 ohms

Weight: .44 ounces

Model M5D—for use with micro-groove records, 33⅓—45 rpm

Model M6S—for use with standard records, 78 rpm

### SPECIAL FEATURES

1. The heralded dynetic principle of moving-magnetic reproduction.
2. High compliance and low effective needle mass provide excellent tracking with minimum record wear and minimum distortion.
3. Completely eliminates magnetic attraction to steel (changer) turntables.
4. Suppresses magnetic hum induced from external hum fields.
5. Needle replacement is exceptionally simple and fast. No tools are required—and you can replace the needle right in your home, without even removing the cartridge from the tone arm.
6. Reproduces everything on the record—clearly and with superlative definition—far superior to conventional magnetic high fidelity cartridges.
7. High degree of both vertical and lateral compliance, making it possible for you to play stereo records monaurally, without ever damaging either the record or the cartridge.

**Model M5D**—Professional Dynetic Phono Cartridge for LP records including N5D .001" diamond stylus. Net Price $27.50

**Model M6S**—Professional Dynetic Phono Cartridge for 78 rpm records including N6S .003" sapphire stylus. Net Price $15.00

**Model N5D**—Professional Dynetic Stylus with .001" diamond tip. Net Price $16.50

**Model N6S**—Professional Dynetic Stylus with .003" sapphire tip. Net Price $5.00

**SHURE** MICROPHONES AND ELECTRONIC COMPONENTS

**SHURE BROTHERS, INC.**
**Evanston, Ill.**

See Pages D-145—D-153 For Additional SHURE Products


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World Radio History

# Electro-Voice PHONOGRAPH CARTRIDGES

## MONAURAL AND COMPATIBLE STEREO-MONAURAL POWER POINT CARTRIDGES

Available as a monaural-only cartridge (millions in use today by major set manufacturers) or as a compatible stereophonic-monaural cartridge, Electro-Voice Power Points offer everything necessary for superb performance. Combining integrally both cartridge and needle, functioning to give widest range with lowest distortion and minimum record wear. Electro-Voice monaural or compatible stereo-monaural Power Points are the modern and accepted way to effect a cartridge replacement. Using two sapphire tips, or sapphire and diamond (turnover) tips connected directly to the ceramic element, this unique design results in high compliance both vertically and laterally with excellent tracking ability. After quick mounting mechanism installation, replacement is easy slip-out, slip-in operation. Response flat from 20 cps to 15 KC, output 1 volt, tracking force 5 to 8 grams. Diecast nylon case ¾" long, ¼" diameter.

### COMPATIBLE STEREO-MONAURAL POWER POINTS

#### FOR 45, 33⅓ AND 78 RPM

**Model 66**—Stereo-monaural Power Point cartridge only. With one 0.7-mil sapphire tip and one 3-mil (monaural 78 rpm) sapphire tip. List Price.....**$5.95**

**Model 66DS**—Stereo-monaural Power Point cartridge only. With one 0.7-mil diamond tip and one 3-mil (monaural 78 rpm) sapphire tip. List Price....**$19.50**

#### FOR 45 AND 33⅓ RPM

**Model 61**—Stereo-monaural Power Point cartridge only. With two 0.7-mil sapphire tips. List Price.....**$5.95**

**Model 61DS**—Stereo-monaural Power Point cartridge only. With one 0.7-mil diamond tip and one 0.7-mil sapphire tip. List Price.....**$19.50**

### COMPATIBLE STEREO-MONAURAL MOUNTS

**Model PFT-3**—Fixed type mount. Accepts Models 61 and 61DS Stereo Power Points. With 7/16", ½" and 9/16" mounting hole centers. All necessary hardware is included for quick installation. List..**50c**

**Model PT-3**—Lever-action turnunder type mount. Designed for use with Models 66 and 66DS Stereo Power Points. With 7/16", ½" and 9/16" mounting hole centers. All necessary mounting hardware included. List Price.....**$1.00**

### MONAURAL POWER POINTS

#### FOR 45, 33⅓ AND 78 RPM

**Model 52-2**—Power Point cartridge only. Green nylon case. With two .0023" sapphire tips. List Price.....**$3.95**

**Model 56**—Power Point cartridge only. Blue nylon case. One .001" sapphire tip and one .003" sapphire tip. List..**$3.95**

**Model 56DS**—Power Point cartridge only. Orange nylon case. With one .001" natural diamond tip and one .003" sapphire tip. List Price.....**$16.50**

#### FOR 45 AND 33⅓ RPM

**Model 51-1**—Power Point cartridge only. Red nylon case. With two .001" sapphire tips. List Price.....**$3.95**

#### FOR 78 RPM

**Model 53-3**—Power Point cartridge only. Black nylon case. With two .003" sapphire tips. List Price.....**$3.95**

#### EXTRA REPLACEMENTS FOR WEBCOR FONOGRAFS

**Model 76DS**—Turnover cartridge only. Pink plastic case. With one .001" diamond tip and one .003" sapphire tip. List Price.....**$16.50**

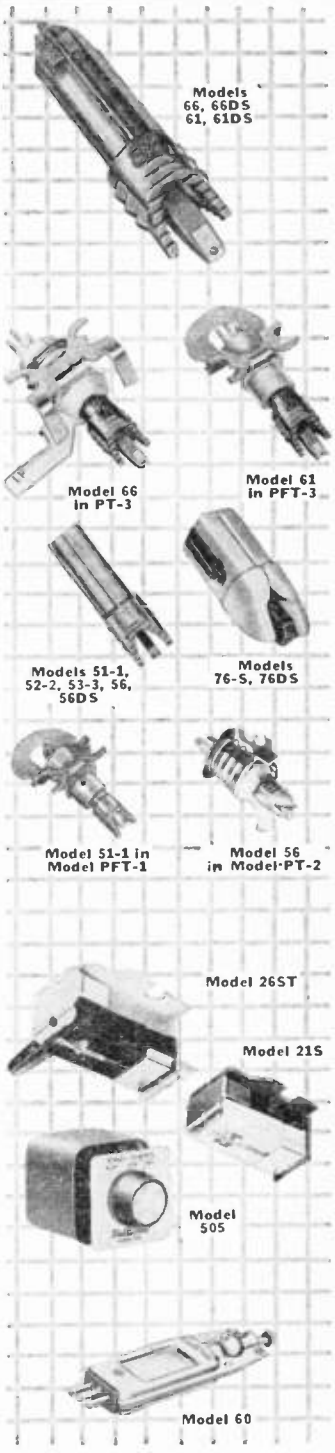
**Model 76S**—Turnover cartridge only. White plastic case. With one .001" sapphire tip and one .003" sapphire tip. List Price.....**$4.25**

#### MONAURAL MOUNTS

Fixed and turnunder mechanisms have 7/16", ½" and 9/16" mounting hole centers. All necessary hardware is included for simple, quick installation.

**Model PFT-1**—Fixed mounting mechanism. Accepts any monaural (50 Series) Power Point cartridge. List Price....**50c**

**Model PT-2**—Lever-action turnunder mounting mechanism. Replaces all standard turnunder cartridges. For use with Models 56 and 56DS Power Point cartridges. List Price.....**$1.00**




## HIGH-FIDELITY COMPATIBLE STEREO CARTRIDGES

**FULL LATERIZATION • ULTIMATE DEPTH • MAXIMUM STEREO**

The new Electro-Voice totally compatible 20 series stereo cartridges play the new stereo discs superbly . . . monaural LP's too . . . even better than existing cartridges. Exclusive design for rumble suppression of 15 db or better will permit the use of the 20 series stereo cartridges **with any type of changer or transcription player.** Models with "M" suffix produce velocity output curves which **directly** replace all magnetic-type cartridges such as G-E, Pickering, Fairchild, etc.

Good stereo reproduction depends upon these vital features of the 20 series: Range Response: 20-16,000 cps; Distortion: less than 2%; Channel Isolation: 20 db; Elements: Dual Ceramic; Weight: 21, 21D—2.4 grams, 26, 26DST—2.6 grams; Tracking Force: 6 grams; Vertical and lateral Compliance: 2; Output: .5 volt; Mounting: Standard ½" x 7/16" centers.

#### FOR 45 AND 33⅓ RPM

**Models 21S, 21MS**—Stereo Cartridge with 0.7-mil sapphire stylus. List Price. **$16.50**
**Models 21D, 21MD**—Stereo Cartridge with 0.7-mil diamond stylus. List Price. **32.50**

#### FOR 45, 33⅓ AND 78 RPM

**Models 26ST, 26MST**—Stereo Turnunder Cartridge with 0.7-mil sapphire and 3-mil sapphire monaural tips. List Price.....**$21.50**
**Models 26DST, 26MDST**—Stereo Turnunder Cartridge with 0.7-mil diamond and 3-mil sapphire monaural tips. List Price.....**$37.50**

#### MODEL 20 SERIES REPLACEMENT NEEDLES

**Model D1-1**—0.7-mil Diamond needle replacement for 21D and 26DST. List..**$16.50**
**Model S1-1**—0.7-mil Sapphire needle replacement for 21S and 26S. List Price. **3.50**
**Model S3-3**—3-mil Sapphire needle replacement for 26S and 26DST. List Price. **3.50**

#### STEREO ACCESSORIES

**Model 504**—Magnetic input adaptor . . . for amplifiers without high impedance input channel. Not required for M-series cartridges. List Price.....**$6.00**
**Model 505**—Stereo control switch . . . magnetic input adaptor, monaural/stereo switch and channel reverse. List Price.....**$19.00**

## E-V HIGH-OUTPUT CARTRIDGES

#### MODEL 60 CRYSTAL DUO-VOLT BIMORPH CARTRIDGE

Uses any standard 3-mil, 1-mil or all-purpose needle (not supplied). Output, 4 or 2 volts on LP, 6 or 3 volts on 78 rpm. No soldering, no accessories required. ½" mounting centers, aluminum case. For varied replacement needs. Less needle. List Price.....**$4.95**

#### MODEL 50 BIMORPH CRYSTAL CARTRIDGE

High level cartridge, supplied less needle. Use with any 1-mil, 3-mil or all-purpose needle. Output level with straight shank is 2.5 volts. Aluminum case. Less Needle. List. **$4.50**

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World Radio History

# Pickering's STEREOBILITY® Series

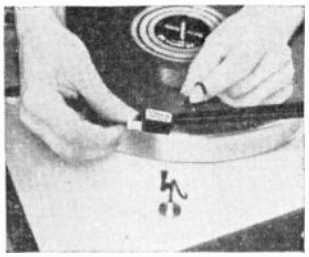
**COMPLETE COMPATIBILITY** — One pickup . . . one stylus . . . for all microgroove records, *monophonic or stereophonic!* Mounts into all standard record changers and transcription tone arms. No need for special adaptors — just install and use within minutes.

**COMPLETE STABILITY** — Traditional Pickering quality of design assures finest performance at all times, flat response, within 2 db over the entire stereophonic range, obviates all possibility of stylus resonances which cause groove-wall breakdown and eventual wear on record and stylus. Exclusive *magnetic-discriminator* provides proper channel separation for stereo records and a balanced output for monophonic records.

**COMPLETE FLEXIBILITY** — The STANTON 45X45 Stereo-FLUXVALVE uses the exclusive "T-GUARD" stylus assembly for quick, safe and easy stylus change. The two *balanced* signal outputs connect to the magnetic input of *all* preamplifiers—there is no need to employ a separate input transformer or other "gain-stage" device.

**STEREOBILITY** — Pickering's trademark, established to serve as a quality mark which guarantees complete *compatibility, stability,* and *flexibility* in operation and performance. Of the same fine quality as Pickering's *famous* FLUXVALVE, the STANTON 45X45 will outperform any other cartridge, *except* the famous FLUXVALVE, on monophonic record reproduction . . . and, for stereophonic reproduction, it is peerless.

*For the first time—a pickup with all of the compliance, frequency response and distortion-free performance required for the highest quality reproduction.*



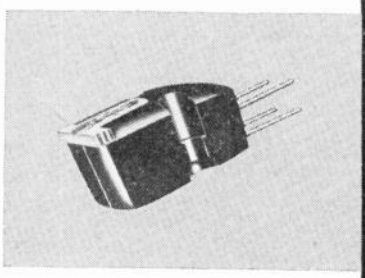
The *compatible* STANTON 45X45 Stereo-FLUXVALVE *defies obsolescence* . . . exclusive T-GUARD stylus assembly with .7 mil diamond will play all microgroove records . . . monophonic or stereophonic. No bothersome plugging, switching or other manipulations necessary when changing records, they can even be stacked on a record changer for fully automatic operation.

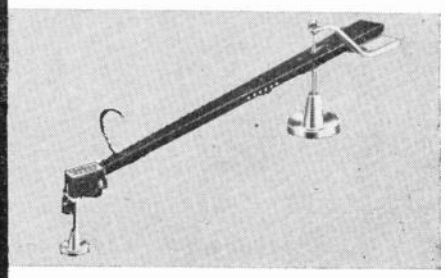
**Model 371 STANTON 45X45 Stereo-FLUXVALVE Cartridge**—Of truly miniature design, it will fit into all tone arms with standard ½" mounting centers . . . ideal for "going stereo," or for installation into new systems. Fully compatible, the Model 371 will perform equally well with all microgroove records, monophonic or stereophonic. Traditional Pickering quality of design assures the finest performance—a response flat within 2 db over the entire stereo recording range with complete absence of spurious resonance. This obviates any possibility of groove-wall breakdown which eventually results in both record and stylus wear . . . and, the "mint" condition of both record and stylus is prolonged. Supplied with a .7 mil **precision-polished** diamond of the very finest quality mounted in Pickering's exclusive "T-GUARD" stylus assembly. For record changers, players and transcription tone arms using a stylus force from 4 to 6 grams for proper tracking. The STANTON 45X45 Stereo-FLUXVALVE has two **balanced** signal outputs for connection to the low mag inputs of a stereo-preamplifier (they may be connected in parallel for use with a conventional single-channel preamplifier.) Output level is sufficient for all preamplifiers and there is no need to employ a transformer or other "gain" stage device. Exclusive "magnetic-discriminator" provides interchannel isolation with negligible cross-talk.

**Model 371—.7D STANTON 45X45 Stereo-FLUXVALVE Cartridge** . . . . . **$29.85**

**Model 196 STANTON 45X45 UNIPOISE arm with integrated Stereo-FLUXVALVE pickup. The finest pickup ever made . . .** the Model 196 employs a Stereo-FLUXVALVE pickup of the same exacting design and specifications as the Model 371 Stereo-FLUXVALVE cartridge. In the design and manufacture of the UNIPOISE tone arm, Pickering & Co. has achieved the highest standards of engineering and craftsmanship. A precision instrument, the UNIPOISE employs a single friction-free pivot bearing for **almost-infinite** compliance to trace precisely the delicate **more-difficult-to-track** groove of a stereo record. The complete assembly . . . tone arm and pickup . . . is only a fraction of the weight of conventional tone arms. Introduced for conventional records only a short time ago, the UNIPOISE was originally designed to make precise and reproducible record measurements in calibrating recording channels and record masters . . . an exclusive feature that is tailor-made and ideally suited for the new and exciting stereo records. **This advanced mechanical design and functional styling combine to provide the finest phonograph reproducer ever made . . . for all microgroove records . . . monophonic and stereophonic!** For use with all high quality transcription turntables, its practical size permits installation into areas only slightly larger than that required for record changers . . . it will mount on a motorboard measuring only 15½" x 15½". Simple **Uni-mount** installation, employs a single thumbscrew and bolt. Exclusive arm rest with soft sable brush to keep the stylus tip free of dust at all times. Convenient stylus force adjustment.

**Model 196—.7D UNIPOISE Arm with Integrated Stereo-FLUXVALVE pickup . . . $59.85**





*"For those who can* hear *the difference"* **FINE QUALITY HIGH FIDELITY PRODUCTS BY**

**PICKERING & COMPANY, INC., Plainview, N. Y.**

EXPORT: AD. AURIEMA, INC., 89 BROAD ST., NEW YORK/CANADA: CHARLES W. POINTON LTD., 6 ALCINA AVE., TORONTO



World Radio History

# The Gyropoise® 800 airborne Stereotable®

*The first really new idea in turntable design in 75 years!*

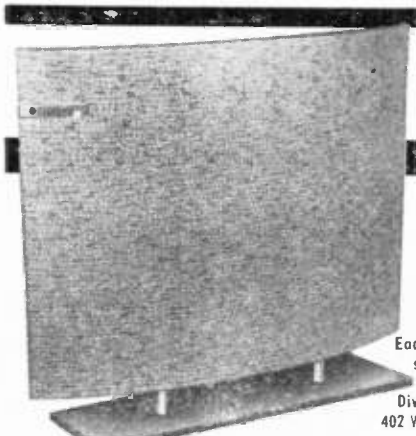
The Gyropoise was *invented* by Pickering & Company out of the *necessity* to provide a turntable *with complete absence of distortion,* for playing the newer stereophonic phonograph records.

Designed specifically for microgroove records... monophonic and stereophonic...the **Gyropoise 800 Stereotable** is single speed at 33⅓ rpm and employs a built-in precision leveling adjustment with indicator. The Stereotable which embodies a unique magnetic suspension, is an exclusive invention of Pickering & Company (patents are pending and all rights are reserved). Vertical period of spring suspension is below 5 cps; compound vertical rumble attenuation is 12 db per octave below resonance; noise is 65 db below reference level; speed accuracy is ±0.2% total variation. Weight: 9 lbs. less Tray; 11 lbs. with Tray; 13 lbs. with Complete Base. Measures 13½"x13½"—1⅝" above and 3" below the 5/32" thick base plate. Overall dimensions on complete base: 14¾"x14¾"x5⅜" high.

**Model 800C Gyropoise Stereotable, chassis only** ..... **$59.85**
**Model 800TB Tray Base*** ..... **7.50**
**Model 800CB Complete Base*** ..... **12.00**
*Base and Tray in genuine Mahogany, Walnut or Blond.

With conventional LP records, rumble, a form of distortion caused by mechanical vibration in a turntable mechanism, is a minor problem. The motion of a conventional stylus is lateral and a conventional cartridge is designed to generate a signal voltage only when activated by lateral motion without responding to any vertical movement of the stylus. With the stereo cartridge the motion of the stylus is complex...it is lateral, vertical and a combination of both lateral and vertical, depending upon the recorded material. Therefore, vertical vibration is a serious problem when playing stereo records...this vibration is picked up by the cartridge and is heard as a distortion that sounds exactly as the name implies —*rumble!*

Regarded by engineers as a major handicap in stereo record reproduction, *vertical rumble* is not a problem with the Gyropoise 800 Stereotable. Only the Gyropoise revolves with precise accuracy in magnetic suspension, on a bearing-of-air—void of stiff mechanical linkage inherent in conventional turntables.



# The New ISOPHASE Sound!

**More Efficient! Greater Power! Sweetest Sound!**

The PICKERING ISOPHASE is a revolutionary new speaker with a single, virtually massless, curved diaphragm. Conventional cone or dynamic speakers reproduce sound by moving only small amounts of air at high velocities. The ISOPHASE, with its *large* sound-generating surface, is a radical departure from this older concept. Sound is reproduced at constant level over the entire surface of the curved diaphragm...*more than 1000 square inches!* Here is *truly* wide-range treble dispersion.

The PICKERING ISOPHASE diaphragm is vibrated as a unit by an electrostatic field. Sound is generated into the air at a low velocity, closely approximating the unit area energy of the sound at the microphone in the concert hall or studio. The result is a startling quality of "presence" that is breathtakingly realistic.

The PICKERING ISOPHASE covers the musical range from 400 cycles per second to well beyond the limits of human hearing. The response over this range is consistent and absolutely uniform—without the slightest bump, peak, or resonance of any kind. This in itself—*is an unprecedented characteristic for a loudspeaker!*

Each ISOPHASE is supplied with a Model 401E Divider and Model 402 Woofer Network.

**SPECIFICATIONS**

**581-B ISOPHASE SPEAKER**
Maximum Power 50 Watts @ 8 Ohms
Crossover 500 Cycles
Response 200 to 35,000 Cycles
Dimensions 36" x 28" x 8½"
Weight 22 lbs.

**401E DIVIDER**
Max. Signal 27 Volts
Polarizing Voltage 1500 Volts
Impedance 8 Ohms
Power 117 Volts, 50-60 Cycles
Requirements AC, 10 Watts
Dimensions 9¼" x 5¾" x 2⅞"
Weight 7 lbs.

**402 WOOFER NETWORK**
Crossover 500 Cycles
Impedance 8 Ohms
Dimensions 3" x 4" x 5"
Weight 2¼ lbs.

**Model 581B Complete with 401E and 402 Divider/Network $210.00**

*"For those who can* hear *the difference"* **FINE QUALITY HIGH FIDELITY PRODUCTS BY**

**PICKERING & COMPANY, INC., Plainview, N. Y.**

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World Radio History

# RONETTE REPLACEMENT STYLI

**RONETTE STLI** are carefully engineered and painstakingly fabricated of the finest materials available. The high standards and close tolerances to which the styli are made assures the consumer that he will achieve maximum performance from his RONETTE cartridge.

Sapphire tips are carefully hand polished to mirror-smooth finish of the hardest, quality sapphires available. Only RONETTE replacement styli should be used for RONETTE cartridges . . . in that way you are assured of perfect complementary full performance, which is built into every RONETTE cartridge.

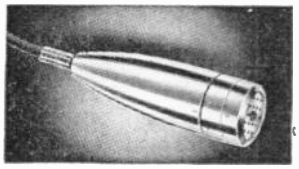
| | List Price SAPPHIRE | List Price DIAMOND |
|---|---|---|
| **Standard Styli** (screw-on type) 1.0, 2.0, 2.5 mil | $ 1.70 | $ 8.35 |
| **Stylomatic Styli** (for TX-88 cartridge) 1.0, 2.5 mil | 3.05 | 18.05 |
| **Duo-Clip Styli** (for Stereo cartridge & DC series) 1.0, 2.0, 2.5, 0.75 mil | 1.70 | 8.35 |

Ronette

# MICROPHONES

## Ronomike

**A new slim hand microphone in a compact, sturdy die-cast housing.**



**Technical Specifications:**

Sensitivity: -55.4 db. Flat response: 30-10,000 cycles ± 3 db., peak-free when matched to a ½ to 1 Meg. input of triod stage. Intermodulation distortion is so low that it is immeasurable with existing equipment. Complete with 8 ft. 90% shielded gray vinyl cable and fully shielded phone plug.

## Studio Microphone

**model G-210**

Can be custom tailored to exactly fit most requirements. Chromium plated die-cast alloy housing swiveling 100° for semi- or omni-directional use. Can be supplied with or without an on-off switch. There is a choice of two curves. **G-210** fits any standard desk, banquet or floorstand.

**Technical specifications:**

Effective output level: —51 db; Frequency response: 30-7500 cps. or —55db 30-1300 cps. Output impedance: equal to 2200 uuf. Diaphragm: annealed corrosion-resistive aluminum. Crystal unit: vacuum sealed, precision ground and optically inspected. **Diameter:** 1⅜"; height: 4⅛"; depth: 3-9/64". Supplied with standard shielded microphone connector.

List— **G-210 . . . $26.00**
**G-210S . . . 30.00** with switch

## Reporter Microphone model B-110

**List—Model B-110 . . . $10.50**

Designed for tape recorders, the standard insert is the RONETTE type "DX-12." Includes 6 ft. Shielded cable.

**Technical specifications:**

Output:—55 db. Frequency response: DX-12: 30-13,000 cps.; Output impedance: equal to 2,200 uuf. Suggested load: 2-5 megohm. Directional characteristic: semi-directional; diaphragm: annealed, corrosion resistive aluminum; crystal unit: vacuum sealed, precision ground and optically inspected.

## model 44 Table Microphone

Rugged construction, ivory color Polopas moulding. Shielded against strong R. F. Frequency response: 30-13,000 with rising high end for crisp speech qualities. Complete with standard Ronette shielded microphone connector.

Decreasing load resistance from 5 MOhms to 220 KOhms attenuates bass response and gives that "DX" quality wanted by amateur radio operators. Fits regular ⅝" -27 threaded microphone stand.

**List— model 44 . . . $10.50**

**General Information Concerning RONETTE Microphones:**
Load resistance: As all piezo-electric devices, such as our microphones, are small capacitors. They are high-impedance instruments and require a high value of load resistance. Microphones should preferably be used with load resistance of values between 2 and 10 MOhms.

**ALL RONETTE PIEZO-ELECTRIC PRODUCTS ARE GUARANTEED FOR TROPICAL CLIMATES.**

All prices subject to change without notice.



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World Radio History

**Model TX-88**
High fidelity cartridge requires no preamp. Stylomatic* stylus assembly snaps in. Range: 30-24000 cps. Output: .4 volt on Columbia RD-103. 1/2" mounting centers.

**Model TC-200**
High-grain turnover cartridge for manual tone arms; press-fit bracket mounting; 5 volts.

**Model MT-67-2**
1/2" Mounting single stylus model, high-grain, 5 volt, wide range, low distortion.

Shaft mounting model for changers with wide die cast arm
**Models:**
**TO-284-P/9234, TO-222/9655, TO-284-OV/9121**

Front mounting type with one plate and nut for changers with plastic arms.
**Models:**
**TO-284-OV/6045, TO-222/7825**

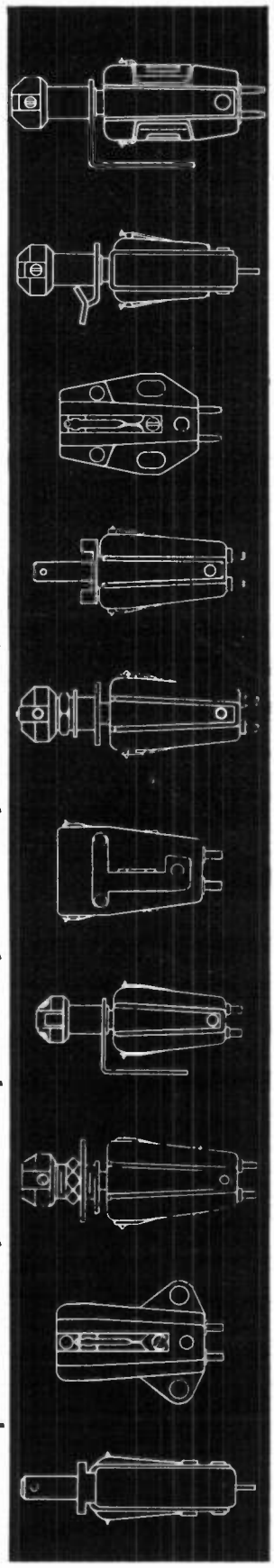
Turnover type DT-60 for changers with built-in turnover mechanism.
**Models:**
**DT-60-OV, DT-60-222, DT-60-P**

Standard turnover type, 1/2" mounting centers.
**Models:**
**TO-284-OV, TO-222, TO-284-P**

Front mounting type with two plates and nut for manual tone arm.
**Models:**
**TO-284-P/FF, TO-222/FF, TO-284-OV/FF**

**Type RA**
Single stylus changers and tone arm, 5/8" mounting centers.
**Models:**
**RA-284-P, RA-284-OV, RA-395-1 w/1.0 mil styli (-2 w/2.0 mil)**

**Type TO-400**
Shaft mounting model for changers with narrow arms.
**Models:**
**TO-400-OV, TO-400-P, TO-400-222**



* trade mark

# Ronette CARTRIDGES and PICKUP ARMS

## Ronette NEW STEREO CARTRIDGE

Designed for Compatible Listening . . .
NEW Ronette STEREO CARTRIDGE
**RONETTE's NEW BINOFLUID BF-40**
Stereo Cartridge exceeds Monaural and Stereo High Fidelity standards. This dual element cartridge is 100% compatible with standard LP's, giving them new brilliance. BINOFLUID BF-40 offess cleanest channel separation and high compliance so necessary for new Stereo discs. Designed for changer and transcription arms.

**BINOFLUID BF-40**
Stereo Cartridge is also available mounted in RONETTE Transcription Arms.

**SPECIFICATIONS:**
Channel Separation: 24 to 28 db. Response: 20 to 15,000 cycles.
Construction: Parallel Dual Elements. Compliance: 3.5 x $10^{-6}$ cm/dyne verticle and horizontal. Optimum Stylus Pressure: 4 to 6 grams. Stylus: .75 mil Sapphire (Diamond available at extra cost).

| | |
|---|---|
| **BF-40** with .75 mil Sapphire Stylus | **$12.00** audiophile net |
| **BF-40** with .75 mil Diamond Stylus | **$18.60** audiophile net |

## Ronette FONOFLUID CARTRIDGES

**Electrical Specifications:**

**STUDIO MODEL TX-88.** Frequency response 30-24000 cycles, distortion and peak free, with compliance of 5. Output .4 volts on Col RD103. May be operated as constant velocity device when loaded with 120K and Preamplifier or as conventional crystal cartridge with .5 meg.

**PROFESSIONAL MODEL "P".** Lowest I.M. distortion, requires only 2-4 grams stylus pressure — wide range. May be operated as constant velocity device with 120 K ohm load and preamplifier as replacement for magnetic cartridge; or with conventional crystal cartridge circuits without pre-amplifier. No Hum problem or Turntable pulling.

**HIGH FIDELITY MODEL "OV."** For converting small and medium sized amplifiers for better reproduction. Low IM distortion and high compliance. Will drive most amplifiers through high level input. Stylus pressure: 5 grams.

**HIGH OUTPUT MODELS TO-222, RA-395.** Designed for worn and older types of records. Produces a high order of brilliance with a minimum of needle scratch. Will drive all small amplifiers. Stylus pressure: 9 grams.

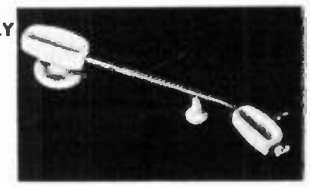
| Cartridge | Voltage |
|---|---|
| OV | .750 volts |
| 222 | 5.0 volts |
| RA395 | 5.0 volts |
| P | .150 volts |

**RA395** replaces all previous RA-284-T, US, V, VS, V Max cartridges.

**TO222** replaces the following cartridges: TO-284, -T, US, VS, V.

**RONETTE has standardized the replacement market —**

## Ronette ACOUSTICALLY MATCHED FONOFLUID TRANSCRIPTION ARM



Stereo and Monaural Models for use with Manually Operated Precision Turntables. Achieves the ultimate in performance with the RONETTE FONOFLUID cartridges, both Monaural and Stereo types. Newly developed pressure-adjusting mechanism allows fine pressure adjustments from one to eight grams. Double ball-bearing swivel imparts high stability and is virtually torsion free; essential qualities for perfect tracking at high stylus velocities and very low stylus pressures. The arm is of chromium-plated tubing, fully shielded. Standard arm lengths 12" to 16".

**MONAURAL MODELS**
Available with:
TO-284P Cartridge
TO-284-OV Cartridge
TX-88 Cartridge

**STEREO MODELS**
Supplied with
**BINOFLUID BF-40 CARTRIDGE**

All cartridges supplied with Sapphire Styli. (Diamond styli available at extra cost).

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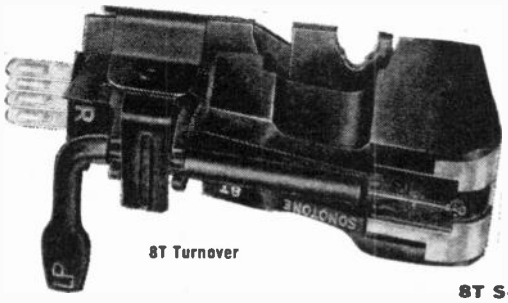
# SONOTONE® STEREOPHONIC CERAMIC CARTRIDGES

**Compatible stereo cartridges play *both* regular and stereo discs!**
**Need no rumble suppressor or pre-amp!**




8T Turnover

8T Series

### SPECIFICATIONS

Response .....Smooth from 20 to 12,000 cycles, gradual rolloff beyond
Output Voltage .....0.3 volt
Compliance .....2.0 x $10^6$ cm/dyne
Recommended Load .....1 to 5 megohms
Tracking Pressure .....5 to 7 grams
Cartridge Weight .....7.5 grams
Channel Isolation .....20 decibels
Stylus .....Dual jewel tips, 0.7-mil microgroove and 3-mil 78 rpm.
Mounting Dimensions .....Standard 7/16 to ½ inch centers

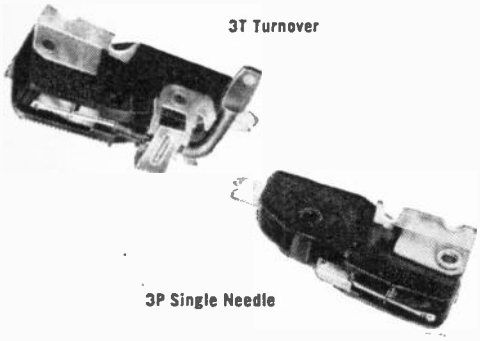
| Type No. | List Price | Description |
|---|---|---|
| 8T4-S | $14.50 | Turnover Cartridge—.7-mil sapphire, 3-mil sapphire |
| 8T4-SD | 24.50 | Turnover Cartridge—.7-mil diamond, 3-mil sapphire |
| 8T4-D | 34.50 | Turnover Cartridge—.7-mil diamond, 3-mil diamond |

**Replacement needles**

| Type No. | List Price | Description |
|---|---|---|
| N-8T-S | $ 3.50 | .7-mil sapphire, 3-mil sapphire for 8T4-S Cartridge |
| N-8T-SD | 16.50 | .7-mil diamond, 3-mil sapphire for 8T4-SD Cartridge |
| N-8T-D | 24.50 | .7-mil diamond, 3-mil diamond for 8T4-D Cartridge |

# SONOTONE® MONOPHONIC CERAMIC CARTRIDGES

**Used in over 417 phonograph models by over 50 phono manufacturers!**



3T Turnover

3P Single Needle

### SPECIFICATIONS

Response .....20 to 20,000 cycles
Output Voltage .....0.5 volt
Compliance .....2.0 x $10^6$ cm/dyne (minimum)
Recommended Load ..2 to 3 megohms
Tracking Force .....7 grams
Cartridge Weight ....12 grams
Mounting Dimensions.Standard ½-inch centers or ⅝-inch centers
Needle .....Dual jewel tips (3T) Jewel tip as listed (3P)
Housing .....Die-cast housing with grounding tab for complete shielding
Finish .....Dull jet black and rich gold

**3P and 3T Series**

| Type No. | List Price | Description |
|---|---|---|
| 3P-1S | $10.50 | 3P Cartridge—1-mil sapphire |
| 3P-3S | 10.50 | 3P Cartridge—3-mil sapphire |
| 3P-1D | 21.00 | 3P Cartridge—1-mil diamond |
| 3P-3D | 21.00 | 3P Cartridge—3-mil diamond |
| 3P-LB-1S | 10.50 | 3P-1S Cartridge—less brackets |
| 3P-LB-3S | 10.50 | 3P-3S Cartridge—less brackets |
| 3P-LB-1D | 21.00 | 3P-1D Cartridge—less brackets |
| 3P-LB-3D | 21.00 | 3P-3D Cartridge—less brackets |
| 3T-S | 12.50 | 3T Cartridge—dual sapphire |
| 3T-SD | 22.50 | 3T Cartridge—sapphire-diamond |
| 3T-D | 34.50 | 3T Cartridge—dual diamond |
| 3T-LB-S | 12.50 | 3T-S Cartridge—less brackets |
| 3T-LB-SD | 22.50 | 3T-SD Cartridge—less brackets |
| 3T-LB-D | 34.50 | 3T-D Cartridge—less brackets |

**Replacement needles**

| Type No. | List Price | Description |
|---|---|---|
| N-3P-1S | $ 3.00 | 1-mil sapphire for 3P Cartridge |
| N-3P-3S | 3.00 | 3-mil sapphire for 3P Cartridge |
| N-3P-1D | 16.00 | 1-mil diamond for 3P Cartridge |
| N-3P-3D | 16.00 | 3-mil diamond for 3P Cartridge |
| N-3T-S | 3.50 | Dual sapphire for 3T Cartridge |
| N-3T-SD | 16.50 | Sapphire-diamond for 3T Cartridge |
| N-3T-D | 24.50 | Dual diamond for 3T Cartridge |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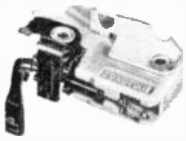
# SONOTONE® MONOPHONIC CERAMIC CARTRIDGES

**Used in over 417 phonograph models by over 50 phono manufacturers!**

4T Turnover

### SPECIFICATIONS

Response .....± 2½ db, 20 to 12,000 cycles with smooth rolloff to 20,000 cycles
Output Voltage .....0.7 volt
Compliance .....1.1 x $10^6$ cm/dyne
Recommended Load ..1 to 5 megohms
Cartridge Weight ....5 grams
Mounting Dimensions.Standard 7/16, ½ or ⅝-inch mounting centers
Stylus Tips .....Sapphire or diamond 1-mil for microgroove and 3-mil for standard 78 rpm.

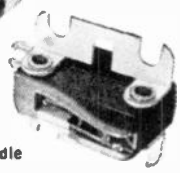


7T Turnover

### SPECIFICATIONS

Response .....2 db, 20 to 12,000 cycles, smooth rolloff to 20,000 cycles
Output Voltage .....0.6 volt
Compliance .....1.6 x $10^6$ cm/dyne
Recommended Load ..1 to 5 megohms
Tracking Force .....7 to 9 grams
Cartridge Weight ...5.5 grams
Mounting Dimensions.Standard 7/16, ½ and ⅝-inch centers
Needle .....Dual Jewel Tips (.001" diamond or sapphire for microgroove, .003" diamond or sapphire for 78 rpm records)

2T Turnover



1P Single Needle

### SPECIFICATIONS

Response .....± 3 db, 30 to 15,000 cycles
Output Voltage .....1.0 volt
Compliance .....1.0 x $10^6$ cm/dyne
Recommended Load ..1 to 5 megohms
Tracking Force .....8 to 10 grams
Cartridge Weight ....5.5 grams
Mounting Dimensions.Standard ½-inch or ⅝-inch centers
Needle .....1P, single. 2T, dual. Sapphire or diamond.

**Power-point 4T Series**

| Model No. | List Price | Description |
|---|---|---|
| 4T-S | $ 5.45 | 1-mil sapphire<br>3-mil sapphire |
| 4T-S1 | 5.45 | Dual 1-mil sapphire |
| 4T-S3 | 5.45 | Dual 3-mil sapphire |
| 4T-SD | 19.50 | 1-mil diamond<br>3-mil sapphire |

**Replacement cartridges**

| Type No. | List Price | Description |
|---|---|---|
| 4T-LB-S | 4.95 | 4T-S Cartridge less bracket |
| 4T-LB-S1 | 4.95 | 4T-S1 Cartridge less bracket |
| 4T-LB-S3 | 4.95 | 4T-S3 Cartridge less bracket |
| 4T-LB-SD | 18.95 | 4T-SD Cartridge less bracket |

**7T Series**

| Type No. | List Price | Description |
|---|---|---|
| 7T-S | $ 9.00 | 7T Cartridge—dual sapphire |
| 7T-SD | 22.50 | 7T Cartridge—sapphire-diamond |
| 7T-D | 34.50 | 7T Cartridge—dual diamond |
| 7T-LB-S | 9.00 | 7T-S Cartridge—less brackets |
| 7T-LB-SD | 22.50 | 7T-SD Cartridge—less brackets |
| 7T-LB-D | 34.50 | 7T-D Cartridge—less brackets |

**Replacement needles**

| Type No. | List Price | Description |
|---|---|---|
| N-7T-S | $ 3.50 | Dual sapphire for 7T |
| N-7T-SD | 16.50 | Sapphire-diamond for 7T Cartridge |
| N-7T-D | 24.50 | Dual diamond for 7T Cartridge |

**2T and 1P Series**

| Type No. | List Price | Description |
|---|---|---|
| 1P-1S | $ 7.50 | 1P Cartridge—1-mil sapphire |
| 1P-2S | 7.50 | 1P Cartridge—2-mil sapphire |
| 1P-3S | 7.50 | 1P Cartridge—3-mil sapphire |
| 1P-1D | 19.50 | 1P Cartridge—3-mil diamond |
| 1P-3D | 19.50 | 1P Cartridge—3-mil diamond |
| 1P-LB-1S | 7.50 | 1P-1S Cartridge—less brackets |
| 1P-LB-2S | 7.50 | 1P-2S Cartridge—less brackets |
| 1P-LB-3S | 7.50 | 1P-3S Cartridge—less brackets |
| 1P-LB-1D | 19.50 | 1P-3D Cartridge—less brackets |
| 1P-LB-3D | 19.50 | 1P-3D Cartridge—less brackets |
| 2T-S | 8.50 | 2T Cartridge—dual sapphire |
| 2T-SD | 22.00 | 2T Cartridge—sapphire-diamond |
| 2T-D | 34.50 | 2T Cartridge—dual diamond |
| 2T-LB-S | 8.50 | 2T-S Cartridge—less brackets |
| 2T-LB-SD | 22.00 | 2T-SD Cartridge—less brackets |
| 2T-LB-D | 34.50 | 2T-D Cartridge—less brackets |

**Replacement needles**

| Type No. | List Price | Description |
|---|---|---|
| N-1P-1S | $ 2.50 | 1-mil sapphire for 1P Cartridge |
| N-1P-2S | 2.50 | 2-mil sapphire for 1P Cartridge |
| N-1P-3S | 2.50 | 3-mil sapphire for 1P Cartridge |
| N-1P-1D | 15.50 | 1-mil diamond for 1P Cartridge |
| N-1P-3D | 15.50 | 3-mil diamond for 1P Cartridge |
| N-2T-S | 3.50 | Dual sapphire for 2T Cartridge |
| N-2T-SD | 16.50 | Sapphire-diamond for 2T Cartridge |
| N-2T-D | 24.50 | Dual diamond for 2T Cartridge |

**Replacement needles for 7590 cartridges**

| Type No. | List Price | Description |
|---|---|---|
| 7529-1S | $2.00 | 1-mil sapphire for 7590 Cartridge |
| 7529-2S | 2.00 | 2-mil sapphire for 7590 Cartridge |
| 7529-3S | 2.00 | 3-mil sapphire for 7590 Cartridge |
| 7552-2M | 1.50 | 2-mil osmium for 7590 Cartridge |

**Sonotone® CORP.**

Electronic Applications Division
ELMSFORD, NEW YORK

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# *Recoton* Phoneedles, Accessories, etc.

**No. 1201 PHONEEDLE COUNTER DISPLAYS**

Here is the finest in phoneedle counter displays. Attractive birch cabinet contains two metal drawers for storing replacement needles and a drawer with lock for diamond needles, etc. Contains 1 needle each of Cat. Nos. 301-481 and 12 diamond styli consisting of 2 each of 385SD, 401D, 418D, and 460SD and 1 each of 303D, 370D, 464D and 470D.

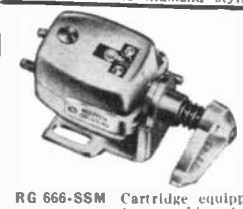
**List Price .....$613.70**

**No. 756 METAL CABINET WITH MICROSCOPE DISPLAY**

A proven merchandiser to intrigue your more technically minded customers. The 200-power microscope enables them to readily determine a bad or worn phoneedle tip. Contains 1 each of Cat. Nos. 301 to 442. **List Price .....$315.65**

**RECOTON-GOLDRING MODEL RG 500**

| Catalog Number | | Audiophile Net |
|---|---|---|
| RG 500-SS | Cartridge equipped with two sapphire styli | $ 9.90 |
| RG 500-SD | Cartridge equipped with diamond stylus for 33 & 45 RPM, sapphire stylus for 78 RPM | 18.75 |
| RG 500-DD | Cartridge equipped with two diamond styli | 28.75 |



**RECOTON-GOLDRING MODEL RG 666 MU-METAL SHIELDED**

| | | |
|---|---|---|
| RG 666-SSM | Cartridge equipped with two sapphire styli | $12.90 |
| RG 666-SDM | Cartridge equipped with diamond stylus for 33 & 45 RPM, sapphire stylus for 78 RPM | 22.90 |
| RG 666-DDM | Cartridge equipped with two diamond styli | 32.90 |

**No. 101**

**"ON THE JOB" SERVICEMAN'S KIT**

Will service 95% of "on the job" requirements. Can be carried in regular tool box. Contains 1 each of Cat. No. 310, 316, 318, 319, 385, 400, 401, 405, 417, 441, 450 and 464 plus a complete set of replacement tools.

**List Price .....$29.45**

**No. 201 METAL CABINET**

Contains 20 needles consisting of Cat. No. 303, 310, 316, 317, 319, 370, 385, 396, 400, 401, 405, 417, 418, 437, 441, 445, 450, 460, 464 and 470 plus a complete set of replacement tools.

**List price .....$53.45**

**No. 601 METAL CABINET WITH MICROSCOPE DISPLAY**

Contains 3 ea. of following needles: Nos. 303, 310, 317, 370, 385, 396, 400, 401, 417, 418, 427, 441, 445, 450, 460, 464 and 470, and 2 each of Nos. 316, 318, 319, 337, 372, 405 and 407.

**List Price .....$177.85**

## CUTTING STYLI

**SAPPHIRE† CUTTING NEEDLES**
**Factory Tested and Sealed**

Superbly crafted, equipped with finest sapphire† point. For professional use.

| | List Price |
|---|---|
| No. 5*—Brass shank, packed in wooden container | $6.60 |
| No. 7—Dural shank, packed in wooden container | $8.25 |

*Available in "Long Shank": specify with order LS after catalog number. No. 7 also available in Microgroove cutting. Specify No. 7MG when ordering.

No. 5 No. 7

**PRECISION-TURNED CUTTING STYLI**
**Made in Switzerland**

| No. 2330 | List Price |
|---|---|
| Each stylus packed in individual container | $ .50 |
| 30 containers to a carton | 15.00 |

**STEEL CUTTING NEEDLES**

| No. 1060 | List Price |
|---|---|
| 5 needles to a card | $ 1.50 |
| 12 cards to a carton | 18.00 |

**STELLITE CUTTING NEEDLES**

| Cat. No. | List Price |
|---|---|
| 11—Stellite Cutting Needle, packed in individual card | $ 2.50 |
| 1112—12 cards to a display card | 30.00 |

**RECOTON WIPE-A-WAY CLOTH**

A New Anti-Static Record cleaning cloth. Cleans, preserves and protects records and needles. Removes harmful grit from grooves and aids Hi-Fi sound reproduction.

**Contains Silicone.**

**Cat. No. 3924**—Contains: One Wipe-a-way cloth in package @ $1.00 list. 24 packages to display carton. **List Price $24.00**

**LIGHTWEIGHT KIDDIE REPRODUCER**

**No. 7412**

Is so constructed to take abnormal abuse without injury to diaphragm. Fine volume and appearance that will appeal to the kiddies. Ivory or blue. **List $1.50**

**No. 41 STYLUS MICROSCOPE "INSPECTOR"**

Electrically wired, mounted on heavy polished wood base.

**List price .... $26.40**

**MAGNETIC RECORDING TAPE**
**For all Tape Recorders**

| Cat. No. | Length in Feet | Size of Plastic Reel | List Price |
|---|---|---|---|
| 1112A | 1200 | 7" | 3.50 |
| 1116A | 600 | 5" | 2.25 |
| 1118A | 1800 | 7" | 5.50 |
| 1119A | 900 | 5" | 3.50 |

**45 RPM RECORD INSERT**

Its unique design guarantees fit! And won't break under normal use — may be adjusted and re-adjusted.

**Cat. No. 3224**—Contains: 5 inserts in pkg. at 25c ea. 24 pkgs. on display card. **List Price $6.00**

**No. 4012**
**"Whisk-a-way" clip-on RECORD BRUSH**

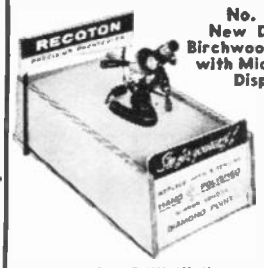
A new and better record brush, one that every record owner needs and wants.

| | List Price |
|---|---|
| 1 "Whisk-a-way" Brush to card ea. | $ 1.00 |
| 12 cards to a Display Card | 12.00 |

**HOME RECORDING DISCS**

| RED LABEL—ALUMINUM BASE | | Price |
|---|---|---|
| 6½" | packed 100 to a carton | $ .45 |
| 8" | packed 50 to a carton | .60 |
| 10" | packed 50 to a carton | .90 |
| 12" | packed 25 to a carton | 1.10 |

| GREEN LABEL—THIN ALUMINUM BASE | | List Price |
|---|---|---|
| 6½" | (100 blanks to a carton) | $ .35 |
| 8" | (100 blanks to a carton) | .50 |
| 10" | (100 blanks to a carton) | .70 |




**No. 1401 New DELUXE Birchwood cabinet with Microscope Display**

contains 15 "Hot" diamond points.

| | | |
|---|---|---|
| 5—385 SD | 1—417 SD | 2—401 D |
| 2—460 SD | 4—418 D | 1—464 D |

**List price .....$239.50**

## ALL GROOVE NEEDLES

**No. 2712 SUPEROSMIUM UNIVERSAL 3-SPEED OSMIUM TIPPED**

Recoton's fine permanent-type needle made of the finest osmium alloys. Micro-tested and factory-sealed for precision results. Lowest surface noise and hiss. Exceptionally gentle to records.

| | List Price |
|---|---|
| No. 2712—1 needle to a card | $ 1.00 |
| 12 to a display card | 12.00 |

**No. 2812 ULTRA UNIVERSAL 3-SPEED SAPPHIRE†**

Popular-priced sapphire† tipped needle featuring high-level performance at low-level cost. Quality crafted . . . micro-tested, factory-sealed for fine results.

| | List Price |
|---|---|
| No. 2812—1 needle to a card | $ 1.50 |
| 12 to a display card | 18.00 |

**No. 2912 PRIMUS SAPPHIRE† NEEDLE**

Versatile . . . popular priced . . . ideal for every kind of electrical player including automatic changers. Features special wire-type grip to allow greater flexibility permitting needle to follow modulation track of record faithfully. Fine sapphire† point eliminates surface noise, minimizes record wear. Reproduces entire tonal range.

| | List Price |
|---|---|
| No. 2912—Each needle | $ 2.50 |
| 12 to display card | 30.00 |

**No. 2124 OSMIUM TIPPED FEATHER-LITE NEEDLE**

Recoton's new osmium tipped bent shank phoneedle.* Long life construction. Fine value for needle of this quality!

| | List Price |
|---|---|
| No. 2124—1 needle to card | $ .50 |
| 24 pkgs. to a display card | 12.00 |

**No. 3D COMBO CARD**

All your needs on ONE card!

**CONTAINS**

12 - 50¢ } 3 speed
12 - 1.00 } Pho-
8 - 1.50 } needles

**List .....$30.00**

* Reg. U. S. "PAT OFF."

**RECOTON CORPORATION** • LONG ISLAND CITY 4, N. Y.



TRADE DISCOUNT APPLIES TO LIST PRICE ONLY

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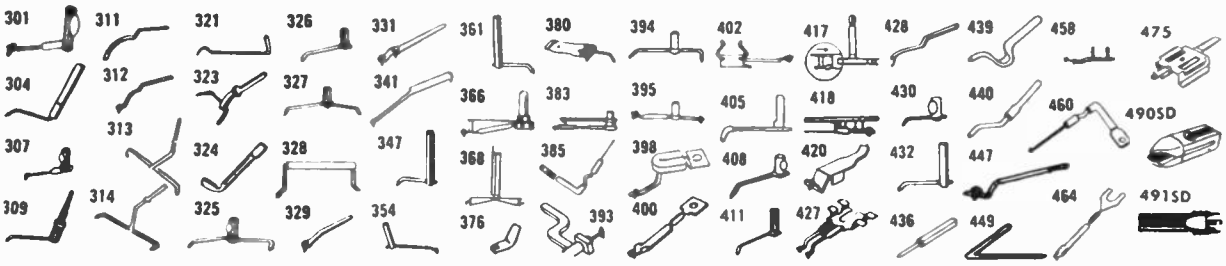
World Radio History

# Recoton Replacement Needles




## FOR ASTATIC CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| MG | 354 | AC, ACD, 40, 41, 42, 90 Series | 370 | $2.50 | 355 | $1.50 |
| 78 | 354 | AC-78, ACD, 40, 41, 90 Series | 371 | 2.50 | 354 | 1.50 |
| AG | 354 | AC-AG, AC-C-AG, 40-2, 41-2 | 372 | 2.50 | 356 | 1.50 |
| MG | 341 | MD-1 Markel Playmaster | 360 | 2.50 | 358 | 1.50 |
| 78 | 341 | MD-3 Markel Playmaster | 359 | 2.50 | 357 | 1.50 |
| AG | 341 | MD-AG-J, MD-AG-M | 379 | 2.50 | 378 | 1.50 |
| MG | 304 | LT-3D, LT-4D, LT-33 | 387 | 2.50 | 320 | 1.50 |
| 78 | 304 | LT-1M, -2M, -3M, -4M, -3D, -4D | 386 | 2.50 | 304 | 1.50 |
| AG | 304 | LT-1AG, LT-5AG, 69-2 | 388 | 2.50 | 338 | 1.50 |
| MG | 321 | GC, GC-1, 51-1, 53-1, 59-1 | 373 | 2.50 | 322 | 1.50 |
| 78 | 321 | GC-1-78, GC-78, QC, 51-3, 53-3, 59-3, 402, 402M | 374 | 2.50 | 321 | 1.50 |
| AG | 321 | GC-AG, -1-AG, 51-2, 53-2, 59-2 | 340 | 2.50 | 339 | 1.50 |
| MG | 301 | CAC, CAC-D, LQD, QT, 14, 15L, 44, 46, 48, 62 | 303 | 2.50 | 316 | 1.50 |
| 78 | 301 | CAC-78, CAC-D, LQD, CQ, QT, 14L and 15L, 36, 38, 44, 46, 62 | 302 | 2.50 | 301 | 1.50 |
| AG | 301 | CAC-AG, 14L3-AG, 15L3-AG, 44-2, 46-2 | 337 | 2.50 | 336 | 1.50 |
| MG | 341 | U Series, LP-33, 50-1 | 343 | 2.50 | 341 | 1.50 |
| 78 | 341 | U-78, LP-78, LP-TR, 50-3 | 344 | 2.50 | 342 | 1.50 |
| TW | 393 | GC-D, 55T, 55TJ (Twin) | 393 | 3.50 | . | . |
| TW | 393 | 57T Webcor changers | 393 | 3.50 | | |
| MG | 405 | 64, 66, 68, 94, 405, 406 | 445 | 2.50 | 405 | 1.50 |
| 78 | 405 | 66, 68, 94, 405, 406 | 444 | 2.50 | 407 | 1.50 |
| AG | 405 | 66-2, 68-2 | 446 | 2.50 | 406 | 1.50 |
| MG | 440 | 408 | 440 | 2.50 | . | |
| MG | 464 | 420, 422, 424, 310 | 464 | 2.50 | . | |
| 78 | 464 | 420, 422, 424, 310 | 466 | 2.50 | . | |
| AG | 464 | 420, 422, 424, 310 | 465 | 2.50 | . | |
| TW | 491 | 8TT | 491SD | 19.75 | | |
| TW | 490 | 9TT | 492SD | 19.75 | | |

## FOR ELECTRO-VOICE CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| MG | 329 | 14, 31, 44, 46, 46T, 96, 96T, 47 | 334 | $2.50 | 330 | $1.50 |
| 78 | 329 | 10, 12, 32, 42, 46, 46T, 96 | 333 | 2.50 | 329 | 1.50 |
| AG | 329 | 30, 33, 33B, 43 | 375 | 2.50 | 335 | 1.50 |
| TW | 331 | 16, 16TT | 332 | 3.50 | 331 | 2.50 |
| AG | 436 | 50, 60, H60 | 441 | 2.50 | 437 | 1.50 |
| TW | 491 | 561DS | 489SD | 19.75 | | |
| TW | 490 | 761DS | 490SD | 19.75 | | |

## FOR GENERAL ELECTRIC CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| TW | 368 | RPX-047, RPX-050, RPX-051, RPX-052, RPX-053, RPX-061, RPX-062 | 368 | $5.95 | . | . |
| MG | 366 | RPX-040, RPX-041, RPX-042, | 367 | $3.50 | . | . |
| 78 | 366 | RPX-046, RPX-063, RPX-145, | 366 | 3.50 | . | . |
| TR | 366 | RPX-146 | 369 | 3.50 | . | . |
| TW | 417 | RPX-047, RPX-050A, RPX-052A, RPX-053A, RPX-061A, RPX-063A | 417 | 5.95 | . | . |
| MG | 418 | Above, w clip-in shank sty | 418 | 3.50 | . | . |
| 78 | 418 | Above, w clip-in shank sty | 419 | 3.50 | . | . |
| TR | 418 | Above, w clip-in shank sty | 459 | 3.50 | . | . |
| MG | 418 | GE VR II | 470 | 3.50 | . | . |
| 78 | 418 | GE VR II | 471 | 3.50 | . | . |
| TR | 418 | GE VR II | 472 | 3.50 | . | . |

## FOR RONETTE CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| AG | 400 | FFV, FFOV Series, RA284 | 443 | $2.50 | . | . |
| MG | 475 | TX-88 | 475 | 3.50 | . | . |
| 78 | 475 | TX-88 | 476 | 3.50 | . | . |

## FOR GRUNDIG MAJESTIC CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| TW | 458 | PE 8, PE 10, Fentone, PE Rex Changer, 3420 PE Player, 1956 Model of Grundig-Majestic, Blaupunkt, Metz Telefunken | 458 | $4.50 | . | . |

## FOR RECOTON CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| MG | 398 | RG 500 RG 555 | 398 | $3.50 | . | . |
| 78 | 398 | RG 500 RG 555 | 399 | 3.50 | . | . |

***NOTES. MG,** Microgroove; **78,** 78 rpm; **AG,** all groove; **TR,** transcription; **TW,** Twin Point. **DIAMOND TIPS**—In all but a very few instances, diamond tips are available where a jewel tip is available. For single diamond tips, List **$14.90.** For Twin diamond tips, List **$29.90.** For Twin, with diamond **MG** and sapphire **78,** List **$16.90.** All sapphires are synthetic.
*Many unlisted needles available. For information, ask us.*

## FOR SHURE CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| 78 | 312 | P30, P57, P70, P72, P74AD, P76, P77, P79, PS5, PS8, PS9, P94, PC41A, PC41T, PC41AFT, PC41, PN30, W22A & B, W23A & B, | 312 | $2.50 | . | . |
| 78 | 311 | W60A & B, W60HS, W60PN | . | . | 311 | $1.50 |
| MG | 312 | Admiral 409A11, P-73, PC41, PC41AT, P74AD, P72V, P76V, PC41AT, PC41T, W21F, W21A, W21AR, W22AB-T | 317 | 2.50 | 318 | 1.50 |
| AG | 312 | Admiral 409A13-1, P71, P37A, C, CA, PS1A, W26A, W26B, W66B | 352 | 2.50 | 319 | 1.50 |
| MG | 128 | C41D, T, P72-P, P76, 76AA F, AFT, PC, T, P77-T, TP, P, P79P, | . | . | 428 | 1.50 |
| 78 | 128 | W A22AB, ABT, PC-42AD, Admiral 409B19-8 | . | . | 429 | 1.50 |
| MG | 380 | W31AR, W C31AR, W C24, PC40, PC41, PC43, PC40T | . | | 381 | 1.50 |
| 78 | 380 | PC41, PC43, PC44, PC40, PC40T, W C24, W C24T | . | . | 380 | 1.50 |
| AG | 380 | W36B, W C36B, PC40, PS20 | . | . | 382 | 1.50 |
| AG | 436 | P93MG, P95MG, W53MG | . | . | 437 | 1.50 |
| MG | 440 | P93MG, P95MG, W53MG, W42B, W42BH, W42, W56A | 440 | 2.50 | . | . |
| MG | 420 | PC42, PC43, PC44, W C38 | 423 | 2.50 | 420 | 1.50 |
| 78 | 420 | PC42, PC43, PC44, W C38 | 425 | 2.50 | 422 | 1.50 |
| AG | 420 | PC42, PC43, PC44, W C38 | 424 | 2.50 | 421 | 1.50 |
| TW | 427 | PC2, PC3, PC4, PC5, W C40, W C40D, MLI4 | 427 | 3.50 | . | . |
| 78 | 447 | PC-42AD, Admiral 409B 19-8 | 447 | 2.50 | . | . |
| MG | 447 | PC-42AD, Admiral 409B 19-8 | 448 | 2.50 | . | . |

## FOR SONOTONE CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| TW | 385 | W-9980, 2TS | 385 | $3.50 | . | . |
| MG | 402 | 1P-1S | 402 | 2.50 | . | . |
| 78 | 402 | 1P-3S | 404 | 2.50 | . | . |
| AG | 402 | 1P-2S | 403 | 2.50 | . | . |
| TW | 460 | 3T-S | 460 | 3.50 | . | . |
| MG | 402 | N3P-1S | 461 | 2.50 | . | . |
| 78 | 402 | N3P-3S | 463 | 2.50 | . | . |
| AG | 402 | N3P-2S | 462 | 2.50 | . | . |

## FOR WEBSTER-ELECTRIC CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| MG | 347 | A1 to A11, A1M to A11M, A, AX | 349 | $2.50 | 347 | $1.50 |
| 78 | 347 | A1 to A11, A1M to A11M, A, AX | 350 | 2.50 | 348 | 1.50 |
| AG | 347 | A1 to A11, A1M to A11M, A, AX | . | . | 351 | 1.50 |
| TW | 328 | F14, F14-1, F14-2, F14-3 | . | . | 328 | 2.50 |
| MG | 347 | F15, F18, F19 | . | . | 362 | 1.50 |
| 78 | 347 | F15, F18, F19 | . | . | 361 | 1.50 |
| MG | 361 | F20, F21, F22, F23, FX | . | . | 391 | 1.50 |
| 78 | 361 | F20, F21, F22, F23, FX | . | . | 392 | 1.50 |
| AG | 439 | A9, AJ-1, C4, CX Series, D2, D3, F1P, F2P, F7P, F7P2, F1K 2M, N, | | | | |
| AG | 440 | N6, N6P, N7, N-7P, N10, N10P, Q1, Q2, Q3, WX Series | 441 | 2.50 | 439 | 1.50 |
| MG | 449 | P1-2 | . | . | 449 | 1.50 |
| AG | 449 | P2-1 | . | . | 450 | 1.50 |
| 78 | 400 | A-200 | 451 | 2.50 | . | . |
| MG | 400 | A-201 | 452 | 2.50 | . | . |
| AG | 400 | A-202 | 453 | 2.50 | . | . |

## FOR RCA CARTRIDGES

| Tip * | See Fig. | For Cartridge or Series Number | Jewel Tip No. | Jewel Tip List | Osmium T. No. | Osmium T. List |
|---|---|---|---|---|---|---|
| 78 | 309 | 70338, 70339, 72551 | 309 | $3.50 | . | . |
| MG | 309 | 75967, 75475, 74067, 74625, 75575, 76318, 77779 | 310 | 3.50 | 315 | $1.50 |
| 78 | 309 | 9890, 39919, 39550, 38598, 39851, 38453, 70332, 75475, 75967 | 397 | 3.50 | 345 | 1.50 |
| AG | 321 | 74984, 76297 | 340 | 2.50 | . | . |
| MG | 354 | 76257 | 370 | 2.50 | . | . |
| MG | 303 | 73839 | 303 | 2.50 | . | . |
| 78 | 312 | 75044 | 312 | 2.50 | . | . |
| MG | 312 | 75044, 76257 | 317 | 2.50 | . | . |
| MG | 420 | 78478 | 423 | 2.50 | 420 | 1.50 |
| 78 | 420 | 78478 | 425 | 2.50 | 422 | 1.50 |

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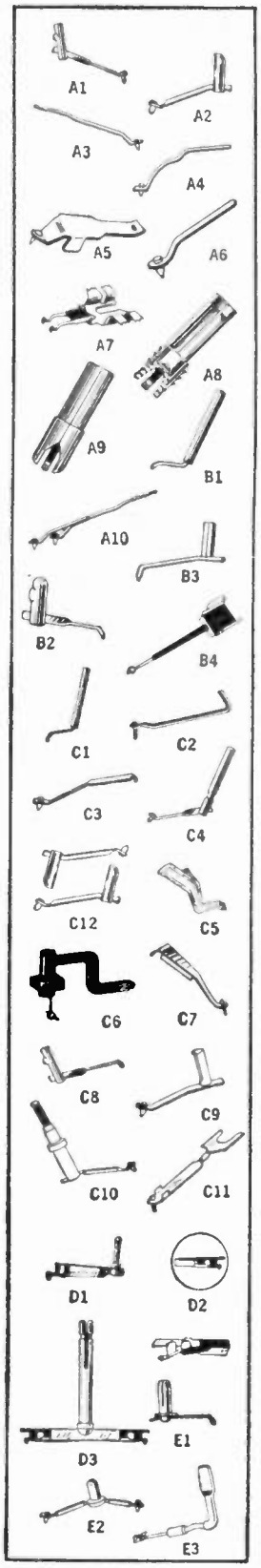
World Radio History

# Walco REPLACEMENT NEEDLE GUIDE

| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **FOR ADMIRAL CARTRIDGES** | | |
| 2.50 | W-2MGS | A1 | 409A301 |
| 14.95 | W-2MGD* | A1 | |
| 2.50 | W-5AGS | A2 | 409A16 |
| 14.95 | W-5AGD* | A2 | |
| 2.50 | W-21S | A3 | 409A13-1, 409A14, 409A15-1, 409A15-2 |
| 14.95 | W-21D* | A3 | |
| 2.50 | W-21MGS | A3 | |
| 14.95 | W-21MGD* | A3 | |
| 2.50 | W-21AGS | A3 | |
| 14.95 | W-21AGD* | A3 | |
| 2.50 | W-30S | A4 | 98A54-1, 409A11, 409A13, 409A13-2, 409A300, 409B19-9 |
| 14.95 | W-30D* | A4 | |
| 2.50 | W-30MGS | A4 | |
| 14.95 | W-30MGD* | A4 | |
| 2.50 | W-30AGS | A4 | |
| 14.95 | W-30AGD* | A4 | |
| 2.50 | W-32AGS | A5 | 409A17 |
| 14.95 | W-32AGD* | A5 | |
| 2.50 | W-34S | A6 | 409B19-8 |
| 14.95 | W-34D* | A6 | |
| 2.50 | W-34MGS | A6 | |
| 14.95 | W-34MGD* | A6 | |
| 3.50 | W-35TPS | A7 | 409B20 |
| 4.25 | W-35TPS-1† | A7 | |
| 16.95 | W-35DS | A7 | |
| 29.95 | W-35TPD* | A7 | |
| | **FOR AMERICAN MICROPHONE CARTRIDGES** | | |
| 1.50 | W-55A | B1 | S-1, S-1A, S-2, S-2A |
| 1.50 | W-56A | B2 | CR5, CR6, CR7 |
| 1.50 | W-56MGA | B2 | |
| 1.50 | W-56AGA | B2 | |
| 1.50 | W-57A | B3 | X101B, X101C, X-105, X-106, X-107 |
| 1.50 | W-57MGA | B3 | |
| 1.50 | W-57AGA | B3 | |
| 2.50 | W-58S | B4 | B-101, B-102, B-103 |
| 2.50 | W-58MGS | B4 | |
| 2.50 | W-58AGS | B4 | |
| 14.95 | W-58D | B4 | |
| 14.95 | W-58MGD | B4 | |
| 14.95 | W-58AGD | B4 | |
| | **FOR ASTATIC CARTRIDGES** | | |
| 1.50 | W-1A | C1 | LT-1M, LT-2M, LT-3M |
| 1.50 | W-1MGA | C1 | |
| 2.50 | W-2S | A1 | 403-J, CAC-D, CAC-AG, CQ-AG, CAC-78, CQ-78, CAC-78X, CAC-78-W CAC-1, QT, CQ, CAC-X, LQD, LQD-1, LQD-1B |
| 14.95 | W-2D* | A1 | |
| 2.50 | W-2MGS | A1 | |
| 14.95 | W-2MGD* | A1 | |
| 2.50 | W-2AGS | A1 | |
| 14.95 | W-2AGD* | A1 | |
| 2.50 | W-3S | C2 | 51-2, 53-1, 53-2, 53-3, 59-1, 59-2, 59-3, GC-1-AG, 402-M, GC, GC-AG, GC-78 |
| 14.95 | W-3D* | C2 | |
| 2.50 | W-3MGS | C2 | |
| 14.95 | W-3MGD* | C2 | |
| 2.50 | W-3AGS | C2 | |
| 14.95 | W-3AGD* | C2 | |
| 2.50 | W-4S | C3 | U, U-78 |
| 14.95 | W-4D* | C3 | |
| 2.50 | W-4MGS | C3 | |
| 14.95 | W-4MGD* | C3 | |
| 2.50 | W-5S | A2 | 10L3(JorM), 11L3(JorM), 90-TB, 90-TJB, 90-TS, 90-TJS, AC, AC-C ACR, AC-AG, AC-C-AG, AC-78, AC-C-78, ACD, ACD-C, ACD-1, ACD-C1, |
| 14.95 | W-5D* | A2 | |
| 2.50 | W-5MGS | A2 | |
| 14.95 | W-5MGD* | A2 | |
| 2.50 | W-5AGS | A2 | |
| 14.95 | W-5AGD* | A2 | |
| 5.00 pr. | W-5S-H | C12 | MD-1, MD-3, MD-5, MD-6, |
| 29.90 pr. | W-5D-H* | C12 | |
| 5.00 pr. | W-5MGS-H | C12 | |
| 29.90 pr. | W-5MGD-H* | C12 | |
| 2.50 | W-6S | C4 | LT-3DM, LT-4DM, LT-4D-1M, LT-4-M, LT-4-AG, LT-4-78 |
| 14.95 | W-6D* | C4 | |
| 2.50 | W-6MGS | C4 | |
| 14.95 | W-6MGD* | C4 | |
| 2.50 | W-6AGS | C4 | |
| 14.95 | W-6AGD* | C4 | |
| 2.50 | W-7S | C5 | Nylon1J, Nylon1M |
| 3.50 | W-8TPS | C6 | 55-T, GCD |
| 4.25 | W-8TPS-1† | C6 | |
| 16.95 | W-8DS | C6 | |
| 29.95 | W-8TPD* | C6 | |
| 2.50 | W-19S | C7 | MD-1, MD-3, MD-5, MD-6 |
| 14.95 | W-19D* | C7 | |
| 2.50 | W-19MGS | C7 | |
| 14.95 | W-19MGD* | C7 | |
| 1.50 | W-25A | C8 | 14L3-M, 15L3-M, 14L3-AG-M, 15L3-AG-M, 14L3-78-M, 15L3-78-M, 14L3-DM, 14L3-DMB, 15L3-DM, 15L3-DMB |
| 1.50 | W-25MGA | C8 | |
| 1.50 | W-25AGA | C8 | |




| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **For Astatic Cartridges (Continued)** | | |
| 2.50 | W-30S | A4 | PT |
| 14.95 | W-30D* | A4 | |
| 3.50 | W-38TPS | C6 | 57-T |
| 4.25 | W-38TPS-1† | C6 | |
| 16.95 | W-38DS | C6 | |
| 29.95 | W-38TPD | C6 | |
| 2.50 | W-39S | C9 | 12L3-M, 62-1M, 64-TMS, 66-1M, 68-1M, 66-2M, 68-2M, 66-3M, 68-3M, 66-TMS, 66-TMY, 66-TMB, 68-TMS, 68-TMY, 68-TMB, 94-TB, 94-TMB, 405, 406 |
| 14.95 | W-39D* | C9 | |
| 2.50 | W-39MGS | C9 | |
| 14.95 | W-39MGD* | C9 | |
| 2.50 | W-39AGS | C9 | |
| 14.95 | W-39AGD* | C9 | |
| 2.50 | W-42MGS | C10 | 408, 410 |
| 14.95 | W-42MGD* | C10 | |
| 2.50 | W-64S | C11 | 310-2, 310-T, 310-TB, 310-TS, 414-1, 420-TS, 422-TS, 424-TS |
| 14.95 | W-64D | C11 | |
| 2.50 | W-64MGS | C11 | |
| 14.95 | W-64MGD | C11 | |
| 2.50 | W-64AGS | C11 | |
| 14.95 | W-64AGD | C11 | |
| | **FOR ELECTRO-VOICE CARTRIDGES** | | |
| 2.50 | W-21S | A3 | 14, 14S, 14S4, 20, 22, 34, 34S, 44, 44S, 46, 46T, 47, 74, 74S, 13, 33, 33-2, 33-3, 33-4, 33B, 33-S, 33-S2, 33-S4E, 43, 43-S, 73, 10, 12, 12S, L-12, M-12, 20, 22, 32, 32-S, 42, 42-S, 46, 46-T, 47, 72, 82, 82D, 82DM, 82S, 82SM, 84, 84D, 84DM, 84S, 84SM, 85D, 85DM, |
| 14.95 | W-21D* | A3 | |
| 2.50 | W-21MGS | A3 | |
| 14.95 | W-21MGD* | A3 | |
| 2.50 | W-21AGS | A3 | |
| 14.95 | W-21AGD* | A3 | |
| 3.50 | W-22TPS | A10 | 16-TT, 16-0 26 |
| 16.95 | W-22DS | A10 | |
| 29.95 | W-22TPD | A10 | |
| | **ELECTRO-VOICE (POWER POINTS)** | | |
| 3.95 | W-201TPS | A8 | Model 56 |
| 3.95 | W-201TPS-1† | A8 | Models 51 & 56 |
| 16.50 | W-201DS | A8 | Model 56 |
| 4.25 | W-202TPS | A9 | Model 76 WEBCOR |
| 16.50 | W-202DS | A9 | Model 76 |
| | **FOR GENERAL ELECTRIC CARTRIDGES** | | |
| 3.50 | W-67S | D1 | RPX-040, RPX-041, RPX-042, RPX-046, RPX-061, RPX-063, 9D |
| 14.95 | W-67D | D1 | |
| 3.50 | W-67MGS | D1 | |
| 14.95 | W-67MGD | D1 | |
| 3.50 | W-67Tr | D1 | |
| 14.95 | W-67TrD | D1 | |
| 3.50 | W-68S | D2 | RPX-050A |
| 14.95 | W-68D | D2 | |
| 3.50 | W-68MGS | D2 | |
| 14.95 | W-68MGD | D2 | |
| 3.50 | W-68Tr | D2 | |
| 14.95 | W-68TrD | D2 | |
| 5.95 | W-68TPS | D3 | RPX-050A, RPX-052A, RPX-053A, RPX-047, RPX051, RPX-052, RPX-053, 12D, UXP-111 Head |
| 5.95 | W-68TPTrS | D3 | |
| 6.95 | W-68TPS-1† | D3 | |
| 16.95 | W-68DS | D3 | |
| 29.95 | W-68TPD | D3 | |
| 29.95 | W-68TPTrD | D3 | |
| 29.95 | W-68TPD-1† | D3 | |
| 3.50 | W-69S | D4 | 4G-052, 053, 4G-061, 063 4G-050, 040, 041 VRII |
| 14.95 | W-69D | D4 | |
| 3.50 | W-69MGS | D4 | |
| 14.95 | W-69MGD | D4 | |
| | **FOR MAGNAVOX CARTRIDGES** | | |
| 2.50 | W-2S | A1 | 560052 |
| 14.95 | W-2D* | A1 | |
| 5.95 | W-33TPS | A7 | 560207-1 |
| 6.95 | W-33TPS-1† | A7 | |
| 16.95 | W-33DS | A7 | |
| 29.95 | W-33TPD | A7 | |
| 3.50 | W-35TPS | A7 | 560188-2 |
| 4.25 | W-35TPS-1† | A7 | |
| 16.95 | W-35DS | A7 | |
| 29.95 | W-35TPD | A7 | |
| 1.50 | W-50A | E1 | 560101 |
| 2.50 | W-51TPA | E2 | 560133, 560170 |
| 3.50 | W-52TPS | E2 | 560151 Series |
| 16.95 | W-52DS | E2 | |
| 29.95 | W-52TPD* | E2 | |
| 2.50 | W-64S | C11 | 560176 |
| 14.95 | W-64D* | C11 | |
| 2.50 | W-64MGS | C11 | |
| 14.95 | W-64MGD* | C11 | |
| 3.50 | W-75TPS | E3 | 560161 |
| 16.95 | W-75DS | E3 | |
| 29.95 | W-75TPD | E3 | |



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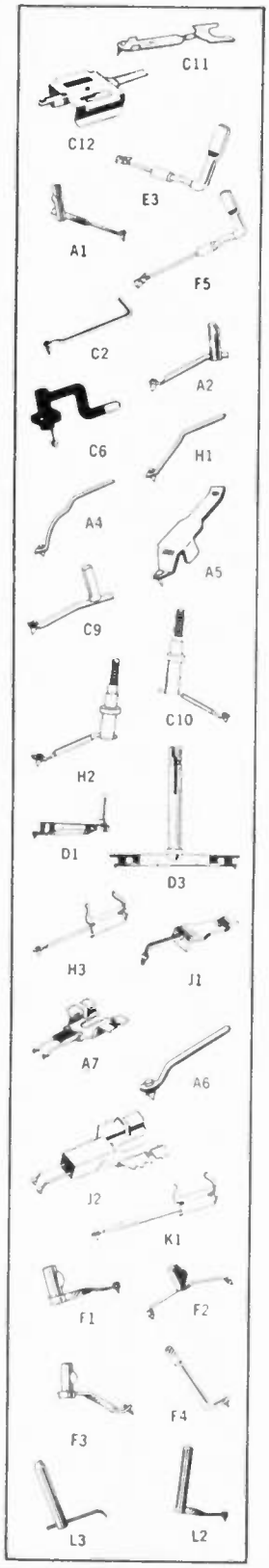
World Radio History

# Walco REPLACEMENT NEEDLE GUIDE

| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **FOR PHILCO CARTRIDGES** | | |
| 1.50 | W-30A | A4 | |
| 2.50 | W-30S | A4 | 35-2671-1 |
| 2.50 | W-45MGS | F1 | 35-2682, 45-1609, |
| 14.95 | W-45MGD* | F1 | 45-1612, 76-4053 |
| 3.50 | W-46TPS | F2 | 425-0009, 425-0014, |
| 16.95 | W-46DS | F2 | 45-9785, 45-9612, |
| 29.95 | W-46TPD* | F2 | 76-4649 |
| 2.50 | W-47MGS | F3 | |
| 14.95 | W-47MGD | F3 | 45-9792 |
| 2.50 | W-48S | F4 | 45-1844, 76-1622, |
| 14.95 | W-48D | F4 | 76-1622-1 |
| 2.50 | W-64S | C11 | |
| 14.95 | W-64D | C11 | |
| 2.50 | W-64MGS | C11 | 325-8014 |
| 14.95 | W-64MGD | C11 | 325-8021 |
| 2.50 | W-64AGS | C11 | |
| 14.95 | W-64AGD | C11 | |
| 3.50 | W-75TPS | E3 | |
| 16.95 | W-75DS | E3 | 325-8018 |
| 29.95 | W-75TPD | E3 | |
| 4.00 | W-77TPS | F5 | |
| 16.95 | W-77DS | F5 | 325-8016 |
| 29.95 | W-77TPD | F5 | |
| | **FOR RCA CARTRIDGES** | | |
| 2.50 | W-2S | A1 | |
| 14.95 | W-2D* | A1 | 73839 |
| 2.50 | W-3MGS | C2 | |
| 14.95 | W-3MGD* | C2 | 74984, 76297 |
| 2.50 | W-5S | A2 | |
| 14.95 | W-5D* | A2 | 76257 (988370-2), |
| 2.50 | W-5MGS | A2 | 101955 |
| 14.95 | W-5MGD* | A2 | |
| 3.50 | W-8TPS | C6 | |
| 4.25 | W-8TPS-1+ | C6 | |
| 16.95 | W-8DS | C6 | 100329 |
| 29.95 | W-8TPD* | C6 | |
| 2.50 | W-29S | H1 | |
| 14.95 | W-29D* | H1 | 75044 |
| 2.50 | W-29MGS | H1 | |
| 14.95 | W-29MGD* | H1 | |
| 2.50 | W-30MGS | A4 | |
| 14.95 | W-30MGD* | A4 | 76257 (988370-1) |
| 2.50 | W-32S | A5 | |
| 14.95 | W-32D | A5 | |
| 2.50 | W-32MGS | A5 | 78478, 162A001 |
| 14.95 | W-32MGD | A5 | |
| 2.50 | W-39S | C9 | |
| 14.95 | W-39D* | C9 | |
| 2.50 | W-39MGS | C9 | 102321 |
| 14.95 | W-39MGD* | C9 | 101316 |
| 2.50 | W-39AGS | C9 | |
| 14.95 | W-39AGD* | C9 | |
| 2.50 | W-42S | C10 | 9890, 9953, 38453, 38598, |
| 14.95 | W-42D* | C10 | 39550, 39851, 39919, 70332, |
| 2.50 | W-42MGS | C10 | 70338, 70338-A, 70339, 72551, |
| 14.95 | W-42MGD* | C10 | 75976, 74067, 74625, 76318 |
| 2.50 | W-44S | H2 | |
| 14.95 | W-44D* | H2 | |
| 2.50 | W-44MGS | H2 | 75475, 75575, 77779 |
| 14.95 | W-44MGD* | H2 | |
| 3.50 | W-67MGS | D1 | |
| 14.95 | W-67MGD | D1 | 74466 |
| 5.95 | W-68TPS | D3 | |
| 6.95 | W-68TPS-1+ | D3 | |
| 16.95 | W-68DS | D3 | 78634, SPC-1, M1-12110, |
| 29.95 | W-68TPD | D3 | SPC-2, M1-12112 |
| 29.95 | W-68TPD-1+ | D3 | |
| 3.50 | W-75TPS | E3 | |
| 4.25 | W-75TPS-1+ | E3 | |
| 16.95 | W-75DS | E3 | 79807, 100653 |
| 29.95 | W-75TPD | E3 | |
| 29.95 | W-75TPD-1+ | E3 | |
| 2.50 | W-76S | H3 | |
| 14.95 | W-76D | H3 | |
| 2.50 | W-76MGS | H3 | |
| 14.95 | W-76MGD | H3 | 79791 |
| 2.50 | W-76AGS | H3 | |
| 14.95 | W-76AGD | H3 | |
| 4.00 | W-77TPS | F5 | 103422 |
| 4.25 | W-77TPS-1+ | F5 | |
| 16.95 | W-77DS | F5 | |
| 29.95 | W-77TPD | F5 | 103422 |
| 29.95 | W-77TPD-1+ | F5 | |
| | **FOR RONETTE CARTRIDGES** | | |
| 2.50 | W-64S | C11 | |
| 14.95 | W-64D | C11 | DT60-P, DT60-OV, DT60-T, |
| 2.50 | W-64MGS | C11 | DT60-US, RA-284P, RA-284-OV, |
| 14.95 | W-64MGD | C11 | RA-284-T, RA-284-US, TO-284-P, |
| 2.50 | W-64AGS | C11 | TO-284-OV, TO-284-T, TO-284-US |
| 14.95 | W-64AGD | C11 | |




| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **For Ronette Cartridges (Continued)** | | |
| 14.95 | W-59D | C12 | TX-88A |
| 14.95 | W-59MGD | C12 | |
| | **FOR SEEBURG CARTRIDGES** | | |
| 2.50 | W-53S | G1 | |
| 14.95 | W-53D | G1 | |
| 2.50 | W-53MGS | G1 | 245789, A251620 |
| 14.95 | W-53MGD | G1 | |
| | **FOR SHURE CARTRIDGES** | | |
| 2.50 | W-29S | H1 | P72, P72A, P72AF, P72AFV, P72T, P72V, P76, P76A, P76AF, |
| 14.95 | W-29D* | H1 | P76AFT, P76AT, P76F, P76T, |
| 2.50 | W-29MGS | H1 | P76AV, P76V, P77, P77A, |
| 14.95 | W-29MGD* | H1 | P77AT, P77AV, P77T, P77V, P79, P79AF, P79T, PC72V, W22A, W22AB, W22ABT, WC24, WC24-T |
| 2.50 | W-30S | A4 | P73, P73A, P73AR, P73R, P75, P75A, P80, P37, P37A P37C, P37CA, P71, P71A, P71B, P71C, P71CA, P81, P81A, P81AD, P81C, P81CA, P81D, P81E, P30, P30B, P30C, |
| 14.95 | W-30D* | A4 | P30D, P30E, P30G, |
| 2.50 | W-30MGS | A4 | P30HS, P30S, P30W, P35, |
| 14.95 | W-30MGD* | A4 | PC30, PN30, PN30S, PN31S, |
| 2.50 | W-30AGS | A4 | P35S, P70, P70A, P85, PC30, |
| 14.95 | W-30AGD* | A4 | PN30, PN30S, PN31S, W21A, W21AR, W21E, W21F, W26A, W26B, W66A, W66B, W23A, W23B, W60A, W60B, W60HS, W60PN, W61B, W65B, WC60B, W68 |
| 2.50 | W-31S | J1 | |
| 14.95 | W-31D* | J1 | PC9, PC10, PC11, PC13, |
| 2.50 | W-31MGS | J1 | PC14, PS20, P31ADH, PC40, |
| 14.95 | W-31MGD* | J1 | PC41, PC40T, PC40C-T, PC41-T, |
| 2.50 | W-31AGS | J1 | WC22AB-T, W31AR, WC31AR, |
| 14.95 | W-31AGD* | J1 | WC33B, W36B, WC36B |
| 5.95 | W-33TPS | A7 | |
| 6.95 | W-33TPS-1+ | A7 | ML44(SS) |
| 16.95 | W-33DS | A7 | ML44(DS) |
| 29.95 | W-33TPD | A7 | ML44(DD) |
| 2.50 | W-34S | A6 | |
| 14.95 | W-34D* | A6 | |
| 2.50 | W-34MGS | A6 | PC42AD |
| 14.95 | W-34MGD* | A6 | |
| 3.50 | W-35TPS | A7 | |
| 4.25 | W-35TPS-1+ | A7 | PC2 Series, PC3 Series, |
| 16.95 | W-35DS | A7 | PC4 Series, PC5 Series, |
| 29.95 | W-35TPD | A7 | WC10, WC10D |
| 5.95 | W-41TPS | J2 | PC-6, WC-6 |
| 16.95 | W-41DS | J2 | PC-7 |
| | **FOR SONOTONE CARTRIDGES** | | |
| 2.50 | W-3S | C2 | |
| 14.95 | W-3D* | C2 | 7590-1S, 7590-LB-1S, |
| 2.50 | W-3MGS | C2 | 7590-2M, |
| 14.95 | W-3MGD* | C2 | 7590-2S, 7590-LB-2M, |
| 2.50 | W-3AGS | C2 | 7590-LB-2S, |
| 14.95 | W-3AGD* | C2 | 7590-3S, 7590-LB-3S |
| 3.50 | W-75TPS | E3 | |
| 4.25 | W-75TPS-1+ | E3 | 2T-D, 2T-S, 2T-SD, 2T-LB-D |
| 16.95 | W-75DS | E3 | 2T-LB-S, 2T-LB-SD, 9980-S, |
| 29.95 | W-75TPD | E3 | 9980-SD, 9980-D |
| 29.95 | W-75TPD-1+ | E3 | |
| 2.50 | W-76S | H3 | |
| 14.95 | W-76D | H3 | IP-1S, IP-1D, IP-LB-1S, |
| 2.50 | W-76MGS | H3 | IP-LB-1D, IP-2S, IP-LB-2S, |
| 14.95 | W-76MGD | H3 | IP-3S, IP-3D, IP-LB-3S, |
| 2.50 | W-76AGS | H3 | IP-LB-3D |
| 14.95 | W-76AGD | H3 | |
| 4.00 | W-77TPS | F5 | |
| 4.25 | W-77TPS-1+ | F5 | |
| 16.95 | W-77DS | F5 | 3-T, 3-TSD, 3-TDD |
| 29.95 | W-77TPD | F5 | |
| 29.95 | W-77TPD-1+ | F5 | |
| 2.50 | W-78S | K1 | |
| 15.95 | W-78D | K1 | |
| 2.50 | W-78MGS | K1 | 3P-1, 3P-3 |
| 15.95 | W-78MGD | K1 | |
| 2.50 | W-78AGS | K1 | |
| 14.95 | W-78AGD | K1 | |
| | **FOR WEBSTER ELECTRIC CARTRIDGES** | | |
| 2.50 | W-10S | L2 | |
| 14.95 | W-10D | L2 | A1, A1-8, A7, A7-1, A7-5, |
| 2.50 | W-10MGS | L2 | A7-8, A8, A10 |
| 14.95 | W-10MGD | L2 | |
| 1.50 | W-11A | L3 | A1M, A1M1, A2M, A5M, |
| 1.50 | W-11MGA | L3 | A6M, A7M, A8M, A10M, AB1M, AX |

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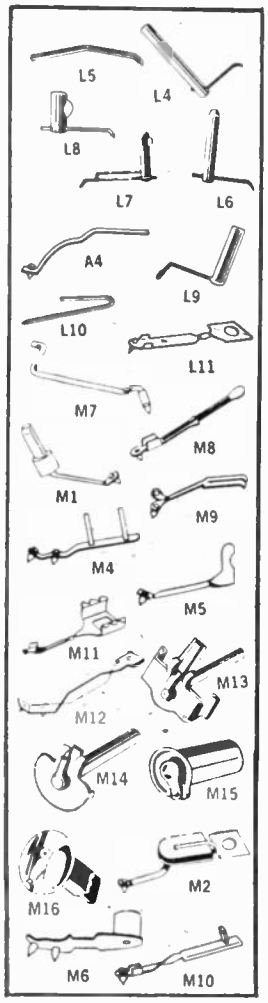
# Walco REPLACEMENT NEEDLE GUIDE

| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **For Webster Electric Cartridges (Continued)** | | |
| 1.50 | W-16A | L4 | F15, F15-1, F16, F16-1, F16-2, F18, F18-1, F19, F19-1 |
| 1.50 | W-17A | L4 | |
| 1.50 | W-16MGA | L4 | |
| 1.50 | W-17MGS | L4 | |
| 1.50 | W-23A | L5 | G1M, GX, G2M, G4M, G3M, G6M |
| 1.50 | W-23MGA | L5 | |
| 1.50 | W-23AGA | L5 | |
| 1.50 | W-26A | L6 | F20, F-21, FX |
| 2.50 | W-26S | L6 | |
| 1.50 | W-26MGA | L6 | |
| 2.50 | W-26MGS | L6 | |
| 1.50 | W-27MGA | L7 | B1M, BX |
| 1.50 | W-28A | L8 | AG1M, AG7M, AG1, AG7 |
| 1.50 | W-28MGA | L8 | |
| 2.50 | W-30S | A4 | F10, F11, F11-1 |
| 14.95 | W-30D | A4 | |
| 2.50 | W-30MGS | A4 | |
| 14.95 | W-30MGD | A4 | |
| 1.50 | W-36A | L9 | RG Series |
| 1.50 | W-36MGA | L9 | |
| 1.50 | W-40MGA | L10 | P1-2, P2-1, UX |
| 1.50 | W-40AGA | L10 | |
| 1.50 | W-65A | L11 | A100, A103, A160, B202, A200, A250, A260 |
| 2.50 | W-65S | L11 | |
| 1.50 | W-65MGA | L11 | |
| 2.50 | W-65MGS | L11 | |
| 1.50 | W-65AGA | L11 | |
| 2.50 | W-65AGS | L11 | |

**FOR FOREIGN CARTRIDGES**

| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| 2.50 | W-61S | M11 | Vaco — T45, S45 |
| 2.50 | W-61MGS | M11 | |
| 2.50 | W-61AGS | M11 | |
| 14.95 | W-61D | M11 | |
| 14.95 | W-61MGD | M11 | |
| 14.95 | W-61AGD | M11 | |
| 16.95 | W-85DS | M12 | Telefunken — TTSA |
| 16.95 | W-86DS | M13 | Bang & Olufsen — Fentone B & O 350R Std., B & O 72R Std. |
| 14.95 | W-87MGD | M14 | Professional — B & O A Special |
| 14.95 | W-88D | M15 | Elac Miratwin |
| 14.95 | W-88MGD | M15 | MST-2A, 2D |
| 14.95 | W-89D | M16 | Perpetuum-Ebner |
| 14.95 | W-89MGD | M16 | P-7000 |
| 3.00 | W-90S | M1 | ACOS GP29 |
| 14.95 | W-90D | M1 | |
| 3.00 | W-90MGS | M1 | |
| 14.95 | W-90MGD | M1 | |




| PRICE | WALCO NO. | FIG. | CARTRIDGE |
|---|---|---|---|
| | **For Foreign Cartridges (Continued)** | | |
| 3.00 | W-91MGS | M2 | Recoton Goldring "500" |
| 14.95 | W-91MGD | M2 | |
| 4.00 | W-93TPS | M4 | Perpetuum-Ebner PE-8 and PE-10 |
| 16.95 | W-93DS | M4 | |
| 29.95 | W-93TPD | M4 | |
| 3.00 | W-94S | M5 | Phillips AG3013 |
| 14.95 | W-94D | M5 | |
| 3.00 | W-94MGS | M5 | |
| 14.95 | W-94MGD | M5 | |
| 4.00 | W-95TPS | M6 | Dual |
| 16.95 | W-95DS | M6 | |
| 29.95 | W-95TPD | M6 | |
| 3.00 | W-96S | M7 | ACOS 37-1 |
| 14.95 | W-96D | M7 | |
| 3.00 | W-96MGS | M7 | |
| 14.95 | W-96MGD | M7 | |
| 3.00 | W-97S | M8 | ACOS HGP59 |
| 14.95 | W-97D | M8 | |
| 3.00 | W-97MGS | M8 | |
| 14.95 | W-97MGD | M8 | |
| 4.00 | W-98TPS | M9 | Perpetuum-Ebner P-12/RG |
| 16.95 | W-98DS | M9 | |
| 29.95 | W-98TPD | M9 | |
| 3.00 | W-99S | M10 | Garrard GC-2 |
| 14.95 | W-99D | M10 | |
| 3.00 | W-99MGS | M10 | |
| 14.95 | W-99MGD | M10 | |

**CODE**

**A**—Osmium alloy needle for 78 rpms
**S**—Synthesized Sapphire needle for 78 rpms
**D**—Diamond needle for 78 rpms
**AGA**—All groove alloy needle for all speeds
**AGS**—All groove sapphire needle for all speeds
**AGD**—All groove diamond needle for all speeds
**MGA**—Microgroove alloy needle for 33⅓ & 45 rpms
**MGS**—Microgroove sapphire needle for 33⅓ & 45 rpms
**MGD**—Microgroove diamond needle for 33⅓ & 45 rpms
**Tr**—Transcription sapphire (.0025")
**TrD**—Transcription diamond (.0025")
**TPTrS**—Twin point sapphire needle (Combination Tr and MGS)
**TPTrD**—Twin point diamond needle (Combination of TrD and MGD)
**TPA**—Twin point alloy needle (Combination of A and MGA)
**TPS**—Twin point sapphire needle (Combination of S and MGS)
**TPD**—Twin point diamond needle (Combination of D and MGD)
**DS**—Twin point needle (Combination of S and MGD)
*Available with alloy tip
†Two 1 mil tips

ALL Sapphire Needle Tips are precision synthesized

# Walco CONVENTIONAL NEEDLES

## WALCO "400" Floating Jewel (SYN.) Needles

**WS-400.** For scratch-free, high fidelity reproduction. Famous "Floating Jewel" action. For 78 rpm. List, **$2.50.**

**WS-400-2.** Same high fidelity "Floating Jewel"-reproduction as WS-400, but Universal tip for 3-speed phonographs. List, **$2.50.**

Also Available W-400 MGS (33-1/3 — 45 rpm, Sapphire SYN.)

## WALCO "400" Precious Metal Needles

**WA-400.** Scientifically designed self-polishing tip. Cuts down friction, lengthens record life. For 78 rpm. List, **$1.50.**

**WA-400-2.** Same self-polishing tip needle as WA-400, but Universal tip for 3-speed phonographs. List, **$1.50.**

## WALCO "ENCORE" Needles

**WA-100.** Spring-action design for long life, less record wear. 78 rpm. List, **$1:00.**

**WA-100-2.** Same spring-action design needle, but with Universal tip for 3-speed phonographs. List, **$1.00.**

## WALCO "GROOVEMASTER" Needles

**WA-150.** Low-priced, fast selling alloy tip needle with filter type shank. 78 rpm. List, **$.50.**

**WA-150-2.** Same as WA-150, but with Universal tip for 3-speed phonographs. List, **$.50.**

Available on Display Cards or space saving cards of six.

## WALCO CUTTING NEEDLES

### WC-25 SAPPHIRE
(SYN.)

Hand lapped, precision ground. List, **$8.25.**

### WC-30 STELLITE

Long-life, hand polished stylus. List, **$3.50.**

Available 12 needles to a counter display card

### WC-20 STEEL

For finest home recording results. Card of 3, **$1.00.**

Available 12 packages to a counter display card

**ELECTROVOX COMPANY, INC.**, 60 Franklin St., East Orange, N. J.

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# DUOTONE COMPANY, INC.

KEYPORT, N. J.

# acos® *Hi-g®

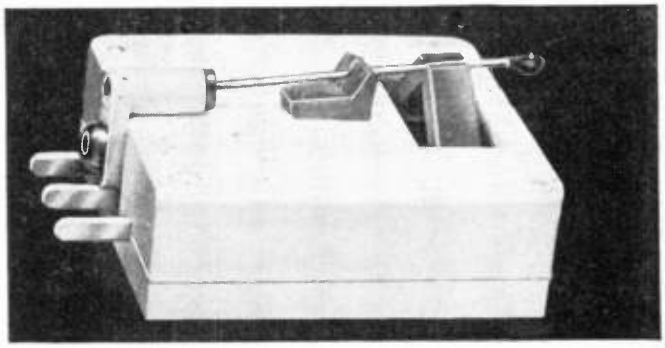
**British quality from Britain's largest cartridge manufacturer**

# STEREOPHONIC PHONOGRAPH CARTRIDGE

**TYPE GPS80-1.** Featuring *extremely high vertical & lateral compliance for perfect playback of new 45-45 stereo discs. "Floating Needle Action" nullifies needle talk & pinch effect.

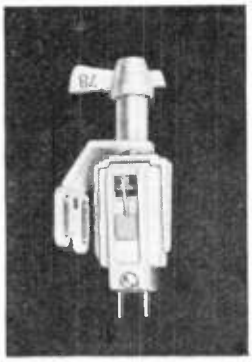
| | |
|---|---|
| Frequency Response: | 20 to 17,500 cps. ±2 db. RIAA curve |
| Output: | 1 volt |
| Compliance: | 2 x 10 ⁶ CM/dyne |
| Tracking Pressure: | 2 to 6 grams |
| Stylus: | .7 mil |
| Standard EIA mounting | |
| Channel Separation: | 20 db minimum through audio spectrum |

GPS80-1S Sapphire Stylus $20.00 List
GPS80-1D Diamond Stylus $31.25 List



## TYPE GP65-3
(High Output)
## TURNOVER CARTRIDGE

Expressly designed for low gain amplifiers and portable phonographs.



*Extremely high vertical & lateral compliance—completely compatible for monaural play back of new stereo discs.

New "Floating Needle Action" nullifies needle talk & pinch effect.

| | |
|---|---|
| Frequency Response: | 50 to 9,000 cps. |
| Output: | 3 volts—capable of driving any 1 tube amplifier to full output |
| Tracking Pressure: | 8-10 grams |

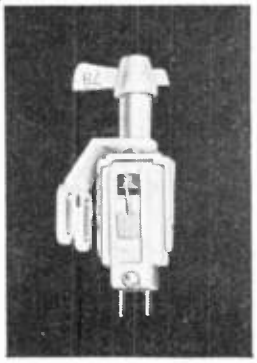
Needle replacement made by slipping shank out of holder. One twist removes cartridge from bracket for easy mounting in all popular arms.

Light weight cartridge complete with two sapphire stylii (microgroove and standard).

$8.45 List

## TYPE GP65-1
(Medium Output)
## TURNOVER CARTRIDGE

Replacement cartridge designed for high fidelity sound reproduction in all types of phonographs.



*Extremely high vertical & lateral compliance—completely compatible for monaural play back of new stereo discs.

New "Floating Needle Action" nullifies needle talk & pinch effect.

| | |
|---|---|
| Frequency Response: | 50 to 12,000 cps. |
| Output: | 1 volt |
| Tracking Pressure: | 8-10 grams |

Needle replacement made by slipping shank out of holder. One twist removes cartridge from bracket for easy mounting in all popular arms.

Light weight cartridge complete with two sapphire stylii (microgroove and standard).

$8.45 List

## MIC39-1 "Lipstyk" Microphone

Beautifully styled for hand, hanging, or desk stand. Precision engineered for high quality recording, broadcast, and P.A. work. Die cast microphone liner eliminates hum because of hand capacity and a special noise free cable greatly improves screening & signal to noise ratio.

| | |
|---|---|
| Polar Response: | Omni-directional |
| Sensitivity: | 62 db |
| Load Resistance: | Hi-Z |
| Overall Length: | 4¼" |
| Maximum Diameter: | 1⅛" |
| Minimum Diameter: | ¾" |
| Lead Length: | 8 ft. |
| Weight: | 4 oz. |

$20.00 List
Complete with Detachable Stand

## GP2-3

## REPLACEMENT TONE ARM COMPLETE WITH GP65-3 TURNOVER CARTRIDGE PRE-MOUNTED

Excellently constructed die cast non-resonant arm for general phonograph replacement. Overall length 8¾", tracking centers 7". Spring rear assembly secured by an aluminum bushing and lock nut provide frictionless action. Adjustable counter balance spring permits varying tracking weights if so desired. Standard finish hammered grey. Replaces practically all existing arms.

GP2-3 Tone Arm w/ premounted GP65-3 Cartridge & Rest $14.50 List

GP2-1 Tone Arm w/ premounted GP65-1 Cartridge & Rest $14.50 List

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

World Radio History

DUOTONE
KEYPORT NEW JERSEY

# DUOTONE NEEDLE REPLACEMENT GUIDE

| MANUFACTURER'S CARTRIDGE NO. | RECORD SPEED | OSMIUM Needle No. | OSMIUM List Price | JEWEL Needle No. | JEWEL List Price | DIAMOND Needle No. | DIAMOND List Price |
|---|---|---|---|---|---|---|---|
| **AMERICAN MICROPHONE** | | | | | | | |
| C-1; C-2; C-3 | 33⅓-45 | 599 | 1.50 | — | — | — | — |
| CR-5; CR-6; CR-7 | 33⅓-45-78 | 598 | 1.50 | — | — | — | — |
| | 78 | 597 | 1.50 | — | — | — | — |
| X101B; X101C; | 33⅓-45 | 649 | 1.50 | 652 | 2.50 | 652D | 25.00 |
| X101BC; X105B; | 33⅓-45-78 | 650 | 1.50 | — | — | — | — |
| X105C; X106B; | 78 | 651 | 1.50 | 653 | 2.50 | 653D | 25.00 |
| X107B; X107C | | | | | | | |
| **ASTATIC** | | | | | | | |
| AC; AC-C; AC-D; ACD; ACD-C; AC-J; ACD-J; ACD-2J; AC-R; AG-J; | 33⅓-45 | 555 | 1.50 | 570 | 2.50 | 570D | 25.00 |
| 40-1; 40-2; 40-T; 40-TB; 41-2; 41-T; | 33⅓-45-78 | 556 | 1.50 | 572 | 2.50 | 572D | 25.00 |
| 41-TB; 42-1; 90-T; 90-J; 90-B; 90-S; 10L3; 11L3 | 78 | 554 | 1.50 | 571 | 2.50 | 571D | 25.00 |
| MD-1; MD-2; | 33⅓-45 | 541 | 1.50 | 543 | 2.50 | 543D | 25.00 |
| MD-3; U-78; U-TR; | 33⅓-45-78 | 578 | 1.50 | 579 | 2.50 | 579D | 25.00 |
| U; 50-1; 50-3 | 78 | 542 | 1.50 | 544 | 2.50 | 544D | 25.00 |
| Nylon 1J; 1M; 1-J-PN; Nylon 1-M-PN | 78 | 505 | 1.50 | 506 | 2.50 | 506D | 25.00 |
| 408 | 33⅓-45 | 515 | 1.50 | 510 | 2.50 | 510D | 25.00 |
| 410 | 33⅓-45 | 558 | 1.50 | 560 | 2.50 | 560D | 25.00 |
| | 78 | 557 | 1.50 | 559 | 2.50 | 559D | 25.00 |
| 57-T; 57-TJ; 57-TM; (Webcor) | 33⅓-45-78 | (Twin Point) | | 642 | 3.50 | 642D/S | 28.00 |
| 55-T; 55-TJ; 55-TM; 6CD-J; 409 | 33⅓-45-78 | (Twin Point) | | 638 | 3.50 | 638D/S | 28.00 |
| CAC-CQ; LQD; QT; | 33⅓-45 | 516 | 1.50 | 503 | 2.50 | 503D | 25.00 |
| QT-33; 36; 38; 44; 44-T; 46; 46-1; | 33⅓-45-78 | 536 | 1.50 | 537 | 2.50 | 537D | 25.00 |
| 48-1; 66-T; 403; 430 | 78 | 501 | 1.50 | 502 | 2.50 | 502D | 25.00 |
| LT-33; LT-1; | 33⅓-45 | 607 | 1.50 | 587 | 2.50 | 587D | 25.00 |
| LT-2; LT-3 | 78 | 606 | 1.50 | 586 | 2.50 | 586D | 25.00 |
| 14L3; 14L3-D, ISL3; 15L3D; 14L3-AG; | 33⅓-45 | 677 | 1.50 | — | — | — | — |
| 15L3-AG; 14L3-78; | 33⅓-45-78 | 676 | 1.50 | — | — | — | — |
| 15L3-78 | 78 | 675 | 1.50 | — | — | — | — |
| LT-3D; LT-4; LT-4D; | 33⅓-45 | 520 | 1.50 | 587 | 2.50 | 587D | 25.00 |
| LT-4D1; LT-4AG; | 33⅓-45-78 | 538 | 1.50 | 588 | 2.50 | 588D | 25.00 |
| LT-5AG; 60-2; MD | 78 | 504 | 1.50 | 586 | 2.50 | 586D | 25.00 |
| 16L3; 17L3; 18L3; 2; 4; 6; 16; 22; 24; 106; 407; L-12; L-22A; L-24A; L-25A; L-26A, L-27A; L-29; L-32A; L-36A; L-40; L-40A; L-41A; L-46A; L-50A; L-70; L-71; L-72; L-73; L-74; L-75; L-76; L-82A; L-82AV; L-92; L-92A; 10; 12; 12U; 14; 26; 28; 32; 34; L-10; L-12U; L-22; L-24; L-25; L-26; L-27; L-29 | 33⅓-45-78 | 591 | 1.50 | (Or Any Conventional Needle) | | | |
| B-1; B-2; B-3; B-4; BPN-2; M-22; M-23; 401; 401A | 78 | Any Conventional Needle | | | | | |
| GC; GC-1; GC-1-AG; GC-78; GC-78-1; 51-1; | 33⅓-45 | 522 | 1.50 | 573 | 2.50 | 573D | 25.00 |
| 51-2; 51-3; 53-1; 53-2; 53-3; 59-1; | 33⅓-45-78 | 539 | 1.50 | 540 | 2.50 | 540D | 25.00 |
| 59-2; 59-3; MG; MG-AG; MG-78; 402; 402-M | 78 | 521 | 1.50 | 574 | 2.50 | 574D | 25.00 |
| 6L3; 6L3-D; 6L3-78; 6L3-AG; 8L3; 8L3-D; 8L3-78; 8L3-AG; | 33⅓-45 | 655 | 1.50 | 658 | 2.50 | 658D | 25.00 |
| 12L3; 61-1; 62-1; 64-T; 66; 66-1; | 33⅓-45-78 | 656 | 1.50 | 659 | 2.50 | 659D | 25.00 |
| 66-2; 66-3; 68; 68-1; 68-2; 68-3; 94-T; 405; 406 | 78 | 654 | 1.50 | 657 | 2.50 | 657D | 25.00 |
| MD-5; | 33⅓-45 | 555 | 2.25 pr. | 570 | 3.25 pr. | 570D | 25.00 |
| MD-6 | 78 | 554 | 2.25 pr. | 571 | 3.25 pr. | 571D | 25.00 |

| MANUFACTURER'S CARTRIDGE NO. | RECORD SPEED | OSMIUM Needle No. | OSMIUM List Price | JEWEL Needle No. | JEWEL List Price | DIAMOND Needle No. | DIAMOND List Price |
|---|---|---|---|---|---|---|---|
| **ASTATIC (Cont.)** | | | | | | | |
| PT (Philco) | 78 | 511 | 1.50 | 512 | 2.50 | 512D | 25.00 |
| 118; 120; 124; 310T; 310-1; 310-2; 310-TB; 310-TS; | 33⅓-45 | — | — | 699 | 2.50 | 699D | 25.00 |
| 312T; 312-2; 312-TB; 312-TS; 414-1; | 33⅓-45-78 | — | — | 701 | 2.50 | 701D | 25.00 |
| 424TS; 420 420TS; 422; 422TS | 78 | — | — | 702 | 2.50 | 702D | 25.00 |
| **AUDAK** | | | | | | | |
| D-L-6; H1-Q7; L-6; | 33⅓-45 | — | — | 584 | 3.50 | 584D | 25.00 |
| R-2; R-6 | 78 | — | — | 583 | 3.50 | 583D | 25.00 |
| **DUAL** | | | | | | | |
| UNITED-AUDIO | 33⅓-45-78 | (Twin Point) | | — | — | 726D S | 30.00 |
| **ELECTRO-VOICE** | | | | | | | |
| 50; 60; 60H | 33⅓-45-78 | Any Conventional Needle | | | | | |
| 10; 12; 13; 14; 20; 22; 32; 33; 33-2; 33-3; 33-4; 33-B; 33-S; 33-S2; 33-S4E; 34; 42; 43; 44; 46; | 33⅓-45 | 530 | 1.50 | 534 | 2.50 | 534D | 25.00 |
| 46-T; 47; 72; 73; 74; 82; 82DM; 82SM; | 33⅓-45-78 | 535 | 1.50 | 575 | 2.50 | 575D | 25.00 |
| 84; 84SM; 84DM; 84S; 85D; 85DM; 86S; 86M; 86DM; 96; 96-T; L-12; M-12 | 78 | 529 | 1.50 | 533 | 2.50 | 533D | 25.00 |
| 16; 16-TT; 16-O; 16-S; 16-3; 16-5; 22-TT; 26 | 33⅓-45-78 | (Twin Point) | | 532 | 3.50 | 532D/S | 28.00 |
| **GARRARD** | | | | | | | |
| GC-2 | 33⅓-45 | — | — | 722 | 3.50 | 722D | 30.00 |
| | 78 | — | — | 723 | 3.50 | 723D | 30.00 |
| **GENERAL ELECTRIC TYPE** | | | | | | | |
| RPX-040; RPX-041; | 33⅓-45 | — | — | 567 | 3.50 | 567D | 27.50 |
| RPX-042; RPX-046; | 33⅓-45-78 | — | — | 569 | 3.50 | 569D | 27.50 |
| RPX-061; RPX-063; 9D | 78 | — | — | 566 | 3.50 | 566D | 27.50 |
| RPX-047; RPX-050; RPX-051; RPX-052; RPX-053; UXP-111; 12D | 33⅓-45-78 | (Twin Point) | | 568 | 5.95 | 568D/S | 28.00 |
| RPX-040A; RPX-041A; RPX-047A; RPX-050A; | 33⅓-45 | (Individual | | 661 | 3.50 | 661D | 27.50 |
| RPX-051A; RPX-052A; | 33⅓-45-78 | Clip-in | | 663 | 3.50 | 663D | 27.50 |
| RPX-053A; RPX-061A; RPX-063A; 145; 146; 147 | 78 | Style) | | 662 | 3.50 | 662D | 27.50 |
| RPX-040A; RPX-041A; RPX-047A; RPX-050A; RPX-051A; RPX-052A; RPX-053A; RPX-061A; RPX-063A; 145; 146; 147 | 33⅓-45-78 | (Twin Point) | | 660 | 5.95 | 660D S | 30.00 |
| VR II Series; 4G-040; 4G-061; | 33⅓-45 | | | 713 | 3.50 | 713D | 27.50 |
| 4G-041; 4G-063; | 78 | | | 714 | 3.50 | 714D | 27.50 |
| 4G-053; 4G-052; 4G-050 | 33⅓-45-78 | (Twin Point) | | 715 | 5.95 | 715D S | 30.00 |
| **GOLDRING** | | | | | | | |
| 500 | 33⅓-45 | — | — | 679 | 3.50 | 679D | 25.00 |
| | 78 | — | — | 678 | 3.50 | 678D | 25.00 |
| **MAGNAVOX** | | | | | | | |
| 560101 | 78 | 526 | 1.50 | — | — | 526D | 25.00 |
| 560052 | 78 | 501 | 1.50 | 502 | 2.50 | 502D | 25.00 |
| 560133; 560151; 560158; 560169; 560170 | 33⅓-45-78 | (Twin Point) | | 589 | 3.50 | 589D/S | 27.50 |
| 560176; 560180 | 33⅓-45 | — | — | 594 | 2.50 | 594D | 25.00 |
| | 78 | — | — | 595 | 2.50 | 595D | 25.00 |
| 560177; 560188-1 | 33⅓-45-78 | (Twin Point) | | 647 | 3.50 | 647D/S | 28.00 |
| 560192; 560188 | 33⅓-45-78 | (Twin Point) | | 629 | 3.50 | 629D/S | 28.00 |
| **PERPETUUM EBNER** | | | | | | | |
| PE-8; PE-10 | 33⅓-45-78 | (Twin Point) | | 705 | 4.50 | 705D/S | 30.00 |
| PE-12 | 33⅓-45-78 | (Twin Point) | | 706 | 3.75 | 706D/S | 30.00 |
| PE-7000 | 33⅓-45 | — | — | 716 | 4.00 | 716D | 27.50 |
| | 78 | — | — | 717 | 4.00 | 717D | 27.50 |



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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# DUOTONE NEEDLE REPLACEMENT GUIDE

DUOTONE
KEYPORT NEW JERSEY

| MANUFACTURER'S CARTRIDGE NO. | RECORD SPEED | OSMIUM Needle No. | OSMIUM List Price | JEWEL Needle No. | JEWEL List Price | DIAMOND Needle No. | DIAMOND List Price |
|---|---|---|---|---|---|---|---|
| **PHILCO** | | | | | | | |
| 45-9612; 76-4649; 425-0009; 425-0011; 425-0014; 425-0016 | 33⅓-45-78 | (Twin Point) | | 533 | 3.50 | 553D S | 27.50 |
| 45-9785 | 33⅓ 45-78 | 525 (Twin Point) | 2.50 | — | — | — | — |
| 35-2682; 35-2671; 45-1609; 45-1612; 45-9792; 76-4053; 425-0017; 425-0015 | 33⅓ | 507 | 1.50 | 508 | 2.00 | 508D | 25.00 |
| 76-1622; 76-1623-1; 45-1844 | 78 | — | — | 524 | 2.25 | 524D | 25.00 |
| 35-2775 | 33⅓-45 | — | — | 594 | 2.50 | 594D | 25.00 |
| | 33⅓-45-78 | — | — | 674 | 2.50 | 674D | 25.00 |
| | 78 | — | — | 595 | 2.50 | 595D | 25.00 |
| **PHILIPS** | | | | | | | |
| AG-3010; AG-3012; AG-3013; AG-3015 | 33⅓-45 | — | — | 604 | 3.50 | 604D | 27.50 |
| | 78 | — | — | 603 | 3.50 | 603D | 27.50 |
| AG-3001-10; AG-5011 | 33⅓-45-78 | (Twin Point) | | 704 | 4.50 | 704D S | 30.00 |
| **RCA** | | | | | | | |
| 79850; 79895 | 33⅓-45-78 | Any Conventional Needle | | | | | |
| 14820; 30708; 31050; 31156; 32632; 33122; 33217; 33905; 34225; 34307; 34710; 35171; 37158; 39686; 55391; 70198; 70220; 70777; 71173 | 78 | Any Conventional Needle | | | | | |
| 74067; 9890; 9953; 38453; 38598; 39550 | 33⅓-45 | 515 | 1.50 | 510 | 2.50 | 510D | 25.00 |
| 39851; 39919; 70332; 70338; 70338-A; 70339; 72551; 75976 | 78 | 545 | 2.00 | 509 | 2.50 | 509D | 25.00 |
| 73839 | 78 | 501 | 1.50 | 502 | 2.50 | 502D | 25.00 |
| 75475; 74625; 75575; 76318; 77779 | 33⅓-45 | — | — | 560 | 2.50 | 560D | 25.00 |
| | 78 | — | — | 559 | 2.50 | 559D | 25.00 |
| 76257 | 33⅓-45 | — | — | 570 | 2.50 | 570D | 25.00 |
| **RONETTE** | | | | | | | |
| TO-200; TO-222; TO-284; TO-400; RA-284; DT-60; RA-395; MT-67-2 | 33⅓-45 | — | — | 594 | 2.50 | 594D | 25.00 |
| | 33⅓-45-78 | — | — | 674 | 2.50 | 674D | 25.00 |
| | 78 | — | — | 595 | 2.50 | 595D | 25.00 |
| TX-88 | 33⅓-45 | — | — | 718 | 3.50 | 718D | 27.50 |
| | 78 | — | — | 719 | 3.50 | 719D | 27.50 |
| **SHURE** | | | | | | | |
| PC-2; PC-3; PC-4; PC-5; W-9; WC-10; WC-10D | 33⅓-45-78 | (Twin Point) 648 | 2.50 | 647 | 3.50 | 647D S | 28.00 |
| ML-44; WC-6 | 33⅓-45-78 | (Twin Point) 628 | 2.50 | 629 | 3.50 | 629D S | 28.00 |
| P-30; P-35; P-37; P-70; P-71; P-72; P-73; P-73R; P-75; P-76; P-77; P-79; P-80; P-81; P-85; PC-30; PN-30; PN-31; PC-72; W-21; W-21F; W-21AR; W-22; W-22A; W-22T; W-22AB; W-23A; W-23B; WC-24; WC-25; W-26; W-26A; W-26B; W-60A; W-60B; W-60HS; W-60PN; W-61B; W-65B; W-66A; W-66B; W-68; WC-60B | 33⅓-45 | 518 | 1.50 | 517 | 2.50 | 517D | 25.00 |
| | 33⅓-45-78 | 519 | 1.50 | 552 | 2.50 | 552D | 25.00 |
| | 78 | 511 | 1.50 | 512 | 2.50 | 512D | 25.00 |
| PC-9; PC-10; PC-10A; PC-11; PC-12; PC-13; PC-13A; PC-14; PC-40; PC-40T; PC-40C-T; PC-41; PC-41-T; PS-20; P-31ADH; WC-22AB-T; W-24; W-24T; W-31AR; WC-31AR; WC-33B; W-36B; WC-36B; WC-38 | 33⅓-45 | 581 | 1.50 | 609 | 2.50 | 609D | 25.00 |
| | 33⅓-45-78 | 582 | 1.50 | 610 | 2.50 | 610D | 25.00 |
| | 78 | 580 | 1.50 | 608 | 2.50 | 608D | 25.00 |

| MANUFACTURER'S CARTRIDGE NO. | RECORD SPEED | OSMIUM Needle No. | OSMIUM List Price | JEWEL Needle No. | JEWEL List Price | DIAMOND Needle No. | DIAMOND List Price |
|---|---|---|---|---|---|---|---|
| **SHURE (Cont.)** | | | | | | | |
| W-53MG; P-93MG; P-95MG; W-40A; W-41A; W-42A; W-42AN; W-42B; W-42BH; W-42H; W-56A; W-56PN; W-57A; W-57AN; W-58A; W-58HS; W-59A; W-70; W-78; 99-180; 99-181; 99-182 | 33⅓-45 | | | | | | |
| | 33⅓-45-78 | Any Conventional Needle | | | | | |
| | 78 | | | | | | |
| W-72; PC-42AD | 33⅓-45 | 644 | 1.50 | 646 | 2.50 | 646D | 25.00 |
| | 78 | 643 | 1.50 | 645 | 2.50 | 645D | 25.00 |
| **SONOTONE** | | | | | | | |
| IP-1S; IP-2S; IP-3S; IP-1D; IP-3D; IP-LB-1S; IP-LB-1D; IP-LD-2S; IP-LD-3S; IP-LB-3D | 33⅓-45 | — | — | 665 | 2.50 | 665D | 25.00 |
| | 33⅓-45-78 | — | — | 664 | 2.50 | 664D | 25.00 |
| | 78 | — | — | 666 | 2.50 | 666D | 25.00 |
| 2T-S; 2T-D; 2T-SD; 2T-LB-D; 2T-LD-S; 2T-LB-SD; 9980-S; 9980-SD; 9980D; 5T; 5T-LB-S; 5T-LB-SD | 33⅓-45-78 | (Twin Point) | | 585 | 3.50 | 585D S | 28.00 |
| 3P-1S; 3P-1D; 3P-3S; 3P-3D; | 33⅓-45 | — | — | 720 | 3.00 | 720D | 27.50 |
| | 78 | — | — | 721 | 3.00 | 721D | 27.50 |
| 3T-S; 3T-D; 3T-SD | 33⅓-45-78 | (Twin Point) | | 684 | 4.00 | 684D S | 30.00 |
| 7590-1S; 7590-2M; 7590-2S; 7590-LB-1S; 7590-LB-2M; 7590-LB-2S; 7590-3S; 7590-LB-3S | 33⅓-45 | 522 | 1.50 | 573 | 2.50 | 573D | 25.00 |
| | 33⅓-45-78 | 539 | 1.50 | 540 | 2.50 | 540D | 25.00 |
| | 78 | 521 | 1.50 | 574 | 2.50 | 574D | 25.00 |
| **TELEFUNKEN** | | | | | | | |
| TTSA for Braun & Telefunken | 33⅓-45-78 | (Twin Point) | | 727 | 4.00 | 727D S | 30.00 |
| **VACO** | | | | | | | |
| T-45 | 33⅓-45 | — | — | 724 | 2.50 | 724D | 25.00 |
| | 78 | — | — | 725 | 2.50 | 725D | 25.00 |
| **WEBSTER-CHICAGO** | | | | | | | |
| V-42; 21P(247); 402; 403 | 33⅓-45-78 (Twin Pt.) | 614 | 3.00 | — | — | 614D S | 35.00 |
| V-47; 21P404 | 33⅓-45-78 | (Twin Point) | | 513 | 5.00 | 513D S | 35.00 |
| **WEBSTER-ELECTRIC** | | | | | | | |
| M1 | 78 | 546 | 1.50 | — | — | — | — |
| F14; F-14M | 33⅓-45-78 | 528 (Twin Point) | 2.50 | — | — | — | — |
| P1-2; P2-1; P2-2; UX | 33⅓-45 | 672 | 1.00 | — | — | — | — |
| | 78 | 673 | 1.00 | — | — | — | — |
| A1M1; AG1M; AG3M-1; AG7; AG7M; AG9M; AG10M; AG11M1 | 33⅓-45 | 668 | 1.50 | — | — | — | — |
| | 78 | 667 | 1.50 | — | — | — | — |
| BX; B1M | 33⅓-45 | 671 | 1.50 | — | — | — | — |
| AX(New); RG; RGX; RG1M; RG2M; RG3M; RG4M; R1M; R2M; R3M; R4M; RX | 33⅓-45 | 670 | 1.50 | — | — | — | — |
| | 78 | 669 | 1.50 | — | — | — | — |
| AB1M; AX(Old); A1SM; A12M-1; A-1; A-2; A-3; A-4; A-5; A-6; A-7; A-8; A-9; A-10, A-11 | 33⅓-45 | 547 | 1.50 | 549 | 2.50 | 549D | 25.00 |
| | 78 | 548 | 1.50 | 550 | 2.50 | 550D | 25.00 |
| F-15; F-15M; F-16; F-16-1; F-18; F-18-1; F-19; F-19-1 | 33⅓-45 | 622 | 1.50 | — | — | — | — |
| F16; F16M | 78 | 621 | 1.50 | — | — | — | — |
| G-1; G-2; G-3; G-4; G-6; GX | 33⅓-45 | 564 | 1.50 | — | — | — | — |
| | 33⅓-45-78 | 565 | 1.50 | — | — | — | — |
| | 78 | 563 | 1.50 | — | — | — | — |
| F1; F1P; F2; F2P; F3; F3P; F4; F4P; F5; F5P; F6; F6P; F7; F7P; F8P; F9P; F10P; F12; F13; F13M; F17P; Q1; Q2; Q3 | 33⅓-45 | 634 | 1.50 | — | — | — | — |
| | 33⅓-45-78 | 632 | 1.50 | — | — | — | — |
| | 78 | 633 | 1.50 | — | — | — | — |
| FX; F20; F21; F22-1; F24-1; F25 | 33⅓-45 | 562 | 1.50 | — | — | — | — |
| | 78 | 561 | 1.50 | — | — | — | — |

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World Radio History

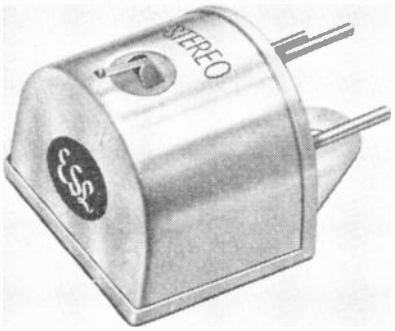
# Stereophonic and monophonic cartridges and arms

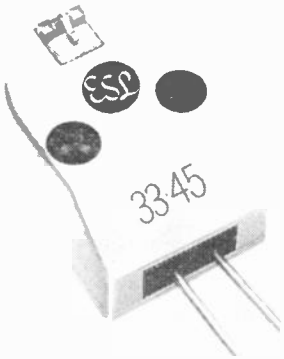
## ESL GYRO/JEWEL *stereo cartridge*

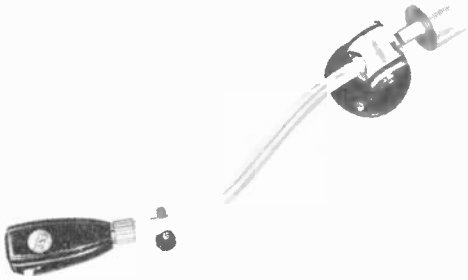
The stereo cartridge of tomorrow. No longer need perfectionists compromise with inferior or makeshift stereo pickups. Response of the triumphant new ESL GYRO/JEWEL is inherently linear, thanks to two of ESL's patented, subminiature D'Arsonval movements. Only ESL's unique, frictionless new GYRO/JEWEL coupling, with its four precious gem pivots, faithfully transmits the vertical and lateral stylus motion of the stereo disc while greatly extending the life of records and styli. It excels also in vertical compliance (5 x $10^{-6}$ cm/dyne), lateral compliance (5 x $10^{-6}$ cm/dyne), dynamic mass (.002 gms), channel separation (20 to 25 db), frequency and transient response, and absence of hum. 3-terminal, 25 ohm output 2 mv per channel at 10/cm sec. **C100** Series (**$69.95**) will mount in any standard arm or changer; **P100** Series (**$79.95**) fits ESL-310 Professional arm only.

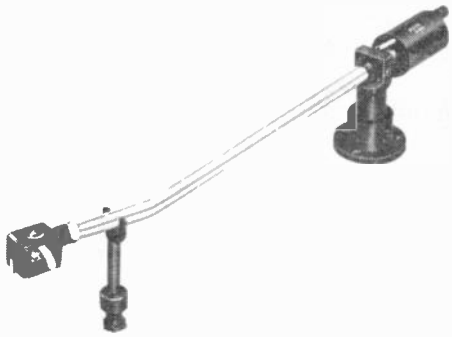
## ESL-C60 SERIES *phono cartridge*

Reproduces all the instruments and sounds on your records; as advanced as next year's jet airliner, musical as a rare Stradivarius. ESL's patented, undamped D'Arsonval movement provides inherently linear reproduction, wide dynamic and transient range, and freedom from needle talk and rumble. The **C60** Series can save many times its own cost by greatly increasing the life of records and styli, because of its high compliance (6.8 x $10^{-6}$ cm/dyne) and small dynamic mass (.001 gms). No transformer needed with modern preamplifiers (9 mv output at 10 cm sec); any load resistance may be used with no effect upon performance. IM less than 0.5%. Increased ruggedness permits trouble-free operation in any changer or arm. Flat within 1 db 20-20,000 cps, resonance-free, hum-free, pull-free. 40 ohm output. 2-4 gms vertical force recommended. **$39.50** (diamond).





## ESL GYRO/BALANCE *stereo arm*

Only arm designed for all standard stereo pickups; also magnificent with monophonic pickups. Striking new shape results from exclusive GYRO/BALANCE design. Turntable leveling unnecessary; GYRO/BALANCE arm will play records at any angle up to 90 degrees! Stereo discs may be easily ruined by vertical stylus forces which are satisfactory for monophonic records. With a high quality cartridge, such as the ESL GYRO/JEWEL, the GYRO/BALANCE arm will track properly at two grams. No other make of arm uses ball bearings for all vertical and horizontal motions, assuring smoother operation, increased record life, trouble-free performance. **S1000 arm,** including shell, **$34.95.**

## ESL PROFESSIONAL *arm & cartridge*

Breathtaking perfection of reproduction for the most critical broadcast, recording, and laboratory use. The ultimate in compromise-free design, plus matchless Danish hand craftsmanship. The precision machined, ball bearing arm fits these cartridges only: ESL-P100 stereo cartridge described above; monophonic cartridge available with output of 1.5 ohms, 2 mv/10 cm/sec as ESL-P1; or with output of 40 ohms, 12 mv/10 cm/sec as ESL-P60. Both P1 and P60 flat within 1 db 18-20,000 cps, inherently linear, compliance 6.8 x $10^{-6}$ cm/dyne, dynamic mass .001 gm, IM less than 0.5%. **P1** or **P60:** diamond .001 or larger, **$49.50;** smaller than .001", **$55.** **310 arm** only, **$57.**

**Electro-Sonic Laboratories, Inc.** FOR LISTENING AT ITS BEST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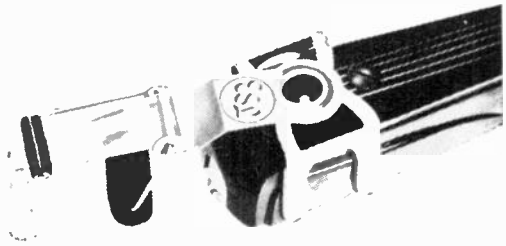
World Radio History

# Automatic record cleaners • Moving coil microphones



## ESL DUST BUG *record cleaner*

Solves the problems of dust, lint, and static buildup on phonograph records and pickup styli; cleans the record as it is being played. The Dust Bug pad is slightly moistened with special, harmless fluid which helps loosen groove dust and dirt so it can be collected by the pad. It also eliminates the static charge present on all records. Standard model Dust Bug (left, **$5.75**) has own arm and suction-cup base for instant mounting on turntable. Record changer model (above, **$4.75**) clips onto changer arm. Fluid in dispenser included.

**ESL-AT1 omnidirectional moving coil microphone:** Handsome, near-invisible to permit full view of performer. Popular in television, broadcast, theatre, recording. Complete with baffle and stand, **$80.**

**ESL-AT2 omnidirectional moving coil microphone:** Acclaimed for performance and styling. First choice for unobtrusiveness in television, broadcasting, lectures, churches, vocal work. **$79.50** complete.

**ESL-MC1 omnidirectional moving coil microphone:** Meets the most exacting broadcasting and recording requirements for music and speech; priced within reach of home recording fans. **$42.50** with base.

**ESL-MC2 super-rugged moving coil microphone:** Operates successfully under previously-impossible conditions of weather and handling. Not damaged by rain. Highest quality omnidirectional pickup. **$63.**

**ESL-MC4 omnidirectional moving coil microphone:** Can greatly improve popular tape recorders and dictating machines. Type MC4H is interchangeable with crystal microphones. MC4 **$19.25**; MC4H **$21.60.**

**ESL-MC5 omnidirectional moving coil microphone:** Designed especially for speech work. Clear, distinct voice signal for broadcasting, public address and paging systems, dictating machines. **$14.60.**

**ESL-NC1 noise-cancelling moving coil microphone:** No other microphone is so effective in preventing feedback from p.a. speakers. Also superb for mobile broadcasting, sound trucks, noisy rooms. **$48.75.**

**ESL-NC2 noise-cancelling moving coil microphone:** Insensitive to any sound originating at a distance from it. Highly successful in eliminating acoustic feedback and background noise. Rugged. **$36.50.**

**ESL-PI directional moving coil microphone:** Unique projected directional response succeeds where cardioid and figure-8's fail. Ideal for television, cinema, remotes, theatres. Including stand, **$176.50.**

**ESL-SC403 super cardioid moving coil microphone:** Achieves high fidelity broadcasting and recording of speech and music under difficult acoustic conditions. Inconspicuous and inexpensive. **$25.50.**

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Net



World Radio History

REG. U.S. PAT. OFF.

# SCOTCH Magnetic Tape

BRAND

| | STOCK NO. | DESCRIPTION | REEL | LIST PRICE |
|---|---|---|---|---|
| **No. 111** PLASTIC | 111-1.5 | 150 ft. Plastic | 3" | $ .85 |
| Standard in the field. Famous for flawless sound reproduction at lowest possible cost. Favorite of engineers everywhere. Acetate base. | 111-3 | 300 ft. Plastic | 4" | 1.50 |
| | 111-6 | 600 ft. Plastic | 5" | 2.25 |
| | 111-12 | 1200 ft. Plastic | 7" | 3.50 |
| | 111-24H | 2400 ft. (NARTB Hub) | 10½" | 8.50 |
| | *111-24R | 2400 ft. (NARTB Reel) | 10½" | 10.90 |
| | 111-48H | 4800 ft. (NARTB Hub) | 14" | 17.00 |
| | 111-48R | 4800 ft. (NARTB Reel) | 14" | 22.10 |
| **No. 120** *High Output* PLASTIC | 120-3 | 300 ft. Plastic | 4" | $ 1.75 |
| For sensitive recording jobs. Unequaled for difficult recording applications. 133% more output guarantees greater dynamic range recordings—with harmonic distortions cut to a minimum. Acetate base. | 120-6 | 600 ft. Plastic | 5" | 3.50 |
| | 120-12 | 1200 ft. Plastic | 7" | 5.50 |
| | 120-24H | 2400 ft. (NARTB Hub) | 10½" | 10.00 |
| | *120-24R | 2400 ft. (NARTB Reel) | 10½" | 12.85 |
| | 120-48H | 4800 ft. (NARTB Hub) | 14" | 20.00 |
| | 120-48R | 4800 ft. (NARTB Reel) | 14" | 26.00 |
| **No. 190** *ExtraPlay* PLASTIC | 190-9 | 900 ft. Plastic | 5" | $ 3.50 |
| 50% more recording time from a conventional size reel. Complete purity of sound, thanks to super-sensitive high potency oxide. Acetate base. | 190-18 | 1800 ft. Plastic | 7" | 5.50 |
| | 190-36H | 3600 ft. (NARTB Hub) | 10½" | 10.00 |
| | *190-36R | 3600 ft. (NARTB Reel) | 10½" | 12.85 |
| | 190-72H | 7200 ft. (NARTB Hub) | 14" | 20.00 |
| | 190-72R | 7200 ft. (NARTB Reel) | 14" | 26.00 |
| **No. 150** *ExtraPlay* POLYESTER | 150-9 | 900 ft. Plastic | 5" | $ 3.75 |
| Tough durable polyester backing, "weather balanced." Offers 50% more recording time. Super-sensitive high potency oxide. | 150-18 | 1800 ft. Plastic | 7" | 6.50 |
| | 150-36H | 3600 ft. (NARTB Hub) | 10½" | 12.50 |
| | *150-36R | 3600 ft. (NARTB Reel) | 10½" | 15.00 |
| | 150-72H | 7200 ft. (NARTB Hub) | 14" | 26.00 |
| | 150-72R | 7200 ft. (NARTB Reel) | 14" | 32.00 |
| **No. 102** POLYESTER | 102-6 | 600 ft. Plastic | 5" | $ 4.25 |
| Formerly 111AM | 102-12 | 1200 ft. Plastic | 7" | 7.00 |
| High strength "PE" polyester backing is combined with standard 111 Red Oxide coating. Remarkable stability despite sharp changes in temperature and humidity. | 102-24H | 2400 ft. (NARTB Hub) | 10½" | 12.75 |
| | *102-24R | 2400 ft. (NARTB Reel) | 10½" | 15.15 |
| | 102-48H | 4800 ft. (NARTB Hub) | 14" | 25.50 |
| | 102-48R | 4800 ft. (NARTB Reel) | 14" | 31.50 |
| **No. 122** *High Output* POLYESTER | 122-6 | 600 ft. Plastic | 5" | $ 4.75 |
| Formerly 120AM | 122-12 | 1200 ft. Plastic | 7" | 8.00 |
| "High Output" oxide is coated on tough "PE" polyester backing. For high fidelity audio recordings and applications where extra strength and stability is required. | 122-24H | 2400 ft. (NARTB Hub) | 10½" | 14.75 |
| | *122-24R | 2400 ft. (NARTB Reel) | 10½" | 17.60 |
| | 122-48H | 4800 ft. (NARTB Hub) | 14" | 29.50 |
| | 122-48R | 4800 ft. (NARTB Reel) | 14" | 35.50 |
| **No. 131** *Low Print* PLASTIC | 131-12 | 1200 ft. Plastic | 7" | $ 4.40 |
| For recording applications where an absolute minimum layer to layer signal transfer is desired. Lowest print level of any tape on the market. Acetate base. | 131-24H | 2400 ft. (NARTB Hub) | 10½" | 10.00 |
| | *131-24R | 2400 ft. (NARTB Reel) | 10½" | 12.85 |
| | 131-48H | 4800 ft. (NARTB Hub) | 14" | 20.00 |
| | 131-48R | 4800 ft. (NARTB Reel) | 14" | 26.00 |
| **No. 200** *Double Length* TENSILIZED POLYESTER | 200-24 | 2400 ft. Plastic | 7" | $11.95 |
| Twice as long as standard tape . . . and it's twice as strong. Invisible polyester "muscles," conditioned by a new unique tensilized process, make it extra tough. | *200-48R | 4800 ft. (NARTB Reel) | 10½" | 26.90 |

**Also available on 10½" plastic reel with either 3" (NARTB) center hole (identified as RPL) or ⅝" (RETMA) center hole (identified as RPS) at the same price. Example: 111-2400' on RETMA 10½" plastic reel should be identified as 111-24RPS.*

**MINNESOTA MINING AND MANUFACTURING COMPANY**

**. . . WHERE RESEARCH IS THE KEY TO TOMORROW**

3M COMPANY



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World Radio History

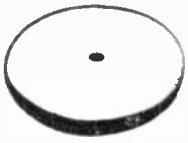
# ROBINS INDUSTRIES CORP.

FLUSHING 54, N. Y.

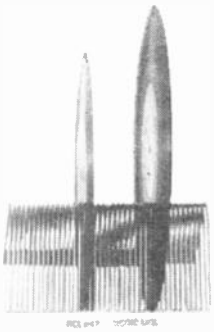
## PHONOGRAPH EXTRAS FOR BETTER LISTENING

KLeeNeeDLE NB-1

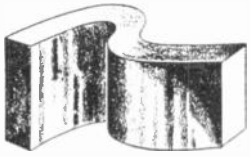
Record Cleaner JC-1



Phono-Cushion PC-7, 10, 12



Record Rack RR-10



Acoustic Insulation AM-9

**NB-1 KLeeNeeDLE** — Automatic Changer Needle Brush. Automatically keeps needle clean by removing "dust blob" each time tone arm passes over brush. Adjustable height fits most record changers. Pressure sensitive adhesive for mounting supplied. **List $1.50**

**RB-75 RECORD BRUSH CLIP-ON** — A fine haired brush that clips on tone arm and gently sweeps dust from record as it rotates. **List $ .75**

**JC-1 JOCKEY CLOTH FOR RECORDS** — Anti-Static Record cleaning cloth — cleans, lubricates and eliminates static charges which attract dust by depositing a microscopic hydrophilic film on the record. **List $1.00**

**TA-1 TONE ARM LIFT** — Clips on tone arm to provide a convenient finger lift. Eliminates fumbling. Reduces record scratching. **List $ .35**

**PHONO-CUSHION** — Polyester foam mat fits most changers and players. Cushions record fall, reduces motor rumble, reduces magnetic pull of pickup, eliminates record slip, covers worn tables. In attractive colors.

| | |
|---|---|
| Cat. No. PC-7, 7 inch | List $ .65 |
| Cat. No. PC-10, 10 inch | List $1.00 |
| Cat. No. PC-12, 12 inch | List $1.25 |

**RA-45 RECORD SPIDERS FOR 45 RPM RECORDS** — Clips into record to reduce hole diameter for fit on standard record spindle. **Pkg. of 5 — List $ .25**

**SA-45 SPINDLE ADAPTER FOR 45 RPM RECORDS** — Enlarges standard spindle diameter to take 45 RPM records. Top is tapered for ease in stacking records. **List $ .25**

**DISCLOSURES** — Virgin polyethylene envelopes for record storage—Protects records from dust, grime, lint, etc.

| | |
|---|---|
| Cat. No. E-10, 10 inch (pkg. of 12) | List $1.00 |
| Cat. No. E-12, 12 inch pkg. of 10) | List $1.00 |

**CHANGER COVERS** — Transparent plastic covers fit many models of the makes listed. Not for portable units)

| | |
|---|---|
| Cat. No. CC-1 — 13' x 13½" x 8" | List $2.00 |
| Cat. No. CC-2 — 13½' x 15" x 8" | List $2.00 |
| CC-3 TURNTABLE COVER — 22" x 16½" x 9" | List $2.50 |
| CC-4 TURNTABLE COVER — 17½" x 17½' x 9" — REK-O-KUT JR., ETC. | List $2.50 |

**RECORD & ALBUM RACKS** — For neat, safe storage of phono records and albums.

| | |
|---|---|
| RR-7 — Holds 48 7 records | List $1.00 |
| RR-10 — Holds 40 12' records | List $1.50 |
| RR-12 — Holds 25 12' albums | List $1.50 |

### ROBINS ISOLATION PAD

Scientifically designed for use under ALL RECORD CHANGER BASES!

Made of Dielectric Foam

- ABSORBS VIBRATION
- REDUCES EXCESS NOISES
- MINIMIZES ACOUSTIC FEEDBACK
- DISPERSES HEAT

Can be used for Tape Recorders, T-V Chassis, etc.

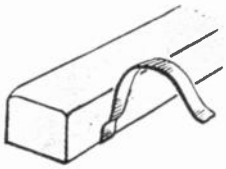
IP-16 — 16½ x 13½' **List $2.00**

### AM-9 ROBINS FIBERGLASS ACOUSTIC INSULATION

For lining speaker cabinets, record changers, tape decks, etc. 36" x 36" x 1" thick. Reduces high and medium frequency reverberation and standing waves in speaker cabinets and enclosures. Reduces motor noise and rumble in record and tape mechanisms. **List $2.25**

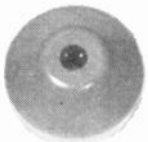
RB-75

Record Brush Clip-on

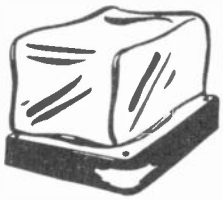


Tone Arm Lift TA-1

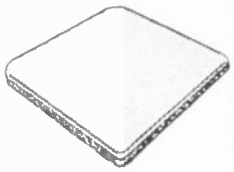
Record Spiders RA-45



Spindle Adapter SA-45



Changer Covers CC-1, 2, 3



Isolation Pad IP-16

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# ROBINS INDUSTRIES CORP.

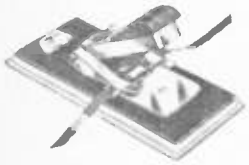
FLUSHING 54, N. Y.

## GIBSON GIRL* TAPE SPLICERS AND TAPE ACCESSORIES

ROBINS GIBSON GIRL tape splicers are the accepted standard of the professional and industrial users of recording tape. They have gained this reputation because of their ease and reliability of operation, high standards of workmanship and because they are the only splicers which actually cut a diagonal lap joint in the tape and trim the splicing tape and tape edges with an indented trim cut, making THE SPLICE WITH THE GIBSON GIRL SHAPE.

The slight "waists" formed in the tape prevent adhesive from contacting critical parts of the recording mechanism and prevent layer to layer adhesion. Adhesive deposited on tape guides, etc. is a frequent cause of wow, flutter, and erratic performance. GIBSON GIRL TAPE SPLICERS ARE AVAILABLE IN SIX MODELS.

*Patented and Pats. Appld. For—T.M. Reg. U.S. Pat Off.



Standard TS4A-STD

Deluxe TS4A-DLX

Junior TS4A-JR

Industrial TS-250-1000

### GIBSON GIRL "TS4A"* SERIES PROFESSIONAL SPLICES IN SECONDS!

**NEW! WITH REPLACEABLE CUTTER CARTRIDGE*

The "TS" series splicers have cutter cartridges which house 3 long-life blades. The cartridge has two operating positions, miter cut and trimming cut. These are selected by moving the knob back and forth. NO SCISSORS—NO RAZOR BLADES NEEDED!

**TS4A-DLX GIBSON GIRL DELUXE** — Our finest, a complete splicing unit. Splicer plus roll of ROBINS SPLICING TAPE mounted in an integral tape dispenser. Supplied with clear plastic dust cover. ..... List $11.50

**TS4A-STD GIBSON GIRL STANDARD** — Our basic moderately priced professional model, same as the TS-4DLX except without tape dispenser or splicing tape. Supplied with clear plastic dust cover. ..... List $8.50

**TS4A-JR GIBSON GIRL JUNIOR** — Low cost, small and compact. This is a handy carrying size model. Similar to TS-4STD except tape is held in tape guide by friction. ..... List $6.50

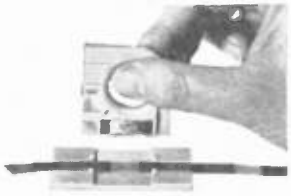
**RK-2 REPLACEMENT KIT** for TS4A series splicers. Contains replacement cutter cartridge and two cutting pads. ..... List $1.25

### NEW! SEMI-PRO AND HOBBYIST SPLICERS

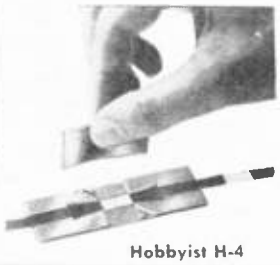
**With Self-Stick Adhesive Backs for Fastening to Recorders**

**SP-4 GIBSON GIRL "SEMI-PRO"** — This hand held splicer consists of three parts, a tape alignment guide, a cutting unit which has a diagonal cutter on one side and GIBSON GIRL cutters on the other side, and a blade cover to protect the blades, designed for semi-professional use. List $3.50

**H-4 GIBSON GIRL "HOBBYIST"** — A simple inexpensive tape splicer consisting of a tape and blade guide and a unique curved blade. It is designed to produce uniform GIBSON GIRL type splices for hobbyists who require its services less frequently. ..... List $1.75



Semi-Pro SP-4



Hobbyist H-4

Tape Threader TT-1

Splicing Tape ST-500

Head Cleaner HC-2

### GIBSON GIRL INDUSTRIAL TAPE SPLICERS

**For Computer, TV, Industrial & Special Purpose Tapes up to 1" wide** GIBSON GIRL INDUSTRIAL TAPE SPLICERS have all of the features of the TS-4STD. They are ruggedly constructed for industrial use, mounted on a heavy cast base. Precise blade centering adjustment. Long life blades easily replaceable.

Model TS-250 for 1/4" tapes ..... Net $55.00
Model TS-500 for 1/2" tapes ..... Net 55.00
Model TS-1000 for 1" tapes ..... Net 55.00

**CUSTOM BUILT SPLICERS FOR SPECIAL TAPES AND APPLICATIONS AVAILABLE — SEND FOR QUOTATION.**

**TT-1 ROBINS TAPE THREADER** — The perfect solution to an old nuisance! No more awkward fumbling. Just place tape against the reel, slip on your threader to hold it in place, turn the crank and presto! — you're ready to use your recorder. ..... List 98c

**ST-500 ROBINS SPLICING TAPE** — Specifically made for splicing recording tape. Tackiness, thickness, strength and cold flow are carefully controlled. Individually packed in crystal clear plastic container. ..... List 39c

**NEW! HC-2 ROBINS RECORDING HEAD CLEANER** — A fast, efficient solvent for cleaning recording heads. In brush applicator bottle. List $1.00

**NEW! JCT-2 JOCKEY CLOTH FOR TAPES** — Revitalizes tapes. Reduces head wear. Reduces tape wear. Eliminates "grime distortion." Reduces tape squeal and chatter. Cleans, lubricates and protects by depositing a microscopic film of SILICONE on the tape. ..... List $1.00

**TC-7 TAPE STORAGE CANS,** for safe storage of recording tapes. Reduces tape "ageing." Helps prevent accidental tape erasure. Ribs on cans nest for stacking, for standard 7" reels. ..... List $ .80

**REEL LABELS** (Self Stick Adhesive) — Write on with pencil, pen, ball point, etc. Names can be typed on labels prior to removal from sheet. For Tape Reels, Parts, Records, Service Calls, 1001 other uses.
**SL-30 — 30 Labels** ..... List $ .25

Tape Cleaner JCT-2

Storage Can TC-7 Tape



Net

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World Radio History

# ROBINS INDUSTRIES CORP.

FLUSHING 54, N. Y.

## New! GIBSON GIRL® ACCESSORY KIT

***Everything You Need For Better TAPE RECORDING and Editing***

This kit contains the famous GIBSON GIRL TAPE SPLICER, SPLICING TAPE, TAPE THREADER, HEAD CLEANER, TAPE CLEANER CLOTH, TAPE CLIPS, REEL LABELS and TAPE EDITING BOOK.

- **FOR PROFESSIONAL RESULTS!**
- **FOR MORE PLEASURE!**
- **FOR BETTER RECORDINGS!**
- **A PERFECT HI-FI GIFT!**

**TK-4STD — With GIBSON GIRL STANDARD SPLICER List $12.00**
**TK-4JR — With GIBSON GIRL JUNIOR SPLICER List $10.00**

## TAPE EDITING AND SPLICING

**For the Professional and Amateur Tape Recordist**

**by N. M. Haynes**

24 Pages, Illustrated. An authoritative work on the subject by an outstanding author. Contains a great deal of information which is not readily available elsewhere. **Price .25**

## HEAD DEMAGNITIZER

**FOR TAPE RECORDING HEADS**

- ***Removes Permanent Magnetization***
- ***Reduces Noise Level****
- ***Reduces Harmonic Distortion****
- ***Improves Signal To Noise Ratio****
- ***Listed by Underwriters' Laboratories, Inc.***

*When caused by head magnetization

MAGNETIZATION of recording heads during normal use of tape recorders is a very common occurrence which may be caused by many factors which are inherent in the nature of tape recorder use. Magnetized heads cause high noise level (reduction in signal to noise ratio) and harmonic distortion.

Robins head demagnetizer when properly used, removes any residual permanent magnetism from the heads. It consists of an alternating current electromagnet with an extended pole piece designed for easy access to the recording heads of most tape recorders. When energized, contact of the demagnetizer pole piece with the pole tips of the recording head causes the head to be saturated by an alternating magnetic field. Gradual removal of the head from this saturating field neutralizes any residual permanent (DC) magnetism in the recording head.

**HD-6 — List $10.00**

## TAPE CLIPS

***Keeps Tapes from Unwinding from Full or Half Empty Reels***

As important to the tape recordist as the diaper pin is to the baby nurse.

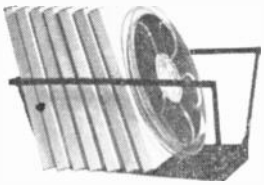
1. With full reel of tape, snap clip on one edge of reel flange with the long foot in, or . . .
2. With half empty reel, fold end of tape around edge of reel flange and place clip over tape.

| | | | |
|---|---|---|---|
| **TC-12** | **Package of 12** | **List** | **.35** |
| **TC-250** | **Package of 250** | **Net** | **5.00** |
| **TC-1000** | **Package of 1000** | **Net** | **15.00** |

## TAPE STORAGE RACK

For neat and safe storage of 7" Tapes on reels, in boxes or in cans. Contents always visible. Holds 12 7" Tapes.

**TR-12 — List $1.50**



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Net

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# tape demagnetizers

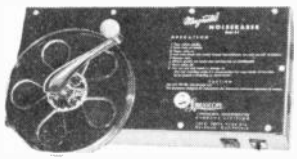
## LIBRASCOPE MAGNETIC NOISERASER*

The Librascope scientifically-designed NOISERASER series assures quick, effective, bulk-reel degaussing wherever magnetic tape is used. The basic unit of the NOISERASER is a carefully engineered magnetic circuit which removes prior recordings and random signals from entire reels of tape in a few seconds, at a signal level from 4 to 6 db below that possible with standard erase heads. Librascope offers a complete line of degaussing instruments — from units for use in military test equipment and commercial broadcasting and video recording to attractively styled units for the home Hi-Fi enthusiast. For simple, quick, and effective operation, ask for NOISERASER . . . it's moderately priced assurance that tapes are clean!

LIST PRICE **$39.95**

### MODEL N-HF

**Specifications:** Accepts ¼ in. tape on reels up to 10½ in. diameter; Operates on 110-120 vac, 60 cps; Removable spindle, manually rotated; Size 7¾ in. x 4¼ in. x 3¼ in.; Weight, 8 lbs.



LIST PRICE **$58.50**

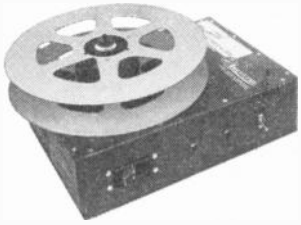
### MODEL N-7

**Specifications:** Accepts tape up to 1 in. on reels up to 10½ in. diameter; Operates on 110-120 vac, 60 cps; Removable spindle, manually rotated; Size, 7 in. x 15 in. x 3 in.; Weight, 18 lbs.

LIST PRICE **$86.75**

### MODEL N-14

**Specifications:** Accepts tape up to 1 in. but provides for reels up to 14½ in. diameter; Operates on 110-120 vac, 60 cps; Removable spindle, manually operated; Size, 13 in. x 17 in. x 3 in.; Weight, 34 lbs.



LIST PRICE **$750.00**

### MODEL N-2

**Specifications:** Accepts tape up to 2 in. and standard NARTB reels up to 14½ in. diameter; Operates on 110-220 vac (3-wire single phase), 60 cps, 25 amp; AUTOMATIC turntable rotation; Size, 16 in. x 11 in. x 4⅝ in.; Weight, 55 lbs.

* **NOISERASER**

is the Registered Trade Mark for all Librascope Tape Degaussers

LIBRASCOPE

GENERAL PRECISION EQUIPMENT CORPORATION GPE

A Subsidiary of General Precision Equipment Corporation



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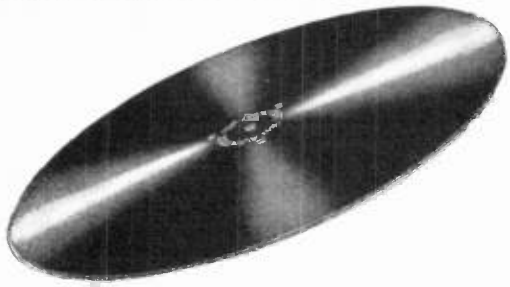
# audiodiscs®



## *For truly fine recording and reproduction*

For more than a decade, Audiodiscs have consistently maintained their position of eminent leadership in every field of instantaneous disc recording.

A superior lacquer coating, applied to the mirror-smooth aluminum base by a patented process, gives these outstanding advantages: maximum uniformity of coating, permanent resistance to humidity, longer stylus life, freedom from audible background scratch, long playback life, brilliant frequency response, and freedom from deterioration with age.

| Type | | Diameter | List Price per Disc | Box Contains |
|---|---|---|---|---|
| **RED LABEL** Audiodiscs for professional use. Exceed the most exacting demands for highest quality professional recordings. The finest discs obtainable. Aluminum base. Double sided. Embossed labels. | | 7"* | $1.40 | 25 |
| | | 8" | 1.10 | |
| | | 10" | 1.55 | |
| | | 12" | 2.55 | |
| | | 16" | 4.60 | |
| **SINGLE FACE RED LABEL** Audiodiscs. Same quality as double sided Red Label Audiodiscs, listed above. | | 12" | 2.00 | 25 |
| | | 16" | 3.70 | |
| **YELLOW LABEL** Audiodiscs for general use. High uniform quality. The popular choice for all general purpose recording. Aluminum base. Double sided. Yellow paper labels. | | 8" | .93 | 25 |
| | | 10" | 1.24 | |
| | | 12" | 2.00 | |
| | | 16" | 3.70 | |
| **REFERENCE LABEL** Audiodiscs. Provide maximum economy for test cuts, filing, reference recordings, auditions and equipment adjustments. Aluminum base. Double sided. White paper labels. | | 10" | 1.05 | 25 |
| | | 12" | 1.55 | |
| | | 16" | 2.77 | |
| **BLUE LABEL** Audiodiscs for amateur use. Same high quality lacquer as professional discs, but on thinner aluminum base. Ideal for schools, homes, and general amateur use. Double sided. Blue paper labels. | | 6½" | .50 | 50 |
| | | 8" | .70 | |
| | | 10" | 1.00 | |
| **MASTER** Audiodiscs. The outstanding choice of professional recordists for use where pressings are to be made. Give fine results with either silvering or gold sputterings. Aluminum base. Double sided or single face. | Double Sided | 10" | 2.50 | 25 |
| | | 12" | 3.20 | |
| | | 13¼" | 4.05 | |
| | | 16" | 5.95 | |
| | | 17¾" | 6.95 | |
| | Single Face | 10" | 2.00 | 25 |
| | | 12" | 2.50 | |
| | | 13¼" | 2.95 | |
| | | 16" | 4.70 | |
| | | 17¾" | 5.10 | |

*Standard 45 rpm disc with 1½" center hole. Center-hole adapters included for recording on conventional turntable.

***Prices slightly higher in Pacific Coast and Southwestern Areas.***

### AUDIODISC CHIP-CHASER

A simple but perfect solution to the thread removal problem in recording. The felt-lined wiper blade is set on the disc before starting the recording. The Chip-Chaser automatically and infallibly brushes the thread toward the center, winding it up on the overhead post or drive pins, as the case may be.

List Price { for 16" turntables, **$8.95**; for 12" turntables, **$7.90**

### "HOW TO MAKE GOOD RECORDINGS"

A complete, authoritative and non-technical handbook on all phases of disc recording—materials, equipment and techniques. Contains 140 pages, profusely illustrated with photographs, charts and diagrams. Includes a glossary of recording terms. Now in its 11th printing. List price $2.00

# audiopoints®

## *microscopically matched recording and playback styli*

The complete line of Audiopoints covers the full range of recording and playback needs—for professional as well as general use. Audiopoints are made by skilled craftsmen, and conveniently packaged in cards, boxes or envelopes.

### RECORDING AUDIOPOINTS

SAPPHIRE No. 14—long recognized as the finest recording stylus made. Short or long dural shank, 87° included angle.
**List Price—$8.25**
(Resharpening cost—$3.75)

SAPPHIRE No. 20—especially designed for professional microgroove recording. Short or long dural shank. **List Price—$8.25**
(Resharpening cost—$3.75)

SAPPHIRE No. 202—a high-quality professional stylus. Short or long brass shank.
**List Price—$6.60**
(Resharpening cost—$3.25)

STELLITE No. 34—a favorite with many professional and non-professional users. Short or long shank. 87° included angle.
**List Price $2.50**
(Resharpening cost—$1.40)

DIAMOND LAPPED STEEL No. 50—most practical and economical stylus for non-professional use. **List Price—3 for $1.75**

### PLAYBACK AUDIOPOINTS

SAPPHIRE No. 113—meets the requirements of the most critical professional recordists. Straight dural shank. **List Price—$4.50**
(Resharpening cost—$2.00)

SAPPHIRE No. 123—for professional use with microgroove recordings. **List Price—$2.00**

"RED CIRCLE" SAPPHIRE No. 103—for professional use with instantaneous recordings or vinyl transcriptions. Straight dural shank.
**List Price—$2.00**

"RED CIRCLE" SAPPHIRE No. 303—same as No. 103, except with bent dural shank. Ideal for phonograph records. **List Price—$2.00**

STEEL TRANSCRIPTION NEEDLE No. 151—finest steel needles made. 100% shadowgraphed to assure perfection of every needle.
**List Price— 20 for $0.25**

### RESHARPENING SERVICE

Established years ago, our Resharpening Service materially reduces the over-all cost of using sapphire and stellite Audiopoints. Each resharpened point is disc-tested. Special cards and envelopes are available for returning Audiopoints for resharpening.

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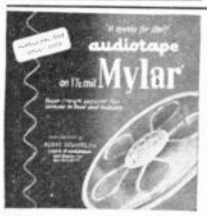
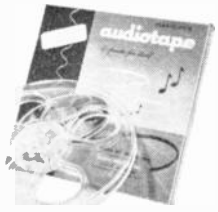
# THE COMPLETE LINE OF PROFESSIONAL QUALITY audiotape

| Description | Type No.* | Length | Reel‡ | List Price Each |
|---|---|---|---|---|
| **PLASTIC-BASE AUDIOTAPE** on 1½-mil cellulose acetate meets the most exacting requirements of the professional, educational and home recordist at minimum cost. Known the world over for matchless performance and consistent uniform quality. | 151 | 150 ft. | 3" Plastic | $ 0.70 |
| | 351 | 300 ft. | 4" Plastic | 1.35 |
| | 651 | 600 ft. | 5" Plastic | 2.25 |
| | 1251 | 1200 ft. | 7" Plastic | 3.50 |
| | 2551H | 2500 ft. | NARTB Hub | 8.50 |
| | 2551R | 2500 ft. | 10½" Aluminum Reel | 10.90 |
| | ‡2551FS | 2500 ft. | 10½" Fiberglass (RETMA) | 10.90 |
| | 5051H | 5000 ft. | NARTB Hub | 17.00 |
| | 5051R | 5000 ft. | 14" Aluminum Reel | 22.10 |
|  **AUDIOTAPE ON 1½-MIL MYLAR®** — a premium-quality professional tape with maximum mechanical strength and immunity to heat and humidity. Will not dry out or embrittle with age. ®Du Pont Trade Mark | 671 | 600 ft. | 5" Plastic | 4.25 |
| | 1271 | 1200 ft. | 7" Plastic | 7.00 |
| | 2571H | 2500 ft. | NARTB Hub | 12.75 |
| | 2571R | 2500 ft. | 10½" Aluminum Reel | 15.15 |
| | ‡2571FS | 2500 ft. | 10½" Fiberglass (RETMA) | 15.15 |
| | 5071H | 5000 ft. | NARTB Hub | 30.30 |
| | 5071R | 5000 ft. | 14" Aluminum Reel | 36.30 |
| **"LR" (Longer Recording) AUDIOTAPE ON 1-MIL "MYLAR"** — 50% more recording time per reel. Strong, superdurable polyester film base assures trouble-free operation even under extreme heat and humidity. | 261 | 225 ft. | 3" Plastic in Self-Mailer Pkg. | 1.00 |
| | 961 | 900 ft. | 5" Plastic | 3.75 |
| | 1861 | 1800 ft. | 7" Plastic | 6.50 |
| | 3661H | 3600 ft. | NARTB Hub | 12.50 |
| | 3661R | 3600 ft. | 10½" Aluminum Reel | 15.00 |
| | ‡3661FS | 3600 ft. | 10½" Fiberglass (RETMA) | 15.00 |
| | 7261H | 7200 ft. | NARTB Hub | 26.00 |
| | 7261R | 7200 ft. | 14" Aluminum Reel | 32.00 |
| **PLASTIC-BASE "LR" AUDIOTAPE** provides 50% more recording time on low-cost 1-mil cellulose acetate base, affording maximum economy where high strength is not required. | 941 | 900 ft. | 5" Plastic | 3.50 |
| | 1841 | 1800 ft. | 7" Plastic | 5.50 |
| | 3641H | 3600 ft. | NARTB Hub | 10.00 |
| | 3641R | 3600 ft. | 10½" Aluminum Reel | 12.85 |
| | ‡3641FS | 3600 ft. | 10½" Fiberglass (RETMA) | 12.85 |
| | 7241H | 7200 ft. | NARTB Hub | 20.00 |
| | 7241R | 7200 ft. | 14" Aluminum Reel | 26.00 |

## Miscellaneous audiotape Items

| Item | Type No. Green | Type No. Blue | Description Length | Description Reel | List Price |
|---|---|---|---|---|---|
| **COLORED PLASTIC-BASE AUDIOTAPE on 1½-mil cellulose acetate (in same box as above with label for color).** Green and blue colored Audiotape, in conjunction with the standard red-brown tape, provide instant visual identification of recorded selections spliced into a single reel (as shown) — permit fast and easy color cueing and color coding. Eliminate need for identifying leaders between selections. | 151G | 151B | 150 ft. | 3" Plastic | $ 0.70 |
| | 351G | 351B | 300 ft. | 4" Plastic | 1.35 |
| | 651G | 651B | 600 ft. | 5" Plastic | 2.25 |
| | 1251G | 1251B | 1200 ft. | 7" plastic | 3.50 |
| | 2551HG | 2551HB | 2500 ft. | NARTB Hub | 8.50 |
| | 2551RG | 2551RB | 2500 ft. | 10½" Aluminum Reel | 10.90 |
| | ‡2551FSG | ‡251FSB | 2500 ft. | 10½" Fiberglass (RETMA) | 10.90 |
| | 5051HG | 5051HB | 5000 ft. | NARTB Hub | 17.00 |
| | 5051RG | 5051RB | 5000 ft. | 14" Aluminum Reel | 22.10 |

**EMPTY AUDIO REELS IN INDIVIDUAL BOXES**



| | Type No. | Description | List Price |
|---|---|---|---|
| **Standard Reels** | 3PB | 3" Plastic Reel in Box | .25 |
| | 4PB | 4" Plastic Reel in Box | .45 |
| | 5PB | 5" Plastic Reel in Box | .60 |
| | 7PB | 7" Plastic Reel in Box | .75 |
| | 10RB | 10½" Aluminum Reel in Box | 4.00 |
| | 10FS | 10½" Fiberglass (RETMA) in Box | 4.00 |
| | 14RB | 14" Aluminum Reel in Box | 7.40 |
| | 10H | NARTB Metal Hub | .70 |
| **Colored Plastic Reels** | 5PBR | Red 5" Plastic Reel in Box | .60 |
| | 5PBY | Yellow 5" Plastic Reel in Box | |
| | 5PBG | Green 5" Plastic Reel in Box | |
| | 5PBB | Blue 5" Plastic Reel in Box | |
| | 7PBR | Red 7" Plastic Reel in Box | .75 |
| | 7PBY | Yellow 7" Plastic Reel in Box | |
| | 7PBG | Green 7" Plastic Reel in Box | |
| | 7PBB | Blue 7" Plastic Reel in Box | |

**Type EP AUDIOTAPE**, extra precision magnetic recording tape for telemetering, electronic computers and other specialized applications, is also available. Ask for bulletin on EP AUDIOTAPE. **AUDIOFILM** on 35mm, 17½mm and 16mm base, and AUDIO MAGNETIC DISCS are also available. Ask for information.



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# — THE WORLD'S FINEST MAGNETIC RECORDING TAPE

| Description | Type No.* | Length | Reel† | List Price Each |
|---|---|---|---|---|
| **SUPER-THIN AUDIOTAPE** on ½-mil "Mylar" gives twice as much recording time per reel as standard plastic-base tape. For long-play applications where tape tension is not excessive. | 1231 | 1200 ft. | 5" Plastic | 5.00 |
| | 2431 | 2400 ft. | 7" Plastic | 9.25 |
| **SUPER-THIN AUDIOTAPE ON TEMPERED "MYLAR"** gives twice as much recording time per reel as conventional tape and is **twice as strong** as other double-length tapes. Will not stretch or break on any tape recorder — will not dry out or embrittle with age. | 1231T | 1200 ft. | 5" Plastic | 6.50 |
| | 2431T | 2400 ft. | 7" Plastic | 11.95 |
| | 4831T-R | 4800 ft. | 10½" Aluminum Reel | 26.90 |
| | ‡4831T-FS | 4800 ft. | 10½" Fiberglass (RETMA) | 26.90 |
| **MASTER LOW PRINT-THROUGH AUDIOTAPE** on plastic base — reduces print-through (magnetic echo) by 8 db. The finest, professional-quality recording tape. Base material, 1½-mil acetate. Maximum fidelity, uniformity, frequency response and freedom from noise and distortion. | 651-M | 600 ft. | 5" Plastic | 2.75 |
| | 1251-M | 1200 ft. | 7" Plastic | 4.30 |
| | 2551H-M | 2500 ft. | NARTB Hub | 9.80 |
| | 2551R-M | 2500 ft. | 10½" Aluminum Reel | 12.50 |
| | ‡2551FS-M | 2500 ft. | 10½" Fiberglass (RETMA) | 12.50 |
| | 5051H-M | 5000 ft. | NARTB Hub | 19.55 |
| | 5051R-M | 5000 ft. | 14" Aluminum Reel | 26.00 |
| **MASTER LOW PRINT-THROUGH AUDIOTAPE** on 1½-mil "Mylar"—print-through (magnetic echo) is reduced by 8 db. A super durable tape that meets the highest standards of performance. Withstands extreme temperatures and is virtually immune to humidity. Has maximum life under any conditions. | 671-M | 600 ft. | 5" Plastic | 4.85 |
| | 1271-M | 1200 ft. | 7" Plastic | 8.05 |
| | 2571H-M | 2500 ft. | NARTB Hub | 14.65 |
| | 2571R-M | 2500 ft. | 10½" Aluminum Reel | 17.40 |
| | ‡2571FS-M | 2500 ft. | 10½" Fiberglass (RETMA) | 17.40 |

# Audio Accessories

| Item | Type No. | List Price |
|---|---|---|
| **AUDIO HEAD ALIGNMENT TAPE** Pre-recorded at 2,000, 10,000 and 15,000 cps (15" sec.) with precisely correct head alignment. Each box contains 300 ft. on a 4" reel and instructions. | 200 | 10.00 |
| **AUDIO SELF-TIMING LEADER TAPE** A strong, durable leader tape of white "Mylar" material with spaced markings to permit accurate rate time of leader intervals. Each box contains 100 feet, ¼" wide. | 3L | .55 |
| **ADHESIVE REEL LABELS** Provide positive identification of your tapes, right on the reel. Simply press to apply, pull off to remove. Envelope of 30, 2" x ½" labels. | 30AL | .20 |

| Item | Type No. | List Price |
|---|---|---|
| **AUDIO HEAD DEMAGNETIZER** Removes all permanent magnetism from recording and reproducing heads in a matter of seconds. Includes 7-foot cord and is individually boxed. | 400 | 10.00 |
| **AUDIO RECORDING HEAD CLEANER** Especially formulated for use on recording heads. Contains silicone solvent. Superior to carbon tetrachloride. One-ounce bottle with brush. | 1HC | .65 |
| *how to make* **GOOD TAPE RECORDINGS** This completely new handbook of tape recording contains up-to-the-minute information of interest and practical value to **every tape recordist.** Profusely illustrated with photographs, charts and diagrams prepared especially for this book, it contains 150 pages of valuable information on all phases of modern tape recording. | Clothbound 25C | 2.50 |
| | Paperbound 15P | 1.50 |

*Type Numbers listed cover red oxide wound on reel with OXIDE IN. For tape wound with Oxide Out, change last digit of Type No. from "1" to "0." E.g. Audiotape 1250 covers 1200 ft. reel of plastic base tape wound with Oxide Out.

†COLORED PLASTIC REELS. Audiotape on 5" and 7" plastic reels can be supplied on colored reels at no increase in price when ordered in lots of 30 reels or more of any one color. To designate color of reel (Red, Yellow, Green or Blue) add letters "RR" and "YR," "GR," or "BR" to Type No. Listed. E.g. Type 1251YR covers 1200 feet of standard plastic-base tape on Yellow Reel. Type 1251GBR covers 1200 feet of Green plastic-base tape on Blue Reel.

‡"FS" in Type No. indicate Fiberglass reel with solid hub and 5/16" center hole.

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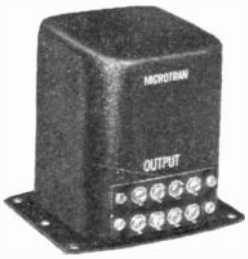
World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

## PRECISION HI-FI ACCESSORIES

### multi speaker matching and level adjusting transformer — model HM-80




This precision transformer has been designed for the Audiophile who is modifying or enlarging his sound system by the addition of auxiliary speakers, equalizers, cross-over networks, etc.

Permits these system changes to be made without unbalancing the present Hi-Fi Audio System by maintaining required impedance matches and power levels.

Power: 50 watts. Peak power 100 watts.

Frequency Response: 15 to 30,000 cycles.

Impedance Range:
- Amplifier or Crossover Network: 16, 8, 4 Ω
- 1 to 3 speaker system (in any combination): 16, 8, 4 Ω.

Power Level Adjusting Range: 3 db steps

Guide Chart. Easy to follow hookup chart provided.

Size: 3½" x 3 3/16" x 4 1/8" high.

Mounting Centers: 2¾" x 3⅞".

Finish: Baked Enamel.

Weight: 4.0 lbs.

### telephone pick-up coil — model HP-61

For transcribing telephone conversations with recorder or making messages audible on amplifier. May also be used as probe for locating sources of hum.

Equalized Level: Local and distant conversations recorded with more constant signal level than base mounted units.

Suction Cup. Mounting on telephone receiver.

Universal Model: One unit suitable for all types of telephones.

Plug-in Use. Supplied with 68" shielded cable, terminated with standard phone plug for mike input of recorder or amplifier.

Finish: Optical Black.

Compact: Size only ⅝" diameter x 2" long.

Weight: 1½ ounces.

### magnetic tape eraser — model HD-11

A bulk tape demagnetizer that develops a high intensity magnetic field. Erases recorded signals and noise from magnetic tape without rewinding. Saves unnecessary wear on heads and tape. Noise level reduced below level of standard erase heads. Restores tape to like new condition or better.

Spindle Mounting of reel permits rapid thorough coverage without missed spots.

Reel Size Range: 5", 7", 10½". Spindle removable for use with other reel sizes.

Adapter Hub Available on order for use with 10½" reels. Model HD-11-AD

Universal Use. May also be used for demagnetizing record—playback—erase heads, watches and other metal objects.

Rating: 117 volts AC, 5 amps.

Finish: Baked Enamel.

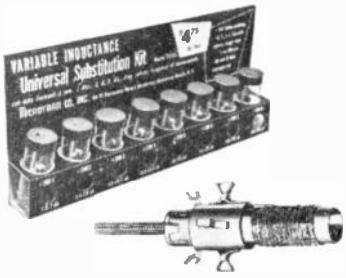
Size: 3" x 5" x 8".

Weight: 8½ lbs.

**A MUST FOR STEREO RECORDING**

Most stereo recorders do not provide facilities for pre-erasing both tracks.

### UNIVERSAL COIL KIT — MODEL 200K




Saves valuable service and development time . . . minimizes inventory problems, eliminates difficulty in obtaining hard-to-get replacements.

For Video Peaking . . . IF Circuits. Eight coils cover a range from 1 to 590 uh.

Q-Max impregnation.

Extra terminal for tiepoint convenience.

Spring clip mounting: designed for 5/16" chassis hole.

Full data enclosed on L min., L max., Q's, R, C distrib., Freq. self-res.

Single Coil Replacements Available

| Coils | L Min. | L. Max. |
|---|---|---|
| #200-1 | 1 | 2.7 uh |
| #220-2 | 2.4 | 7.6 uh |
| #200-3 | 6.6 | 20.0 uh |
| #200-4 | 16.0 | 55.0 uh |
| #200-5 | 33 | 110 uh |
| #200-6 | 74 | 225 uh |
| #200-7 | 100 | 310 uh |
| #200-8 | 200 | 590 uh |

INDIVIDUAL CALIBRATION CHARTS permit approximate adjustment to required inductance value without test equipment. Individually packaged in 8 labeled plastic containers.

Complete Kit Model 200K. Shipping weight per kit: 6 oz.



SEE PAGE N-795 FOR MICROTRAN PRICES AND PAGE N-784—N-794 OTHER ITEMS

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World Radio History

# REEVES SOUNDCRAFT CORP.

New York, New York  West Coast: Los Angeles, Calif.

**MAGNETIC RECORDING TAPES AND TAPE RECORDING ACCESSORIES**

## SOUNDCRAFT **MYLAR* BASE** RECORDING TAPES

*Du Pont Trademark

| Description | Type | Length | Reel | Std. Pkg. | Sug. Con. Net |
|---|---|---|---|---|---|
| **Soundcraft "LIFETIME" 1½ Mil "MYLAR" Base** — For use where maximum strength, professional fidelity, permanence and accurate timing are important. Insures accurate timing in film, radio and recording work. Guaranteed for a "Lifetime". | L-1 | 150' | 3" | 10 | $ 1.00 |
| | L-6 | 600' | 5" | 10 | 3.90 |
| | L-12 | 1200' | 7" | 10 | 6.30 |
| | L-24RM• | 2400' | 10½" | 5 | 13.80 |
| | L-24RF† | 2400' | 10½" | 5 | 13.80 |
| | L-24RF3‡ | 2400' | 10½" | 5 | 13.80 |
| | L-24H | 2400' | Hub | 5 | 11.40 |
| | L-48R | 4800' | 14" | 2 | 28.60 |
| | L-48H | 4800' | Hub | 2 | 25.00 |
| **Soundcraft "PLUS-50" 1 Mil "MYLAR" Base** — Offers best combination of long play with tape strength. Has durability of "Lifetime" but is somewhat less rugged because of its thinner base. | PL-2 | 225' | 3" | 10 | 1.05 |
| | PL-9 | 900' | 5" | 10 | 3.50 |
| | PL-18 | 1800' | 7" | 10 | 6.00 |
| | PL-36RF† | 3600' | 10½" | 5 | 14.00 |
| | PL-36RF3‡ | 3600' | 10½" | 5 | 14.00 |
| | PL-36H | 3600' | 10½" | 5 | 11.75 |
| | PL-72R | 7200' | 14" | 3 | 30.00 |
| | PL-72H | 7200' | 14" | 3 | 24.50 |
| **Soundcraft "PLUS-100" ½ Mil "MYLAR" Base** — Provides extra long play (twice the length of standard play tapes) for the recordist who knows how to handle tape. | XP-12 | 1200' | 5" | 10 | 4.75 |
| | XP-24 | 2400' | 7" | 10 | 8.50 |
| | XP-52RM• | 5280' | 10½" | 5 | 21.00 |
| | XP-52RF† | 5280' | 10½" | 5 | 21.00 |
| | XP-52RF3‡ | 5280' | 10½" | 5 | 21.00 |
| | XP-52H | 5280' | Hub | 5 | 19.35 |
| **Soundcraft "PLUS-100X" ½ Mil Tensilized "MYLAR" Base** — Finest double-play tape available . . . Dupont tensilized "Mylar" base provides super-strength and stretch-resistance. | XP-24X | 2400' | 7" | 10 | 11.95 |
| | XP-48X | 4800' | 10½" | 5 | 26.90 |

## SOUNDCRAFT **ACETATE BASE** RECORDING TAPES

| Description | Type | Length | Reel | Std. Pkg. | Sug. Con. Net |
|---|---|---|---|---|---|
| **Soundcraft "RED DIAMOND" 1½ Mil "ACETATE" Base** — Economical "workhorse" tape—standard for many applications in business, schools, government, professional work—where long, hard usage and low cost is important. | SPN-1 | 150' | 3" | 10 | $ .65 |
| | SPN-3 | 300' | 4" | 10 | 1.25 |
| | SPN-6 | 600' | 5" | 10 | 2.10 |
| | SPN-12 | 1200' | 7" | 10 | 3.50 |
| | SPN-24RF† | 2400' | 10½" | 5 | 8.50 |
| | SPN-24RF3‡ | 2400' | 10½" | 5 | 8.50 |
| **Soundcraft "PROFESSIONAL" 1½ Mil "ACETATE" Base** — Engineered for the professional—carries this guarantee: Uniformity at 1000 cps, as tested on Ampex #307, is ±¼db in a reel and ±⅜db from reel to reel. Minimum response at 10,000 cps is guaranteed within 1 db of response at 1000 cps. | P-12 | 1200' | 7" | 10 | 4.40 |
| | P-24RM• | 2400' | 10½" | 5 | 10.25 |
| | P-24RF† | 2400' | 10½" | 5 | 10.25 |
| | P-24RF3‡ | 2400' | 10½" | 5 | 10.25 |
| | P-24H | 2400' | Hub | 5 | 8.00 |
| | P-48R | 4800' | 14" | 3 | 20.75 |
| | P-48H | 4800' | Hub | 3 | 12.50 |
| **Soundcraft DISPLAY PACKS** — Red Diamond and Plus-50 are available in 5" and 7" reel sizes in an attractive display carton, 5 reels to the package. | SPN-1D10 | 150' | 3" | 10 | 6.50 |
| | SPN-6D5 | 600' | 5" | 2 | 10.50 |
| | SPN-12D5 | 1200' | 7" | 2 | 17.50 |
| | PL-2D10 | 225' | 3" | 10 | 10.50 |
| | PL-9D5 | 900' | 5" | 2 | 17.50 |
| | PL-18D5 | 1800' | 7" | 2 | 30.00 |
| | L-1D10 | 150' | 3" | 10 | 10.00 |
| **The Soundcraft DEALER PACK** — The Complete Package for the Tape Dealer. Contains one SPN-6D5, one SPN-12D5, one PL-9D5, and one PL-18D5. All 5" and 7" reels of Soundcraft tape, with the exception of "PLUS-100X", are available at no extra cost in the handy Soundcraft Tape Chest—5 reels to the chest. | DP | 600'<br>1200'<br>900'<br>1800' | 5"<br>7"<br>5"<br>7" | 2 | 75.50 |

• Metal Reel  † Fiberglass Reel (5/16" center opening)  ‡ Fiberglass Reel (3" center opening)

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World Radio History

THERE'S AN

# irish BRAND

TAPE

FOR EVERY RECORDING REQUIREMENT

Whatever the application — professional sound recording . . . broadcasting . . . hi-fi in the home . . . school or office use . . . industrial or scientific instrumentation—there is an **irish** tape that meets every requirement in quality, dependability and value.

## *the* irish FERRO-SHEEN *process*

**the only basic advancement in tape manufacturing methods since 1948**

FERRO-SHEEN is the exclusive **irish** tape manufacturing process which rocked the magnetic tape industry when it was introduced in October, 1954, and has rendered ordinary recording tape old-fashioned, if not obsolete. **irish** FERRO-SHEEN process tape has by far the smoothest, most firmly anchored and most homogeneously bonded magnetic oxide coating of any recording tape ever made. It ends all the usual worries about wearing out or gumming up costly tape recorder heads with the abrasive, easily shed oxide coating of ordinary tape. It gives unprecedented fidelity because its mirror-smooth surface vastly improves tape-to-head contact and results in better high-frequency response as well as reduced random noise. It also minimizes the danger of signal drop-outs and of print-through on the recorded reel. It is simply the best-engineered tape in the world.

*Du Pont's registered trademark

### 211 GREEN BAND

The only premium-quality high-fidelity tape at the standard price. Made by the **FERRO-SHEEN** process on top-grade 1½-mil acetate film base. Meets the highest professional standards and all EIA and NAB specifications. Requires no change in bias setting on professional machines. Outstandingly good frequency characteristics.

| Length (feet) | Price |
|---|---|
| 150 | $0.70 |
| 300 | 1.35 |
| 600 | 2.25 |
| 1200 | 3.50 |
| 2400 | 9.27 |

### 300 SHAMROCK®

The ultimate in professional tape for studio and broadcasting use, manufactured to the most exacting specifications of any sound recording tape in the world. Made by the **FERRO-SHEEN** process on specially pre-selected 1½-mil acetate film base and with selected premium-grade oxides. Lowest print-through. Highest output compatible with the best achievable frequency characteristics. Lowest spurious noise level. Comes with 5-foot Mylar* leader in dustproof polyethylene bag.

| Length (feet) | Price |
|---|---|
| 600 | $2.70 |
| 1200 | 4.25 |
| 2400 | 10.90 |

### 195 BROWN BAND

Today's outstanding value in a budget-priced quality tape backed by the guarantee of a major brand. Made on 1½-mil cellulose acetate base. Frequency characteristics are superior to those of all other tapes in the same price bracket. Guaranteed splice-free. Widely used in homes, schools, churches—wherever a good inexpensive tape is needed.

| Length (feet) | Price |
|---|---|
| 600 | $1.75 |
| 1200 | 2.95 |

### 220 SOUND PLATE

The super-tough, special-purpose premium tape pioneered by ORRadio Industries. Made by the **FERRO-SHEEN** process on 1½-mil Mylar* polyester base. Virtually indestructible, with outstanding resistance to stretching, tearing and breaking. Unaffected by extremes of temperature and humidity, even in tropical or arctic climates. Used for tape masters, telemetering and other applications requiring absolute permanence.

| Length (feet) | Price |
|---|---|
| 600 | $4.00 |
| 1200 | 6.55 |
| 2400 | 13.65 |



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

## SP-3 TAPE SPLICER

The new Model SP-3 tape splicer is of a thoroughly tested, trouble-free design, enabling expert or novice to make professional splices in a matter of seconds, without scissors or razor blades. It uses as little as ¼-inch of splicing tape per splice and leaves the finished splice entirely free of excess adhesive at the edges. The base is removable, and the splicer may be mounted directly on the tape recorder.

**$8.85**

## LONG PLAY 601 *(Mylar*)*

A premium-quality tape with 50% more playing time than standard tape on any given reel size. Made on 1-mil Mylar* polyester film base for outstanding strength and tear resistance. **FERRO-SHEEN** process. Meets the highest professional standards. Superior frequency characteristics.

| Length (feet) | Price |
|---|---|
| 225 | $1.00 |
| 450 | 1.90 |
| 900 | 3.50 |
| 1800 | 6.10 |
| 3600 | 14.05 |

## LONG PLAY 602 *(Acetate)*

A moderately priced tape that gives 50% more playing time than standard tape on any given reel size. Made by the **FERRO-SHEEN** process on 1-mil acetate film base. Meets all professional specifications. Guaranteed splice-free. Tensile strength only very slightly lower than that of standard-base 1½-mil tape.

| Length (feet) | Price |
|---|---|
| 225 | $0.85 |
| 450 | 1.70 |
| 900 | 3.25 |
| 1800 | 4.95 |
| 3600 | 11.50 |

## irish TAPE REELS

The 7" **irish** tape reel has 28 square inches of indexing area (7 sq. in. on each of 4 large flanges). These 4 smooth areas permit use of china crayon or other suitable means to identify program material directly on reel.

The new 1958 model reels are strengthened and reinforced to eliminate warping.

**irish** tape reels are easy to thread — they have the largest access to the threading eye of any reel on the market.

3" empty reel in box ..... $0.25
4" empty reel in box ..... 0.40
5" empty reel in box ..... 0.50
5¾" empty reel in box ..... 0.50
7" empty reel in box ..... 0.65
10½" empty metal reel with new scratch-proof anodized flanges (boxed) 3.75
10½" empty plastic reel (boxed) ..... 3.75

### 5¾" EMPTY REELS

All **irish** recording tapes are available on a new, improved 5¾" reel as well as on the industry's standard 5" reels. The special 5¾" reel has the advantage of a large professional hub which equalizes tension and improves tape timing, an extra-large opening to the threading eye, and 24 square inches of smooth flange area for easy write-on indexing.

### NEW FLUTTER-FREE REEL

Extra-large professional hub gives more accurate tape timing, less wow, flutter.

5" flutter-free reel (boxed) .... $0.65
7" flutter-free reel (boxed) .... 0.80

**Splicing Tape**
½" x 100 inches ..... $0.39

**Leader/Divider Tape**
¼" x 150 feet ..... 0.60

## 724 *regular* DOUBLE PLAY®

First practical tape on the market to double the standard length of tape on a given reel size and give twice the normal amount of uninterrupted playing time. Made by the **FERRO-SHEEN** process on ½-mil Mylar* polyester film base. Although somewhat more fragile than other **irish** tapes, its yield point is far outside the range of pull exerted by well-designed tape recorders. Superior frequency characteristics. Comes with 5-foot write-on leader.

| Length (feet) | Price |
|---|---|
| 300 | $1.40 |
| 600 | 2.50 |
| 1200 | 4.75 |
| 1650 | [illegible] |
| 2400 | 8.75 |
| 4800 | 20.30 |

## 400 *fortified* DOUBLE PLAY®

An improvement over all regular Double Play tape, offering the same double playing time. Made by the **FERRO-SHEEN** process on specially strengthened ½-mil Mylar* base. The greatly increased tensile strength (6 lbs.) eliminates all previous necessity for gentle handling. Superior frequency response. Comes with 5-foot write-on leader.

| Length (feet) | Price |
|---|---|
| 1200 | $6.45 |
| 2400 | 11.95 |
| 4800 | 26.70 |

## ORRadio Industries Inc.

*World's Largest Exclusive Magnetic Tape Manufacturer*

**Export:**
Morhan Exporting Corp.,
New York, N. Y.

**Canada:**
Atlas Radio Corp., Ltd.,
Toronto, Ontario

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World Radio History

# NEW COMPONENTS

## "MS" ENVIRONMENTAL RESISTANT CONNECTORS

STUB-E resilient insert, environmental resistant connectors feature "unitized grommet" construction eliminating handling of numerous components on assembly and over-all reduction in length providing lighter connectors. Manufactured to the MIL-C-5015C specification.

Shells are aluminum alloy with cadmium plate, olive drab finish. Contacts are bronze alloy with silver plating. Solder pockets are pre-filled for easier wiring.

Recommended for all electrical circuits calling for MS connectors or MS types needing environmental resistant performance. Available in sizes 8S through 36 in the most used insert arrangements.

MS3100E

MS3102E

MS3101E

MS3106E

### INSERT AVAILABILITY AND SPECIFICATIONS

| Insert Number | Total Contacts | Mech'l Spacing | Serv. Rating | Contact Size 0 | 4 | 8 | 12 | 16 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| *8S-1 | 1 | 1/16 | A | | | | | 1 | |
| †10S-2 | 1 | 1/16 | A | | | | | 1 | |
| 10SL-3 | 3 | 1/16 | A | | | | | 3 | |
| 10SL-4 | 2 | 1/16 | A | | | | | 2 | |
| 12S-3 | 2 | 1/16 | A | | | | | 2 | |
| 12S-4 | 1 | 1/8 | D | | | | | 1 | |
| †14S-2 | 4 | | INST | | | | | 4 | |
| 14S-5 | 5 | | INST | | | | | 5 | |
| †14S-6 | 6 | | INST | | | | | 6 | |
| 14S-7 | 3 | 1/16 | A | | | | | 3 | |
| †14S-9 | 2 | 1/16 | A | | | | | 2 | |
| 16S-1 | 7 | 1/16 | A | | | | | 7 | |
| 16S-4 | 2 | 1/8 | D | | | | | 2 | |
| †16S-5 | 3 | 1/16 | A | | | | | 3 | |
| 16S-8 | 5 | 1/16 | A | | | | | 5 | |
| 16-10 | 3 | 1/16 | A | | | | 3 | | |
| †16-11 | 2 | 1/16 | A | | | 2 | | | |
| 18-1 | 10 | 1/16 | A | | | | | 4 | |
| | | | INST | | | | | 6 | |
| †18-3 | 2 | 1/8 | D | | | | 2 | | |
| 18-4 | 4 | 1/8 | D | | | | | 4 | |
| 18-8 | 8 | 1/16 | A | | | | 1 | 7 | |
| 18-9 | 7 | | INST | | | | 2 | 5 | |
| 18-11 | 5 | 1/16 | A | | | | 5 | | |
| †18-12 | 6 | 1/16 | A | | | | | 6 | |
| 18-16 | 1 | 5/16 | C | | | | 1 | | |
| †18-20 | 5 | 1/16 | A | | | | | 5 | |
| †18-22 | 3 | 1/8 | D | | | | | 3 | |

| Insert Number | Total Contacts | Mech'l Spacing | Serv. Rating | Contact Size 0 | 4 | 8 | 12 | 16 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| 20-4 | 4 | 1/8 | D | | | | 4 | | |
| 20-7 | 8 | 1/8 | D | | | | | 4 | |
| | | 1/16 | A | | | | | 4 | |
| 20-15 | 7 | 1/16 | A | | | | 7 | | |
| 20-16 | 9 | 1/16 | A | | | | 2 | 7 | |
| 20-18 | 9 | 1/16 | A | | | | 3 | 6 | |
| 20-27 | 14 | 1/16 | A | | | | | 6 | |
| | | | INST | | | | | 8 | |
| 20-29 | 17 | 1/16 | A | | | | | 17 | |
| 22-14 | 19 | 1/16 | A | | | | | 19 | |
| 22-19 | 14 | 1/16 | A | | | | | 14 | |
| †24-5 | 16 | 1/16 | A | | | | | 16 | |
| 24-7 | 16 | 1/16 | A | | | | 2 | 14 | |
| 24-20 | 11 | 1/8 | D | | | | 2 | 9 | |
| 24-28 | 24 | 1/16 | INST | | | | | 24 | |
| 28-2 | 14 | 1/8 | D | | | | 2 | 12 | |
| 28-11 | 22 | 1/16 | A | | | | 4 | 18 | |
| 28-12 | 26 | 1/16 | A | | | | | 26 | |
| †28-15 | 35 | 1/16 | A | | | | 35 | | |
| †28-16 | 20 | 1/16 | A | | | | | 20 | |
| 28-20 | 14 | 1/16 | A | | | | 10 | 4 | |
| 28-21 | 37 | 1/16 | A | | | | | 37 | |
| 32-7 | 35 | 1/16 | A | | | | 7 | 24 | |
| | | | INST | | | | | 4 | |
| 36-10 | 48 | 1/16 | A | | | | | 48 | |

CURRENT RATING

| Contact Size | 20 | 16 | 12 | 8 | 4 | 0 |
|---|---|---|---|---|---|---|
| Amperes | 10 | 22 | 41 | 73 | 135 | 245 |

NOTE 1. Transients were not considered in calculating these values.
NOTE 2. Limiting operating voltages at 50,000 feet altitude are approximately 25% of the sea level values.

SERVICE

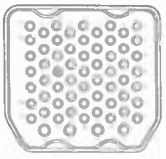
| | | INST | A | D | E | B | C |
|---|---|---|---|---|---|---|---|
| Limiting Operating Voltages at sea level | DC | 250 | 700 | 1250 | 1750 | 2450 | 4200 |
| | AC (rms) | 200 | 500 | 900 | 1250 | 1750 | 3000 |
| *See notes 1 and 2.* | | | | | | | |
| Effective Creepage (nominal) | | 1/16" | 1/8" | 3/16" | 1/4" | 5/16" | 1" |
| Mechanical Spacing (nominal) | | — | 1/16" | 1/8" | 3/16" | 1/4" | 5/16" |

*†Inactive for new military design but available for replacement or non-military purposes.*

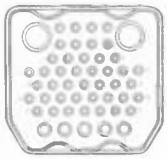
## 94 SERIES RACK & PANEL CONNECTORS

94 Series rack and panel connectors feature "Poke-Home" contacts in aluminum shells. Available in five insert arrangements in three different shell sizes. Hooded female contacts made of brass alloy; male pin contacts made from "half-hard" brass. Plating on both contacts is silver followed by gold. Specially designed coaxial connectors in two insert arrangements are made to accomodate RG-58/U cable. Connector rating is 7.5 amps for #20 contacts and 20 amps for #16 contacts at 600Volts A.C., RMS at sea level. Temperature range is −60° C to +125° C.

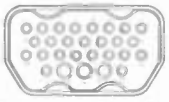
### INSERT ARRANGEMENTS



94-55940 Plug and 94-65940 Recept. 59 no. 20 and 4 no. 16 contacts



94-54352 Plug and 94-64352 Recept. 43 no. 20 and 5 no. 16 contacts, 2 coax. connectors



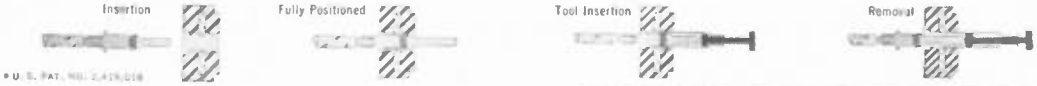
94-32530 Plug and 94-42530 Recept. 25 no. 20 and 3 no. 16 contacts

94-31722 Plug and 94-41722 Recept. 17 no. 20 and 2 no. 16 contacts, 2 coax. connectors

94-11320 Plug and 94-21320 Recept. 13 no. 20 and 2 no. 16 contacts

## AMPHENOL "POKE-HOME" CONTACTS*

"Poke-Home" contacts establish a connector flexibility heretofore unknown. Contacts can be wired and then inserted into the connector. The contacts can be removed by means of a simple tool and re-inserted making circuit changes possible within the same connector.




* U. S. PAT. NO. 2,419,018

AMPHENOL ELECTRONICS CORPORATION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World Radio History

# NEW COMPONENTS

## MINNI*E* MINIATURE CONNECTORS • 67 SERIES

AMPHENOL'S 67 Series of MINNI*E* connectors are quick-disconnect, multi-contact, miniature bayonet lock types. MINNI*E* Connectors are available as Plugs, Cable and Panel Receptacles and Single Hole Mounting Receptacles in four constructions, five shell sizes and 17 insert arrangements.

AMPHENOL MINNI*E*'S are the first miniature connectors to *fully meet* the "E" requirements of MIL-C-5015C, the current specification governing A-N (now MS) type connectors. Shell type numbers correspond to the "AN" nomenclature. Insert sizes and contact arrangements are shown below. "P" or "S" in insert style identify pin or socket contacts. Available in alternate insert positions "W" and "X".

Descriptive part numbering has been assigned to MINNI*E*'S making identification easy. Shell type, construction class, size, insert number, contacts and alternate positions are all numbered.

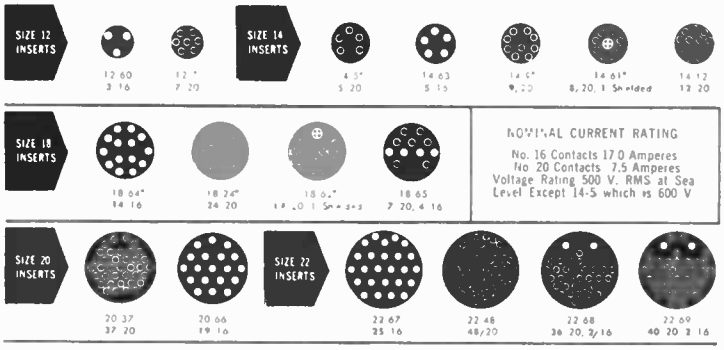
Part Number Example

67-01E14 9P—

Shell Type · Shell Design · Size · Insert · Insert Style · Alternate Insert Position

MINNIE OPERATING TEMPERATURES

| MAXIMUM | MINIMUM |
|---|---|
| 125 C | -55 C |
| 257 F | -67 F |




**Available on Hermetically Sealed Receptacles—use "H" for shell design number for ordering. In 67-04 shell type only.*

RECEPTACLES

67-02EXX-XXX panel mounting receptacle

67-03EXX-XXX flange receptacle —front mount

67-03EXX-XXX round flange receptacle —rear mount

PLUGS · CABLE RECEPTACLES

67-06PXX-XXX

67-01PXX-XXX

with form for potting seal

67-06EXX-XXX

67-01EXX-XXX

with grommet for individual wire seal

67-06JXX-XXX

67-01JXX-XXX

for use with jacketed cable

67-06CXX-XXX

67-01CXX-XXX

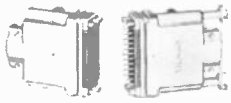
general duty

## 93 SERIES RECTANGULAR CONNECTORS

Rectangular rack and panel, cable to panel, or cable to cable type connectors with "Poke-Home" removable contacts. Available in 34, 42 or 50 contact insert configurations in various combinations with or without right angle and straight screw-lock shells. Contacts are brass alloy with gold over silver plating. Shells are aluminum with cadmium-plate and clear chromate treatment. Jackscrews and sockets are stainless steel. Temperature range is −65 C to +200 C.

Can be used in any application requiring rack and panel connectors. They are especially useful where circuits must be changed frequently within the connector.

*Connector rating—7.5 amps at 500 V.D.C., sea level. 7.5 amps at 125 V.D.C., 70,000 feet.*



## AMPHENOL IDENTOSEAL MARKING

A new method of marking for identification of contacts on hermetically sealed connectors. The marking has the high contrast of white on the AMPHENOL brown glass. The marking is a fired-on ceramic material and is permanently fused to the glass. Permits fast wiring, reduces inspection time. Available on MS-type 172 series receptacles and 178 series receptacles.

AMPHENOL *chicago 50, illinois*

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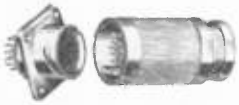
# MINIATURE "AN" TYPE CONNECTORS

The 165 series connectors are pressure-proof and completely waterproof, mated or apart and exceed government salt spray tests by many hours. Weights average about one third that of standard "AN" connectors. The female connectors feature a sandwich construction with the insert spun into the cartridge and the connector sealed at the factory to prevent leakage. A highly efficient "O" ring is used on both the plug and receptacle as a sealer.

The 165 Series is available in two connector sizes and nine contact configurations. All plugs, receptacles and cable receptacles may be ordered with either male or female inserts. Shells are aluminum with a grey anodic finish. The dielectric material is diallyl phthalate—the famous AMPHENOL "Blue" material. Contacts are high conductivity bronze with gold-plating over silver.

The standard plugs and cable receptacles feature a built-in cable clamp which provides positive cable strain-relief. They are also available in special constructions for potting. Potting increases circuit reliability by assuring a positive moisture-proofing around the soldered leads at the back of the connector. Complete information is available from AMPHENOL as to methods and materials.

To order any 165 Series Miniature AN-type plug for potting simply *add* the suffix (-1000) to the part number: 165-33-1000 for example. For cable receptacles for potting *change* the suffix to (-1000): 165-35-1000 for example.



LARGE RECEPTACLE & PLUG

SMALL RECEPTACLE & PLUG

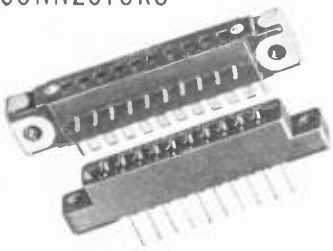
CABLE RECEPTACLE

1-HOLE MT. RECEPTACLE

| Part Number | | | | | | | | Description | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male | | | | Female | | | | Contacts | | | | |
| Plug | Receptacle Sq. Flange | Receptacle 1-Hole Mt. | Cable Receptacle | Plug | Receptacle Sq. Flange | Receptacle 1-Hole Mt. | Cable Receptacle | #20 | #16 | Current Rating Amperes | Volts RMS at Sea L. | Shell Size |
| 165-33 | 165-35 | | 165-35-1001 | 165-34 | 165-36 | | 165-36-1001 | 9 | — | 7.5 | 500 | Small |
| 165-13 | 165-15 | | 165-15-1002 | 165-14 | 165-16 | | 165-16-1001 | 9 | — | 7.5 | 500 | Small |
| | 165-73 | | 165-73-1001 | *165-62 | | | | 8 | 1 max | 10 | 500 | Small |
| 165-17 | 165-19 | | 165-19-1002 | 165-18 | 165-20 | | 165-20-1001 | 7 | 4 | 7.5 and 17 | 500 | Large |
| 165-9 | 165-11 | | 165-11-1002 | 165-10 | 165-12 | | 165-12-1002 | 12 | — | 7.5 | 500 | Small |
| 165-29 | 165-31 | | 165-31-1001 | 165-30 | 165-32 | | 165-32-1001 | — | 14 | 17 | 500 | Large |
| | | | | *165-42 | | | | 19 | 1 max | 10 | 500 | Large |
| 165-25 | 165-27 | | 165-27-1001 | 165-26 | 165-28 | | 165-28-1001 | 24 | — | 7.5 | 500 | Large |
| †165-72 | | †165-45 | †165-71 | †165-44 | | †165-70 | | 40 | 2 | 10 and 22 | 500 | Large |

*Available for potting only. **Available for potting only. Mates with hermetically sealed receptacles 162-2-1000 or 162-2-1001
†Prestuffed.

# RACK & PANEL CONNECTORS



## Printed Circuit Board Receptacles & Plugs

A complete line of printed circuit connectors. Receptacles mate with standard boards; plugs solder to boards to form connector plug for increased reliability. Gold-plated contacts, diallyl phthalate bodies; cadmium-plated brass guide pins on plugs.

| Receptacles | Contacts | Adapters |
|---|---|---|
| 143-006 | 6 | |
| 143-010 | 10 | 133-010 |
| 143-012 | 12 | |
| 143-015 | 15 | 133-015 |
| 143-018 | 18 | 133-018 |
| 143-022 | 22 | 133-022 |

Average Voltage Breakdown between Contacts
Receptacle: *5,400 Volts D.C. at Sea Level*
Adapters: *2,500 Volts D.C. at Sea Level*

Versatile group available in 11, 15 and 20 contacts, with or without protective can and cable clamp. Rated at 900 volts RMS, 60 CPS at sea level. Bodies mica-filled phenolic; contacts gold-plated.

# RECTANGULAR CONNECTORS

| AMPHENOL Number Insert Only | Description | Contacts No. 16 | Contacts No. 20 | Mounting Screw Size | AMPHENOL Number With Can |
|---|---|---|---|---|---|
| 126-804 | Male | 2 | 9 | No. 4 | 126-808 |
| 126-805 | Female | 2 | 9 | No. 4 | 126-809 |
| 126-151 | Male | 3 | 12 | No. 6 | 126-152 |
| 126-150 | Female | 3 | 12 | No. 6 | 126-153 |
| 126-806 | Male | 4 | 16 | No. 4 | 126-811 |
| 126-807 | Female | 4 | 16 | No. 4 | 126-810 |
| 126-816 | Male | 20 | — | No. 4 | — |
| 126-3-2 | Female | 20 | | No. 4 | — |

AMPHENOL ELECTRONICS CORPORATION



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# BLUE RIBBON CONNECTORS

These unique spring-ribbon contact connectors offer the following outstanding features:
- Visual alignment is not required
- Spring contacts provide quick disconnect with low insertion and withdrawal force requirements.
- Insert material is diallyl phthalate which meets government specifications MIL-P-4389 and MIL-P-14D
- Contacts are gold over silver base plate, will not corrode, are easy to solder.
- Molded-in mounting plates are corrosion resistant passivated stainless steel.

## Pin Polarization

| Plugs | Contacts | Mating Receptacles |
|---|---|---|
| 26 159 16 | 16 | 26 190 16 |
| 26 159 24 | 24 | 26 190 24 |
| 26 159 32 | -- | 26 190 32 |

## Barrier Polarization

| Plugs | Contacts | Mating Receptacles |
|---|---|---|
| 26 182 | 8 | 26 183 |
| 26 4100 8P | 8 | 26 4200 8S |
| 26 4100 16P | 16 | 26 4200 16S |
| 26 4100 24P | 24 | 26 4200 24S |
| 26 4100 32P | -- | 26 4200 32S |

## Barrier Polarization With Keyed Shells

| Plugs | Contacts | Shell Keys* Letters | Shell Keys* Numbers | Mating Receptacles |
|---|---|---|---|---|
| 26 4101 8P | 8 | A | 1 | 26 4201 8S |
| 26 4102 8P | 8 | A | 2 | 26 4202 8S |
| 26 4101-16P | 16 | A C | 3 6 | 26 4201 16S |
| 26 4102 16P | 16 | A D | 2 5 | 26 4202 16S |
| 26 4101 24P | 24 | A C | 3 6 | 26 4201 24S |
| 26 4102 24P | 24 | A D | 4 7 | 26 4202 24S |
| 26 4101 32P | 32 | A C | 3 6 | 26 4201 32S |
| 26 4102 32P | 32 | A D | 4 7 | 26 4202 32S |

## Voltage Ratings: 5 Amp.

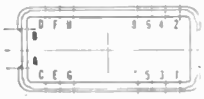
| Pin Polarization | Barrier Polarization |
|---|---|
| 750 Volts D.C. at Sea Level | 800 Volts D.C. at Sea Level |
| 300 Volts D.C. at 60,000 Feet Alt. | 300 Volts D.C. at 70,000 Feet Alt. |

## Barrier Polarization With Keyed Latch-Lock Shells

*Male and female inserts interchangeable, add P for plug contacts or S for socket contacts to part number when ordering*

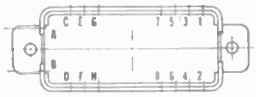
| Plugs: End Cable Outlet | Plugs: Side Cable Outlet | Contacts | Shell Keys* Letters | Shell Keys* Numbers | Mating Receptacles |
|---|---|---|---|---|---|
| 26 4301 8 | 26 4501 8 | 8 | A | 1 | 26 4401 8 |
| 26 4302 8 | 26 4502 8 | 8 | A | 2 | 26 4402 8 |
| 26 4301 16 | 26 4501 16 | 16 | A C | 3 6 | 26-4401 16 |
| 26 4302 16 | 26 4502 16 | 16 | A D | 2 5 | 26 4402 16 |
| 26 4301 24 | 26 4501 24 | 24 | A C | 3 6 | 26 4401 24 |
| 26 4302 24 | 26 4502 24 | 24 | A D | 4 7 | 26 4402 24 |
| 26 4301 32 | 26 4501 32 | 32 | A C | 3 6 | 26 4401 32 |
| 26 4302 32 | 26 4502 32 | 32 | A D | 4 7 | 26 4402 32 |

**Other shell key combinations available on special order*
*For complete availability listing see your AMPHENOL distributor.*

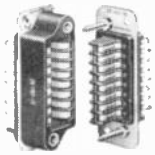



*Plug Front Shell*

SHELL KEYS

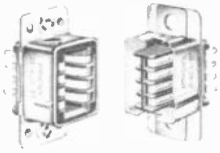



*Receptacle Front Shell*

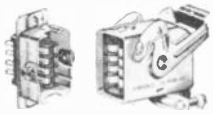


26 190-16 26-159-16

26 4200 8S 26-4100 8P



26 4201-8S 26-4101-8P



26 4401 8P 26 4501-8S

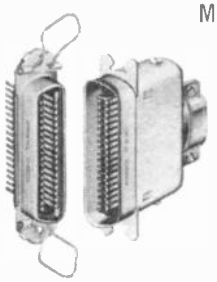
## MICRO RIBBON CONNECTORS

Available in as many as 50 contacts, Micro-Ribbons make possible the routing of a great many circuits through one, or more, small connectors at a great saving of space and weight.

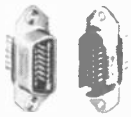
Also available in cable-to-chassis mounting types. The compact housings are equipped with sturdy spring-type latches.

Bodies are molded of diallyl phthalate. Contacts are gold-plated over silver. Shells are cadmium-plated brass with clear chromate treatment.

VOLTAGE RATING 5 AMPS
700 Volts D.C. at Sea Level
200 Volts D.C. at 70,000 Feet Altitude



57 40360 57 20360



57-20140 57-10140

| Contacts | Rack & Panel Plugs | Mating Receptacles | Cable-to-Chassis Plugs | Mating Receptacles |
|---|---|---|---|---|
| 14 | 57 10140 | 57-20140 | 57 30140 | 57-40140 |
| 24 | 57-10240 | 57 20240 | 57 30240 | 57-40240 |
| 36 | 57 10360 | 57 20360 | 57 30360 | 57-40360 |
| 50 | 57-10500 | 57 20500 | 57 30500 | 57 40500 |

## MINIATURE HEXAGON CONNECTORS

| Contacts | With Hex. Nut | With Locking Clip | With Hood & Clamp |
|---|---|---|---|
| 3 pin | -- | 126 214 | -- |
| 3 socket | -- | -- | 126-215 |
| 5 pin | 126 010 | 126 216 | 126 217 |
| 5 socket | 126 011 | 126 218 | 126-223 |
| 7 pin | 126 191 | 126 197 | 126-195 |
| 7 socket | 126-192 | 126 198 | 126 196 |
| 9 pin | 126 012 | 126 219 | 126-220 |
| 9 socket | 126-013 | 126-221 | 126-222 |

For interconnection of miniature electronic equipment; interchangeable hardware and contacts. 1-501 dielectric, gold-plated contacts; all hardware is solid brass, nickel-plated.

*Voltage Rating: 7.5 Amp.*
*—500 Volts R.M.S. at Sea Level.*

AMPHENOL *Chicago 50, Illinois*

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# MS (AN) CONNECTORS

## for Power, Signal & Control Circuits in Electronic Equipment

"MS" stands for Military Standards and these standards have provided the official definition of the MS connector: to provide a detachable connection in one or more electrical circuits; a complete MS connector consists of two mating units—a plug assembly and receptacle assembly.

AMPHENOL MS connectors, although designed and approved under government specifications for use by the armed forces, are ideal for commercial and industrial use where the same dependability is mandatory. These modern, efficient connectors are being used by practically every part of the giant electronics industry.

WALL MOUNTING RECEPTACLES

MS 3100 A — 97 3100 B — MS 3100 E

CABLE RECEPTACLES

MS 3101 A — 97 3101 B — MS 3101 E

BOX MOUNTING RECEPTACLES

MS 3102 A — MS 3102 C — MS 3102 E

STRAIGHT PLUGS

MS 3106 A — MS 3106 B — MS 3106 E

QUICK DISCONNECT PLUGS

MS 3107 A — MS 3107 B

ANGLE PLUGS

MS 3108 A — MS 3108 B

### CABLE CLAMP

AN3057

Sturdy AMPHENOL AN3057 Cable Clamp supports cable or wire at the plug or receptacle, prevents twisting or pulling at soldered connections.

| "AN" Number | Fits Shell Size |
|---|---|
| 3057-3 | 8S, 10S |
| 3057-4 | 12, 12S |
| 3057-6 | 14, 14S |
| 3057-8 | 16, 16S |
| 3057-10 | 18 |
| 3057-12 | 20, 22 |
| 3057-16 | 24, 28 |
| 3057-20 | 32 |
| 3057-24 | 36 |
| 3057-28 | 40 |
| 3057-32 | 44 |
| 3057-40 | 48 |

### CAP & CHAIN ASSEMBLY

9760

Fits MS and 97 type receptacles and plugs. Provides protection against live circuits, dirt and dust when connector is not in use. Add P to the part number for plug cap & chain.

| Part Number | Fits Shell Size |
|---|---|
| 9760-8 | 8S |
| 9760-10 | 10S, 10SL |
| 9760-12 | 12, 12S, 12SL |
| 9760-14 | 14, 14S |
| 9760-16 | 16, 16S |
| 9760-18 | 18 |
| 9760-20 | 20 |
| 9760-22 | 22 |
| 9760-24 | 24 |
| 9760-28 | 28 |
| 9760-32 | 32 |
| 9760-36 | 36 |

### features of AMPHENOL MS CONNECTORS

CONTACTS. Non-rotating contacts are gold-over-silver plated for improved appearance and better electrical and mechanical surface. Socket contacts are of an improved closed-entry design to prevent damage from oversized test probes.

DIELECTRIC MATERIAL. All inserts are molded of diallyl phthalate—the "AMPHENOL Blue" material with dimensional stability, high insulation resistance and high arc resistance.

FINISH. Shells are cadmium-plated with an olive drab chromate conversion coating—non-reflective, corrosion-resistant.

COUPLING RINGS. Made from solid aluminum bar stock for greater strength.

ORDERING MS CONNECTORS. The MS series of connectors includes thousands of combinations, but the functional numbering system permits easy and accurate ordering. To illustrate the system employed a typical part number, MS3100A-16-11P, is exploded and analyzed.

| | | |
|---|---|---|
| MS | STANDARD | "MS" indicates Military part number has been assigned. "97" indicates deviation from MS specifications or exclusive Amphenol design. |
| 3100 | SHELL TYPE | 3100 wall receptacle, 3101 cable receptacle, 3102 box receptacle, 3106 straight plug, 3107 quick-disconnect plug, 3108 angle plug. |
| A | SHELL DESIGN | A solid, B split, C pressurized, E environmental resistant. |
| 16 | SIZE | 8S, 10S, 10SL, 12S, 12, 14S, 14, 16S, 16, 18, 20, 22, 24, 28, 32, 36, 40, 44, 48. |
| 11 | INSERT | 1, 2, 3 and up. |
| P | INSERT STYLE | P for pin contacts, S for socket contacts. |

MS CONNECTOR AVAILABILITY. The latest issue of the Distributor MS Connector Price List is the authoritative source for connector availability.

MS CONNECTORS FOR POTTING. Potting, injecting a synthetic rubber sealant in a mold on the back of a connector, is a superior method of weatherproofing. AMPHENOL MS Connectors for potting may be ordered through your AMPHENOL Distributor, who has complete information.

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# RG TYPE COAXIAL CABLE

## POLYETHYLENE DIELECTRIC

RG-/U coaxial cables made to MIL-C-17B, except where noted. Non-contaminating low temperature black jackets are standard under this Specification; temperature limits are −40° C to +80° C.

| Non-Contaminating Low Temp. Black Jacket | | Vinyl & poly. Jackets | | | | |
|---|---|---|---|---|---|---|
| Mil No. RG- U | AMPHENOL Number | Formerly RG- U | AMPHENOL Number | O.D. | Max. Oper. Volts | Nom. Imp. Ohms |
| | | 5 | 21-001 | .332 | 3000 | 52.5 |
| 5B | 21-294 | | | .332 | 3000 | 50 |
| 6A | 21-330 | | | .332 | 2700 | 75 |
| | | 7 | 21-003 | .370 | 1000 | 97 |
| | | 8 | 21-004 | .405 | 4000 | 52 |
| 8A | 21-290 | | | .405 | 4000 | 50 |
| | | 9 | 21-005 | .420 | 4000 | 51 |
| | | 9A | 21-251 | .420 | 4000 | 61 |
| 9B | 21-332 | | | .425 | 4000 | 50 |
| 10A | 21-338 | | | .475 | 4000 | 50 |
| 11A | 21-296 | 11 | 21-007 | .405 | 4000 | 75 |
| 12A | 21-340 | | | .475 | 4000 | 75 |
| 13A | 21-334 | 13 | 21-009 | .425 | 4000 | 75 |
| 14A* | 21-336 | 14 | 21-010 | .545 | 5500 | 52 |
| 14A | 21-336 (819) | | | .545 | 5500 | 50 |
| 17* | 21-298 | 17 | 21-013 | .870 | 11000 | 52 |
| 17A | 21-298 (819) | 18 | | .870 | 11000 | 50 |
| 18A* | 21-300 | 18 | 21-014 | .945 | 11000 | 52 |
| 18A | 21-300 (819) | | | .945 | 11000 | 50 |
| | | 19 | 21-015 | 1.120 | 14000 | 52 |
| 19A | 21-303 | | | 1.120 | 14000 | 50 |
| 20A | 21-305 | | | 1.195 | 14000 | 50 |
| | | 21 | 21-017 | .332 | 2700 | 53 |
| 21A | 21-308 | | | .332 | 2700 | 50 |
| | | 22 | 21-018 | .405 | 1000 | 95 |
| 22B | 21-310 | | | .420 | 1000 | 95 |
| 23A | 21-516 | | | .650X | 3000 | 125 |
| | | | | .845 | | |
| 24A | 21-518 | | | .755X | 3000 | 125 |
| | | | | 1.084 | | |
| | | 29 | 21-018 | .184 | 1900 | 53.5 |
| | | 34 | 21-019 | .625 | 5200 | 71 |
| 34A | 21-429 | | | .630 | 5200 | 75 |
| 35A* | 21-311 | 35 | 21-020 | .945 | 10000 | 71 |
| 35A | 21-311 (819) | | | .945 | 10000 | 75 |
| | | 54A | 21-022 | .250 | 3000 | 58 |
| | | 55 | 21-023 | .206 | 1900 | 53.5 |
| 55A | 21-294 | | | .216 | 1900 | 50 |
| 57A | 21-313 | | | .425 | 3000 | 95 |
| | | 58 | 21-024 | .195 | 1900 | 53.5 |
| 58C | 21-316 | 58A | 21-199 | .195 | 1900 | 50 |
| | | 59 | 21-025 | .242 | 2300 | 73 |
| 59A | 21-291 | | | .242 | 2300 | 75 |
| 62A | 21-318 | 62 | 21-026 | .242 | 750 | 93 |
| 63B | 21-320 | 63 | 21-027 | .405 | 1000 | 175 |
| 71A | 21-324 | 71 | 21-029 | .290 | 750 | 93 |
| 74A* | 21-321 | | | .615 | 5500 | 50 |
| 74A | 21-321 (819) | | | .615 | 5500 | 50 |
| 79B | 21-325 | | | .475 | 3000 | 125 |
| 108A | 21-327 | 108 | 21-261 | .235 | 1000 | 78 |
| 113A | 21-329 | | | .490 | 3000 | 95 |
| 114A | 21-529 | 114 | 21-440 | .195 | 5000 | 185 |
| 122 | 21-441 | | | .160 | 1900 | 50 |
| 164 | 21-298 | | | .855 | 11000 | 50 |
| 177 | 21-299 | | | .870 | 10000 | 75 |

*Made to specification JAN-C-17A, Amend. 3, to avoid possible difficulty in cable to connector fit. See (.57A) version for same cable made to new specification MIL-C-17B.

## TEFLON DIELECTRIC

Made to MIL-C-17B, these Teflon cables operate at temperatures from −73° C to +200° C. These superior cables feature low loss operation, high voltage breakdown, and no measurable water absorption characteristics. See Subminax cable listing for miniature Teflon RG-/U types.

| Military Number RG- U | AMPHENOL Number | O.D. | Max. Oper. Volts | Nom. Imp. Ohms |
|---|---|---|---|---|
| 62C | 421-100 | .242 | 750 | 93 |
| 87A | 421-250 | .430 | 40000 | 50 |
| 94A | 421-705 | .470 | 5000 | 50 |
| 115 | 421-641 | .375 | 5000 | 50 |
| 115A | 421-699 | .415 | 5000 | 50 |
| 116 | 421-378 | .430 | 5000 | 50 |
| 117 | 421-377 | .730 | 7000 | 50 |
| 118 | 421-374 | .795 | 7000 | 50 |
| 119 | 421-398 | .465 | 6000 | 50 |
| 120 | 421-399 | .525 | 6000 | 50 |
| 136 | 421-443 | .280 | 3000 | 50 |
| 140 | 421-379 | .233 | 2300 | 75 |
| 141 | 421-382 | .190 | 1900 | 50 |
| 142 | 421-385 | .206 | 1900 | 50 |
| 143 | 421-388 | .325 | 3000 | 50 |
| 144 | 421-391 | .410 | 5000 | 75 |
| 195 | 421-710 | .410 | 5000 | 50 |
| 196 | 42-713 | .460 | 5000 | 50 |

## SUBMINAX COAXIAL CABLE

Made with AMPHENOL Subminax connectors. Combine full-size reliability with subminiature size for every miniaturized application.

### Teflon Dielectric & Teflon Jacket

| Military Number RG- U | AMPHENOL Number | O.D. | Nom. Imp. Ohms |
|---|---|---|---|
| 187 | 421-106 | .110" | 75 |
| 188 | 421-107 | .110" | 50 |
| 189 | 421-111 | .115" | 95 |
| 196 | 421-109 | .080" | 50 |
| — | 421-637 | .150" | 75 |

### Polyethylene Dielectric & Vinyl Jacket

| AMPHENOL Number | O.D. | Nom. Imp. Ohms |
|---|---|---|
| 21-307 | .150" | 75 |
| 21-308 | .105" | 50 |

## MICROPHONE CABLE

| AMPHENOL Number | Description |
|---|---|
| 21-318 | Poly. dielectric, low capacitance |

AMPHENOL chicago 50, illinois

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World Radio History

# RADIO FREQUENCY CONNECTORS

AMPHENOL RF connectors are available in every popular series designation the most complete line ever offered for military and commercial use. There are literally thousands of applications existing for these versatile connectors and more are being discovered every day.

Finest materials, craftsmanship assembly, strict quality-control are the reasons for the outstanding reputation of AMPHENOL RF connectors —plus a complete engineering service that is always available to our customers.

### SUBMINAX—50 OHM

| | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| Push on | 27 1 | Plug | 187, 188, 21 598 |
| | 27 2 | Jack | |
| | 27 3 | Receptacle | |
| | 27 4 | Jack Bulkhead | |
| | 27 5 | Cable Feed Thru | |
| | 27 6 | Plug Right Angle | |
| | 27 27 | Receptacle, Hermetic | |
| Screw on | 27 7 | Plug | |
| | 27 8 | Jack | |
| | 27 9 | Receptacle | |
| | 27 10 | Jack Bulkhead | |
| | 27 11 | Cable Feed Thru | |
| | 27 12 | Receptacle Hermetic | |
| | 27 26 | Plug Right Angle | |
| | 27 28 | Adapter to BNC | |
| | 27 800 | Receptacle Print Cir | |
| | 27 801 | Cable Term | |

### SUBMINAX—50 OHM FIELD SERVICEABLE

| | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| Push on | 27 30 | Plug | 196 |
| | 27 31 | Jack | |
| | 27 32 | Jack Bulkhead | |
| | 27 33 | Plug Right Angle | |
| Screw on | 27 34 | Plug | |
| | 27 35 | Jack | |
| | 27 36 | Jack Bulkhead | |
| | 27 37 | Plug Right Angle | |

### SUBMINAX—75 OHM

| | | | |
|---|---|---|---|
| Push on | 27 13 | Plug | 195, 21 597, 421 637 |
| | 27 14 | Jack | |
| | 27 15 | Receptacle | |
| | 27 16 | Jack Bulkhead | |
| | 27 17 | Feed Through | |
| | 27 18 | Plug Right Angle | |
| Screw-on | 27 19 | Plug | |
| | 27 20 | Jack | |
| | 27 21 | Receptacle | |
| | 27 22 | Jack Bulkhead | |
| | 27 23 | Feed Through | |
| | 27 24 | Receptacle Hermetic | |
| | 27 25 | Plug Right Angle | |
| | 27 804 | Cable Term | |

### SERIES BNC

| Military Number | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| UG 88 U | 31 002 | Plug | 55 58 |
| UG 88-B U | 31 018 | Plug | 55 58 |
| UG 88C U | 31 202 | Plug | 55 58 |
| UG 89 U | 31 005 | Jack | 55 58 |
| UG 89A U | 31 019 | Jack | 55 58 |
| UG 89B U | 31 205 | Jack | 55 58 |
| CA 123 U | 31 006 | Cap and Chain | — |
| CA 127 A U | 31 026 | Cap and Chain | — |
| CA 157 U | 31 007 | Cap | — — |
| CA 157 A U | 31 027 | Cap | — |
| CA 159 U | 31 017 | Shorting Plug | — |
| UG 254A U | 31 016 | Receptacle Press | — |
| UG 260 U | 31 017 | Plug | 59 62 71 |
| UG 260A U | 31 021 | Plug | 59 62 71 |
| UG 260B U | 31 212 | Plug | 59 62 71 |
| UG 261 U | 31 015 | Jack | 59 62 71 |
| UG 261A U | 31 022 | Jack | 59 62 71 |
| UG 261B U | 31 215 | Jack | 59 62 71 |
| UG 262 U | 31 011 | Panel Jack | 59 62 71 |
| UG 262A | 31 023 | Panel Jack | 59 62 71 |
| UG 262B U | 31 211 | Panel Jack | 59 62 71 |
| UG 274 U | 31 008 | Adapter Tee | — — |
| UG 274A/U | 31 208 | Adapter Tee | — — |
| CA 282 U | 31 210 | Cap and Chain | — |
| UG 290 U | 31 003 | Receptacle | — — |
| UG 290A U | 31 203 | Receptacle | — |
| UG 291/U | 31 001 | Panel Jack | 55 58 |
| UG 291A U | 31 020 | Panel Jack | 55 58 |
| UG 291B U | 31 201 | Panel Jack | 55 58 |
| UG 306 U | 31 009 | Adapter Right Angle | — — |
| UG 306A U | 31 209 | Adapter Right Angle | — — |
| UG 447 U | 31 817 | Receptacle | — — |
| UG 491A U | 31 218 | Adapter | — |
| UG 492A/U | 31 220 | Adapter Press | — — |
| UG 657 U | 31 102 | Receptacle Press | — — |
| UG 909 U | 31 206 | Jack Bulkhead | 55 58 |
| UG 910 U | 31 207 | Jack Bulkhead | 59 62 71 |
| UG 913 U | 31 204 | Plug Right Angle | 55 58 |
| UG 914 U | 31 219 | Adapter Straight | — — |
| UG 1094 U | 31 221 | Receptacle Bulk | — — |
| UG 1098 U | 31 222 | Receptacle Right Angle | — |
| — — | 31 104 | Receptacle | — — |
| — | 31 105 | Receptacle | — — |
| — — | 31 126 | Tee | 59 62 71 140 |
| | 31 300 | Panel Jack, Cap Con | 58 58 141 142 |
| — — | 31 301 | Plug Cap Con | 58 58 141 142 |
| — — | 31 302 | Jack Cap Con | 58 85 141 142 |
| — — | 31 303 | Panel Jack Cap Con | 59 62 71 140 |
| — — | 31 304 | Plug Cap Con | 59 62 71 140 |
| — | 31 305 | Jack Cap Con | 59 62 71 140 |
| — — | 31 759 | Shield Grounding Lug | — — |
| — | 31 842 | Receptacle | — |
| — — | 31 850 | Plug Right Angle | 59 62 71 |
| — — | 31 851 | Cable Feed Thru | 58 58 |

### SERIES BN

| Military Number | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| UG 85 U | 82 71 | Plug | 55 58 59 62 71 |
| UG 87 U | 82 42 | Receptacle | — |
| UG 114 U | 82 25 | Panel Jack | 55 58 59 62 71 |
| UG 115 U | 82 26 | Jack | 55 58 59 62 71 |
| UG 206 U | 31 101 | Receptacle Bulk Gold Plated | — — |
| — — | 31 759 | Shield Grounding Lug | — — |

### SERIES N

| Military Number | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| UG 18B U | 82 86 | Plug | 5 6 21 |
| UG 18C U | 82 204 | Plug | 5 6 21 |
| UG 19B U | 82 87 | Panel Jack | 5 6 21 |
| UG 19C U | 82 207 | Panel Jack | 5 6 21 |
| UG 20B U | 82 88 | Jack | 5 6 21 |
| UG 20C U | 82 210 | Jack | 5 6 21 |
| UG 21B U | 82 61 | Plug | 8 9 10 |
| UG 21C U | 82 96 | Plug | 8 9 10 |
| UG 21D U | 82 102 | Plug | 8 9 10 |
| UG 22B U | 82 62 | Panel Jack | 8 9 10 |
| UG 22C U | 82 95 | Panel Jack | 8 9 10 |
| UG 22D U | 82 208 | Panel Jack | 8 9 10 |
| UG 23B/U | 82 63 | Jack | 8 9 10 |
| UG 23C U | 82 94 | Jack | 8 9 10 |
| UG 23D U | 82 209 | Jack | 8 9 10 |
| UG 27A U | 82 64 | Adapter, Right Angle | — — |
| UG 27B/U | 82 98 | Adapter Right Angle | — — |
| UG 27C U | 82-213 | Adapter, Right Angle | — — |
| UG 28A U | 82 99 | Adapter Tee | — — |
| UG 29A U | 82 65 | Adapter Straight | — — |
| UG 29B U | 82 101 | Adapter Straight | — — |
| UG 30 U | 82 66 | Adapter Bulk Pressurized | — — |
| UG 30C U | 82 201 | Adapter Bulk-Pressurized | — — |
| UG 57B U | 82 100 | Adapter Straight | — — |
| UG 58 U | 82 24 | Receptacle | — — |
| UG 58A U | 82 97 | Receptacle | — — |
| UG 94A U | 82 84 | Plug | 11 12 13 |
| UG 95A U | 82 89 | Jack | 11 12 13 |
| UG 96A U | 82 90 | Panel Jack | 11 12 13 |
| UG 106 U | 82 188 | Hood | 8 9 10 11 12 13 |
| UG 107A U | 82 36 | Adapter, Tee | — — |
| UG 107B U | 82 102 | Adapter Tee | — — |
| UG 160A U | 82 67 | Jack Bulkhead | 8 9 10 |
| UG 160B U | 82 93 | Jack Bulkhead | 8 9 10 |
| UG 167A U | 82 104 | Plug | 17 18 |
| UG 167D U | 82 211 | Plug | 17 18 |
| UG 204A U | 82 105 | Plug | 14 74 |
| UG 204C U | 82 214 | Plug | 14 74 |
| UX 63 U | 82 48 | Armor Clamp | 10 12 |
| UX 564A U | 82 109 | Armor Clamp | 10 12 |
| UG 680 U | 82 811 | Receptacle Bulk Herm. Press | — — |
| UX 913 U | 82 106 | Cap and Chain | — — |
| UG 935A U | 82 211 | Panel Jack | 10 12 |
| UG 940A U | 82 212 | Jack | 10 12 |
| UG 931A U | 82 204 | Plug | 10 12 |
| UG 1185 U | 82 312 | Plug, Cap Con | 8 9 10 87A, 115 115A |
| UG 1186 U | 82 313 | Jack Cap Con | 8 9 10 87A, 115 115A |
| UG 1187 U | 82 314 | Panel Jack, Cap Con | 8 9 10 87A, 115 115A |
| — — | 82 112 | Receptacle | — — |
| — — | 82 113 | Plug | 45 164 |
| — — | 82 826 | Plug Cap Conf Right Angle | 8 9 10 87A |
| — — | 82 835 | Angle Plug | 8 9 10 |
| — — | 82 849 | Adapter Straight, Pressurized | — — |
| — — | 82-1.75 | Shield Grounding Lug | — — |
| — — | 83 1H | Hood | 8 9 10 11 12 13 |
| | 83 1BC | Cap and Chain | — — |

### SERIES C

| Military Number | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| UG 566A U | 82 536 | Adapter Tee | — — |
| UG 567A U | 82 535 | Adapter, Right Angle | — — |
| UG [illegible] U | [illegible] 504 | Receptacle | — — |
| UG 569 U | 82 505 | Receptacle Bulk | — |
| UG 570 U | 82 502 | Jack Bulkhead | 8 9 10 |
| UG 572 U | 82 501 | Panel Jack | 8 9 10 |
| UG 572 U | 82 503 | Jack | 8 9 10 |
| UG 573A U | 82 530 | Plug | 8 9 10 |
| UG 628A U | 82 [illegible] | Plug High Voltage | 8 9 10 |

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| Military Number | AMPHENOL Number | Description | For RG- U Cables |
|---|---|---|---|
| UG-632 U | 82-521 | Jack, Bulkhead, High Voltage | 8, 9A |
| UG-634 U | 82-515 | Receptacle, Bulk, High Voltage | — — |
| UG-643 U | 82-514 | Adapter, Straight | — — |
| UG-705 U | 82-511 | Receptacle, Bulk, Pressurized | — — |
| UG-707A U | 82-533 | Plug | 14, 74 |
| UG-709A U | 82-534 | Plug | 55, 58 |
| UG-710A U | 82-531 | Plug, Right Angle | 8, 9 |
| UG-937 U | 82-522 | Jack, Bulkhead | 10, 17 |
| UG-943A U | 82-538 | Plug | 10, 17 |
| UG-945A U | 82-537 | Plug, Right Angle | 10, 12 |
| MX-1142 U | 82-512 | Cap and Chain for Jacks | — — |
| MX-1143 U | 82-513 | Cap and Chain for Plugs | — — |
| MX-1286 U | 82-517 | Armor Clamp | 10, 17 |

### SERIES HN

| | | | |
|---|---|---|---|
| UG-59A, U | 82-38 | Plug | 8, 9, 10 |
| UG-59B U | 82-804 | Plug | 8, 9, 10 |
| UG-60A U | 82-39 | Jack | 8, 9, 10 |
| UG-60B, U | 82-814 | Jack | 8, 9, 10 |
| UG-61A U | 82-40 | Panel Jack | 8, 9, 10 |
| UG-61B U | 82-815 | Panel Jack | 8, 9, 10 |
| MX-103 U | 103-301 | Tapering Tool | 8, 9, 10 |
| UG-212A U | 82-91 | Adapter, Right Angle | — — |
| UG-212B U | 82-115 | Adapter Right Angle | — — |
| UG-333 U | 82-56 | Jack | 17, 18 |
| UG-333A U | 82-107 | Jack | 17, 18 |
| UG-334 U | 82-57 | Panel Jack | 17, 18 |
| UG-334A U | 82-108 | Panel Jack | 17, 18 |
| UG-495A U | 82-111 | Plug | 17, 18 |
| UG-496, U | 82-92 | Receptacle | — — |
| UG-560, U | 82-805 | Receptacle | — — |
| UG-1215 U | 82-320 | Plug, Cap, Con | 8, 9, 10, 87A 115, 115A |
| UG-1214 U | 82-321 | Jack, Cap, Con | 8, 9, 10, 87A 115, 115A |
| UG-1215 U | 82-324 | Panel Jack, Cap, Con | 8, 9, 10, 87A 115, 115A |
| MX-564 U | 82-48 | Armor Clamp | 10 |
| MX-564A U | 82-109 | Armor Clamp | 10 |
| UG-929 U | 82-114 | Panel Jack | 10, 115 |
| — — | 82-91A | Adapter, Right Angle | — — |
| — — | 82-130 | Cap & Chain Jacks | — — |
| — — | 82-816 | Plug | 54A |
| — — | 82-833 | Angle Plug | 8, 9, 10 |
| — — | 82-856 | Angle Plug | 8, 9, 10 |

### PUSH-ON

| | | | |
|---|---|---|---|
| — — | 82-830 | Plug | 58 |
| — — | 82-831 | Receptacle, Bulk | — — |
| — — | 82-832 | Plug | 59, 62, 71 |
| — — | 82-841 | Receptacle, Bulk | — — |
| — — | 82-845 | Plug, Bulk | 58 |
| — — | 82-846 | Jack, Bulk | 55 |

### SERIES UHF
### Small Single Contact Connectors

| | | | |
|---|---|---|---|
| UG-106 U | 83-1H | Hood | 8, 9, 10, 11, 12, 13, 63, 65 |
| UG-111 U | 83-750 | Plug | 59, 62, 71 |
| UG-175 U | 83-1AP | Adapter, Reducing | 58 |
| UG-176 U | 83-16R | Adapter, Reducing | 59, 62, 71 |
| UG-177 U | 83-765 | Hood | 29, 55, 58 |
| UG-203 U | 83-776 | Plug | 55, 59, 62, 71 |
| SO-239 | 83-1R | Receptacle | — — |
| SO-239A | 83-798 | Receptacle | — — |
| PL-258 | 83-1J | Adapter, Straight | — — |
| PL-259 | 83-1SP | Plug | 8, 9, 10, 11, 12, 13, 63, 65 |
| PL-259A | 83-1SPN | Plug, Mica-Filled Bakelite | 8, 9, 10, 11, 12, 13, 63, 65 |
| PL-259A | 83-756 | Plug, Teflon | 8, 9, 10, 11, 12 |
| PL-274 | 83-1F | Adapter, Bulk | — — |
| M-358 | 83-1T | Adapter, Tee | — — |
| M-359 | 83-1AP | Adapter, Right Angle | — — |
| M-359A | 83-58 | Adapter, Right Angle | — — |
| M-360 | 83-1H | Hood | 8, 9, 10, 11, 12, 13, 63, 65 |
| UG-363 U | 83-1F | Adapter, Bulk | — — |

| Military Number | AMPHENOL Number | Description | For RG-/U Cables |
|---|---|---|---|
| UG-372 U | 83-1HP | Hood | 8, 9, 10, 11, 12, 13, 63, 65 |
| UG-646 U | 83-1AP | Adapter, Right Angle | — — |
| 49190 | 83-1SP | Plug | 8, 9, 10, 11, 12, 13, 63, 65 |
| 49191 | 83-1J | Adapter, Straight | — — |
| 49192 | 83-1AP | Adapter, Right Angle | — — |
| 49192A | 83-58 | Adapter, Right-Angle | — — |
| 49193 | 83-1H | Hood | 8, 9, 10, 11, 12, 13, 63, 65 |
| 49194 | 83-1R | Receptacle | — — |
| 49195 | 83-1SPN | Plug, Mica-Filled Bakelite | 8, 9, 10, 11, 12, 13, 63, 65 |
| 49196 | 83-756 | Plug, Teflon | 8, 9, 10, 11, 12 |
| 49199 | 83-1T | Adapter, Tee | — — |
| 49482 | 83-776 | Plug | 55, 59, 62, 71 |
| 491849 | 83-1F | Adapter, Bulk | — — |
| — — | 83-1AC | Cap and Chain | — — |
| — — | 83-1BC | Cap and Chain | — — |
| — — | 83-1RTY | Receptacle | — — |
| — — | 83-59 | Plug, Right Angle | 8, 9, 10, 11, 12, 13, 63, 65 |
| — — | 83-716 | Receptacle, Pressure Proof | — — |
| — — | 83-786 | Hood & Gang Nut | 29, 55, 58 |
| — — | 83-812 | Receptacle | — — |
| — — | 83-850 | Plug, Solderless | 11 |
| — — | 83-851 | Plug, Solderless | 8, 9, 10, 11, 12, 13, 63, 65 |

### Small Twin Contact Connectors

| | | | |
|---|---|---|---|
| UG-102 U | 83-22SP | Plug | 22 |
| UG-103 U | 83-22R | Receptacle | — — |
| UG-104 U | 83-22AP | Adapter, Right Angle | — — |
| UG-105 U | 83-22J | Adapter, Straight | — — |
| UG-106 U | 83-1H | Hood | 22 |
| UG-196 U | 83-22T | Adapter, Tee | — — |
| SO-264 | 83-22R | Receptacle | — — |
| PL-275 | 83-22F | Adapter, Straight Bulkhead | — — |
| PL-284 | 83-22SP | Plug | 22 |
| PL-285 | 83-22J | Adapter, Straight | — — |
| PL-293 | 83-22AF | Adapter, Right Angle | — — |
| M-360 | 83-1H | Hood | 22 |
| 49193 | 83-1H | Hood | 22 |
| — — | 83-1AC | Cap and Chain | — — |
| — — | 83-1BC | Cap and Chain | — — |
| — — | 83-65 | Adapter, Reducing | 250 Ohm |
| — — | 83-821 | Plug | 22 |

### Large Single Contact Connectors

| | | | |
|---|---|---|---|
| UG-357 U | 83-21R | Receptacle | — — |
| UG-358 U | 83-21SP | Plug | 34 |
| UG-360, U | 83-21J | Adapter, Straight | — — |

### Large Twin Contact Connectors

| | | | |
|---|---|---|---|
| SO-265 | 83-2R | Receptacle | — — |
| PL-295 | 83-2SP | Plug | 52, 130 |
| PL-305 | 83-2J | Adapter, Straight | — — |
| PL-325 | 83-2AP | Adapter, Right Angle | — — |
| 49188 | 83-2SP | Plug | 52, 130 |
| 49189 | 83-2J | Adapter, Straight | — — |
| 49190 | 83-2R | Receptacle | — — |

### SERIES LC

| | | | |
|---|---|---|---|
| UG-194 U | 82-39 | Plug | 17, 18 |
| UG-352 U | 82-80 | Receptacle | — — |
| UG-352A U | 82-110 | Receptacle | — — |

### SERIES LT

| | | | |
|---|---|---|---|
| — — | 82-116 | Plug | 117 |
| — — | 82-117 | Receptacle | — — |

### BETWEEN SERIES ADAPTERS

| | | Mates With |
|---|---|---|
| UG-201 U | 31-830 | N Female and BNC Male |
| UG-201A U | 31-716 | N Female and BNC Male |
| UG-273 U | 31-028 | BNC Male and UHF 49194 or Equivalent |
| UG-346A U | 31-717 | N Male and BNC Female |
| UG-564 U | 82-508 | C Male and N Female |
| UG-565A U | 82-540 | C Female and N Male |

### CABLE TRANSITION

| | From RG-/U Cable | To RG-/U Cable |
|---|---|---|
| 82-150 | 17, 18 | 8, 9 or 10 |

### CABLE SPLICE

| | | For RG-/U Cables |
|---|---|---|
| 82-152 | | 35, 164 |

SUBMINAX

SERIES BNC

SERIES BN

SERIES N

SERIES C

SERIES HN

PUSH-ON

SERIES UHF

SERIES LC

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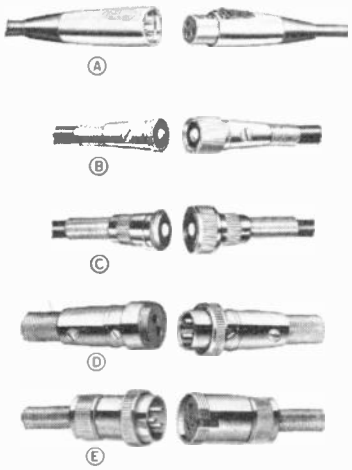
World Radio History

# MICROPHONE CONNECTORS




## Ⓐ MODERN DESIGN QWIKS

Newest, most efficient, most attractive connectors ever offered for microphone use. Gold-plated contacts, 1-501 Blue dielectric, satin-nickel finish contribute to the beauty, the efficient performance of the new QWIKs. Instant connect, disconnect—just click them in!

| Three Contacts AMPHENOL Number | Description | Four Contacts AMPHENOL Number |
|---|---|---|
| 91 853 | Male plug | 91 857 |
| 91-854 | Female plug | 91 858 |
| 91 855 | Male receptacle | 91 859 |
| 91 856 | Female receptacle | 91 860 |

## Ⓑ Ⓒ SERIES 75

Coupling-ring connectors available with a complete line of accessory fittings. Easy to use, versatile in application, these connectors provide mating connections at every junction through the use of slip-off, slip-on coupling rings. Single contact. Plug, jack and receptacle also available in miniature size.

| Ⓒ Standard 75-Series | Ⓑ Miniature 75-Series | Description |
|---|---|---|
| 75-CCC1 | | Cap and chain |
| 75-MC1F | 75 1 | Straight plug |
| 75-MC1FA | | Angle plug |
| 75-MC1M | 75 2 | Cable jack |
| 75-MC1P | | Phone plug adapter |
| 75-MC1S | | Microphone switch |
| 75-PC1M | 75 3 | Locknut receptacle |
| 75-CL-PC1M | | Locknut receptacle, closed circuit |

## Ⓓ SERIES 80

One and two contact connectors designed for microphone applications; assure positive connections free from noise, leaks or shorts.

| One Contact AMPHENOL Number | Description | Two Contacts AMPHENOL Number |
|---|---|---|
| 80 M | Male plug | 80 MC2M |
| 80 F | Female jack | 80 MC2F |
| 80-C | Female receptacle | 80 PC2F |
| 80 F1 | Female plug | 80 MC2F1 |
| 80-M1 | Male jack | 80 MC2M1 |
| 80-C1 | Male receptacle | 80 PC2M |

## Ⓔ SERIES 91

Three and four contact connectors for audio or any type of portable sound equipment. Screw-on connection. Connectors polarized.

| Three Contacts AMPHENOL Number | Description | Four Contacts AMPHENOL Number |
|---|---|---|
| 91-MC3M | Male plug | 91 MC4M |
| 91-MC3F | Female jack | 91 MC4F |
| 91-PC3F | Female receptacle | 91 PC4F |
| 91-MC3F1 | Female plug | 91 MC4F1 |
| 91 MC3M1 | Male jack | 91 MC4M1 |
| 91-PC3M | Male receptacle | 91 PC4M |

## POLYSTYRENE SHEET STOCK

| AMPHENOL Number | Description |
|---|---|
| 19 0628 | 4" x 8" x 1/16" |
| 19 0938 | 4" x 8" x 3/32" |
| 19 1258 | 4" x 8" x 1/8" |
| 19 1878 | 4" x 8" x 3/16" |
| 19 2508 | 4" x 8" x 1/4" |

## SINGLE PRONG PLUGS

| AMPHENOL Number | Description |
|---|---|
| 71-1S | For 3/32" socket |
| 71-1M | For 1/8" socket |
| 71-1L | For 5/32" socket |

## TIP JACKS

| AMPHENOL Number | Description |
|---|---|
| 78 1S | For 3/32" plug |
| 78-1L | For 5/32" plug |
| 78 1M | For 1/8" plug |
| 78 1P | For .080" phone tip |

## MAGIC EYE ASSEMBLIES

| AMPHENOL Number | Description |
|---|---|
| 58 MEA6 | 6 contact type |
| 58-MEA8 | 8 contact octal type |

## UNIVERSAL GRID CAP

| AMPHENOL Number | Description |
|---|---|
| 63-1 | Black grid cap |

## TAP CHANGE SWITCH

| AMPHENOL Number | Description |
|---|---|
| 36 | Numerals 1 to 8, internal solder lugs |
| 36 1 | Numerals 1 to 8 |
| 36-2 | Imp marks 0-2-4-8-16-250-500 |

## CRYSTAL HOLDER SOCKET

| AMPHENOL Number | Description |
|---|---|
| 33 2 | Black bakelite |
| 33 2T | Mica-filled |

## COIL FORMS

| AMPHENOL Number | Description |
|---|---|
| 24 | Miniature for self tapping screw |
| 24 4P | Plug-in 4 prong |
| 24-5P | Plug-in 5 prong |
| 24-6P | Plug-in 6 prong |
| 24 5H | Plug in miniature 5 prong |
| 24 6H | Plug in miniature 6 prong |

## HIGH-VOLTAGE SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 77A 41 | 4 contacts mica-filled bakelite |
| 146 101 | 8 contacts melamine |

## STEATITE TRANSMITTING TUBE

| AMPHENOL Number | Description |
|---|---|
| 148 101 | Small and medium 4 pin |
| 148-111 | Octal |

## BRACKET TYPE SOCKETS

| AMPHENOL Number | WITH Retaining Clip | With Terminal Block | With Bottom Cover | With Underwriters' Shield | For Super Jumbo 4-pin Tubes | For UX 4-pin Tubes |
|---|---|---|---|---|---|---|
| 146 105 | X | | X | | X | |
| 146 106 | X | | | | X | |
| 146 107 | X | X | X | | X | |
| 146 109 | | | | X | | X |
| 146-110 | | | | | | X |

## ADAPTER SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 78 A7P | 7 pin |
| 78 A9P | 9 pin |

## MAGNAL & DUODECAL SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 49 SS11L | 11 contact magnal |
| 59 402 | 12 contact |

## ETHYLON "A" SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 59-305 | 8 pin octal Zip in |
| 59 307 | 7 pin miniature Zip in |
| 59-309 | 9 pin miniature Zip in |
| 59-355 | 8 pin octal with mounting plate |
| 59-357 | 7 pin miniature with mounting plate |
| 59-359 | 9 pin miniature with mounting plate |
| 59 367 | 7 pin miniature with tube shield base |
| 59-369 | 9 pin miniature with tube shield base |

## MINIATURE RETAINER RING SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 78 S3S | 3 contact |
| 78 S4S | 4 contact |
| 78 S5S | 5 contact |
| 78-S6S | 6 contact |
| 78-5P | 5 contact |
| 78-7P | 7 contact |
| 78-7P7 | 7 contact mica filled bakelite |

## SADDLE TYPE OCTAL SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 168-001 | 8 contact wrap around, 4 grounding lugs |
| 168-015 | 8 contact, tuning fork, 4 grounding lugs |

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World Radio History

# MISCELLANEOUS ELECTRONIC COMPONENTS

## Ⓘ MOLDED-IN-PLATE SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 77-MIP-4 | 4 contact |
| 77-MIP-5 | 5 contact |
| 77-MIP-6 | 6 contact |
| 77-MIP-7L | 7 large |
| 77-MIP-7S | 7 small |
| 77-MIP-8 | 8 octal |
| 77-MIP-9 | 9 octal style |
| 77-MIP-11 | 11 octal style |
| 77-MIP-12 | 12 octal style |
| 77-MIP-20 | 20 contact |
| 88-8 | 8 octal compact |
| 88-8X | 8 loktal compact |
| 77-MIP-8FK | 8 octal, with 11-3K floating socket kit |
| 11-3K | Kit for converting any "Mip" to floating socket |

## Ⓙ BARRIER TYPE SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 146-103 | Octal, top mounted |
| 146-104 | Octal, threaded inserts, top mounted |
| 146-203 | 146-103, bottom mounted |
| 146-204 | 146-104, bottom mounted |

## Ⓚ "S" TYPE REPLACEMENT SOCKETS

| AMPHENOL Number With Mtg. Plt. | Without | Description |
|---|---|---|
| 78-RS4 | 78-S4 | 4 contact |
| 78-RS5 | 78-S5 | 5 contact |
| 78-RS6 | 78-S6 | 6 contact |
| 78-RS7L | 78-S7L | 7 large |
| 78-RS7S | 78-S7S | 7 small |
| 78-RS8 | 78-S8 | 8 octal |
| 78-RS8L | 78-S8L | 8 loktal |
| 78-RS9 | 78-S9 | 9 octal |
| 78-RS11 | 78-S11 | 11 octal |
| | Steatite | |
| 49-RSS4 | 49-SS4 | 4 contact |
| 49-RSS5 | 49-SS5 | 5 contact |
| 49-RSS6 | 49-SS6 | 6 contact |
| 49-RSS7L | 49-SS7L | 7 large |
| 49-RSS7S | 49-SS7S | 7 small |
| 49-RSS8 | 49-SS8 | 8 octal |

## Ⓛ MINIATURE 7 & 9 PIN SOCKETS

| AMPHENOL Number | Bottom Mounting—No Shield Base Description | Center Shield |
|---|---|---|
| 59-409 | 9 contact, black bakelite | L |
| 59-410 | 9 contact, mica-filled | L |
| 147-500 | 7 contact, black bakelite | L |
| *147-502 | 7 contact, black bakelite | L |
| 147-504 | 7 contact, black bakelite | O |
| 147-505 | 7 contact, mica-filled | S |

| AMPHENOL Number | Top Mounting—Tube Shield Base Description | Center Shield |
|---|---|---|
| †59-403 | 9 contact, mica-filled | L |
| 59-406 | 9 contact, black bakelite | L |
| 59-407 | 9 contact, mica-filled | L |
| 147-905 | 7 contact, black bakelite | L |
| 147-913 | 7 contact, mica-filled | S |
| 147-916 | 7 contact, mica-filled | S |
| 147-921 | 7 contact, steatite | S |
| †147-924 | 7 contact, steatite | S |
| †147-925 | 7 contact, steatite | L |

*Rubber mounted †.125 dia. rivet holes.

## Ⓜ TUBE SHIELDS FOR MINIATURE SOCKETS

| AMPHENOL Number | Description |
|---|---|
| 5-401 | For 7 pin—1⅝" |
| 5-402 | For 7 pin—1¾" |
| 5-405 | For 9 pin—1½" |
| 5-408 | For 9 pin—1 13/16" |
| 5-409 | For 9 pin—2⅛" |

## Ⓝ RECEPTACLE SHELLS

| AMPHENOL Number | Description |
|---|---|
| 23-1S | Shell only, small |
| 23-1L | Shell only, large |
| 61-61 | Shell only |

## Ⓞ "CP" TYPE PLUGS

| AMPHENOL Number | With Mtg. Plate | Description |
|---|---|---|
| 86-CP4 | 86-RCP4 | 4 contact |
| 86-CP5 | 86-RCP5 | 5 contact |
| 86-CP6 | 86-RCP6 | 6 contact |
| 86-CP7L | 86-RCP7L | 7 large |
| 86-CP7S | 86-RCP7S | 7 small |
| 86-CP8 | 86-RCP8 | 8 octal |
| 86-CP9 | 86-RCP9 | 9 octal style |
| 86-CP11 | 86-RCP11 | 11 octal style |
| 86-CP12 | 86-RCP12 | 12 contact |

## Ⓟ SHIELDED MULTI-WIRE CABLE CONNECTORS

With Grommet Cap 3-13

| AMPHENOL Number Female | Male | Description |
|---|---|---|
| 78-PF4 | 86-PM4 | 4 contact |
| 78-PF5 | 86-PM5 | 5 contact |
| 78-PF6 | 86-PM6 | 6 contact |
| 78-PF8 | 86-PM8 | 8 octal |
| 78-PF9 | 86-PM9 | 9 octal style |
| 78-PF11 | 86-PM11 | 11 octal style |
| — — | 86-PM12 | 12 contact |
| — — | 86-PM20 | 20 contact |

With Cable Clamp 3-24

| AMPHENOL Number Female | Male | Description |
|---|---|---|
| 78-PF4-11 | 86-PM4-11 | 4 contact |
| 78-PF5-11 | 86-PM5-11 | 5 contact |
| 78-PF6-11 | 86-PM6-11 | 6 contact |
| 78-PF7S-11 | 86-PM7S-11 | 7 small |
| 78-PF8-11 | 86-PM8-11 | 8 octal |
| 78-PF9-11 | 86-PM9-11 | 9 octal style |
| 78-PF11-11 | 86-PM11-11 | 11 octal style |
| — — | 86-PM12-11 | 12 contact |

## Ⓠ UNSHIELDED SPEAKER PLUGS

| AMPHENOL Number | Description |
|---|---|
| 71-4 | 4 contact, finger grip |
| 71-5 | 5 contact, finger grip |
| 71-6 | 6 contact, finger grip |
| 71-7 | 7 contact, finger grip |
| 70-8 | 8 contact |
| 70-9 | 9 contact |
| 70-12 | 12 contact |
| 70-20 | 20 contact |
| 71-3S | 3 contact, miniature cable plug |
| 71-4S | 4 contact, miniature cable plug |
| 71-5S | 5 contact, miniature cable plug |
| 71-6S | 6 contact, miniature cable plug |
| 86-CP-3S | 3 contact, miniature chassis plug |
| 86-CP-4S | 4 contact, miniature chassis plug |

## Ⓡ MINIATURE CABLE CONNECTORS

| AMPHENOL Number Male | Description | AMPHENOL Number Female |
|---|---|---|
| | SHORT SHELL | |
| 91-MPM3S | 3 contact | 91-MPF3S |
| 91-MPM4S | 4 contact | 91-MPF4S |
| | LONG SHELL | |
| 91-MPM3L | 3 contact | 91-MPF3L |
| 91-MPM4L | 4 contact | 91-MPF4L |
| 91-MPM5L | 5 contact | — — |
| 91-MPM6L | 6 contact | — — |
| | FLARED SHELL | |
| — — | 3 contact | 91-MPF3 |
| — — | 4 contact | 91-MPF4 |
| 91-MPM5 | 5 contact | 91-MPF5 |
| 91-MPM6 | 6 contact | 91-MPF6 |

## Ⓢ 110-VOLT PLUG & RECEPTACLE INSERTS

| AMPHENOL Number Retainer Ring Type | Receptacles Description | AMPHENOL Number Mounting Plate Type |
|---|---|---|
| 61-F | 2 pole, universal | 61-F1 |
| 60-F | 3 pole, polarized | 60-F1 |
| — — | 2 pole, universal | 61-MIP-61F |
| | Plugs | |
| 61-M | 2 pole, standard | 61-M1 |
| 61-MP | 2 pole, polarized | 61-MP1 |
| 60-M | 3 pole, polarized | 60-M1 |

## Ⓣ SHIELDED CHASSIS UNITS

| AMPHENOL Number | Description |
|---|---|
| 78-PCG3 | 3 contact |
| 78-PCG4 | 4 contact |
| 78-PCG5 | 5 contact |
| 78-PCG8 | 6 contact |

## Ⓤ 110-VOLT SHIELDED CABLE CONNECTORS

| AMPHENOL Number With Cable Clamps | With Grommet | Description |
|---|---|---|
| 60-F11 | 60-F4 | 3 pole receptacle |
| 60-M11 | 60-M4 | 3 pole polarized plug |
| 61-F11 | 61-F4 | 2 pole universal receptacle |
| 61-M11 | 61-M4 | 2 pole standard plug |
| 61-MP11 | 61-MP4 | 2 pole polarized plug |

AMPHENOL *chicago 50, illinois*

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World Radio History

# CANNON PLUGS

CANNON ELECTRIC

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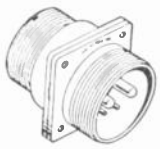
## MS SERIES CONNECTORS (SEE NOTE)

A representative selection of Cannon Electric "MS" type connectors are listed. Each meets or surpasses the latest specification MIL-C-5015C. Each insert arrangement is available with pin or socket contacts, and will mate with "MS" type having the same size and layout.

**NOTE: Connectors on this page were formerly designated as "AN" types. "MS" is the new military prefix for approved connectors.**

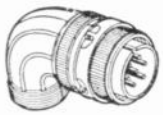


*MS3100A — Wall mounting receptacle. Two-piece shell construction for use with conduit.*

*MS3101B — Cable connecting receptacle for cable extension requirements where mounting is not required.*

*MS3102A — Box Mounting receptacle mounts directly on equipment.*

*MS3106B — Straight plug—split shell, and mates with standard receptacles.*



*MS3108B — Angle 90° plug—split shell, and used for sharp take-off of cable.*

## MS3100A

| Cannon Type | List Each |
|---|---|
| MS3100A10SL-3P | $1.69 |
| MS3100A10SL-4P | 1.57 |
| MS3100A12S-3S | 1.51 |
| MS3100A12S-3P | 1.40 |
| MS3100A14S-2P | 1.68 |
| MS3100A14S-2S | 1.86 |
| MS3100A14S-7P | 1.66 |
| MS3100A14S-7S | 1.74 |
| MS3100A18-1P | 2.56 |
| MS3100A18-1S | 2.90 |
| MS3100A18-10S | 2.39 |
| MS3100A18-10P | 2.20 |
| MS3100A20-27S | 3.56 |
| MS3100A20-27P | 3.19 |
| MS3100A20-29S | 3.85 |
| MS3100A20-29P | 3.08 |
| MS3100A24-28S | 5.50 |
| MS3100A24-28P | 4.32 |
| MS3100A28-11S | 5.86 |
| MS3100A28-15P | 6.60 |
| MS3100A28-15S | 7.13 |
| MS3100A28-21P | 6.79 |
| MS3100A28-21S | 7.37 |

## MS3101B

| Cannon Type | List Each |
|---|---|
| MS3101A10SL-3P | $1.40 |
| MS3101A10SL-4P | 1.28 |
| MS3101B12S-3S | 1.78 |
| MS3101B12S-3P | 1.82 |
| MS3101B14S-2P | 1.83 |
| MS3101B14S-2S | 2.00 |
| MS3101B14S-7P | 1.80 |
| MS3101B14S-7S | 1.88 |
| MS3101B18-1P | 2.85 |
| MS3101B18-1S | 3.20 |
| MS3101B18-10S | 2.97 |
| MS3101B18-10P | 2.78 |
| MS3101B20-27S | 3.88 |
| MS3101B20-27P | 3.60 |
| MS3101B24-28S | 4.94 |
| MS3101B24-28P | 4.81 |
| MS3101B28-11S | 6.57 |
| MS3101B28-15P | 7.18 |
| MS3101B28-15S | 7.78 |
| MS3101B28-21P | 7.51 |
| MS3101B28-21S | 8.00 |

## MS3102A

| Cannon Type | List Each |
|---|---|
| MS3102A8S-1P | $1.14 |
| MS3102A8S-1S | 1.07 |
| MS3102A10S-2P | .94 |
| MS3102A10S-2S | 1.00 |
| MS3102A10SL-3P | 1.07 |
| MS3102A10SL-4P | .96 |
| MS3102A12S-3P | .99 |
| MS3102A12S-3S | 1.07 |
| MS3102A14S-1P | 1.19 |
| MS3102A14S-1S | 1.27 |
| MS3102A14S-2P | 1.21 |
| MS3102A14S-2S | 1.39 |
| MS3102A14S-5P | 1.41 |
| MS3102A14S-5S | 1.51 |
| MS3102A14S-7P | 1.19 |
| MS3102A14S-7S | 1.27 |
| MS3102A14S-9P | 1.08 |
| MS3102A14S-9S | 1.14 |
| MS3102A16S-1P | 1.65 |
| MS3102A16S-1S | 1.75 |
| MS3102A16S-5P | 1.18 |
| MS3102A16S-5S | 1.27 |
| MS3102A16S-8P | 1.43 |
| MS3102A16S-8S | 1.51 |
| MS3102A18-1P | 2.06 |
| MS3102A18-1S | 2.41 |
| MS3102A18-8P | 1.90 |
| MS3102A18-8S | 2.20 |
| MS3102A18-9P | 1.88 |
| MS3102A18-9S | 2.13 |
| MS3102A18-10P | 1.76 |
| MS3102A18-10S | 1.95 |
| MS3102A20-7P | 2.00 |
| MS3102A20-7S | 2.26 |
| MS3102A20-11P | 2.54 |
| MS3102A20-11S | 2.99 |
| MS3102A20-27P | 2.72 |
| MS3102A20-27S | 3.05 |
| MS3102A20-29P | 2.56 |
| MS3102A20-29S | 3.33 |
| MS3102A22-14P | 2.86 |
| MS3102A22-14S | 3.88 |
| MS3102A22-19P | 2.86 |
| MS3102A22-19S | 3.22 |
| MS3102A24-5P | 3.22 |
| MS3102A24-5S | 3.88 |
| MS3102A24-28P | 3.49 |
| MS3102A24-28S | 4.70 |
| MS3102A28-11P | 4.51 |
| MS3102A28-11S | 5.03 |
| MS3102A28-12P | 3.85 |
| MS3102A28-12S | 5.17 |
| MS3102A28-15P | 5.69 |
| MS3102A28-15S | 6.15 |
| MS3102A28-21P | 5.91 |
| MS3102A28-21S | 6.34 |
| MS3102A32-7P | 6.03 |
| MS3102A32-7S | 7.14 |
| MS3102A32-13P | 4.59 |
| MS3102A32-13S | 5.97 |
| MS3102A36-7P | 7.02 |
| MS3102A36-7S | 9.10 |
| MS3102A36-10P | 6.81 |
| MS3102A36-10S | 8.46 |

## MS3106B

| Cannon Type | List Each |
|---|---|
| MS3106B8S-1P | $1.53 |
| MS3106B8S-1S | 1.45 |
| MS3106B10S-2P | 1.45 |
| MS3106B10S-2S | 1.52 |
| MS3106B10SL-3S | 2.07 |
| MS3106B10SL-4S | 1.90 |
| MS3106B12S-3P | 1.46 |
| MS3106B12S-3S | 1.67 |
| MS3106B14S-1P | 1.83 |
| MS3106B14S-1S | 1.90 |
| MS3106B14S-2P | 1.85 |
| MS3106B14S-2S | 2.02 |
| MS3106B14S-5P | 2.05 |
| MS3106B14S-5S | 2.15 |
| MS310SB14S-7P | 1.83 |
| MS3106B14S-7S | 1.90 |
| MS3106B14S-9P | 1.72 |
| MS3106B14S-9S | 1.78 |
| MS4106B16S-1P | 2.49 |
| MS3106B16S-1S | 2.59 |
| MS3106B16S-5P | 2.01 |
| MS3106B16S-5S | 2.10 |
| MS3106B16S-8P | 2.27 |
| MS3106B16S-8S | 2.34 |
| MS3106B18-1P | 2.97 |
| MS3106B18-1S | 3.32 |
| MS3106B18-8P | 2.72 |
| MS3106B18-8S | 3.05 |
| MS3106B18-9P | 2.79 |
| MS3106B18-9S | 3.05 |
| MS3106B18-10P | 2.56 |
| MS3106B18-10S | 2.75 |
| MS3106B20-7P | 2.98 |
| MS3106B20-7S | 3.23 |
| MS3106B20-11P | 3.52 |
| MS3106B20-11S | 3.97 |
| MS3106B20-27P | 3.63 |
| MS3106B20-27S | 4.03 |
| MS3106B20-29P | 3.52 |
| MS3106B20-29S | 4.31 |
| MS3106B22-14P | 4.10 |
| MS3106B22-14S | 4.98 |
| MS3106B22-19P | 3.96 |
| MS3106B22-19S | 4.29 |
| MS3106B24-5P | 4.43 |
| MS3106B24-5S | 5.06 |
| MS3106B24-28P | 4.76 |
| MS3106B24-28S | 5.86 |
| MS3106B28-11P | 5.97 |
| MS3106B28-11S | 6.49 |
| MS3106B28-12P | 5.28 |
| MS3106B28-12S | 6.63 |
| MS3106B28-15P | 7.15 |
| MS3106B28-15S | 7.70 |
| MS3106B28-21P | 7.45 |
| MS3106B28-21S | 7.89 |
| MS3106B32-7P | 7.34 |
| MS3106B32-7S | 8.45 |
| MS3106B32-13P | 5.90 |
| MS3106B32-13S | 7.45 |
| MS3106B36-7P | 10.02 |
| MS3106B36-7S | 12.00 |
| MS3106B36-10P | 9.81 |
| MS3106B36-10S | 11.46 |

## MS3108B

| Cannon Type | List Each |
|---|---|
| MS3108B8S-1P | $1.57 |
| MS3108B8S-1S | 1.46 |
| MS3108B10S-2P | 1.51 |
| MS3108B10S-2S | 1.57 |
| MS3108B10SL-3S | 2.15 |
| MS3108B10SL-4S | 1.98 |
| MS3108B12S-3P | 1.79 |
| MS3108B12S-3S | 1.76 |
| MS3108B14S-1P | 1.78 |
| MS3108B14S-1S | 1.86 |
| MS3108B14S-2P | 1.80 |
| MS3108B14S-2S | 1.98 |
| MS3108B14S-5P | 2.00 |
| MS3108B14S-5S | 2.10 |
| MS3108B14S-7P | 1.78 |
| MS3108B14S-7S | 1.86 |
| MS3108B14S-9P | 1.67 |
| MS3108B14S-9S | 1.74 |
| MS3108B16S-1P | 2.45 |
| MS3108B16S-1S | 2.55 |
| MS3108B16S-5P | 1.98 |
| MS3108B16S-5S | 2.07 |
| MS3108B16S-8P | 2.23 |
| MS3108B16S-8S | 2.31 |
| MS3108B18-1P | 3.06 |
| MS3108B18-1S | 3.41 |
| MS3108B18-8P | 2.97 |
| MS3108B18-8S | 3.27 |
| MS3108B18-9P | 2.88 |
| MS3108B18-9S | 3.14 |
| MS3108B18-10P | 2.72 |
| MS3108B18-10S | 2.89 |
| MS3108B20-7P | 3.09 |
| MS3108B20-7S | 3.34 |
| MS3108B20-11P | 3.63 |
| MS3108B20-11S | 4.08 |
| MS3108B20-27P | 3.59 |
| MS3108B20-27S | 4.14 |
| MS3108B20-29P | 3.63 |
| MS3108B20-29S | 4.42 |
| MS3108B22-14P | 4.25 |
| MS3108B22-14S | 5.17 |
| MS3108B22-19P | 4.15 |
| MS3108B22-19S | 4.43 |
| MS3108B24-5P | 4.59 |
| MS3108B24-5S | 5.20 |
| MS3108B24-28P | 4.92 |
| MS3108B24-28S | 6.05 |
| MS3108B28-11P | 6.13 |
| MS3108B28-11S | 6.57 |
| MS3108B28-12P | 5.57 |
| MS3108B28-12S | 6.79 |
| MS3108B28-15P | 7.18 |
| MS3108B28-15S | 7.78 |
| MS3108B28-21P | 7.51 |
| MS3108B28-21S | 8.00 |
| MS3108B32-7P | 7.60 |
| MS3108B32-7S | 8.71 |
| MS3108B32-13P | 6.16 |
| MS3108B32-13S | 7.56 |
| MS3108B36-7P | 10.27 |
| MS3108B36-7S | 12.35 |
| MS3108B36-10P | 10.07 |
| MS3108B36-10S | 11.72 |

## *MS accessories*

### DUST CAPS — CA2322

| Cannon Type | List Each | Fits |
|---|---|---|
| CA2322-1 | $0.43 | 8S |
| CA2322-2 | .51 | 10S, 10SL |
| CA2322-3 | .54 | 12S, 12 |
| CA2322-4 | .66 | 16S, 16 |
| CA2322-5 | .79 | 16S, 16 |
| CA2322-6 | .77 | 18 |
| CA2322-7 | .91 | 20 |
| CA2322-8 | 1.06 | 22 |
| CA2322-9 | 1.20 | 24 |
| CA2322-10 | 1.51 | 28 |

### DUST CAPS— CA2209

| Cannon Type | List Each | Fits |
|---|---|---|
| CA2209-1 | $0.88 | 8S |
| CA2209-2 | .92 | 10S, 10SL |
| CA2209-3 | .95 | 12S, 12 |
| CA2209-4 | 1.07 | 14S, 14 |
| CA2209-5 | 1.22 | 16S, 16 |
| CA2209-6 | 1.20 | 18 |
| CA2209-7 | 1.85 | 20 |
| CA2209-8 | 1.54 | 22 |
| CA2209-9 | 1.68 | 24 |
| CA2209-10 | 1.98 | 38 |
| CA2209-11 | 2.34 | 32 |
| CA2209-12 | 1.46 | 36 |
| CA2209-13 | 5.23 | 40 |
| CA2209-14 | 5.70 | 44 |
| CA2209-15 | 7.16 | 48 |

### JUNCTION SHELLS CA2120

| Cannon Type | List Each | Fits |
|---|---|---|
| CA2120-1 | $1.18 | 8S |
| CA2120-2 | 1.25 | 10S |
| CA2120-2A | .45 | 10SL |
| CA2120-3 | .46 | 12S, 12 |
| CA2120-4 | .47 | 14S, 14 |
| CA2120-5 | .48 | 16S, 16 |
| CA2120-9 | .50 | 18 |
| CA2120-10 | .52 | 20 |
| CA2120-11 | .54 | 22 |
| CA2120-12 | .53 | 24 |
| CA2120-13 | .48 | 27 |
| CA2120-14 | .72 | 32 |
| CA2120-15 | .80 | 36 |

### CABLE CLAMP (WITH BUSHING)

| Cannon Type | List Each | Fits |
|---|---|---|
| MS3057-3A | $0.52 | 8S, 10S |
| MS3057-4A | .52 | 10SL, 12S, 12 |
| MS3057-6A | .58 | 14S, 14 |
| MS3057-8A | .58 | 16S, 16 |
| MS3057-10A | .63 | 18 |
| MS3057-12A | .69 | 20, 22 |
| MS3057-16A | 1.10 | 24, 28 |
| MS3057-20A | 1.54 | 32 |
| MS3057-24A | 1.76 | 36 |
| MS3057-28A | 2.78 | 40 |
| MS3057-32A | 5.50 | 44 |



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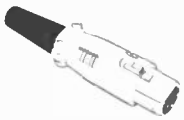
# CANNON PLUGS



### XLR-*- 11C PLUG (Socket Insert)

Type XLR-11C is equipped with latchlock device and polarizing boss. Insulators are resilient polychloroprene. Shells are diecast zinc, with satin nickel finish. Integral cable clamp and bushings. Cable accommodation is $\frac{5}{16}$". Overall dimensions: Length: (with bushing) $3\frac{1}{16}$" approx. Diameter: $\frac{3}{4}$". Mates with XLR-12C, XLR-32 and other corresponding XLR types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 10-amp. | 0.117 | XLR-3-11C | $1.55 |
| 4 | 15-amp. | 0.117 | XLR-4-11C | 2.15 |

### XLR-*-12C RECEPTACLE (Pin Insert)

Type XLR-12C has polarizing groove. Insert is removable for wiring, soldering, and inspection. Insulation material is phenolic. Shells are diecast zinc, with satin nickel finish. Integral clamp and bushings. Cable accommodation is $\frac{5}{16}$". Overall dimensions: Length: (with bushing) $2\frac{5}{8}$" approx. Diameter: $\frac{3}{4}$". Mates with XLR-11C, XLR-31 and other corresponding XLR types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 10-amp. | 0.088 | XLR-3-12C | $1.50 |
| 4 | 15-amp. | 0.088 | XLR-4-12C | 2.00 |

### "XLR-13" RECEPTACLE (Socket Insert)

A wall mounting receptacle similar to XLR-14 except that it has socket insert assembly and latch locking device. Overall dimensions: flange diameter, $1\frac{7}{16}$"; flange thickness $\frac{3}{32}$"; rear of flange to insulator extension $1\frac{3}{16}$"; barrel dia., $\frac{15}{16}$"; three 0.136" dia. mounting holes.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | .142 | XLR-3-13 | $1.55 |
| 4 | 10-amp. | .142 | XLR-4-13 | 2.15 |

### "XLR-13N" RECEPTACLE (Socket Insert)

Insulators are resilient polychloroprene, with latchlock device, and polarizing boss on insert barrel. No. 1 contact engages before Nos. 2 and 3 and may be used for grounding circuit if desired. Overall dimensions: flange and barrel and nut are identical to XLR-14N, length from face of flange including insulator extension $1\frac{1}{8}$". Satin nickel finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | .211 | XLR-3-13N | $1.55 |
| 4 | 10-amp. | .211 | XLR-4-13N | 2.15 |

### "XLR-14" RECEPTACLE (Pin Insert)

This wall mounting receptacle has three mounting holes having 0.136" diameter. Overall dimensions: flange diameter, $1\frac{7}{16}$"; flange thickness, $\frac{1}{16}$"; length behind flange to solder pot extension, 1-1/64"; barrel diameter, $\frac{3}{4}$". Satin nickel plated zinc shell.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | .059 | XLR-3-14 | $1.20 |
| 4 | 10-amp. | .059 | XLR-4-14 | 1.70 |

### "XLR-14N" RECEPTACLE (Pin Insert)

Designed to be mounted in a panel and has lock nut, accommodating up to $\frac{1}{16}$" panel. Two fittings may be mounted on a single gang plate. Overall dimensions: flange diameter, $1\frac{7}{16}$"; $1\frac{1}{4}$"-18 threaded barrel; width flange to barrel, $\frac{5}{32}$"; with $\frac{5}{16}$" max. solder pot extension; flange thickness, $\frac{1}{16}$".

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.205 | XLR-3-14N | $1.45 |
| 4 | 10-amp. | 0.205 | XLR-4-14N | 1.95 |

### XLR-*-31 RECEPTACLE (Socket Insert)

Type XLR-31 New narrow flange and Push-Lever Release. Insulation is resilient polychloroprene. Overall dimensions: Flange: $1\frac{7}{16}$" x $1\frac{1}{16}$"; Flange Thickness: $\frac{3}{32}$"; Length Skirt: $\frac{31}{32}$". Shell is zinc, with satin nickel finish. Mates with XLR-12C and other corresponding XLR types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 10-amp. | 0.098 | XLR-3-31 | $1.55 |
| 4 | 15-amp. | 0.098 | XLR-4-31 | 2.15 |

### XLR-*-32 RECEPTACLE (Pin Insert)

Type XLR-32 New narrow flange. Insulation is phenolic. Insert is removable for inspection and soldering. Shell is diecast zinc with satin nickel finish. Overall dimensions: Flange: $1\frac{1}{16}$" x $\frac{7}{8}$"; Flange Thickness: $\frac{3}{32}$"; Skirt: $\frac{3}{4}$". Mates with XLR-11C and other corresponding XLR types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 10-amp. | 0.065 | XLR-3-32 | $1.20 |
| 4 | 15-amp. | 0.065 | XLR-4-32 | 1.70 |

*Note: All illustrations are not shown in same scale reduction.*

## TYPE XLR CONNECTOR SERIES

The Cannon Electric XLR connectors are a newly expanded audio connector series ...the most modern addition to the long line of Cannon Connectors featured on all top-quality microphones. It's really quiet, too!

New resilient insulator and specialized construction of socket contact assembly protects against disagreeable mechanical interference...noise problems encountered with connectors when their cables are moved, pulled, or subjected to shock.

Features streamline design, satin nickel finish, integral cable clamp, neoprene cable relief, and the time-tested latchlock that Cannon pioneered on the first audio connectors. Available with three 15-amp. or four 10-amp. contacts. Available in panel receptacle type, providing same continuous characteristics.

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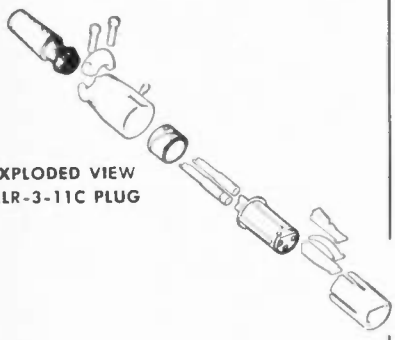
World Radio History

*(XL Series continued)*

## XLR DUST CAPS

XLR-13N-RC
FOR SOCKET ASSEMBLIES
List Pr. 2.55

XLR-14N-PC
FOR PIN ASSEMBLIES
List Pr. 2.15



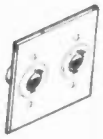
EXPLODED VIEW
XLR-3-11C PLUG

**XLR-*-35 SINGLE GANG WALL RECEPTACLE (Socket Insert)**
One XLR-13N receptacle, with resilient socket insert, mounted on face plate. Satin nickel finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.750 | XLR-3-35 | $4.40 |
| 4 | 10-amp. | 0.750 | XLR-4-35 | 4.85 |

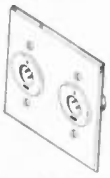
**XLR-*-36 SINGLE GANG WALL RECEPTACLE (Pin Insert)**
One XLR-14N receptacle, with pin insert, mounted on face plate. Satin nickel finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.715 | XLR-3-36 | $4.30 |
| 4 | 10-amp. | 0.715 | XLR-4-36 | 4.75 |



**XLR-*-35-2G TWO GANG WALL RECEPTACLE (Socket Insert)**
Takes two XLR-13N receptacles. Can accommodate three and/or four contact resilient inserts. Specify which is desired on left and on right.

| Contacts | Capacity | Cat. No. | | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | XLR-3-35-2G | (2 socket inserts) | $ 9.35 |
| 4 | 10-amp. | XLR-4-35-2G | (2 socket inserts) | 10.55 |



**XLR-*-36-2G TWO GANG WALL RECEPTACLE (Pin Inserts)**
Takes two XLR-14N receptacles. Can accommodate three and/or four contact resilient inserts. Specify which is desired on left and on right.

| Contacts | Capacity | Cat. No. | | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | XLR-3-36-2G | (2 pin inserts) | $ 9.10 |
| 4 | 10-amp. | XLR-4-36-2G | (2 pin inserts) | 10.25 |

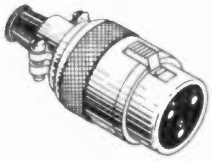
**XLR-42 RECEPTACLE (Pin Insert)**
The XL-42 receptacle is similar to the X-42 shown under "X" fittings, except that it has the XLR type insert. For angle 90° mounting purposes.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.063 | XLR-3-42 | $1.50 |
| 4 | 10-amp. | 0.063 | XLR-4-42 | 1.60 |

**"" ADAPTER RECEPTACLES**

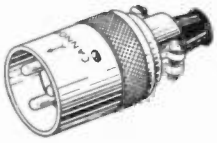
| | List Pr. | | List Pr. |
|---|---|---|---|
| XLR-3-50 | $1.75 | XLR-3-50T | $1.90 |
| XLR-4-50 | 2.40 | XLR-4-50T | 2.60 |

## TYPE P CONNECTOR SERIES



**TYPE P-CG-11S CORD PLUG COMBINATION STEEL & ZINC (With Socket Insert)**—This new type plug with steel shell and integral zinc clamp has an overall length of 3-3/16". 11/64" shorter than the old type. The new rubber bushing allows a 9/32" D. cable entry, and on P4, P5, P6 and P8 1/2" D. max. cable entry. Satin chrome finish.

| Poles | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.202 | P2-CG-11S | $6.15 |
| 3 | 30-amp. | 0.202 | P3-CG-11S | 6.30 |
| 4 | 30-amp. | 0.198 | P4-CG-11S | 6.65 |
| 5 | 30-amp. | 0.203 | P5-CG-11S | 7.00 |
| 6 | 30-amp. | 0.208 | P6-CG-11S | 7.20 |
| 8 | 15-amp. | 0.208 | P8-CG-11S | 7.70 |



**TYPE P-CG-12S CORD PLUG COMBINATION STEEL & ZINC (With Pin Insert)**—Similar construction and materials to the -11S, except for pin insert. New rubber bushing on P4 to P8 fittings is contained within the shell and lines the solder pot cavity. Same cable entry sizes as -11S. Satin chrome finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.165 | P2-CG-12S | $5.00 |
| 3 | 30-amp. | 0.168 | P3-CG-12S | 5.15 |
| 4 | 30-amp. | 0.164 | P4-CG-12S | 5.30 |
| 5 | 30-amp. | 0.168 | P5-CG-12S | 5.40 |
| 6 | 30-amp. | 0.172 | P6-CG-12S | 5.65 |
| 8 | 15-amp. | 0.168 | P8-CG-12S | 6.00 |

*(P Series continued on next page)*



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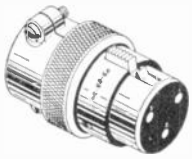
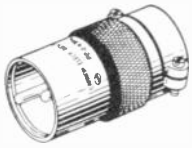


**TYPE "P-23" STRAIGHT CORD PLUG (with Socket Insert), HEAVY DUTY**—Shell is die-cast zinc for severe service, but employs features such as the latch type locking device which is standard on "Type P." It has integral clamp for 3/4" cable. Also made for 9/16" and 5/8" cable if specified. Satin chrome finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.166 | P2-23 | $ 8.90 |
| 3 | 30-amp. | 0.170 | P3-23 | 9.20 |
| 4 | 30-amp. | 0.174 | P4-23 | 9.65 |
| 5 | 30-amp. | 0.178 | P5-23 | 10.10 |
| 6 | 30-amp. | 0.182 | P6-23 | 10.40 |
| 8 | 15-amp. | 0.178 | P8-23 | 11.05 |



**TYPE "P-24" STRAIGHT CORD PLUG (with Pin Insert), HEAVY DUTY**—Corresponds with "Type P-23" plug (socket insert). Built for hard service. The skirt is steel, body is die-cast zinc. Has integral clamp, for 3/4", 5/8" or 9/16" cable, if specified. Satin chrome finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.170 | P2-24 | $ 9.00 |
| 3 | 30-amp. | 0.173 | P3-24 | 9.20 |
| 4 | 30-amp. | 0.176 | P4-24 | 9.35 |
| 5 | 30-amp. | 0.179 | P5-24 | 9.55 |
| 6 | 30-amp. | 0.182 | P6-24 | 9.95 |
| 8 | 15-amp. | 0.179 | P8-24 | 10.40 |

**TYPE "P-CG-15" 90° CORD PLUG (with Socket Insert)**
Has split shell and all other "Type P" features found in Type P-15, 90° plug except cable connection, which is an integral clamp for cable 17/32" or smaller. Satin chrome plated zinc shell. New, heavier clamp.

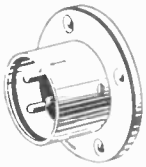
| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.220 | P2-CG-15 | $7.14 |
| 3 | 30-amp. | 0.224 | P3-CG-15 | 7.52 |
| 4 | 30-amp. | 0.228 | P4-CG-15 | 7.90 |
| 5 | 30-amp. | 0.232 | P5-CG-15 | 8.28 |
| 6 | 30-amp. | 0.236 | P6-CG-15 | 8.66 |
| 8 | 15-amp. | 0.232 | P8-CG-15 | 9.04 |

**TYPE "P-CG-16" 90° CORD PLUG (with Pin Insert)**
Corresponds to Type P-CG-15 90° plug (Socket insert), having integral clamp for 17/32" or smaller cable. Barrel is of steel and shell of die-cast zinc alloy, satin chrome finish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.195 | P2-CG-16 | $7.38 |
| 3 | 30-amp. | 0.198 | P3-CG-16 | 7.61 |
| 4 | 30-amp. | 0.201 | P4-CG-16 | 7.84 |
| 5 | 30-amp. | 0.204 | P5-CG-16 | 8.07 |
| 6 | 30-amp. | 0.207 | P6-CG-16 | 8.30 |
| 8 | 15-amp. | 0.204 | P8-CG-16 | 8.32 |

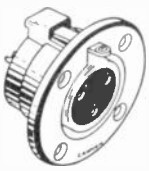
**TYPE "P-17" PANEL RECEPTACLE (with Socket Insert) Surface Mounting**—P-17 has latch locking device and all other "Type P" features. Made of die-cast zinc. Satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points 90° apart on 13/16" radius for four No. 4-40 machine screws. Body extends 1" in front of 1/8" mounting flange.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.125 | P2-17 | $4.68 |
| 3 | 30-amp. | 0.129 | P3-17 | 5.06 |
| 4 | 30-amp. | 0.133 | P4-17 | 5.44 |
| 5 | 30-amp. | 0.137 | P5-17 | 5.82 |
| 6 | 30-amp. | 0.141 | P6-17 | 6.20 |
| 8 | 15-amp. | 0.137 | P8-17 | 6.58 |



**TYPE "P-18" PANEL RECEPTACLE (with Pin Insert) Surface Mounting**—Corresponds to "Type P-17," Panel Receptacle. Shell is made of zinc, with satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four No. 4-40 machine screws.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.156 | P2-18 | $11.28 |
| 3 | 30-amp. | 0.159 | P3-18 | 11.51 |
| 4 | 30-amp. | 0.162 | P4-18 | 11.74 |
| 5 | 30-amp. | 0.165 | P5-18 | 11.97 |
| 6 | 30-amp. | 0.168 | P6-18 | 12.20 |
| 8 | 15-amp. | 0.165 | P8-18 | 12.22 |

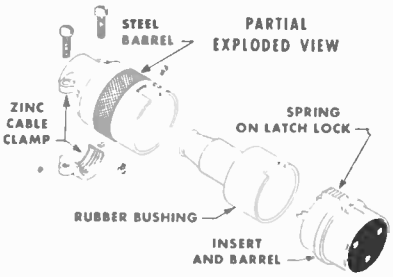


**TYPE "P-13" PANEL RECEPTACLE (with Socket Insert) Flush Mounting**—Has latch locking device which operates from front of panel. Made of die-cast zinc with satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four No. 4-40 machine screws.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.202 | P2-13 | $5.20 |
| 3 | 30-amp. | 0.206 | P3-13 | 5.58 |
| 4 | 30-amp. | 0.210 | P4-13 | 5.96 |
| 5 | 30-amp. | 0.214 | P5-13 | 6.34 |
| 6 | 30-amp. | 0.218 | P6-13 | 6.72 |
| 8 | 15-amp. | 0.214 | P8-13 | 7.10 |

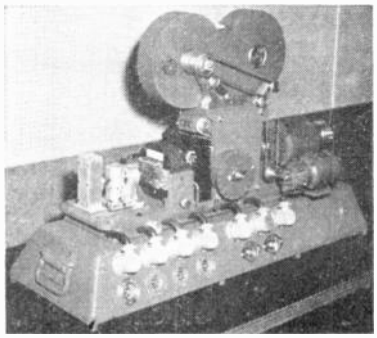
## TYPE P CONNECTOR SERIES

CANNON "TYPE P" FITTINGS. Universally used in sound and allied applications. "Type P" Fittings include a size and type for every requirement, with a high standard of quality. All 90° Plugs have split-shell construction for quick, easy access for wiring or inspection. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. Laboratory tests show an average voltage-drop of not more than 10 millivolts, with current flowing at the rated capacity. Insulating material is black phenolic which has a 0.7% absorption in 24 hours of immersion in water and a dielectric strength of 550 volts per mil at 60 cycles. Two to 6 contact inserts accommodate No. 10 B&S stranded wire; 8 contact insert No. 14 wire. Shell designs of the P-CG-11S and P-CG-12S, cord plugs have such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell of plug material is steel, integral clamp zinc.




NEW TYPES WILL MATE WITH SAME CORRESPONDING FITTINGS AS OLD DESIGN

## APPLICATION



"P" series connectors used on 16 mm. sound recorder, Mfg. by Reeves Sound Studios Inc.

*(P Series continued on next page)*

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World Radio History

# TYPE P CONNECTOR SERIES

**SEE AUDIO BULLETIN FOR COMPLETE DETAILS**

### ACCESSORY ITEMS

**DUST CAPS**

Fits all "Type P" fittings with pin inserts. Made of brass, cadmium plated, with nickel silver bead chain.

| Lbs. | Cat. No. | List |
|---|---|---|
| 0.081 | PPC | $2.80 |
| 0.082 | PCI* | 3.30 |

**Type PCI is insulated inside for application where contacts are "hot".*

**TYPE PRC DUST CAP**

Fits all "Type P" fittings with socket inserts. Made of brass, cadmium plated with nickel silver bead chain.

| Lbs. | Cat. No. | List |
|---|---|---|
| 0.095 | PRC | $2.37 |

**MINIMUM FLASHOVER VOLTAGES ON P INSERTS**

P2—1600v, P3—1600v
P4—1900v, P5—1600v
P6—1600v, P8—1300v

## APPLICATION

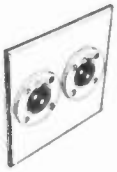
TYPE "XL" AND "P" CONNECTORS SHOWN ON 16 MM. SOUND MOTION PICTURE PROJECTOR MFG. BY DeVRY CORPORATION.

**TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING** Flange is 2" in diameter, drilled with four 0.120" diameter holes to take four No. 4-40 mounting screws, arranged 90° apart on a radius of $\frac{13}{16}$". Shell is die-cast zinc, satin chrome finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.104 | P2-14 | $3.09 |
| 3 | 30-amp. | 0.107 | P3-14 | 3.32 |
| 4 | 30-amp. | 0.110 | P4-14 | 3.55 |
| 5 | 30-amp. | 0.113 | P5-14 | 3.78 |
| 6 | 30-amp. | 0.116 | P6-14 | 4.01 |
| 8 | 15-amp. | 0.113 | P8-14 | 4.03 |

**TYPE "P-35" SINGLE GANG WALL RECEPTACLE (with Socket Insert)**—Furnished with brackets for standard switch box. Shell has satin chrome finish on brass plate. Plate is 4½" high and 2¾" wide. Latch Locking Device operates from front of panel.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.341 | P2-35 | $ 8.31 |
| 3 | 30-amp. | 0.345 | P3-35 | 8.69 |
| 4 | 30-amp. | 0.349 | P4-35 | 9.07 |
| 5 | 30-amp. | 0.353 | P5-35 | 9.45 |
| 6 | 30-amp. | 0.357 | P6-35 | 9.83 |
| 8 | 15-amp. | 0.353 | P8-35 | 10.21 |



**TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Socket Inserts)**—Furnished with brackets for standard switch box. Plate is 4½" high and 4$\frac{5}{16}$" wide. Both receptacles have latch locking device, operated from front of panel. Plate has satin chrome finish on brass plate.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.448 | P2-35-2G | $18.00 |
| 3 | 30-amp. | 0.456 | P3-35-2G | 18.55 |
| 4 | 30-amp. | 0.464 | P4-35-2G | 19.50 |
| 5 | 30-amp. | 0.472 | P5-35-2G | 20.40 |
| 6 | 30-amp. | 0.480 | P6-35-2G | 20.95 |
| 8 | 15-amp. | 0.472 | P8-35-2G | 22.25 |

**TYPE "P-36" SINGLE GANG WALL RECEPTACLE (With Pin Insert)**—Plate is 4½" high and 2¾" wide. Furnished with brackets for standard switch box. Satin chrome finish on brass plate.

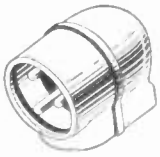
| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.277 | P2-36 | $6.95 |
| 3 | 30-amp. | 0.280 | P3-36 | 7.10 |
| 4 | 30-amp. | 0.283 | P4-36 | 7.20 |
| 5 | 30-amp. | 0.286 | P5-36 | 7.40 |
| 6 | 30-amp. | 0.289 | P6-36 | 7.60 |
| 8 | 15-amp. | 0.286 | P8-36 | 7.90 |

**TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)**—Plate is 4½" high and 4$\frac{5}{16}$" wide. Furnished with brackets for standard switch box. Satin chrome finish on brass plate.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.554 | P2-36-2G | $14.25 |
| 3 | 30-amp. | 0.563 | P3-36-2G | 14.65 |
| 4 | 30-amp. | 0.572 | P4-36-2G | 14.95 |
| 5 | 30-amp. | 0.579 | P5-36-2G | 15.35 |
| 6 | 30-amp. | 0.588 | P6-36-2G | 16.10 |
| 8 | 15-amp. | 0.579 | P8-36-2G | 17.05 |

**TYPE "P-41" 90° MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)**—Can be mounted in equipment or instrument panel. Equipped with latch locking device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.249 | P2-41 | $10.66 |
| 3 | 30-amp. | 0.253 | P3-41 | 11.11 |
| 4 | 30-amp. | 0.257 | P4-41 | 11.57 |
| 5 | 30-amp. | 0.261 | P5-41 | 12.02 |
| 6 | 30-amp. | 0.265 | P6-41 | 12.48 |
| 8 | 15-amp. | 0.261 | P8-41 | 12.94 |



**TYPE "P-42" 90° MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)**—For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 2 | 30-amp. | 0.176 | P2-42 | $7.49 |
| 3 | 30-amp. | 0.179 | P3-42 | 7.79 |
| 4 | 30-amp. | 0.182 | P4-42 | 8.09 |
| 5 | 30-amp. | 0.185 | P5-42 | 8.39 |
| 6 | 30-amp. | 0.188 | P6-42 | 8.65 |
| 8 | 15-amp. | 0.185 | P8-42 | 8.71 |



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**TYPE "03-42" MICROPHONE OR PANEL RECEPTACLE (with Pin Insert)**—Has flat base, with two lugs for mounting with #4-40 machine screws. Made of die-cast zinc, and chromium plated.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | 0.271 | 03-42 | $8.65 |

**TYPE "03-41" 90° MICROPHONE OR PANEL RECEPTACLE (Socket Insert)**—Flat base is flanged and is attached to microphone or panel by means of two #4-40 machine screws. Made of die-die-cast zinc, chromium plated.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | 0.274 | 03-41 | $8.65 |

**TYPE "03-11" STRAIGHT CORD PLUG (with Socket Insert)**
Has integral clamp for 9/32" or smaller cable. Made of die-cast zinc, chromium plated.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | | 03-11 | $6.10 |

**TYPE "03-12" STRAIGHT CORD PLUG (with Pin Insert)**
Mates with No. 03-11, 03-13 and 03-41. Has integral cable clamp for 9/32" or smaller cable. Made of die-cast zinc, chromium plated, satin finish.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | 0.115 | 03-12 | $6.10 |

**TYPE "03-13" FLUSH WALL RECEPTACLE (with Socket Insert)**
Flange is 2" in diameter, drilled with four holes to take No. 4-40 mounting screws, 90° apart on a radius of 13/16". Made of die-cast zinc, chromium plated, satin finish. Latch locking device is operated from panel front.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | 0.148 | 03-13 | $7.15 |

**TYPE "03-14" FLUSH WALL RECEPTACLE (with Pin Insert)**
The flange is 2" in diameter, drilled with four holes to take No. 4-40 oval-head machine screws, 90° apart, on a radius of 13/16". Made of die-cast zinc, chromium plated.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 30-amp. | 0.107 | 03-14 | $7.15 |

**TYPE "X-11" CORD PLUG (with Socket Insert)**
Sturdily built for dependable service. Light in weight. Shell is die-cast zinc, nickel finish. Will take 13/16" to 9/32" cable. Mates with: X-14 wall receptacle, X-12 straight cord plug, X-42 microphone receptacle and X-44L receptacle.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.081 | X-1-11 | $2.75 |
| 3 | 15-amp. | 0.083 | X-3-11 | 3.90 |
| 4 | {3-10-amp.} {1-15-amp.} | 0.085 | X-4-11 | 4.00 |

**TYPE "X-12" CORD PLUG (with Pin Insert)**
Mates with: X-11 straight cord plug (socket insert) or X-13 wall receptacle (socket insert). Shell is die-cast zinc, satin nickel finish. Will take 1/16" to 3/32" cable.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.061 | X-1-12 | $2.25 |
| 3 | 15-amp. | 0.063 | X-3-12 | 2.95 |
| 4 | {3-10-amp.} {1-15-amp.} | 0.065 | X-4-12 | 3.25 |

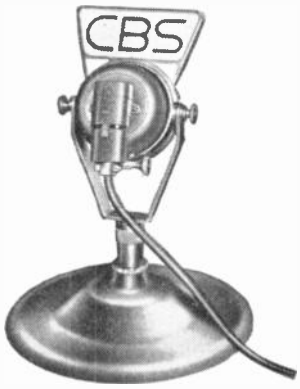
**TYPE "X-13" WALL RECEPTACLE (with Socket Insert)**
Body fits in 7/8" hole and extends 1-1/8" behind flange. Flange is 1-3/8" in diameter and drilled for three No. 4-40 screws 120° apart. Shell is die-cast zinc, satin nickel finish. Mates with X-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.081 | X-1-13 | $2.20 |
| 3 | 15-amp. | 0.083 | X-3-13 | 3.20 |
| 4 | {3-10-amp.} {1-15-amp.} | 0.085 | X-4-13 | 3.30 |

## TYPE O CONNECTOR SERIES

CANNON "TYPE O" PLUGS AND RECEPTACLES. This series consists of a line of 3-contact oval-shaped plugs and receptacles, equipped with Latch Locking Device. Contacts are silver-plated, full-floating, non-twisting, with a 30 a. current rating. Solder terminals are tinned for ease of wiring. 30 a. contacts accommodate No. 10 stranded wire. 2400 v. flashover.

### APPLICATION




## TYPE X CONNECTOR SERIES

CANNON "TYPE X" PLUGS AND RECEPTACLES. The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily accessible. Cable glands are removable. Contacts are so positive that no latching device is needed for ordinary uses. Operating voltages X-1, 500v, X-3, 200v, X-4, 133v.

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World Radio History

*(Continued from previous page)*

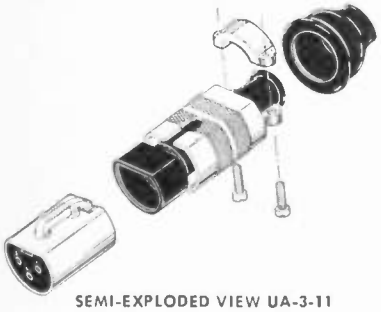
## APPLICATION

X connectors used on 60-cycle servo amplifier for laboratory and general use, manufactured by Servo Corp. of America.

## TYPE UA CONNECTOR SERIES

The UA Series of audio connectors, designed in co-operation with the RETMA Committee, has all the features of Type P, O, and XL plus the following: (1) gold-plated contacts for long life and "no noise" (2) double protection rubber relief collar and rubber bushings (3) flat-top polarization for finger-touch action (4) stronger and better latch lock (5) steel plug shells and insert barrel (6) spring-action insert removal—no screws.

Insulators are high dielectric, molded general-purpose phenolic. 15 a. contacts with 2400 v minimum flashover; for No. 14 stranded wire. Max. cable entry is 1/2". Shown in Audio Bulletin.



SEMI-EXPLODED VIEW UA-3-11

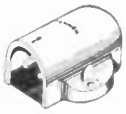
showing rubber cushion that fits over pin contacts to avoid shocks, provide protection from moisture, improve insulation factors.

*(UA Series continued next page)*

### TYPE "X-14" WALL RECEPTACLE (With Pin Insert)

Body fits in 3/4" hole and extends 23/32" behind the flange, which is 1-3/8" in diameter and drilled for three No. 4-40 machine screws, 120° apart. Shell is zinc, nickel plated finish. Mates with X-11. Solder pots extend 1/4" beyond rear skirt.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.040 | X-1-14 | $1.90 |
| 3 | 15-amp. | 0.042 | X-3-14 | 2.45 |
| 4 | {3-10-amp. / 1-15-amp.} | 0.044 | X-4-14 | 2.50 |



### TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert)

Has all the features of "Type X" straight cord plugs and wall receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Mates with X-11. Mounting holes are 0.144" in diameter and 1" apart.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.063 | X-3-42 | $2.65 |

### TYPE UA-3-11 PLUG (Socket Insert)

The UA-11 plug is approximately 3-1/2" long (including rubber bushing); 1-3/16" wide and 1-1/32" thick. Steel shell and barrel. Mates with UA-12, UA-32, and UA-42.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.15 | UA-3-11 | $5.90 |

### TYPE UA-3-12 PLUG (Pin Insert)

The UA-12 plug is approximately 3-1/4" long, including rubber relief collar. Steel shell. Mates with UA-3-11, UA-3-13, and UA-3-31.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.11 | UA-3-12 | $4.85 |

### TYPE UA-3-13 RECEPTACLE (Socket Insert)

The UA-13 receptacle has a round flange compared to the rectangular flange of the UA-31. Three mounting holes are provided, 0.120" diameter countersunk for No. 4 machine screws. Mates with UA-3-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.14 | UA-3-13 | $4.50 |

### TYPE UA-3-14 RECEPTACLE (Pin Insert)

The UA-14 receptacle, like the UA-13, has a round flange. Barrel extends 25/32" behind flange with 15/64" solder pot extension. A 1" hole is required to mount. Mates with UA-3-11.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.08 | UA-3-14 | $2.75 |

### TYPE UA-3-31 RECEPTACLE (Socket Insert)

The UA-31 receptacle has a rectangular flange construction, extends 1-3/32" behind flange plus 3/16" max. solder pot extension, and requires a 1" clearance hole. Mates with UA-3-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.13 | UA-3-31 | $4.50 |

### TYPE UA-3-32 RECEPTACLE (Pin Insert)

The UA-3-32 Receptacle is similar to UA-31. Barrel extends 25/32" plus 15/64" max. solder pot extension behind flange, and requires a 1" clearance hole. Mates with XL-3-11.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.07 | UA-3-32 | $2.75 |



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### TYPE UA-3-42 RECEPTACLE (Pin Insert)

The UA-42 is a special mounting receptacle adaptable to microphones and other applications where it is advisable to mount receptacle parallel to the equipment, etc. Similar to XL-42 and X-42 types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 3 | 15-amp. | 0.08 | UA-3-42 | $5.50 |

### TYPE "XK-11" STRAIGHT CORD PLUG (With Socket Insert)

Shell is of die-cast zinc, bright nickel plated finish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes 3/16" to 1/2" cable. Built for long, dependable service. Mates with -12, -14.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.081 | XK-1-11 | $5.50 |
| 3 | 15-amp. | 0.083 | XK-3-11 | 5.50 |
| 4 | 3-10-amp. / 1-15-amp. | 0.085 | XK-4-11 | 7.80 |

### TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)

For use in conjunction with straight cord plug (socket insert) or wall receptacle (socket insert) with coupling nut. Shell is made of die-cast zinc, bright nickel plated finish. Takes 3/16" to 1/2" cable.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.081 | XK-1-12 | $3.15 |
| 3 | 15-amp. | 0.083 | XK-3-12 | 3.15 |
| 4 | 3-10-amp. / 1-15-amp. | 0.085 | XK-4-12 | 4.75 |

### TYPE "XK-14" WALL RECEPTACLE (With Pin Insert)

Body fits in a 3/4" hole and extends 11/16" behind a 7/8" flange. Flange is 1 1/2" in diameter, drilled for four No. 4-40 mounting screws on a 5/8" radius, 90° apart. Shell is made of bright nickel plated brass. Solder pots extend 1/4" beyond body. Has external Acme thread on shell and mates with straight cord plug XK-11.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.045 | XK-1-14 | $3.40 |
| 3 | 15-amp. | 0.047 | XK-3-14 | 3.65 |
| 4 | 3-10-amp. / 1-15-amp. | 0.049 | XK-4-14 | 4.75 |

### TYPE "XK-13L" WALL RECEPTACLE (With Socket Insert)

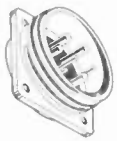
Body fits in 1 1/16" hole and extends 1 1/16" behind flange. Flange is 1 1/2" in diameter and drilled for four No. 4-40 flat-head mounting screws on a 5/8" radius, 90° apart. Shell is made of brass, nickel finish. Solder pots on contacts extend 1/8" beyond body. Mates with corresponding straight cord plug (pin insert) XK-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 15-amp. | 0.144 | XK-1-13L | $11.88 |
| 3 | 15-amp. | 0.146 | XK-3-13L | 12.18 |
| 4 | 3-10-amp. / 1-15-amp. | 0.148 | XK-4-13L | 12.42 |

### TYPE SK -M7-21C-1/2 PLUG (With Socket Insert)

1/2" clamp entry, mates with receptacle shown below.

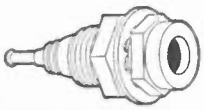
| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 7 | 3-10-amp. / 4-30-amp. | 0.66 | SK-M7-21C-1/2 | $4.79 |



### Type SK -M7-32S RECEPTACLE (With Pin Insert)

Mounting receptacle for SK-M7-21C-1/2" plug shown above. Center line to center line mounting holes 1.038". Clearance hole, 1-5/16".

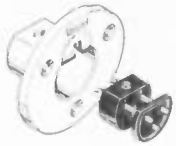
| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| | 3-10-amp. / 4-30-amp. | 0.04 | SK-M7-32S | $2.63 |



### TEST POINT JACKS

High quality phone tip jack to accommodate standard RETMA 0.081" dia. phone tip for laboratory use. Rugged construction, nylon insulatiton for maximum life under hard usage. In 7 colors. See Bulletin TJ-2 for details.

| Contacts | Capacitance | Wt. Lbs. | Cat. No. | List Pr. |
|---|---|---|---|---|
| 1 | 5-7ufd | 0.006 | 45E | $0.60 |

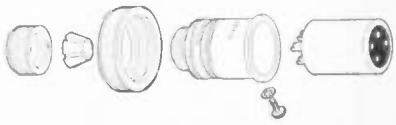


UA-3-14
EXPLODED VIEW

*Note: All illustrations are not shown in same scale reduction.*

## TYPE XK CONNECTOR SERIES

CANNON "TYPE XK" PLUGS AND RECEPTACLES—A quality line of Connectors, same inserts and similar in design to the "Type X" Series, but equipped with the fast-acting, sturdy Acme threaded coupling ring and therefore, ideal for use on equipment which is subjected to considerable vibration and tension on cables, such as on sound trucks and other portable units. XK-1 500v; XK-3 200v; XK-4, 133v service.



EXPLODED VIEW XK-4-11

## TYPE K CONNECTOR SERIES

For telephone recording connectors made by large suppliers of telephone equipment.

## 45-E TEST POINT JACK

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# TYPE LK & LKT (TV) CONNECTOR SERIES

The LK & LKT (TV) connectors are used on television cameras and related equipment, and are a part of the Cannon "K" series. The assemblies with the "LK" prefix are standard "K," those prefixes with "LKT" have special shells or cable entry construction.

The R24C insert has the following arrangement of 24 contacts: 3 No. 16 coaxials, 21 No. 14 contacts. Shells are aluminum alloy cadmium plated; insulators are melamine, contacts are silver-plated brass.

### LKT DUST CAPS

For pin insert assemblies.
Eyelet 1/4" dia.

| Cat. No | Wt. Lbs. | List Price |
|---|---|---|
| LKT-60A-2 | 0.113 | $2.31 |

For socket insert assemblies.

| Cat. No | Wt. Lbs. | List Price |
|---|---|---|
| LKT-59A-2 | 0.147 | $1.97 |

MATING SOCKET ASSEMBLIES SHOWN ON FOLLOWING PAGE

**TYPE LKT-R24C-21-7/8 PLUG (With Socket Insert)**

Special long end bell and coupling means include gland nut, friction washer, bushing, gland washer and packing ring to support cable and moisture proofing.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LKT-R24C-21-7/8 | 1.01 | $20.47 |

**TYPE LKT-R24C-22-7/8 PLUG (With Pin Insert)**

Same basic construction as LKT-R24C-21-7/8, except for: pin insert, exterior thread, rubber bumper ring.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LKT-R24C-22-7/8 | 0.860 | $19.43 |

**TYPE LKT-R24C-23-7/8 ANGLE 90° PLUG (With Socket Insert)**

Similar to above fittings except for shell style which is a special 90° type shell. 7/8" cable entry.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LKT-R24C-23-7/8 | 1.04 | $29.51 |

**TYPE LKT-R24C-24-7/8 ANGLE 90° PLUG (With Pin Insert)**

Similar to above except for pin insert, exterior thread and rubber bumper ring.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LKT-R24C-24-7/8 | 0.772 | $33.05 |

**TYPE LK-R24C-31S RECEPTACLE (With Socket Insert)**

Wall- or box-mounting receptacle with four 0.169 dia. mounting holes 2.077" center to center. 2-9/16" square flange.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LK-R24C-31S | 0.372 | $11.00 |

**TYPE LK-R24C-32S RECEPTACLE (With Pin Insert)**

Similar to above receptacle except for exterior thread.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 24 | LK-R24C-32S | 0.183 | $8.67 |

# TYPE D subminiature HERMETICALLY SEALED

### HERMETICALLY SEALED PIN ASSEMBLIES
With solder-pot terminals

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 9 | DEH-9P-002 | .... | $ 6.25 |
| 15 | DAH-15P-002 | 0.021 | 6.45 |
| 25 | DBH-25P-002 | 0.027 | 10.10 |
| 37 | DCH-37P-002 | 0.037 | 14.65 |
| 50 | DDH-50P-002 | 0.041 | 19.85 |

With eyelet terminals

| | | | |
|---|---|---|---|
| 9 | DEH-9P-001 | .... | 5.45 |
| 15 | DAH-15P-001 | 0.021 | 5.55 |
| 25 | DBH-25P-001 | 0.027 | 7.50 |
| 37 | DCH-37P-001 | 0.037 | 9.90 |
| 50 | DDH-50P-001 | 0.041 | 12.80 |



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# CANNON PLUGS

**TYPE DE-9P CONNECTORS (Pin Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 9 | DE-9P | 0.011 | $2.29 |

**TYPE DE-9S CONNECTORS (Socket Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 9 | DE-9S | 0.012 | $3.04 |

**TYPE DA-15P CONNECTOR (Pin Insert)**

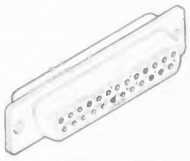
| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 15 | DA-15P | 0.013 | $2.19 |

**TYPE DA-15S CONNECTOR (Socket Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 15 | DA-15S | 0.014 | $3.41 |

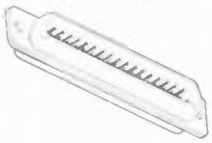
**TYPE DB-25P CONNECTOR (Pin Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 25 | DB-25P | 0.023 | $3.35 |



**TYPE DB-25S CONNECTOR (Socket Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 25 | DB-25S | 0.031 | $5.38 |



**TYPE DC-37P CONNECTOR (Pin Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 37 | DC-37P | 0.035 | $4.73 |

**TYPE DC-37S CONNECTOR (Socket Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 37 | DC-37S | 0.035 | $7.73 |

**TYPE DD-50P CONNECTOR (Pin Insert)**

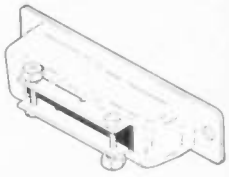
| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 50 | DD-50P | 0.035 | $6.34 |

**TYPE DD-50S CONNECTOR (Socket Insert)**

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|---|
| 50 | DD-50S | 0.040 | $10.40 |

## TYPE D subminiature CONNECTOR SERIES

Type "D" sub-miniatures are small, compact, lightweight connectors in 5 sizes, having 9, 15, 25, 37, or 50 gold-plated contacts with 5 amp current rating, flashover: 1700 v dc, 1200 v ac rms. Wire size No. 20; Cadmium plated steel shell. Rack type can be used to connect and make a movable plug with addition of junction shell. Insulation is high dielectric Zytel 101-NC 10, keystone polarization. Average contact resistance 4.56 (8 max.) milliohms per ampere. See "D" Bulletin for complete data.

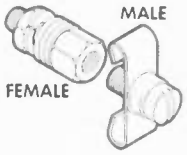


**"D" JUNCTION SHELLS**

Fit Pin or Socket Assemblies.

| Cat. No. | Wt. Lbs. | List Pr. |
|---|---|---|
| DA-19678-1 J/S | 0.010 | $ .68 |
| DB-19678-2 J/S | 0.014 | .70 |
| DC-19678-3 J/S | 0.014 | .97 |
| DD-19678-4 J/S | 0.016 | .99 |

*Sizes DC and DD have 3 Clamp Screws.




**LOCKING DEVICES FOR D TYPES**

| Cat. No. | | List Pr. |
|---|---|---|
| 20418-2 | (Female screw lock assembly for all sizes) | $ .33 |
| 20419 | (Male screw lock assembly for sizes DA, DB, DC, DE) | .28 |
| 20420 | (Male screw lock assembly for size DD) | .42 |

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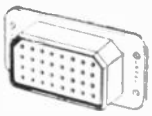
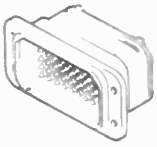
## DPA ASSEMBLIES



DPA-33S
SOCKET
ASSEMBLY



DPA-34P
PIN
ASSEMBLY

| ORDER NUMBERS | LIST PRICE |
|---|---|
| DPA-24-33S | 9.29 |
| DPA-24-34S | 9.29 |
| DPA-24-33P | 7.36 |
| DPA-24-34P | 7.36 |
| DPA-24C2-33S | 10.97 |
| DPA-24C2-34S | 10.97 |
| DPA-24C2-33P | 9.40 |
| DPA-24C2-34P | 9.40 |
| DPA-B24C2-33S | 12.05 |
| DPA-B24C2-34S | 12.05 |
| DPA-B24C2-33P | 10.48 |
| DPA-B24C2-34P | 10.48 |
| DPA-C24C2-33S | 11.95 |
| DPA-C24C2-34S | 11.95 |
| DPA-C24C2-33P | 10.38 |
| DPA-C24C2-34P | 10.38 |
| DPA-D24C2-33S | 11.53 |
| DPA-D24C2-34S | 11.53 |
| DPA-D24C2-33P | 11.10 |
| DPA-D24C2-34P | 11.10 |
| DPA-24C1HV1-33S | 11.33 |
| DPA-24C1HV1-34S | 11.33 |
| DPA-24C1HV1-33P | 10.48 |
| DPA-24C1HV1-34P | 10.48 |
| DPA-24HV2-33S | 11.69 |
| DPA-24HV2-34S | 11.69 |
| DPA-24HV2-33P | 11.56 |
| DPA-24HV2-34P | 11.56 |
| DPA-29C1-33S | 10.43 |
| DPA-29C1-34S | 10.43 |
| DPA-29C1-33P | 7.90 |
| DPA-29C1-34P | 7.90 |
| DPA-29HV1-33S | 10.79 |
| DPA-29HV1-34S | 10.79 |
| DPA-29HV1-33P | 8.98 |
| DPA-29HV1-34P | 8.98 |
| DPA-32-33S | 9.71 |
| DPA-32-34S | 9.71 |
| DPA-32-33P | 6.26 |
| DPA-32-34P | 6.26 |

### DPA ACCESSORIES

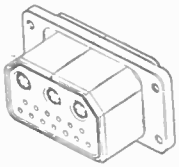
### JUNCTION SHELLS

| ORDER NUMBERS | LIST PRICE |
|---|---|
| DPA-CG-21 32 | 2.40 |
| DPA-CG-21 32 | 2.40 |
| DPA-33 & 34* (For Potting | .95 |

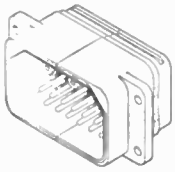
### DUST CAPS

| | |
|---|---|
| DPA-59 | .18 |
| DPA-60 | .18 |

## DPX ASSEMBLIES



DPX-33S
SOCKET
ASSEMBLY



DPX-34P
PIN
ASSEMBLY

| ORDER NUMBERS | LIST PRICE |
|---|---|
| DPX-C7-33S | 19.13 |
| DPX-C7-34S | 19.13 |
| DPX-C7-33P | 26.63 |
| DPX-C7-34P | 26.63 |
| DPX-C7A-33S | 25.72 |
| DPX-C7A-34S | 25.72 |
| DPX-C7A-33P | 21.38 |
| DPX-C7A-34P | 21.38 |
| DPX-C7B-33S | 16.62 |
| DPX-C7B-34S | 16.62 |
| DPX-C7B-33P | 21.31 |
| DPX-C7B-34P | 21.31 |
| DPX-C7D-33S | 31.11 |
| DPX-C7D-34S | 31.11 |
| DPX-C7E-33S | 22.10 |
| DPX-C7E-34S | 22.10 |
| DPX-8-33S | 6.42 |
| DPX-8-34S | 6.42 |
| DPX-8-33P | 5.10 |
| DPX-8-34P | 5.10 |
| DPX-13-33S | 5 63 |
| DPX-13-34S | 5.63 |
| DPX-13-33P | 4.85 |
| DPX-13-34P | 4 85 |
| DPX-13-33S (F32) | 5.89 |
| DPX-13-34S (F32) | 5.89 |
| DPX-13-33P (F32) | 5.11 |
| DPX-13-34P (F32) | 5.11 |
| DPX-B16C2-33S | 12.31 |
| DPX-B16C2-34S | 12.31 |
| DPX-B16C2-33P | 10.31 |
| DPX-B16C2-34P | 10.31 |
| DPX-B16C2-33S (F32) | 12.57 |
| DPX-B16C2-34S (F32) | 12.57 |
| DPX-B16C2-33P (F32) | 10.57 |
| DPX-B16C2-34P (F32) | 10.57 |
| DPX-16C3-33S | 12.38 |
| DPX-16C3-34S | 12.38 |
| DPX-16C3-33P | 14.30 |
| DPX-16C3-34P | 14.30 |
| DPX-A16C3-33S | 13.64 |
| DPX-A16C3-34S | 13.64 |
| DPX-A16C3-33P | 15.77 |
| DPX-A16C3-34P | 15.77 |
| DPX-B16C3-33S | 15.63 |
| DPX-B16C3-34S | 15.63 |
| DPX-B16C3-33P | 13.03 |
| DPX-B16C3-34P | 13.03 |
| DPX-B16C3-33S (F32) | 15.89 |
| DPX-B16C3-33S (F32) | 15.89 |
| DPX-B16C3-33P (F32) | 13.29 |
| DPX-B16C3-34P (F32) | 13.29 |
| DPX-C16C3-33S | 11.73 |
| DPX-C16C3-34S | 11.73 |
| DPX-C16C3-33P | 13.00 |
| DPX-C16C3-34P | 13.00 |
| DPX-C16C3-33S (F32) | 11.99 |
| DPX-C16C3-34S (F32) | 11.99 |
| DPX-C16C3-33P (F32) | 13.26 |
| DPX-C16C3-34P (F32) | 13.26 |
| DPX-D16C3-33S | 11.27 |
| DPX-D16C3-34S | 11.27 |
| DPX-D16C3-33P | 12.02 |
| DPX-D16C3-34P | 12.02 |
| DPX-E16C3-33S | 17.48 |
| DPX-E16C3-34S | 17.48 |

| ORDER NUMBERS | LIST PRICE |
|---|---|
| DPX-F16C3-33S | 13.37 |
| DPX-F16C3-34S | 13.37 |
| DPX-G16C3-33S | 15.06 |
| DPX-G16C3-34S | 15.06 |
| DPX-G16C3-33P | 13.54 |
| DPX-G16C3-34P | 13.54 |
| DPX-G16C3-33S (F32) | 15.32 |
| DPX-G16C3-34S (F32) | 15.32 |
| DPX-G16C3-33P (F32) | 13.80 |
| DPX-G16C3-34P (F32) | 13.80 |
| DPX-J16C3-33S | 17.94 |
| DPX-J16C3-34S | 17.94 |
| DPX-J16C3-33P | 15.28 |
| DPX-J16C3-34P | 15.28 |
| DPX-J16C3-33S (F32) | 18.20 |
| DPX-J16C3-34S (F32) | 18.20 |
| DPX-J16C3-33P (F32) | 15.54 |
| DPX-J16C3-34P (F32) | 15.54 |
| DPX-K16C3-33S | 18.74 |
| DPX-K16C3-34S | 18.74 |
| DPX-17-33S | 6.07 |
| DPX-17-34S | 6.07 |
| DPX-17-33P | 4.23 |
| DPX-17-34P | 4.23 |
| DPX-23-33S | 7.36 |
| DPX-23-34S | 7.36 |
| DPX-23-33P | 4.89 |
| DPX-23-34P | 4.89 |
| DPX-24C2-33S | 12.04 |
| DPX-24C2-34S | 12.04 |
| DPX-24C2-33P | 11.82 |
| DPX-24C2-34P | 11.82 |
| DPX-A24C2-33S | 15.36 |
| DPX-A24C2-34S | 15.36 |
| DPX-25C3-33S | 14.35 |
| DPX-25C3-34S | 14.35 |
| DPX-25C3-33P | 15.29 |
| DPX-25C3-34P | 15.29 |
| DPX-A25C3-33S | 19.45 |
| DPX-A25C3-34S | 19.45 |
| DPX-26-33S | 8.73 |
| DPX-26-34S | 8.73 |
| DPX-26-33P | 7.28 |
| DPX-26-34P | 7.28 |
| DPX-26-33S (F32) | 9.25 |
| DPX-26-34S (F32) | 9.25 |
| DPX-26-33P (F32) | 7.80 |
| DPX-26-34P (F32) | 7.80 |
| DPX-40-33S | 10.89 |
| DPX-40-34S | 10.89 |
| DPX-40-33P | 6.76 |
| DPX-40-34P | 6.76 |

### DPX ACCESSORIES

### JUNCTION SHELLS

| ORDER NUMBERS | LIST PRICE |
|---|---|
| DPX-CG-25 32 | 1.81 |
| DPX-CG-25/32 90° | 2.65 |
| DPX-CG-1 4-5/8 | 2.07 |
| DPX-CG-3/16 | 2.21 |
| DPX-21 & 22 LC-15/16 CG | 2.64 |
| DPX-23 & 24 LC-15/16 CG | 2.74 |
| DPX-21 & 22 LC-15/16 CG-1 | 2.56 |



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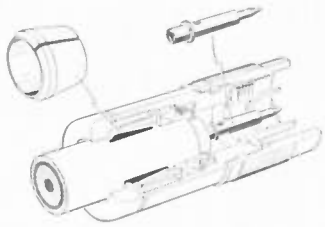
# CANNON PLUGS

## CANNON RF CO-AXIALS

Cannon RF co-axial connectors (formerly manufactured by Diamond Mfg. Co.) combine weatherproofing and locked-pin contact with a new collet clamping device designed to withstand twice the standard pull-out force required by MIL specifications.



### BNC SERIES

Small bayonet lock. Cable types RG-55, 58, 59, 62, 71, 122 and 142/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-88/U | DIC 723 | $ 1.90 |
| UG-88-B/U | DIC 2210 | 1.95 |
| UG-88-C/U | DIC 2303 | 2.40 |
| UG-89/U | DIC 867 | 2.15 |
| UG-89-B/U | DIC 2337 | 2.85 |
| UG-90/U | DIC 874 | 2.90 |
| CW123-A/U | DIC 2047 | .95 |
| CW155-A/U | DIC 2048 | .80 |
| CW159/U | DIC 2088 | 1.60 |
| UG-185/U | DIC 870 | 1.85 |
| UG-254-A/U | DIC 2023 | 5.95 |
| UG-260/U | DIC 822 | 2.10 |
| UG-260-A/U | DIC 2212 | 2.00 |
| UG-260-B/U | DIC 2314 | 2.50 |
| UG-261/U | DIC 823 | 2.25 |
| UG-261-B/U | DIC 2338 | 2.75 |
| UG-262/U | DIC 824 | 2.05 |
| UG-262-B/U | DIC 2335 | 2.75 |
| UG-274/U | DIC 861 | 4.90 |
| UG-274-A/U | DIC 2423 | 6.35 |
| UG-290/U | DIC 811 | 1.75 |
| UG-290-A/U | DIC 2364 | 2.00 |
| UG-291/U | DIC 875 | 1.95 |
| UG-291-B/U | DIC 2336 | 2.60 |
| UG-306/U | DIC 862 | 4.00 |
| UG-306-A/U | DIC 2457 | 5.20 |
| UG-414/U | DIC 975 | 2.70 |
| UG-447/U | DIC 2248 | 2.00 |
| UG-491/U | DIC 977 | 3.85 |
| UG-492-A/U | DIC 2351 | 6.10 |
| UG-492-B/U | DIC 2870 | 10.80 |
| UG-535/U | DIC 994 | 3.75 |
| MX554/U | DIC 2299 | 3.80 |
| UG-604/U | DIC 952 | 1.85 |
| UG-625/U | DIC 2137 | 1.80 |
| UG-657/U | DIC 2621 | 3.30 |
| UG-909/U | DIC 2588 | 4.10 |
| UG-910/U | DIC 2589 | 3.90 |
| UG-912/U | DIC 2339 | 4.00 |
| UG-913/U | DIC 2861 | 7.40 |
| UG-932/U | DIC 2428 | 3.95 |
| UG-1094/U | DIC 2558 | 2.15 |
| UG-1098/U | DIC 2557 | 5.05 |
| MX1530/U | DIC 2591 | 1.15 |
| MX1684/U | DIC 2038 | .95 |
| ... | DIC 951 | 2.60 |
| ... | DIC 960 | 1.40 |
| ... | DIC 997 | .95 |
| ... | DIC 2005 | 6.50 |
| ... | DIC 2039 | 3.45 |
| ... | DIC 2110 | 1.10 |
| ... | DIC 2150 | 4.35 |
| ... | DIC 2162 | .90 |
| ... | DIC 2163 | .90 |
| ... | DIC 2192 | 2.20 |
| ... | DIC 2193 | 2.40 |
| ... | DIC 2503 | 6.45 |
| ... | DIC 2507 | 3.15 |
| ... | DIC 2511 | 3.75 |
| ... | DIC 2551 | 3.30 |
| ... | DIC 2678 | 1.00 |
| ... | DIC 2741 | 2.10 |
| ... | DIC 2753 | 2.30 |
| ... | DIC 2880 | 4.50 |

### C SERIES

Medium bayonet lock. Cable types RG-8, 9, 10, 11, 12, 13/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-566-A/U | DIC 5002 | $11.55 |
| UG-567-A/U | DIC 5003 | 10.35 |
| UG-573-A/U | DIC 5021 | 7.25 |
| MX1142/U | DIC 5022 | 2.65 |

### HN SERIES

Screw type coupling. High voltage. Cable types RG-8, 9, 10, 11, 17, 18/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-59-A/U | DIC 801 | $ 6.30 |
| UG-59-B/U | DIC 2482 | 7.25 |
| UG-59-D/U | DIC 2854 | 11.80 |
| UG-212-A/U | DIC 775 | 6.45 |
| UG-212-C/U | DIC 2850 | 15.70 |
| UG-494-A/U | DIC 2478 | 16.95 |
| UG-496/U | DIC 1077 | 4.95 |
| UG-1019/U | DIC 2011 | 16.35 |

### LC SERIES

Large size. Cable types RG-17, 18/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-532/U | DIC 2464 | $24.70 |
| ... | DIC 2624 | 29.95 |

### LN SERIES

Screw type coupling. Cable types RG-14/U and 74/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-97-A/U | DIC 1015 | $12.25 |
| UG-100-A/U | DIC 1004 | 7.80 |

### MB SERIES

Small bayonet lock. Cable types RG-55, 58, 59, 62, 71/U, 3/32" DOD.

| Military Number | Cannon Number | List Price |
|---|---|---|
| ... | DIC 2900 | $2.10 |
| ... | DIC 2901 | 1.75 |
| ... | DIC 2903 | 2.20 |
| ... | DIC 2907 | 2.10 |
| ... | DIC 2908 | 1.60 |
| ... | DIC 2915 | 2.00 |
| ... | DIC 2916 | 2.60 |
| ... | DIC 2904 | 1.50 |
| ... | DIC 2905 | 1.45 |
| ... | DIC 2906 | 1.40 |
| ... | DIC 2902 | 1.35 |
| ... | DIC 2909 | 3.20 |
| ... | DIC 2914 | 1.40 |
| ... | DIC 2910 | 2.95 |
| ... | DIC 2911 | 4.00 |
| ... | DIC 2912 | 1.15 |
| ... | DIC 2913 | 3.80 |

### MINIATURES

Screw type coupling. Cable types 50, 70, and 93 ohm miniature.

| | | |
|---|---|---|
| ... | DIC 2243 | $2.10 |
| ... | DIC 2499 | 1.85 |
| ... | DIC 2710 | 4.95 |
| ... | DIC 2835 | 9.00 |
| ... | DIC 2844 | 6.50 |

### N SERIES

Screw type coupling. Cable types RG-5, 6, 8, 9, 10, 11, 14, 17, 18, 21, 74, 87, 116/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-18-B/U | DIC 828 | $ 4.10 |
| UG-21-B/U | DIC 790 | 3.80 |
| UG-21-D/U | DIC 2138 | 5.45 |
| UG-22-B/U | DIC 794 | 4.25 |
| UG-22-D/U | DIC 2139 | 3.90 |
| UG-23-B/U | DIC 795 | 3.50 |
| UG-23-D/U | DIC 2140 | 3.60 |
| UG-27-B/U | DIC 1002 | 7.15 |
| UG-27-C/U | DIC 2291 | 8.50 |
| UG-28-A/U | DIC 980 | 7.25 |
| UG-29-B/U | DIC 979 | 3.60 |
| UG-30-D/U | DIC 2292 | 11.00 |
| UG-57-B/U | DIC 2003 | 6.10 |
| UG-58-A/U | DIC 2004 | 2.20 |
| UG-107-B/U | DIC 935 | 8.85 |
| UG-167-B/U | DIC 2538 | 11.55 |
| UG-204-C/U | DIC 3016 | 7.90 |
| UG-536/U | DIC 2297 | 4.95 |
| UG-536-A/U | DIC 2689 | 5.50 |
| UG-594/U | DIC 972 | 10.30 |
| MX913/U | DIC 2063 | 1.40 |
| UG-1186/U | DIC 2891 | 4.80 |

### PULSE TYPES

Ceramic insert. High voltage pulse and dc usage. Cable types RG-25, 26, 27, 28, 64, 77, 78, 88/U.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-37-A/U | DIC 893 | $54.35 |
| UG-174/U | DIC 895 | 35.40 |
| UG-350/U | DIC 963 | 28.75 |
| UG-180-A/U | DIC 2572 | 18.05 |

### SKL TYPE

For connection to Klystron Tube.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-276/U | DIC 2013 | $14.40 |

### SM SERIES

Small screw type coupling. Cable types RG-55, 58, 59, 62, 71/U, 3/32" DOD.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-692/U | DIC 2642 | $1.65 |
| UG-693/U | DIC 2643 | 2.15 |
| UG-699/U | DIC 2649 | 1.80 |
| UG-698/U | DIC 2648 | 1.75 |
| UG-700/U | DIC 2650 | 1.50 |
| UG-923/U | DIC 2651 | 1.05 |
| UG-694/U | DIC 2644 | 1.80 |
| UG-696/U | DIC 2646 | 2.85 |
| UG-697/U | DIC 2647 | 1.10 |
| UG-690/U | DIC 2640 | 2.65 |
| UG-691/U | DIC 2641 | 4.90 |
| UG-695/U | DIC 2645 | 1.30 |

### UHF TYPE

Reducing Adapters.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-175/U | DIC 2719 | $.40 |
| UG-176/U | DIC 2718 | .40 |

### ADAPTERS BETWEEN SERIES

For coupling between various cable connector series.

| Military Number | Cannon Number | List Price |
|---|---|---|
| UG-83/U | DIC 858 | $ 5.20 |
| UG-201/U | DIC 859 | 4.40 |
| UG-201-A/U | DIC 2393 | 5.40 |
| UG-255/U | DIC 863 | 5.95 |
| UG-273/U | DIC 866 | 3.65 |
| UG-349/U | DIC 2302 | 4.75 |
| UG-349-A/U | DIC 2673 | 6.55 |
| UG-606/U | DIC 1017 | 7.40 |
| UG-971/U | DIC 2246 | 11.45 |
| UG-1107/U | DIC 2361 | 10.75 |
| ... | DIC 1093 | 6.05 |
| ... | DIC 2537 | 3.60 |

### PANEL TEST JACKS

For standard 0.080" test prod.

| Colors | Cannon Number | List Price |
|---|---|---|
| Natural | DIC 2780 | $.95 |
| Red | DIC 2781 | .95 |
| Black | DIC 2782 | .95 |
| Green | DIC 2783 | .95 |
| Blue | DIC 2784 | .95 |
| Orange | DIC 2785 | .95 |
| Yellow | DIC 2786 | .95 |
| Brown | DIC 2787 | .95 |

### CRYSTAL HOLDER

| Military Number | Cannon Number | List Price |
|---|---|---|
| ... | DIC 1005 | $33.50 |

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World Radio History

# CINCH SOCKETS ARE STANDARD

## MOLDED OCTAL 1-5/16" MOUNTING CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and sturdy steel press-on type saddle with 4 ground lugs. Mounts in 1" chassis hole.

| No. | Description | List Price |
|---|---|---|
| 8AB | Black | Each $ .14 |
| 8AM | Mica-Filled | Each .20 |

## MOLDED OCTAL 1½" MOUNTING CENTERS

Same as 8A series molded octal above except has clinch-on type saddle with 4 ground lugs and mounts in 1⅛" chassis hole. Available in black, mica - filled bakelite, or ceramic.

| No. | Description | List Price |
|---|---|---|
| 8EB | Black | Each $ .15 |
| 8EM | Mica-Filled | Each .21 |
| 8EC | Ceramic | Each .59 |

## RING MOUNT OCTAL

Molded from high dielectric black bakelite. Solder coated brass contacts. Used extensively on test equipment, public address amplifiers and on other apparatus where sockets are exposed. Molded keyway inside engages key in chassis hole, preventing socket from turning. Mounts in 1 1/16" chassis hole. Crimped retainer ring is furnished with these sockets.

| No. | Description | | List Price Each |
|---|---|---|---|
| 8R1 | For 1 16" Chassis | Black | $ .24 |
| 8R2 | For 1 8" Chassis | Black | .24 |
| 8R3 | For 1 16" Chassis | Mica-Filled | .35 |
| 8R4 | For 3/32" Chassis | Black | .24 |
| 8R5 | For 3/32" Chassis | Mica-Filled | .35 |
| 8R6 | For 1 8" Chassis | Mica-Filled | .35 |

## RETAINER RING

A crimped retaining ring formed of spring steel that will securely anchor sockets designed for ring mounting, such as the one above. Standard finish is cadmium.

| No | Description | List Price |
|---|---|---|
| 8R0 | .020 Spring Steel | Each $ .06 |

## MOLDED LOKTAL

Steel mounting saddle with solder coated brass contacts and center guide clip with locking spring. 1 5/16" mounting centers. Molded from high dielectric black bakelite or mica-filled low loss bakelite. Mounts in 1" chassis hole.

| No. | Description | List Price |
|---|---|---|
| 8LB | Black | Each $ .25 |
| 8LM | Mica-Filled | Each .33 |

## MOLDED LOKTAL

Has same characteristics as molded loktal shown above, except saddle has 4 ground lugs.

| No. | Description | List Price |
|---|---|---|
| 8LB1 | Black | Each $ .25 |
| 8LM1 | Mica-Filled | Each .33 |

## WAFER OCTAL

Laminated bakelite sockets with solder coated brass positive grip contacts. Designed to fit all standard eight prong tubes. Available with 1 5/16" or 1½" mounting centers. Both styles have .136 diameter mounting holes.

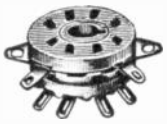
| No. | Description | List Price |
|---|---|---|
| 8W1 | 1 5/16" Mounting Centers | Each $ .17 |
| 8W2 | 1½" Mounting Centers | Each .17 |

## GLASS TUBE SOCKETS

Laminated bakelite sockets with solder coated positive grip brass contacts. 1½" mounting centers. .140 diameter mounting holes. Designed to fit four, five and seven prong tubes.

| No. | Description | List Price |
|---|---|---|
| 4WX | 4 Prong | Each $ .15 |
| 5WY | 5 Prong | Each .15 |
| 6WZ | 6 Prong | Each .16 |
| 7WU | 7 Prong | Each .17 |
| 7WA | 7 Prong (Large) | Each .17 |

## MOLDED OCTAL 1½" MOUNTING CENTERS



Molded from mica-filled low loss bakelite. Silver plated phosphor bronz contacts with hot tinned tails. Heavy brass saddle nickel plated with 4 ground lugs hot tinned. Conforms to JAN-S-28A Specs.

| No. | Description | Mtg. Hole | Jan Type No. | List Price Each |
|---|---|---|---|---|
| 8JC-1 | Ceramic | .156 Dia. | TS101C01 | $ .70 |
| 8JCN-1 | Ceramic | 6-32 Tap | TS101C02 | .95 |
| 8JM-1 | Mica | .156 Dia. | TS101P01 | .50 |
| 8JMN-1 | Mica | 6-32 Tap | TS101P02 | .75 |

## VIBRATOR SOCKET

Laminated bakelite socket with solder coated brass positive grip contacts. Fits Mallory #4549 and 725C vibrators in addition to others. 1½" mounting centers. 140 diameter mounting holes.

| No. | List Price |
|---|---|
| 7VS | $ .36 |

# CINCH CAPACITOR "PLUG-IN" SOCKETS

**Motion picture, telephone, airborne radio, broadcasting equipment, electric organs, and other electrical equipment need instant replacement when failures in electronic circuits occur at the capacitor connections. Cinch "Know How" has solved this problem.**

SMALL

Designed for use with Mallory and Magnavox 1" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel mounting saddle has 4 ground lugs. 1½" mounting centers. 3 recessed center contacts for extended prongs of condenser and two outer contacts flush with surface for short prongs of condenser. All contacts are solder coated for fast, easy soldering.

| No. | List Price |
|---|---|
| 2C5 | Each $ .63 |

LARGE

Designed for use with Mallory and Magnavox 1 3/8" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel saddle has 1 27/32" mounting centers. Four recessed center contacts for extended prongs of condenser and three outer contacts flush with surface for short prongs of condenser. All contacts are solder coated.

| No. | List Price |
|---|---|
| 2C7 | Each $ .78 |

# CRYSTAL SOCKETS

## 2 PRONG 31/64" CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated beryllium copper contacts on 31/64" centers. .120" diameter recessed mounting hole. Socket body is 3/16" long, 5/32" thick and 11/32" high. For use with FT243 type crystal.

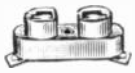
| No. | Description | List Price |
|---|---|---|
| 2KB | Black | Each $ .38 |
| 2KM | Mica-Filled | Each .43 |

## 4 PRONG

Molded from mica-filled low loss bakelite. Silver plated beryllium copper contacts on 31/64" centers. .140 diameter mounting hole recessed 3/64" from surface in 5/16" diameter hole. Socket body is 25/32" long, 15/16" wide, and ½" high. Designed for use with two No. FT243 type crystals.

| No. | List Price |
|---|---|
| 2K4 | Each $ .51 |

## 2 PRONG ½' CENTERS



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated phosphor bronze contacts on ½" centers. No. 4-40 tap mounting hole. 1 1/8" long, 3/8" wide and 7/16" high. For No. CR-1 and CR-7 type crystals.

| No. | Description | List Price |
|---|---|---|
| 2K1B | Black | Each $ .51 |

Made of ceramic material. Silver plated beryllium copper contacts with hot tinned tails, mounted on .486" centers. 1/8" mounting hole, 7/8" long, 3/8" wide and 5/8" high overall. Similar to above except the tails extend straight down. For No. CR-7 and BH-6 crystals.

| | | |
|---|---|---|
| 2K2C | Ceramic | Each .37 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# 7 PIN MINIATURE SOCKETS AND SHIELDS

### MOLDED SADDLE TYPE
**Top Mount**

Molded from high dielectric black bakelite, mica-filled low loss bakelite or ceramic material. Cadmium plated steel saddle with 7/8" mounting centers and .093 diameter mounting holes. Solder coated brass contacts. Designed for mounting through top of chassis in 5/8" diameter hole. Will securely hold all standard seven pin miniature tubes.

| No. | Description | List Price |
|---|---|---|
| 7AB1 | Black | Each $ .15 |
| 7AM1 | Mica-Filled | Each .18 |

### MOLDED SADDLE TYPE
**Bottom Mount**

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Cadmium plated steel saddle with 7/8" mounting centers. .093 diameter mounting holes. Solder coated positive grip brass contacts. Designed for mounting through bottom of chassis in 5/8" diameter hole. For use with all standard seven pin miniature tubes.

| No. | Description | List Price |
|---|---|---|
| 7EB | Black | Each $ .15 |
| 7EM | Mica-Filled | Each .18 |

### WAFER TYPE SOCKET

Laminations consist of 1/32" top plate and 3/64" bottom plate made from high grade chocolate XP Bakelite. Solder coated brass contacts and center shield.

| No. | Mtg. Centers | Mtg. Hole | List Price |
|---|---|---|---|
| 7W2A | 7/8" | .093 | $ .15 |
| 7WL2 | 1" | .093 | .18 |
| 7WL4 | 1-5/16" | .136 | .19 |

### SHIELD BASE TYPE

Shield base is attached to socket body for mounting through top of chassis. Molded from high dielectric black bakelite, mica-filled low loss bakelite or ceramic material. Solder coated brass contacts and center shield. Cadmium plated steel shield base with 7/8" mounting centers. Use No. 7SJ2, 7S3, or 7S4 shields illustrated below with these sockets.

| No. | Description | List Price |
|---|---|---|
| 7XB1 | Black | Each $ .28 |
| 7XM1 | Mica-Filled Bakelite | Each .33 |
| 7XC | Ceramic | Each .53 |

Molded from mica filled low loss bakelite or ceramic material. Shield base is attached to socket body for mounting through top of chassis. Same type as illustrated at the left. Materials and finishes are those required by JAN-S-28A Specifications. Shield base has 7/8" mounting centers.

Use No. 7SJ2, 7SJ3 or 7SJ4 shields as shown below.

| No. | Description | JAN Type No. | List Price |
|---|---|---|---|
| 7JC-1 | Ceramic | TS102C01 | .55 |
| 7JM-1 | Mica | TS102P01 | .40 |

### SHIELD BASES — Snap-On Type

Base is made of hardened carbon steel supplying adequate spring retentivity on shield. Base has 7/8" mounting centers with mounting holes that coincide with those for miniature 7 pin sockets as established by R. M. A. standards. For use with saddle type sockets with 7/8" mounting centers illustrated on this page.

| No. | Description | List Price |
|---|---|---|
| 7SB3 | 11/32" High | Each $ .07 |

### For J Slot Type

Durable steel shield bases designed for use with "J" slot type shields illustrated at left. Available in two sizes: 7/16" high or 5/8" high. Both types have 7/8" mounting centers.

| No. | Description | Material | List Price Each |
|---|---|---|---|
| 7SB1 | 5/8" High | Steel | .22 |
| 7SB2 | 5/8" High | Brass | .44 |

### TUBE SHIELDS — "J" Slot Type

Durable steel shields complete with tube securing spring. "J" slot feature designed to fit securely with Cinch shield base type sockets, such as 7X series shown above. Also fit 7SB type shield bases shown in end column at right. Available in three lengths:

| No. | Description | List Price |
|---|---|---|
| 7S2 | 1 3/8" Long | Each $ .21 |
| 7S3 | 1 3/4" Long | Each .22 |
| 7S4 | 2 1/4" Long | Each .32 |

Durable brass nickel plated shields complete with non magnetic stainless steel spring. J slot feature designed to fit securely with the shield base type sockets listed above. Materials and finishes are those required by JAN-S-28A Specifications. Available in the sizes listed below.

| No. | Description | JAN Type No. | List Price |
|---|---|---|---|
| 7SJ2-1 | 1 3/8" Long | TS102U01 | $ .23 |
| 7SJ3-1 | 1 3/4" Long | TS102U02 | .25 |
| 7SJ4-1 | 2 1/4" Long | TS102U03 | .28 |

### TUBE SHIELD
**Snap-On Type**

Shield fits over and outside of shield base. Indentation on shield locks into ridge on base of 7SB3 as shown above.

| No. | Description | List Price Each |
|---|---|---|
| 7S1 | 1-53/64" High | $ .14 |

# 9 PIN MINIATURE SOCKETS AND SHIELDS

### MOLDED — SADDLE TYPE
**Bottom Mount**

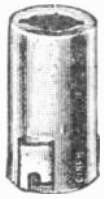
Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through bottom of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

| No. | Description | List Price |
|---|---|---|
| 9EB | Black | Each $ .20 |
| 9EM | Mica-Filled Bakelite | Each .23 |

### SHIELD BASE

Durable steel shield base designed for use with shields illustrated to right. 1 1/8" mounting centers. May be used with any 9 pin wafer or saddle type sockets shown at the right.

| No. | List Price |
|---|---|
| 9SB1 | Each $ .28 |



### TUBE SHIELDS

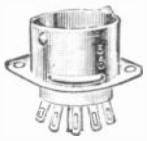
Made from durable steel. Complete with tube securing spring. "J" slot feature designed to fit securely with Cinch 9X series shield base type sockets illustrated to the right. Will also fit No. 9SB shield base shown at left. Available in three lengths.

| No. | Description | List Price |
|---|---|---|
| 9S1 | 1 1/2" Long | Each $ .33 |
| 9S2 | 1 13/16" Long | Each .36 |
| 9S3 | 2 3/8" Long | Each .46 |

### MOLDED—SADDLE TYPE
**Top Mount**

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through top of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

| No. | Description | List Price |
|---|---|---|
| 9AB | Black | Each $ .20 |
| 9AM | Mica-Filled | Each .23 |



### SHIELD BASE TYPE

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. One-piece cadmium plated steel shield base and saddle with .093 diameter mounting holes on 1 1/8" centers. Solder coated brass contacts and center shield. Mounts through top of chassis in 3/4" diameter hole. Use Cinch 9S type shields with these sockets.

| No. | Description | List Price |
|---|---|---|
| 9XB | Black | Each $ .40 |
| 9XM | Mica | Each .45 |
| 9XC | Ceramic | Each .75 |

### WAFER TYPE

Has two laminations consisting of 1/32" top plate and 3/64" bottom plate made from 1 1/8" mounting centers with .093 diameter holes. Solder coated brass contacts and center shield.

| No. | Mtg. Centers | List Price |
|---|---|---|
| 9W1 | 1-1/8" | Each $ .21 |
| 9W2 | 1-5/16" | Each .22 |

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World Radio History

# MOLDED CONNECTOR PLUGS AND SOCKETS

## 8 CONTACT PLUG

Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16" chassis using No. 1018 retaining ring, or can be used with No. 16F cap shown below. Will fit any standard octal socket.

| No. | List Price |
|---|---|
| **8PB** | **Each $ .36** |

## 11 CONTACT PLUG

Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16" chassis using No. 1018 retaining ring. Can be used with No. 16F cap shown below. Will fit No. 11RB socket shown at right.

| No. | List Price |
|---|---|
| **11PB** | **Each $ .41** |

## 11 CONTACT SOCKET

Molded from high dielectric black Bakelite. Solder coated brass contacts. Mounts on 1/16" chassis using No. 1018 retaining ring. Can be used with No. 16F Cap shown below. Used with No. 11PB plug shown at left.

| No. | List Price |
|---|---|
| **11RB** | **Each $ .48** |

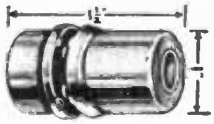
# CONNECTOR PLUGS AND SOCKETS

**18G**

**6K2**

**5K2**

**18E**




**Assembled**

These low cost plugs and sockets are ideal for a multitude of applications. A "Cinch" where space is at a premium. Complete assembly of plug, socket, male and female shell will close to a compact unit of 1½" long. Polarized—Nickel plated brass tube pins—Solder coated brass contacts. Plugs, sockets and shells have lock feature which prevents turning in shells.

**PLUGS**

| Part No. | No. Prongs | Use Skt. No. | Use Shell No. | List Price |
|---|---|---|---|---|
| 5K2 | 2 | 6K2 | 18E | .09 ea. |
| 5K3 | 3 | 6K3 | 18E | .10 ea. |
| 5K4 | 4 | 6K4 | 18E | .12 ea. |
| 5K5 | 5 | 6K5 | 18E | .13 ea. |
| 5K6 | 6 | 6K6 | 18F | .15 ea. |

**SOCKETS**

| Part No. | No. Prongs | Use Skt. No. | Use Shell No. | List Price |
|---|---|---|---|---|
| 6K2 | 2 | 5K2 | 18G | .08 ea. |
| 6K3 | 3 | 5K3 | 18G | .09 ea. |
| 6K4 | 4 | 5K4 | 18G | .10 ea. |
| 6K5 | 5 | 5K5 | 18G | .12 ea. |
| 6K6 | 6 | 5K6 | 18H | .13 ea. |

# PLUG CAPS AND SHELLS

**For above Battery Plugs and for Connector Plugs and Sockets on page F-256.**

Cadmium plated brass shell with rolled edge on 5/16" diameter neck opening. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.

| No. | List price |
|---|---|
| **18A** | **Each $ .05** |

Made of steel, cadmium plated. Designed to snap on 8 and 11 prong sockets which are grooved for a 1/16" chassis. There is a screwdriver slot at the bottom to facilitate easy removal. Rubber grommet has a 25/64" dia. hole.

| No. | List Price |
|---|---|
| **16F** | **Each $ .49** |

Cadmium plated brass shells complete with fibre insulator. Available with 3/8" or 1/2" diameter hole with rolled edge. Inside diameter 31/32". 1/2" high. For use with Cinch No. 5C1, 5C2, 5AB6, 5AB7, 5AB8, 5K2, 5K3, 5K4, 5K5, and 5K6 type plugs.

| No. | Description | List Price |
|---|---|---|
| **18E** | **3/8" Diameter Hole** | **Each $ .09** |
| **18F** | **1/2" Diameter Hole** | **Each .09** |

Cadmium plated brass shell complete with fibre insulator. Same as Cinch No. 18B shell except has 1/2" neck with 3/8" hole riveted to base. For use with same plugs as No. 18B.

| No. | List Price |
|---|---|
| **18J** | **Each $ .13** |

Cadmium plated brass shell with 23/64" diameter opening on top of shell. Outside diameter at base .625. Four 1/8" prongs coincide with notches on plugs. 1/2" high. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.

| No. | List Price |
|---|---|
| **18B** | **Each $ .05** |

Cadmium plated steel shells complete with fibre insulator. Available with 3/8" or 1/2" diameter hole with rolled edge. Inside diameter 31/32". 29/32" high. For use with Cinch No. 6K2, 6K3, 6K4, 6K5, and 6K6 type sockets.

| No. | Description | List Price |
|---|---|---|
| **18G** | **3/8" Diameter Hole** | **Each $ .09** |
| **18H** | **1/2" Diameter Hole** | **Each .09** |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## MAGNAL—11 PRONG

Molded from mica-filled low loss bakelite. Socket is 1 3/4" wide and 1 3/4" high. Full floating silver plated beryllium copper contacts designed to insure easy insertion of tubes and yet provided excellent electrical connections. For use with 5BP1 and 2AP1 type cathode ray tubes.

| No. | Description | List Price |
|---|---|---|
| 3M11 | Mica Socket | Each $7.60 |
| 3R11 | Steel Mounting Ring | Each .53 |

## SECOND ANODE CONNECTORS

For television tubes—Silver plated snap button type plug well insulated by 1 1/2" diameter rubber protective cap. Snaps into opening on side of tube. Available in three lengths wire leads.

| No. | Description | List Price |
|---|---|---|
| 3A2 | 12" Wire Lead | Each $1.14 |
| 3A3 | 15" Wire Lead | Each 1.33 |
| 3A4 | 18" Wire Lead | Each 1.59 |

## CORONA SHIELDS

Specifically designed for Television and high voltage wiring. These cadmium plated brass shields will provide excellent protection at proper positions in electrical connections. Outside diameter .470. Hole diameter .136. Thickness .172.

| No. | List Price |
|---|---|
| 3C1 | Each $ .04 |

## 110-250 VOLT SOCKET

**(Underwriters Listed)**

When space is at a premium use this 110-250 volt 2 prong socket. Rated at 15 Amp., 110 V. or 10 Amp., 250 V. Molded from high dielectric black bakelite. Solder coated brass contacts on 1/2" centers designed to accept any 2 prong standard electric plug. Mounts in 25/32" x 25/32" hole. .144 diameter mounting holes on 1 1/8" centers. Ideal for radio chassis and many other applications.

| No. | List Price |
|---|---|
| 2R2 | Each $ .25 |

## DIHEPTAL 14 PRONG

Molded from high dielectric black bakelite or mica-filled low loss bakelite. 2 1/2" wide and 1 1/8" high. Possesses same features as Cinch Magnal socket shown at left.

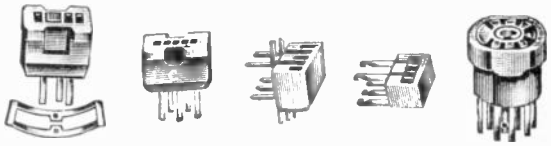
| No | Description | List Price |
|---|---|---|
| 3B14 | Black Socket | Each $2.53 |
| 3M14 | Mica Socket | Each 3.16 |
| 3R14 | Steel Mounting Ring | Each .53 |

## SECOND ANODE CONNECTOR

For diheptal based tubes. Cadmium plated brass contact surrounded by rubber insulator 3/4" wide and 1 1/16" long. Snaps over .096 diameter prong on side of diheptal tubes.

| No. | List Price |
|---|---|
| 3A1 | Each $ .95 |

## SUB-MINIATURE SOCKETS



No. 2H3 No. 2H5 No. 5PC No. 5WC No. 8SM

Use extensively for hearing aids, radios and other electronic apparatus which require sub-miniature tubes. Molded from mica-filled low loss bakelite with silver plated beryllium copper contacts. Available with 3, 5, 6, 7 or 8 contacts. Four prong tubes use No. 2H5 five prong socket. No. 2H5 can be used as a transistor socket. No. 5PC for printed circuits. No. 5WC for wired circuits.

| No. | Description | List Price |
|---|---|---|
| *2H3 | 3 Prong | Each $ .325 |
| *2H5 | 5 Prong | Each .47 |
| *2H6 | 6 Prong | Each .49 |
| *2H7 | 7 Prong | Each .52 |
| 5PC | 5 Prong | Each .62 |
| 5WC | 5 Prong | Each .67 |
| *8SM | 8 Prong | Each .89 |

*Mtg. Ring included.

# PIN PLUGS — JACKS — CONNECTORS — STRIPS — TERMINALS

## PHONO PLUGS

R.C.A. type. For a multitude of applications: record players, auto radios, receivers, recording and reproducing equipment, experimental units, etc. Nickel plated 1/8" diameter tube pin. Available in two lengths: 9/16" and 11/16". Use No. 13A with type 81A and 81B phono jacks. Use No. 13E with type 81E extension jack.

| No. | Description | List Price |
|---|---|---|
| 13A | 9/16" Pin | Each $ .10 |
| 13E | 11/16" Pin | Each .10 |

## ANTENNA PLUG

Motorola type. Nickel plated 1/8" tube pin extends 1/2" from cadmium plated split brass shall whose 8 cutting edges provide positive grounded connection when inserted into a Cinch No. 81C or 81F connector.

| No. | List Price |
|---|---|
| 13B | Each $ .15 |

## SINGLE PHONO JACK



Precision engineered for many uses, such as: R.C.A. type recording units, receivers, and auto sets. Single prong positive grip phono jack mounted on 1/16" chocolate bakelite disc with 11/16" mounting centers Use Cinch No. 13A phono plug with this jack.

| No. | List Price |
|---|---|
| 81A | Each $ .15 |

## ANTENNA CONNECTOR

**Shell Type**

Same as No. 81F on right except without flange. This connector may be soldered in position. Use Cinch No. 13B antenna plug with this jack.

| No. | List Price |
|---|---|
| 81C | Each $ .15 |

## ANTENNA CONNECTOR

**Flange Type**

Motorola type shielded jack Sturdy steel flange with 1 5/8" mtg. centers with .136 dia. mtg. holes. Solder coated shell, flange and contact. Can be mounted with screws or rivets. Used extensively on auto radios. Use Cinch No. 13B antenna plug with this jack.

| No. | List Price |
|---|---|
| 81F | Each $ .23 |

## INSULATED PIN PLUG

Nickel plated 1/8" brass tube pin 9/16" long, assembled to 1 3/8" long fibre insulator. May be used with Cinch No. 81A and 81B type phono jacks or with No. 49 series contact strips illustrated on page F-35.

| No. | List Price |
|---|---|
| 13C | Each $ .12 |

## DOUBLE PHONO JACK

Two positive grip phono jacks mounted on 1/16" bakelite panel with 1 7/16" mounting centers. Jacks are spaced on 1/2" centers. Panel is 1 1/2" x 1/2". Used on recording units, receivers, etc. Use Cinch No. 13A phono plug with this jack.

| No. | List Price |
|---|---|
| 81B | Each $ .21 |

## SHIELDED EXTENSION JACK

Cadmium plated brass shell 2 7/16" long with black bakelite insert providing insulation for solder coated brass positive grip contact. Use Cinch No. 13E Phono plug with this jack.

| No. | List Price |
|---|---|
| 81E | Each $ .32 |

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## DUODECAL — 12 PRONG

No larger in diameter than the tube base and only slightly longer than the tube pin. A new feature incorporates wire strain relief as an integral part of the contact. Molded from high dielectric black bakelite. For use with 10BP4, 2BP1, 5TP4, etc., type tubes. Also RCA 6199 tube.

| No. | | List Price Ea. |
|---|---|---|
| 3B12 | | $1.00 |
| 3M12 | Mica | 3.50 |

## RECESSED PLUG

Recessed subpanel mounting type plug. Underwriter approved for 125 Volts 7 amperes. Perfect for current supply for Television sets. 1¼" mounting centers. Overall length 1⅝". Width ⅝". Body depth ¼".

| No. | List Price Ea. |
|---|---|
| 2RP | $ .25 |

## CETRON TUBE SOCKET

This socket is designed for use with Cetron Tubes CE701 and CE702 in such applications as electric eye doors and motion picture projectors. Contacts are of special alloy spring brass. May be mounted by press fit, gluing or by means of mounting ring 2MR.

Casting Material

| | | |
|---|---|---|
| No. 2B2 | Black | Ea. $ .80 |
| No. 2M2 | Mica | Ea. 1.75 |

## SUB-MINIATURE SOCKET

This socket is the same as No. 8SM shown on page F4 except that it is furnished with a mounting plate.

No. 8SM-P Ea. $.98

## RECESSED PLUG

Recessed sub-panel mounting type plug similar to No. 2RP except that the contact is one piece. Underwriter Approved for 125 Volts 7 amperes. Same dimensions as 2RP.

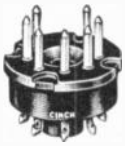
No. 2RP-1 Ea. $.25

## RELAY SOCKET

A 14 contact relay socket. Casting is of mica insulation. Contacts are of beryllium copper, silver plated with hot tinned tails. Overall length of top mount saddle 1-11/32". Mounting centers 1¼".

No. 14RS Ea. $1.00

## 7 PIN MINIATURE PLUG



Designed for use as a cable connector. Plug pins are of brass with Cinch solder coat. Can be supplied with black or mica bakelite casting. Will fit standard 7 contact sockets.

Casting Material

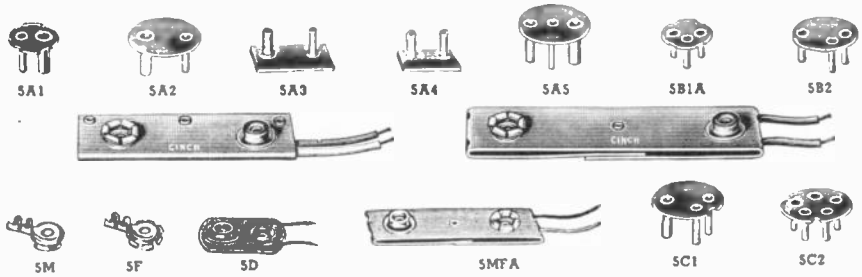
| | | |
|---|---|---|
| No. 7PB | Black | Ea. $1.50 |
| No. 7PM | Mica | Ea. 2.76 |

## CONNECTOR PLUG

This plug consists of two prongs mounted on a piece of Bakelite. The prongs are the same as used in No. 2RP-1. Mounting plate is of 1/16" natural XP Bakelite 1⅝" x ¾". The .135 mounting holes are on 1¼" centers. An inexpensive current supply connector for TV sets.

No. 2FP Ea. $.15

# CINCH BATTERY PLUGS



5AB1

6K4

5AB2

5AB3

5AB4

5AB5

5AB6

5AB7

5AB8

THIS REFERENCE CHART WILL ASSIST YOU IN SELECTING THE CORRECT PLUG FOR POPULAR BATTERIES

| Part Number | Voltage | For Burgess No. | For Eveready No. | For R.C.A. No. | For Philco No. | For Ray-O-Vac No. | List Price |
|---|---|---|---|---|---|---|---|
| 5A1 | 1½ "A" | 4F, 4FL, 6F, 8F, 8FL, TE | 741,742 743,1052P | VS004, VS005, VS007, VS008 | P94, P96, P8F1 | P94A, P94L, PX, P96A, P98A, P98L | Ea. $ .07 Ea. .08 |
| 5A2 | 3 "A" | 20F2 | X125 | VS025 | P8024 | P9403 | Ea. .07 |
| 5A3 | 4½ "A" | G-3 | 746 | VS002 | P100 | P-83A | |
| 5A4 | 6 "A" | 2F4, 2F4L, F4P1, T5 | A509,718, 744, 747 | VS009, VS010 VS011 | P4F4R | P694A, P696L, P698A, P698L | Ea. .07 Ea. .10 |
| 5A5 | 7½ "A" | G-5 | 687 | VS003 | | P85A | |
| 5B1A | 45 "B" Small | M30, Z30 A30, B30, | 482, 738, 762 | VS012, VS013 VS014, VS015 | P210, P305 | 430P, P7830 P5303 | Ea. .08 |
| 5B2 | 45 "B" Large | M30, Z30 A30, B30 | 482, 738, 762 | VS012, VS013 VS014, VS015 | P210, P305 | 430P, P7830, P5303 | Ea. .09 Ea. .05 |
| 5M | 67½ "B" | XX30, XX45 | 455, 467 | VS016, VS056 | | P4367 | Ea. .06 |
| 5F | 67½ "B" | XX30, XX45 | 455, 467 | VS016, VS056 | | P4367 | Ea. .35 |
| 5MFA | 67½ "B" | XX30, XX45 | 455, 467 | VS016, VS056 | | P4367 | Ea. .12 |
| 5C1 | 4½ "C" | 2370P1 | X771 | VS030 | P3D | P231W | Ea. .13 |
| 5C2 | 22½ "C" | 5156P1 | 768 | VS031 | P15B5 | P5151 | Ea. .60 |
| 5D | 45 "B" | U30 | 415 | VS086 | | | |
| 5D1 | 67½ "B" | P45 | 477 | VS218 | P149 | 946 | Ea. .27 |
| 5D2 | 90 "B" | N60 | 490 | VS090 | P132 | 4390 | Ea. .35 |
| 5AB1 | 1½ "A"-90 "B" | 17GD60, 5DA60, 6TA60 | 758 | VS022, VS043 | P60D11L | AB82, 10793 | Ea. .12 |
| 6K4 | 9 "A"-90 "B" | G6B60 | 752 | VS047 | | | Ea. .10 |
| 5AB2 | 1½ "A"-63-90 "B" | 6FA60, 4GA41, 4GA42 | | VS037 | P60A-4L P41A4G | AB419 | Ea. .09 |
| 5AB3 | 6 "A"-90 "B" | 2F4A60 | | VS044 | P60A8F4 | AB694 | Ea. .10 |
| 5AB4 | 6 "A"-90 "B" | F4B60 | | VS048 | | | Ea. .15 |
| 5AB5 | 6 "A"-90 "B" | D4A60, 2F4B60, F4A41 | | VS046 | P41AFL | 10896, AB648 | Ea. .12 |
| 5AB6 | 7½ "A"-90 "B" | G5A42, F5A60 | | VS038 | P87, P841 | AB794 | Ea. .13 |
| 5AB7 | 9 "A"-90 "B" | F6A60, G6M60 | 753, 754 | VS018, VS019 | P841A | AB878, AB994 | Ea. .15 |
| 5AB8 | 9 "A"-90 "B" | 4FA60 | | | | | Ea. .13 |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## STAND-OFF TERMINALS

These rugged Stand-Off Terminals consist of two heavily hot tinned metal caps insulated from each other by a solid Grade L-5 Ceramic Steatite spacer. One of the metal caps is shaped for riveting into a small chassis hole. The cap at the opposite end provides a junction point for solder connection of wire leads.

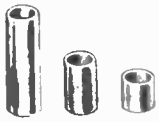
| No. | Body Length | List Price Each |
|---|---|---|
| SOT-2 | 3/8" | $ .225 |

No. 16L

Insulated terminals for television and other high voltage electronic equipment. Provides excellent insulation for passing high voltage wires through chassis. Molded from mica-filled low loss bakelite. Available in two lengths: 9/32" or 13/32". Diameter of cylinder is .110. Mounts in 5/32" dia. hole.

| No. | Length | List Price Ea. |
|---|---|---|
| 16S | 9/32" | $ .65 |
| 16L | 13/32" | .65 |

## METAL SPACER SLEEVES



Zinc plated cold rolled steel spacer sleeves. Six (6) popular sizes for spacing chassis, panels, etc. Illustrations are full size.

| No. | Length | Outside Dia. | Inside Dia. | Price |
|---|---|---|---|---|
| 43A | 5/16" | 1/4" | 3/16" | $.02 |
| 43B | 1/4" | 1/4" | 3/16" | 02 |
| 43C | 3/8" | 1/4" | 3/16" | .02 |
| 43D | 1/2" | 1/4" | 3/16" | .02 |
| 43E | 3/4" | 1/4" | 3/16" | .03 |
| 43F | 15/16" | 1/4" | 3/16" | .03 |

## SCREEN TYPE PLUG BUTTON

For portable radios, transmitters, amplifiers, etc. Provides ventilation wherever required in radio, television and electronic equipment. Bright zinc plated steel button snaps in 1" diam. hole. Half size illustration.

| No. | Description | List Price |
|---|---|---|
| 41V | for 1" Hole | Ea. $ .19 |

## GRID CAP SHIELD

Fits firmly over the grid cap, completely shielding the tube. Cadmium plated shield is 1" high with 7/8" slot opening for grid leads.

**No. 60S** — **List Price Each $ .13**

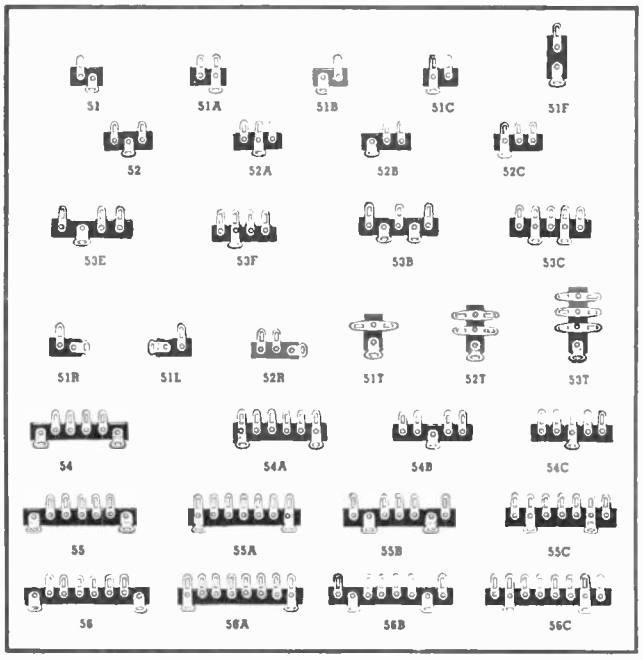
## SCREW TYPE TERMINAL STRIPS

Ideal for chassis or breadboard layouts. Solder coated brass terminals. .136 diameter mounting holes. Strips with 1 to 6 lugs are of 1/16" bakelite; 7 to 10 terminals mounted on 3/32" bakelite. Ends of screws are captivated to prevent removal. Terminals are spaced on 7/16" centers.

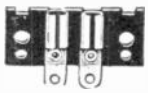
| No. | Lugs | Mounting Centers | List Price |
|---|---|---|---|
| 17- 1 | 1 | 7/8" | Each $ .07 |
| 17- 2 | 2 | 1 5/16" | Each .10 |
| 17- 3 | 3 | 1 3/4" | Each .15 |
| 17- 4 | 4 | 2 1/16" | Each .20 |
| 17- 5 | 5 | 2 5/8" | Each .23 |
| 17- 6 | 6 | 3 1/16" | Each .28 |
| 17- 7 | 7 | 3 1/2" | Each .35 |
| 17- 8 | 8 | 3 15/16" | Each .39 |
| 17- 9 | 9 | 4 3/8" | Each .45 |
| 17-10 | 10 | 4 13/16" | Each .49 |

## LUG TYPE TERMINAL STRIPS

These bakelite strips are handy for neatly supporting resistors, condensers, etc., in circuit wiring. Solder coated steel lugs are spaced on 3/8" centers with .140 diameter mounting holes. Chocolate bakelite strips are 1/16" thick and 3/8" wide.

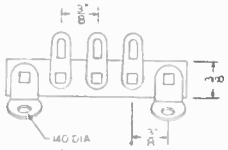



## CONTACT STRIPS



For connections which must be changed quickly and easily. Solder coated spring steel contacts spaced on 3/8" centers and mounted on 1/16" bakelite. Contacts are sized for 1/8" diameter tube pins such as Cinch No. 13C illustrated on page F-33.

| No. | Contacts | Mounting Centers | List Price |
|---|---|---|---|
| 49-1 | 1 | 3/4" | Ea. $ .07 |
| 49-2 | 2 | 1 1/8" | Ea. .10 |
| 49-3 | 3 | 1 1/2" | Ea. .13 |
| 49-4 | 4 | 1 7/8" | Ea. .16 |
| 49-5 | 5 | 2 1/4" | Ea. .20 |
| 49-6 | 6 | 2 5/8" | Ea. .23 |




| No. | Mtg. Centers | List Price Each |
|---|---|---|
| 51 | | $ .03 |
| 51A | | .03 |
| 51B | | .03 |
| 51C | | .03 |
| 51R | | .04 |
| 51L | | .04 |
| 51F | | .04 |
| 51T | | .04 |
| 52 | | .04 |
| 52A | | .04 |
| 52B | | .04 |
| 52C | | .04 |
| 52R | | .05 |
| 52T | | .05 |
| 53B | 3/4" | .07 |
| 53C | 3/4" | .07 |
| 53E | | .06 |
| 53F | | .06 |
| 53T | | .07 |
| 54 | 1 7/8" | .09 |
| 54A | 1 7/8" | .09 |
| 54B | | .07 |
| 54C | | .07 |
| 55 | 2 1/4" | .10 |
| 55A | 2 1/4" | .10 |
| 55B | 1 1/2" | .10 |
| 55C | 1 1/2" | .10 |
| 56 | 2 5/8" | .12 |
| 56A | 2 5/8" | .12 |
| 56B | 1 7/8" | .12 |
| 56C | 1 7/8" | .12 |

## CABLE CLAMPS

Cadmium plated sturdy steel cable clamps designed for securing cables ranging from 1/16" diameter to 5/8" diameter. Illustrations are half size.

| No. | Dia. of arc | Hole Dia. | Over-all Width | Over-all Length | Hole cent. to arc cent. | List Price Ea. |
|---|---|---|---|---|---|---|
| 85A | 1/8" | .149 | 11/32" | 15/32" | 1/4" | $ .04 |
| 85B | 5/16" | .140 | 5/16" | 21/32" | 3/8" | .03 |
| 85C | 5/16" | .144 | 3/8" | 21/32" | 3/8" | .03 |
| 85D | 5/16" | .136 | 5/16" | 27/32" | 1/2" | .02 |
| 85E | 1/2" | .147 | 1/2" | 15/16" | 5/16" | .03 |
| 85F | 5/8" | .171 | 3/8" | 1" | 1/2" | .02 |

## PLUG BUTTONS

Used to cover punched or drilled holes in metal, wood, fibre, tubes, plastic, cardboard, etc. Nickel plated steel plug buttons for eight popular size holes. Other sizes available, let us know your requirements. Spring tension prongs hold plug bottom firmly in position. Illustrations are 1 3 actual size.

| No. | For hole Diameter | Cap Diameter | List Price Ea. |
|---|---|---|---|
| 41A | 1/4" | 13/32" | $ .04 |
| 41B | 3/8" | 1/2" | .04 |
| 41C | 1/2" | 21/32" | .04 |
| 41D | 5/8" | 3/4" | .04 |
| 41E | 3/4" | 15/16" | .04 |
| 41F | 7/8" | 1 1/16" | .05 |
| 41G | 1" | 1 13/32" | .07 |
| 41H | 1 1/4" | 1 7/16" | .08 |

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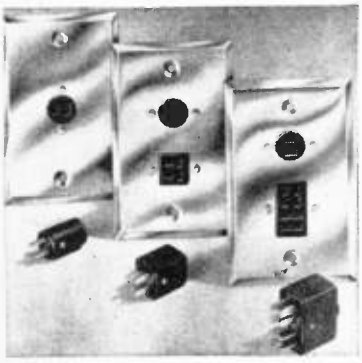
# TELEVISION WALL PLATES



## 302 SERIES

The 302 series wall plates are made of steel with a heavy chrome plate and provide a convenient junction between antenna lead in and television set. They all fit a standard outlet box. Mounting screws furnished. S-302-WPC provides connection for antenna lead in. S-302-4WPC provides connections for antenna lead in and up to 8 contact rotor.
Jones P-302-FHT plug can be used for the antenna socket and a P-304-FHT or P-308-FHT for the rotor socket.

| List Price Each | | |
|---|---|---|
| S-302-8WPC | S-302-WPC | S-302-4WPC |
| $2.09 | $2.53 | $2.76 |

## LOW LOSS POLYSTYRENE

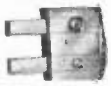
This plate covers every requirement for an up-to-date TV connector. Molded of Polystyrene, it assures perfect reception in fringe areas where low loss is of vital importance. One plate provides connections for UHF and VHF and has a knock out provision for the mounting of a standard S-308-AB socket in case a rotor is used. Fits a standard outlet box or can be attached to the wall. Mounting screws for both the plate and socket are furnished. Supplied in brown or Ivory.

| Code | Color | List Price Ea. |
|---|---|---|
| WPI | Ivory | $1.55 |
| WPB | Brown | 1.55 |

No. WPB

### POLYSTRENE PLUG

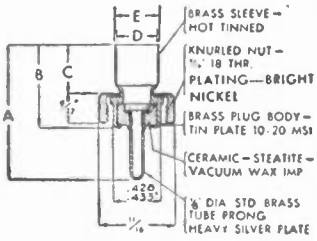
The plug is molded of clear polystyrene and matches the 300 Ohm transmission line assuring maximum performance.



No. TVP-2
List Price Plug $ .35

## SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. A low loss Plug and Socket ideal for high frequency connections.

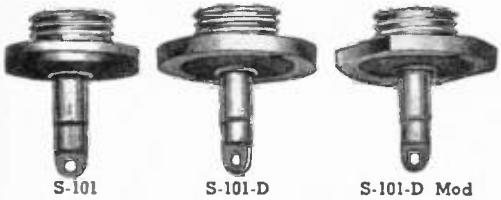



| Code No. | A | B | C | D | E | List Price Ea. |
|---|---|---|---|---|---|---|
| P-101-1/4" | 1-1/4" | 3/4" | 15/32" | 1/4" | 9/32" | $ .79 |
| P-101-.290 | 1-1/4" | 3/4" | 15/32" | .290 | .319 | .96 |
| P-101-5/16" | 1-11/32" | 27/32" | 9/16" | 5/16" | 11/32" | .96 |
| P-101-3/8" | 1-3/16" | 11/16" | 7/16" | 3/8" | 13/32" | .96 |
| P-101-1/2" | 1-7/8" | 1-3/8" | 1-1/16" | 1/2" | 9/16" | 1.07 |

P-101-1/4" P-101-5/16" P-101-3/8" P-101-1/2"

## SERIES 101 SOCKETS

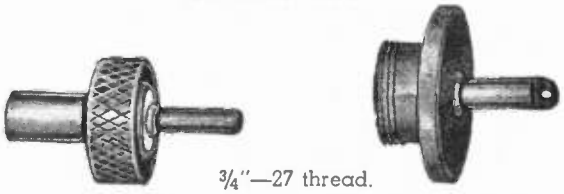
The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass with Bright Nickel Plated finish. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 11/16" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 13/16" centers.



| S-101 | S-101-D | S-101-D Mod |
|---|---|---|
| List Price Each $0.70 | List Price Each $1.07 | List Price Each 1.07 |

(Above Illustrations are Actual Size)

## SERIES 201



3/4"—27 thread.

### PLUGS

The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16". Prong diameter 5/32". Fits only the 201 Socket.

### SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is Bright Nickel Plated. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite.

Mounting holes — No. 30 drill on 1" centers.

| Code | List Price Ea. | Code | List Price Ea. |
|---|---|---|---|
| P-201-3/8 | $1.24 | S-201 | $1.33 |

## SERIES 202

### PLUGS SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with Bright Nickel Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4"—27 thread.
Socket Mounting Holes. No. 30 drill on 1" centers.
The S-202-CCT-THR has been added to this series and when used with the P-202-CCT will make an ideal microphone connector.

**P-202-CCT—$0.98** (as shown above)
**S-202-CCT—$1.00** (Socket instead of Plug)
**P-202-FHT—$0.79** (Same as above less Cable Clamps)
**S-202-FHT—$0.81** (Same except Socket)

**S-202-B—$1.16** (Socket for Base Mtg.)
**P-202-B—$1.12** (Same as above except with Plug)

**S-202-CCT-THR—$1.33** (as shown above)
Used with **P-202-CCT** as an extension connection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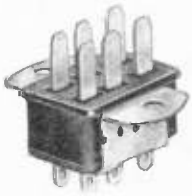
# "300" SERIES PLUGS AND SOCKETS

General Specifications

Small in size with good separation between contacts. Made in sizes of 2 to 33 contacts. All Plugs and Sockets are polarized so that Plugs of one size cannot fit into Sockets of another size. Body of Molded Pakelite. Phosphor bronze "knife-switch" type Socket contacts engage both sides of flat Plug contacts—double contact area. Plug prongs are 5/32" wide by 3/64" thick. Formed metal caps are finished in Black Crystal. Fibre linings for caps are also formed. Plugs and Sockets arranged for either cap or panel mounting. Two contact Plugs and Sockets are round as shown at the right, all others are rectangular. Illustrated are the P-302-CCT and S-302-AB. Standard 24 to 33 contact Plugs have a special long polarizing pin in approximate center position to assist in correct insertion and removal.

### Plug with Angle Brackets



P-306-AB

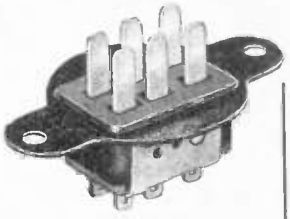
| No. | Contacts | List Price Each |
|---|---|---|
| P-302-AB | 2 | $0.32 |
| P-303-AB | 3 | .40 |
| P-304-AB | 4 | .44 |
| P-306-AB | 6 | .54 |
| P-308-AB | 8 | .64 |
| P-310-AB | 10 | .73 |
| P-312-AB | 12 | .81 |

### Socket with Angle Brackets

S-306-AB

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-AB | 2 | $0.35 |
| S-303-AB | 3 | .42 |
| S-304-AB | 4 | .47 |
| S-306-AB | 6 | .58 |
| S-308-AB | 8 | .73 |
| S-310-AB | 10 | .86 |
| S-312-AB | 12 | 1.00 |

### Plug with Flush Plate



P-306-FP

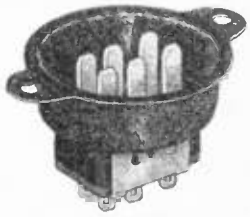
| No. | Contacts | List Price Each |
|---|---|---|
| P-302-FP | 2 | $0.56 |
| P-303-FP | 3 | .61 |
| P-304-FP | 4 | .67 |
| P-306-FP | 6 | .75 |
| P-308-FP | 8 | .85 |
| P-310-FP | 10 | .94 |
| P-312-FP | 12 | 1.02 |

### Socket with Flush Plate

S-306-FP

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-FP | 2 | $0.57 |
| S-303-FP | 3 | .64 |
| S-304-FP | 4 | .69 |
| S-306-FP | 6 | .79 |
| S-308-FP | 8 | .94 |
| S-310-FP | 10 | 1.07 |
| S-312-FP | 12 | 1.21 |

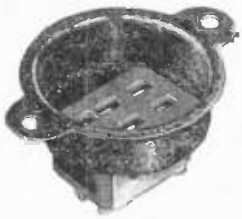
### Plug with Recessed Plate



P-306-RP

| No. | Contacts | List Price Each |
|---|---|---|
| P-302-RP | 2 | $0.65 |
| P-303-RP | 3 | .70 |
| P-304-RP | 4 | .77 |
| P-306-RP | 6 | .87 |
| P-308-RP | 8 | 1.01 |
| P-310-RP | 10 | 1.16 |
| P-312-RP | 12 | 1.28 |

### Socket with Recessed Plate



S-306-RP

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-RP | 2 | $0.67 |
| S-303-RP | 3 | .74 |
| S-304-RP | 4 | .79 |
| S-306-RP | 6 | .95 |
| S-308-RP | 8 | 1.11 |
| S-310-RP | 10 | 1.28 |
| S-312-RP | 12 | 1.46 |

### Plug with Deep Bracket

P-306-DB

| No. | Contacts | List Price Each |
|---|---|---|
| P-302-DB | 2 | $0.81 |
| P-303-DB | 3 | .87 |
| P-304-DB | 4 | .94 |
| P-306-DB | 6 | 1.02 |
| P-308-DB | 8 | 1.11 |
| P-312-DB | 12 | 1.29 |

### Socket with Deep Bracket

S-306-DB

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-DB | 2 | $0.84 |
| S-303-DB | 3 | .90 |
| S-304-DB | 4 | .96 |
| S-306-DB | 6 | 1.08 |
| S-308-DB | 8 | 1.21 |
| S-312-DB | 12 | 1.49 |

The ten contract is not available in this series

### Plug, Flared Hole in Cap

P-306-FHT

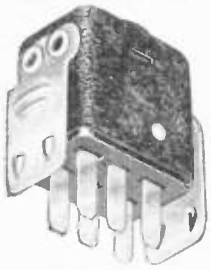
| No. | Contacts | List Price Each |
|---|---|---|
| P-302-FHT | 2 | $0.54 |
| P-303-FHT | 3 | .59 |
| P-304-FHT | 4 | .66 |
| P-306-FHT | 6 | .75 |
| P-308-FHT | 8 | .85 |
| P-310-FHT | 10 | .96 |
| P-312-FHT | 12 | 1.09 |

### Socket, Flared Hole in Cap

S-306-FHT

| No. | Contacts | Each List Price |
|---|---|---|
| S-302-FHT | 2 | $0.56 |
| S-303-FHT | 3 | .61 |
| S-304-FHT | 4 | .67 |
| S-306-FHT | 6 | .79 |
| S-308-FHT | 8 | .95 |
| S-310-FHT | 10 | 1.10 |
| S-312-FHT | 12 | 1.25 |

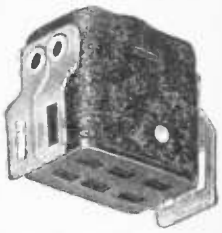
### Plug, Flared Hole in Cap and with Latches



P-306-FHT-L

| No. | Contacts | List Price Each |
|---|---|---|
| P-302-FHT-L | 2 | $0.74 |
| P-303-FHT-L | 3 | .79 |
| P-304-FHT-L | 4 | .86 |
| P-306-FHT-L | 6 | .95 |
| P-308-FHT-L | 8 | 1.05 |
| P-310-FHT-L | 10 | 1.17 |
| P-312-FHT-L | 12 | 1.28 |

### Socket, Flared Hole in Cap and with Keepers



S-306-FHT-K

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-FHT-K | 2 | $0.75 |
| S-303-FHT-K | 3 | .81 |
| S-304-FHT-K | 4 | .87 |
| S-306-FHT-K | 6 | 1.00 |
| S-308-FHT-K | 8 | 1.16 |
| S-310-FHT-K | 10 | 1.30 |
| S-312-FHT-K | 12 | 1.46 |

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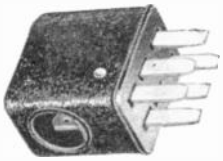
# "300" SERIES PLUGS AND SOCKETS

### Plug, Flared Hole in End



P-306-FHE

| No. | Contacts | List Price Each |
|---|---|---|
| P-306-FHE | 6 | $0.75 |
| P-308-FHE | 8 | .85 |
| P-310-FHE | 10 | .96 |
| P-312-FHE | 12 | 1.08 |

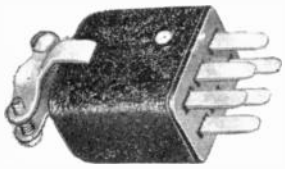
### Socket, Flared Hole in End

S-306-FHE

| No. | Contacts | List Price Each |
|---|---|---|
| S-306-FHE | 6 | $0.79 |
| S-308-FHE | 8 | .95 |
| S-310-FHE | 10 | 1.10 |
| S-312-FHE | 12 | 1.25 |

Small size of caps of 302, 303 and 304 will not permit FHE type.

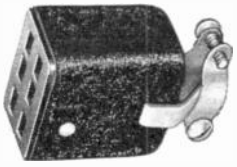
### Plug, Cable Clamp in Cap



P-306-CCT

| No. | Contacts | List Price Each |
|---|---|---|
| P-302-CCT | 2 | $0.74 |
| P-303-CCT | 3 | .79 |
| P-304-CCT | 4 | .86 |
| P-306-CCT | 6 | .95 |
| P-308-CCT | 8 | 1.05 |
| P-310-CCT | 10 | 1.17 |
| P-312-CCT | 12 | 1.28 |

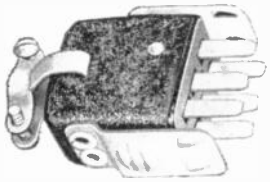
### Socket, Cable Clamp in Cap



S-306-CCT

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-CCT | 2 | $0.75 |
| S-303-CCT | 3 | .81 |
| S-304-CCT | 4 | .87 |
| S-306-CCT | 6 | 1.00 |
| S-308-CCT | 8 | 1.16 |
| S-310-CCT | 10 | 1.30 |
| S-312-CCT | 12 | 1.46 |

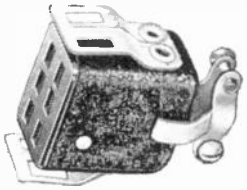
### Plug, Cable Clamp in Cap and with Latches



P-306-CCT-L

| No. | Contacts | List Price Each |
|---|---|---|
| P-302-CCT-L | 2 | $0.94 |
| P-303-CCT-L | 3 | .99 |
| P-304-CCT-L | 4 | 1.07 |
| P-306-CCT-L | 6 | 1.16 |
| P-308-CCT-L | 8 | 1.24 |
| P-310-CCT-L | 10 | 1.36 |
| P-312-CCT-L | 12 | 1.50 |

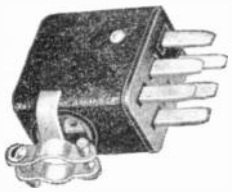
### Socket, Cable Clamp in Cap and with Keepers



S-306-CCT-K

| No. | Contacts | List Price Each |
|---|---|---|
| S-302-CCT-K | 2 | $0.95 |
| S-303-CCT-K | 3 | 1.01 |
| S-304-CCT-K | 4 | 1.08 |
| S-306-CCT-K | 6 | 1.20 |
| S-308-CCT-K | 8 | 1.35 |
| S-310-CCT-K | 10 | 1.51 |
| S-312-CCT-K | 12 | 1.66 |

### Plug, Cable Clamp in End



P-306-CCE

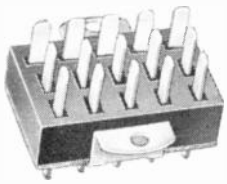
| No. | Contacts | List Price Each |
|---|---|---|
| P-306-CCE | 6 | $0.95 |
| P-308-CCE | 8 | 1.05 |
| P-310-CCE | 10 | 1.17 |
| P-312-CCE | 12 | 1.28 |

### Socket, Cable Clamp in End

S-306-CCE

| No. | Contacts | List Price Each |
|---|---|---|
| S-306-CCE | 6 | $1.00 |
| S-308-CCE | 8 | 1.16 |
| S-310-CCE | 10 | 1.30 |
| S-312-CCE | 12 | 1.46 |

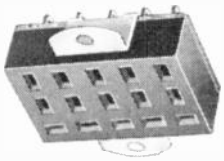
### Plug with Angle Brackets



P-315-AB

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-AB | 15 | $1.07 |
| P-318-AB | 18 | 1.33 |
| P-321-AB | 21 | 1.67 |
| P-324-AB | 24 | 2.02 |
| P-327-AB | 27 | 2.38 |
| P-330-AB | 30 | 2.73 |
| P-333-AB | 33 | 3.07 |

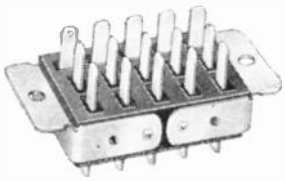
### Socket with Angle Brackets



S-315-AB

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-AB | 15 | $1.24 |
| S-318-AB | 18 | 1.50 |
| S-321-AB | 21 | 1.85 |
| S-324-AB | 24 | 2.20 |
| S-327-AB | 27 | 2.55 |
| S-330-AB | 30 | 2.92 |
| S-333-AB | 33 | 3.26 |

### Plug with End Brackets



P-315-EB

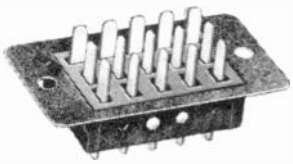
| No. | Contacts | List Price Each |
|---|---|---|
| P-315-EB | 15 | $1.07 |
| P-318-EB | 18 | 1.33 |
| P-321-EB | 21 | 1.67 |
| P-324-EB | 24 | 2.02 |
| P-327-EB | 27 | 2.38 |
| P-330-EB | 30 | 2.73 |
| P-333-EB | 33 | 3.07 |

### Sockets with End Brackets

S-315-EB

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-EB | 15 | $1.24 |
| S-318-EB | 18 | 1.50 |
| S-321-EB | 21 | 1.85 |
| S-324-EB | 24 | 2.20 |
| S-327-EB | 27 | 2.55 |
| S-330-EB | 30 | 2.92 |
| S-333-EB | 33 | 3.26 |

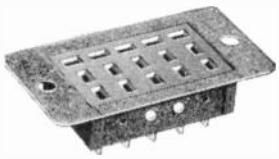
### Plug with Shallow Brackets



P-315-SB

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-SB | 15 | $1.58 |
| P-318-SB | 18 | 1.95 |
| P-321-SB | 21 | 2.30 |
| P-324-SB | 24 | 2.73 |
| P-327-SB | 27 | 3.07 |
| P-330-SB | 30 | 3.51 |
| P-333-SB | 33 | 3.87 |

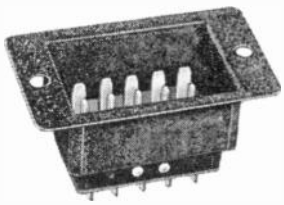
### Sockets with Shallow Brackets



S-315-SB

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-SB | 15 | $1.78 |
| S-318-SB | 18 | 2.12 |
| S-321-SB | 21 | 2.48 |
| S-324-SB | 24 | 2.92 |
| S-327-SB | 27 | 3.26 |
| S-330-SB | 30 | 3.71 |
| S-333-SB | 33 | 4.06 |

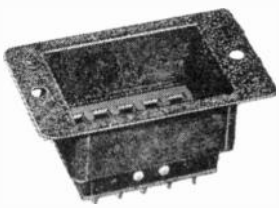
### Plug with Deep Bracket



P-315-DB

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-DB | 15 | $1.58 |
| P-318-DB | 18 | 1.95 |
| P-321-DB | 21 | 2.30 |
| P-324-DB | 24 | 2.73 |
| P-327-DB | 27 | 3.07 |
| P-330-DB | 30 | 3.52 |
| P-333-DB | 33 | 3.87 |

### Socket with Deep Bracket



S-315-DB

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-DB | 15 | $1.78 |
| S-318-DB | 18 | 2.12 |
| S-321-DB | 21 | 2.48 |
| S-324-DB | 24 | 2.92 |
| S-327-DB | 27 | 3.26 |
| S-330-DB | 30 | 3.71 |
| S-333-DB | 33 | 4.06 |



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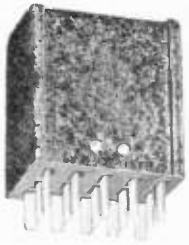
World Radio History

# "300" SERIES PLUGS AND SOCKETS

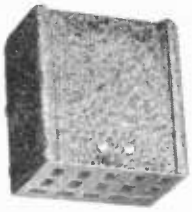
### Plug with Flared Hole in Top of Cap



P-315-FHT

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-FHT | 15 | $1.41 |
| P-318-FHT | 18 | 1.77 |
| P-321-FHT | 21 | 2.11 |
| P-324-FHT | 24 | 2.55 |
| P-327-FHT | 27 | 2.92 |
| P-330-FHT | 30 | 3.36 |
| P-333-FHT | 33 | 3.71 |

### Socket, Flared Hole in Top of Cap



S-315-FHT

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-FHT | 15 | $1.58 |
| S-318-FHT | 18 | 1.95 |
| S-321-FHT | 21 | 2.30 |
| S-324-FHT | 24 | 2.75 |
| S-327-FHT | 27 | 3.09 |
| S-330-FHT | 30 | 3.53 |
| S-333-FHT | 33 | 3.88 |

### Plug, Cable Clamp in Top of Cap

P-315-CCT

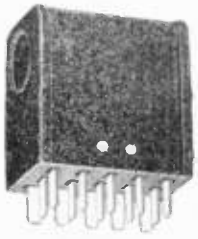
| No. | Contacts | List Price Each |
|---|---|---|
| P-315-CCT | 15 | $1.67 |
| P-318-CCT | 18 | 2.02 |
| P-321-CCT | 21 | 2.38 |
| P-324-CCT | 24 | 2.81 |
| P-327-CCT | 27 | 3.18 |
| P-330-CCT | 30 | 3.71 |
| P-333-CCT | 33 | 3.97 |

### Socket, Cable Clamp in Top of Cap

S-315-CCT

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-CCT | 15 | $1.85 |
| S-318-CCT | 18 | 2.20 |
| S-321-CCT | 21 | 2.55 |
| S-324-CCT | 24 | 3.01 |
| S-327-CCT | 27 | 3.36 |
| S-330-CCT | 30 | 3.88 |
| S-333-CCT | 33 | 4.15 |

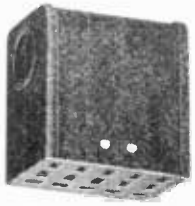
### Plug with Flared Hole in End of Cap



P-315-FHE

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-FHE | 15 | $1.41 |
| P-318-FHE | 18 | 1.77 |
| P-321-FHE | 21 | 2.11 |
| P-324-FHE | 24 | 2.55 |
| P-327-FHE | 27 | 2.92 |
| P-330-FHE | 30 | 3.36 |
| P-333-FHE | 33 | 3.71 |

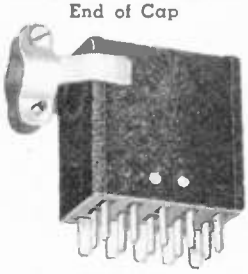
### Socket, Flared Hole in End of Cap



S-315-FHE

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-FHE | 15 | $1.58 |
| S-318-FHE | 18 | 1.95 |
| S-321-FHE | 21 | 2.30 |
| S-324-FHE | 24 | 2.75 |
| S-327-FHE | 27 | 3.09 |
| S-330-FHE | 30 | 3.53 |
| S-333-FHE | 33 | 3.88 |

### Plug, Cable Clamp in End of Cap



P-315-CCE

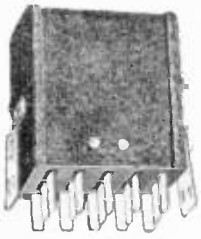
| No. | Contacts | List Price Each |
|---|---|---|
| P-315-CCE | 15 | $1.67 |
| P-318-CCE | 18 | 2.02 |
| P-321-CCE | 21 | 2.38 |
| P-324-CCE | 24 | 2.81 |
| P-327-CCE | 27 | 3.18 |
| P-330-CCE | 30 | 3.71 |
| P-333-CCE | 33 | 3.97 |

### Socket, Cable Clamp in End of Cap

S-315-CCE

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-CCE | 15 | $1.85 |
| S-318-CCE | 18 | 2.20 |
| S-321-CCE | 21 | 2.55 |
| S-324-CCE | 24 | 3.01 |
| S-327-CCE | 27 | 3.36 |
| S-330-CCE | 30 | 3.88 |
| S-333-CCE | 33 | 4.15 |

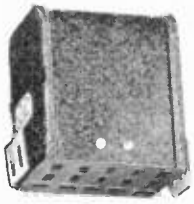
### Plug, Flared Hole in Top of Cap with Latches



P-315-FHT-L

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-FHT-L | 15 | $1.58 |
| P-318-FHT-L | 18 | 1.95 |
| P-321-FHT-L | 21 | 2.30 |
| P-324-FHT-L | 24 | 2.75 |
| P-327-FHT-L | 27 | 3.09 |
| P-330-FHT-L | 30 | 3.53 |
| P-333-FHT-L | 33 | 3.88 |

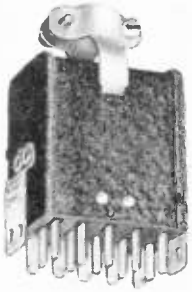
### Socket, Flared Hole in Top of Cap and with Keepers



S-315-FHT-K

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-FHT-K | 15 | $1.78 |
| S-318-FHT-K | 18 | 2.12 |
| S-321-FHT-K | 21 | 2.48 |
| S-324-FHT-K | 24 | 2.93 |
| S-327-FHT-K | 27 | 3.28 |
| S-330-FHT-K | 30 | 3.72 |
| S-333-FHT-K | 33 | 4.07 |

### Plug, Cable Clamp in Top of Cap and with Latches



P-315-CCT-L

| No. | Contacts | List Price Each |
|---|---|---|
| P-315-CCT-L | 15 | $1.85 |
| P-318-CCT-L | 18 | 2.20 |
| P-321-CCT-L | 21 | 2.55 |
| P-324-CCT-L | 24 | 3.01 |
| P-327-CCT-L | 27 | 3.36 |
| P-330-CCT-L | 30 | 3.88 |
| P-333-CCT-L | 33 | 4.15 |

### Socket, Cable Clamp in Top of Cap and with Keepers

S-315-CCT-K

| No. | Contacts | List Price Each |
|---|---|---|
| S-315-CCT-K | 15 | $2.04 |
| S-318-CCT-K | 18 | 2.39 |
| S-321-CCT-K | 21 | 2.75 |
| S-324-CCT-K | 24 | 3.19 |
| S-327-CCT-K | 27 | 3.53 |
| S-330-CCT-K | 30 | 4.07 |
| S-333-CCT-K | 33 | 4.32 |

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World Radio History

# "400" SERIES PLUGS AND SOCKETS

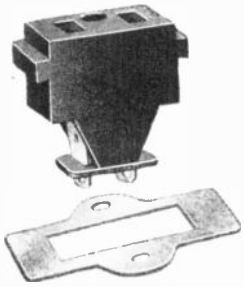
(Formerly "Heavy Duty")

### General Specifications

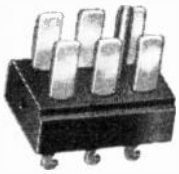
Made in 2 4 6 8 10 and 12 contacts. All Plugs and Sockets are polarized. Body of molded Bakelite. Phosphor bronze "knife-switch" type Socket contacts engage both sides of flat Plug Contacts—double contact area. Plug prongs are ¼" wide by 1/16" thick. Caps are finished in Black Crystal and equipped with fibre lining. Plugs and Sockets arranged for cap or panel mounting.

Note: Standard angle brackets cannot be attached to S-402-AB due to narrow block and insufficient material for screw threads. A special bracket is supplied (Type 46) See illustration. The Socket fits into this bracket which is attached to panel.

Check the No. 2400 Series Plugs and Sockets listed on pages F-42 and F-43 which are similar to the 400 Series except their design increases the creepage distances and therefore can take higher voltages.



S-402-AB (No. 46 Bracket)

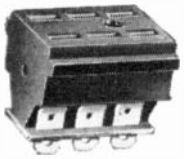


P-406-LAB

### PLUG — Less Angle Brackets

Drilled and Tapped Unless Otherwise Specified

| Code | Contacts | List Price Each |
|---|---|---|
| P-402-LAB | 2 | $0.44 |
| P-404-LAB | 4 | .61 |
| P-406-LAB | 6 | .79 |
| P-408-LAB | 8 | .96 |
| P-410-LAB | 10 | 1.16 |
| P-412-LAB | 12 | 1.33 |

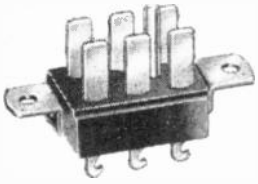


S-406-LAB

### SOCKET — Less Angle Brackets

Drilled and Tapped Unless Otherwise Specified

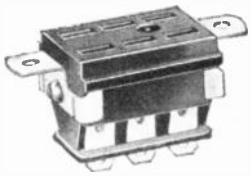
| Code | Contacts | List Price Each |
|---|---|---|
| S-402-LAB | 2 | $0.54 |
| S-404-LAB | 4 | .79 |
| S-406-LAB | 6 | 1.07 |
| S-408-LAB | 8 | 1.33 |
| S-410-LAB | 10 | 1.58 |
| S-412-LAB | 12 | 1.85 |



P-406-AB

### PLUG — With Angle Brackets

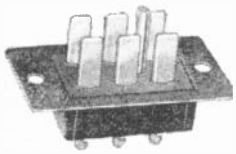
| Code | Contacts | List Price Each |
|---|---|---|
| P-402-AB | 2 | $0.79 |
| P-404-AB | 4 | .96 |
| P-406-AB | 6 | 1.16 |
| P-408-AB | 8 | 1.33 |
| P-410-AB | 10 | 1.51 |
| P-412-AB | 12 | 1.67 |



S-406-AB

### SOCKET — With Angle Brackets

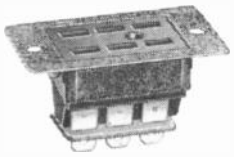
| Code | Contacts | List Price Each |
|---|---|---|
| S-402-AB | 2 | $0.89 |
| S-404-AB | 4 | 1.16 |
| S-406-AB | 6 | 1.41 |
| S-408-AB | 8 | 1.67 |
| S-410-AB | 10 | 1.95 |
| S-412-AB | 12 | 2.20 |



P-406-SB

### PLUG — With Shallow Bracket for Flush Mounting

| Code | Contacts | List Price Each |
|---|---|---|
| P-402-SB | 2 | $0.96 |
| P-404-SB | 4 | 1.24 |
| P-406-SB | 6 | 1.51 |
| P-408-SB | 8 | 1.77 |
| P-410-SB | 10 | 2.04 |
| P-412-SB | 12 | 2.30 |



S-406-SB

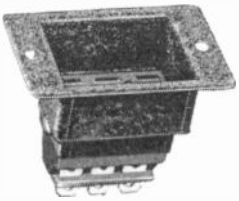
### SOCKET — With Shallow Bracket for Flush Mounting

| Code | Contacts | List Price Each |
|---|---|---|
| S-402-SB | 2 | $1.07 |
| S-404-SB | 4 | 1.41 |
| S-406-SB | 6 | 1.77 |
| S-408-SB | 8 | 2.11 |
| S-410-SB | 10 | 2.46 |
| S-412-SB | 12 | 2.81 |

P-406-DB

### PLUG — With Deep Brackets for Recessed Mounting

| Code | Contacts | List Price Each |
|---|---|---|
| P-402-DB | 2 | $0.96 |
| P-404-DB | 4 | 1.24 |
| P-406-DB | 6 | 1.51 |
| P-408-DB | 8 | 1.77 |
| P-410-DB | 10 | 2.04 |
| P-412-DB | 12 | 2.30 |



S-406-DB

### SOCKET — With Deep Bracket for Recessed Mounting

| Code | Contacts | List Price Each |
|---|---|---|
| S-402-DB | 2 | $1.07 |
| S-404-DB | 4 | 1.41 |
| S-406-DB | 6 | 1.77 |
| S-408-DB | 8 | 2.11 |
| S-410-DB | 10 | 2.46 |
| S-412-DB | 12 | 2.81 |



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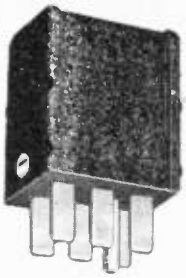
World Radio History

# "400" SERIES PLUGS AND SOCKETS

(Formerly "Heavy Duty")



P-406-FHT

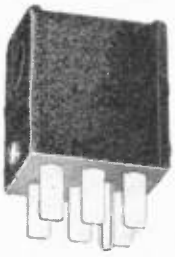
### PLUG — With Flared Hole in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-402-FHT | 2 | $0.89 |
| P-404-FHT | 4 | 1.16 |
| P-406-FHT | 6 | 1.41 |
| P-408-FHT | 8 | 1.67 |
| P-410-FHT | 10 | 1.94 |
| P-412-FHT | 12 | 2.19 |

S-406-FHT

### SOCKET — With Flared Hole in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-402-FHT | 2 | $0.98 |
| S-404-FHT | 4 | 1.34 |
| S-406-FHT | 6 | 1.68 |
| S-408-FHT | 8 | 2.04 |
| S-410-FHT | 10 | 2.39 |
| S-412-FHT | 12 | 2.75 |



P-406-FHE

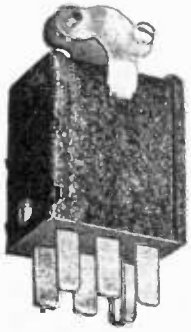
### PLUG — With Flared Hole in End

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-402-FHE | 2 | $0.89 |
| P-404-FHE | 4 | 1.16 |
| P-406-FHE | 6 | 1.41 |
| P-408-FHE | 8 | 1.67 |
| P-410-FHE | 10 | 1.94 |
| P-412-FHE | 12 | 2.19 |

S-406-FHE

### SOCKET — With Flared Hole in End

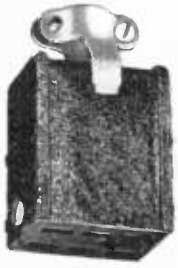
| Code No. | Contacts | List Price Each |
|---|---|---|
| S-402-FHE | 2 | $0.98 |
| S-404-FHE | 4 | 1.34 |
| S-406-FHE | 6 | 1.68 |
| S-408-FHE | 8 | 2.04 |
| S-410-FHE | 10 | 2.39 |
| S-412-FHE | 12 | 2.75 |



P-406-CCT

### PLUG — With Cable Clamp in Top

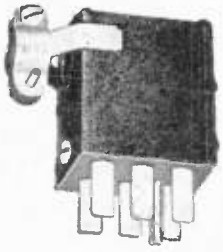
| Code No. | Contacts | List Price Each |
|---|---|---|
| P-402-CCT | 2 | $1.24 |
| P-404-CCT | 4 | 1.51 |
| P-406-CCT | 6 | 1.77 |
| P-408-CCT | 8 | 2.02 |
| P-410-CCT | 10 | 2.28 |
| P-412-CCT | 12 | 2.54 |



S-406-CCT

### SOCKET — With Cable Clamp in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-402-CCT | 2 | $1.34 |
| S-404-CCT | 4 | 1.68 |
| S-406-CCT | 6 | 2.04 |
| S-408-CCT | 8 | 2.39 |
| S-410-CCT | 10 | 2.75 |
| S-412-CCT | 12 | 3.09 |



P-406-CCE

### PLUG — With Cable Clamp in End

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-402-CCE | 2 | $1.24 |
| P-404-CCE | 4 | 1.51 |
| P-406-CCE | 6 | 1.77 |
| P-408-CCE | 8 | 2.02 |
| P-410-CCE | 10 | 2.28 |
| P-412-CCE | 12 | 2.54 |

S-406-CCE

### SOCKET — With Cable Clamp in End

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-402-CCE | 2 | $1.34 |
| S-404-CCE | 4 | 1.68 |
| S-406-CCE | 6 | 2.04 |
| S-408-CCE | 8 | 2.39 |
| S-410-CCE | 10 | 2.75 |
| S-412-CCE | 12 | 3.09 |

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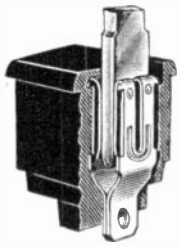
World Radio History

# "2400" SERIES PLUGS AND SOCKETS

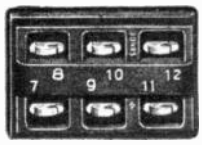
The 2400 Series Plugs and Sockets are designed for highest electrical and mechanical efficiency, and although they carry the same rating as the 400 Series, they will actually handle considerably higher currents due to their improved construction.

An entirely new type of socket contact has been designed. Four individual flexing surfaces make positive contact over practically their entire length. Note in the illustration how they exert maximum pressure at every point. Also note unique method of anchoring terminals in the block—they cannot be moved up or down.

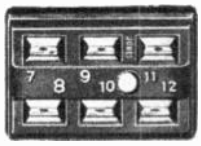


This design provides greater contact surface, increased pressure, with smoother action.

Socket contacts are of phosphor bronze, cadmium plated. Male contacts are of heavy brass ¼"x$\frac{1}{16}$", cadmium plated.




Solder connecting side of Plug Body showing Recessed Pockets with Barriers around contacts. Plug contacts are also in Recessed Pockets on opposite side.




Solder connecting side of Socket Body showing Recessed Pockets with Barriers around contacts. Socket contacts are also in Recessed Pockets on opposite side.

The contact to contact, and contact to ground distance has been considerably increased by mounting the contacts into recessed pockets with a Bakelite barrier surrounding and extending above. This method is used on both the top and bottom sides of both plugs and sockets, greatly increasing the leakage path.

The outside dimensions of corresponding plug and socket bodies are the same and can, therefore, be changed from brackets to caps, or vice versa.

Two styles of brackets are furnished "SB" (shallow bracket) for flush mounting and "DB" (deep bracket) for recessed mounting. Caps are furnished with flared hole in top or end, or with cable clamps in top or end. Unless otherwise specified the following size cable entrance holes will be supplied:

| | | |
|---|---|---|
| 2402—⅜" | 2406—$\frac{7}{16}$" | 2410—$\frac{9}{16}$" |
| 2404—$\frac{7}{16}$" | 2408—$\frac{9}{16}$" | 2412—⅝" |

As noted above, the 2400 Series is furnished in 2, 4, 6, 8, 10, and 12 contacts. All plugs and sockets are polarized.

Plug and socket bodies are of molded Bakelite. The fibre linings in the caps are the same for both plugs and sockets.

A shoulder extends around the face side of plug and socket presenting a finished appearance when mounted in bracket or cap.

On account of this shoulder extending around the entire face of the body blocks, angle brackets cannot be used with the 2400 Series Plugs or Sockets.

The entire 2400 Series is interchangeable with the 400 Series as 2400 Plugs fit corresponding 400 Sockets, and 400 Plugs fit corresponding 2400 Sockets.

## PLUG—Less Mounting Bracket

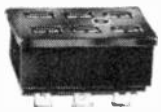
Drilled and Tapped Unless Otherwise Specified

P-2406

| Code | Contacts | List Price Each |
|---|---|---|
| P-2402 | 2 | $0.61 |
| P-2404 | 4 | .81 |
| P-2406 | 6 | 1.01 |
| P-2408 | 8 | 1.21 |
| P-2410 | 10 | 1.41 |
| P-2412 | 12 | 1.63 |

## SOCKET—Less Mounting Bracket

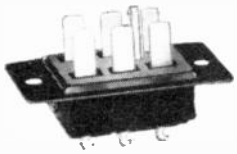
Drilled and Tapped Unless Oherwise Specified



S-2406

| Code | Contacts | List Price Each |
|---|---|---|
| S-2402 | 2 | $0.70 |
| S-2404 | 4 | .92 |
| S-2406 | 6 | 1.12 |
| S-2408 | 8 | 1.35 |
| S-2410 | 10 | 1.55 |
| S-2412 | 12 | 1.78 |

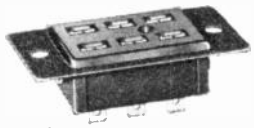
## PLUG—With Shallow Bracket for Flush Mounting



P-2406-SB

| Code | Contacts | List Price Each |
|---|---|---|
| P-2402-SB | 2 | $1.09 |
| P-2404-SB | 4 | 1.28 |
| P-2406-SB | 6 | 1.49 |
| P-2408-SB | 8 | 1.69 |
| P-2410-SB | 10 | 1.93 |
| P-2412-SB | 12 | 2.12 |

## SOCKET—With Shallow Bracket for Flush Mounting



S-2406-SB

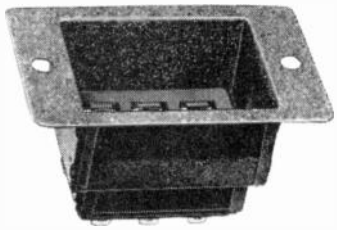
| Code | Contacts | List Price Each |
|---|---|---|
| S-2402-SB | 2 | $1.19 |
| S-2404-SB | 4 | 1.40 |
| S-2406-SB | 6 | 1.62 |
| S-2408-SB | 8 | 1.84 |
| S-2410-SB | 10 | 2.08 |
| S-2412-SB | 12 | 2.30 |

## PLUG—With Deep Bracket for Recessed Mounting

P-2406-DB

| Code | Contacts | List Price Each |
|---|---|---|
| P-2402-DB | 2 | $1.19 |
| P-2404-DB | 4 | 1.38 |
| P-2406-DB | 6 | 1.57 |
| P-2408-DB | 8 | 1.79 |
| P-2410-DB | 10 | 2.00 |
| P-2412-DB | 12 | 2.22 |

## SOCKET—With Deep Bracket for Recessed Mounting



S-2406-DB

| Code | Contacts | List Price Each |
|---|---|---|
| S-2402-DB | 2 | $1.27 |
| S-2404-DB | 4 | 1.50 |
| S-2406-DB | 6 | 1.69 |
| S-2408-DB | 8 | 1.94 |
| S-2410-DB | 10 | 2.17 |
| S-2412-DB | 12 | 2.39 |



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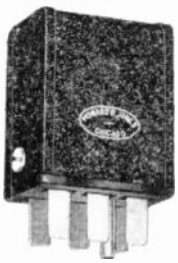
World Radio History

# "2400" SERIES PLUGS AND SOCKETS



P-2406-FHT

### PLUG—With Flared Hole in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-2402-FHT | 2 | $1.19 |
| P-2404-FHT | 4 | 1.38 |
| P-2406-FHT | 6 | 1.57 |
| P-2408-FHT | 8 | 1.79 |
| P-2410-FHT | 10 | 2.00 |
| P-2412-FHT | 12 | 2.24 |

S-2406-FHT

### SOCKET—With Flared Hole in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-2402-FHT | 2 | $1.27 |
| S-2404-FHT | 4 | 1.50 |
| S-2406-FHT | 6 | 1.69 |
| S-2408-FHT | 8 | 1.94 |
| S-2410-FHT | 10 | 2.17 |
| S-2412-FHT | 12 | 2.39 |

P-2406-FHE

### PLUG—With Flared Hole in End

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-2402-FHE | 2 | $1.19 |
| P-2404-FHE | 4 | 1.38 |
| P-2406-FHE | 6 | 1.57 |
| P-2408-FHE | 8 | 1.79 |
| P-2410-FHE | 10 | 2.00 |
| P-2412-FHE | 12 | 2.24 |

S-2406-FHE

### SOCKET—With Flared Hole in End

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-2402-FHE | 2 | $1.27 |
| S-2404-FHE | 4 | 1.50 |
| S-2406-FHE | 6 | 1.69 |
| S-2408-FHE | 8 | 1.94 |
| S-2410-FHE | 10 | 2.17 |
| S-2412-FHE | 12 | 2.39 |

P-2406-CCT

### PLUG—With Cable Clamp in Top

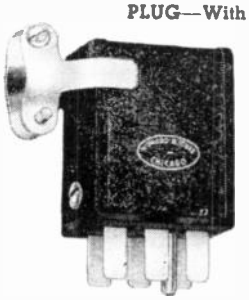
| Code No. | Contacts | List Price Each |
|---|---|---|
| P-2402-CCT | 2 | $1.53 |
| P-2404-CCT | 4 | 1.72 |
| P-2406-CCT | 6 | 1.94 |
| P-2408-CCT | 8 | 2.13 |
| P-2410-CCT | 10 | 2.35 |
| P-2412-CCT | 12 | 2.59 |

S-2406-CCT

### SOCKET—With Cable Clamp in Top

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-2402-CCT | 2 | $1.65 |
| S-2404-CCT | 4 | 1.84 |
| S-2406-CCT | 6 | 2.05 |
| S-2408-CCT | 8 | 2.28 |
| S-2410-CCT | 10 | 2.51 |
| S-2412-CCT | 12 | 2.75 |

### PLUG—With Cable Clamp in End



P-2406-CCE

| Code No. | Contacts | List Price Each |
|---|---|---|
| P-2402-CCE | 2 | $1.53 |
| P-2404-CCE | 4 | 1.72 |
| P-2406-CCE | 6 | 1.94 |
| P-2408-CCE | 8 | 2.13 |
| P-2410-CCE | 10 | 2.35 |
| P-2412-CCE | 12 | 2.59 |

### SOCKET—With Cable Clamp in End

S-2406-CCE

| Code No. | Contacts | List Price Each |
|---|---|---|
| S-2402-CCE | 2 | $1.65 |
| S-2404-CCE | 4 | 1.84 |
| S-2406-CCE | 6 | 2.05 |
| S-2408-CCE | 8 | 2.28 |
| S-2410-CCE | 10 | 2.51 |
| S-2412-CCE | 12 | 2.75 |

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World Radio History

# "500" SERIES PLUGS AND SOCKETS

Designed for 3,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

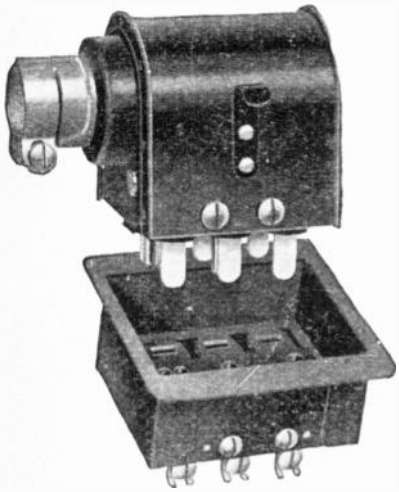
All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}$" x $\frac{3}{32}$".

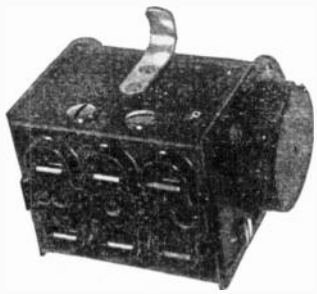
**IMPORTANT:** For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from ½" diameter and 1¼" diameter in steps of ⅛", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.

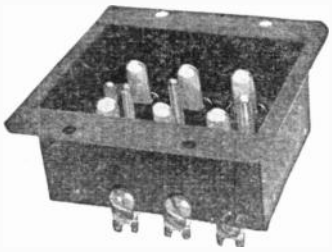
**P-506-CE**
**(Plug with Cap)**
**(BX Clamp shown but not furnished)**



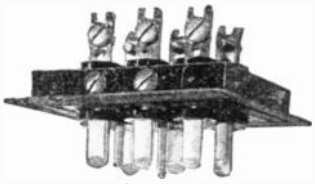
**S-506-DB**
**(Socket with Deep Bracket)**



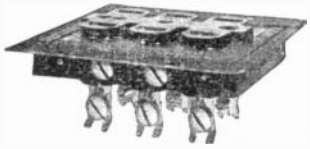
**S-506-CE**
**(Socket with Cap)**



**P-506-DB**
**(Plug with Deep Bracket)**

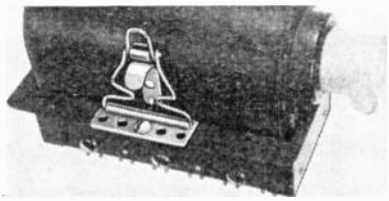


**P-506-SB**
**(Plug with Shallow Bracket)**



**S-506-SB**
**(Socket with Shallow Bracket)**

## LOCKS FOR 500 SERIES PLUGS AND SOCKETS



**No. 500-L Locks**

Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

### PLUG
**With Cap**

| Code | Contacts | List Price Each |
|---|---|---|
| P-502-CE | 2 | $3.83 |
| P-504-CE | 4 | 5.51 |
| P-506-CE | 6 | 7.19 |
| P-508-CE | 8 | 8.88 |
| P-510-CE | 10 | 10.56 |
| P-512-CE | 12 | 12.24 |

### PLUG
**With Deep Bracket**

| Code | Contacts | List Price Each |
|---|---|---|
| P-502-DB | 2 | $3.37 |
| P-504-DB | 4 | 4.83 |
| P-506-DB | 6 | 6.27 |
| P-508-DB | 8 | 7.74 |
| P-510-DB | 10 | 9.19 |
| P-512-DB | 12 | 10.65 |

### PLUG
**With Shallow Bracket**

| Code | Contacts | List Price Each |
|---|---|---|
| P-502-SB | 2 | $3.37 |
| P-504-SB | 4 | 4.83 |
| P-506-SB | 6 | 6.27 |
| P-508-SB | 8 | 7.74 |
| P-510-SB | 10 | 9.19 |
| P-512-SB | 12 | 10.65 |

### SOCKET
**With Cap**

| Code | Contacts | List Price Each |
|---|---|---|
| S-502-CE | 2 | $3.83 |
| S-504-CE | 4 | 5.51 |
| S-506-CE | 6 | 7.19 |
| S-508-CE | 8 | 8.88 |
| S-510-CE | 10 | 10.56 |
| S-512-CE | 12 | 12.24 |

### SOCKET
**With Deep Bracket**

| Code | Contacts | List Price Each |
|---|---|---|
| S-502-DB | 2 | $3.37 |
| S-504-DB | 4 | 4.83 |
| S-506-DB | 6 | 6.27 |
| S-508-DB | 8 | 7.74 |
| S-510-DB | 10 | 9.19 |
| S-512-DB | 12 | 10.65 |

### SOCKET
**With Shallow Bracket**

| Code | Contacts | List Price Each |
|---|---|---|
| S-502-SB | 2 | $3.37 |
| S-504-SB | 4 | 4.83 |
| S-506-SB | 6 | 6.27 |
| S-508-SB | 8 | 7.74 |
| S-510-SB | 10 | 9.19 |
| S-512-SB | 12 | 10.65 |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# BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite. The Eyelets and Binder Screws are of brass, nickel plated. The ¾W or Y terminals are of brass, hot tin finish.

## No. 140 TERMINAL STRIPS

**5-40 x 3/16 Binder Head Screws. Metal to Metal Spacing over Bakelite ¼"**

No. 2-140

| No. 140 Code | List Price Each |
|---|---|
| 1-140 | $0.15 |
| 2-140 | .24 |
| 3-140 | .33 |
| 4-140 | .42 |
| 5-140 | .51 |
| 6-140 | .59 |
| 7-140 | .68 |
| 8-140 | .77 |
| 9-140 | .86 |
| 10-140 | .95 |
| 11-140 | 1.03 |
| 12-140 | 1.12 |
| 13-140 | 1.21 |
| 14-140 | 1.31 |
| 15-140 | 1.40 |
| 16-140 | 1.49 |
| 17-140 | 1.57 |
| 18-140 | 1.66 |
| 19-140 | 1.75 |
| 20-140 | 1.84 |
| 21-140 | 1.93 |

No. 2-140-¾ W

| No. 140-¾ W Code | List Price Each |
|---|---|
| 1-140-¾ W | $0.19 |
| 2-140-¾ W | .32 |
| 3-140-¾ W | .44 |
| 4-140-¾ W | .57 |
| 5-140-¾ W | .69 |
| 6-140-¾ W | .83 |
| 7-140-¾ W | .95 |
| 8-140-¾ W | 1.08 |
| 9-140-¾ W | 1.21 |
| 10-140-¾ W | 1.33 |
| 11-140-¾ W | 1.45 |
| 12-140-¾ W | 1.58 |
| 13-140-¾ W | 1.71 |
| 14-140-¾ W | 1.84 |
| 15-140-¾ W | 1.96 |
| 16-140-¾ W | 2.09 |
| 17-140-¾ W | 2.21 |
| 18-140-¾ W | 2.34 |
| 19-140-¾ W | 2.46 |
| 20-140-¾ W | 2.60 |
| 21-140-¾ W | 2.72 |

No. 2-140-Y

| No. 140-Y Code | List Price Each |
|---|---|
| 1-140-Y | $0.19 |
| 2-140-Y | .32 |
| 3-140-Y | .44 |
| 4-140-Y | .57 |
| 5-140-Y | .69 |
| 6-140-Y | .83 |
| 7-140-Y | .95 |
| 8-140-Y | 1.08 |
| 9-140-Y | 1.21 |
| 10-140-Y | 1.33 |
| 11-140-Y | 1.45 |
| 12-140-Y | 1.58 |
| 13-140-Y | 1.71 |
| 14-140-Y | 1.84 |
| 15-140-Y | 1.96 |
| 16-140-Y | 2.09 |
| 17-140-Y | 2.21 |
| 18-140-Y | 2.34 |
| 19-140-Y | 2.46 |
| 20-140-Y | 2.60 |
| 21-140-Y | 2.72 |

## No. 164 TERMINAL STRIPS

**6-32 x ¼ Binder Head Screws. Metal to Metal Spacing over Bakelite ¼"**

No. 2-164

| No. 164 Code | List Price Each |
|---|---|
| 1-164 | $0.16 |
| 2-164 | .26 |
| 3-164 | .36 |
| 4-164 | .46 |
| 5-164 | .56 |
| 6-164 | .65 |
| 7-164 | .75 |
| 8-164 | .85 |
| 9-164 | .95 |
| 10-164 | 1.05 |
| 11-164 | 1.14 |
| 12-164 | 1.24 |
| 13-164 | 1.34 |
| 14-164 | 1.45 |
| 15-164 | 1.55 |
| 16-164 | 1.65 |
| 17-164 | 1.74 |
| 18-164 | 1.84 |
| 19-164 | 1.94 |
| 20-164 | 2.04 |
| 21-164 | 2.14 |

No. 2-164-¾-W

| No. 164-¾ W Code | List Price Each |
|---|---|
| 1-164-¾ W | $0.20 |
| 2-164-¾ W | .34 |
| 3-164-¾ W | .47 |
| 4-164-¾ W | .61 |
| 5-164-¾ W | .74 |
| 6-164-¾ W | .89 |
| 7-164-¾ W | 1.02 |
| 8-164-¾ W | 1.16 |
| 9-164-¾ W | 1.39 |
| 10-164-¾ W | 1.43 |
| 11-164-¾ W | 1.56 |
| 12-164-¾ W | 1.70 |
| 13-164-¾ W | 1.84 |
| 14-164-¾ W | 1.98 |
| 15-164-¾ W | 2.11 |
| 16-164-¾ W | 2.25 |
| 17-164-¾ W | 2.38 |
| 18-164-¾ W | 2.52 |
| 19-164-¾ W | 2.65 |
| 20-164-¾ W | 2.80 |
| 21-164-¾ W | 2.93 |

No. 2-164-Y

| No. 164-Y Code | List Price Each |
|---|---|
| 1-164-Y | $0.20 |
| 2-164-Y | .34 |
| 3-164-Y | .47 |
| 4-164-Y | .61 |
| 5-164-Y | .74 |
| 6-164-Y | .89 |
| 7-164-Y | 1.02 |
| 8-164-Y | 1.16 |
| 9-164-Y | 1.30 |
| 10-164-Y | 1.43 |
| 11-164-Y | 1.56 |
| 12-164-Y | 1.70 |
| 13-164-Y | 1.84 |
| 14-164-Y | 1.98 |
| 15-164-Y | 2.11 |
| 16-164-Y | 2.25 |
| 17-164-Y | 2.38 |
| 18-164-Y | 2.52 |
| 19-164-Y | 2.65 |
| 20-164-Y | 2.80 |
| 21-164-Y | 2.93 |

## No. 141 TERMINAL STRIPS

**6-32 x ¼ Binder Head Screws. Metal to Metal Spacing over Bakelite ⅜"**

No. 2-141

| No. 141 Code | List Price Each |
|---|---|
| 1-141 | $0.20 |
| 2-141 | .31 |
| 3-141 | .42 |
| 4-141 | .54 |
| 5-141 | .65 |
| 6-141 | .75 |
| 7-141 | .88 |
| 8-141 | .99 |
| 9-141 | 1.10 |
| 10-141 | 1.22 |
| 11-141 | 1.33 |
| 12-141 | 1.44 |
| 13-141 | 1.56 |
| 14-141 | 1.67 |
| 15-141 | 1.78 |
| 16-141 | 1.90 |
| 17-141 | 2.01 |
| 18-141 | 2.12 |
| 19-141 | 2.24 |
| 20-141 | 2.35 |

No. 2-141-¾-W
No. 141-¾ W

| No. 141-¾ W Code | List Price Each |
|---|---|
| 1-141-¾ W | $0.24 |
| 2-141-¾ W | .41 |
| 3-141-¾ W | .57 |
| 4-141-¾ W | .74 |
| 5-141-¾ W | .90 |
| 6-141-¾ W | 1.07 |
| 7-141-¾ W | 1.23 |
| 8-141-¾ W | 1.40 |
| 9-141-¾ W | 1.56 |
| 10-141-¾ W | 1.73 |
| 11-141-¾ W | 1.89 |
| 12-141-¾ W | 2.06 |
| 13-141-¾ W | 2.22 |
| 14-141-¾ W | 2.39 |
| 15-141-¾ W | 2.55 |
| 16-141-¾ W | 2.72 |
| 17-141-¾ W | 2.88 |
| 18-141-¾ W | 3.05 |
| 19-141-¾ W | 3.21 |
| 20-141-¾ W | 3.38 |

No. 2-141-Y
No. 141-Y

| No. 141-Y Code | List Price Each |
|---|---|
| 1-141-Y | $0.24 |
| 2-141-Y | .41 |
| 3-141-Y | .57 |
| 4-141-Y | .74 |
| 5-141-Y | .90 |
| 6-141-Y | 1.07 |
| 7-141-Y | 1.23 |
| 8-141-Y | 1.40 |
| 9-141-Y | 1.56 |
| 10-141-Y | 1.73 |
| 11-141-Y | 1.89 |
| 12-141-Y | 2.06 |
| 13-141-Y | 2.22 |
| 14-141-Y | 2.39 |
| 15-141-Y | 2.55 |
| 16-141-Y | 2.72 |
| 17-141-Y | 2.88 |
| 18-141-Y | 3.05 |
| 19-141-Y | 3.21 |
| 20-141-Y | 3.38 |

## No. 142 TERMINAL STRIPS

**8-32 x 5/16" Binder Head Screws. Metal to Metal Spacing over Bakelite 9/16"**

No. 2-142

| No. 142 Code | List Price Each |
|---|---|
| 1-142 | $0.23 |
| 2-142 | .36 |
| 3-142 | .51 |
| 4-142 | .65 |
| 5-142 | .78 |
| 6-142 | .92 |
| 7-142 | 1.07 |
| 8-142 | 1.20 |
| 9-142 | 1.34 |
| 10-142 | 1.49 |
| 11-142 | 1.62 |
| 12-142 | 1.76 |
| 13-142 | 1.90 |
| 14-142 | 2.04 |
| 15-142 | 2.18 |
| 16-142 | 2.32 |
| 17-142 | 2.45 |

No. 2-142-¾ W

| No. 142-¾ W Code | List Price Each |
|---|---|
| 1-142-¾ W | $0.30 |
| 2-142-¾ W | .50 |
| 3-142-¾ W | .70 |
| 4-142-¾ W | .90 |
| 5-142-¾ W | 1.11 |
| 6-142-¾ W | 1.31 |
| 7-142-¾ W | 1.52 |
| 8-142-¾ W | 1.72 |
| 9-142-¾ W | 1.93 |
| 10-142-¾ W | 2.12 |
| 11-142-¾ W | 2.33 |
| 12-142-¾ W | 2.53 |
| 13-142-¾ W | 2.74 |
| 14-142-¾ W | 2.94 |
| 15-142-¾ W | 3.15 |
| 16-142-¾ W | 3.34 |
| 17-142-¾ W | 3.54 |

No. 2-142-Y

| No. 142-Y Code | List Price Each |
|---|---|
| 1-142-Y | $0.30 |
| 2-142-Y | .50 |
| 3-142-Y | .70 |
| 4-142-Y | .90 |
| 5-142-Y | 1.11 |
| 6-142-Y | 1.31 |
| 7-142-Y | 1.52 |
| 8-142-Y | 1.72 |
| 9-142-Y | 1.93 |
| 10-142-Y | 2.12 |
| 11-142-Y | 2.33 |
| 12-142-Y | 2.53 |
| 13-142-Y | 2.74 |
| 14-142-Y | 2.94 |
| 15-142-Y | 3.15 |
| 16-142-Y | 3.34 |
| 17-142-Y | 3.54 |

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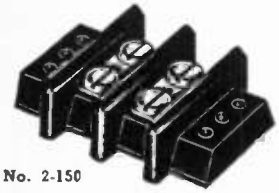
World Radio History

# BARRIER TYPE TERMINAL STRIPS

## No. 150 TERMINAL STRIPS

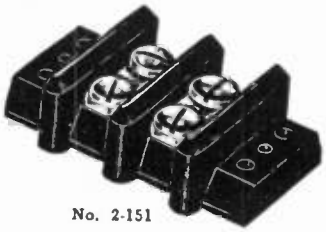


No. 2-150

1-13/16" wide by 25/32" high. Terminals are mounted on 11/16" centers. Screws: 10-32 x 5/16" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite 5/8".

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 1-150 | $0.55 | 6-150 | $2.48 |
| 2-150 | .94 | 7-150 | 2.86 |
| 3-150 | 1.32 | 8-150 | 3.25 |
| 4-150 | 1.71 | 9-150 | 3.63 |
| 5-150 | 2.09 | 10-150 | 4.02 |

## No. 151 TERMINAL STRIPS

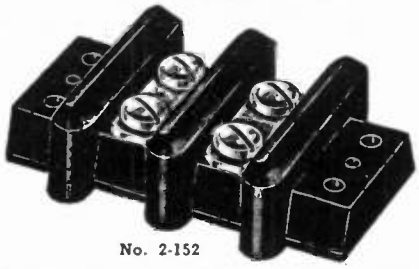


No. 2-151

2" wide by 15/16" high. Terminals are mounted on 7/8" centers. Screws: 12-32 x 3/8" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga stranded wire. Metal to metal spacing over bakelite 3/4".

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 1-151 | $0.94 | 5-151 | $4.02 |
| 2-151 | 1.71 | 6-151 | 4.79 |
| 3-151 | 2.48 | 7-151 | 5.56 |
| 4-151 | 3.25 | 8-151 | 6.33 |

## No. 152 TERMINAL STRIPS



No. 2-152

2½" wide by 1⅛" high. Terminals are mounted on 1⅛" centers. Screws: ¼"-28 x ½" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 1-152 | $1.27 | 4-152 | $4.73 |
| 2-152 | 2.42 | 5-152 | 5.89 |
| 3-152 | 3.58 | 6-152 | 7.04 |

**¾W Solder Terminal**

**"Y" Solder Terminal**

| Code | Code | For Barrier Strip | List Price Each | Code | For Barrier Strip | List Price Each |
|---|---|---|---|---|---|---|
| ¾W-140 | Y-140 | 140 | $.044 | ¾W-150 | 150 | $.10 |
| ¾W-141 | Y-141 | 141 | .059 | ¾W-151 | 151 | .18 |
| ¾W-142 | Y-142 | 142 | .072 | ¾W-152 | 152 | .26 |

**Jumpers**

141-J

| Code | For Barrier Strip | List Price Each |
|---|---|---|
| 141-J | 140 | $.04 |
| 141-J | 141 | .04 |
| 95-B | 142 | .138 |

## No. 170 TERMINAL STRIPS

**Terminal .032" Brass, Tin Plated**

No. 2-170

A heavy solder Terminal.

Insulation: Black molded Bakelite, 5/16" wide, ¼" thick. Terminals mounted on 3/8" centers. Mounting holes are 3/8" from center of ends Terminals.

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| No. 1-170 | $0.25 | No. 6-170 | $0.56 |
| No. 2-170 | .31 | No. 7-170 | .61 |
| No. 3-170 | .36 | No. 8-170 | .67 |
| No. 4-170 | .43 | No. 9-170 | .74 |
| No. 5-170 | .50 | No. 10-170 | .79 |

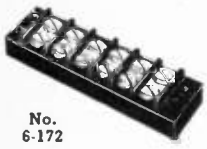
## No. 171 TERMINAL STRIPS

No. 6-171

A Miniature Barrier Terminal Strip with Single Screw Terminals. 11/32" wide by 7/16" overall height. Terminals are mounted on ¼" centers. 2-56 x ¼" Binder Head Screws. 1/8" Dia. Mtg. Holes.

| Code | Contacts | List Price Each | Code | Contacts | List Price Each |
|---|---|---|---|---|---|
| 1-171 | 1 | $0.46 | 5-171 | 5 | $0.94 |
| 2-171 | 2 | .58 | 6-171 | 6 | 1.06 |
| 3-171 | 3 | .70 | 7-171 | 7 | 1.18 |
| 4-171 | 4 | .82 | 8-171 | 8 | 1.30 |

## No. 172 TERMINAL STRIPS



No. 6-172

Double Screw Terminals. 5/8" wide by 7/16" overall height. Terminals mounted on ¼" centers. 2-56 x 3/16". Binder Head Screws. 1/8" Dia. Mtg. Holes.

| Code | Contacts | List Price Each | Code | Contacts | List Price Each |
|---|---|---|---|---|---|
| 1-172 | 1 | $0.43 | 8-172 | 8 | $1.62 |
| 2-172 | 2 | .60 | 9-172 | 9 | 1.79 |
| 3-172 | 3 | .77 | 10-172 | 10 | 1.96 |
| 4-172 | 4 | .94 | 11-172 | 11 | 2.13 |
| 5-172 | 5 | 1.11 | 12-172 | 12 | 2.30 |
| 6-172 | 6 | 1.28 | 13-172 | 13 | 2.47 |
| 7-172 | 7 | 1.45 | 14-172 | 14 | 2.64 |

## No. 172-W and 172-¾W TERMINAL STRIPS

No. 3-172¾W

| Code | Code | Contacts | List Price Each |
|---|---|---|---|
| 1-172-W | 1-172-¾W | 1 | $0.47 |
| 2-172-W | 2-172-¾W | 2 | .68 |
| 3-172-W | 3-172-¾W | 3 | .89 |
| 4-172-W | 4-172-¾W | 4 | 1.10 |
| 5-172-W | 5-172-¾W | 5 | 1.31 |
| 6-172-W | 6-172-¾W | 6 | 1.52 |
| 7-172-W | 7-172-¾W | 7 | 1.73 |
| 8-172-W | 8-172-¾W | 8 | 1.94 |
| 9-172-W | 9-172-¾W | 9 | 2.15 |
| 10-172-W | 10-172-¾W | 10 | 2.36 |
| 11-172-W | 11-172-¾W | 11 | 2.57 |
| 12-172-W | 12-172-¾W | 12 | 2.78 |
| 13-172-W | 13-172-¾W | 13 | 2.99 |
| 14-172-W | 14-172-¾W | 14 | 3.20 |

## No. 173 TERMINAL STRIPS

Single Screw Terminals, 3/8" wide by ½" overall height. Terminals mounted on 3/8" centers. 4-40 x 3/16" Sems Type Binder Head Screws. 1/8" Dia. Mtg. Holts.

No. 6-173

| Code | Contacts | List Price Each |
|---|---|---|
| 1-173 | 1 | $1.00 |
| 2-173 | 2 | 1.45 |
| 3-173 | 3 | 1.90 |
| 4-173 | 4 | 2.35 |
| 5-173 | 5 | 2.80 |
| 6-173 | 6 | 3.25 |
| 7-173 | 7 | 3.70 |
| 8-173 | 8 | 4.15 |
| 9-173 | 9 | 4.60 |
| 10-173 | 10 | 5.05 |

## No. 2000 TERMINAL STRIPS

**Terminal .019" Brass, Tin Plated**

No. 2005

Mounting hole—9/64"

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.

Insulation: Bakelite, Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

| Code | Mounting Hole Centers | List Price Each | Code | Mounting Hole Centers | List Price Each |
|---|---|---|---|---|---|
| No. 2002 | 1" | $.10 | No. 2008 | 2—7/8" | $.19 |
| No. 2003 | 1—5/16" | .115 | No. 2009 | 3—3/16" | .205 |
| No. 2004 | 1—5/8" | .13 | No. 2010 | 3—1/2" | .22 |
| No. 2005 | 1—15/16" | .145 | No. 2011 | 3—13/16" | .235 |
| No. 2006 | 2—1/4" | .16 | No. 2012 | 4—1/8" | .25 |
| No. 2007 | 2—9/16" | .175 | No. 2013 | 4—7/16" | .265 |



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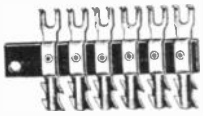
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS

Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.



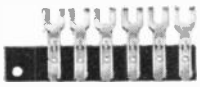
6-160-L

## THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 1/2" wide and on 3/8" centers.

The B type fits the 140 and 164 series. If desired add suffix B to Code No.

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 2-160-L | $0.13 | 2-160-R | $0.13 |
| 3-160-L | .20 | 3-160-R | .20 |
| 4-160-L | .25 | 4-160-R | .25 |
| 5-160-L | .32 | 5-160-R | .32 |
| 6-160-L | .39 | 6-160-R | .39 |
| 7-160-L | .45 | 7-160-R | .45 |
| 8-160-L | .51 | 8-160-R | .51 |
| 9-160-L | .57 | 9-160-R | .57 |
| 10-160-L | .64 | 10-160-R | .64 |
| 11-160-L | .70 | 11-160-R | .70 |
| 12-160-L | .76 | 12-160-R | .76 |
| 13-160-L | .83 | 13-160-R | .83 |
| 14-160-L | .89 | 14-160-R | .89 |
| 15-160-L | .96 | 15-160-R | .96 |
| 16-160-L | 1.01 | 16-160-R | 1.01 |
| 17-160-L | 1.08 | 17-160-R | 1.08 |
| 18-160-L | 1.16 | 18-160-R | 1.16 |
| 19-160-L | 1.21 | 19-160-R | 1.21 |
| 20-160-L | 1.28 | 20-160-R | 1.28 |
| 21-160-L | 1.33 | 21-160-R | 1.33 |



6-161-L (Cable Clamp on Left)

## THE 161 SERIES

The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite 5/8" wide and on 7/16" centers.

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 2-161-L | $0.14 | 2-161-R | $0.14 |
| 3-161-L | .21 | 3-161-R | .21 |
| 4-161-L | .26 | 4-161-R | .26 |
| 5-161-L | .33 | 5-161-R | .33 |
| 6-161-L | .40 | 6-161-R | .40 |
| 7-161-L | .46 | 7-161-R | .46 |
| 8-161-L | .52 | 8-161-R | .52 |
| 9-161-L | .58 | 9-161-R | .58 |
| 10-161-L | .65 | 10-161-R | .65 |
| 11-161-L | .72 | 11-161-R | .72 |
| 12-161-L | .77 | 12-161-R | .77 |
| 13-161-L | .84 | 13-161-R | .84 |
| 14-161-L | .91 | 14-161-R | .91 |
| 15-161-L | .97 | 15-161-R | .97 |
| 16-161-L | 1.03 | 16-161-R | 1.03 |
| 17-161-L | 1.09 | 17-161-R | 1.09 |
| 18-161-L | 1.17 | 18-161-R | 1.17 |
| 19-161-L | 1.22 | 19-161-R | 1.22 |
| 20-161-L | 1.29 | 20-161-R | 1.29 |

6-162-R (Cable Clamp on Right)

## THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 5/8" wide and on 9/16" centers.

| Code | List Price Each | Code | List Price Each |
|---|---|---|---|
| 2-162-L | $0.17 | 2-162-R | $0.17 |
| 3-162-L | .23 | 3-162-R | .23 |
| 4-162-L | .29 | 4-162-R | .29 |
| 5-162-L | .35 | 5-162-R | .35 |
| 6-162-L | .43 | 6-162-R | .43 |
| 7-162-L | .48 | 7-162-R | .48 |
| 8-162-L | .55 | 8-162-R | .55 |
| 9-162-L | .61 | 9-162-R | .61 |
| 10-162-L | .68 | 10-162-R | .68 |
| 11-162-L | .74 | 11-162-R | .74 |
| 12-162-L | .80 | 12-162-R | .80 |
| 13-162-L | .86 | 13-162-R | .86 |
| 14-162-L | .94 | 14-162-R | .94 |
| 15-162-L | .99 | 15-162-R | .99 |
| 16-162-L | 1.06 | 16-162-R | 1.06 |
| 17-162-L | 1.11 | 17-162-R | 1.11 |

## CABLE CLAMPS

Cable Clamps are available for the Fanning Strips listed at the left and are furnished in 6 different sizes as listed below. Cable Clamp is of Brass Nickel Plated, with 6-32 round head Nickel Plated Brass Screws. For convenience the Cable Clamps are furnished unassembled.

### CABLE CLAMP SIZES AVAILABLE

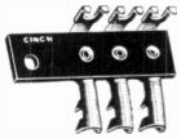
| No. | I. D. |
|---|---|
| CC-161-4 | 1/4" |
| CC-161-6 | 3/8" |
| CC-161-8 | 1/2" |
| CC-161-10 | 5/8" |
| CC-161-12 | 3/4" |
| CC-161-14 | 7/8" |

**List Price Each $0.14**

Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.

# ANGLE TYPE

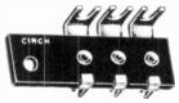


3-160-AL

## THE 160A SERIES

The following Fanning Strips fit the 140 Series Barrier Strips.

| Code | Code | List Price Each |
|---|---|---|
| 2-160-AR | 2-160-AL | $0.19 |
| 3-160-AR | 3-160-AL | .29 |
| 4-160-AR | 4-160-AL | .37 |
| 5-160-AR | 5-160-AL | .47 |
| 6-160-AR | 6-160-AL | .57 |
| 7-160-AR | 7-160-AL | .66 |
| 8-160-AR | 8-160-AL | .75 |
| 9-160-AR | 9-160-AL | .84 |
| 10-160-AR | 10-160-AL | .94 |
| 11-160-AR | 11-160-AL | 1.03 |
| 12-160-AR | 12-160-AL | 1.12 |
| 13-160-AR | 13-160-AL | 1.22 |
| 14-160-AR | 14-160-AL | 1.31 |
| 15-160-AR | 15-160-AL | 1.41 |
| 16-160-AR | 16-160-AL | 1.49 |
| 17-160-AR | 17-160-AL | 1.59 |
| 18-160-AR | 18-160-AL | 1.70 |
| 19-160-AR | 19-160-AL | 1.78 |
| 20-160-AR | 20-160-AL | 1.88 |
| 21-160-AR | 21-160-AL | 1.96 |



3-160-BAL

## THE 160BA SERIES

The following Fanning Strips fit the 164 Series Barrier Strips.

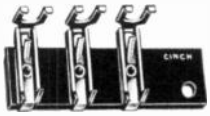
| Code | Code | List Price Each |
|---|---|---|
| 2-160-BAL | 2-160-BAR | $0.19 |
| 3-160-BAL | 3-160-BAR | .29 |
| 4-160-BAL | 4-160-BAR | .37 |
| 5-160-BAL | 5-160-BAR | .47 |
| 6-160-BAL | 6-160-BAR | .57 |
| 7-160-BAL | 7-160-BAR | .66 |
| 8-160-BAL | 8-160-BAR | .75 |
| 9-160-BAL | 9-160-BAR | .84 |
| 10-160-BAL | 10-160-BAR | .94 |
| 11-160-BAL | 11-160-BAR | 1.03 |
| 12-160-BAL | 12-160-BAR | 1.12 |
| 13-160-BAL | 13-160-BAR | 1.22 |
| 14-160-BAL | 14-160-BAR | 1.31 |
| 15-160-BAL | 15-160-BAR | 1.41 |
| 16-160-BAL | 16-160-BAR | 1.49 |
| 17-160-BAL | 17-160-BAR | 1.59 |
| 18-160-BAL | 18-160-BAR | 1.70 |
| 19-160-BAL | 19-160-BAR | 1.78 |
| 20-160-BAL | 20-160-BAR | 1.88 |
| 21-160-BAL | 21-160-BAR | 1.96 |

3-161-AR

## THE 161A SERIES

The following Fanning Strips fit the 142 Series Barrier Strips.

| Code | Code | List Price Each |
|---|---|---|
| 2-161-AR | 2-161-AL | $0.20 |
| 3-161-AR | 3-161-AL | .30 |
| 4-161-AR | 4-161-AL | .38 |
| 5-161-AR | 5-161-AL | .48 |
| 6-161-AR | 6-161-AL | .58 |
| 7-161-AR | 7-161-AL | .67 |
| 8-161-AR | 8-161-AL | .76 |
| 9-161-AR | 9-161-AL | .85 |
| 10-161-AR | 10-161-AL | .95 |
| 11-161-AR | 11-161-AL | 1.05 |
| 12-161-AR | 12-161-AL | 1.13 |
| 13-161-AR | 13-161-AL | 1.23 |
| 14-161-AR | 14-161-AL | 1.33 |
| 15-161-AR | 15-161-AL | 1.42 |
| 16-161-AR | 16-161-AL | 1.51 |
| 17-161-AR | 17-161-AL | 1.60 |
| 18-161-AR | 18-161-AL | 1.71 |
| 19-161-AR | 19-161-AL | 1.79 |
| 20-161-AR | 20-161-AL | 1.89 |



3-162-AR

## THE 162A SERIES

The following Fanning Strips fit the 141 Series Barrier Strips.

| Code | Code | List Price Each |
|---|---|---|
| 2-162-AL | 2-162-AR | $0.23 |
| 3-162-AL | 3-162-AR | .32 |
| 4-162-AL | 4-162-AR | .41 |
| 5-162-AL | 5-162-AR | .50 |
| 6-162-AL | 6-162-AR | .61 |
| 7-162-AL | 7-162-AR | .69 |
| 8-162-AL | 8-162-AR | .79 |
| 9-162-AL | 9-162-AR | .89 |
| 10-162-AL | 10-162-AR | .98 |
| 11-162-AL | 11-162-AR | 1.07 |
| 12-162-AL | 12-162-AR | 1.16 |
| 13-162-AL | 13-162-AR | 1.25 |
| 14-162-AL | 14-162-AR | 1.36 |
| 15-162-AL | 15-162-AR | 1.44 |
| 16-162-AL | 16-162-AR | 1.54 |
| 17-162-AL | 17-162-AR | 1.62 |

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World Radio History

# DAGE RF Coaxial Cable CONNECTORS

**meet all your circuit design, mounting and environmental requirements**

## "DM" Series

- New subminiature series
- One-half standard BNC size
- Watertight, weatherproof
- Quick-disconnect bayonet locking
- Teflon insulators assure low electric loss
- No crimping tools required for assembly

| Dage No. | Description |
|---|---|
| 1-317-1 | Plug for .135 max. OD cable |
| 1-345-1 | Adapter for bulkhead feed-thru |
| 1-352-1 | Jack for .135 max. OD cable |
| 1-379-1 | Jack for .095 max. OD cable |
| 1-399-1 | Adapter—DM plug to BNC jack |
| 1-522-1 | Jack for RG-59/U cable |
| 1-666-1 | Jack receptacle—solder mounting |
| 1-672-1 | Plug for .065 max. OD cable |
| 5230-1 | Panel mounting cable jack for RG-58/U cable |
| 5276-1 | Plug for .199 max. OD cable |
| 5286-1 | Panel mounting receptacle—⅛ max. panel thickness |
| 5296-1 | Plug for RG-122/U cable |

## "BNC" Series

- For use with miniature RF cables
- Small, lightweight, weatherproof
- Quick-disconnect bayonet locking
- Teflon insulators assure low electric loss
- Manufactured to MIL-C-3608 specs.

| AN No. | Dage No. | Description |
|---|---|---|
| UG-88C/U | 813-1 | Cable plug for RG-55, 58/U |
| UG-89B/U | 415-1 | Cable jack for RG-55, 58/U |
| UG-260B/U | 815-1 | Cable plug for RG-59, 62, 71/U |
| UG-261B/U | 816-1 | Cable jack for RG-59, 62, 71/U |
| UG-262B/U | 1-110-1 | Flange mount cable jack for RG-59, 62, 71/U |
| UG-290A/U | 671-1 | Receptacle, flange mounting |
| UG-291B/U | 817-1 | Flange mount cable jack for RG-55, 58/U |
| UG-492B/U | 2201-1 | Bulkhead adapter, single hole mounting |
| UG-625B/U | 1-408-1 | Receptacle, single hole mounting |
| UG-914/U | 1-278-1 | Straight adapter |
| UG-932/U | 486-1 | High voltage cable plug for RG-59, 62, 71/U |
| UG-1016/U | 2104-1 | High voltage cable jack for RG-59, 62, 71/U |

## "N" Series

- For use with medium sized cables
- Low voltage for microwave applications
- Excellent VSWR at frequencies up to 10,000 mc.
- Both weatherproof and non-weatherproof types
- Meets MIL-C-71A specifications

| AN No. | Dage No. | Description |
|---|---|---|
| UG-18C/U | 1-624-1 | Cable plug for RG-5, 6, 21/U |
| UG-19C/U | 1-526-1 | Flange mount cable jack for RG-5, 6, 21/U |
| UG-20C/U | 1-527-1 | Cable jack for RG-5, 6, 21/U |
| UG-21D/U | 1-111-1 | Cable plug for RG-8, 9, 9A, 10/U |
| UG-22D/U | 1-258-1 | Flange mount cable jack for RG-8, 9/U |
| UG-23D/U | 1-247-1 | Cable jack for RG-8, 9/U |
| UG-58A/U | 019-1 | Receptacle, flange mounting |
| UG-160C/U | 2149-1 | Cable jack, single hole mount, for RG-8, 9-U |
| UG-536/U | 385-1 | Cable plug for RG-55, 58/U |
| UG-935A/U | 1-256-1 | Flange mount cable jack for RG-10, 12/U with armor clamp |
| UG-940A/U | 582-1 | Cable jack for RG-10, 12/U with armor clamp |
| MX-913/U | 583-1 | Cap and chain |

## "SM" Series

- Small, lightweight, non-constant impedance
- For small cable where electrical matching and weatherproofing are not important
- Positive metal-to-metal braid clamping arrangement
- Plugs have female contacts; jacks and receptacles have male pin

| AN No. | Dage No. | Description |
|---|---|---|
| UG-690/U | 700-1 | Adapter—SM jack to BNC plug |
| UG-691/U | 707-1 | Adapter—BNC plug to SM plug |
| UG-692/U | 716-1 | Cable plug for RG-59, 62/U |
| UG-693/U | 724-1 | Cable plug for .177 OD cable |
| UG-694/U | 728-1 | Right angle receptacle |
| UG-695/U | 737-1 | Straight adapter, two jack ends |
| UG-696/U | 741-1 | Pressurized bulkhead receptacle |
| UG-697/U | 747-1 | Turret lug bulkhead receptacle |
| UG-698/U | 750-1 | Cable jack, panel mount, for .177 OD cable |
| UG-699/U | 753-1 | Cable plug for RG-58/U |
| UG-700/U | 754-1 | Cable jack for RG-58/U |
| UG-923/U | 755-1 | Cable jack for RG-59/U |

In addition to many other standard types, Dage can also supply custom RF connectors to meet your special requirements. Write for free copy of Catalog 201-A.

**DAGE ELECTRIC COMPANY, INC.**

Beech Grove, Indiana



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World Radio History

# JAN SOCKETS AND SHIELDS

| Part No. | Description | Designation Per JAN/S28A-1 | List Price Ea. |
|---|---|---|---|
| 235 PHSPTD | 7-Pin Mica | TS 102P01 | .45 |
| 238 PHSPTD | 7-Pin Ceramic | TS 102C01 | .81 |
| 169 PHSPTD | 9-Pin Mica | TS 103P01 | .64 |
| 176 PHSPTD | 9-Pin Ceramic | TS 103C01 | 1.05 |
| 335 PHSPTD | Octal Mica | TS 101P01 | .80 |
| 336 PHSPTD | Octal Mica—with Bushings | TS 101P02 | 1.12 |
| 338 PHSPTD | Octal Ceramic | TS 101C01 | 1.20 |
| 337 PHSPTD | Octal Ceramic—with Bushings | TS 101C02 | 1.54 |
| 342 PHSPTD | Octal Mica—GRC | TS 101P0 | .78 |
| 121 | 7-Pin Shield 1-3/8" | TS 102U01 | .25 |
| 120 | 7-Pin Shield 1-3/4" | TS 102U02 | .25 |
| 149 | 7-Pin Shield 2-1/4" | TS 102U03 | .31 |
| 193 | 9-Pin Shield 1-1/2" | TS 103U01 | .31 |
| 191 | 9-Pin Shield 1-15/16" | TS 103U02 | .34 |
| 195 | 9-Pin Shield 2-3/8" | TS 103U03 | .39 |

## RTMA SADDLE TYPE

Bottom Mounting

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| Gen. Purp. | 100 | .14 |
| Mica Filled | 105 | .16 |
| Ceramic | 220 | .48 |
| **9 PIN** | | |
| Gen. Purp. | 270 | .19 |
| Mica Filled | 271 | .21 |
| Ceramic | 272 | .57 |

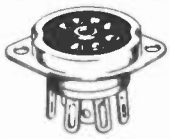
Contact Material — Brass, Cad. Plated

## RMA SADDLE TYPE

with Ground Lugs
Bottom Mounting

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| Gen. Purp. | 300 | .16 |
| Mica Filled | 305 | .18 |
| Ceramic | 320 | .50 |
| **9 PIN** | | |
| Gen. Purp. | 370 | .21 |
| Mica Filled | 371 | .23 |
| Ceramic | 372 | .59 |

Contact Material — Brass, Cad. Plated



## JAN SADDLE TYPE

Top Mounting

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| Gen. Purp. | 240 | .14 |
| Mica Filled | 241 | .16 |
| Ceramic | 113 | .48 |
| **9 PIN** | | |
| Gen. Purp. | 196 | .19 |
| Mica Filled | 197 | .21 |
| Ceramic | 170 | .57 |

Contact Material — Brass, Cad. Plated

## JAN SHIELD BASE TYPE

Top Mounting

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| Gen. Purp. | ST 234 | .26 |
| Mica Filled | ST 235 | .28 |
| Ceramic | ST 238 | .60 |
| **9 PIN** | | |
| Gen. Purp. | ST 167 | .32 |
| Mica Filled | ST 169 | .35 |
| Ceramic | ST 176 | .70 |

Contact Material — Brass, Cad. Plated

## SNAP-ON JAN TYPE

Top Mounting

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| Gen. Purp. | 250 | .17 |
| Mica Filled | 251 | .19 |
| Ceramic | 252 | .51 |
| **9 PIN** | | |
| Gen. Purp. | 450 | .22 |
| Mica Filled | 451 | .25 |
| Ceramic | 452 | .60 |

Contact Material — Brass, Cad. Plated

## JAN TYPE SHIELDS

Per Jan/S-28

Material
Steel, Cad. Plated

| Model No. | Height | List Price Ea. |
|---|---|---|
| **7 PIN** | | |
| 127 | 1⅜" | .20 |
| 126 | 1¾" | .21 |
| 148 | 2¼" | .26 |
| **9 PIN** | | |
| 192 | 1½" | .24 |
| 190 | 1-15/16" | .25 |
| 194 | 2⅜" | .31 |

## OCTAL SOCKET FOR PRINTED CIRCUITS

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| Gen. Purp. | 611 PH | .52 |
| Mica | 612 PH | .55 |

Add suffix to Model No. to denote chassis thickness. (Example: 612 PH-1/16".) For chassis over 1/8" and up to 1/4" thick, contact lances are omitted.

## CORRUGATED INSERT FOR JAN SHIELDS

Cad. plate, beryllium copper, matte black finish.

| Model No. | JAN No. | List Price Ea. |
|---|---|---|
| 929, 7-pin | TS102U01 | .31 |
| 930, 7-pin | TS102U02 | .35 |
| 931, 7-pin | TS102U03 | .43 |
| 932, 9-pin | TS103U01 | .37 |
| 933, 9-pin | TS103U02 | .45 |
| 934, 9-pin | TS103U03 | .52 |

## PRINTED CIRCUIT SOCKETS

with Ground Contact

| Insulator Material | Top Solder Model No. | Top Solder List Price Ea. | Bottom Solder Model. No. | Bottom Solder List Price Ea. |
|---|---|---|---|---|
| **7-PIN** | | | | |
| Gen. Purp. | 645 | .19 | 649 | .21 |
| Mica Filled | 646 | .20 | 650 | .22 |
| **9-PIN** | | | | |
| Gen. Purp. | 653 | .26 | 657 | .26 |
| Mica Filled | 654 | .27 | 658 | .28 |

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.

## PRINTED CIRCUIT SOCKETS

with Shield Contact

| Insulator Material | Top Solder Model No. | Top Solder List Price Ea. | Bottom Solder Model. No. | Bottom Solder List Price Ea. |
|---|---|---|---|---|
| **7-PIN** | | | | |
| Gen. Purp. | 647 | .20 | 651 | .22 |
| Mica Filled | 648 | .21 | 652 | .23 |
| **9-PIN** | | | | |
| Gen. Purp. | 655 | .27 | 659 | .27 |
| Mica Filled | 656 | .28 | 660 | .29 |

Contact Material — Brass, Tin Lead.
Also available in all subminiature sizes.



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World Radio History

## FLAT TYPE SUB-MINIATURE

| Insulator Material | Model No. | List Price Ea. |
|---|---|---|
| 5 Pin | 770 BC | .44 |
| 6 Pin | 813 BC | .47 |
| 7 Pin | 790 BC | .50 |

Mica Filled Castings, Beryllium Copper Contacts.

MOUNTING RINGS

| | | |
|---|---|---|
| 5 Pin | 756 | .03 |
| 6 Pin | 843 | .04 |
| 7 Pin | 768 | .04 |

## VENTILATED SHIELD

*Brass, Nickel Plated
**Steel, Cad. Plated

| Model No. | Height | List Price |
|---|---|---|
| **7 PIN** | | |
| 121V* | 1 3/8" | .34 |
| 120V* | 1 3/4" | .36 |
| 149V* | 2 1/4" | .42 |
| 127V** | 1 3/8" | .29 |
| 126V** | 1 3/4" | .29 |
| 148V** | 2 1/4" | .42 |
| **9 PIN** | | |
| 193V* | 1 1/2" | .48 |
| 191V* | 1-15/16" | .51 |
| 195V* | 2 3/8" | .54 |
| 192V** | 1 1/2" | .43 |
| 190V** | 1-15/16" | .46 |
| 194V** | 2 3/8" | .49 |

## HIGH VOLTAGE SOCKET

| Model No. | List Price Ea. |
|---|---|
| 962 | .45 |

## OCTAL SOCKET

**Bottom Mounting**

| Insular Material | Model No. | List Price Ea. |
|---|---|---|
| Gen. Purp. | 600 | .17 |
| Mica | 608 | .20 |
| With Ground Lugs | | |
| Gen. Purp. | 601 | .17 |
| Mica | 609 | .20 |

## 9-PIN AND 7-PIN SHIELD BASE TYPE PRINTED CIRCUIT SOCKET

| 9-Pin Model No. | Material | List Price Ea. |
|---|---|---|
| 623 BC | Mica | 1.45 |

Beryllium Copper for 1/16" Board

| 7-Pin Model No. | Material | List Price Ea. |
|---|---|---|
| 622 PHSP | Mica | 1.25 |

Contacts—Phosphor Bronze

## 7-PIN AND 9-PIN E-Z MATE SOCKETS

**ADD 3702 TO 7-PIN SOCKET ORDERED**

Saddle Type, Top Mounting

| Model No. | List Price Ea. |
|---|---|
| 240 Center Shield | .14 |
| 241 Center Shield | .17 |
| 242 Rivet | .13 |
| 243 Rivet | .17 |
| Base Shield | |
| 234 Center Shield | .31 |
| 235 Center Shield | .37 |
| 236 Rivet | .30 |
| 237 Rivet | .35 |
| Snap-On Base | |
| 250 Center Shield | .16 |
| 251 Center Shield | .20 |
| 253 Rivet | .15 |
| 254 Rivet | .19 |

**ADD 3905 TO 9-PIN SOCKET ORDERED**

Saddle Type, Top Mounting

| Model No. | List Price Ea. |
|---|---|
| 196 Center Shield | .20 |
| 197 Center Shield | .24 |
| 198 Rivet | .18 |
| 199 Rivet | .42 |
| Base Shield | |
| 167 Center Shield | .42 |
| 169 Center Shield | .48 |
| 172 Rivet | .41 |
| 174 Rivet | .47 |
| Snap-On Base | |
| 450 Center Shield | .24 |
| 451 Center Shield | .29 |
| 453 Rivet | .23 |
| 454 Rivet | .28 |

Add .13 each to socket ordered for Polarization Key.

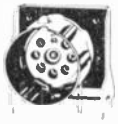
## COMBINATION TRANSISTOR SOCKETS

No. 3301 with Flat Saddle

No. 3304 with No. 757 Mntg. Ring

Insulator: mica filled phenolic. Contacts: beryllium copper, silver plated, gold flashed.

| Model No. | List Price Ea. |
|---|---|
| 3301 | .60 |
| 3303 P.C. | .45 |
| 3304 | .40 |
| 3305 P.C. | .52 |
| 3312 | .65 |
| 3313 | .50 |
| 757 | .05 |



## RIGHT-ANGLE PRINTED CIRCUIT SOCKETS

**With Continuous Contacts**

| | Model No. | List Price Ea. |
|---|---|---|
| 7-Pin Without Shield Bs. | 4006-1-x-1/16 | 1.26 |
| 7-Pin With Shield Base | 4007-1-x-1/16 | 1.53 |
| 9-Pin Without Shield Bs. | 4008-1-x-1/16 | 1.35 |
| 9-Pin With Shield Base | 4009-1-x-1/16 | 1.67 |

X = XXXP LAMINATED PHENOLIC BOARD
Also Available:
EG = GLASS FILLED EPOXY BOARD

Sockets can be provided to fit 1/16, 3/32 or 1/8 thick chassis.

## PRINTED CIRCUIT TYPE SUB-MINIATURE

| | Model No. | List Price Ea. |
|---|---|---|
| 3 Pin | 786 BC | .46 |
| 4 Pin | 805 BC | .47 |
| 5 Pin | 788 BC | .48 |
| 6 Pin | 815 BC | .51 |
| 7 Pin | 792 BC | .54 |

Mica Filled Castings.
Contact Material — Beryllium Copper.

## TRANSISTOR TYPE SUBMINIATURE SOCKETS

3-Pin Point & Junction Type (Mica Filled Insulator Material)

| Model No. | List Price Ea. |
|---|---|
| 799BC | .42 |

4-Pin Linotetrar Type (Mica Filled Insulator Material)

| | |
|---|---|
| 803BC | .43 |

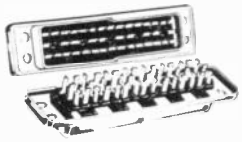
Contact Material—Beryllium Copper, Silver Plated Gold Flashed.

## PRINTED CIRCUIT CONNECTOR

Insulator: GP Resinox 3700 or Di allyl phthalate. Contacts: Phosphor bronze silver plated. Board: Connector will accommodate .062" to .074" thick board with normal warpage.

| Model No. and No. of Contacts | List Price Ea. |
|---|---|
| 6001-12 | 3.00 |
| 6001-20 | 4.00 |
| 6001-30 | 5.75 |
| 6001-36 | 6.50 |
| 6001-44 | 7.50 |

## SERIES 8000 SUBMINIATURE VARICON CONNECTORS



| No. Model | List Price Ea. | Model No. | List Price Ea. |
|---|---|---|---|
| 8001-16-1-M-5 | 4.45 | 8001-40-1-F-5 | 8.35 |
| 8001-16-1-F-5 | 4.45 | 8002-48-1-M-5 | 9.00 |
| 8001-40-1-M-5 | 8.35 | 8002-48-1-F-5 | 9.00 |

This unit offers a maximum number of contacts in a minimum space. Write for Bulletin No. 107. Material: G.P. or Mica.

**AMERICA'S QUALITY LINE • RADIO, TELEVISION, ELECTRONIC COMPONENTS**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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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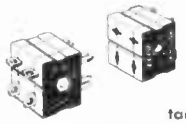
# ELCO • ELCO SALES COMPANY • ELCO
Philadelphia 24, Pa.

Elco Varicon Miniature-Connectors provide the simplest, quickest, most positive means for connecting electronic or electric circuits. Varicons introduce "Keying Control", making it impossible to connect unmatched parts. Contact combinations in any number demanded by your specific needs are possible with Varicons; and any connector may be assembled by you or us from stock parts.

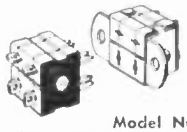
Prices below are for Varicons in General Purpose Phenolic. Varicons are also available in Low-Loss Mica Phenolic, Alkyd, and General Purpose Phenolic in assorted colors, prices for which will be furnished upon request. For general specifications of ALL Varicons, refer to description beneath Connector Kit at lower right hand corner of this page. For any other information regarding these "Miniature Connectors that work like Giants", your inquiry will meet with our immediate reply.



## VARICONS
Plain with no hardware

2nd and 3rd digit numerals in Model Nos. designate number of Contacts in Connector.

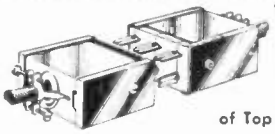
| MALE Model No. | Price | FEMALE Model No. | List Price Ea. |
|---|---|---|---|
| M1022 | .29 | F1022 | .27 |
| M1042 | .40 | F1042 | .38 |
| M1062 | .52 | F1062 | .48 |
| M1082 | .63 | F1082 | .59 |
| M1102 | .78 | F1102 | .71 |
| M1122 | .90 | F1122 | .83 |
| M1142 | 1.08 | F1142 | .99 |
| M1162 | 1.26 | F1162 | 1.16 |
| M1182 | 1.44 | F1182 | 1.33 |



## VARICONS
With bracket

Substitute the numeral "2" instead of the numeral "1" in the first digit of the Model Number if a double tier is desired. List price can be computed by doubling the List Price of the appropriate Single Tier VARICON with Bracket and adding .03 ea.

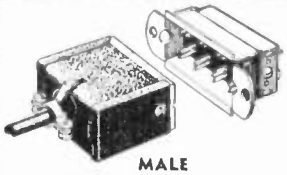
| MALE Model No. | Price | FEMALE Model No. | List Price Ea. |
|---|---|---|---|
| M10220 | .34 | F10220 | .32 |
| M10420 | .45 | F10420 | .43 |
| M10620 | .57 | F10620 | .53 |
| M10820 | .68 | F10820 | .64 |
| M11020 | .84 | F11020 | .77 |
| M11220 | .96 | F11220 | .89 |
| M11420 | 1.14 | F11420 | 1.05 |
| M11620 | 1.31 | F11620 | 1.22 |
| M11820 | 1.50 | F11820 | 1.38 |



## VARICONS
With cover top clamp

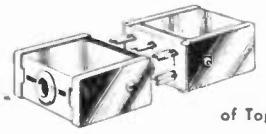
Hole can be located on End instead of Top by changing final digit from 4 to 5.

| MALE Model No. | Price | FEMALE Model No. | List Price Ea. |
|---|---|---|---|
| M10425 | .86 | F10425 | .84 |
| M10624 | .98 | F10624 | .94 |
| M10824 | 1.09 | F10824 | 1.05 |
| M11024 | 1.27 | F11024 | 1.20 |
| M11224 | 1.44 | F11224 | 1.37 |
| M11424 | 1.68 | F11424 | 1.59 |
| M11624 | 1.91 | F11624 | 1.82 |
| M11824 | 2.15 | F11824 | 2.04 |
| M22024 | 2.51 | F22024 | 2.39 |
| M22424 | 3.09 | F22424 | 2.96 |
| M22824 | 3.67 | F22824 | 3.53 |
| M23224 | 4.26 | F23224 | 4.09 |
| M23624 | 4.89 | F23624 | 4.73 |



## VARICONS
With recessed housing

| MALE Model No. | Price | FEMALE Model No. | List Price Ea. |
|---|---|---|---|
| M10626 | .93 | F10626 | .88 |
| M10826 | 1.07 | F10826 | 1.03 |
| M11026 | 1.27 | F11026 | 1.20 |
| M11226 | 1.45 | F11226 | 1.38 |
| M11426 | 1.69 | F11426 | 1.60 |
| M11626 | 1.92 | F11626 | 1.83 |
| M11826 | 2.16 | F11826 | 2.05 |
| M22026 | 2.47 | F22026 | 2.36 |
| M22426 | 3.06 | F22426 | 2.92 |
| M22826 | 3.63 | F22826 | 3.50 |
| M23226 | 4.22 | F23226 | 4.06 |
| M23626 | 4.85 | F23626 | 4.69 |



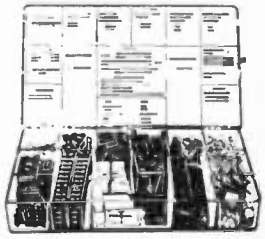
## VARICONS
With covers — top hole

Hole can be situated on End instead of Top by changing final digit from 2 to 3.

| MALE Model No. | Price | FEMALE Model No. | List Price Ea. |
|---|---|---|---|
| M10423 | .67 | F10423 | .65 |
| M10622 | .79 | F10622 | .75 |
| M10822 | .90 | F10822 | .86 |
| M11022 | 1.07 | F11022 | 1.00 |
| M11222 | 1.24 | F11222 | 1.17 |
| M11422 | 1.48 | F11422 | 1.39 |
| M11622 | 1.71 | F11622 | 1.62 |
| M11822 | 1.96 | F11822 | 1.84 |
| M22022 | 2.24 | F22022 | 2.13 |
| M22422 | 2.83 | F22422 | 2.69 |
| M22822 | 3.40 | F22822 | 3.27 |
| M23222 | 3.94 | F23222 | 3.83 |
| M23622 | 4.62 | F23622 | 4.46 |

### New Enlarged VARICON KIT

Contains all parts to allow user to make "on the spot" assembly of virtually every type miniature connector in any pin configuration, from 2 contact single tier to 48 contact double tier. Includes Elco's new right-angle Varicon; regular and taper tab male and female contacts; ruggedized end sections; center sections; covers; brackets; cable clamps; screws; nuts; Assembly Instructions; re-ordering sheet. In handsome transparent plastic box.

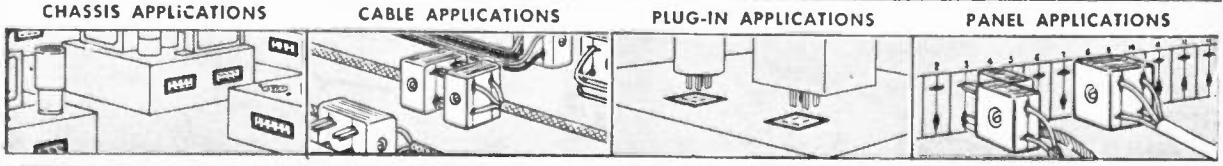


GVK — 1 (GP) LIST 40.00 Each
GVK — 2 (LL) LIST 50.00 Each

Smaller Kits Also Available GP—1 10.00 • GP—2 13.75

**GENERAL SPECIFICATIONS:** Current Rating 15 Amps., 115 Volts (in cover); 30 Amps. (in free air) (withstanding voltage between closest terminals 4000 volts); Contact Resistance .0001 ohm. Low Capacitance. All Male & Female components are identical. 300 ohm line spacing. Contacts in use are always under pressure, cannot be overstressed or overstrained.

CHASSIS APPLICATIONS | CABLE APPLICATIONS | PLUG-IN APPLICATIONS | PANEL APPLICATIONS



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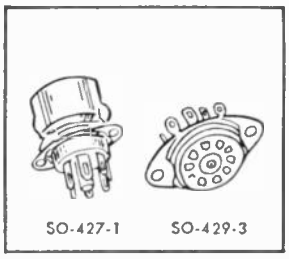
World Radio History

# ERIE TEFLON TUBE SOCKETS



SO-427-1 SO-429-3

**ADVANTAGES.** Teflon tube sockets offer ultra superior electrical advantages. Its extremely low dielectric constant and dissipation factor result in a capacity, between pins, only twice that of air, and a circuit Q better than 5,000. Contributing to circuit stability is the fact that the capacity and Q remain constant; the actual change is negligible, over a frequency range of 60 cps to 30,000 Megacycles and a temperature range of minus 110° F to plus 500° F. Sockets meet all RMA and JAN Specifications

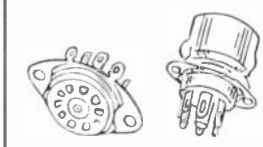
**ENGINEERING DATA.**

| | |
|---|---|
| Capacity between two adjacent pins | 0.4MMF |
| Q | 5000 |
| Loss Factor | .0002 |
| Surface Resistance | $10^{13}$ OHMS |
| Dielectric Strength, 60 cps | 6500V, RMS |
| Flashover Voltage, between exposed metal surfaces, 60 cps at Sea level | 2500V, RMS |
| at 60,000 ft. | 650V, RMS |

**HOW TO ORDER** Teflon miniature tube sockets by type number.

| 7-Pin Type No. | Mounting | 9-Pin Type No. |
|---|---|---|
| SO-427-1 | Can | SO-429-1 |
| SO-427-2 | Saddle | SO-429-2 |
| | Saddle with lugs | SO-429-3 |

# ERIE KEL-F* TUBE SOCKETS



SO-439-3 SO-437-1

**ADVANTAGES.** Erie Kel-F Insulated 7 and 9-Pin Miniature Tube Sockets are designed to fill the need of the electronics industry for high performance tube sockets for use where high or low ambient temperatures or frequency stability are problems. Kel-F, a thermoplastic Fluorocarbon Polymer, is readily molded to accurate dimensions. It is dimensionally stable throughout its wide service temperature range from a low of −320° F to +390° F, and there is no appreciable change in its electrical and physical properties.

Water absorption is zero by ASTM Test — hence it is unaffected by extreme humidity.

All metal parts of sockets are precision made and plated to JAN Specifications. Contacts exceed all JAN Specifications for tube retention, tab flexing and pin contact resistance.

**ENGINEERING DATA.**

| | |
|---|---|
| Capacity between two adjacent pins | 0.45 MMF |
| Loss Factor | .01 |
| Surface Resistance | $10^{13}$ OHMS |
| Dielectric Strength, 60 cps | 6500V, RMS |
| Flashover Voltage, between exposed metal surfaces, 60 cps at Sea level | 3000V, RMS |
| at 60,000 ft. | 650V, RMS |

**HOW TO ORDER** Kel-F miniature tube sockets by type number.

| 7-Pin Type No. | Mounting | 9-Pin Type No. |
|---|---|---|
| SO-437-1 | Can | SO-439-1 |
| SO-437-2 | Saddle | SO-439-2 |
| SO-437-3 | Saddle with lugs | SO-439-3 |

*M. W. Kellogg Trademark.

# ERIE TEFLON SPAGHETTI

TEFLON SPAGHETTI

**DIELECTRIC STRENGTH** — 500 volts per mil.

**COLORS** — Natural, Red, Black.

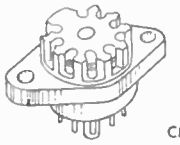
**HOW TO ORDER.** Specify size, color and length.

SPECIFICATIONS

| Size | Nom. I. D. | Wall Thickness |
|---|---|---|
| No. 24 | .022" | .016 ± .003" |
| No. 20 | .034" | .016 ± .003" |
| No. 18 | .042" | .020 ± .004" |
| No. 16 | .053" | .020 ± .004" |
| No. 14 | .066" | .020 ± .004" |

# ERIE TEFLON CONNECTORS

### 9-PIN CONNECTOR



CN-409M

**USE.** Teflon 9-Pin Connectors are designed to mate with 9-Pin Miniature Tube Sockets, Catalog No. SO-429-3.

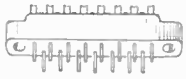
**ADVANTAGES.** Teflon 9-Pin Connectors provide exceptionally low loss between pins and between pins and ground. The Teflon insulation offers a loss factor of less than 0 0002; surface resistivity of 3.5 x $10^{13}$ ohms; dielectric constant of 2.0 (60 cycles to 30,000 megacycles). It will not DC plate or carbonize under arcing.

Pins are silver-plated brass and insulating body is designed with "windows" for making easy solder connections.

**HOW TO ORDER.** Specify Teflon 9-Pin Connector No. CN-409-M for mating with Miniature Tube Socket No. SO-429-3.

### 15- and 18-PIN CONNECTORS

CN-415M



CN-415F

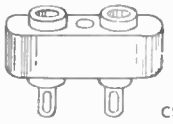
**USES.** Erie Teflon Connectors are designed for low-loss, high frequency service in interconnection of radio, radar and other electronic equipment — where connectors must be unaffected by wide range in ambient temperatures, pressure altitudes, humidity, and mechanical shock and vibration.

**ADVANTAGES.** The principal characteristics of these Teflon connectors are outlined in the tabulation below.

Material of terminals in male connectors is Brass, silver-plated, gold-flashed; female connectors, Beryllium Copper, silver-plated, gold-flashed.

**HOW TO ORDER.** Specify Erie Teflon Connector Type CN-415 or CN-418 for 15 or 18-pin connectors, with subscript M or F for male or female types, or both for mating pairs.

### CRYSTAL SOCKETS



CS-441

**USES.** Teflon Crystal Sockets are designed for use wherever low loss and frequency stability are desired and mechanical shock and vibration are problems.

**ADVANTAGES.** Made of Teflon, these Crystal Sockets are unusually sturdy and due to the inherent resiliency of the plastic, they aid in absorbing shock and vibration in severe service. Teflon Crystal Sockets have a loss factor of less than 0 0002 and a dielectric constant of only 2.0 from 60 cycles to 30,000 megacycles.

Teflon Crystal Sockets mount by means of a single hole and can be either screw or rivet mounted. Assembly is facilitated as there is no danger of breakage as with ceramics.

**HOW TO ORDER.**

Specify Teflon CS-441 Crystal Sockets for 0.050 pins spaced 0.486 inches.

Specify Teflon CS-442 Crystal Sockets for 0.095 pins spaced 0.486 inches.

CONNECTOR CHARACTERISTICS

| CATALOG NO. | NUMBER OF TERMINALS | DIAMETER OF TERMINALS | VOLTAGE RATING (Volts RMS) | BREAKDOWN VOLTAGES (DC) (After 95% Humidity at 70°C) Between Terminals At Sea Level | Between Terminals At 60,000 Ft. | Between Terminals and Gnd. At Sea Level | Between Terminals and Gnd. At 60,000 Ft. | CURRENT RATING (Amperes) | CONTACT RESISTANCE |
|---|---|---|---|---|---|---|---|---|---|
| CN-418-M | 18 | 0.064 | 900 | 3500 | 800 | 3500 | 800 | 7.5 | 0.003 |
| CN-418-F | 18 | 0.064 | 900 | 3500 | 800 | 3500 | 800 | 7.5 | 0.003 |
| CN-415-M | 15 | 0.064 | 900 | 4000 | 1000 | 4000 | 1000 | 7.5 | 0.003 |
| CN-415-F | 15 | 0.064 | 900 | 4000 | 1000 | 4000 | 1000 | 7.5 | 0.003 |



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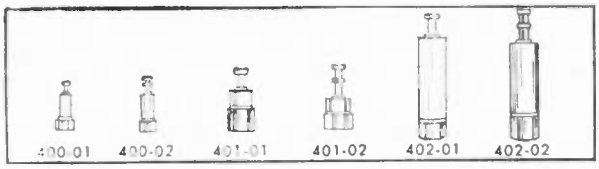
World Radio History

# ERIE TEFLON* STAND-OFF INSULATORS

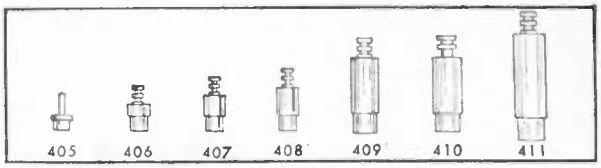
### TE-400 SERIES




These Insulators are designed for low-loss, high frequency service in radar, television and other electronic equipment, as completely insulated tie-points in circuit wiring — unaffected by a wide range in ambient temperatures, pressure, altitudes, humidity, and mechanical shock and vibration.

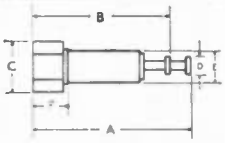
*duPont Trademark

### TE-405 SERIES




These Miniature Stand-Off Insulators are compressed into mounting holes, are self-fastening, requiring no additional hardware. Hand tool for mounting available.
High heat resistance permits soldering without damage to insulators.
Excellent electrical characteristics adapt them to miniaturization and high frequency, high temperature, high voltage circuits.

***Order by Catalog Number from Table Below***




| Insulator Number | RATING: Flash Over Point† | RATING: Capacitance | DIMENSIONS: A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|
| TE-400 | 7,000 VAC-RMS | .12 mmfd. | 3/64 | 3/64 | 1/32 | .066 | 1/8 | .181 |
| TE-401 | 6,300 VAC-RMS | .25 mmfd. | 23/32 | 19/32 | 1/4 | .140 | 1/4 | .258 |
| TE-402 | 15,500 VAC-RMS | .14 mmfd. | 1 19/32 | 1 11/16 | 1/4 | .140 | 1/4 | .258 |

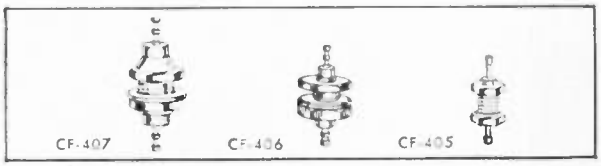
†Readings taken at Sea Level, Short Time Test.

| Insulator Number | RATING: Flash Over Point† | RATING: Capacitance | DIMENSIONS: A | B | C | D | E | F | Mounting Hole |
|---|---|---|---|---|---|---|---|---|---|
| TE-405 | 3,500 VAC | .5 mmfd. | .365 | .040 | .148 | .045 | .172 | .115 | .136 |
| TE-406 | 5,000 VAC | .32 mmfd. | .421 | .125 | .165 | 3/32 | 3/16 | .150 | .152 |
| TE-407 | 6,300 VAC | .25 mmfd. | .483 | .187 | .165 | 3/32 | 3/16 | .150 | .152 |
| TE-408 | 7,500 VAC | .20 mmfd. | .546 | .250 | .165 | 3/32 | 3/16 | .150 | .152 |
| TE-409 | 10,000 VAC | .10 mmfd. | .696 | .400 | .165 | 3/32 | 3/16 | .150 | .152 |
| TE-410 | 11,000 VAC | .14 mmfd. | .972 | .500 | .215 | 9/64 | 1/4 | .187 | .202 |
| TE-411 | 15,500 VAC | .18 mmfd. | 1.272 | .800 | .215 | 9/64 | 1/4 | .187 | .202 |

†Readings taken at Sea Level, Short Time Test.

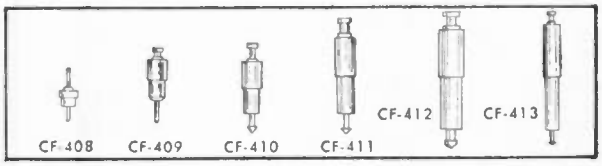
# ERIE TEFLON FEED-THRU INSULATORS

### CF-405 SERIES



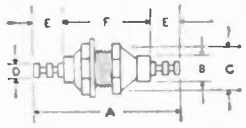

Series CF-405 Feed-Thru Insulators have a hollow threaded metal body which fits through the bed plate and is secured by a hex nut.
The terminal, which passes through the hollow body, is spaced by a force-fitted Teflon plug.
These Feed-Thru Insulators combine the unsurpassed insulating properties of Teflon for high frequency, high temperature, high voltage service with mechanical ruggedness unusual in miniature insulator design.

### CF-408 SERIES



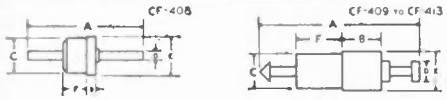

Teflon Miniature Feed-Thru Insulators, compression type, are force-fitted into mounting holes, are self-fastening and self-sealing. No additional hardware is required for assembly.
The resiliency of the Teflon bodies insures against breakage in assembly and transit, and offers shock-proof and vibration-proof durability in service. Hand tool for mounting available.
Teflon's unexcelled electrical properties for high frequency, high temperature and high voltage use, unaffected by a wide range in ambient temperatures, pressure, altitudes and humidity, recommend them for critical circuits.

***Order by Catalog Number from Table Below***




| Insulator Number | RATING: Flash Over Point† | RATING: Capacitance | DIMENSIONS: A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|
| CF-405 | 3500 VAC | 2.0 mmfd. | .690 | .140 | 12-28 | .082 | .163 | .369 |
| CF-406 | 4500 VAC | 1.5 mmfd. | .876 | .168 | 1/4-32 | .093 | .188 | .500 |
| CF-407 | 6300 VAC | 1.95 mmfd. | 1.316 | .257 | 3/8-32 | .125 | .283 | .750 |

†Readings taken at Sea Level, Short Time Test.




| Insulator Number | RATING: Flash Over Point† | RATING: Capacitance | DIMENSIONS: A | B | C | D | E | F | Mounting Hole |
|---|---|---|---|---|---|---|---|---|---|
| CF-408 | 3,500 VAC | .72 mmfd. | .515 | .040 | .148 | .045 | .172 | .100 | .136 |
| CF-409 | 5,000 VAC | .9 mmfd. | .740 | .187 | .171 | 3/32 | 3/16 | .212 | .158 |
| CF-410 | 7,000 VAC | .82 mmfd. | .865 | .250 | .171 | 3/32 | 3/16 | .275 | .158 |
| CF-411 | 9,000 VAC | .8 mmfd. | 1.115 | .375 | .171 | 1/8 | 3/16 | .400 | .158 |
| CF-412 | 10,000 VAC | .83 mmfd. | 1.365 | .500 | .217 | 1/8 | 1/4 | .525 | .204 |
| CF-413 | 15,500 VAC | 1.02 mmfd. | 1.965 | .800 | .217 | 1/8 | 1/4 | .825 | .204 |

†Readings taken at Sea Level, Short Time Test.

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World Radio History

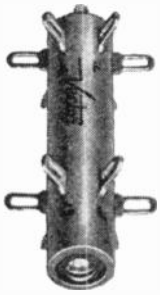
# Vector ELECTRONIC COMPANY

GLENDALE 1, CALIF.

## POST SOCKET TURRETS

10-0-12T

6-M-6T

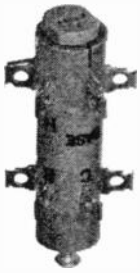


10-12

VECTOR SOCKET TURRETS are widely used for mounting circuit components. The posts are Grade XXXP phenolic (or glass silicone to order) ½" O.D. with 1/16" wall. Sockets are mica filled phenolic. The terminals are hot tinned brass, saddles cad. plated steel. Also available are premium quality sockets with hot tinned brass or steel saddles, beryllium copper, silver plated terminals (Add "J" to Cat. No. for this). Terminal Turrets without sockets, useful for many mountings, are listed at end of the table.

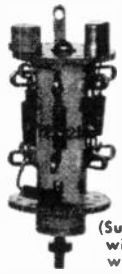
TRANSISTOR TURRET SOCKETS fit either 3 - in - line or 3 on 0.2" Dia. circle type bases. Round socket mounts inside turret with saddle outside. Requires 0.365" mounting hole with two ⅛" side holes spaced ¾".

TRANSISTOR WAFER TURRETS: 1" diameter wafers are mounted at each end of terminal posts. They are punched with 4 sets (3 each) of 1/16" diameter holes which fit the "top hat" type transistors and four .093" diameter holes so arranged that the leads of rectangular type transistor will pass through when the transistor is placed upon the wafer.



7-A-12T-440

6-A-12T

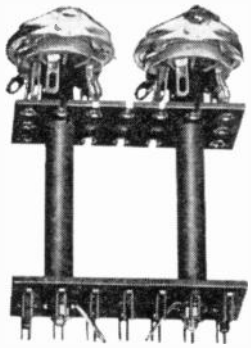


(Supplied without wiring)

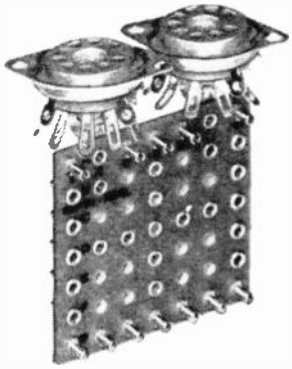
#654

| Catalog Number | Socket Type | Unit Height | Turret Rings | No. Terms. | Space Between Rings | Other Information |
|---|---|---|---|---|---|---|
| 10-0-12T | Octal | 2½" | 2 | 12 | 1⅜" | Bonded Assy. |
| 8-0-9T | Octal | 2 " | 2 | 9 | 1 " | Bonded Assy. |
| 6-0-6T | Octal | 1½" | 1 | 6 | — | Bonded Assy. |
| 10-MB-12 | 7 P.Min. | 2½" | 2 | 12 | 1⅜" | Bolted Assy. |
| 8-M-9T | 7 P.Min. | 2 " | 2 | 9 | 1 " | Riveted Assy. |
| 6-M-6T | 7 P.Min. | 1½" | 1 | 6 | — | Riveted Assy. |
| 10-NB-12 | 9 P.Nov. | 2½" | 2 | 12 | 1⅜" | Bolted Assy. |
| 8-N-9T | 9 P.Nov. | 2 " | 2 | 9 | 1 " | Riveted Assy. |
| 6-N-6T | 9 P.Nov. | 1½" | 1 | 6 | — | Riveted Assy. |
| 10-12 | None | 2½" | 2 | 12 | 1⅜" | Terminal Turrets |
| 8-12 | None | 2 " | 2 | 12 | 1 " | Terminal Turrets |
| 6-12 | None | 1½" | 2 | 12 | ⅝" | Terminal Turrets |
| 6-A-12T | Transistor | 1½" | 2 | 12 | ⅞" | Saddle |
| 8-A-12T | Transistor | 2 " | 2 | 12 | 1⅜" | Saddle |
| 7-A-12T-440 | Transistor | 2 " | 2 | 12 | ⅞" | Has End Nut |
| 652 | None | 1⅞" | 2 | 12 | ¾" | Wafer |
| 654 | None | 2⅛" | 2 | 12 | 1 " | Wafer |

## DECK TURRET AND WALL TURRET



10-NN-7A3-2



10-NN-7A7-4

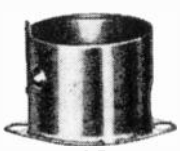
DECK TURRET & WALL TURRET assemblies provide means for mounting circuit components similarly to Post-Turrets but are somewhat better adapted to compact multi-tube assemblies. Deck Turrets have terminal strips parallel to the socket plane whereas Wall Turrets have strips perpendicular thereto (See figures). They are designed for use on a chassis or with plug in units. Pattern "A" strip is standard.

| * Catalog Number | Type | No. of Sockets Type | Unit Height | Strip Dimens. | No. of holes Strips | No. of Terms. | Space Between Strips |
|---|---|---|---|---|---|---|---|
| 10-NN-7A3-2 | 2 Decks | 2 Nov. | 2½" | 1.90x0.84 | 7x3 | 14 | 1-7/16" |
| 10-3N-11A3-2 | 2 Decks | 3 Nov. | 2½" | 2.96x0.84 | 11x3 | 22 | 1-7/16" |
| 622 | 2 Decks | None | 1½" | 1.90x.556 | 7x2 | 12 | 1" |
| 492 | 1 Wall | None | 2½" | 2.42x1.35 | 9x5 | 18 | — |
| 10-NN-7A7-4 | 1 Wall | 2 Nov. | 2½" | 1.90x1.90 | 7x7 | 22 | — |
| 10-3N-11A7-4 | 1 Wall | 3 Nov. | 2½" | 2.96x1.90 | 11x7 | 29 | — |

* For miniature sockets instead of novals change letter "N" to "M". Change may also be made by user if desired and any combination of Sockets may be set-up subject to space limitations. Other heights are obtainable at factory, viz 2", 3" or greater.

## TUBE BASE SHIELDS

S-9



S-7

TUBE BASE SHIELDS are intended to be mounted above the socket as a base for conventional bayonet type tube shields. Material is cadmium plated steel.

Cat. No.S7.....For 7 Pin Min. Sockets

Cat. No.S9.....For 9 Pin Noval Sockets



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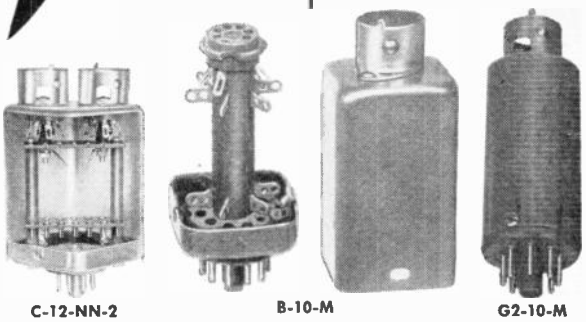
# Vector

## SMALL ROUND OR SQUARE PLUG IN UNITS & CASES



C-12-NN-2 B-10-M G2-10-M

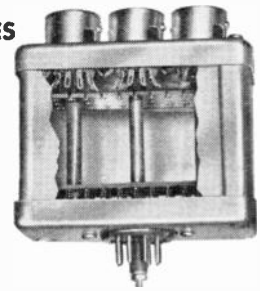
SMALL ROUND & SQUARE PLUG IN UNITS & CASES for single and two-tube applications utilize deep drawn aluminum cases, with caustic etch finish. Plugs are tube base type; octal 8, 9 or 11 pins for B, C & G2 types, 9 pin noval for G2.1 size and 7 pin Min. for G2.2. Sockets are mica filled phenolic with brass, cad plated contacts. Also available are premium quality sockets with beryllium copper, silver plated terminals. (Add "J" to Cat. No. for this.)

| Catalog Number | Type of Plug | Type of Socket | Type of Turret | Dimensions Height | Dimensions Size |
|---|---|---|---|---|---|
| B 10 M | Octal 11 | 7 P.Min. | Post | 2½" | 1-7/16" Sq. |
| B 10 N | Octal 11 | 9 P.Nov. | Post | 2½" | 1-7/16" Sq. |
| B 10 T | Octal 11 | None | Post | 2½" | 1-7/16" Sq. |
| C 12 M | Octal 11 | 7 P.Min. | Post | 3 " | 2 " Sq. |
| C 12 N | Octal 11 | 9 P.Nov. | Post | 3 " | 2 " Sq. |
| C 12 T | Octal 11 | None | Post | 3 " | 2 " Sq. |
| C 12 NN-2 | Octal 11 | (2) 9 P.Nov. | 2 Decks | 3 " | 2 " Sq. |
| C 12 MM-2 | Octal 11 | (2) 7 P.Min. | 2 Decks | 3 " | 2 " Sq. |
| G2-10-M | Octal 8 | 7 P.Min. | None | 2½" | 1¼" Diam. |
| G2-10-N | Octal 8 | 9 P.Nov. | None | 2½" | 1¼" Diam. |
| G2.1-8-N | 9 P.Nov. | 9 P.Nov. | None | 2 " | ¾" Diam. |
| G2.2-8-M | 7 P.Min. | 7 P.Min. | None | 2 " | ⅝" Diam. |
| G2-10 | Octal 8 | None | None | 2½" | 1¾" Diam. |
| G2.1-8 | 9 P.Nov. | None | None | 2" | ¾" Diam. |
| G22-8 | 7 P. Min. | None | None | 2" | ⅝" Diam. |
| G2-10-4 | Octal 8 | None | Wall* | 2½" | 1¼" Diam. |
| G-2.1-8-4 | 9 P.Nov. | None | Wall* | 2" | ¾" Diam. |
| G2.2-8-4 | 7 P.Min. | None | Wall* | 2" | ⅝" Diam. |

*"G" pattern wall has grid matching JETEC transistor leads.

The above are the most popular types, but many others are available at the factory viz 2", 2½", 3" or 4" height in B, C & G2 types. 9 or 11 pin Octal plugs can be supplied instead of 8 pin in all cases. Deck or Wall Turrets instead of post turrets are also available.

## LIP LOC CASES



Plug-In Unit made with Kit 4-EK3 using Case EX-12

LIP-LOC CASES: Provide ideal aluminum enclosures without interior structures for Plug-in-Units, instruments, etc., consist of two drawn end pieces and 2 L shaped center-section members which clamp between the end pieces. Only 2 screws need be removed to disassemble. Parts may be mounted on any 4 of 6 sides, with good accessibility. These cases may be combined readily with Turrets and Plugs to make compact Plug-in-Units. (Caustic etch finish is standard or anodized to special orders.)

CASE DIMENSIONS

| Catalog Number | Base Length | Base Width | Height |
|---|---|---|---|
| DX-12 | 3.055" | 2.1" | 3" |
| EX-12 | 3.88" | 1.63" | 3" |
| E1X-12 | 5.88" | 1.63" | 3" |
| E2X-12 | 4.82" | 1.70" | 3" |
| FX-12 | 4.5" | 2.44" | 3" |
| G1X-12 | 4.125" | 2.1" | 3" |
| G1.1X-12 | 5.1" | 2.1" | 3" |

(Also longer or shorter heights, perforated center sections or type Xa with 4 piece port type center-section are obtainable.)

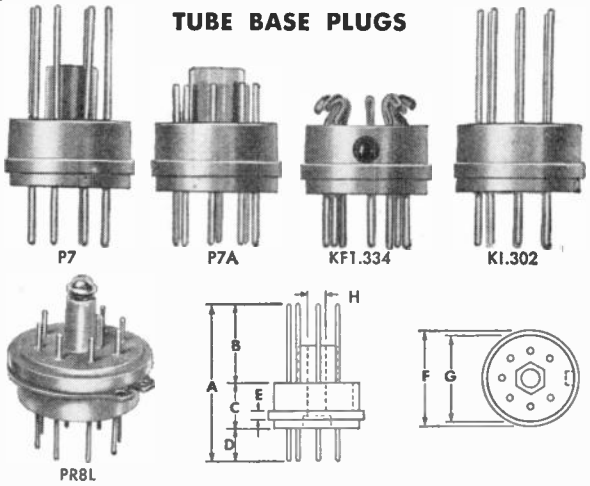
## MULTI-USE PLUG-IN-KIT:

These flexible assemblies provide simple readily wired packages utilizing LIP-LOC cases and Deck-Turrets which may be arranged to mount many circuit assemblies. For example, KIT 4-EK3 may be set-up to mount 1 to 3, either 7 or 9 pin miniature sockets in any order using adapter rings to accommodate different socket diameters. Socket holes are ¾" diameter with slots for saddle screws. Plug buttons are supplied to close socket holes where tubes are not required. (If octal sockets are required, holes can be enlarged by customer.) 7 and 9 pin sockets are supplied and also an equal number of JAN type shield bases of each type and corresponding to the number of socket holes in the cover. An extra undrilled plug base is supplied so that larger plugs such as the "Blue-Line" may be mounted. (Latter is not supplied but spacers & screws for this are included.) Finish is caustic etch on aluminum. Sockets are mica filled phenolic, commercial grade, terminal strips and spacers are phenolic. Adapter rings to mount 7 pin sockets are furnished. Two Deck type strips with ZIP terminals are assembled with 9 pin sockets and 11 pin octal type plug into case. One extra third deck is supplied as a loose part which may be easily inserted in the stack if desired. Overall height of all units is 3".

| Kit Number | Sockets | Base Dimens. | Deck Spacing (2 Decks) | Number Terminals Per Deck |
|---|---|---|---|---|
| KIT 4-EK3 | 3N or 3M | 1⅝"x3⅞" | 1-7/16" | 22 |
| KIT 5-E2K3 | 4N or 4M | 1.68"x4.82" | 1-7/16" | 30 |
| KIT 6-E1K3 | 5N or 5M | 1⅝"x5⅞" | 1-7/16" | 38 |

Many other case sizes and structures are obtainable at the factory.

## TUBE BASE PLUGS




Vector Tube Base Plugs fit the 7-pin miniature, 9-pin noval and 8-pin loctal tube sockets. Castings are mica-filled phenolic. The pins are of high strength phosphor bronze. These plugs may be mounted in three ways:

1. By means of a screw passing through the center of the plug. The miniature and noval plugs have a recessed hexagonal hole in the base which fits a #4-40 or 5/40 small pattern nut.
2. They may be retainer ring mounted in a plate or chassis. If the plugs are to be mounted in a plate add the letter "R".
3. Where round shells are to be attached, the 7- and 9-pin plugs can be furnished with 2 threaded inserts in the side (#1-72) thread) when the letter "F" is added to the part number.

The miniature plugs are available without the center post, and with the pins bent into hooks to facilitate soldering.

| Cat. No. | Type | Dimensions (Fig. 7) A | B | C | D | E | F | G | H | Retainer Ring No. |
|---|---|---|---|---|---|---|---|---|---|---|
| P7 | 7-pin min. | 1⅛" | 17/32" | 5/16" | .262 | 1/16" | .621 | .568 | .125 | None |
| P9 | 9-pin noval | 1⅛" | 17/32" | 5/16" | .262 | 1/16" | .748 | .700 | .125 | None |
| P7A | 7-pin min. | .791 | 3/16" | 5/16" | .262 | 1/16" | .621 | .568 | .125 | None |
| P9A | 9-pin noval | .791 | 3/16" | 5/16" | .262 | 1/16" | .748 | .700 | .125 | None |
| K1.302 (Same as P7 exc. no centerpost) | | | | | | | | | | |
| K1.402 (Same as P-9 exc. no centerpost) | | | | | | | | | | |
| K1.312 (Same as P7A exc. no centerpost) | | | | | | | | | | |
| K1.412 (Same as P9A exc. no centerpost) | | | | | | | | | | |
| K1.334 | Min. hooked pin | .712 | .150 | 5/16" | .262 | 1/16" | .621 | .568 | .125 | None |
| K1 .434 | Noval hooked pin | .725 | .162 | 5/16" | .262 | 1/16" | .748 | .700 | .125 | None |
| P8L | Loctal | 1-3/16" | 13/16" | 7/16" | 13/32" | .100 | 1.17 | 1.00 | .110 | None |

Add R after "P" or "K" for retainer ring
Add F after "P" or "K" for 1/72 knurl nuts.

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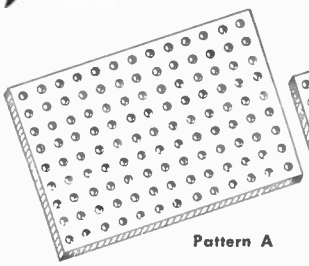
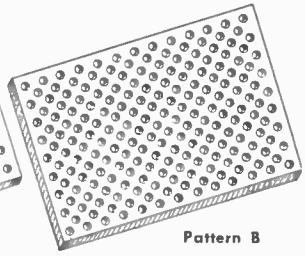
World Radio History

# Vector

## TERMINAL PUNCH BOARD



Pattern A

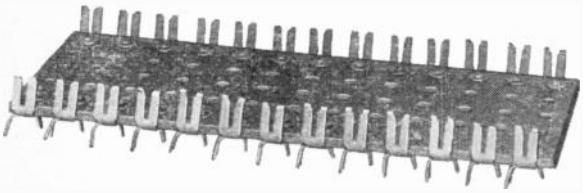


Pattern B

TERMINAL PUNCH BOARD is used for quick mounting of circuitry, thru use of pre-punched terminal holes. Pattern "A" provides an all-over grid of holes .093" in diameter, spaced 0.265" in each direction; thickness is 1/16". Pattern "F" has 1/16" diameter holes on a .2" grid on 1/16" thick board. Pattern "G" has 1/16" diameter holes, 0.1" grid, alt. holes missing per illustration; board is 1/16" thick. Material is epoxy-paper laminate for F & G patterns, and XXXP phenolic for A and AA.

| Cat. No. | Pattern | Approx. Width | Approx. Length | Thickness | No. of Holes |
|---|---|---|---|---|---|
| 64A18 | A | 4-7/8" | 17" | 1/16" | 64 x 18 |
| 64AA18 | AA | 4-7/8" | 17" | 3/32" | 64 x 18 |
| 32AA5 | AA | 1-3/8" | 8½" | 3/32" | 32 x 5 |
| 32AA7 | AA | 1-29/32" | 8½" | 3/32" | 32 x 7 |
| 32AA9 | AA | 2-7/16" | 8½" | 3/32" | 32 x 9 |
| 32A3 | A | 29/32" | 8½" | 1/16" | 32 x 3 |
| 85F24EP | F | 4-7/8" | 17" | 1/16" | 85 x 24 |
| 85G24EP | G | 4-7/8" | 17" | 1/16" | |

## TERMINAL BOARDS



Terminal Boards using the above type "AA" punched material with ZIP edge type terminals (T9.1) installed along two outer edges are available in several sizes as shown below. Grade XXXP tan phenolic, 3/32" thick with approximately .093" diameter holes spaced 0.265" on centers is standard. Glass silicone material can be obtained to special order, as well as other sizes and terminal types.

| Cat. No. | Type of Terminal | Number Terminals | Approx. Width | Approx. Length |
|---|---|---|---|---|
| 408 | Zip T9.0 | 8 | 9/16" | 2⅛" |
| 416 | Zip T9.0 | 16 | 9/16" | 4¼" |
| 432 | Zip T9.0 | 32 | 9/16" | 8½" |
| 32A3-T9.1 | Zip T9.1 | 64 | 27/32" | 8½" |
| 32AA5-T9.1 | Zip T9.1 | 64 | 1-3/8" | 8½" |
| 32AA7-T9.1 | Zip T9.1 | 64 | 1-29/32" | 8½" |
| 32AA5-T6.0 | Forklet T6.0 | 64 | 1-3/8" | 8½" |
| 32AA7-T6.0 | Forklet T6.0 | 64 | 1-29/32" | 8½" |

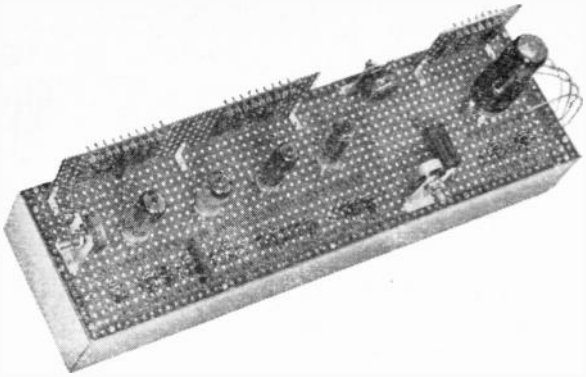
## CABLE CONNECTOR PLUGS

These permit connecting cables to miniature and noval tube sockets. Aluminum shells are fitted to the above plugs. In type "C" a rubber grommet (with ¼" hole) is mounted in the side wall and a center screw holds the assembly together. In type "D" a Heyco strain relief grommet is mounted in the end of the shell and the base screws hold the shell on the plug.

| End Outlet Cat. No. | Side Outlet Cat. No. | No. of pins | Outside Diam. | Approx. Length (Exc. Pins) |
|---|---|---|---|---|
| P7D | P7C | 7 | ⅝" | 2.125" |
| P9D | P9C | 9 | ¾" | 2.125" |

(Similar connectors for other tube type supplied to order.)

## EXPERIMENTER'S CHASSIS KIT

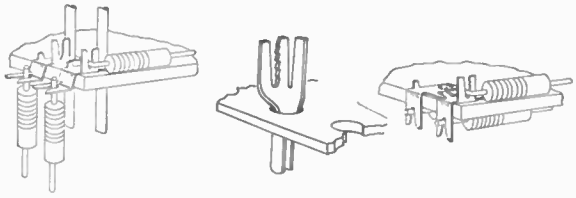


The EXPERIMENTER'S CHASSIS Kit for rapid setup of circuitry provides a perforated phenolic board, type AA described above, aluminum channel supports, PUSH-IN ZIP terminals as above, miniature seven pin, nine pin and octal sockets, self tapping screws and spacers for mounting sockets, pot and switch mtg brackets, and other miscellaneous hardware and strips. Instructions for assembly are supplied with the kit.

Kit 22X resembles #20X except that parts are provided to connect transistors. Transistor sockets with special clips fasten into the punch board holes. Or transistors may be clipped directly to the board without sockets.

| Cat No. | Description |
|---|---|
| Kit-20X | Low Cost sampler with 4¾" x 8½" Deck & accessories |
| Kit-21X | 4¾" x 17" Deck—Terminals, Sockets, many accessories |
| Kit-22X | 4¾" x 8½" Deck for Transistor circuitry |

## VECTOR ZIP TERMINALS



SIDE ZIP T9.0 — PUSH-IN T9.4 — EDGE ZIP T9.1

VECTOR ZIP TERMINALS — Remarkable new "ZIP" Terminals do "everything". The PUSH-IN Type need only be pushed into the .093" hole (Pattern A or AA board) and holds itself in without staking (May be staked if desired for maximum holding). It is provided with serrated slots to grip inserted wires — it also has through panel hole and additional slot on opposite side and is offset for Riser wire application. "Side Zip" type as used in Deck type units provides side projecting fork and is eyeletted in place in .093" hole. "Edge Zip" is similar to latter-but laps over edge of strip with main fork perpendicular to strip. Hot tin dipped eyelets listed separately for attaching ZIPS (except Push-in type) may also be used alone as terminals. The T9.6 terminal similar to T9.4 but springy berylium copper and longer. Tandems of 2 or 3 of these have joiner strip across top. Vials of 100 each.

| Cat No. | Type | Mtg. Hole | Length |
|---|---|---|---|
| T9.0 | Side Zip | .093 | |
| T9.1 | Edge Zip | .093 | |
| T9.4 | Push-in | .093 | |
| T9.6 | Push-in | .093 | |
| T9.62 | Push-in (Dual) | .093 | |
| T9.63 | Push-in (Triple) | .093 | |
| T7.0 | Eyelet | .093 | 3/32" |
| T7.1 | Eyelet | .093 | 1/8 " |
| T7.2 | Eyelet | .093 | 5/32" |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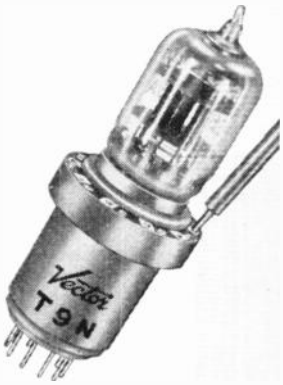
# Vector

## TUBE SOCKET TEST ADAPTERS

T80




T9N

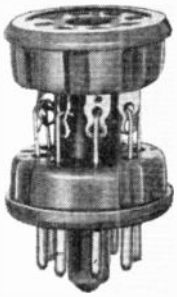
TUBE SOCKET TEST ADAPTERS are inserted between the socket and the tube and provide test tab elements for checking. Connections are wired straight thru from plug to socket. Beryllium copper socket contacts for long-life — molded tan phenolic bodies.

| Catalog Number | Socket Type |
|---|---|
| T-8-0 | Octal |
| T-7-M | Miniature |
| T-9-N | Noval |
| T-789 | Set of above three in kit |
| P-1 | Probe for above |

## EXPERIMENTER'S TEST ADAPTERS

EXPERIMENTER'S TEST ADAPTERS. These are similar to the Socket Test Adapter but are less the shells and tabs so that connections can be cross-connected in any desired way. User must solder connections (Outer shells available at factory — add "S" to number to obtain).

| Catalog Number | Socket Type |
|---|---|
| TX-8-O | Octal |
| TX-7-M | Miniature |
| TX-9-N | Noval |
| TX-789 | Set of above three in kit with Test Probe |



TX-8-0

## SOCKET EXTENDERS

SOCKET EXTENDERS provide a replaceable unit for use in tube testers. Wear is shifted from the socket in the tester to the one in the Extender so that when it is worn out a new one can be easily inserted. Sockets have highest grade beryllium copper contacts. A screw projects thru the plug and may be used to hold the unit firmly in place if desired. Socket to plug leads are soldered and an outer shell is used.

| Catalog Number | Socket Type |
|---|---|
| #1262 | Octal 8 |
| #1263 | 9 P. Noval |
| #1264 | 7 P. Miniature |

1262

## THE ROTOPROBE

THE ROTOPROBE is a new type of test adapter to which a rotating test lead is permanently attached. Rotation of the shell causes a contact arm to move across the pins connecting the socket elements so that any position may be quickly contacted. This serves the same purpose as the usual Test Adapters but is more convenient and faster.

| Catalog No. | Socket Type |
|---|---|
| T-8-B | Octal |
| T-7-B | Miniature |
| T-9-B | Noval |
| T-789-B | Set of above three in kit |

T8B

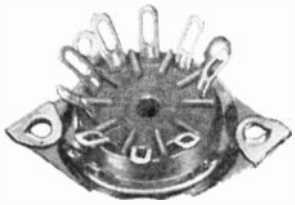
## SOCKET CHANGE ADAPTERS

SOCKET CHANGE ADAPTERS facilitate use of unlike tube bases in existing sockets where a change of tube types is required. To be wired by user. Add "S" to number for an outer shell which may be cemented in place.

T97

| Cat. No. | Socket | Plug |
|---|---|---|
| T 780 | 7 P. Min. | Octal 8 |
| T 79 | 7 P. Min. | 9 P. Nov. |
| T 807 | Octal 8 | 7 P. Min. |
| T 809 | Octal 8 | 9 P. Nov. |
| T 97 | 9 P. Nov. | 7 P. Min. |
| T 980 | 9 P. Nov. | Octal 8 |

## SOCKET SADDLE NUTS



U nuts designed especially to slip over and clamp on socket saddles provide convenient means for quickly screwing sockets to chassis. Two types are available, No. 4-40 U which fits No. 4-40 screws and No. 4Z U which fits a No. 4 sheet metal screw. The latter is stronger since it is of thicker metal than the former. Screws should be hardened steel for both nuts to avoid stripping and are also listed below: Material is cad. plated steel. Vials of 100 each.

| Cat. No. | Thread | Screw Length |
|---|---|---|
| 4-40 U Nut | 4/40 | — |
| 4-Z U Nut | 4 Z | — |
| S4/.250 Screw | 4-40 | ¼" |
| S4Z/.250 Screw | 4 Z | ¼" |

## HEATER RECTIFIER

VECTOR HEATER RECTIFIER, Type B3001 — Small full-wave selenium rectifier-filter circuit for eliminating AC hum by supplying DC heater current to first stage of low-level amplifier and preamps. Octal plug for convenient mounting, space above chassis only 1⅜" x 1⅜" x 4". Rated input voltage 6.3 to 7.5V AC, can be connected directly to available AC filament supply. Provides up to 0.3 amps DC. Produces no external magnetic fields; completely shielded, with grounding connection to case.

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MANUFACTURERS OF ELECTRONIC EQUIPMENT

# POMONA *Electronics* CO., INC.

pomona, california

## SOCKET SAVERS

**REDUCED HEIGHT FOR PORTABLE EQUIPMENT • MAXIMUM HEIGHT ABOVE EQUIPMENT 13/16 INCHES**

**MODEL SS-7**
SEVEN PIN MINIATURE
NET 1.95 ea.

**MODEL SS-9**
NINE PIN MINIATURE
NET 1.95 ea.

**MODEL SS-8**
EIGHT PIN OCTAL
NET 1.95 ea.

The Socket Saver is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. They are easily installed and removed eliminating the necessity of replacing and re-wiring sockets on original equipment. Built of quality materials. BERYLLIUM COPPER LONG LIFE CONTACTS to give maximum service.

MODEL SS — 789 KIT, Set of Three. NET 5.85

## TEST SOCKET TUBE ADAPTERS

**MODEL TVS-7**
SEVEN PIN MINIATURE
NET 1.65 ea.

**MODEL TVS-9**
NINE PIN MINIATURE
NET 1.85 ea.

**MODEL TVS-8**
EIGHT PIN OCTAL
NET 1.55 ea.

Peco Test Socket Tube Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They Feature Extended test tabs for easy use with either alligator clips or test prods; Low loss mica-filled sturdy phenolic construction; Power factor less than 0.010 at 10 Mc. High insulation resistance, the I. R. exceeds 500,000 megohms at 40% R. H. at 24° C; Distributed capacity inter-element approximately 1 micro-micro farad; High voltage operation, voltage breakdown between elements exceeds 1700 volts AC or DC.

MODEL TVS — 789 KIT, Set of Three. NET 4.95

SPECIAL ADAPTERS DESIGNED TO YOUR SPECIFICATIONS.

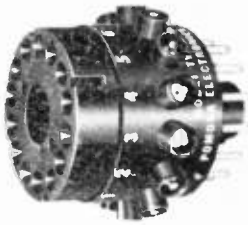
## TEST SOCKET CATHODE RAY TUBE ADAPTERS

**MODEL TVS-1**
DUO DECAL
*For Television picture tubes*
NET 1.95 ea.

**MODEL TVS-2**
NEO-DIHEPTAL
*For color Television picture tubes*
NET 7.45 ea.

**MODEL TVS-3**
EIGHTAR (.040 PINS)
*For 110° Television picture tubes*

**MODEL TVS-4**
7 PIN (.093 PINS)
*For 110° Television picture tubes*



**MODEL TVS-14**
DIHEPTAL
NET 14.90 ea.

The PECO Test Socket Adapters are ideal for making measurements of voltage, resistance, and video from the base of the picture tube. The test socket adapter is inserted between the CR Tube base and its socket. This completes the circuit and makes all connections readily accessible. Measurements can be made without tracing circuit wiring to test points below the chassis, thereby saving valuable time and increasing efficiency in trouble shooting.

The PECO TVS-14 TEST SOCKET ADAPTER is ideal for making measurements of cathode ray tubes with a 14 pin diheptal base as in oscilloscopes, radar indicators, industrial television, studio monitors, etc. Sturdy Phenolic Construction; Power Factor less than 0.010 at 10 Mc. High insulation resistance I. R. exceeds 100,000 Megohms @ 50% R. H., 25° C. Low Inter-element capacity, less than 2 micro-micro farad. Voltage breakdown between adjacent elements exceeds 7,500 volts D. C.



World Radio History

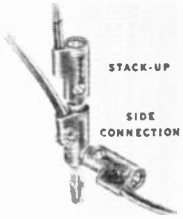
MANUFACTURERS OF ELECTRONIC EQUIPMENT

# POMONA *Electronics* CO., INC.

pomona, california

## PECO PATCH-CORDS STACK-UP CONNECTING LEADS

### MODEL B BANANA TYPE




Ideal for rapid circuit connections Provides access to additional plugs at end or at side. For use with test equipment. Fits all standard banana jacks. One piece beryllium copper spring for positive long life contact Extra flexible polyvinyl insulated wire . . . 18 gauge, stranding 65 x 36 T. C. Wire lead securely solder-bonded to plug. Plug body molded with durable polyethylene insulation. Available in 4", 8", 12", 18", 24" and 36" lengths. Colors: Black, Brown, Red, Orange, Yellow. Green, Blue, Violet, Gray and White. **NET 1.50 ea.**

*Specify length and color when ordering.*

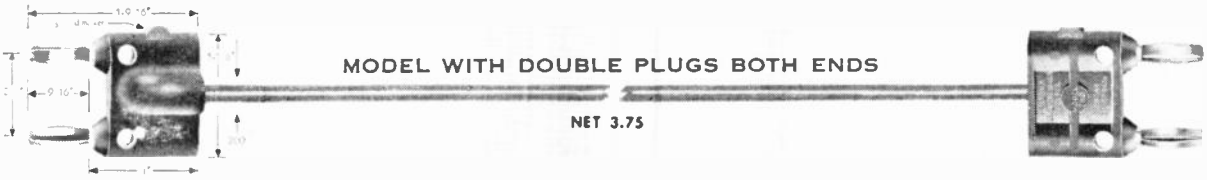
### MODEL P (.080 PHONE TIP)

Miniature patch cords. These provide a greater number of patch cords per given area. Used with test equipment, computers, problem boards, etc. Will fit all standard .080 tip jacks.

Beryllium copper heat treated spring contact, for long life and low contact resistance. Finish, silver plate, gold flash. Extra flexible polyvinyl insulated wire, 20 gauge. Stranding 41 x 36 T. C. Wire lead securely solder-bonded to assembly. Plug body molded with polyethylene. Compact size, extended height above jack, ⅞", diameter ¼". **NET 1.50 ea.**

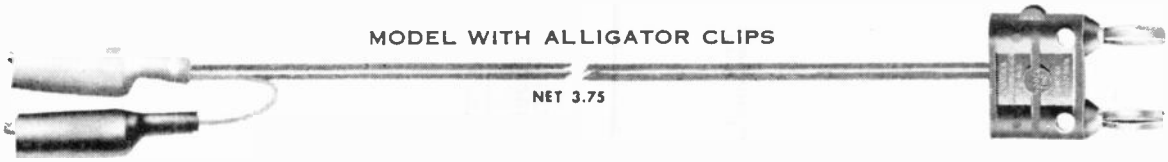
*Lengths and colors available, same as Model B Patch Cords.*

## ¾" DOUBLE PLUG STACK-UP PATCH CORD & TEST LEADS



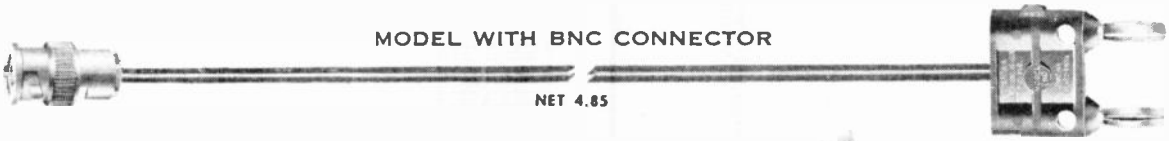
### MODEL WITH DOUBLE PLUGS BOTH ENDS

**NET 3.75**



### MODEL WITH ALLIGATOR CLIPS

**NET 3.75**

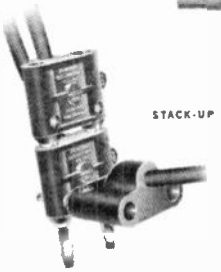


### MODEL WITH BNC CONNECTOR

**NET 4.85**

| MODELS | | | SPECIFICATIONS | | | |
|---|---|---|---|---|---|---|
| Model with Double Plugs | Model (with Alligator Clips) | Model (with BNC connector) | Length | Cable Description | *Color (Plug and Cable) | Nominal Capacity mmf./ft. |
| 2BA-18 | 2BA-AL-18 | 2BA-BNC-18 | 18" | Two conductor | Gray | 30 |
| 2BA-24 | 2BA-AL-24 | 2BA-BNC-24 | 24" | twisted. 18 gauge wire. | | |
| 2BA-30 | 2BA-AL-30 | 2BA-BNC-30 | 30" | 65/36 stranding. Vinyl | | |
| 2BA-36 | 2BA-AL-36 | 2BA-BNC-36 | 36" | insulation. Vinyl jacket. | | |
| 2BB-18 | 2BB-AL-18 | 2BB-BNC-18 | 18" | Shielded microphone | Gray | 25 |
| 2BB-24 | 2BB-AL-24 | 2BB-BNC-24 | 24" | cable. Polyethylene | | |
| 2BB-30 | 2BB-AL-30 | 2BB-BNC-30 | 30" | insulation. Vinyl | | |
| 2BB-36 | 2BB-AL-36 | 2BB-BNC-36 | 36" | jacket. | | |
| 2BC-18 | 2BC-AL-18 | 2BC-BNC-18 | 18" | Coaxial shielded | Black | 28.5 |
| 2BC-24 | 2BC-AL-24 | 2BC-BNC-24 | 24" | cable. Polyethylene | | |
| 2BC-30 | 2BC-AL-30 | 2BC-BNC-30 | 30" | insulation. Vinyl jacket. | | |
| 2BC-36 | 2BC-AL-36 | 2BC-BNC-36 | 36" | RG58C/U. | | |

* Color of plug body to match cable unless otherwise specified. The following additional colors on plug body are available for color coding on special order. Black, Red, Green, Yellow, Orange, Blue, Brown, Gray, Violet and White.




- Molded polyethylene plug body fully insulated
- Permits parallel multiple stacking.
- Ground connection clearly marked.
- One piece beryllium copper spring.
- Solder bonded noise-free connection.
- Fits standard banana jacks.

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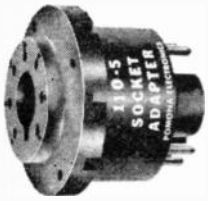
World Radio History

MANUFACTURERS OF ELECTRONIC EQUIPMENT

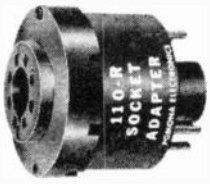
# POMONA *Electronics* CO., INC.

pomona, california

## TUBE SOCKET CONVERSION ADAPTERS




MODEL 110-S
NET 1.55 ea.




MODEL 110-R
NET 1.55 ea.

**110° CRT SOCKET ADAPTER TO DUO DECAL BASE. FOR TESTING NEW NARROW-NECK 110° TUBES.**

Modernize your present test equipment with this simple adapter, no rewiring necessary. Just plug in adapter to convert to 110° socket. Used for testing, ageing, and lifetesting. Model 110-S has .820 pin-circle diameter (7 pins, .093 diameter) similar to 17BVP4, etc. Model 110-R has .600 pin-circle diameter (.040 pins) similar to 17BZP4, etc.

## VIBRATOR TEST ADAPTERS

MODEL DA-34

FOR CHECKING ANY STANDARD 3 OR 4 PRONG VIBRATOR, 6 OR 12 VOLT

NET 4.95 ea.

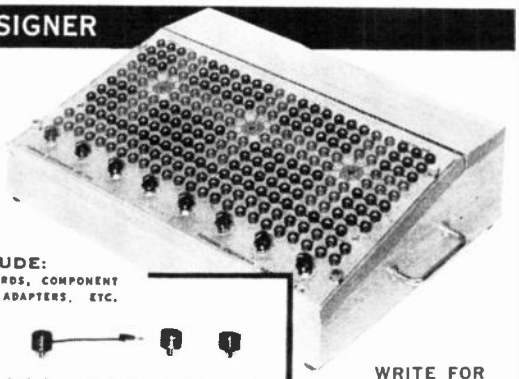
The Vibrator Test Adapter simplifies servicing of auto radios by eliminating the vibrator as a possible source of trouble. Features compact rugged phenolic construction. Instantly shows when contacts are sticking or open. Will indicate starting voltage. Eliminates guesswork.

MODEL 4A 4 PRONG 6-12 VOLT
NET 3.25 ea.

MODEL 3D 3 PRONG 12 VOLT
NET 3.25 ea.

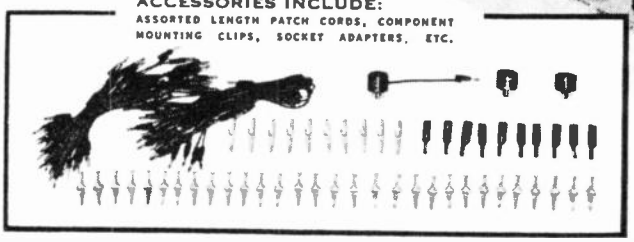
## MODEL C-38 CIRCUIT DESIGNER

**an engineering tool for rapid synthesis of electronic circuits**



The simplicity and flexibility of the PECO Circuit Designer permits reliable "quick and clean" solderless assembly. Saves fabrication time, check-out time lost due to circuit errors and the cost of scrapped chassis. Every component of the Circuit Designer is re-usable again and again. Complete with Accessories. **295.00 NET**

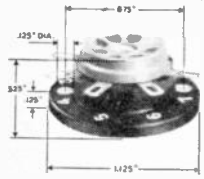
**ACCESSORIES INCLUDE:**
ASSORTED LENGTH PATCH CORDS, COMPONENT MOUNTING CLIPS, SOCKET ADAPTERS, ETC.



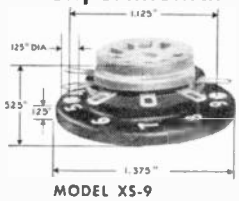
WRITE FOR FREE BULLETIN FOR ADDITIONAL INFORMATION

## SURFACE MOUNTED BREADBOARD SOCKETS

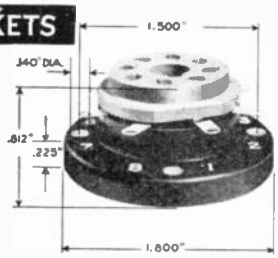
**ideal for electronic and experimental use**




MODEL XS-7
SEVEN PIN MINIATURE
NET 49c ea.




MODEL XS-9
NINE PIN MINIATURE
NET 57c ea.




MODEL XS-8
EIGHT PIN OCTAL
NET 57c ea.

Surface Mounted Breadboard Sockets are used for experimental circuit design, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy identification; Grade-A phosphor bronze spring contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permit the re-use of experimental chassis.

## METER REVERSING POLARITY SWITCH

MODEL MS-1
FOR USE WITH
SIMPSON 260 TESTER

The MS-1 is designed to reverse polarity when making circuit tests without removing test leads to meter. It is instantly attached by plugging into test lead holes on Simpson Tester Model 260. Saves time in circuit testing. **NET 6.95 ea.**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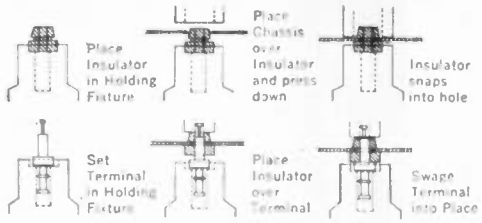
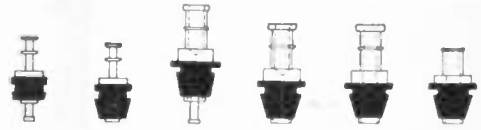
World Radio History

# LERCO

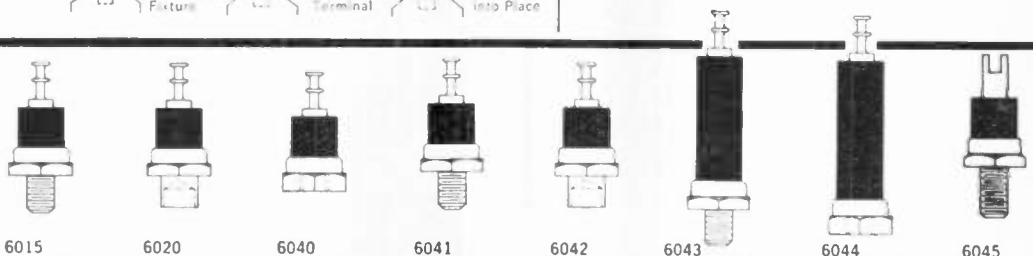
## INSULATED TERMINALS

### TEFLON INSULATED SNAP-LOCK TERMINALS



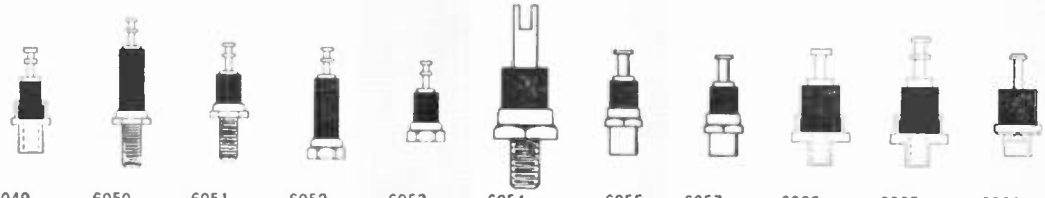



4071 .095 | 4073 .09 | 4075 .16 | 4076 .14 | 4077 .11 | 4078 .105

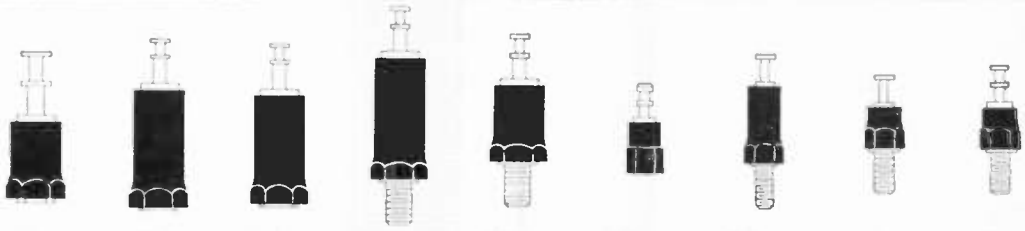


6015 Phenolic .12 | 6020 Phenolic .12 | 6040 Melamine .19 | 6041 Melamine .19 | 6042 Melamine .19 | 6043 Melamine .22 | 6044 Melamine .22 | 6045 Phenolic .13

### MOLDED STAND-OFF TERMINALS

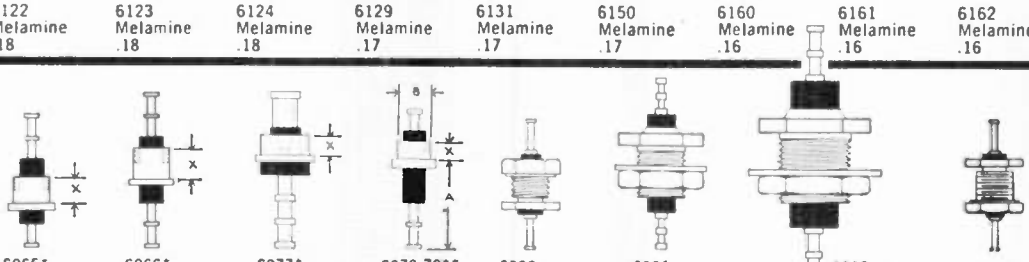


6049 Melamine .22 | 6050 Melamine .22 | 6051 Melamine .20 | 6052 Melamine .22 | 6053 Melamine .20 | 6054 Melamine .19 | 6055 Alkyd .18 | 6057 Melamine .17 | 6062 Melamine .19 | 6063 Melamine .21 | 6064 Melamine .12



6122 Melamine .18 | 6123 Melamine .18 | 6124 Melamine .18 | 6129 Melamine .17 | 6131 Melamine .17 | 6150 Melamine .17 | 6160 Melamine .16 | 6161 Melamine .16 | 6162 Melamine .16

### MOLDED FEED-THRU TERMINALS




6065* Melamine .22 | 6066* Melamine .22 | 6077* Melamine .22 | 6078-79** Melamine .22 | 6080 Melamine .35 | 6081 Phenolic .28 | 6082 Phenolic .30 | 6090 Teflon .40

*Alternate sizes for items asterisked

| Part No. | Dim. X | Thickness |
|---|---|---|
| -A | .075 | 1/32 |
| -AB | .095 | .050 |
| -B | .105 | 1/16 |
| -C | .135 | 3/32 |
| -D | .165 | 1/8 |

**6078-79 Available in sizes

| Part No. | Dim. A | Dim. B 6078 | Dim. B 6079 | Dim. X | Board Thickness |
|---|---|---|---|---|---|
| -A | .420 | .173 | .195 | .075 | 1/32 |
| -AB | .420 | .173 | .195 | .095 | .050 |
| -B | .405 | .173 | .195 | .105 | 1/16 |
| -C | .375 | .173 | .195 | .135 | 3/32 |
| -D | .345 | .173 | .195 | .165 | 1/8 |

## ALL ITEMS SHOWN FULL SIZE

Net price shown under part number. Specify shaft length and board thickness (see next page for ordering information.

## SPECIFICATIONS

Terminal material is half-hard brass with .0003" minimum silver plating unless otherwise specified. Other platings available on special order. Bases are cadmium plated brass. Tolerances: ±.005" unless otherwise specified.

**Get all three...Service, Price, Quality**

**LERCO ELECTRONICS, INC. BURBANK, CALIFORNIA**

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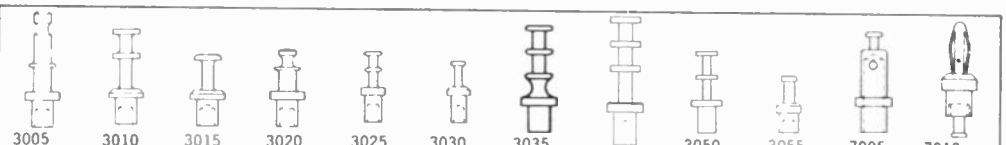
World Radio History

# LERCO

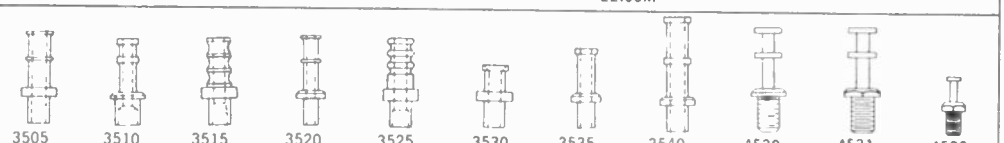
## STANDARD TERMINALS

### SINGLE END TERMINALS PLUG AND JACK



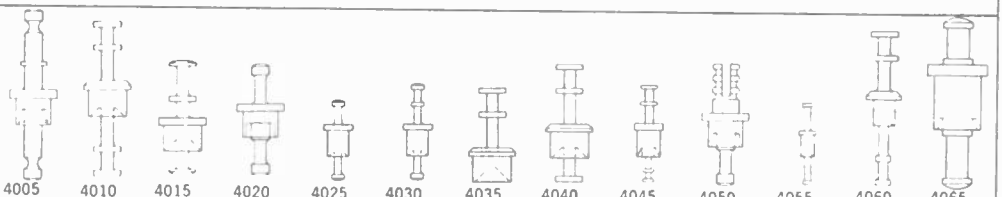
3005 14.20M | 3010 11.80M | 3015 12.10M | 3020 9.20M | 3025 8.50M | 3030 13.50M | 3035 11.80M | 3045 22.00M | 3050 12.75M | 3055 13.50M | 7005 58.00M | 7010 130.00M

### HOLLOW AND THREADED TERMINALS



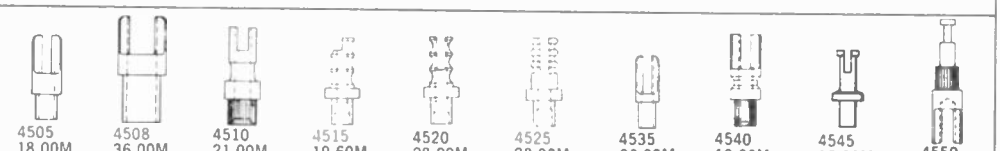
3505 11.80M | 3510 17.60M | 3515 20.00M | 3520 24.50M | 3525 21 00M | 3530 14.00M | 3535 15.50M | 3540 21.80M | 4530 23.00M | 4531 21.00M | 4532 18.00M

### DOUBLE END TERMINALS



4005 29.40M | 4010 31.00M | 4015 26.00M | 4020 22.00M | 4025 12.60M | 4030 28.60M | 4035 22.50M | 4040 28.60M | 4045 31.00M | 4050 38.00M | 4055 24.00M | 4060 34.00M | 4065 49.30M

### MILLED TERMINALS

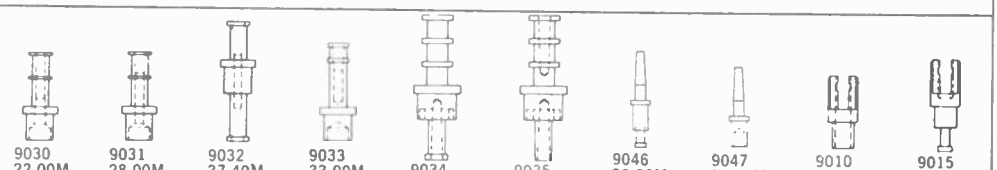


4505 18.00M | 4508 36.00M | 4510 21.00M | 4515 19.60M | 4520 28.00M | 4525 28.00M | 4535 26.80M | 4540 19.00M | 4545 18.80M | 4550 36.00M

### SUBMINIATURE TERMINALS

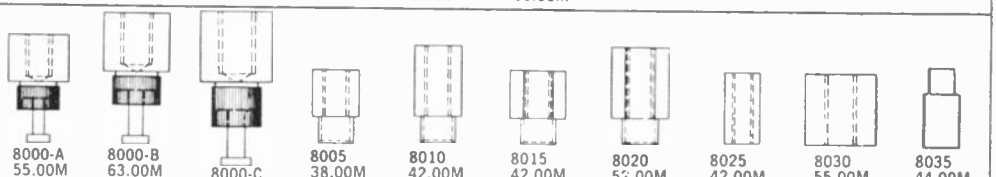
4560 36.00M | 5000 16.40M | 5005 13.60M | 5010 13.80M | 5015 16.40M | 5020 11.40M | 5025 14.00M | 5030 14.00M | 5040 11.40M | 5075 19.00M | 5080 28.00M | 5085 31.50M | 5090 11.50M

### TAPER PINS (mate with AMP pins) DIODE CLIPS



9030 22.00M | 9031 28.00M | 9032 37.40M | 9033 33.00M | 9034 53.00M | 9035 68.00M | 9046 30.00M | 9047 30.00M | 9010 26.70M | 9015 27.00M

### MOUNTING STANDOFFS



8000-A 55.00M | 8000-B 63.00M | 8000-C 70.00M | 8005 38.00M | 8010 42.00M | 8015 42.00M | 8020 52.00M | 8025 42.00M | 8030 55.00M | 8035 44.00M

### ORDERING INFORMATION

Specify shaft length and desired board thickness by adding code letter to item number For example, item No. 3005-B has shaft length of .105" and accommodates board thickness of 1/16"; No. 3005-C dimensions are .135" and 3/32", etc.

All items shown full size.
Net price is indicated under model number

| | 3000, 4000, 7000, 8000, & 9000 SERIES | | 5000 SERIES | | 6000 SERIES |
|---|---|---|---|---|---|
| | shaft length | thickness | shaft length | thickness | |
| A | .075 | 1/32 | .053 | 1/32 | Specify desired material thickness |
| B | .105 | 1/16 | .084 | 1/16 | |
| C | .135 | 3/32 | .115 | 3/32 | |
| D | .165 | 1/8 | .147 | 3/32 | |

**Get all three... Service, Price, Quality**

**LERCO ELECTRONICS, INC. BURBANK, CALIFORNIA**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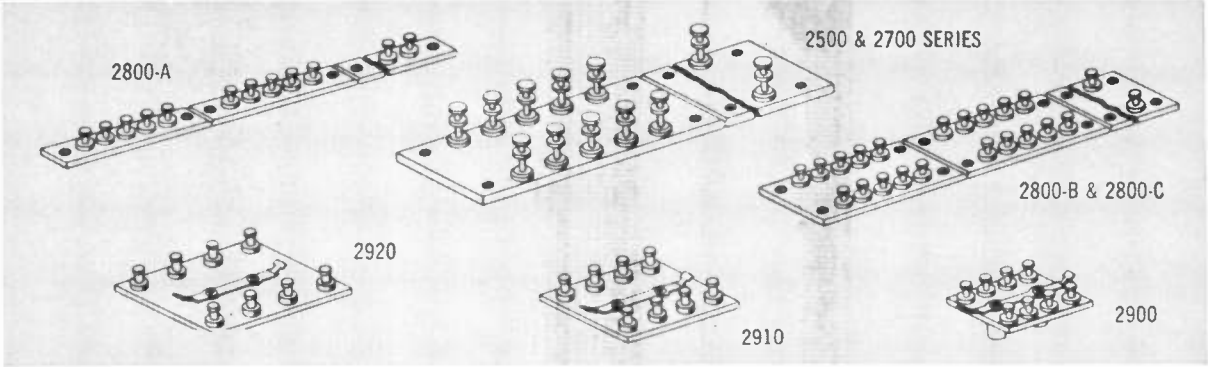
World Radio History

# LERCO

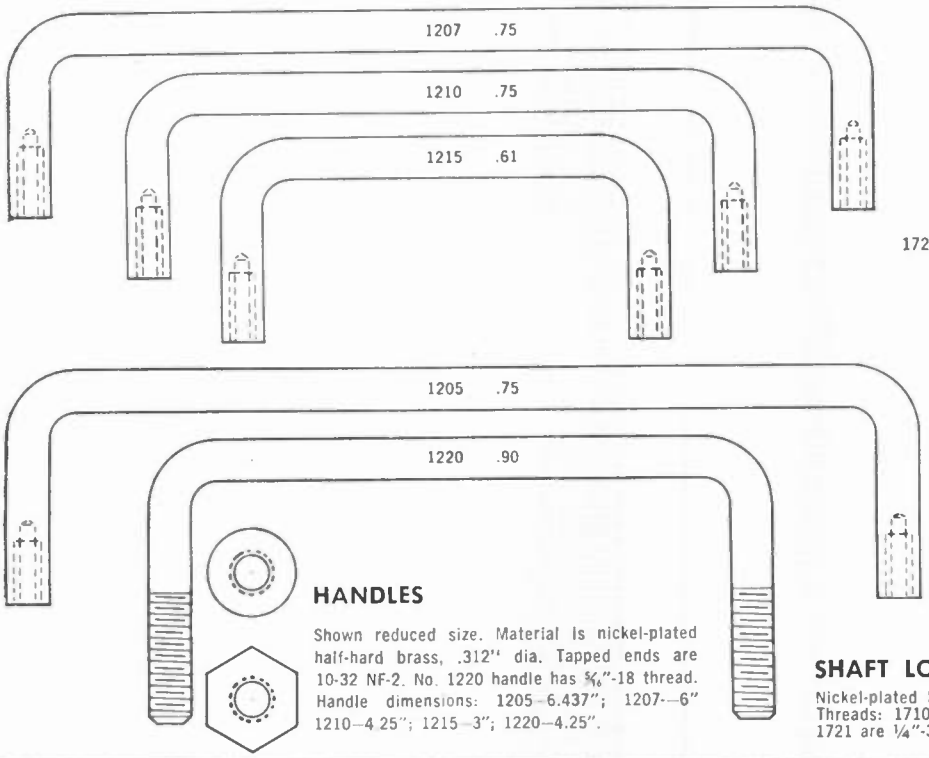
**TERMINAL BOARDS · HANDLES · HARDWARE**




## TERMINAL BOARD SPECIFICATIONS

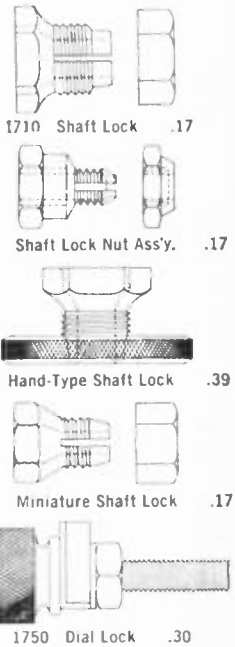
| PART NO. | 2500-B | 2500-C | 2500-D | 2600 | 2700-A | 2700-B | 2800-A | 2800-B | 2800-C | 2900 | 2910 | 2920 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | 13 1/8" | 13 1/8" | 13 1/8" | 13 1/8" | 13 1/8" | 13 1/8" | 7 13/16" | 7 13/16" | 7 13/16" | .875" | 1.22" | 1 1/2" |
| WIDTH | 2" | 2 1/2" | 3" | 1/2" | 1 1/16" | 1 1/2" | .312" | 3/4" | 1" | .719" | 1.03" | 1.16" |
| BOARD MATERIAL | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | paper base phenolic | glass melamine | glass melamine | glass melamine |
| NO. OF SECTIONS | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 |
| NO. OF TERMINALS | 50 | 50 | 50 | 25 | 50 | 50 | 25 | 50 | 50 | 8 | 8 | 8 |
| TERMINAL | 3010 | 3010 | 3010 | 3010 | 3025 | 3025 | 5025 | 5025 | 5025 | 5025 | 3530 | 3530 |
| ALTERNATE TERMINAL | 3015-3505 | 3015-3505 | 3015-3505 | 3015-3505 | — | — | 5090 | 5090 | 5090 | — | — | — |
| PRICE EA. | 2.20 | 2.30 | 2.40 | 1.10 | 1.72 | 1.78 | 1.05 | 2.10 | 2.10 | .60 | .65 | .70 |

**ORDERING INFORMATION**—All terminal boards supplied with 3/32" material unless otherwise specified. Lerco will supply boards of any type made to customer's designs. Send blueprints for immediate quotation.




### HANDLES

Shown reduced size. Material is nickel-plated half-hard brass, .312" dia. Tapped ends are 10-32 NF-2. No. 1220 handle has 5/16"-18 thread. Handle dimensions: 1205—6.437"; 1207—6" 1210—4.25"; 1215—3"; 1220—4.25".




### SHAFT LOCKS

Nickel-plated half-hard brass, shown actual size. Threads: 1710 and 1720 are 3/8"-32; 1712 and 1721 are 1/4"-32; 1722 is 1/4"-28.

**Get all three...Service, Price, Quality**

**LERCO ELECTRONICS, INC.** **BURBANK, CALIFORNIA**

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World Radio History

# RELIABILITY

## *with every Cambion® component . . . ordered in any quantity!*

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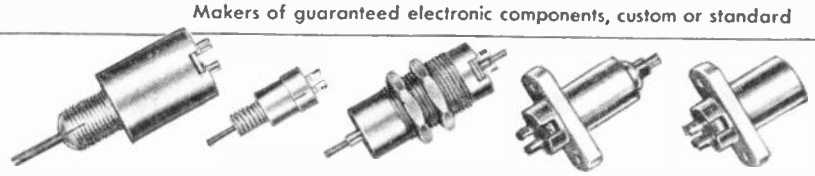
Makers of guaranteed electronic components, custom or standard

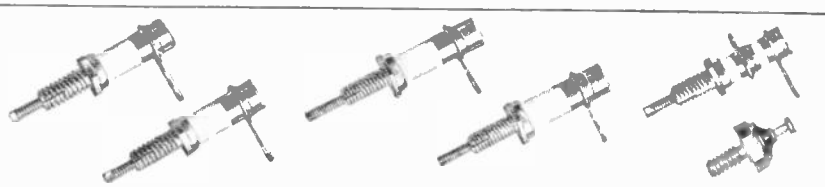
### CAMBION QUALITY SHIELDED COIL FORMS

Miniaturized. Highly shock resistant. Mechanically enclosed, completely shielded for maximum reliability.



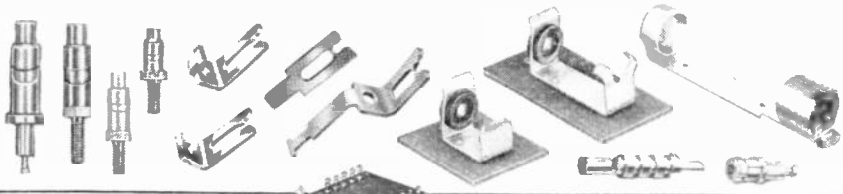
### CAMBION QUALITY CAPACITORS

Miniaturized Variable Ceramic Capacitors that outperform much bigger capacitors. (*Extreme right*): Stand-Off Capacitors with ceramic dielectric. Rugged R-F by-pass capacitors for high quality equipment. Shock-, vibration-, humidity-resistant.



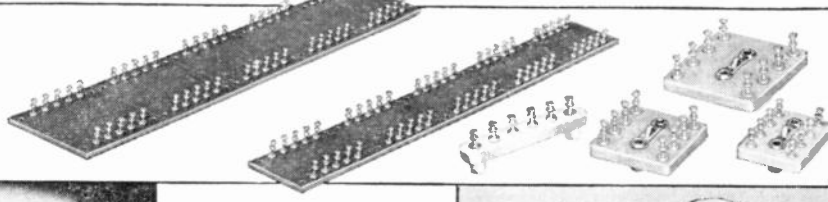
### CAMBION QUALITY DIODE CLIPS

Seven different types, including rivet and spring-loaded units primarily for holding fragile pigtail leads from .005" to .085" in diameter. Also, one-, three-, and five-cell battery clips and miniature plugs and jacks.



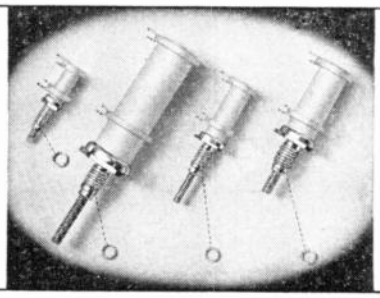
### CAMBION QUALITY TERMINAL BOARDS

Custom-made, standard all-sets, standard ceramics. Variety of materials available — paper, cloth, nylon, glass laminates — phenolic, melamine, epoxy, silicone resins. Moisture- and fungus-proofed.



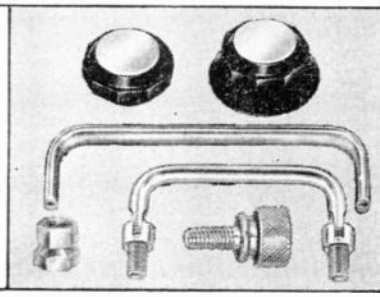
### CAMBION QUALITY PERMA-TORQ® COIL FORMS

Constant-tensioning devices for tuning cores of standard CAMBION ceramic coil forms. Keeps coils tuned as set despite shock, vibration.



### CAMBION QUALITY KNOBS AND PANEL HARDWARE

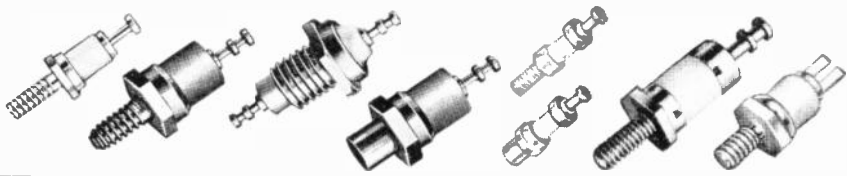
Selected materials, carefully processed and finished. Metal parts polished before plating. Hard-wearing surfaces, lasting lusters.



### CAMBION QUALITY INSULATED TERMINALS

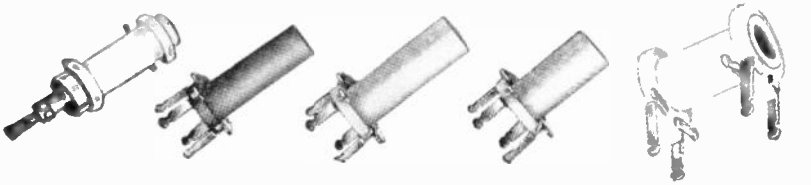
Wide variety of stand-off and feed-through models in Teflon* and ceramic. Extremely resistant to shock, vibration, moisture and temperature. Solder terminals hold even after prolonged soldering operations.

*DuPont Registered Trademark



### CAMBION QUALITY PRINTED CIRCUIT COIL FORMS

Phenolic and ceramic types. Can be soldered after mounting. Available as forms alone or wound as specified. Two- to six-terminal models.





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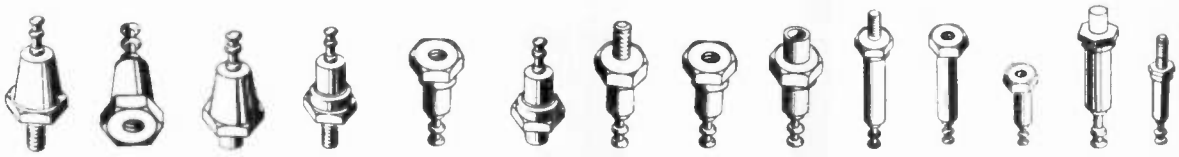
World Radio History

# USECO

## STANDARDIZED ELECTRONIC HARDWARE

### INSULATED TERMINALS

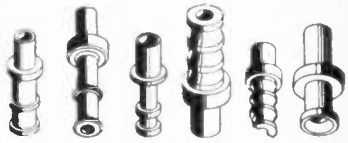


1400 1418 | 1401 1417 | 1410 1419 | 1450 1460 | 1451 1461 | 1452-1462 | 1409 | 1411 | 1413 | 1421 | 1422 | 1423 | 1424 | 1425

### Turret

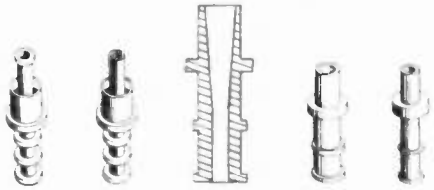
1300 | 1300T | 1370 | 1210 | 1280 | 1350 | 1340 | 1340T | 2030 | 2520 | 2540 | 2060

### STANDARD — Hollow Lug



1200 | 1390 | 1330 | 1260 | 1380 | 1392

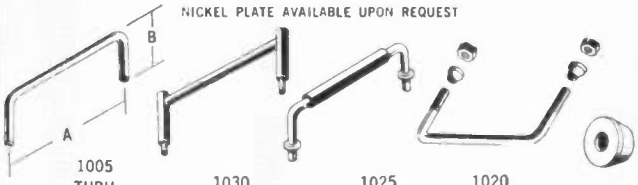
### TAPERED RECEPTACLE



2761 | 2760 | 2720 2730 | 2740 2750

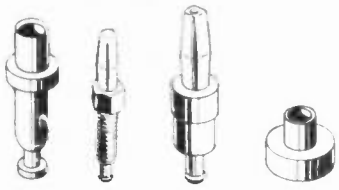
### HANDLES & FERRULE

FINISH: CHROME PLATE OVER NICKEL
NICKEL PLATE AVAILABLE UPON REQUEST



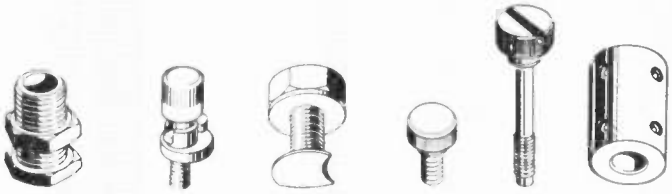

1005 THRU 1017 | 1030 | 1025 | 1020 | 900

### PLUGS & SOCKETS



1700 | 1705 | 1715 | 1710

### ACCESSORY HARDWARE



1560 | 1800 | 1815 | 3100 | 3200 | 3316

### USECO Model A SWAGING MACHINE and TOOLS

In ordering USECO tools, please order by the part number of the terminal for which the tool is to be used; i.e., one set of #1300 tools will swage all of the letter deviation such as A-B-C, etc., of the #1300 terminal lug. Shipping weight of the swaging machine—18 lbs. tools—4 oz. For your convenience, a large stock of machines and tools are in stock for immediate delivery.

MODEL A ..... $54.75
TOOLS (SET) ..... 5.00

### TO ORDER

STANDARD CATALOG ITEMS — Standard USECO Electronic Hardware is stocked at your nearby AUTHORIZED USECO DISTRIBUTOR, who offers prompt delivery F.O.B. his warehouse. As a further convenience these items are stocked at:

Litton Industries Components Div.
USECO Sales Dept.

Los Angeles 16, California
Mount Vernon, N.Y.

Shipments F.O.B. Los Angeles or Mount Vernon.

SPECIAL ITEMS — For special USECO items manufactured to your requirements, write or call:

Litton Industries Components Div.
Los Angeles 16, California
Shipments F.O.B. Los Angeles

TERMS: Unless otherwise arranged, net 30 days.

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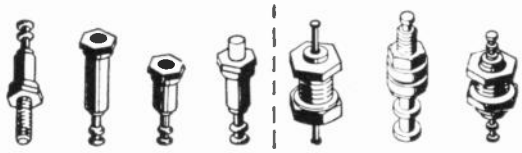
World Radio History

# STANDARDIZED ELECTRONIC HARDWARE

USECO

## TERMINALS



1426 1427 1428 1429 1430 1432 1433 1435

Feed-Thru

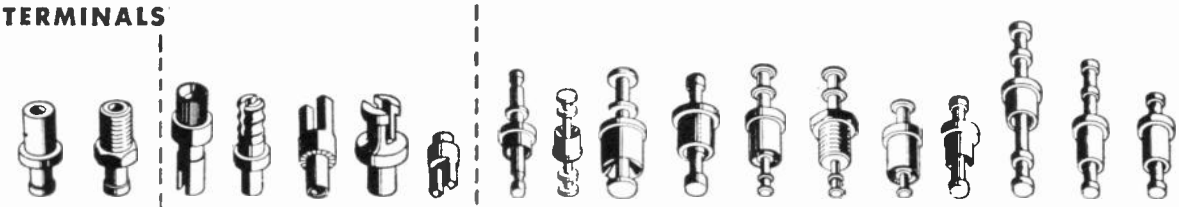
## KNOBS

500 501 502 625 626 627 1000 1038 1040

FOR ANODIZED COLORS ORDER BY DASH NO.

-20 PLAIN
-21 BROWN
-22 RED
-23 ORANGE
-24 YELLOW
-25 GREEN
-26 BLUE
-27 VIOLET
-28 GREY
-29 WHITE
-30 BLACK

## TERMINALS



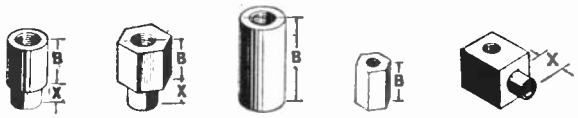
2010 2010T 1391 1250 1310 2020 2000 1230 1360 1320 1220 2040 2040T 2050 1290 2500 2510 2530

Split — Feed-Thru

## SHAFT LOCKS

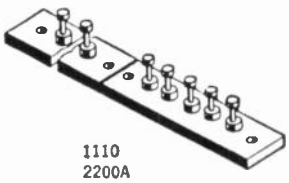
1513 1520 — 1510 1512 — 1515 1514 (CAP ONLY)

## STAND-OFFS

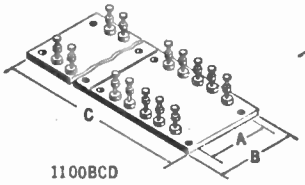



1530 1540 — 1531 1541 — 1550 — 1551 — 1590

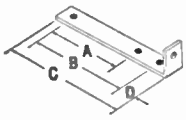
## TERMINAL BOARDS & BRACKETS



1110
2200A




1100BCD
2200BC




11

1180
1181
1182

| NO. | A | B | C | D | USE ON |
|---|---|---|---|---|---|
| 11-2 | 1.50 | — | 2-1/8 | .35 | 1100B |
| 11-3 | 1.50 | 2.00 | 2-5/8 | .35 | 1100B 1100C |
| 11-4 | 2.00 | 2.50 | 3-5/16 | .56 | 1100C 1100D |
| 11-5 | 1.50 | 2.00 | 2-13/16 | .56 | 1100B 1100C |

## TOLERANCES

TOLERANCES UNLESS OTHERWISE SPECIFIED.

| | |
|---|---|
| DECIMALS | ±.003 |
| FRACTIONS | ±1/64 |

LITTON INDUSTRIES
COMPONENTS DIVISION

LOS ANGELES 16, CALIFORNIA
MOUNT VERNON, NEW YORK

REFER TO NEXT PAGE FOR SPECIFICATIONS



Net

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# USECO

# STANDARDIZED ELECTRONIC HARDWARE SPECIFICATIONS

**Unless Otherwise Indicated: X — Shank Length: THD. or DIA. — Shank Dia. or Thread: T — Thickness of Board or Thread Size: A, B, C, D dimensions on drawings; Price — Suggested, Minimum Quantity.**

## INSULATED STAND-OFF TERMINALS

| No. | X | Thd. or Dia. | T | Price Each |
|---|---|---|---|---|
| 1400A | 3/16 | 6-32 | | .15 |
| 1400B | 1/4 | 6-32 | | .15 |
| 1400C | 5/16 | 6-32 | | .15 |
| 1400D | 3/8 | 6-32 | | .15 |
| 1400E | 3/16 | 4-40 | | .15 |
| 1400F | 1/4 | 4-40 | | .15 |
| 1400G | 5/16 | 4-40 | | .15 |
| 1400H | 3/8 | 4-40 | | .15 |
| 1418A | 3/16 | 6-32 | | .19 |
| 1418B | 1/4 | 6-32 | | .19 |
| 1418C | 5/16 | 6-32 | | .19 |
| 1418D | 3/8 | 6-32 | | .19 |
| 1418E | 3/16 | 4-40 | | .19 |
| 1418F | 1/4 | 4-40 | | .19 |
| 1418G | 5/16 | 4-40 | | .19 |
| 1418H | 3/8 | 4-40 | | .19 |
| 1450A | 3/16 | 6-32 | | ON REQUEST |
| 1450B | 1/4 | 6-32 | | |
| 1450C | 5/16 | 6-32 | | |
| 1450D | 3/8 | 6-32 | | |
| 1450E | 3/16 | 4-40 | | |
| 1450F | 1/4 | 4-40 | | |
| 1450G | 5/16 | 4-40 | | |
| 1450H | 3/8 | 4-40 | | |
| 1460A | 3/16 | 6-32 | | |
| 1460B | 1/4 | 6-32 | | |
| 1460C | 5/16 | 6-32 | | |
| 1460D | 3/8 | 6-32 | | |
| 1460E | 3/16 | 4-40 | | |
| 1460F | 1/4 | 4-40 | | |
| 1460G | 5/16 | 4-40 | | |
| 1460H | 3/8 | 4-40 | | |
| 1401 | | 6-32 | | .15 |
| 1401A | | 4-40 | | .15 |
| 1417 | | 6-32 | | .19 |
| 1417A | | 4-40 | | .19 |
| 1451 | | 6-32 | | ON REQUEST |
| 1451A | | 4-40 | | |
| 1461 | | 6-32 | | |
| 1461A | | 4-40 | | |
| 1410B | .156 | .187 | 1/8 | .15 |
| 1419 | .156 | .187 | 1/8 | .19 |
| 1452 | .156 | .187 | 1/8 | ON REQUEST |
| 1462 | .156 | .187 | 1/8 | |
| 1421 | .250 | 6-32 | | .24 |
| 1422 | | 6-32 | | .24 |
| 1423 | | 6-32 | | .24 |

## MINIATURE INSULATED STAND-OFF TERMINALS

| | | | | |
|---|---|---|---|---|
| 1409 | .250 | 6-32 | | .19 |
| 1411 | | 6-32 | | .19 |
| 1413A | .075 | .113 | 1/32 | .19 |
| 1413B | .105 | .113 | 1/16 | .19 |
| 1413C | .135 | .113 | 3/32 | .19 |
| 1413D | .165 | .113 | 1/8 | .19 |

## SUB-MINIATURE INSULATED STAND-OFF TERMINALS

| | | | | |
|---|---|---|---|---|
| 1425 | .218 | 2-56 | | .24 |
| 1427 | | 2-56 | | .24 |
| 1426 | .218 | 2-56 | | .22 |
| 1428 | | 2-56 | | .22 |
| 1424B | .105 | .113 | 1/16 | .24 |
| 1424C | .135 | .113 | 3/32 | .24 |
| 1424D | .165 | .113 | 1/8 | .24 |
| 1429B | .105 | .113 | 1/16 | .22 |
| 1429C | .135 | .113 | 3/32 | .22 |
| 1429D | .165 | .113 | 1/8 | .22 |

## INSULATED FEED-THRU TERMINALS

| | Overall Length | | | |
|---|---|---|---|---|
| 1430 | 11/16 | 10-32 | | .36 |
| 1432 | 51/64 | 5-40 | | .24 |
| 1433 | 7/8 | 1/4-28 | | .29 |
| 1435 | 1-5/16 | 3/8-32 | | .37 |

INSULATION:
1400, 1401, 1410 — phenolic
1418, 1417, 1419 — alkyd
1450, 1451, 1452 — teflon
1460, 1461, 1462 — alumina
OTHERS — melamine

## TURRET TERMINALS

| No. | X | Thd. or Dia. | T | Price per M |
|---|---|---|---|---|
| 1300A | .075 | .113 | 1/32 | 15.03 |
| 1300B | .105 | .113 | 1/16 | 15.03 |
| 1300C | .135 | .113 | 3/32 | 15.03 |
| 1300D | .165 | .113 | 1/8 | 15.03 |
| 1300E | .195 | .113 | 5/32 | 15.03 |
| 1300F | .230 | .113 | 3/16 | 15.03 |
| 1300G | .293 | .113 | 1/4 | 15.03 |
| 1300T | .186 | 4-40 | | 24.24 |
| 1370B | .105 | .113 | 1/16 | 18.76 |
| 1370C | .135 | .113 | 3/32 | 18.76 |
| 1370D | .165 | .113 | 1/8 | 18.76 |
| 1210A | .075 | .113 | 1/32 | 15.53 |
| 1210B | .105 | .113 | 1/16 | 15.53 |
| 1210C | .135 | .113 | 3/32 | 15.53 |
| 1210D | .165 | .113 | 1/8 | 15.53 |
| 1280A | .075 | .090 | 1/32 | 10.89 |
| 1280B | .105 | .090 | 1/16 | 10.89 |
| 1280C | .135 | .090 | 3/32 | 10.89 |
| 1280D | .165 | .090 | 1/8 | 10.89 |
| 1350B | .105 | .113 | 1/16 | 13.63 |
| 1350C | .135 | .113 | 3/32 | 13.63 |
| 1350D | .165 | .113 | 1/8 | 13.63 |
| 1350E | .195 | .113 | 5/32 | 13.63 |
| 1350F | .230 | .113 | 3/16 | 13.63 |
| 1340A | .075 | .078 | 1/32 | 13.74 |
| 1340B | .105 | .078 | 1/16 | 13.74 |
| 1340C | .135 | .078 | 3/32 | 13.74 |
| 1340D | .165 | .078 | 1/8 | 13.74 |
| 1340T | .125 | 2-56 | | 18.14 |
| 2030 | .037 | .062 | 1/64 | 14.71 |
| 2030A | .053 | .062 | 1/32 | 14.71 |
| 2030B | .084 | .062 | 1/16 | 14.71 |
| 2030C | .115 | .062 | 3/32 | 14.71 |
| 2030D | .147 | .062 | 1/8 | 14.71 |
| 2520A | .054 | .072 | 1/32 | 16.17 |
| 2520B | .084 | .072 | 1/16 | 16.17 |
| 2520C | .115 | .072 | 3/32 | 16.17 |
| 2520D | .147 | .072 | 1/8 | 16.17 |
| 2540A | .054 | .072 | 1/32 | 29.05 |
| 2540B | .084 | .072 | 1/16 | 29.05 |
| 2540C | .115 | .072 | 3/32 | 29.05 |
| 2540D | .147 | .072 | 1/8 | 29.05 |
| 2060 | .037 | .062 | 1/64 | 10.52 |
| 2060A | .054 | .062 | 1/32 | 10.52 |
| 2060B | .084 | .062 | 1/16 | 10.52 |
| 2060C | .115 | .062 | 3/32 | 10.52 |
| 2060D | .147 | .062 | 1/8 | 10.52 |

## HOLLOW TERMINALS

| | | | | |
|---|---|---|---|---|
| 1200A | .075 | .113 | 1/32 | 13.60 |
| 1200B | .105 | .113 | 1/16 | 13.60 |
| 1200C | .135 | .113 | 3/32 | 13.60 |
| 1200D | .165 | .113 | 1/8 | 13.60 |
| 1200E | .195 | .113 | 5/32 | 13.60 |
| 1200F | .230 | .113 | 3/16 | 13.60 |
| 1390A | .075 | .078 | 1/32 | 29.48 |
| 1390B | .105 | .078 | 1/16 | 29.48 |
| 1390C | .135 | .078 | 3/32 | 29.48 |
| 1390D | .165 | .078 | 1/8 | 29.48 |
| 1390E | .195 | .078 | 5/32 | 29.48 |
| 1390F | .230 | .078 | 3/16 | 29.48 |
| 1330B | .105 | .134 | 1/16 | 22.87 |
| 1330C | .135 | .134 | 3/32 | 22.87 |
| 1330D | .165 | .134 | 1/8 | 22.87 |
| 1260B | .105 | .113 | 1/16 | 22.45 |
| 1260C | .135 | .113 | 3/32 | 22.45 |
| 1260D | .165 | .113 | 1/8 | 22.45 |
| 1380B | .105 | .113 | 1/16 | 22.92 |
| 1380C | .135 | .113 | 3/32 | 22.92 |
| 1380D | .165 | .113 | 1/8 | 22.92 |
| 1380E | .195 | .113 | 5/32 | 22.92 |
| 1392A | .075 | .110 | 1/32 | 13.96 |
| 1392B | .105 | .110 | 1/16 | 13.96 |
| 1392C | .135 | .110 | 3/32 | 13.96 |
| 1392D | .165 | .110 | 1/8 | 13.96 |
| 2010 | .037 | .062 | 1/64 | 13.87 |
| 2010A | .053 | .062 | 1/32 | 13.87 |
| 2010B | .084 | .062 | 1/16 | 13.87 |
| 2010C | .115 | .062 | 3/32 | 13.87 |
| 2010D | .147 | .062 | 1/8 | 13.87 |
| 2010T | .125 | 4-40 | | 15.70 |

## SPLIT TERMINALS

| No. | X | Dia. | T | Price per M |
|---|---|---|---|---|
| 1391A | .075 | .150 | 1/32 | 24.50 |
| 1391B | .105 | .150 | 1/16 | 24.50 |
| 1391C | .135 | .150 | 3/32 | 24.50 |
| 1391D | .165 | .150 | 1/8 | 24.50 |
| 1391E | .195 | .150 | 5/32 | 24.50 |
| 1391F | .230 | .150 | 3/16 | 24.50 |
| 1250A | .075 | .113 | 1/32 | 23.17 |
| 1250B | .105 | .113 | 1/16 | 23.17 |
| 1250C | .135 | .113 | 3/32 | 23.17 |
| 1250D | .165 | .113 | 1/8 | 23.17 |
| 1310A | .075 | .113 | 1/32 | 21.31 |
| 1310B | .105 | .113 | 1/16 | 21.31 |
| 1310C | .135 | .113 | 3/32 | 21.31 |
| 1310D | .165 | .113 | 1/8 | 21.31 |
| 2020 | .037 | .062 | 1/64 | 22.11 |
| 2020A | .053 | .062 | 1/32 | 22.11 |
| 2020B | .084 | .062 | 1/16 | 22.11 |
| 2020C | .115 | .062 | 3/32 | 22.11 |
| 2020D | .147 | .062 | 1/8 | 22.11 |
| 2000 | .037 | .062 | 1/64 | 13.54 |
| 2000A | .053 | .062 | 1/32 | 13.54 |
| 2000B | .084 | .062 | 1/16 | 13.54 |
| 2000C | .115 | .062 | 3/32 | 13.54 |
| 2000D | .147 | .062 | 1/8 | 13.54 |

## FEED-THRU TERMINALS

| | | | | |
|---|---|---|---|---|
| 1230B | .105 | .183 | 1/16 | 46.57 |
| 1230C | .135 | .183 | 3/32 | 46.57 |
| 1230D | .165 | .183 | 1/8 | 46.57 |
| 1230E | .195 | .183 | 5/32 | 46.57 |
| 1230F | .230 | .183 | 3/16 | 46.57 |
| 1360C | .135 | .203 | 3/32 | 39.24 |
| 1360D | .165 | .203 | 1/8 | 39.24 |
| 1360E | .195 | .203 | 5/32 | 39.24 |
| 1360F | .230 | .203 | 3/16 | 39.24 |
| 1320B | .105 | .203 | 1/16 | 31.90 |
| 1320C | .135 | .203 | 3/32 | 31.90 |
| 1320D | .165 | .203 | 1/8 | 31.90 |
| 1320E | .195 | .203 | 5/32 | 31.90 |
| 1320F | .230 | .203 | 3/16 | 31.90 |
| 1220B | .105 | .183 | 1/16 | 33.63 |
| 1220C | .135 | .183 | 3/32 | 33.63 |
| 1220D | .165 | .183 | 1/8 | 33.63 |
| 1220E | .195 | .183 | 5/32 | 33.63 |
| 1220F | .230 | .183 | 3/16 | 33.63 |
| 2040A | .075 | .125 | 1/32 | 19.90 |
| 2040B | .105 | .125 | 1/16 | 19.90 |
| 2040C | .135 | .125 | 3/32 | 19.90 |
| 2040D | .165 | .125 | 1/8 | 19.90 |
| 2040T | .125 | 5-40 | | 21.85 |
| 2050A | .075 | .125 | 1/32 | 19.81 |
| 2050B | .105 | .125 | 1/16 | 19.81 |
| 2050C | .135 | .125 | 3/32 | 19.81 |
| 2050D | .165 | .125 | 1/8 | 19.81 |
| 1290A | .075 | .113 | 1/32 | 15.88 |
| 1290B | .105 | .113 | 1/16 | 15.88 |
| 1290C | .135 | .113 | 3/32 | 15.88 |
| 1290D | .165 | .113 | 1/8 | 15.88 |
| 2500A | .054 | .090 | 1/32 | 29.36 |
| 2500B | .084 | .090 | 1/16 | 29.36 |
| 2500C | .115 | .090 | 3/32 | 29.36 |
| 2500D | .147 | .090 | 1/8 | 29.36 |
| 2510A | .054 | .072 | 1/32 | 19.90 |
| 2510B | .084 | .072 | 1/16 | 19.90 |
| 2510C | .115 | .072 | 3/32 | 19.90 |
| 2510D | .147 | .072 | 1/8 | 19.90 |
| 2530A | .054 | .072 | 1/32 | 19.57 |
| 2530B | .084 | .072 | 1/16 | 19.57 |
| 2530C | .115 | .072 | 3/32 | 19.57 |
| 2530D | .147 | .072 | 1/8 | 19.57 |

## TAPERED RECEPTACLE TERMINALS

| | | | | |
|---|---|---|---|---|
| 2761B | .105 | .203 | 1/16 | 79.54 |
| 2761C | .135 | .203 | 3/32 | 79.54 |
| 2761D | .165 | .203 | 1/8 | 79.54 |
| 2760B | .105 | .203 | 1/16 | 71.79 |
| 2760C | .135 | .203 | 3/32 | 71.79 |
| 2760D | .165 | .203 | 1/8 | 71.79 |
| 2730A | .075 | .113 | 1/32 | 33.00 |
| 2730B | .105 | .113 | 1/16 | 33.00 |
| 2730C | .135 | .113 | 3/32 | 33.00 |
| 2730D | .165 | .113 | 1/8 | 33.00 |
| 2730E | .195 | .113 | 5/32 | 33.00 |
| 2730F | .230 | .113 | 3/16 | 33.00 |
| 2720A | .075 | .113 | 1/32 | 27.07 |
| 2720B | .105 | .113 | 1/16 | 27.07 |
| 2720C | .135 | .113 | 3/32 | 27.07 |
| 2720D | .165 | .113 | 1/8 | 27.07 |
| 2720E | .195 | .113 | 5/32 | 27.07 |
| 2720F | .230 | .113 | 3/16 | 27.07 |
| 2740A | .075 | .078 | 1/32 | 35.72 |
| 2740B | .105 | .078 | 1/16 | 35.72 |
| 2740C | .135 | .078 | 3/32 | 35.72 |
| 2740D | .165 | .078 | 1/8 | 35.72 |
| 2740E | .195 | .078 | 5/32 | 35.72 |
| 2740F | .230 | .078 | 3/16 | 35.72 |
| 2750A | .075 | .078 | 1/32 | 29.56 |
| 2750B | .105 | .078 | 1/16 | 29.56 |
| 2750C | .135 | .078 | 3/32 | 29.56 |
| 2750D | .165 | .078 | 1/8 | 29.56 |
| 2750E | .195 | .078 | 5/32 | 29.56 |
| 2750F | .230 | .078 | 3/16 | 29.56 |

## ROUND KNURLED ALUMINUM KNOBS

| No. | Hole Dia. | Max. O. D. | Price Each |
|---|---|---|---|
| 500 | 1/4 | .625 | .45 |
| 501 | 3/16 | .625 | .45 |
| 502 | 1/8 | .625 | .45 |
| 625 | 1/4 | 5/8 | .45 |
| 626 | 3/16 | 5/8 | .45 |
| 627 | 1/8 | 5/8 | .45 |
| 1000 | 1/4 | 1.00 | .58 |
| 1001 | 3/16 | 1.00 | .58 |
| 1002 | 1/8 | 1.00 | .58 |
| 1038 | 1/4 | 1 3/8 | .70 |
| 1039 | 3/16 | 1 3/8 | .70 |
| 1040 | 1/8 | 1 3/8 | .70 |

## HANDLE FERRULE

| | | |
|---|---|---|
| 900 | (Fits 1005 through 1017) | .09 Nickel<br>.11 Chrome |

## HANDLES

| No. | A | B | Price Each |
|---|---|---|---|
| 1005 | 6-7/16 | 1 1/4 | .75 |
| 1007 | 6 | 1 1/2 | .75 |
| 1010 | 4-1/4 | 1 1/2 | .75 |
| 1012 | 4 | 1 1/2 | .75 |
| 1013 | 4-9/16 | 1 1/2 | .75 |
| 1015 | 3 | 1 1/2 | .61 |
| 1017 | 2 | 1 1/2 | .595 |
| 1020 | 4-1/4 | 1 1/2 | .90 |
| 1025 | 4-6 | 1 1/2 | 1.53 |
| 1030 | 3-6 | 1 7/16 | 2.08 |

A — Bolt Centers
B — Hgt. Off Panel

## SHAFT LOCKS

| No. | Shaft Dia. | Int. Thd. | Price Each |
|---|---|---|---|
| 1510 | 1/4 | 3/8-32 | .23 |
| 1520 | 1/4 | 3/8-32 | .39 |
| 1512 | 1/8 | 1/4-32 | .23 |
| 1513 | 1/8 | 1/4-32 | .39 |
| 1515 | 1/4 | 3/8-32 | .50 |
| 1514 | Cap Only | | .28 |

## STAND-OFFS

| No. | Lgth. B | X | T | Price Each |
|---|---|---|---|---|
| 1530A | 1/4 | .075 | 1/32 | .05 |
| 1530B | 1/4 | .105 | 1/16 | .05 |
| 1530C | 1/4 | .135 | 3/32 | .05 |
| 1530D | 1/4 | .165 | 1/8 | .05 |
| 1540A | 3/8 | .075 | 1/32 | .05 |
| 1540B | 3/8 | .105 | 1/16 | .05 |
| 1540C | 3/8 | .135 | 3/32 | .05 |
| 1540D | 3/8 | .165 | 1/8 | .05 |
| 1531A | 1/4 | .075 | 1/32 | .05 |
| 1531B | 1/4 | .105 | 1/16 | .05 |
| 1531C | 1/4 | .135 | 3/32 | .05 |
| 1531D | 1/4 | .165 | 1/8 | .05 |
| 1541A | 3/8 | .075 | 1/32 | .06 |
| 1541B | 3/8 | .105 | 1/16 | .06 |
| 1541C | 3/8 | .135 | 3/32 | .06 |
| 1541D | 3/8 | .165 | 1/8 | .06 |

Shank Dia., .188

| No. | Lgth. B | Dia. A | Thd. | Price Each |
|---|---|---|---|---|
| 1550A | 1/4 | 3/16 | 4-40 | .05 |
| 1550B | 3/8 | 3/16 | 4-40 | .05 |
| 1550C | 1/4 | 1/4 | 6-32 | .05 |
| 1550D | 3/8 | 1/4 | 6-32 | .05 |
| 1550E | 1/2 | 1/4 | 6-32 | .05 |
| 1550F | 5/8 | 1/4 | 6-32 | .05 |
| 1550G | 3/4 | 1/4 | 6-32 | .05 |
| 1550H | 1/4 | 3/8 | 8-32 | .061 |
| 1550I | 3/8 | 3/8 | 8-32 | .061 |
| 1550J | 1/2 | 3/8 | 8-32 | .061 |
| 1550K | 5/8 | 3/8 | 8-32 | .061 |
| 1550M | 3/4 | 3/8 | 8-32 | .061 |
| 1551A | 1/4 | 3/16 | 4-40 | .08 |
| 1551B | 3/8 | 3/16 | 4-40 | .08 |
| 1551C | 1/4 | 1/4 | 6-32 | .08 |
| 1551D | 3/8 | 1/4 | 6-32 | .08 |
| 1551E | 1/2 | 1/4 | 6-32 | .08 |
| 1551F | 5/8 | 1/4 | 6-32 | .08 |
| 1551G | 3/4 | 1/4 | 6-32 | .08 |
| 1551H | 1/4 | 3/8 | 8-32 | .09 |
| 1551I | 3/8 | 3/8 | 8-32 | .09 |
| 1551J | 1/2 | 3/8 | 8-32 | .09 |
| 1551K | 5/8 | 3/8 | 8-32 | .09 |
| 1551M | 3/4 | 3/8 | 8-32 | .09 |

## CHASSIS BUSHING

| | | | |
|---|---|---|---|
| 1560 | 9/16 | 3/8-32 | .11 |
| 1560-1 | 7/16 | 3/8-32 | .11 |
| 1560-2 | .35 | 3/8-32 | .11 |

## CHASSIS FASTENER

| | | | |
|---|---|---|---|
| 1590B | | .105 | 1/16 | .08 |
| 1590C | | .135 | 3/32 | .08 |
| 1590D | | .165 | 1/8 | .08 |

Shank Dia., .187

## PLUGS AND SOCKETS

| No. | X | Dia. | T | Price Each |
|---|---|---|---|---|
| 1705C | .135 | .155 | 3/32 | .22 |
| 1705D | .165 | .155 | 1/8 | .22 |
| 1715 | 17/64 | 2-56 | | .25 |
| 1700C | .135 | .135 | 3/32 | .16 |
| 1700D | .165 | .135 | 1/8 | .16 |
| 1710C | .135 | .135 | 3/32 | .05 |
| 1710D | .165 | .135 | 1/8 | .05 |

## ACCESSORY HARDWARE

| | | | |
|---|---|---|---|
| 1800 | | Thd. 10-32 | 1.75 |
| 1815 | | 4-40 | .24 |
| 3100-6 | | 6-32 | .12 |
| 3100-8 | | 8-32 | .12 |
| 3100-10 | | 10-32 | .12 |
| 3200 | | 6-32 | .24 |
| 3316 | | 1/4 shft. | .38 |

## STANDARD TERMINAL BOARDS & BRACKETS

| No. | A | B | C | Price Each |
|---|---|---|---|---|
| 1110 | | 1/2 | 1 3/8 | 1.22 |
| 1100B | 1 1/2 | 2 | 1 3/8 | 2.32 |
| 1100C | 2 | 2 1/2 | 1 3/8 | 2.43 |
| 1100D | 2 1/2 | 3 | 1 3/8 | 2.59 |
| 2200A | | 5/16 | 7/8 | 1.22 |
| 2200B | 1/2 | 3/4 | 7/8 | 2.10 |
| 2200C | 3/4 | 1 | 7/8 | 2.14 |
| 1180 | 11/16 | 23/32 | 7/8 | .60 |
| 1181 | 3/4 | 1 1/32 | 1 7/32 | .65 |
| 1182 | 7/8 | 1 5/32 | 1 1/2 | .70 |

1100, 2200 series — 5 sect.
1180 series — 1 sect.

| | | |
|---|---|---|
| 11-2 | (See | .10 |
| 11-3 | Bracket | .10 |
| 11-4 | Chart) | .10 |
| 11-5 | | .10 |

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Net



World Radio History

# LAB-TRONICS, INC.

CHICAGO 13, ILLINOIS U.S.A.

# CONNECTING CABLES with *Lenite* MOLDED PLUGS and JACKS

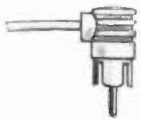
**FOR HI-FI, TUNERS, AMPLIFIERS, PRE-AMPLIFIERS, RECORDERS, SPEAKERS, SPEAKER EXTENSIONS, RECORD CHANGERS, PUBLIC ADDRESS SYSTEMS, AUDIO EQUIPMENT, RADIO AND STEREOPHONIC SYSTEMS**

The NEW L-T MOLDED construction, with "finger grip" grooved terminations, greatly improves the appearance of the cable, makes the connectors virtually indestructible, and provides new ease of handling. L-T's molded connectors are waterproof; there is no strain on soldered connections, and they eliminate the need for unsightly external clamps. The molded plugs and jacks are an attractive gray, to match the soft gray color of the cable. L-T cables are soldered to the connectors before molding, assuring completely noise-free operation. L-T cable is of the highest quality, low-capacitance type, insuring minimum loss. Jacket is of smooth silver-gray, non-contaminating high temperature plastic. L-T plugs and jacks are made of highly polished brass, machined to close tolerances, then double-plated. L-T connecting cables with MOLDED terminations are individually packaged in strong, clear plastic bags or attractive boxes, with complete description and length of cable printed on the label.

## SHIELDED CONNECTING CABLES WITH MOLDED PHONO PIN PLUGS AND MOLDED PHONO PIN JACKS

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Phono Pin Plug each end. | C101 | 18" | .63 |
| | C102 | 36" | .72 |
| | C103 | 72" | .90 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Phono Pin Plug; Stripped & Tinned. | C105 | 18" | .48 |
| | C106 | 36" | .57 |
| | C107 | 72" | .75 |



(Where a 90° right angle molded phono pin plug is desired, add "R" to stock number.)

The silver-gray cable is of high-quality, low-capacitance type for minimum loss. Used for interconnecting tuners, pre-amps, amplifiers, record changers, recorders and accessories, wherever Phono Pin Jack or Plug is used.

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Phono Pin Plug; Phono Pin Jack. | C201 | 18" | .72 |
| | C202 | 36" | .81 |
| | C203 | 72" | .99 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Phono Pin Jack each end. | C401 | 18" | .93 |
| | C402 | 36" | 1.02 |
| | C403 | 72" | 1.20 |

## FOR STEREOPHONIC AND EXTENSION APPLICATION

Extra length shielded cables to meet the growing demand for stereophonic and extension use in Hi-Fi and Stereo. Extra long molded grips on the phono pin plug for ease of handling when the jack is recessed into the cabinet or chassis.

| | | | NET |
|---|---|---|---|
| Shielded cable. Long Molded Phono Pin Plug each end. | S3410 | 10' | 1.26 |
| | S3415 | 15' | 1.56 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Long Molded Phono Pin Plug; Long Molded SHIELDED Phone Plug. | S3306 | 6' | 1.32 |
| | S3310 | 10' | 1.62 |
| | S3315 | 15' | 1.92 |
| | S3320 | 20' | 2.22 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Long Molded Phono Pin Plug; Stripped and Tinned. | S3010 | 10' | 1.08 |
| | S3015 | 15' | 1.38 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Long Molded Phono Pin Plug; Lugs. | S3110 | 10' | 1.14 |
| | S3115 | 15' | 1.44 |

| | | | NET |
|---|---|---|---|
| A special cable and plug designed for the new Stereo cartridge using dual shielded cable. | SP8003 | 3' | 2.10 |
| | SP8006 | 6' | 2.25 |
| Chassis type socket for above plug. | SP80 | | .36 |

## MOLDED PHONE PLUGS

A fully SHIELDED MOLDED standard phone plug, available either straight or right angle, with gray, low-capacitance 100% shielded cable. The newly designed gray molded handle is grooved for ease in gripping, and permits easy insertion into a recessed jack.

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug; Phono Pin Plug | C4406 | 6' | 1.20 |
| | C4410 | 10' | 1.50 |
| | C4415 | 15' | 1.80 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug; Phono Pin Jack. | C4506 | 6' | 1.26 |
| | C4510 | 10' | 1.56 |
| | C4515 | 15' | 1.86 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug; Stripped and Tinned. | C4006 | 6' | 1.05 |
| | C4010 | 10' | 1.35 |
| | C4015 | 15' | 1.65 |

(When a 90° right angle molded phone plug is desired, add "R" to stock number.)

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug each end. | C4306 | 6' | 1.41 |
| | C4310 | 10' | 1.71 |
| | C4315 | 15' | 2.01 |
| | C4325 | 25' | 2.61 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug; Molded SHIELDED Phone Jack. | C4606 | 6' | 1.95 |
| | C4610 | 10' | 2.25 |
| | C4615 | 15' | 2.55 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded SHIELDED Phone Plug; Lugs. | C4106 | 6' | 1.11 |
| | C4110 | 10' | 1.41 |
| | C4115 | 15' | 1.71 |

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World Radio History

# MOLDED CONNECTORS & PLUGS with *Lenite* with VARIOUS TERMINATIONS

**LAB-TRONICS, INC.**
**CHICAGO 13, ILLINOIS U.S.A.**

**FOR MICROPHONES, PROFESSIONAL RECORDERS, SPECIAL AUDIO EQUIPMENT, TV EYES, ELECTRONIC INSTRUMENTS, OFFICE EQUIPMENT, ETC.**

L-T cables and molded connectors are designed to provide a more noise-free, trouble-free, strain-proof connection. All metal parts are machined brass, smoothly polished and nickel plated. The soldered connections are imbedded in unbreakable molded plastic and cannot loosen or pull out. Low loss, fully shielded cable is used. Can be used with high impedance inputs. Handy grooved plastic handles for easy gripping. Cable and molded plugs are color-matched in a soft, pleasing silver-gray.

**THE NEW TINY PHONE PLUG,** used in some of the latest models of recording equipment, business machines, hearing aids, pocket radios, meters, etc. The miniature, two-conductor phone plug is approximately ⅓ the size of the standard phone plug. Molded body cannot come apart. Low-capacitance shielded cable and parallel unshielded cord available. Silver-gray cable and matching molded unbreakable plastic termination.

| | | | NET |
|---|---|---|---|
| Shielded cable. Tiny Plug; Phono Pin Plug. | T2403 | 3' | 1.29 |
| | T2406 | 6' | 1.50 |
| | T2410 | 10' | 1.68 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Tiny Plug; Standard Phone Plug. | T2303 | 3' | 1.44 |
| | T2306 | 6' | 1.65 |
| | T2310 | 10' | 1.83 |

| | | | NET |
|---|---|---|---|
| Parallel Cord (2 Conductor unshielded). Tiny Plug; Stripped and Tinned. | TP2020 | 20' | 1.44 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Tiny Plug; Phono Pin Jack. | T2503 | 3' | 1.32 |
| | T2506 | 6' | 1.53 |
| | T2510 | 10' | 1.71 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Tiny Plug; Stripped and Tinned. | T2003 | 3' | 1.14 |
| | T2006 | 6' | 1.35 |
| | T2010 | 10' | 1.53 |

| | | | NET |
|---|---|---|---|
| Parallel Cord (2 Conductor unshielded). Tiny Plug; Clips. | TP2220 | 20' | 1.74 |

## MICROPHONE CONNECTORS

L-T has developed a new molded connector which is interchangeable with the present type now on the market. Molded grip with the cable molded directly onto the polished nickel plated brass connector. BOTH the conductor AND shield are soldered to the connector prior to molding, insuring noise-free operation. Heavy duty co-axial shielded cable, low loss, with a nominal capacitance of approximately 25 mmf/ft. For use with microphones, pre-amps, test equipment, VTVM, oscilloscopes, recorders, custom Hi-Fi installations or wherever a standard microphone connector is used. The coupling ring may be screwed back to convert connector from female to male type. Molded in gray to match the silver-gray cable.

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Male and Female Microphone Connector. | E906 | 6' | 1.35 |
| | E912 | 12' | 1.80 |
| | E925 | 25' | 2.85 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Molded Phono Pin Plug. | E801 | 1' | .84 |
| | E803 | 3' | 1.05 |
| | E806 | 6' | 1.23 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Molded Pin Jack. | E1506 | 6' | 1.32 |
| | E1510 | 10' | 1.77 |
| | E1525 | 25' | 2.82 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Stripped and Tinned. | E1106 | 6' | 1.05 |
| | E1110 | 10' | 1.50 |
| | E1125 | 25' | 2.55 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Molded Phone Plug. | E1306 | 6' | 1.35 |
| | E1310 | 10' | 1.80 |
| | E1325 | 25' | 2.85 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Molded Phone Jack. | E1606 | 6' | 1.65 |
| | E1610 | 10' | 2.10 |
| | E1625 | 25' | 3.15 |

| | | | NET |
|---|---|---|---|
| Shielded cable. Molded Microphone Connector; Clips. | E1003 | 3' | 1.20 |
| | E1006 | 6' | 1.35 |
| | E1012 | 12' | 1.89 |

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World Radio History

**LAB-TRONICS, INC.**
CHICAGO 13, ILLINOIS U.S.A.

# MOLDED PLUGS and JACKS for SPEAKER EXTENSIONS with *Lenite*

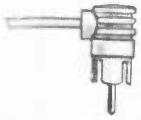
**FOR SPEAKER EXTENSIONS, AUDIO RECORDING, LOW IMPEDANCE PATCHING, VOICE COIL, RECORDING, SPEAKER LINES, VOLTAGE LINES, ETC.**

L-T molded phone plugs and/or molded phono pin plug, either right angle or straight, using a highly flexible stranded parallel cord, can be used wherever shielding is not required. Molded with silver gray unbreakable LENITE to match the color of the cable. UL & CSA approved. There is an L-T cable to fit any need, including exact replacements for original equipment, or added accessories.

Flexible cable (not shielded) with molded phono pin plug for voice coil recording, speaker extensions, audio output, low impedance lines, etc. When the right angle type is desired, add "R" to the stock number.

Flexible cable. Molded Phono Pin Plug each end.

| | | NET |
|---|---|---|
| P6406 | 6' | .75 |
| P6410 | 10' | 1.05 |
| P6420 | 20' | 1.47 |



(Where a 90° right angle phono pin plug is desired, add "R" to the stock number.)

Flexible cable. Molded Phono Pin Plug; Stripped and Tinned.

| | | NET |
|---|---|---|
| P6006 | 6' | .54 |
| P6010 | 10' | .84 |
| P6020 | 20' | 1.26 |

Flexible cable. Molded Phono Pin Plug; Clips.

| | | NET |
|---|---|---|
| P6206 | 6' | .84 |
| P6210 | 10' | 1.14 |
| P6220 | 20' | 1.56 |

Flexible cable. Molded Phono Pin Plug; Lugs.

| | | NET |
|---|---|---|
| P6106 | 6' | .60 |
| P6110 | 10' | .90 |
| P6120 | 20' | 1.32 |

Molded Phone Plug, either right angle or straight, with flexible cable (unshielded) for use with radio voice coil recording, speakers, headphones, audio output, or other low impedance circuits. Silver-gray cable and plugs.

Flexible cable. Molded Phone Plug each end.

| | | NET |
|---|---|---|
| P7306 | 6' | 1.35 |
| P7310 | 10' | 1.65 |
| P7320 | 20' | 2.07 |

Flexible cable. Molded Phone Plug; Stripped and Tinned.

| | | NET |
|---|---|---|
| P7006 | 6' | .84 |
| P7010 | 10' | 1.14 |
| P7020 | 20' | 1.56 |

Flexible cable. Molded Phone Plug; Clips.

| | | NET |
|---|---|---|
| P7206 | 6' | 1.14 |
| P7210 | 10' | 1.44 |
| P7220 | 20' | 1.86 |

Flexible cable. Molded Phone Plug; Lugs.

| | | NET |
|---|---|---|
| P7106 | 6' | .90 |
| P7110 | 10' | 1.20 |
| P7120 | 20' | 1.62 |

Flexible cable. Molded Phone Plug; Molded Phono Pin Plug.

| | | NET |
|---|---|---|
| P7406 | 6' | 1.05 |
| P7410 | 10' | 1.35 |
| P7420 | 20' | 1.77 |

(When a 90° right angle molded phone plug is desired, add "R" to stock number.)

Flexible cable. Molded Phone Plug; Phono Pin Jack.

| | | NET |
|---|---|---|
| P7506 | 6' | 1.11 |
| P7510 | 10' | 1.41 |
| P7820 | 20' | 1.83 |

Flexible cable with new small alligator clips on each end.

| | | NET |
|---|---|---|
| P5206 | 6' | .78 |
| P5210 | 10' | 1.02 |
| P5220 | 20' | 1.44 |

Flexible cable with spade lugs on each end.

| | | NET |
|---|---|---|
| P501 | 10' | .54 |
| P502 | 20' | .96 |

**ALL PRICES QUOTED ARE U.S.A. PRICES**

## Guarantee

L-T Molded Plugs and Jacks are *GUARANTEED* against defects for two years from the time they are purchased. This guarantee covers breakage, mechanical, electrical or operational failures. Any L-T molded termination which becomes defective within 2 years and is returned to the factory, will be replaced at no charge. Accessories are covered by our usual 1-year guarantee.



Net

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World Radio History

# ADAPTERS & CONNECTORS

Lab-Tronic's line of adapters was researched by an electronic consulting firm, and is the most useful and complete line in the industry—a *must* for the lab or repair kit. Cuts the number of cables necessary in the lab or shop from hundreds to just a few. Capable of connecting almost any termination to almost any combinations of other terminations. For the engineer, technician, repairman, experimenter, research lab, maintenance department, tester, etc. (Microphone connectors are convertible from female to male.)

**LAB-TRONICS, INC.**
**CHICAGO 13, ILLINOIS U.S.A.**

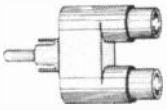
**C400** Phono Pin Jack; Phono Pin Jack.
**C400.....NET .60**

**P55A** Phono Pin Jack; Phone Plug.
**P55A.....NET .75**

**M75P** Male Mic; Phone Plug.
**M75P.....NET .30**

**MP** Mic; Phono Pin Plug.
**MP.....NET .60**

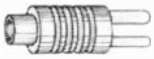
**C800** Mic; Mic.
**C800.....NET .60**



**A754** Two Phono Pin Jacks; Phono Pin Plug.
**A754.....NET 1.20**

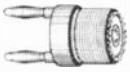
**A753** PhoneJack; Phono Pin Jack.
**A753.....NET 1.05**

**A750** PhoneJack; Phono Pin Plug.
**A750.....NET 1.05**



**A780** Phono Pin Jack; 2 Prong Polarized Plug ¼" centers.
**A780.....NET .75**

**A775** Phono Pin Jack. ¼" spaced Banana Plugs; **A776** Phone Jack; ¾" spaced Banana Plugs.
**A775.....NET .75**
**A776.....NET 1.05**



**A762** Female UHF 259 Type; ¼" spaced Banana Plugs.
**A762.....NET 1.20**

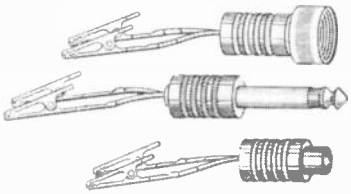
**A760** Male UHF 259 Type; Mic Connector.
**A760.....NET 1.20**

**A761** Female UHF 259 Type; Mic Connector.
**A761.....NET 1.20**

**A777** Mic Connector; ¼" spaced Banana Plugs
**A777.....NET .75**

**A752** Mic Connector; Phone Jack.
**A752.....NET 1.05**

**A751** Mic Connector; Phono Pin Jack.
**A751.....NET .75**



**A779** Mic Connector; Clips. **NET .75**

**A782** Phone Plug; Clips. **NET .75**

**A778** Phono Pin Jack; Clips. **NET .75**

**A781** Phone Jack; Clips. **NET 1.05**

**A790 Adapter Kit.** A complete kit containing one each of the adapters listed—21 in all—with a partitioned plastic case.
**A790** 21 Adapters in case.....**NET 18.15**

# ACCESSORY ITEMS

**FM91 FM Twin-Line Antenna.** Folded dipole type for indoor use. 6 foot lead-in, with spade lugs. May be installed behind cabinet or under rug—or any out-of-way place. Designed to the center of the FM band.
**FM91.....NET 1.26**

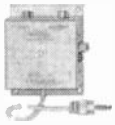
**Model AS-10 "Robot" Automatic Switch** for automatically turning off amplifier after last record is played, or appliance, lamp, etc. When record changer turns off, amplifier will also turn off automatically. Prevents amplifier or appliance from accidentally being left on. Has manual-automatic switch. Complete with line cord, receptacles and instructions.
**Model AS-10. NET 5.25**

**L-1601 Speaker Selector Switch.** Selects any one of 3 speakers or any 2 or all 3, from a single remote location. *Maintains impedance match.* Screw terminals, no soldering. Fits in standard outlet box or can be mounted on cabinet. Brushed brass plate, molded black escutcheon. Complete with screws.
**L-1601.....NET 5.95**

**L-1612 Speaker Volume Control.** A constant impedance volume control for custom installations. Controls Hi-Fi or PA speaker from any remote location. Rated at 4 watts continuous, 15 watts audio peak. No soldering necessary. Molded escutcheon, brushed brass plate. 8 or 16 ohms. With screws and instructions.
**L-1612.....NET 9.75**

**L-1613 Speaker Volume Control.** Same as L-1612 but with phone jack on plate. Permits use of headphones or external speaker. Jack also acts as two position switch allowing extension speaker to be used with or without main speaker. No soldering. 8 or 16 ohms. With screws and instructions.
**L-1613.....NET 10.75**

**SM-6 Stereo-Monaural Switch.** For use on stereophonic systems with a "45-45" stereo cartridge. Permits use of both standard and stereo records. Eliminates the vertical noises caused by dust, groove defects, etc., which the stereo head may pick up. 2" x 2" x 1" high. Two phono pin jacks in and two phono pin jacks out. Simple to use. Can be mounted on changer or cabinet. Fully shielded.
**SM-6.....NET 1.80**



**DS-5 Tuner-Phono Switch.** A convenient accessory for modernizing amplifiers having a single input. Has two phono pin jacks for phono, tuner, etc. Slide switch selects either input. Comes complete with 18" shielded output cable with phono pin plug attached for plugging into amplifier. Simple to install, easy to use. Size 2" x 2" x 1".
**DS-5.....NET 1.80**

**CS-2 Dual Speaker Switch.** A convenient selector switch for two speakers. 3 position. Turns on speaker #1 or speaker #2 or both. Can be used for Hi-Fi or rear speaker in auto radio. Brass etched plate with white knob. Screws and instructions included. Size 2" x 2" x 1".
**CS-2.....NET 1.05**

**FS-3 Dual Speaker Fader.** Remote control for a single speaker or for fading from one speaker to second speaker. For 3.2 to 8 ohm speakers. Used in hi-fi set, TV or radio external speakers. Can be used for front and rear speakers in auto radio. Screws and instructions. Size 2" x 2" x 1".
**FS-3.....NET 1.35**

**Write for Specifications and Literature on Accessory Items**

**Prices, Specifications, Designs & Numbers Subject to Change when Necessary**

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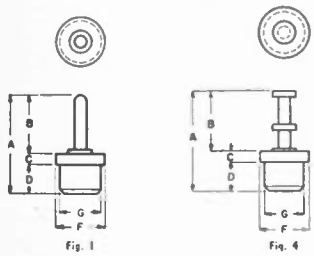
World Radio History

# Sealectro PRESS-FIT® TEFLON† TERMINALS

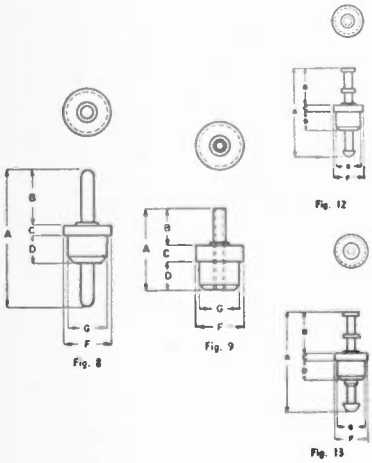
**INSURED PERFORMANCE — OUTSTANDING LABORATORY SERVICE — PRECISION PARTS**




## SUBMINIATURE STAND-OFFS

The ultimate in space-saving terminals for subminiaturization programs. Teflon bushing diameters of the order of .148" to .218". Choice of lugs, including turrets.

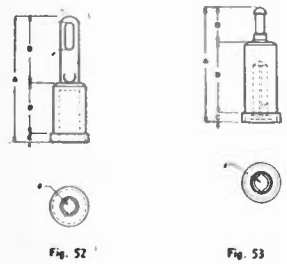
| PART NO. | FIG. | A | B | C | D | F | G |
|---|---|---|---|---|---|---|---|
| ST-SM-1 | 1 | .350 | .210 | .040 | .100 | .172 | .148 |
| ST-SM-1L2 | 1 | .265 | .125 | .040 | .100 | .172 | .148 |
| ST-SM-1L4 | 1 | .250 | .110 | .040 | .100 | .172 | .148 |
| ST-SM-1L6 | 1 | .285 | .145 | .040 | .100 | .172 | .148 |
| ST-SM-1L10 | 1 | .594 | .450 | .040 | .100 | .172 | .148 |
| ST-SM-2C4 | 1 | .375 | .210 | .050 | .110 | .172 | .148 |
| ST-SM-19 | 1 | .365 | .193 | .040 | .132 | .172 | .148 |
| ST-SM-1 TUR | 4 | .350 | .210 | .040 | .100 | .172 | .148 |
| ST-SM-4 TUR | 4 | .350 | .210 | .040 | .100 | .200 | .179 |
| ST-SM-20 TUR | 4 | .350 | .210 | .040 | .100 | .218 | .185 |
| ST-SM-22 TUR | 4 | .428 | .210 | .093 | .125 | .172 | .148 |
| ST-SM-23 TUR | 4 | .350 | .210 | .040 | .100 | .250 | .204 |
| ST-SM-29 TUR-C2 | 4 | .540 | .250 | .040 | .250 | .172 | .148 |




## SUBMINIATURE FEED-THRUS

For facilitating connections through chassis or casing, in subminiaturized components and assemblies. Choice of lug designs and finishes, including hollow-tube lugs. Generous safety factor at rated voltages.

| PART NO. | FIG. | A | B | C | D | F | G |
|---|---|---|---|---|---|---|---|
| FT-SM-1 | 3 | .515 | .210 | .040 | .100 | .172 | .148 |
| FT-SM-2C4 | 8 | .535 | .210 | .050 | .110 | .172 | .148 |
| FT-SM-2C6 | 8 | .410 | .147 | .050 | .110 | .172 | .148 |
| FT-SM-9L2 | 8 | .407 | .125 | .040 | .132 | .172 | .148 |
| FT-SM-52 | 9 | .225 | .125 | .040 | .060 | .150 | .125 |
| FT-SM-55 | 9 | .296 | .136 | .060 | .100 | .172 | .148 |
| FT-SM-60 | 9 | .367 | .207 | .050 | .110 | .218 | .171 |
| FT-SM-1 TUR | 12 | .500 | .210 | .040 | .100 | .172 | .148 |
| FT-SM-16 TUR | 12 | .500 | .210 | .040 | .100 | .125 | .093 |
| FT-SM-21 TUR | 13 | .531 | .210 | .040 | .125 | .218 | .185 |




## CONNECTORS AND TEST JACKS

Breakaway connectors (male and female) miniature test point jacks (female) that will accept test instrument probes or companion plugs and patch cord jumpers

| PART NO. | FIG. | A | B | C | D | J |
|---|---|---|---|---|---|---|
| SKT 1 | 52 | 11/16 | .354 | .046 | .287 | .050 |
| SKT-4 | 52 | 11/16 | .354 | .046 | .287 | .041 |
| SKT-8 | 52 | 11/16 | .330 | .046 | .287 | .080 |
| SKT-2BC | 53 | 7/16 | .120 | .046 | .281 | .090 |
| SKT-5BC | 53 | 7/16 | .120 | .046 | .281 | .080 |
| SKT-10 | 53 | .637 | .187 | .050 | .400 | .080 |
| SKT-12 | 53 | .375 | .060 | .046 | .269 | .090 |
| SKT-13 | 53 | .203 | .060 | — | .143 | .040 |
| SKT-14 | 53 | .345 | .120 | .046 | .179 | .040 |
| SKT-15 | 53 | .732 | .188 | .157 | .387 | .050 |

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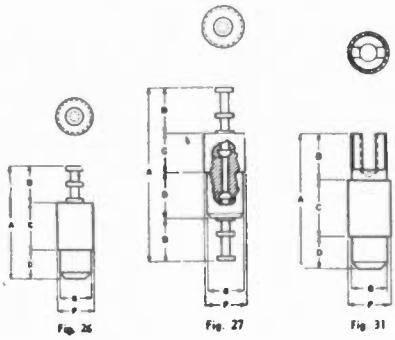
# Sealectro PRESS-FIT® TEFLON† TERMINALS

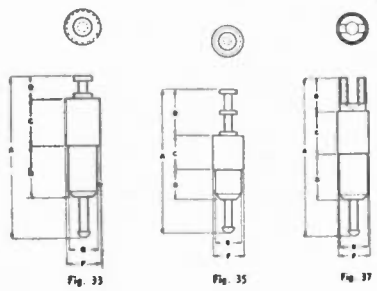
**SIMPLE INSTALLATION — WIDEST STOCK SELECTION — ASSORTED LUGS AND PLATING**




## MINIATURE STAND-OFFS

Wide selection of types in voltage ratings to 4000. Choice of lugs and finishes, as well as bushings. For components and assemblies stressing higher operating voltages rather than space-saving.

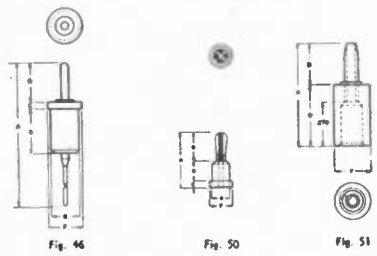
| PART NO. | FIG. | A | B | C | D | F | G |
|---|---|---|---|---|---|---|---|
| ST-210 | 26 | .346 | .156 | .103 | .087 | .125 | .104 |
| ST-250 | 26 | .431 | 5/32 | .125 | .150 | 3/16 | .165 |
| ST-1000 | 26 | .493 | 5/32 | .187 | .150 | 3/16 | .165 |
| ST-1500 | 26 | .556 | 5/32 | .250 | .150 | 3/16 | .165 |
| ST-2000 | 26 | .831 | 9/32 | .400 | .150 | 3/16 | .165 |
| ST-2500 | 26 | .968 | 9/32 | .500 | .187 | 1/4 | .215 |
| ST-4000 | 26 | 1.268 | 9/32 | .800 | .187 | 1/4 | .215 |
| DST-1000 | 27 | .819 | .210 | .187 | .212 | 3/16 | .171 |
| DST-1550 | 27 | 1.187 | 9/32 | .250 | .375 | 1/4 | .218 |
| DST-2550 | 27 | 1.687 | 9/32 | .500 | .625 | 1/4 | .218 |
| ST-250 SL | 31 | .478 | 13/64 | .125 | .150 | 3/16 | .171 |
| ST-1000 SL | 31 | .540 | 13/64 | .187 | .150 | 3/16 | .171 |
| ST-1500 SL | 31 | .603 | 13/64 | .250 | .150 | 3/16 | .171 |
| ST-2500 SL | 31 | .890 | 13/64 | .500 | .187 | 1/4 | .217 |
| ST-4000 SL | 31 | 1.190 | 13/64 | .800 | .187 | 1/4 | .217 |




## MINIATURE FEED-THRUS

Handy Feed-thru terminals with choice of lugs. Handling voltage ratings up to 4000. Wide selection of busning diameters and lengths. Ideal for making connections through chassis or casings, with generous safety factor at rated voltages.

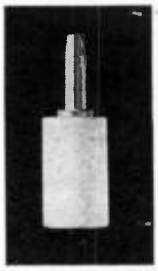
| PART NO. | FIG. | A | B | C | D | F | G |
|---|---|---|---|---|---|---|---|
| FT-310 | 33 | .540 | .133 | .063 | .171 | .187 | .171 |
| FT-1000 | 33 | .740 | 1/8 | .187 | .212 | 3/16 | .171 |
| FT-1500 | 33 | .865 | 1/8 | .250 | .275 | 3/16 | .171 |
| FT-2500 | 33 | 1.365 | 1/8 | .500 | .525 | 1/4 | .217 |
| FT-4000 | 33 | 1.965 | 1/8 | .800 | .825 | 1/4 | .217 |
| FT-1000 DTUR | 35 | .836 | 1/4 | .187 | .212 | 3/16 | .171 |
| FT-1000 SL | 37 | .821 | 13/64 | .187 | .212 | 3/16 | .171 |
| FT-1500 SL | 37 | .947 | 13/64 | .250 | .275 | 3/16 | .171 |
| FT-2000 SL | 37 | 1.197 | 13/64 | .375 | .400 | 3/16 | .171 |

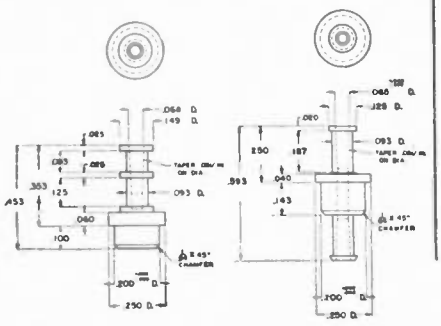



## PROBES AND PLUGS

Specifically designed as companion units (male) for connectors and test jacks. Used as test instrument probes, jumper plugs and multiple pin plugs.

| PART NO. | FIG. | A | B | C | D | F | G |
|---|---|---|---|---|---|---|---|
| FT-M-2 | 46 | 2.083 | 1/4 | .046 | .287 | .218 | .185 |
| FT-M-4 | 46 | .739 | 9/32 | .046 | .287 | .218 | .185 |
| PR-100 | 50 | .365 | .194 | .046 | .125 | .150 | .120 |
| PR-300 | 51 | .645 | .270 | .375 | — | .218 | — |






## TAPER PIN RECEPTACLES

Individually insulated precision-machined receptacles for standard taper pins. Available in feed-thru and stand-off types as well as high voltage types with extra-long leakage path.

†Reg. trademark, E.I. du Pont de Nemours & Co.

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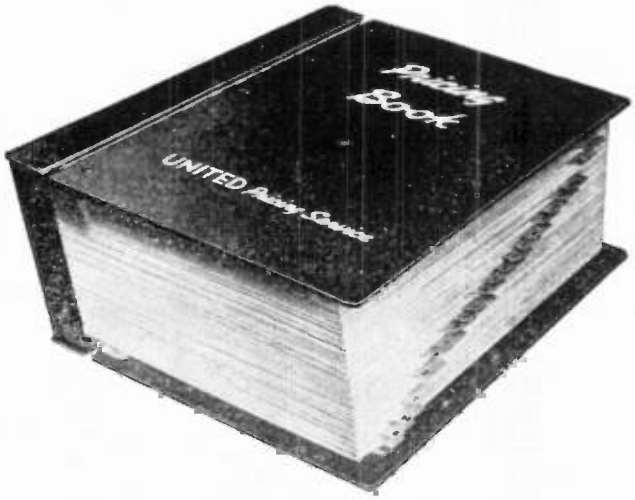


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# DELIVERY

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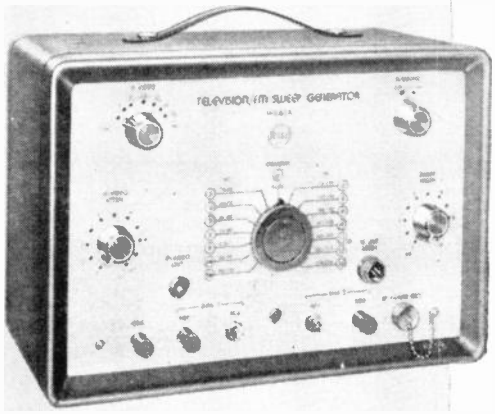
World Radio History

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WR-69A TV/FM SWEEP GENERATOR




Application: for visual alignment and trouble-shooting of TV tuners, sound and picture if amplifiers, trap circuits and video amplifiers. Has preset switch positions for all VHF TV channels, and continuous tuning from 50 Kc to 50 Mc (essential requirement for alignment of color TV video and chrominance circuitry). Also full coverage of FM band. High output voltage flat and free from spurious responses. Fundamental signals generated on all channels by push-pull oscillator.

- **Exceptionally good linearity provided by precision vibrating capacitor.**
- **Continuously variable sweep width, with maximum width of at least 11 Mc.**
- **Flat output, within 0.1 db per Mc of sweep width, even at maximum sweep width. Especially suited to requirements of color TV.**
- **Special blanking circuit produces 'scope time base or zero reference line for use in discriminator alignment.**
- **Dual-piston attenuator controls push-pull oscillator rf output ratio over a range of 20,000 to 1.**

**$295.00*** includes balanced 300-ohm rf output cable, resistance terminated if/vf-output cable, instruction booklet.

**User Price (Optional)*

Output: 0.1 volt rms across cable termination at all frequencies. Minimum sweep width: 11 Mc on channel 2, 12 Mc on all other channels. 25 Mc on IF/Video range. Output termination—300 ohms balanced, channels 2 to 13 inclusive and on FM bands. 100 ohms unbalanced on IF/Video. Bias voltage supply: two outputs, 0 to 12 volts, continuously variable. Impedance to ground 350 ohms max. Weight: 16 lbs. Size: 13¾" x 10" x 7¼".

## WR-86A UHF SWEEP GENERATOR

Application: for UHF TV applications from 300 to 950 Mc—combines a wide sweep range with a high output voltage of excellent amplitude linearity. A blanking circuit is included to provide a reference base line on an oscilloscope. Horizontal sweep frequency for the 'scope can be obtained from front panel terminals. The WR-86A has 50-ohm output and will work into a 50-ohm unbalanced load or, with the WG-296 padded balun provided, into a 300-ohm balanced load. Use accessory WG-298A UHF Demodulator for visual observation and measurement of standing-wave ratio of termination on 300-ohm line.

- **Output frequency continuously variable on center frequencies of 300 to 950 Mc.**
- **Sweep width is 10% of indicated dial frequency up to 750 Mc; 75 Mc width from 750 to 950 Mc.**
- **Adjustable piston-type attenuator gives 60 db range of attenuation.**
- **A sinusoidal sweep output is provided for an oscilloscope with 150 degrees of phase adjustment.**
- **At least 0.6 volt output across either 50 ohms or 300 ohms.**
- **Amplitude variation at maximum sweep width no greater than 0.1 db/Mc.**
- **Lightweight and portable, attractively styled.**
- **Weight: 15 lbs.**
- **Size: 13½" x 9¾" x 7½".**

**$137.50*** complete with WG-227 RF Output Cable, WG-296 50-to-300 ohm padded balun, instruction booklet.

**User Price (Optional)*



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World Radio History

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WR-99A CRYSTAL-CALIBRATED MARKER GENERATOR

**$242.50*** complete with rf output cable, instruction booklet.

**User Price (Optional)*

Application: supplies a fundamental frequency rf carrier of crystal accuracy for use in aligning and trouble-shooting TV (color and black-and-white) and FM receivers, and other electronic equipment operating in the range of 19 to 260 Mc. Built-in crystal calibrator, heterodyne detector, amplifier and speaker provides calibrating beats at 1 Mc or 10 Mc intervals throughout entire tuning range which is covered by 8 bands. A built-in 4.5 Mc crystal provides necessary accuracy for alignment of intercarrier-if amplifiers and discriminators.

- At least 0.1 volt output, into 95 ohms terminated.
- Provides signals for adjusting vertical or horizontal linearity.
- Precision matched impedance/resistance pad attenuator, 0-60 db in 5 db steps.
- Special modulation input available for re-transmission.
- Provision for use as Heterodyne Frequency Meter.
- Provides dual markers for band-width checks and rf alignment.
- Triple markers for sound-if alignment and band-width checks.
- Adjustable dial pointer for accurate registration with crystal-calibration check points.

## WR-70A RF/IF/VF MARKER ADDER

Application: for rf, if and video sweep alignment of both color and black-and-white TV receivers. Provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. Designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 and WR-69 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

- Eliminates or reduces distortion of sweep curve by the marker.
- Permits trap alignment without marker "suckout."
- Hi-Q markers—high in amplitude, narrow in width.
- Four marker choices—positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band).
- Voltage stabilized for rock-steady trace display.

### SPECIFICATIONS

IF/VF sweep input — 50 Kc to 50 Mc. RF input — 50 Mc to 250 Mc.

**MINIMUM INPUT VOLTAGES**—IF/VF—0.1 volts rms. RF Sweep sample input—0.005 volts rms. Marker input — 0.1 volts rms. Maximum demodulator signal input — 8 volts peak-to-peak.

**MAXIMUM SIGNAL OUTPUT**— Marker signal — 2.5 volts rms. Demodulator signal — 10 volts peak-to-peak.

Input and output impedances all 100 ohms except demodulator signal input of 0.5 megohm.

Weight: 8 lbs. Size: 7½" x 10½" x 6¼".

**$97.50*** complete with four coaxial cables and instruction booklet.

**User Price (Optional)*

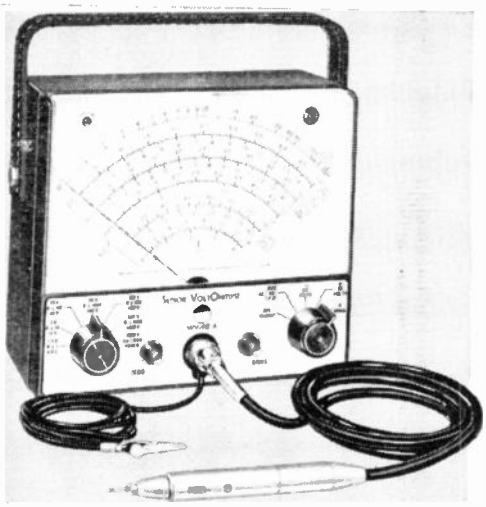


World Radio History

# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WV-98A SENIOR VoltOhmyst®



**$79.50*** complete with WG-299B DC/AC-Ohms Probe and Cable, ground cable, alligator clip, insulator clip, instruction booklet.

**User Price (Optional)*

Application: provides direct reading of peak-to-peak voltages of complex waveforms found in video, sync and deflection circuits. Includes an improved circuit providing 3% accuracy full scale on both ac and dc measurements with better than 1% tracking error. Separate color-coded, peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Features die-cast aluminum case; high input resistance; electronic protection against burnout; rugged 200-microampere meter movement; and precision multiplier resistors with accuracy of ±1%.

- **Large 6½" easy-to-read, full vision meter (26 sq. in.).**
- **Measures complex waveforms directly from 0.2 volt to 4200 volts peak-to-peak in 7 overlapping ranges.**
- **Measures rms values of sine waves from 0.1 volt to 1500 volts in 7 overlapping ranges.**
- **Measures from 0.02 volt to 1500 volts dc on two scales in 7 overlapping "3-to-1" ranges.**
- **INPUT RESISTANCE—11 megohms on all dc ranges.**
- **Measures resistance from 0.2 ohms to 1000 megohms on single scale, with 7 overlapping ranges.**
- **FREQUENCY RESPONSE—30 cps to 250 Mc with WG-301A Crystal-Diode Accessory Probe.**
- **Compact design: 7" wide, 3¾" deep, 6½" high.**

## WV-77C JUNIOR VoltOhmyst®

Application: an all-electronic ac-operated vacuum-tube volt ohmmeter for measurements in avc, oscillator and other high-impedance circuits, as well as audio and rf applications. Factory-built, factory tested and calibrated to rigid laboratory standards. Equipped with five ranges each for dc voltage, ac voltage and resistance measurements, the WV-77C measures dc from 50 millivolts to 1200 volts; ac from 100 millivolts to 1200 volts rms; and resistance from 0.2 ohm to one billion ohms.

- **Essentially flat frequency response (30 cps to 3 Mc) . . . extends to 250 Mc with WG-301A Crystal-Diode Probe (available as accessory).**
- **Carbon-film ±1% multiplier resistors . . . lasting accuracy and dependability.**
- **Sturdy 200-microampere meter movement electronically protected against burnout on all functions.**
- **Completely shielded in metal case for stability in presence of rf fields.**
- **Negative-feedback bridge circuit . . . provides freedom from effects of line-voltage fluctuations.**
- **Zero-centering facilities . . . for TV and FM discriminator alignment.**
- **Accuracy: dc 3% full scale on +volts, 5% on −volts; 5% on ac.**
- **High input-resistance on all ranges . . . 11 megohms for dc, 0.2 to 2 megohms for ac.**
- **Size: 8" x 5⅜" x 4½". Weight: 4 lbs.**

**$59.50*** complete with WG-299B DC/AC-Ohms Probe and Cable, ground cable, alligator clip, insulator clip, instruction booklet.

**User Price (Optional)*



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# RCA TEST EQUIPMENT

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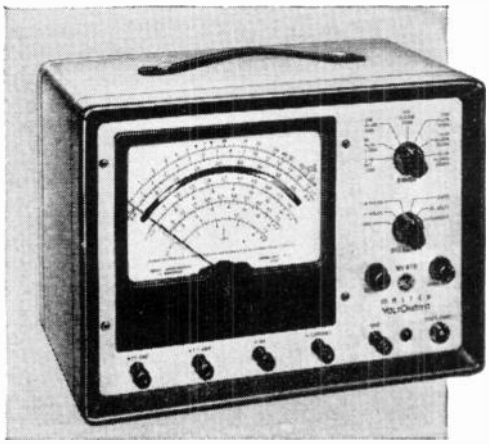
## WV-87B
## MASTER VoltOhmyst®



**$137.50*** complete with probes and cables, including WG-299C DC/AC-Ohms Probe and Cable, current cable, ground cable insulator, instruction booklet.

**User Price (Optional)*

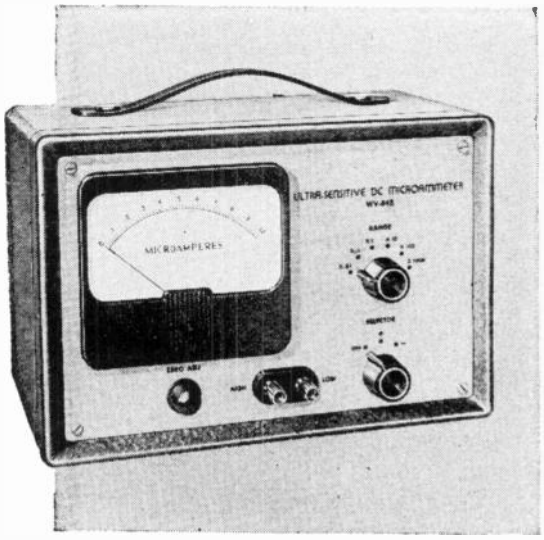
Application: measures dc voltages accurately in high-impedance circuits even with ac present; reads rms values of sine waves and the peak-to-peak value of complex waves or recurrent pulses even in presence of dc. Invaluable for television, radar and other types of pulse work. Has the accuracy and stability necessary for many laboratory applications including a mirror scale. Its large, easy-to-read meter also makes it especially desirable as a permanently mounted instrument in the factory and repair shop.

- **±3% accuracy on ac and dc volts.**
- **Measures resistance from 0.1 ohm to 1000 megohms, current from 10 microamperes to 15 amperes.**
- **Features ±1% multiplier and shunt resistors.**
- **Zero-center scale adjustment for discriminator alignment.**
- **Sensitivity on 1.5 v range — 7.3 megohm/volt.**
- **DC polarity reversing switch.**
- **Measures dc Voltage from 0-1500 volts; ac from 0-1500 volts rms; 4200 volts peak-to-peak.**
- **Frequency Response — 30 cps to 250 Mc using auxiliary WG-301A Crystal-Diode Probe.**

## WV-84B
## ULTRA-SENSITIVE DC MICROAMMETER

Application: a battery-operated vacuum tube microammeter designed for measuring minute direct currents, for making current and voltage measurements in electrolysis and corrosion investigations, and for checking currents in light meters, ultra-violet and infrared detectors, and spectrophotometric devices. Self-contained batteries permit use almost anywhere. Low-drain tubes extend battery life and protect the delicate meter against burnout due to accidental overloads. When used as a voltmeter, it is especially suited to measurements in circuits where loading is a critical factor. Can also be used as an ohmmeter to measure extremely high resistances, such as leakage and insulation resistance.

- **Six direct-current ranges for measuring currents from 0.0002 to 1000 microamperes.**
- **Can be used as ohmmeter to measure resistance in the order of billions of ohms.**
- **Voltage drop for full-scale deflection only 0.5 volts.**
- **Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts.**
- **Over-all microammeter accuracy on .01 range ±5% or better; accuracy on all other ranges ±4% or better.**
- **Size: 7½" x 10½" x 6¼". Weight: 10 lbs. including batteries.**




**$110.00*** includes 50- and 950-megohm multiplier resistors, instruction booklet. (less batteries)

**User Price (Optional)*

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# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WV-74A
## HIGH-SENSITIVITY
## AC VACUUM-TUBE VOLTMETER

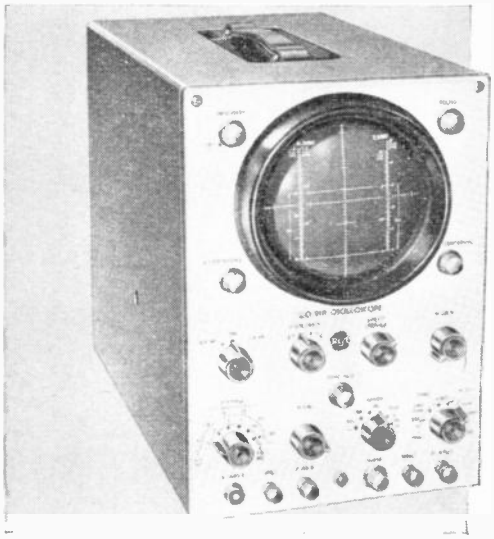
**Application:** frequency response tests of preamplifiers, power amplifiers, and tone-control circuits; feedback-circuit design, signal tracing, audio-level and power-level measurements, amplifier balancing applications, and general audio measurements.

- extremely wide voltage range — from 10 mv to 100 v full scale
- large 6½-inch easy-to-read meter
- high input impedance — permits measurement in circuits sensitive to loading
- nine-overlapping voltage ranges
- power-line frequency range from 50 to 400 cps
- probe cable shielded throughout its length — eliminates pickup from stray fields
- may be used as preamplifier — 38-db maximum gain on 10 millivolt range
- die-cast aluminum case — provides good shielding, withstands hard usage
- Size: Width 7", Height 6½", Depth 3¾"

**$99.50*** complete with input cable and WG-300B Direct/Low-Capacitance Probe and Instruction booklet.

**User Price (Optional)*

## WO-91A — 5" OSCILLOSCOPE



**$239.50*** complete with WG-300B two-way Direct/Low-Capacitance Probe and Cable, alligator clip and insulator, ground cable; green graph screen. Instruction booklet.

**User Price (Optional)*

Application: for production and servicing both black-and-white and color TV receivers. Used to measure color burst signals and for trouble-shooting wide-band color circuits, signal tracing and aligning wide-band video amplifiers, and chrominance circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Response: Wide-band within 3 db from 10 cps to 4.5 Mc; High sensitivity within –1 db from 3 cps to 0.5 Mc: within –6 db to 1.5 Mc. Sensitivity: .05 volt peak-to-peak per inch (0.018 volts rms) in high-sensitivity position; 0.15 volt peak-to-peak per inch (0.053 volts rms in wide-band position).

- **Voltage-calibrated, frequency-compensated, 3-to-1 step attenuator for "V" amplifier.**
- **Shielded vertical-input connector and shielded cable minimize hum, stray field pickup.**
- **Input Resistance — 1 megohm shunted by 40 μμf. Lo capacitance position—10 megohm shunted by 12.5 μμf.**
- **Z-Axis input 12 volts for blanking.**
- **Preset "V" and "H" sweep positions.**
- **"Plus" or "Minus" internal-sync selector.**
- **Positive-lock internal sync.**
- **Sweep Frequency: 10 cps to 100 Kc.**
- **Maximum ac Input: 600 volts peak-to-peak.**
- **Weight: 30 lbs. Size: 13½" x 16½" x 9".**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# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WA-44B AUDIO SIGNAL GENERATOR

**$107.50*** complete with cable, instruction booklet.

**User Price (Optional)*

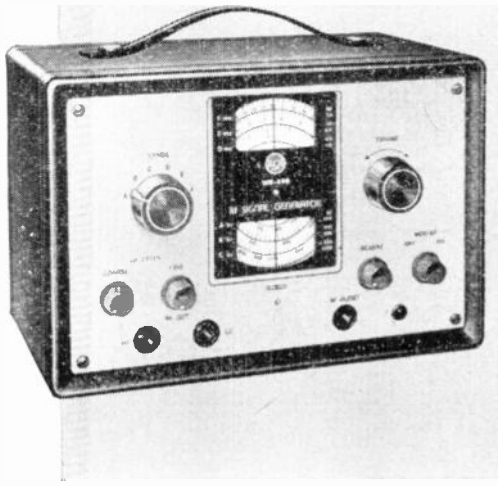
Application: for use in measuring: inter-modulation distortion in amplifiers, amplifier frequency response; frequency response of tone controls; frequency response of phonograph equalizers; input and output impedances of amplifiers; resonant frequency of loudspeakers; and speed of recorder/reproducer mechanisms. Continuously tunable from 11 cps to 100 Kc. Equally useful for: tuning bass-reflex enclosures; determining unknown audio frequencies; determining resonant frequency of LC circuits.

- **RC-type oscillator has wide frequency-range — facilitates checking of hi-fi amplifiers.**
- **Delayed agc circuit insures output uniform with ± 1 db over entire frequency range from 11 cps to 100 Kc. (reference frequency of 100 cps).**
- **Frequency stability of ±3% or better.**
- **Separate high and low output terminals 15 V rms max., or 2.5 V rms max.**
- **Hum level 0.1% of maximum output.**
- **Voltage regulated oscillator power supply.**
- **Total harmonic distortion 2% or less from 30 cps to 15 Kc.**
- **Can be used with high 100,000 or low 1500 ohm impedance circuits.**
- **Size: 7" x 10½" x 6". Weight: 10 lbs.**

## WR-49B RF SIGNAL GENERATOR

Application: for alignment and signal tracing of AM and FM radio receivers, alignment of low-frequency if amplifiers in TV receivers, and signal tracing and trouble-shooting in TV receivers. Continuously tunable from 85 Kc to 30 Mc. With the WR-49A you can inject rf signals into plate circuits and other points where dc is present without placing a dc load on circuit under test . . . with protection from burnout in both equipment and signal generator.

- **Cathode-follower output stage isolates oscillator from effects of load reactance and resistance, thereby maintaining good output waveform, voltage regulation and frequency stability of the oscillator.**
- **Functional-design dial facilitates accurate, easy readings.**
- **Full-length shielding of output cable minimizes radiation and hum pickup.**
- **Built-in dc blocking capacitors.**
- **Built-in 400 cycle oscillator for internal or external use.**
- **Range: 85 Kc to 30 Mc in 6 ranges.**
- **Maximum output at "hi" connector — .05 volts; at "lo" connector — .01 volts rms.**
- **Calibration accuracy of Dial — ± 1%.**
- **Attenuation range — 65 db.**
- **Percentage of modulation — adjustable to 70%.**
- **External modulation input available.**
- **Weight: 8 lbs. Size: 7½" x 10½" x 6".**



**$79.50*** complete with shielded cable for rf or af output, instruction booklet.

**User Price (Optional)*



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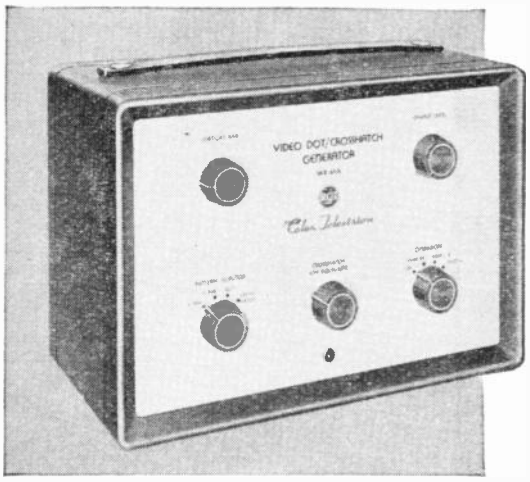
# RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

## WR-46A VIDEO DOT/ CROSSHATCH GENERATOR




**$179.50*** complete with output cable, sync pickup lead, ground lead and instruction booklet.

**User Price (Optional)*

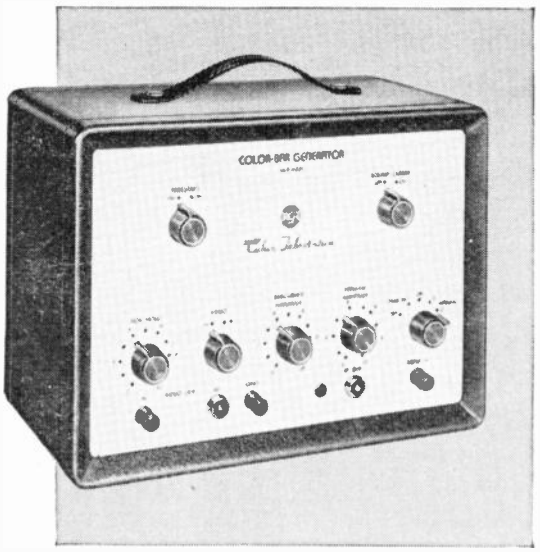
Application: for installing and servicing color TV receivers, the WR-46A is designed for use in dc and dynamic convergence adjustments in color sets and "V" and "H" linearity adjustments in both color and black-and-white TV receivers. Permits simultaneous display of pattern with broadcasting picture in background to assure that convergence adjustments are made at correct horizontal and vertical scanning rates. Vertical sync is frequency divided from horizontal sync, resulting in interlaced scanning and exceptional freedom from "jitter," "crawl" and "sync hunting."

- **High level video output continuously adjustable 0-50v—drives picture tube directly.**
- **Solid pattern — free of crawl and jitter.**
- **Furnishes dots, "V" and "H" bars, and crosshatch patterns.**
- **Equalizer control for "V" and "H" bar brightness.**
- **Output polarity-reversal switch.**
- **All output cables are dc isolated.**
- **Size: 10" x 13½" x 8".**
  **Weight: 17 lbs.**

## WR-61B COLOR-BAR GENERATOR

Application: for checking overall operation of color TV receivers and for adjusting and trouble-shooting color phasing and matrixing circuits. The WR-61B generates the signals for producing 10 bars of different colors simultaneously, including bars corresponding to the R-Y, B-Y, G-Y, I, and Q signals. The output signal consists of a picture carrier, color subcarrier, sync pulses, and an unmodulated sound carrier. All frequencies crystal controlled for inherent accuracy and stability. Sound carrier can be switched off to check for sound interference. 189-Kc pedestals, adjustable in amplitude, provide luminance-channel information. Luminance signals provided at edge of color bars for checking luminance and chrominance registration.

- **Amplitude of color subcarrier and color-burst signal adjustable for checking color sync-lock action of set.**
- **Both rf and video output available — video output has both "+" and "—" polarity.**
- **Maximum rf output at least 0.01 volt peak-to-peak; maximum video output at least 0.25 volt peak-to-peak across 75 ohms, 8 volts peak-to-peak at Hi video output.**
- **Size: 10" x 13½" x 7½".**
  **Shipping weight: 17 lbs.**




**$259.50*** includes rf and video output cables, TV-input adapter, instruction booklet.

**User Price (Optional)*

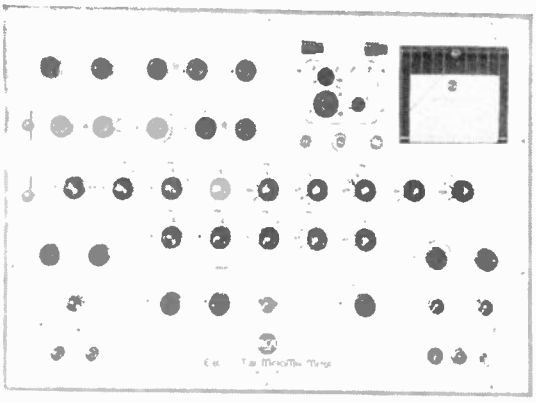


World Radio History

# RCA TEST EQUIPMENT

**FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES**

## WT-100A ELECTRON-TUBE
## MICROMHOMETER



**Application:** a laboratory-type instrument which measures tube characteristics under actual operating-voltage and current conditions. Tests receiving-type and small transmitting tubes. Plug-in multiple-socket assemblies and 14 pin selector switches assure utmost flexibility for present and future requirements.

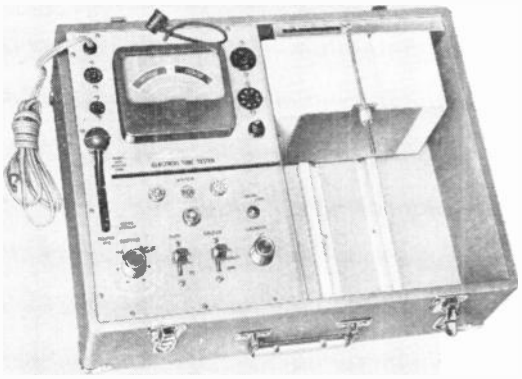
**Measures:** true transconductance with an accuracy of better than ±3%, both control-grid-to-plate and suppressor-grid-to-plate values, electrode currents-plate, screen grid, suppressor grid, and control-grid currents up to 300 ma; ac heater current; and voltage drop of vacuum and gas tubes, dry-disc rectifiers and crystal diodes.

- Built-in "shorts" test.
- Meter is burn-out proof, even on 3 microamp full-scale range.
- Regulated power supplies for dc voltages.
- 250-ma dc supply for filaments of battery-operated tube.
- Built-in gm calibrating circuit — no null meters or extra devices required.
- Measures gm up to 100,000 micromhos in 6 ranges.
- Up to 300 volts at 300 ma available for test under full operational conditions.
- Filament voltage available 0 to 117 volt ac at 5 amperes.
- Size: 23½" x 8" x 18½".
- Weight: 50 lbs. — shipping wt. 110 lbs.

**$949.00*** complete with 4 multiple-socket plug-in units and instruction booklet.

**User Price (Optional)*

## WT-110A
### *Automatic*
### ELECTRON-TUBE TESTER



A new approach in fast, accurate tube testing, the WT-110 *Automatic* Electron-Tube Tester utilizes punched cards of heavy-duty plastic for automatic internal set-up of pin connections and test voltages. Complete transconductance test-set-up takes only seconds; cards are permanently hinged in case for convenient insertion into test slot. The WT-110A tests for gas, shorts, interelectrode leakage and over-all tube quality. Quality of tube indicated on "Renew—?—Good" meter scale. Tests 7-pin, 9-pin, octal, and loctal types.

Simplified, automatic design speeds testing of diodes, triodes, and other multi-element tubes, as well as double-and-triple section tubes having similar or dissimilar sections. Designed especially for TV and general electron-tube service testing, the WT-110A punch-card system provides for flexibility and easy addition of cards for new tube types. Width 17¼", Height 6⅝", Depth 13¼".

**$199.50** complete with 1 set of 239 punched cards, 1 master punch-card, test card, plus 24 additional punched cards, 24 unpunched cards, a card punch and instruction booklets covering card-punching and operation of the tester.

**User Price (Optional)*



World Radio History

# RCA TEST EQUIPMENT ACCESSORIES

### WG-216B LOW-CAPACITANCE PROBE

"Slip-on" type for use with the WG-218 or WG-220 Direct Probe in conjunction with an oscilloscope. When used with the WO-88A Oscilloscope, the total input resistance is 10 megohms shunted by a capacity of less than 10 $\mu\mu f$ ..... **$7.00***

### WG-218 DIRECT PROBE AND CABLE

With microphone-type connector, for oscilloscopes and VoltOhmysts®. **$3.75***

### WG-222 DC/DIRECT PROBE

"Slip-on" type with built-in 1-megohm isolating resistor and a unique switching facility, making it possible to measure dc or resistance without changing probes. The WG-222 slips on the front of the WG-218 or WG-220 ..... **$3.50***

### WG-264 CRYSTAL-DIODE PROBE

Consists of a germanium diode rectifier and RC network in a plastic housing. It conveniently slips on the direct probe of VoltOhmysts,® such as the WV-97A. RF voltages at frequencies up to 250 Mc may be accurately measured with the WG-264. The ac voltage range extends from 20 millivolts to 20 volts rms; dc voltages up to 250 volts can be present ..... **$7.75***

### WG-291 DEMODULATOR PROBE

Has an input range of 500 Kc to 250 Mc with input capacitance of only 2.25 $\mu\mu f$. It separates the modulation from the rf carrier in an amplitude-modulated wave by means of a rectifier and a filter having a short time constant and an output frequency range of 30 to 500 cps. The WG-291 has a maximum input voltage of 20 rms volts and a maximum dc voltage rating of 250 volts ..... **$7.95***

### WG-293 LOW-CAPACITANCE PROBE

"Slip-on" type for use with WG-294 Direct Probe and Cable and WO-78A Oscilloscope. Probe has 10 megohms input resistance and only 14 $\mu\mu f$ input capacitance. Fully shielded ..... **$7.50***

### WG-294 DIRECT PROBE AND CABLE

A shielded coaxial-type cable 48" long with "slip-on" type probe point. Fitted with microphone-type connector. Probe has 11" ground lead with clip. **$4.50***

### WG-296 50-TO-300-OHM PADDED BALUN

Provides efficient matching 50-ohm output from WR-86A UHF Sweep Generator or to 300-ohm transmission lines and circuits. It has a 50-ohm coaxial input and 300-ohm line output ..... **$13.50***

### WG-298A UHF DEMODULATOR FOR 300-950 MC

Excellent for checking standing-wave ratios on 300-ohm line terminations. Fits 50-ohm BNC type connectors. **$37.50***

### WG-299C DC/AC OHMS PROBE AND CABLE

The WG-299C is a single-unit probe for use with VoltOhmysts®. Switch provides instant selection of dc or ac ohms operation. The WG-299C replaces both the WG-299A & WG-299B ..... **$8.75***

### WG-300B DIRECT/LOW CAPACITANCE PROBE AND CABLE

Designed for use with the RCA WO-91A, WO-88A and WO-78B 'Scopes. Cable is 48" long, completely shielded from microphone connector to probe tip to minimize hum and stray field pick-up. Built-in switch provides instant selection of direct or low-capacitance operation. Input characteristics: 10 megohms resistance, less than 12.5 $\mu\mu f$ capacitance in low capacitance position. Includes ground lead and clip. **$14.25***

### WG-220 DIRECT PROBE AND CABLE

A shielded input cable for use with voltmeters and oscilloscopes. It is fitted with a probe tip at one end and a microphone-type connector at the other. WG-220 is the same electrically as the WG-218, but is fitted with pin-plug tips. **$3.75*** (WG-218 or WG-220).

### WG-302A RF/IF/VF SIGNAL TRACING PROBE

"Slip-on" type high-frequency probe designed for use with the WG-300A and B probe and cable to permit visual signal tracing for rapid isolation of trouble in radio receivers and in television if and video stages ..... **$8.50***

### WG-301A CRYSTAL-DIODE PROBE

"Slip-on" type for use with the WG-299A, B or C DC/AC Ohms Probe and Cable extending the frequency range of VoltOhmysts® to 250 Mc. **$7.75***

**User Price (Optional)*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World Radio History

# RCA TEST EQUIPMENT

## FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

### WP-25A
### TV ISOTAP

Speeds up servicing, prevents damage to test equipment, minimizes shock hazards, cuts down costly returns. The WP-25A may be used as a high-medium-low voltage isolation transformer or as an auto-transformer for testing TV receivers at various settings of line voltage. Supplies outputs of 130, 115 and 105 volts at maximum load and is tapped to match line voltages from 105 to 130 volts in six steps ..... **$22.00***

### WG-304A
### RF MODULATOR

An accessory used to check the over-all frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A or WR-99A) by a signal from a video sweep generator (such as WR-59C or WR-69A).

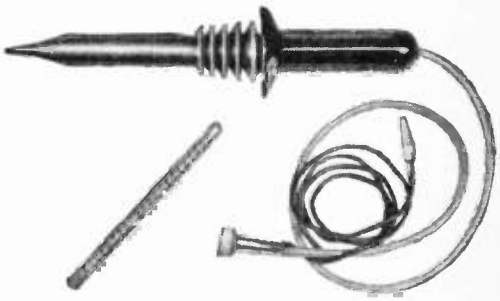
**$28.50***

#### WG-370A TV BIAS SUPPLY

Three fully adjustable 0 to 15V negative, plus a negative 100V nominal for biasing the burst keyer. Size: 2½" x 3" x 5¼"; weight: 22 ounces. ..... **$22.50***

#### WG-306B VIDEO-TEST ADAPTER

Designed to simplify trouble-shooting in the video stages of color TV receivers, making it possible to inject video signals from the WR-36A directly into the grid circuit of the video amplifier stages. Designed for use in all sets using either 6CL6 or 12BY7-A tubes in video amplifier stages. ..... **$4.50***



### WG-289, 290 HIGH VOLTAGE PROBE

RCA High Voltage Probes WG-289 and WG-290 are identical except for their connectors. The WG-289 is provided with a microphone-type connector for use with the VoltOhmysts® and other voltmeters having microphone-type connectors. The WG-290 is equipped with phone-tip connectors for use with voltmeters having phone-tip jacks. These High Voltage Probes are capable of extending the dc voltage range of your meter to 50,000 volts. When used with a VoltOhmyst® the input resistance is increased to 1000 megohms, an important feature when working in high-impedance circuits where loading seriously affects the stability of the circuit under test.

A choice of five multiplier resistors is available, enabling these probes to be used with practically all popular electronic and non-electronic voltohmmeters ..... **$7.15***

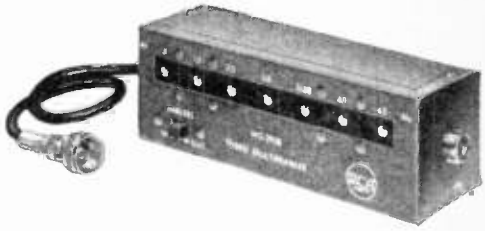
WG-206 1090-megohm multiplier resistor for WG-289 and WC-290 ..... **$2.80***

WG-207 991-megohm multiplier resistor for WG-289 and WC-290 ..... **$2.80***

WG-208 400-megohm multiplier resistor for WG-289 and WC-290 ..... **$2.80***

WG-209 480-megohm multiplier resistor for WG-289 and WC-290 ..... **$2.80***

WG-210 900-megohm multiplier resistor for WG-289 and WC-290 ..... **$2.80***



#### WG-295B VIDEO MULTIMARKER

Provides seven simultaneous absorption-type markers at accurately preset frequencies for marking video response curves in color receivers. Markers are at 0.5 Mc (for Q, R-Y, B-Y, G-Y filters), 1.5 Mc (for I filter), 2.5 Mc (for bandpass filter), 3.58 Mc (color subcarrier frequency), 3 and 4.1 Mc (video and bandpass amplifiers), and 4.5 Mc (sound-trap frequency). Each marker is identified simply by touching a corresponding contact on the WG-295B case. This reduces the amplitude of the particular marker. The WG-295B connects between the IF/VF output on the sweep generator and the video output cable. Equipped with shorting switch. With instruction booklet. **$32.50***

**User Price (Optional)*



World Radio History

# ★ Simpson

**INSTRUMENTS THAT STAY ACCURATE**

## The VOM That Outsells All Others Combined is Now Better Than Ever!

***improved***

# MODEL

*Trademark

# Simpson

# 260*

**AC-DC VOLT-OHM-MILLIAMMETER**

***Seven New Features Make the 260 More Valuable Than Ever!***

For years, the rugged dependability of the Simpson 260 has made it the world's most popular volt-ohm-milliammeter. Now . . . Simpson offers a new and improved 260 . . . easier to operate, more sensitive, more accurate . . . a better buy than ever before. Over ¾ million Simpson 260's have been purchased by technicians, service organizations, laboratories, factories, and the armed forces. Such overwhelming preference is proof that the 260 best meets the needs of VOM users. When you're in the market for a VOM, you can feel sure that the 260 is your best buy.

**The 260 in Ever-Redy Carrying Case**

**The 260RT (Roll-Top Safety Case Unit)**

### NEW FEATURES

1. POLARITY REVERSING SWITCH: Speeds up servicing when making direct current measurements.
2. 50 MICROAMPERE-250 MILLIVOLT RANGE: Gives more sensitive measurements . . . reads lower values of current and voltage.
3. EASIER-TO-READ SCALES: Black and red scales have been spread out for faster reading, less chance of error.
4. LESS CIRCUIT LOADING: Sensitivity of AC voltage ranges has been increased to 5000 ohms per volt.
5. POPULAR DBM RANGES: —20 DBM to +50 DBM, one milliwatt in 600 ohms.
6. IMPROVED FREQUENCY RESPONSE IN AC MEASUREMENTS: Five to 500,000 cycles per second.
7. FULL-WAVE BRIDGE RECTIFIER SYSTEM: Provides more accurate AC voltage measurements.

### RANGES

DC VOLTAGE (20,000 ohms-per-volt): 0-250 mv; 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v.
AC VOLTAGE (5000 ohms-per-volt): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v.
AF OUTPUT VOLTAGE (With .1 microfarad internal series capacitor): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v.
VOLUME LEVEL IN DECIBELS (Zero DB equal to 1 milliwatt across a 600 ohm line): —20 to +10 DB; —8 to +22 DB; +6 to +36 DB; +20 to +50 DB.
DC RESISTANCE: 0-2000 ohms (12 ohms center); 0-200,000 ohms (1200 ohms center); 0-20 megohms (120,000 ohms center).
DIRECT CURRENT: 0-50 mu a; 0-1 ma; 0-10 ma; 0-100 ma; 0-500 ma; 0-10 amp.

### DEALER'S NET PRICES

| | |
|---|---|
| **260 VOM**, complete with test leads and Operator's Manual (Size: 5¼" x 7" x 3⅛". Wt: 3½ lbs. Ship Wt: 5 lbs.) | **$43.95** |
| **1818** LEATHER CARRYING CASE | **7.75** |
| **4236** EVER-REDY VINYL CARRYING CASE | **9.75** |
| **260RT VOM**, in Roll-Top Safety Case, complete with test leads and Operator's Manual (Size: 6⅜" x 9" x 4¾". Wt: 6½ lbs. Ship. Wt: 9 lbs.) | **49.95** |
| HIGH VOLTAGE PROBE for 260 (25,000 v) | **9.95** |
| HIGH VOLTAGE PROBE for 260 (50,000 v) | **12.50** |

***Adjust-A-Vue Handle — holds the 260 at convenient viewing angle. Eliminates separate gadgets and makeshift props.***

## MIDGETESTER, Model 355, AC-DC Volt-Ohmmeter

**SELF SHIELDED, 10,000 Ohms Per Volt AC and DC**

World's smallest! Ideal for appliance repair, radio-TV service, etc. Utilizes the rugged Core Magnet Meter Movement.
VOLTS, DC: 3, 12, 60, 300, 1200.
VOLTS, AC: 3, 12, 60, 300, 1200.
RESISTANCE, DC: 0-10K ohms (120 ohms center); 0-100K ohms (1.2K ohms center); 0-1 megohm (12K ohms center); 0-10 megohms (120K ohms center).

SIZE: 2¾" wide, 4½" high, and 1" thick.
WEIGHT: 7 oz.
MODEL 355 with Leads, Operator's Manual ..... **$34.95**
ZIPPER CASE, Leather with Belt Loop #6355 ..... **$2.95**

**Fits in Your Shirt Pocket**

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# ★ Simpson

**INSTRUMENTS THAT STAY ACCURATE**

ADJUST-A-VUE HANDLE

## NEW! HIGH ACCURACY VOM—MODEL 270

With an accuracy of 1½% anywhere on the dial, this new 270 VOM is ideal for many lab jobs, production line tests, and critical checks in TV-Radio servicing. Features include a DC polarity switch and a mirror scale for sharper readings.

### RANGES

DC VOLTAGE (20,000 ohms-per-volt): 0-250 mv; 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v.

AC VOLTAGE (5000 ohms-per-volt): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v.

AF OUTPUT VOLTAGE (With .1 microfarad internal series capacitor): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v.

VOLUME LEVEL IN DECIBELS (Zero DB equal to 1 milliwatt across a 600 ohm line): —20 to +10 DB; —8 to +22 DB; +6 to +36 DB; +20 to +50 DB.

DC RESISTANCE: 0-2000 ohms (12 ohms center); 0-200,000 ohms (1200 ohms center); 0-20 megohms (120,000 ohms center).

DIRECT CURRENT: 0-50 mu a; 0-1 ma; 0-10 ma; 0-100 ma; 0-500 ma; 0-10 amp.

MODEL 270, complete with test leads and Operator's Manual ..... **$59.95**

### ACCESSORIES

A complete line of accessories for the 270 includes carrying cases and a variety of probes.

## 100,000 OHMS PER VOLT

### MODEL 269*, AC-DC Volt-Ohm-Microammeter

**Self Shielded** . . . 33 ranges . . . 7" scale . . . rugged Core Magnet Meter Movement. Can replace VTVM's for many voltage and resistance checks. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 100,000 ohms per volt.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

RESISTANCE DC: 0-2K ohms (18 ohms center); 0-20K ohms (180 ohms center); 0-200K ohms (1.8K ohms center); 0-2 megohms (18K ohms center); 0-20 megohms (180K ohms center); 0-200 megohms (1.8 megohms center).

CURRENT DC: 0-16, 0-160 ua; 0-1.6, 0-16, 0-160 ma; 0-1.6, 0-16 a.

SIZE: 7-15/16" x 6" x 2-15/16". WEIGHT: 4 lbs.

MODEL 269 with leads and Operator's Manual ..... **$88.00**

*ADJUST-A-VUE HANDLE

## DELUXE VOM

### MODEL 262*, AC-DC Volt-Ohm-Milliammeter

This compact instrument is made possible by the Simpson **Self Shielded** Core Magnet Meter Movement . . . 20,000 ohms per volt . . . 33 ranges . . . 7" scale. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 20,000 ohms per volt.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

RESISTANCE DC: 0-500 ohms (4.5 center); 0-5K ohms (45 ohms center); 0-50K ohms (450 ohms center); 0-500K ohms (4.5K ohms center); 5 megohms (45K ohms center); 0-50 megohms (450K ohms center).

CURRENT DC: 80, 160 ua; 1.6, 16, 160 ma; 1.6, 16 a.

SIZE: 7-15/16" x 6" x 2-15/16". WEIGHT: 4 lbs.

MODEL 262 with leads and Operator's Manual ..... **$59.50**

*ADJUST-A-VUE HANDLE

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# ★ Simpson

**INSTRUMENTS THAT STAY ACCURATE**

## NEW! VTVM

### HIGH SENSITIVITY
### Model 311

**Compare these features: 22** MEGOHM Input Impedance • Peak-to-Peak Readings of Complex AC Voltages • Accessory RF Probe with High Frequency Response and Accuracy • New "TIMESAVER" Probe Tip Hangs on Wire for Continuous Readings. Gives Quick Pressure Contact also for Point-to-Point Readings • Unbreakable Metal Case • Sensibly Priced.

### SPECIFICATIONS

DC VOLTS: 0-1.5, 5, 15, 50, 150, 500, 1500 (±3% accuracy) AC VOLTS: 0-1.5, 5, 15, 50, 150, 500, 1500 (±5% accuracy).

AC PEAK-TO-PEAK: 0-4, 14, 40, 140, 400, 1400, 4000 volts (±5% accuracy).

INPUT IMPEDANCE: 22 Megohms.

OHMS: X1; X10; X100; X1000; X10,000; X100,000; X1 megohm (meter can be set for center zero for FM alignment).

AC FREQUENCY RANGE: 30 to 100,000 cycles per second.

MODEL 311, complete with **slimline** probe, lead, ground cable, clips, and Operator's Manual ..... **$64.95**

RF PROBE: 50 cycles to 100 megacycles, ±5%; 0-150 volts RMS, maximum. Input capacity, 10 mmf **$10.95**

## PORTABLE LABORATORY INSTRUMENTS*

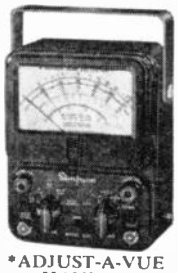
MODEL 9 — Accuracy ½ of 1% Full Scale, D'Arsonval Movement

MODEL 10 — Accuracy 1%, Iron Vane Movement

| Range | MODEL 9 (DC) | MODEL 10 (AC) |
|---|---|---|
| **VOLTS** | | |
| 50 | $49.50 | $43.95 |
| 100 | 49.50 | 43.95 |
| 150 | 49.50 | 43.95 |
| 300 | 55.00 | 49.50 |
| **Double Range Volts** | | |
| 15-150 | 55.00 | ..... |
| 150-300 | 60.45 | 55.00 |
| 300-750 | 66.00 | 60.45 |
| **Triple Range Volts** | | |
| 15-150-300 | 63.75 | ..... |
| 150-300-600 | 66.00 | 60.45 |
| **Milliamperes** | | |
| 1 | 57.15 | ..... |
| 50 | 49.50 | 43.95 |
| 100 | 49.50 | 43.95 |
| 500 | 49.50 | 43.95 |
| **Amperes** | | |
| 5 | 49.50 | 43.95 |
| 15 | 49.50 | 43.95 |
| 30 | 49.50 | 43.95 |
| 50 | 49.50 | 43.95 |
| 100 | 49.50 | ..... |

| Range | MODEL 9 (DC) |
|---|---|
| **Double Range Milliamperes** | |
| 10-100 | $55.00 |
| 25-250 | 55.00 |
| 100-500 | 55.00 |
| **Double Range Amperes** | |
| 2.5-5 | 55.00 |
| 5-10 | 55.00 |
| **Triple Range Amperes** | |
| 2.5-10-25 | 60.45 |
| 10-25-50 | 60.45 |
| **Microamperes** | |
| 50 | 71.55 |
| 100 | 67.00 |
| 200 | 64.95 |

* Also available in Simpson Roll-Top Safety Case at $8.00 additional.



*ADJUST-A-VUE HANDLE

## VACUUM TUBE VOLT-OHMMETER* MODEL 303*

### An Unusually Versatile VTVM

AC VOLTS: 1.2, 12, 60, 300, 1200.
DC VOLTS: 1.2, 12, 60, 300, 1200.
OUTPUT: 1.2, 12, 60 volts AC.
RESISTANCE DC: 1K ohms (10 ohms center); 100K ohms (1000 ohms center); 1 megohm (10K ohms center); 10 megohms (100K ohms center); 1000 megohms (10 megohms center).

DECIBELS: —20 to +63 DB in 5 ranges. ODB = .001 watt in 600 ohms.

R.F. VOLTS: (with R.F. probe) 20 volts maximum. Frequency — Flat 20 Kc to 100 Mc.

LINE VOLTAGE: 105-125V, 50/60 Cycles.

Accessory Probes and Carrying Case available.

MODEL 303 with DCV Probe, ACV-Ohms Probe, Ground Lead, Operator's Manual ..... **$68.00**

## LOW-OHM-METER MODEL 362

### Greater Accuracy from 0.1 to 25 ohms

—

### Low Circuit Current

**RANGES: 0-5 ohms and 0-25 ohms.**

The two ranges of the Low-Ohm Meter permit highly accurate readings between 0.1 and 25 ohms. This is ideal for checking motor armatures and fields; switch and relay contact resistances; shorts between generator windings and grounds; shorts in TV and radio chassis wiring; electrical equipment in industrial plants; plus many other uses. Accuracy is within 3% of full scale value.

Model 362 with calibrated test leads ..... **$24.95**

## DYNAMOMETER INSTRUMENTS, AC-DC

### Model 880*

### Accuracy 1% of Full Scale — Portable

**SINGLE PHASE WATTMETERS**

| Max. Volts | AMPERES Normal | AMPERES Maximum | WATTS Low Range | WATTS High Range | Price |
|---|---|---|---|---|---|
| 150-300 | 1 | 1.5 | 100 | 200 | $60.45 |
| 150-300 | 2 | 3.0 | 200 | 400 | 60.45 |
| 150-300 | 5 | 7.5 | 500 | 1000 | 60.45 |
| 150-300 | 10 | 15. | 1000 | 2000 | 60.45 |
| 150-300 | 20 | 30. | 2000 | 4000 | 66.00 |
| 150-300 | 50 | 75. | 5000 | 10000 | 66.00 |

**DOUBLE CURRENT RANGE WATTMETERS**

| | | | | |
|---|---|---|---|---|
| 150-300 | 2.5-5 | 3.75- 7.5 | 250-500-1000 | $76.95 |
| 150-300 | 5-10 | 7.5 -15. | 500-1000-2000 | 76.95 |

**VOLTMETERS**

| | |
|---|---|
| 0-150 | $60.45 |
| 0-150-300 (Double Range) | 71.55 |
| 0- 75-150-300 (Triple Range) | 76.95 |
| 0-150-300-600 (Triple Range) | 76.95 |

*Also available in Simpson Roll-Top Safety Case (Model 880 RT) at an additional $8.00



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# Simpson

**INSTRUMENTS THAT STAY ACCURATE**

## COLOR BAR GENERATOR

### Model 430

- Service Any Color TV Receiver — Past, Present, and Future
- True, 100% Saturated NTSC Signals
- Exceptionally Wide Range of Outputs
- Outputs *Pictured in Color* on Single Master Control

### IMPORTANT SPECIFICATIONS

OUTPUTS — Y; chroma; color bar (8 bars simultaneously); R-Y; B-Y; R-Y and B-Y simultaneously; I; Q; I and Q simultaneously; G-Y at 90°; sync and burst; horizontal synch; high level 3.58 megacycle output; high level modulated rf output; positive or negative video output. 4.5 Megacycle (crystal controlled) marker for proper tuning.

CHROMA LEVEL SWITCH — 0 db for checking older style receivers and some current models; 6 db for video checks of newer receivers using vestigial color sideband alignment; 15 db for checking color sync lock under weak signal conditions. Variable chroma control position for other chroma levels.

COLOR BAR DISPLAY PATTERN — Left to right: red, yellow, green, cyan, white magenta, blue, black.

**Model 430**, complete with Operator's Manual, and Leads **$395.00**

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In-Circuit

## HORIZONTAL SYSTEM ANALYZER, Model 382

Model 382 is the world's most complete "testing package" for analyzing TV horizontal deflection systems. With this **one** instrument, you can:

(1) Check any winding in the horizontal system (transformer or yoke) for **shorts** and **opens.** Even one shorted turn is clearly indicated on a large 4½" meter. Uses reliable, time-proven Q-type test.

(2) Check flyback and yoke **system** IN-CIRCUIT (disconnect only plate cap of output tube). High-Q systems are checked on a quick-reading, Good-Bad scale (most present day sets use the High-Q system); Low-Q systems on comparative logging scale.

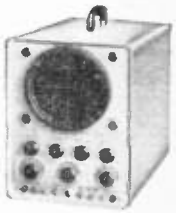
(3) Measure capacitance value (and check for open capacitors) — direct-reading scales indicate from 10 mmf to 0.1 mfd — no bridge to balance. Measures capacitance to better than 10%.

(4) Make continuity checks of **any** wire-wound component, such as width coils, linearity coils, oscillator transformers; check capacitors for direct shorts. Can check many other components for Q, also.

**Model 382**, test cable, Operator's Manual **$69.95**

## COLORSCOPE

### Model 458



- 100% RESPONSE AT 3.58 MC COLORBURST
- DUAL BANDWIDTH — NARROW OR WIDE
- BIG 7-INCH SCREEN

**$229.95**

**Frequency Response of Vertical Amplifier**
Wide Band Position
From 20 cycles/sec. to 4.5 mc/sec.—flat within ±1 db.
From 10 cycles/sec. to 5.0 mc/sec.—within ±2 db.
Rise Time — less than 0.05 microseconds.
Narrow Band Position
From 20 cycles/sec. to 200 kc/sec.—flat within ±1 db.
From 10 cycles/sec. to 300 kc/sec.—within ±2 db.
**Maximum Vertical Deflection Sensitivity**
WB:50 Mv RMS/inch; NB: 20 Mv RMS/inch
**Frequency Response of Horizontal Amplifier**
Same as Vertical Amplifier — Narrow Band Position
**Maximum Horizontal Deflection Sensitivity**
"Hi" — 150 Mv RMS/inch; "Low" — 1.4V RMS/inch
Z-axis sensitivity 4.0 volts RMS to extinguish beam
Calibrating Voltage (@ 117.5 VAC Input to Colorscope) 1.0 P-P volts ±10%
Maximum Input Voltage—600 volts peak
Input Resistance (Minimum)—3.3 Megohms ±10%
Input Capacitance @ 5.0 mc/sec.—20 uuf ±10%
Sawtooth Sweep Range—14 cycles/sec. to 250 kc/sec.

---

## HANDISCOPE, Model 466

### 5" SCREEN

**Measures only 8" x 12¼" x 16¼"**

FREQUENCY RESPONSE OF VERTICAL AMPLIFIER: From 15 cycles/sec to 100 Kc/sec. flat within ±1 db; 6 db down at 250 Kc/sec; usable to 1 Mc/sec.
MAXIMUM VERTICAL DEFLECTION SENSITIVITY: 30 Millivolts R.M.S./inch.
FREQUENCY RESPONSE OF HORIZONTAL AMPLIFIER: From 15 cycles/sec to 20 Kc, flat within ±1 db; 6 db down at 100 Kc/sec.
MAXIMUM HORIZONTAL DEFLECTION SENSITIVITY: 0.7 volt RMS/inch.
Z-AXIS SENSITIVITY (VOLTAGE REQUIRED TO EXTINGUISH BEAM): 20 volts RMS.
CALIBRATING VOLTAGE (at 117.5 VAC power source): 1 volt P-P ±10%.
MAXIMUM INPUT VOLTAGE: 400 volts peak.
INPUT RESISTANCE: 0.1 Meg (at atten. x 1); 0.5 Meg (at atten. x 100).
INPUT CAPACITANCE: 40 uuf (at atten. x 1); 35 uuf (at atten. x 100).
SAWTOOTH SWEEP RANGE: 15 cycles/sec to 80 Kc/sec.

**MODEL 466** with lead, Operator's Manual **$144.95**

---

## NEW! PROBE KIT FOR 458 and 466 SCOPES

**Adaptable to other Scopes Also**

Contains: Low Capacity, Voltage Double-Detector, 100:1 Voltage Divider, and Dual-Direct Probes: Plastic Roll Case; 466 Adapter Socket; and Operator's Manual **$39.95**

**Model 739**



World Radio History

# Simpson

**INSTRUMENTS THAT STAY ACCURATE**

## PORTABLE
### Field Strength Meter
### Model 498A

- **Multi-Power**
- **Calibrated**
- **Operates Anywhere**
- **Covers All Channels**

This newest Simpson calibrated field strength meter provides means for measurement of television signals in any locality. It answers the need of service technicians for a combination power line or battery operated field strength meter that is self-charging.

MODEL 498A covers all channels. UHF and VHF. Measures relative field strength from approximately 20 microvolts to .05 volts. Excellent for fringe areas. Also useful as a tuner substitute when servicing TV. Continuously variable sensitivity. Operates from any **one** of **four** sources: (1) 117 VAC line; (2) Self-contained storage battery*; (3) Your automobile battery; and (4) Your external battery.

ACCURACY: VHF (±6 db); UHF (±8 db).

SIZE: 8" x 11" x 8½". WEIGHT: 11½ lbs. Shipping Wt: 15 lbs.

MODEL 498A, 117 VAC and 6.3 VDC, less battery. **$199.95**

No. 5721 Storage battery, 12 ampere hour capacity. **$14.00**

*Internal storage battery can be recharged by self-contained charger or from your automobile battery while traveling between jobs.

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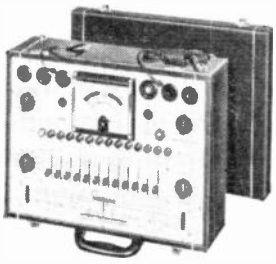
**PLATE CONDUCTANCE**

## TUBE TESTER
### Model 1000



**Extra Lo-Volt Leakage Test**
**Will Not Damage Any Tube**

MODEL 1000 is ideal for radio-TV and industrial control servicing. Tests any receiving tube, including 9 pin miniatures and sub-miniatures with base arrangements in a line or circle. The Simpson plate conductance method makes testing simpler . . . more positive . . . more accurate. Multi-position toggle switches provide quick adjustment.

Snap-Out-Snap-In transparent plastic windows are provided over the roll chart . . . add new tube data at any time.

LINE VOLTAGE: 105-125 Volts, 50-60 cycle.

SIZE: 15¾" x 11¾" x 6".

WEIGHT: 15 lbs. Shipping Wt: 19 lbs.

MODEL 1000 complete with Operator's Manual ..... **$135.00**

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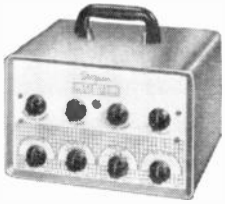
## VARIDOT
### WHITE DOT GENERATOR
### MODEL 434A



**VARIABLE DOT SIZE . . . VARIABLE DOT NUMBER**

The NEW Simpson Model 434A provides white dot patterns with variable dot size (from 1 to 8 scanning lines, with corresponding dot widths), and variable dot number, from 6 to 11 horizontal dots, and 6 to 12 vertical dots.

Very high modulation provides bright, clear dots.

With the Model 434A White Dot Generator, you make linearity adjustment of black and white TV and linearity and convergence adjustments on color TV receivers with confidence. Adjustable dot size provides a check of receiver transient response.

Horizontal and vertical sync pulses are provided, with adjustable vertical sync which can be operated at line frequency or off line frequency. This also operates as a hum-check control for both color and black and white receivers. This feature is rarely found in test equipment offered at this price. Vertical and horizontal synchronization assures you of correct aspect ratio . . . ample attenuation . . . 300 ohm RF output.

Positive or negative video output . . . excellent for accurate and fast checking transient response of video amplifiers is available.

Modulated RF output is available, operating on fundamentals from Channel 2 to Channel 6. Line Voltage: 117 Volts, 50-60 cycles, 45 watts.

DEALER'S NET PRICE, Complete with operating instructions and output cables ..... **$147.50**

---

## CAPACOHMETER
### Model 383A
### World's First IN-CIRCUIT
### Capacitor Leakage Tester

The "Capacohmeter" combines in "one package" the flexibility to: (a) Measure leakage of defective paper, mica, or ceramic capacitors in ohms; (b) indicate directly the capacitance of good paper, mica, or ceramic capacitors over a range of 10.0 micromicrofarads to 10.0 microfarads; (c) detects many marginal capacitors by means of a pulse technique. All tests are read directly on a 4½" instrument. No adjusting of a bridge circuit and balancing controls. All measurements made under load conditions. Borderline capacitors which cause costly "call backs" are immediately "knocked out" with the "pulse test." Many tests are made right "in circuit."

**Model 383A**, complete with test leads and Operator's Manual ..... **$89.95**



Net

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World Radio History

# Simpson

**INSTRUMENTS THAT STAY ACCURATE**

## TEMPERATURE TESTERS — Check 3 Temperatures at 1 Time

### THERM-O-METER*
### Model 388-3L

**Dual Scale: —50° to +1000°F and —40° to +500°C**

The Therm-O-Meter measures the temperature of air, gases, liquids, or solids by means of thermocouple type leads. Readings can be made in 15 to 30 seconds, and up to a distance of 7½'. Model 388-3L, the three-lead model, is particularly useful where two or three temperatures must be measured at the same time.

LEADS — Two types available: General Purpose and Surface Temperature probe. Length is 7½'.

SIZE AND WEIGHT—7-15/16" x 6" x 2-15/16", 4 lbs.

MODEL 388-3L* (for three leads) with one No. 0190 general purpose lead, battery, and Operator's Manual. **$64.50**

MODEL 388* (for one lead) with one No. 0190 general purpose lead, battery, and Operator's Manual. **$59.50**

Ever-Redy Carrying Case, Vinyl, No. 5262 **$9.95**

General Purpose Lead, No. 0190 **$4.95**

Surface Temperature Probe Lead, No. 0187 **$6.95**

*Adjust-A-Vue Handle supports instrument at convenient angles.

### TEMPERATURE METER
### Model 385-3L

**Measures Temperatures from —50° to +70° F**

The Temperature Meter was developed primarily for servicing refrigeration equipment such as deep-freeze units, home refrigerators, and walk-in coolers. It can also be used to service air-conditioning units when the test requirements fall within its temperature range.

MODEL 385-3L, for three 15-foot leads, is especially useful where two or three temperatures must be checked at the same time, such as in setting up a refrigerator thermostat or in checking ambient temperature rises and control apparatus.

LEADS — General purpose type, 15' long. Thermistor tip.

SIZE AND WEIGHT — 3" x 5⅞" x 2½", 1½ lbs.

MODEL 385-3L (for three leads) with one test lead and Operator's Manual **$33.95**

MODEL 385 (for one lead) with one test lead and Operator's Manual **$30.00**

Additional Thermistor Lead, No. 0010 **$3.95**

Ever-Redy Carrying Case, Leather, No. 4299 **$5.95**

## SIMPSON MICROTESTERS (Size: 3" x 5⅞" x 2½")

### AC-DC VOLT-OHM-MILLIAMMETER, Model 240

Designed for radio testing . . . 1000 ohms per volt, AC and DC.

AC VOLTS: 15, 150, 750, 3000.
DC VOLTS: 15, 75, 300, 750, 3000.
DC MILLIAMPERES: 15, 150, 750.
OHMS: 0-3000 (center scale 30); 0-300,000 (center scale 3000). Model 240 with Leads.

**$28.95**

AC-DC VOLT-OHM-MILLIAMMETER, Model 230 — AC Volts: 10, 250, 1000 (400 ohms per volt) — DC Volts: 10, 50, 250, 1000 (1000 ohms per volt) — DC Milliamperes: 10, 50, 250 — Ohms: 0-1000, 0-100,000 — with Leads **$27.95**

DC AMMETER, Model 375 — 0-1, 2.5, 5, 10, 25 amps **$19.95**

DC MILLIAMMETER, Model 373 — 0-1, 5, 10, 25, 50, 100, 250, 1000 ma **$19.95**

DC MICROAMMETER, Model 374 — 0-50, 100, 250, 500, 1000 ua **$23.00**

AC AMMETER, Model 370 — 0-1, 0-2.5, 0-5, 0-10, 0-25 amps **$21.95**

AC MILLIAMMETER (Self-contained transformer), Model 378 — 0-5, 25, 100, 250, 1000 ma **$23.95**

DC VOLTMETER (Res. 1000 ohms per volt), Model 377 — 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 DC volts **$19.95**

AC VOLTMETER (Rec. Type — 1000 ohms per volt), Model 376 — 0-5, 10, 25, 50, 100, 250, 500, 1000 AC volts **$19.95**

AC VOLTMETER, Model 371 — 0-150, 0-300, 0-600 volts **$19.95**

OHMMETER, Model 372—0-500 ohms (5 ohms center); 0-5000 ohms (50 ohms center); 0-50,000 ohms (500 ohms center); 0-500,000 ohms (5,000 ohms center); 0-5 meg. (50,000 ohms center); 0-50 meg. (500,000 ohms center) — with Leads **$27.95**

AC VOLT-AMP-WATTMETER, Model 390 — Volts: 0-150, 300 — Amps: 0-0.3, 15 — Watts: 0-300, 600, 1500, 3000—with break-in plug and Leads **$43.95**

AC-DC VOLT-WATTMETER, Model 391 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1500, 0-3000 — with Cord and Plug **$34.95**

AC-DC VOLT-WATTMETER, Model 392 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1000, 0-5000 — with Cord and Plug **$37.95**

BATTERY TESTER, Model 379 — (Separate arcs for Radio A Batteries, Hearing Aid A Batteries, and for all B Batteries) — with Leads **$24.95**

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World Radio History

# ★ Simpson

**INSTRUMENTS THAT STAY ACCURATE**

*Checks Safety Thermocouples on GAS-FIRED Equipment*

## Millivoltmeter

**MODEL 387**

**For Servicing Gas-Fired—**

**Furnaces • Boilers • Heaters**
**Hot Water Heaters • Dryers**
**Refrigerators**

The new Simpson Millivoltmeter makes gas unit servicing faster, more accurate. Simply place the probe leads across the thermocouple terminals and test for correct value. Ranges are 10, 30, 100, 300, and 1000 millivolts. Accuracy is 3% of full scale from 50° to 120°F. Handy pocket size — only 3" x 5⅞" x 2½".

**Model 387,** with leads and Operator's Manual **$29.95**

## LINE-O-METER, Model 397
## Line Current-Capacity Tester

The Line-O-Meter **pre-tests** the current capacity of electrical lines. It tells whether existing wiring is adequate to handle **motor starting currents** of heavy duty appliances such as air conditioners.

RANGE — 13 to 50 amp (single phase, 117 V, 60 cycle lines).

SIZE AND WEIGHT — 5½" x 3-11/16" x 2½", 2 lbs.

Model 397 with cord and Operator's Manual **$29.95**

# EDGEWISE PANEL INSTRUMENTS

- Require only ½ the panel area of a conventional 2½" meter
- **Self shielded** Core Magnet Meter Movement
- Scale length comparable to a 2½" meter
- Accurate comparative readings by mounting meters next to each other

HORIZONTAL

VERTICAL
(Special Order)

Edgewise Panel Meters are available in popular DC and AC rectifier types, and can be adapted to use also, as position indicators, or as null indicators for tuning circuits. Supplied complete with mounting hardware, including a bezel with two Speed Nuts for quick, simple mounting. Write for information on your special requirements in scales, ranges, sensitivities, and resistances.

Accuracy — DC, 2% of full scale. AC Rectifier Type, 5% of full scale.
Scale Length — 1⅞".
Case — Dustproof, molded Lucite.
Terminals — Solder or stud type for ammeters.
Weight — Approximately 5 ounces.

| HORIZONTAL TYPE | RANGE | APPROX. RESISTANCE (OHMS) | MODEL 1502 |
|---|---|---|---|
| DC VOLTMETER | 0-50 v | 50 K | $12.60 |
| DC VOLTMETER | 0-150v | 105 K | 12.60 |
| DC VOLTMETER | 0-500 v | 1 M | 12.75 |
| DC AMMETER | 0-5 amp | .010 | 13.35 |
| DC AMMETER | 0-10 amp | .005 | 13.35 |
| DC MILLIAMMETER | 0-1 ma | 20 | 13.05 |
| DC MILLIAMMETER | 0-10 ma | 4.9 | 13.05 |
| DC MILLIAMMETER | 0-100 ma | 1.14 | 13.05 |
| DC MILLIAMMETER | 0-500 ma | .237 | 13.05 |
| DC MICROAMMETER | 0-50 mu a | 1750 | 18.15 |
| DC MICROAMMETER | 0-100 mu a | 1000 | 16.05 |

| HORIZONTAL TYPE | MODEL 1507 |
|---|---|
| VU Meter "A" | $21.60 |
| VU Meter "B" | 21.60 |

## NEW! METER RELAYS

**Improved Design**
**Gives Greater Reliability**

Now you can get a reliable, supersensitive meter relay that offers lower costs and circuit simplification in many applications. These new relays feature platinum alloy contacts and increased contact force which minimize sticking and give extreme reliability. Units control up to one watt on less than 50 millimicrowatts. Currently available in 2" DC and 3" AC and DC models. Non-locking type. Write for complete information.

## SHUNTS

External switchboard type for use with DC ammeters. Adjusted for 50 millivolt drop. Shunts available for one ampere to 7000 amperes. Six-foot lead included with each unit.

## CURRENT TRANSFORMERS

These current transformers are of the inserted, one turn, primary type. Designed for switchboard and panel AC ammeters that require external transformers. Models available for 50-1000 amperes primary — all with 5 amperes secondary.


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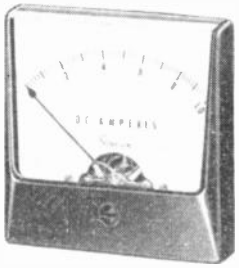
World Radio History

Simpson **PANEL INSTRUMENTS**

# WIDE-VUE

## PANEL INSTRUMENTS

### 2½", 3½", 4½" SIZES



New Wide-Vue meters provide not only ultramodern styling, but also wide-angle readability and longer scales, compared with conventional units. The black, plastic cover is formed in one piece and wraps around the dial for maximum protection. Meters mount in round holes by means of four studs. All DC meters listed below, except those marked by an (*), have the Simpson **self shielded** Core Magnet Meter Movement which **eliminates calibration problems.**

### DC VOLTMETERS

| RANGE | APPROX RESISTANCE | 2½" MODEL 1227 | 3½" MODEL 1327 | 4½" MODEL 1329 |
|---|---|---|---|---|
| 0-10 | 1000 op | $11.55 | $12.00 | $13.20 |
| 0-15 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-25 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-30 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-50 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-100 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-150 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-300 | 1000 | 11.55 | 12.00 | 13.20 |
| 0-500 | 2000 | 12.00 | 12.60 | 13.65 |

### DC AMMETERS

| RANGE | APPROX RESISTANCE | 2½" MODEL 1227 | 3½" MODEL 1327 | 4½" MODEL 1329 |
|---|---|---|---|---|
| 0-1 | .050 | | $11.40 | $12.60 |
| 0-2 | .025 | | 11.40 | 12.60 |
| 0-3 | .0167 | | 11.40 | 12.60 |
| 0-5 | .010 | $10.95 | 11.40 | 12.60 |
| 0-10 | .005 | 10.95 | 11.40 | 12.60 |
| 0-15 | .0033 | | 11.40 | 12.60 |
| 0-25 | .002 | | 11.40 | 12.60 |
| 0-50 | .001 | | 11.40 | 12.60 |

Self contained for ranges shown.

### DC MILLIAMMETERS

| RANGE | APPROX RESISTANCE | 2½" MODEL 1227 | 3½" MODEL 1327 | 4½" MODEL 1329 |
|---|---|---|---|---|
| 0-1 | 46 | $10.80 | $11.25 | $12.00 |
| 0-5 | 23 | 10.80 | 11.25 | 12.00 |
| 0-10 | 7 | 10.80 | 11.25 | 12.00 |
| 0-25 | 2.0 | 10.80 | 11.25 | 12.00 |
| 0-50 | 3.0 | 10.80 | 11.55 | 12.60 |
| 0-100 | 1.5 | 10.80 | 11.55 | 12.60 |
| 0-150 | 1.0 | 10.80 | 11.55 | 12.60 |
| 0-200 | .75 | 10.80 | 11.55 | 12.60 |
| 0-250 | .60 | | 11.55 | 12.60 |
| 0-300 | .50 | 10.80 | 11.55 | 12.60 |
| 0-500 | .30 | 10.80 | 11.55 | 12.60 |

### DC MICROAMMETERS

| RANGE | APPROX. RESISTANCE | 2½" MODEL 1227 | 3½" MODEL 1327 | 4½" MODEL 1329 |
|---|---|---|---|---|
| 0-25* | 2200 | $17.85 | $18.60 | $20.70 |
| 0-50* | 2000 | 15.30 | 15.75 | 17.10 |
| 0-100 | 2000 | 13.80 | 14.40 | 16.05 |
| 0-200 | 1000 | 11.70 | 12.45 | 13.80 |
| 0-500 | 200 | 11.25 | 11.85 | 13.20 |
| 50-0-50 | 2000 | 13.95 | 14.55 | 16.20 |

### AC VOLTMETERS

| RANGE | APPROX. RESISTANCE | 2½" MODEL 1257 | 3½" MODEL 1357 | 4½" MODEL 1359 |
|---|---|---|---|---|
| 0-10 | 133 | $10.20 | $10.95 | $12.60 |
| 0-150 | 25,000 | 11.40 | 12.15 | 13.20 |
| 0-300 | 50,000 | 11.40 | 12.15 | 13.20 |

### AC AMMETERS

| RANGE | APPROX. RESISTANCE | 2½" MODEL 1257 | 3½" MODEL 1357 | 4½" MODEL 1359 |
|---|---|---|---|---|
| 0-1 | .287 | | $10.80 | $12.75 |
| 0-5 | .012 | ..... | 10.80 | 12.75 |
| 0-10 | .003 | ..... | 10.80 | 12.75 |
| 0-15 | .0015 | ..... | 10.80 | 12.75 |
| 0-25 | .0003 | | 11.10 | 13.20 |
| 0-50 | .0001 | | 12.00 | 15.45 |

Self contained for ranges shown.

### AC VOLTMETERS — RECTIFIER TYPE

| RANGE | APPROX. RESISTANCE | 3½" MODEL 1347 | 4½" MODEL 1349 |
|---|---|---|---|
| 0-150 | 1000 ohms per volt | $16.20 | $17.85 |
| 0-150 | 2000 ohms per volt | 16.80 | 18.45 |

### VU METERS

| RANGE | 3½" MODEL 1347 |
|---|---|
| A — Scale | $19.80 |
| B — Scale | 19.80 |

### DC GALVONOMETERS

| SCALE | MICRO-AMPERES SENSITIVITY | RES. | MODEL 1227 | MODEL 1327 |
|---|---|---|---|---|
| 50-0-50 | 75-0-75 MICS | 2000 | $12.15 | $13.35 |
| 50-0-50 | 500-0-500 MICS | 46 | 10.80 | 11.40 |

### DECIBEL METERS

| RANGE | 3½" MODEL 1347 | 4½" MODEL 1349 |
|---|---|---|
| General-Purpose 5000 ohms | $16.50 | $18.00 |

### MILLIVOLTMETER

| RANGE | RES. | MODEL 1327 | MODEL 1329 |
|---|---|---|---|
| 0-50 DC | 5 | $11.40 | $12.60 |

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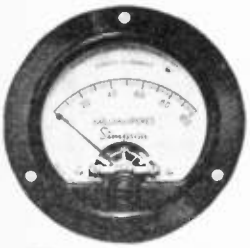
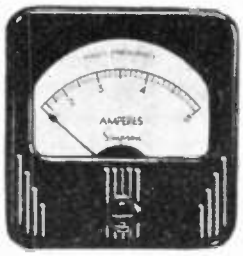
# Simpson PANEL INSTRUMENTS



MODELS 125, 135, 145, 155

2½" ROUND CASE — OPEN FACE STYLE. Flange diameter, 2¾"; depth overall, 2-5/16"; body diameter, 2-11/64"; scale length, 1⅞". Bakelite case.




MODELS 127, 137, 147, 157

2½" RECTANGULAR CASE. Width, 2⅜"; height, 2⅜". Mounts in round hole. Body diameter, 2-3/16". Scale length, 1⅞". Bakelite case.

MODEL 27-37-57 ILLUMINATED

3½" RECTANGULAR CASE. Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Scale length, 1-5/16". Bakelite case.

NOTE: The 2½" and 3½" rectangular instruments indicated (*) are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of $1.95 dealer's net. RF ammeters, lucite illuminated, must be supplied with external thermocouple. Add $5.55 for couple. All instruments are calibrated for use on non-magnetic panels.

## VOLTMETERS

| RANGE | APPROX. RESIST-ANCE | MODEL 125-127 | MODEL 25-27 DC | MODEL 29 | APPROX. RESIST-ANCE | MODEL 155-157 | MODEL 55-57 AC | MODEL 59 |
|---|---|---|---|---|---|---|---|---|
| 0-1.5 | | $10.95 | $11.40 | $12.60 | 3 ohms | $ 9.60 | $10.35 | $12.00 |
| 0-3 | | 10.95 | 11.40 | 12.60 | 12 | 9.60 | 10.35 | 12.00 |
| 0-5 | | 10.95 | 11.40 | 12.60 | 33 | 9.60 | 10.35 | 12.00 |
| 0-8 | | 10.95 | 11.40 | 12.60 | ..... | | | |
| 0-10 | | 10.95* | 11.40* | 12.60 | 133 | 9.60* | 10.35* | 12.00 |
| 0-15 | | 10.95 | 11.40 | 12.60 | 300 | 9.60* | 10.35* | 12.00 |
| 0-25 | 1000 | 10.95 | 11.40 | 12.60 | 833 | 10.20 | 10.65 | 12.00 |
| 0-30 | ohms | 10.95 | 11.40 | 12.60 | | | | |
| 0-50 | per volt | 10.95* | 11.40* | 12.60 | 3,333 | 10.20 | 10.65 | 12.00 |
| 0-100 | | 10.95 | 11.40 | 12.60 | 16,666 | 10.65 | 11.10 | 12.00 |
| 0-150 | | 10.95* | 11.40* | 12.60 | 25,000 | 10.80* | 11.55* | 12.60 |
| 0-200 | | 10.95 | 11.40 | 12.60 | | | | |
| 0-250 | | 10.95 | 11.40 | 12.60 | 41,166 | 10.80 | 11.55 | 12.60 |
| 0-300 | | 10.95* | 11.40* | 12.60 | 50,000 | 10.80* | 11.55* | 12.60 |
| 0-500 | ——— | 11.40 | 12.00* | 13.05 | 83,333 | 15.60 | 16.35 | 17.55 |
| 0-750 | | 11.40 | 12.00 | 13.05 | 125,000 | 15.60 | 16.35 | 17.55 |
| 0-1000 | | 13.65 | 14.25* | 15.45 | 166,666 | 15.60 | 16.35 | 17.55 |
| 0-1500 | 2000 | 13.65 | 14.25 | 15.45 | | | | |
| 0-2000 | ohms | 13.65 | 14.25* | 15.45 | | | | |
| 0-2500 | per volt | 13.65 | 14.25 | 15.45 | | | | |
| 0-3000 | | 13.65 | 14.25* | 15.45 | | | | |
| 0-4000 | | 13.65 | 14.25* | 15.45 | | | | |
| 0-5000 | | 13.65 | 14.25* | 15.45 | | | | |

External resistors are furnished on AC meters having a range of 500 volts or higher. DC 1000 volts or higher.

## MILLIAMMETERS

| RANGE | APPROX. RESIST-ANCE | MODEL 125-127 | MODEL 25-27 DC | MODEL 29 | APPROX. RESIST-ANCE | MODEL 155-157 | MODEL 55-57 AC | MODEL 59 |
|---|---|---|---|---|---|---|---|---|
| 0-1 | 46 ohms | $10.20* | $10.65* | $11.85 | | | | |
| 0-1.5 | 46 | 10.20 | 10.65 | 11.85 | | | | |
| 0-3 | 46 | 10.20 | 10.65 | 11.85 | | | | |
| 0-5 | 23 | 10.20 | 10.65 | 11.85 | | | | |
| 0-10 | 7 | 10.20* | 10.65* | 11.85 | 2,000 ohms | $ 9.60 | $10.35 | $12.15 |
| 0-15 | 1.5 | 10.20* | 10.65* | 11.85 | 875 | 9.60 | 10.35 | 12.15 |
| 0-20 | 1.0 | 10.20 | 10.65 | 11.85 | | | | |
| 0-25 | 2.2 | 10.50* | 10.95* | 12.45 | 390 | 9.60 | 10.35 | 12.15 |
| 0-50 | 3.0 | 10.50* | 10.95* | 12.45 | 80 | 9.60 | 10.35 | 12.15 |
| 0-75 | 2.0 | 10.50 | 10.95 | 12.45 | | | | |
| 0-100 | 1.5 | 10.50* | 10.95* | 12.45 | 20 | 9.60 | 10.35 | 12.15 |
| 0-150 | 1.0 | 10.50 | 10.95 | 12.45 | | | | |
| 0-200 | .75 | 10.50* | 10.95* | 12.45 | | | | |
| 0-250 | .60 | 10.50 | 10.95 | 12.45 | 5 | 9.60 | 10.35 | 12.15 |
| 0-300 | .50 | 10.50* | 10.95* | 12.45 | | | | |
| 0-500 | .30 | 10.50* | 10.95* | 12.45 | .9 | 9.60 | 10.35 | 12.15 |
| 0-750 | .20 | 10.50 | 10.95 | 12.45 | | | | |
| 0-1000 | .15 | 10.50 | 10.95 | 12.45 | | | | |

## MICROAMMETERS

| RANGE | APPROX. RESISTANCE | MODEL 125-127 | MODEL 25-27 DC | MODEL 29 |
|---|---|---|---|---|
| 0-15 | 4800 ohms | | $21.00 | $22.95 |
| 0-25 | 2200 | $17.85 | 18.60 | 20.70 |
| 0-50 | 2000 | 15.30 | 15.75 | 17.10 |
| 0-100 | 2000 | 13.20 | 13.80 | 15.45 |
| 0-200 | 1000 | 11.10 | 11.85 | 13.20 |
| 0-500 | 200 | 10.65 | 11.25 | 12.60 |
| 25-0-25 | 2000 | | 15.90 | 17.25 |
| 50-0-50 | 2000 | | 13.95 | 15.60 |
| 100-0-100 | 1000 | | 12.00 | 13.50 |
| 500-0-500 | 46 | | 10.80 | 12.00 |

## MILLIVOLTMETERS

| RANGE | APPROX. RESISTANCE | MODEL 125-127 | MODEL 25-27 DC | MODEL 29 |
|---|---|---|---|---|
| 0-50 | 5 ohms | $10.35 | $10.80 | $12.00 |
| 0-100 | 10 | 10.35 | 10.80 | 12.00 |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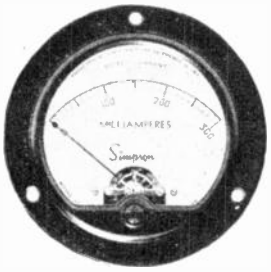
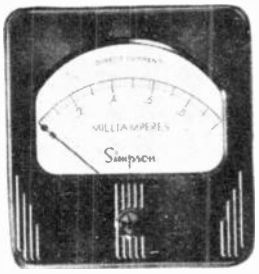
World Radio History

# Simpson PANEL INSTRUMENTS



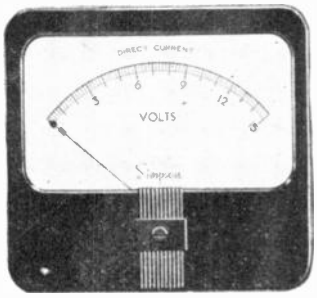

MODELS 25, 35, 45, 55

3½" ROUND CASE — OPEN FACE STYLE. Flange diameter, 3½"; depth over-all, 2¼"; body diameter, 2¾"; scale length, 2-9/16". Bakelite case.



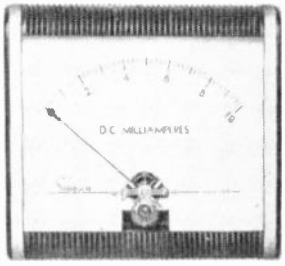

MODELS 27, 37, 47, 57

3½" RECTANGULAR CASE. Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Scale length, 2-9/16". Bakelite case.




MODELS 29, 39, 49, 59

4½" RECTANGULAR CASE. Width, 4-21/32"; height, 4-13/64". Mounts in round hole. Body diameter, 2¾". Scale length, 3-29/32". Bakelite case.




MODELS 1160, 1161, 1162

New 5½" Modernistic Meter. Supplied on special orders only. Also available in 2½", 3½" and 4½" sizes.

## AMMETERS

| RANGE | APPROX. RESISTANCE | MODEL 125-127 | MODEL 25-27 DC | MODEL 29 | APPROX. RESISTANCE | MODEL 155-157 | MODEL 55-57 AC | MODEL 59 |
|---|---|---|---|---|---|---|---|---|
| 0-1 | .050 ohms | $10.35 | $10.80 | $12.00 | .287 ohms | $9.60 | $10.20 | $12.15 |
| 0-1.5 | .033 | 10.35 | 10.80 | 12.00 | .135 | 9.60 | 10.20 | 12.15 |
| 0-2 | .025 | 10.35 | 10.80 | 12.00 | .115 | 9.60 | 10.20 | 12.15 |
| 0-3 | .0166 | 10.35 | 10.80 | 12.00 | .027 | 9.60 | 10.20 | 12.15 |
| 0-5 | .010 | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-10 | .005 | 10.35 | 10.80 | 12.00 | .003 | 9.60 | 10.20 | 12.15 |
| 0-15 | .0033 | 10.35 | 10.80 | 12.00 | .0015 | 9.60 | 10.20 | 12.15 |
| 0-25 | .002 | 10.35 | 10.80 | 12.00 | .003 | 9.60 | 10.50 | 12.75 |
| 0-30 | .00166 | 10.35 | 10.80 | 12.00 | ..... | ..... | ..... | ..... |
| 0-50 | .001 | 10.35 | 10.80 | 12.00 | .001 | 9.60 | 11.40 | 14.85 |
| 0-75 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-100 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-150 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-200 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-250 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-300 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-500 | [illegible] | 10.35 | 10.80 | 12.00 | .012 | 9.60 | 10.20 | 12.15 |
| 0-750 | [illegible] | 10.35 | 10.80 | 12.00 | ..... | ..... | ..... | ..... |
| 0-1000 | [illegible] | 10.35 | 10.80 | 12.00 | ..... | ..... | ..... | ..... |
| 15-0-15 | .0033 | 10.95 | 11.55 | 12.75 | ..... | ..... | ..... | ..... |
| 30-0-30 | .00166 | 10.95 | 11.55 | 12.75 | ..... | ..... | ..... | ..... |
| 50-0-50 | .001 | 10.95 | 11.55 | 12.75 | ..... | ..... | ..... | ..... |

AC-DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50-MV) listed above CAN be supplied with external shunts and include 6 foot leads. Higher range AC ammeters can be supplied with external current transformers and include 2 foot leads. Price of external shunts or current transformers should be added to meter prices shown.

## WATTMETERS — DYNAMOMETER TYPE

| RANGE WATTS | MAX. VOLTS | MAX. AMPS | MODEL 175-177 | MODEL 75-77 | MODEL 79 | RANGE WATTS | MAX. VOLTS | MAX. AMPS | MODEL 175-177 | MODEL 75-77 | MODEL 79 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-75 | 150 | 1.0 | $22.65 | $24.15 | $31.35 | 0-600 | 300 | 4.0 | $25.20 | $26.40 | $33.75 |
| 0-150 | 150 | 2.0 | 22.65 | 24.15 | 31.35 | 0-1500 | 300 | 10.0 | 25.20 | 26.40 | 33.75 |
| 0-300 | 150 | 4.0 | 22.65 | 24.15 | 31.35 | 0-3000 | 300 | 20.0 | 25.20 | 26.40 | 33.75 |
| 0-750 | 150 | 10.0 | 22.65 | 24.15 | 31.35 | | | | | | |

## AC VOLTMETERS — RECTIFIER TYPE

| RANGE | APPROX. RESISTANCE | MODEL 45-47 | MODEL 49 |
|---|---|---|---|
| 0-1 | | $15.60 | $17.25 |
| 0-3 | | 15.60 | 17.25 |
| 0-5 | | 15.60 | 17.25 |
| 0-10 | 1000 | 15.60 | 17.25 |
| 0-15 | ohms | 15.60 | 17.25 |
| 0-50 | per volt | 15.60 | 17.25 |
| 0-100 | | 15.60 | 17.25 |
| 0-150 | | 15.60 | 17.25 |
| 0-300 | | 15.60 | 17.25 |
| 0-1 | | $16.20 | $17.85 |
| 0-3 | | 16.20 | 17.85 |
| 0-5 | | 16.20 | 17.85 |
| 0-10 | 2000 | 16.20 | 17.85 |
| 0-15 | ohms | 16.20 | 17.85 |
| 0-50 | per volt | 16.20 | 17.85 |
| 0-100 | | 16.20 | 17.85 |
| 0-150 | | 16.20 | 17.85 |
| 0-300 | | 16.20 | 17.85 |

## AC MILLIAMMETERS — RECTIFIER TYPE

| | | | |
|---|---|---|---|
| 0-1 | 600 ohms | $15.45 | $16.80 |
| 0-2 | 400 | 15.45 | 16.80 |
| 0-5 | 200 | 15.45 | 16.80 |

## AC MICROAMMETERS — RECTIFIER TYPE

| | | | |
|---|---|---|---|
| 0-100 | 3400 ohms | $18.60 | $20.10 |
| 0-200 | 2400 | 16.35 | 18.00 |
| 0-300 | 1800 | 16.20 | 17.70 |
| 0-500 | 1200 | 15.90 | 17.40 |

## DC GALVANOMETERS

| SCALE | SENSITIVITY MICRO-AMPERES | RESIST-ANCE | MODEL 125-127 | MODEL 25-27 |
|---|---|---|---|---|
| 50-0-50 | 500-0-500 | 46 ohms | $10.20 | $10.80 |
| 50-0-50 | 75-0-75 | 2000 | 11.55 | 12.75 |

## RF AMMETERS

INTERNAL THERMOCOUPLE TYPE

| RANGE | APPROX. RESISTANCE | MODEL 135-137 | MODEL 35-37 | MODEL 39 |
|---|---|---|---|---|
| 0-1 | .205 ohms | $11.40* | $12.75* | $15.45 |
| 0-1.5 | .177 | 11.40 | 12.75 | 15.45 |
| 0-2 | .104 | 11.40* | 12.75* | 15.45 |
| 0-2.5 | .088 | 11.40 | 12.75 | 15.45 |
| 0-3 | .076 | 11.40* | 12.75* | 15.45 |
| 0-5 | .039 | 11.40* | 12.75* | 15.45 |
| 0-8 | .025 | 11.40 | 12.75 | 15.45 |
| 0-10 | .021 | 11.40 | 12.75 | 15.45 |

## RF MILLIAMMETERS

| | | | | |
|---|---|---|---|---|
| ‡0-115 | ohms | ..... | $26.10 | ..... |
| 0-150 | 4.5 | ..... | 15.45 | $17.70 |
| 0-250 | 3.0 | ..... | 15.45 | 17.70 |
| 0-500 | .6 | ..... | 15.45 | 17.70 |

‡ 0-100 linear scale—50 divisions.

## VOLUME LEVEL INDICATORS—DECIBEL METERS

ZERO POWER LEVEL—6 MW. 500 OHM LINE

| RANGE | MODEL 145-147 | MODEL 45-47 | MODEL 49 |
|---|---|---|---|
| GENERAL PURPOSE TYPE —10 to +6 db 5000 ohms | $15.75 | $15.90 | $17.40 |
| HIGH SPEED TYPE —10 to +6 db 5000 ohms | ..... | 16.95 | 18.15 |
| LOW SPEED TYPE —10 to +6 db 5000 ohms | | 16.95 | 18.15 |

## VOLUME LEVEL INDICATORS—VU METERS

REFERENCE LEVEL—1 MW 600 OHM LINE

| RANGE | 145-147 | 45-47 | 142 |
|---|---|---|---|
| Not illuminated A or B Scale—3900 ohms | ..... | $19.20 | $20.40 |
| Illuminated A or B Scale—3900 ohms | | | 23.40 |

Model 142 has same physical appearance as Model 29

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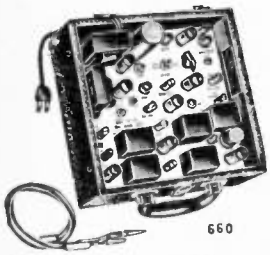
Net



World Radio History

# HICKOK TEST INSTRUMENTS HICKOK


660

### MODEL 660 WHITE DOT-BAR COLOR TV GENERATOR

Provides 3 patterns on screen of any color TV set: White Line Crosshatch (20 vertical, 15 horizontal, less those in blanking); White Dot (Small size—300 dots, less those in blanking); Color Display (Sequence of orange, red magenta, blue, cyan, green). All frequencies crystal controlled and locked together with extreme stability. RF output preset, channel 2 through 6. Small dot and crosshatch down to 2 lines, horizontal and vertical. Sync to video output variable 10-90%. Stable timer circuit. **Video Output:** 0-4 v. p-p; 300 ohm Z.; black positive or negative. Sidelock color frequency crystal 3.563795 mc; output 1 v. p-p. **RF Output:** .001 v. to .05 v. RF modulated by all video outputs (60% modulation). **Power:** 40 watts, 105-125 v., 50-60 cps. **Size:** 10½" x 10¼" x 5¼". Weight, 15 lbs.
**Model 660**—Complete with 2 crystals and cables, instructions, guarantee. Net Each.. **$243.00**

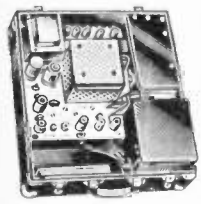
656XC

### MODEL 656XC STANDARD TV COLOR GENERATOR

Produces standard 100% fully saturated NTSC color bar pattern on color TV sets; provides signals for complete color alignment— will never be obsolete. Color generated within 30 seconds of warmup. Generates 3 primaries, 3 complements, plus black and white (white produced by adding 3 primaries), pattern is green, yellow, red, magenta, white, cyan, blue and black. Crystal controlled. Sub-carrier and brightness amplitudes set with precision resistive networks. Also produces White Dot Crosshatch, Vertical Lines, Horizontal Lines, and White Dots (small). Sound carrier and signals for I, Q, R-Y and B-Y provided. RF output modulated through color bar pattern, channels 2-6. Video output, 0-2 v. p-p open circuit; 0-1 v. p-p across 100 ohms. Black leatherette covered case, 16¾" x 18¾" x 7½" d. **Weight:** Net, 34 lbs.; Shpg., 42 lbs.
**Model 656XC Generator**—Complete with leads. Net Each..... **$495.00**

### MODEL 760 VIDEO SCANNER

Stable, versatile TV trouble-shooter has many uses, features innumerable signals and displays normally not available to the TV technician. Instantly scans and produces a video or RF signal for any slide that is inserted into the unit; works with black and white, and color receivers. Generates and scans at the 525 line, 60 field and 30 frame systems. Patterns furnished are Bar, Dot, Standard Test Pattern and transparent blanks for grease pencil use, optional patterns are Gamma, Square Wave and Burst Wave forms. Fully crystal controlled; sync to EIA specifications. Operates on 105-125 v. AC. Shpg. Wt., 51 lbs.
**Model 760 Video Scanner**—Net Each..... **$359.90**


760

### MODEL 690 VHF-UHF MARKER GENERATOR

Crystal controlled. RF output .25 v. Provides dual markers with any sweep generator. 45" of Non-Parallax shadow-type dial can be self-calibrated to ±.05% accuracy with self-contained crystal calibrator. RF, channels 2 through 83; also 3.57 mc crystal (color burst frequency). No counting of beats interpolation or remembering of frequencies. Calibrates other signal generators accurately. Marker can be modulated by self-contained 400 cps. Provision for two other crystals, in addition to 2.5 mc crystal supplied. Electronic-eye and 'phone jack for visual or audible zero-beat. Attenuation controlled by step attenuator and vernier. All VHF frequencies on fundamentals. Steel case, 16½" w. x 13¼" h. x 8" d. Shipping Weight, 34 lbs.
**Model 690 Generator**—Complete with crystal and leads. Net Each..... **$362.00**

### MODEL 691 HETERODYNED MARKER ADDER

Together with 695 and 690, provides utmost in TV alignment. Marker visible at all times, including trap points; will not change amplitude or distort response curve. Sweep and marker generators heterodyned so marker signal never passes through receiver—no overloading. **Input:** 50,000 mv (RF); 90 ohms Z; 25 watts, 105-125 v., 50-60 cps. **Output:** 3 v. max. **Attenuation:** Marker, variable 0-60 db. Response, variable 0-20 db. Portable steel case, 11¼" w. x 8¼" h. x 7" d. **Weight:** Net, 10 lbs.; Shipping, 15 lbs.
**Model 691 Marker Adder**—Complete with leads. Net Each..... **$109.00**

690

### MODEL 288X CRYSTAL-CONTROLLED SIGNAL GENERATOR

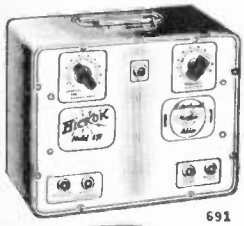
High output AM-FM generator. RF variable 110 kc to 110 mc AM and 100 kc to 160 mc FM in 7 bands, all fundamental. Fixed 50 mc output internally FM at 60 or 400 cps. Fixed, crystal controlled 100 and 1000 kc outputs. Variable AF output 0-15,000 cps; fixed AF 400 cps. **DB:** −10 to +38, over 100° of scale. **Size:** 13¼" x 16¼" x 7" d. Shpg. Wt., 33 lbs.
**Model 288X Generator**—Complete with cables. Net Each..... **$243.00**

### MODEL 290X AM GENERATOR

Accurate, stable source of RF power for alignment of AM receivers. All frequencies obtained by dialing front panel selector. Preset, calibrated frequencies: 262 kc, 455 kc, 465 kc, 600 kc, 1400 kc. Internal crystal oscillator 500 kc to 20 mc. Modulated and unmodulated RF outputs, variable 2-200 mv, 400 cps audio output. **Size:** 6" h. x 9½" w. x 3¼" d. Weight, 6 lbs.
**Model 290X Generator**—Complete with leads, less crystal. Net Each..... **$44.25**

### MODEL 295X ALL-BAND MICROVOLT GENERATOR

For mobile radio or where critical alignment and low mv signal is essential. Continuous 125 kc to 175 mc on fundamentals. Attenuation down to 0.1 mv; no external pad required. Output 0.1 to 100,000 mv, on all ranges. **Size:** 19" w., 12½" l., 9" h. Net Weight, 45 lbs.
**Model 295X Microvolt Generator**—Complete with crystal and leads. Net Each..... **$497.00**


691

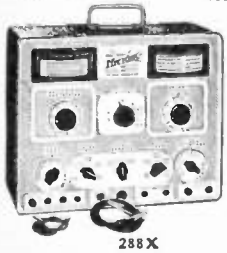
### MODEL 695 VHF SWEEP ALIGNMENT GENERATOR

Sweep signal absolutely linear, without amplitude modulation. Fundamental output on all VHF channels (.3 volt). Blanking of oscillator provides reference base line. Continuously variable tuning. 0-50 mc IF heterodyned output (.15 volt). 100 db attenuation, .3 volt to 3 mv. Triple-shielded—no leakage. Metered, variable DC bias voltage, 0-12 v. 170° phasing. Sweep width, 0-15 mc, ±3 mc. 90 ohms output Z. Portable steel case, 16¼" w. x 13¼" h. x 8" d. **Weight:** Net, 30 lbs; Shipping, 38 lbs.
**Model 695 Generator**—Complete with leads. Net Each..... **$391.00**

### MODEL 615 SWEEP AND MARKER ALIGNMENT GENERATOR

Complete, single-unit TV sweep and marker generator for visual alignment of any TV receivers, (Tuner, IF, Video). Strong 0.25 volts rms marker amplitude (less than .1 db. mc modulation), excellent attenuation, frequency—2.5-5.5 mc, 19-50 mc, 54-108 mc, 108-216 mc. Built-in retrace blanking (controlled). Variable sweep width (0-15 mc). Built-in 4.5 mc crystal. Marker and crystal oscillators can be amplitude modulated 30% by self-contained 900 cps internal modulator. 170° variable phasing. Portable steel case, 13¼" h. x 16¼" w. x 8" d. **Weight:** Net, 31 lbs.; Shipping, 39 lbs.
**Model 615 Generator**—Complete with leads and crystal. Net Each..... **$339.90**

**TYPE 75 TERMINATION PAD**—For use with TV-FM alignment generators to eliminate most standing waves. For 90 and 300 ohms inputs. Shipping Weight, 2 lbs. Net Each..... **$11.50**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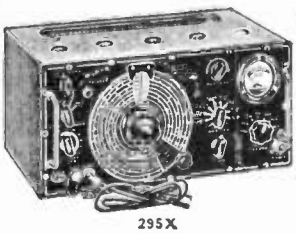
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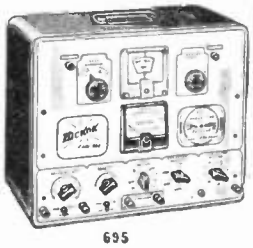
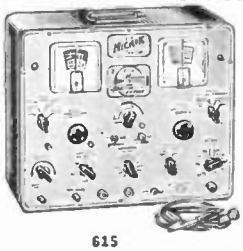

695


615

**HICKOK . . . CHOICE OF THE EXPERTS**



World Radio History

# HICKOK TEST INSTRUMENTS

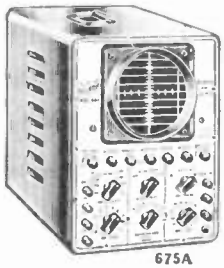
## MODEL 770 5" LABORATORY OSCILLOSCOPE

For general purpose, industrial laboratory and TV applications. **Wide Band Amplifier:** Response DC to 5 mc, −3 db. **Vertical DC and AC Amplifier:** 10 mv rms/inch (narrow); 35 mv rms/inch (wide). **Frequency Response:** 0-2.5 mc, −3 db (narrow); 0-5 mc, −3 db (wide). **Horizontal Amplifier:** 75 mv rms/inch deflection at full gain. **Built-in Calibrating Voltages:** p-p, 100, 10, 1, .01 volts. **Test Signals:** Line Frequency, 3 v. rms; sawtooth available; direct connection to horizontal and vertical deflection plates. **Line Frequency Phasing Control:** 0, ±90° phase shift. Shock mounted, shielded, stabilized, illuminated, calibrated screen with green filter. Draws 150 watts at 105-127 v., 50-70 cps. Equipped with new flat-face tube for improved reading linearity or photographing trace. Portable steel case, 14" x 12" x 18". **Weight:** Net, 50 lbs.; Shipping, 60 lbs. Complete with combination light shield and camera base, test leads.
**Model 770 5" 'Scope**—Net Each ..... **$398.00**

770

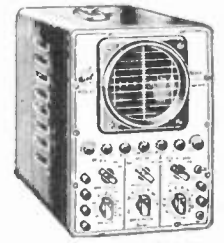
## MODEL 675A 5" OSCILLOSCOPE

New 5" 'scope with all late design features for unusual accuracy in servicing present day electronic equipment, including color TV receivers. Illuminated, calibrated screen, with astigmatic focus and green filter. **Vertical Amplifier:** Response: 1 cps to 4.5 mc, ±3 db; flat through color burst frequency (3.58). Sensitivity: 20 mv rms/inch. **Horizontal Amplifier:** Response: 1 cps to 450 kc, ±3 db. Sensitivity: 250 mv rms/inch. **Time Base Generator:** Four calibrated decades, with 10:1 vernier control—10-100 cps, 100-1000 cps, 1 kc-10 kc, 10 kc-100 kc. Both B+ and Line fused. **Power:** Consumed—125 watts at 115 v. AC. Source—105-125 v., 50-400 cps. Portable case, 13" h. x 10" w. x 16" d. **Weight:** Net, 35 lbs.; shipping, 43 lbs.
**Model 675A 'Scope**—Complete with light leading probe. Net Each ..... **$299.90**


675A

## MODEL 685 PORTABLE 5" OSCILLOSCOPE

**Vertical Amplifier:** Response, DC-750 kc, ±3 db; .5 microsecond rise time; 20 mv rms/inch sensitivity. **Horizontal Amplifier:** Response, DC-750 kc, ±3 db; .5 microsecond rise time; 30 mv rms/inch sensitivity. Both amplifiers are shock mounted. **Time Base Generator:** 4 calibrated decade ranges with 10:1 vernier control—10-100 cps, 100-1000 cps, 1 kc-10 kc, 10 kc-100 kc. Internal or external locking. **Input Z:** 1 meg, 40 μμf. Both B+ and Line fused, screen illuminated, calibrated, filtered (green). **Power:** Draws 65 watts at 105-125 v., 50-400 cps. Portable case, 13" x 10" x 16" deep. Weight, 35 lbs. Complete with test leads, instructions, guarantee.
**Model 685 5" 'Scope**—Net Each ..... **$299.00**
**Model 685LP** (Long Persistence CRT) or **685 HA** (High Aetine CRT) ..... **Write for Price**

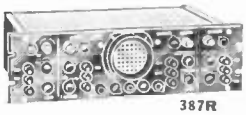

685

## MODEL 385 PORTABLE 3" OSCILLOSCOPE

Lightweight field engineer's 'scope with DC amplifiers. DC-4 mc, −3 db response; 0.75 v. rms/inch vertical and horizontal sensitivity; fully compensated attenuators; unitized construction; shock-mounted case; built-in retractable light shield; CRT mounted at 20° angle; terminal board at rear with direct connection to CRT elements; provision for Z-axis modulation. Draws 60 watts at 115 v.; operates on 105-125 v., 50-1000 cps. Complete with 4' coax test cable, 4' ground lead, telescope light shield, ruled plastic screen. Portable case, 6" x 9" x 13½" d. Net Weight, 15 lbs.
**Model 375CSM 'Scope**—With case, shock mounts and leads. Net Each ..... **$379.00**
**Model TVP-1 TV Probe**—Net Each **$11.50** **Model 34 Demodulator Probe**—Net Each **$5.75**

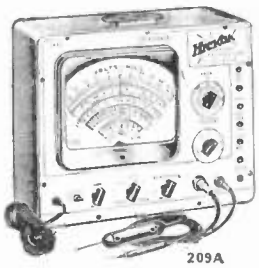
## MODEL 387R RACK MOUNT 3" OSCILLOSCOPE

Laboratory model features identical horizontal and vertical amplifiers. High quality industrial DC 'scope has .010 rms volts/inch sensitivity; fully compensated attenuators, non-frequency discriminating gain controls. Full screen horizontal or vertical deflection without low or high frequency distortion. Unitized circuit construction, dual fused, direct connection to plates. Intensity modulation (Z-axis) provided. **Frequency Response:** DC to 500 kc within 3 db, both horizontal and vertical. **Power:** 105-125 v. AC, 50-1000 cps; 60 watts required at 115 v. **Size** 19" w. x 5½" h. x 9½" d. Gray enamel steel and aluminum case in popular rack mount. Shpg. Wt., 21 lbs.
**Model 387R 3" Rack Mount 'Scope**—Net Each ..... **$379.00**


387R

## MODEL 209A CAPACITANCE TESTER
## VACUUM TUBE VOLT-OHM-MILLIAMMETER

9" meter with non-glare black scale; conversion chart; P-P Voltmeter (also measures AC rms); 0-Center DC scale; high input Z to prevent loading; built-in power supply. **AC-DC Volts:** 0-3, 12, 30, 120, 300, 1200. **DC Current:** 0-3, 12, 30, 120, 300, 1200 ma. **Capacitance:** 0-10,000 μμf (2 ranges); 0-1000 μf (3 ranges). **Inductance:** 50 mh to 100 henries. **Ohms:** 0.1 ohm to 10,000 megohms. **Frequency:** 1 p to 300 mc AC. **Input Z:** DC—15 megs; AC—12 megs. **Tubes:** 1-6X5G1, 1-6SJ7, 1-6SN7GT. **Power Supply:** 105-125 v., 50-70 cps. Gray-finished steel portable case, 13¾" h. x 16½" w. x 7" d. **Weight:** Net, 18 lbs.; Shipping, 26 lbs.
**Model 209A Tester**—Complete with leads. Net Each ..... **$140.25**
**Model PR-30KVA High Voltage Probe**—For DC only. Net Each ..... **$16.40**


209A

## MODEL 455A VOLT-OHM-MILLIAMMETER

Exclusive overload cut-out and fuse system provides complete protection for meter, resistors, shunts, and other components. Any high voltage or current can be applied directly across any function without danger of damage. **Sensitivity:** 20,000 ohms/v. DC-AC. **Volts:** 0-3, 15, 60, 150, 600, 1200 DC-AC. **Ohms:** 0-100 megs, 15, 500, 5000, 500,000 ohms—center scale). **Current:** 50 microamps, 1, 10, 100, 1000 ma., 10 amps. Single Function and Range switch. Full-wave bridge-type rectifier circuit. Streamlined case with curved face and slanted dial; batteries housed in special compartment—just snap in. Portable case, 5⅝" l. x 5¼" w. x 3" to 1¼" h. Net Weight, 3¾ lbs.
**Model 455A Volt-Ohm-Milliammeter**—Complete with leads. Net Each ..... **$66.50**
**Model 456 Volt-Ohm-Milliammeter**—Same as 455A except 1000 ohms/v. AC. **DB Range:** −18 to +57 db in 5 ranges; frequency compensated for accurate audio readings.
Net Each ..... **$76.50**
**Neoprene Carrying Case**—For 455A and 456—Net Each ..... **$9.00**

## MODEL 225K VTVM QUALI-KIT

Practical kit with a big 9" meter that permits reading easily at normal working distance. Designed for the serviceman. Accurate peak-to-peak scales. Built-in audio tone for quick continuity testing. DC Voltmeter measures plus and minus 0-1.5, 3, 12, 30, 120, 300, 1200. **Input Resistance:** 10 megohms. **Ohmmeter:** Center scale—10 ohms. Readability—0.2 ohm to 1000 megohms. **AC Voltmeter Ranges:** 7 Ranges AC rms—0-1.5, 3, 12, 30, 120, 300, 1200; 7 Ranges Peak-to-Peak—0-4, 8, 32, 80, 320, 800, 3200. **Frequency Characteristics:** Flat 40 cps to 3.5 mc. Blue hammertone steel case, 13¼" x 16¼" x 7". Weighs only 16 lbs. Shipping Weight, 23 lbs. With new Dual-Probe and leads furnished. Easy to assemble, 50 page instruction book. 105-125 v. 50-800 cps. 20 watts.
**Model 225K VTVM Quali-Kit**—Net Each ..... **$59.50**

209A

## MODEL 415 VTVM-OHMMETER

**DC Volts:** 0-1.5, 5, 15, 50, 150, 500, 1500 (all 0-center); input resistance 11.3 megs with probe. **Ohms:** (No batteries needed) x 1, x 10, x 100, x 1 K, x 10 K, x 100 K, x 1 meg; readable 0.2 ohm to 2000 megs; design center 10 ohms. **AC Volts:** Based on p-p detection and calibrated in rms—0-1.5, 5, 15, 150, 500, 1500. **Frequency Response:** 50 cps to 2.5 mc. 8½" x 5¼" x 3"-1¾" high. Complete with AC-DC probe, ohms lead, ground lead, instructions and guarantee. Weight, 5 lbs. (approx.) 105-125 v. AC.
**Model 415 Vacuum Tube Volt-Ohmmeter**—Net Each ..... **$82.00**

455A

225K


415

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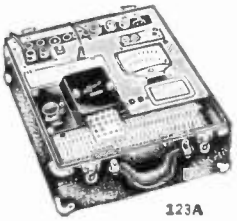
World Radio History

# HICKOK TEST INSTRUMENTS HICKOK

## MODEL 123A CARDMATIC TUBE TESTER

Dynamic mutual conductance in a revolutionary automation card type tube tester. The most accurate portable tube tester available. Coded cards make all test settings—test any receiving tube with laboratory accuracy. All indications are automatic and instantaneous by the use of two push-buttons. Ideal for production line use. Permits special engineering tests to meet any exact tube specifications for special circuit use. Operates on 105-125 v. AC. In black leatherette carrying case, 16¾" x 18⅜" x 7½" d. Weight, 45 lbs. (approx.). Complete with 500 coded cards.

**Model 123A Cardmatic Tube Tester**—Net Each ..... $499.90



123A

## MODEL 121 AUTOMATIC TUBE TESTER

Technician's portable "Cardmatic" has automatic card-filing feature; instantaneous and automatic high sensitivity shorts test. Heater to cathode leakage is quantitatively indicated directly on the meter. Measures: 320 heater voltages; 140 fixed bias potentials; 640 plate voltages; 640 screen voltages; 100 self-bias settings; and 4000 quality-value sensitivity ranges—all set automatically. Panel is baked gold finish. Size: 10¾" l x 13¼" w. x 8" d. Shipping Wt., 40 lbs.

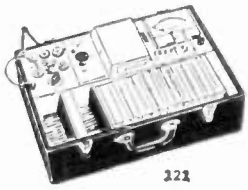
**Model 121 Portable Tube Tester**—Includes 323 cards. Net Each ..... $249.50

## MODEL 6000C COUNTER TUBE TESTER (NOT ILLUS.)

New, high-speed dynamic mutual conductance tube tester cuts testing time in half; tests all receiver tubes normally found in present day electronics equipment, including the new 11-pin types. Adapters are available for testing foreign tubes or old, obsolete types. Instantaneous line adjust and automatic short indication. One push-button immediately permits rating in micromhos. Third push-button instantly provides accurate gas evaluation. Operates on 105-125 v. AC. Steel counter type case, 17" x 12" x 7½" d. Weight, 18 lbs. (approx.)

**Model 6000C Counter Model Tube Tester**—Net Each ..... $182.25

**Model 6000 Portable Tube Tester (Ill.)**—Net Each ..... $182.25



321

## MODEL 6005 ALL-PURPOSE TUBE AND SET TESTER (NOT ILLUS.)

Contains all features of Model 6000. Accurate, built-in, 20,000 ohms/v. DC, 1000 ohms/v. AC multi-meter panel covers AC-DC volts, (0-1000, in four ranges); Ohms, 0.1-100 megs—(center scale 25, 2500, 500,000 ohms); Inductance, (to 70 henries); capacitance, (50 μf, 5 μf—to as low as .001 μf); Current (10, 100, 500 ma DC); Decibels (−10 to +50 db). Excellent for leakage tests of electrolytics and for hum checking in any receiver stage. Bias fuse protects bias potentiometer.

**Model 6005 All-Purpose Tube/Multitester**—With leads. Net Each ..... $220.00

**Model 6005**—With CRT Adapter and Replaceable Socket Set. Net Each ..... $236.10

6000

## MODEL 539B PORTABLE TUBE TESTER

6 Micromho Ranges: 60,000, 30,000, 15,000, 6,000, 3,000 and 600; Rectifier-Diode Range and Voltage Regulator Range in addition. .25, .5, 1.0 or 2.5 v. may be applied to grid. Separate DC voltmeter for grid bias; separate AC meter for line voltage. Separate rectified DC voltages applied to each tube element. Test leakage (to 50 megs.), neon test lamp for shorts, self-bias through switch; tubes can be matched; tests future life; also noise and gas. Test tubes at normal or at low plate and screen voltages. Draws 40 watts, 110-125 v. AC. Black leatherette covered case: 16¾" w. x 18⅜" l. x 7½" d. Weight, 28 lbs.

**Model 539B Tester**—Complete with Replaceable Socket set. Net Each ..... $399.00

**Model 539B Tester**—With CRT Adapter. Net Each ..... $409.25

539B

## MODEL 533AP PORTABLE TUBE TESTER (NOT ILLUS.)

Radio, TV and communication technician's portable model with Dynamic Mutual Conductance circuits. In strong portable carrying case with detachable cover and handle. Micromhos: 0-3000, 6,000 15,000. Tests all latest types, including miniature and subminiature, under simulated operating conditions. Includes Gas, Noise, Life, and Short tests. Bias fuse prevents accidental damage to bias potentiometer. 5" meter with anti-static coated lucite window. Draws 40 watts at 110-120 v. AC. Black leatherette case, 16¾" x 18⅜" x 7½" d. Weight: Net, 23 lbs; Shipping, 30 lbs.

**Model 533AP Portable Tube Tester**—Net Each ..... $217.85

**CRT Adapter and Replaceable Socket Set**—Net ..... $18.85

## MODEL 750 PORTABLE TUBE TESTER

Accurately tests all tubes normally encountered in all phases of electronic work including latest ruggedized types used by airlines, hearing aids, black and white and color TV sets, etc, and the new Series Heater-String (600 ma) tubes. 5" meter with 5 micromho ranges: 0-1500, 0-3000, 0-6000 0-15,000, 0-30,000; also two "Replace-Good." Up to 200 v.DC, up to 100 ma DC.Tests voltage regulator tubes. Two plate and screen voltages: Normal and low. Four single voltages—as low as 0.25 v. Short test; line adjust knob. Tubes can be matched. Forecasts tube life. Bias and line fuses. Easy to read chart; tubes location on chart indicated by key number stamped under chart opening. Draws 40 watts at 110-125 v. AC. Black leatherette covered portable case, 16¾" w. x 18⅜" l x 7½" d. Weight, 24 lbs.

**Model 750 Tester**—Net Each ..... $269.90

**Model 750 Tester**—Including CRT Adapter and Replaceable Socket Set. Net Each ..... $288.75



750

## MODEL CR5 PICTURE TUBE TESTER

For use by servicemen and dealers in checking electron gun of CRT's. Tests for both shorts and open elements in the electrodes through a sensitive neon lamp. Checks emitting cathode quality, using CRT in conjunction with neon lamp in a bridge circuit. Beam current testing of tetrode type electron guns; peak emission for triode-types. Ruggedly built, both electrically and mechanically; no meter to be damaged. Field checks have shown this model to be more than 98% accurate in analyzing TV CRT troubles other than screen or face plate defects. Socket furnished is for tubes with 6.3 v. heaters, duodecal base. Draws 20 watts at 117 v. AC. Complete with leads, instructions and guarantee. Portable metal case with built-in lead compartment, 6" h. x 8½" w. x 3" d. Net Weight, 5 lbs.

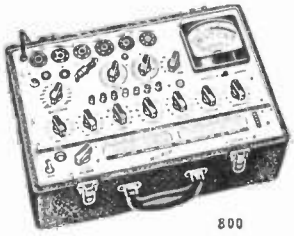
**Model CR5 Cathode Ray Tube Tester**—Net Each ..... $19.95

CR5

## MODEL 800 TUBE TESTER

Smaller, handier portable model for radio and TV technicians as well as labs and industry. Micromho Range: 0-3000, 6000, 15,000. AC signal, 2.5 v. 5" meter. Tubes are tested under simulated operating conditions; covers all latest types including miniatures and sub-miniatures. Includes Gas and Shorts tests. Easy-to-read roll chart is replaceable. Dark red leatherette covered portable case, 16¾" w. x 11⅜" l. x 7½" d. Weight: Net, 16 lbs. Shipping, 21 lbs. Draws 40 watts at 110-120 v. AC.

**Model 800 Radio & TV Portable Tester**—Net Each ..... $149.50



800

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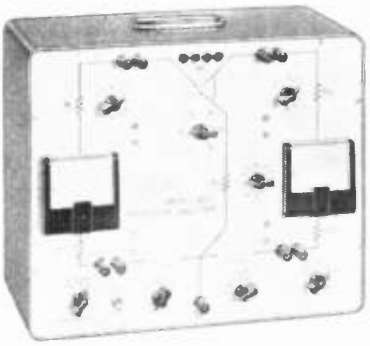
World Radio History

# HICKOK TEST INSTRUMENTS HICKOK

## NEW, TRANSISTOR ANALYZER

### *Tests Transistors Under Circuit Use Conditions*



MODEL 850

Model 850: A low cost, accurate and easy-to-use transistor analyzer designed to provide evaluations of a transistor to determine its ability to function under a specific circuit condition. Measurements made with this equipment are accurate and reliable, and are limited only by the highly accurate indicating meters which are within ±2% of full scale.

The main advantages of the 850 are its low cost, ease of use, completeness of test and the fact that it can never become obsolete regardless of new transistor designs.

**WILL CHECK POWER TRANSISTORS WITH COLLECTOR CURRENT OF 500 MA**

This equipment features a wide range of applied voltages (within ratings) available by substitution for "breadboard" use to build up amplifiers, oscillators and a curve tracer. The 850 checks parameters in any of three configurations—Common Base, Common Emitter and Common Collector.

Use of this equipment will quickly and effectively convey a full understanding of how a transistor operates.

It is a great time saver for technicians in maintenance of circuits using transistors as well as an excellent educational aid in demonstrating transistor theory in technical schools.

Panel selector quickly sets operator's choice of circuit-use conditions to detect suitability of transistor to operate from signal sources of varying impedances.

Model 850: Attractive portable steel case with aluminum panel. 8" D., 16½" W., 13½" H. 105-125 volts A.C. 20 lbs. net wgt.

### TECHNICAL SPECIFICATIONS

*Checks for the following parameters under any circuit use conditions selected by operator:*

- Collector Leakage, C Base or C Emitter.
- Beta (current) gain.
- Alpha gain.
- Input resistance.
- Output resistance.
- Power gain.
- Linearity.

*Specifically designed for ease of use in completely analyzing transistors by:*

- Servicemen.
- Laboratory Engineers.
- Production Inspectors.
- Technical schools.
- Design Engineers in breadboard work.
- . . . and in curve tracing.

## NEW, TRANSISTOR-RADIO TESTER

### *For Testing Portable and Auto Radios*

MODEL 810

Model 810: Specifically designed with all necessary features for complete troubleshooting of transistor radios. Almost all portables made today are transistorized. With the 810 you can profit immediately from service in this large and ever growing transistor-radio market. The instruction book contains an easy-to-learn course in transistor radio servicing. By following the outlined procedure, any serviceman can quickly troubleshoot and profitably repair transistor radios.

Model 810: Attractive portable steel case with aluminum panel 11¼" W., 9" H., 7" D. 105-125 volts A.C. 50-70 cycles. Approximately 20 watts. 11 lbs. net wgt.

### TECHNICAL SPECIFICATIONS

**TUNED RECEIVER**

- 200KC to 575KC Tuned Receiver for troubleshooting IF stages.
- 550 KC to 1600 KC Tuned Receiver for troubleshooting RF stages.
- Audio amplifier for signal tracing the audio stages.
- 400 cycle audio output. This is low impedance output and is used for signal injection.

**AM SIGNAL GENERATOR**

- 200KC to 575KC AM Generator. This is used for IF Alignment.
- 550KC to 1600 KC AM Generator. This is used for RF Alignment.
- A cathode follower input probe to minimize loading to receiver under test.

**TRANSISTOR TESTER**

- Transistor test circuit for checking transistors. Check leakage and gain.
- Loundspeaker as an indicator for signal tracing.
- AM Generator, 2-band radio, Tracometer, and Transistor Tester . . . all in one package.

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World Radio History

# Industrial Instruments

## Electrical Test Equipment

Model RN-1

## WHEATSTONE BRIDGE

● A carefully engineered bridge made for all around use in lab., plant, or field. All models contain own 4½-volt battery power supply and galvanometer. Provision for external batteries and galvanometer if desired. All models have ratio dial settings of .001, .01, .1, 1, 10, 100, and 1000 as well as built-in resistance standards of 1, 10, 100, and 1000-ohm decades. Ratios are guaranteed to .05% tolerance. Resistance dial resistors to ±0.1% of nominal value except 1 ohm dial (0.25%). Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover. 9¼" x 7½" x 6¼" h. Wt. 9¼ lbs. net; 12¼ lbs. shipping.

MODEL RN-2. Standard Portable Wheatstone Bridge, complete with batteries ..... **Net Price $160.00**

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley Loops ..... **Net Price $175.00**

MODEL RN-3. Same as RN-2 but with additional ratio settings of 1/9, ¼ and varying galvanometer sensitivity control **Net Price $205.00**

## RESISTANCE DECADES

● Available in a wide variety of standard models. Accuracy at 1.0 and 0.1 ohm steps is ±0.25%. Accuracy of all other resistors is ±0.1% of indicated value. Self-cleaning, molded nylon and silver plated brass switch mounted below panel. Zero resistance is less than .003 ohms per dial. Hardwood case. Models DR-1D to DR-4D, 6" x 4½" x 4½" h. Weight 4 lbs. net, 6 lbs. shipping. Models DR-50D to DR-52D, 9" x 6" x 4½" h. Weight 5 lbs. net, 7 lbs. shipping. Models DR-70D and DR-71D, 17¼" x 5" x 4½" h. Weight 6 lbs. net, 7 lbs. shipping.

| Model No. | Total Resistance Ohms | Decade Steps | Accuracy | Price |
|---|---|---|---|---|
| DR-1D | 1,110,000 | 10x(1,000 + 10,000 + 100,000) | ±0.1% | $ 84.00 |
| DR-2D | 111,000 | 10x(100 + 1,000 + 10,000) | ±0.1% | 68.00 |
| DR-3D | 11,100 | 10x(10 + 100 + 1,000) | ±0.1% | 65.00 |
| DR-4D | 1,110 | 10x(1. + 10 + 100) | ±0.25 & ±0.1% | 60.00 |
| DR-50D | 11,111 | 10x(.1 + 1 + 10 + 100 + 1,000) | ±0.25 & ±0.1% | 98.00 |
| DR-51D | 111,110 | 10x(1 + 10 + 100 + 1,000 + 10,000) | ±0.25 & ±0.1% | 105.00 |
| DR-52D | 1,111,100 | 10x(10 + 100 + 1,000 + 10,000 + 100,000) | ±0.1% | 125.00 |
| DR-70D | 1,111,111 | 10x(.1 + 1 + 10 + 100 + 1,000 + 10,000 + 100,000) | ±0.25 & ±0.1% | 150.00 |
| DR-71D | 11,111,110 | 10x(1 + 10 + 100 + 1,000 + 10,000 + 100,000 + 1,000,000) | ±0.25 & ±0.1% | 195.00 |

## CAPACITANCE DECADES

● Instrument calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in microfarads. Progressive adjustment in .01, .001, or .0001 mfd. steps depending on model. .001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Enclosed in hardwood case. DK-4, DK-10 and DK-2A, 8" x 5½" x 7½" H.; wt. 8 lbs.; 10 lbs. shipping. DK-5A, DK-11A, 10¾" x 7¾" x 7½" H.; wt. 10 lbs. net; 12 lbs. shipping.

| Model | Capacitance Mfd. Steps | Accuracy | Dielectric Section | | P.F. | Peak Volts | Price |
|---|---|---|---|---|---|---|---|
| DK-5A | 11.1 in .01 | ±1% | .01 | mica | .2% | 700 DC | $105.00 |
| | | ±3% | .1 | paper | 1% | 400 DC | |
| | | ±3% | 1.0 | paper | 1% | 400 DC | |
| DK-4 | 1.11 in .001 | ±1% | .001 | mica | .2% | 700 DC | 88.00 |
| | | ±1% | .01 | mica | .2% | 700 DC | |
| | | ±3% | .1 | paper | 1% | 400 DC | |
| DK-2A | 1.11 in .001 | ±1% | mica throughout | | .2% | 700 DC 500 AC 60 cycle | 198.00 |
| DK-10 | 0.111 in .0001 | ±5% or 10 mmfd. | mica throughout | | *.2% | 700 DC 500 AC 60 cycle | 125.00 |
| DK-11A | 11.1 in .01 | ±.5% | .01 | mica | .2% | 700 DC | 205.00 |
| | | ±.5% | .1 | mica | .2% | 500 AC | |
| | | ±2% | 1.0 | paper | 1% | 60 cycle 400 DC | |

*Except .001 section which is ±2%

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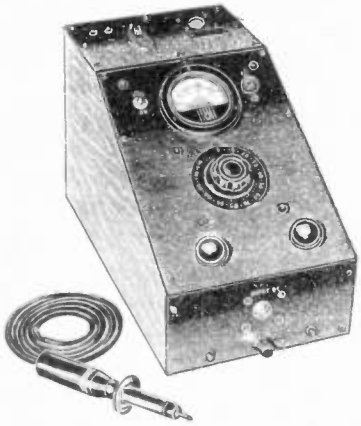
# TYPE P — VOLTAGE BREAKDOWN TESTERS



P-2
AC and DC Breakdown Tester

The Type P Series Voltage Breakdown Testers are designed for safe, accurate and fast testing of materials, components and circuits both in the laboratory and on the production line. All types have self-contained metered high-voltage power supply with safety features including interlock switches and pilot warning lights. Load current is limited to values shown in table below. Ouput voltage continuously variable over range listed for each model.

## ELECTRICAL SPECIFICATIONS AND PRICES

| Model | VOLTAGE RANGE AC volts RMS | VOLTAGE RANGE DC volts | CURRENT RANGE AC | CURRENT RANGE DC | Price |
|---|---|---|---|---|---|
| P1 | | 0-4000 | | 5 ma (max)* | $198.00 |
| P2 | 0-3000 | 0-4000 | 7 ma (max) | 5 ma (max)* | 240.00 |
| P3A | 0-8000 | 0-10,000 | 60 ma (max) | 50 ma (max)* | 465.00 |

*Models P1, P2, and P3A incorporate a variable series resistance which limits short circuit current independently of voltage.

Other power supplies up to 100 KV can be supplied to your specifications. Send complete details for quotation.

# TYPE L — MEGOHMMETERS

Type L Meghommeters are used for both laboratory and high speed production testing of motor and transformer winding insulation, cable insulation, high value resistors, capacitor insulation, and for the measurement of surface and volume leakage of insulating materials. These instruments meet the requirements for testing insulation resistance in accordance with ASTM D-257, and Federal Specification LP-406B, Method 4041.

## ELECTRICAL SPECIFICATIONS AND PRICES

| Model | TEST Voltage | RANGE Low in meg. | RANGE High in meg. | POWER Consumption | WEIGHT Net | WEIGHT Ship | Size | Price |
|---|---|---|---|---|---|---|---|---|
| L-2A | 200 fixed | 1 | 100,000 | 40 Watts | 12 | 15 | 15"x8"x10" | $200.00 |
| L-4A | 200 and 500 fixed | 1<br>2.5 | 100,000<br>250,000 | 52 Watts | 14 | 17 | " | 230.00 |
| L-6B | 100 to 600* | 1 | 100,000 | 82 Watts | 15 | 18 | " | 295.00 |
| L-7 | 100 to 600* | 1 | $5x10^{13}$ | 75 Watts | 20 | 24 | 8"x10½"x11½" | 365.00 |

*Continuously variable, built-in voltmeter for accurate setting.

Type L-7 General-Purpose Megohmmeter incorporating special features for measurement of capacitor leakage and high insulation resistance.

# TYPE LRO-1 LOW RESISTANCE OHMMETER

The Type LRO-1 Low Resistance Ohmmeter is useful for the measurement of resistance of sensitive relay contacts, fuses, bus-bars and connections, rail joints, pipe or conduit, switch contacts, transformer windings, motor windings, bonding, grounding and similar applications. The current through the unknown resistance never exceeds 110 ma. **Price $135.00**

## FEATURES:

Extreme accuracy for the most critical measurements. • Entirely self-contained, including 1½ volt flashlight battery. • Ranges: .1 ohm, 1 ohm and 10 ohms. 100 meter scale divisions. • Accuracy of plus minus 1½% on LRO-1 based on full scale values. • Full Scale Readings. • Maximum current through piece under test = 0.11 amp.

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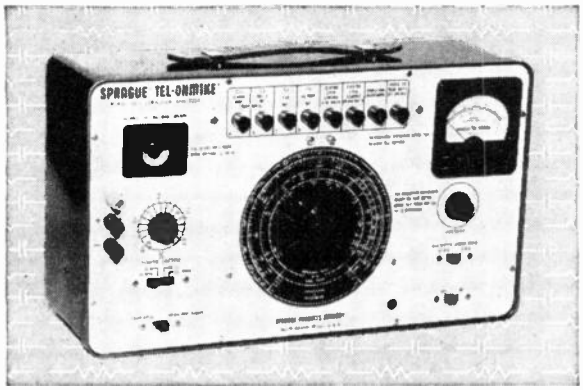
# SPRAGUE TEST EQUIPMENT

## TO-5 TEL-OHMIKE® CAPACITOR ANALYZER




Modern service shops find the Tel-Ohmike a must. The TO-5 is a moderately priced instrument with laboratory quality and accuracy. Guaranteed accuracy ±3% for values up to 200 mf (+ 1 mmf for 0-100 mmf scale) and ±5% from 200 mf to 2000 mf.

### MODEL TO-5RM FOR RACK MOUNTING

Electrically identical with the standard instrument, Model TO-5RM has a standard 19" wide x 10½" high panel for mounting in standard relay racks. User net price of the TO-5RM is $93.90.

- **CAPACITANCE BRIDGE** measures up to 2000 mf in five overlapping ranges. The special 1 mmf to 100 mmf range is exclusive with the Tel-Ohmike.
- **INSULATION RESISTANCE** directly read on large meter up to 20,000 megohms for papers, ceramics, and micas. No guessing with neon lamps.
- **LEAKAGE CURRENT** of electrolytics measured directly on meter, with exact rated voltage up to 600v. applied from continuously adjustable power supply. Two ranges: 0-6-60 ma. No guessing on eye-width or counting lamp blinks!
- **POWER FACTOR** of electrolytics measured by Wien Bridge up to 55% in three ranges.
- **TURNS RATIO SCALE** to measure turns ratio of power and audio transformers.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements.
- **PUSH-BUTTONS** for instant range selection, also discharge capacitors for safety upon release.
- **MODERN CASE** finished in two-tone gray; measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 12½ pounds.

**MODEL TO-5** ..... **115 VAC/50-60 cy** ..... **$83.90 net**

Model TO-5X ..... 115-230 V/25-60 cy ..... $89.90 net

## LF-1 TRANSIMULATOR

### SPEEDS DESIGN OF TRANSISTOR CIRCUITS BY ELIMINATING BREADBOARD LAYOUT

Bring transistor circuits to life in a matter of minutes with the Sprague LF-1 Transimulator. This new instrument lets you simulate any amplifier stage, a-c or direct-coupled, short of high power audio output; also multivibrator, switching, phasing, push-pull, Class A and B, and many others using cross-coupled Transimulators . . . whether the circuit is common or grounded emitter, base, or collector . . . whether the transistors are PNP, NPN, or Surface Barrier. You can simulate circuits stage-by-stage for cascade operation . . . or use a separate Transimulator for each stage to get simultaneous multi-stage operation.

**Bring Circuit Diagrams To Life In Minutes**

Everything you need for RC amplifier circuits is built right into the LF-1, including coupling capacitors . . . bias and load resistors . . . battery voltage supplies . . . Base Collector—Voltage Divider stabilization circuits . . . 5-way binding posts for transformer coupling and metering. Whether you're designing audio circuits or switching circuits, you'll get a true picture of operating parameters minutes after you've drawn the circuit diagram . . . without wasting valuable time with breadboard and soldering gun.

**Pays For Itself In A Matter Of Weeks**

An ideal laboratory instrument, Transimulators are inexpensive enough to justify several on every bench. You can even use the LF-1 to test transistors *in the circuit* . . . the only real proof of design parameters. And a complete step-by-step instruction manual makes operation fast, simple, and easy.

**FEATURES OF THE LF-1 TRANSIMULATOR**

- TRANSISTORS—PNP and NPN Junction, and Surface Barrier.
- CIRCUITS—Common or Grounded Emitter, Base, Collector.
- RANGE—Audio, up to 100 kc.
- TRANSISTOR POWER—Through medium power audio output.
- BATTERY SUPPLY—Separate bias and load. 1.5, 3, 4.5, 6 volts d-c. Polarity Reversing Switch.
- COUPLING—2 μf and 20 μF Direct, and Ext. C. posts, on both Input and Output.
- BIAS RESISTANCE—Up to 555,000 ohms continuously variable.
- LOAD RESISTANCE—Up to 277,500 ohms continuously variable.
- EMITTER RESISTANCE—Up to 2,500 ohms variable. Series resistor and bypass capacitor can be added.
- BASE COLLECTOR STABILITY—Up to 250,000 ohms variable. Series resistor and bypass capacitor can be added.
- VOLTAGE DIVIDER STABILITY—Up to 50,000 ohms variable.
- 5-WAY BINDING POSTS—For meters, transformer coupling, external supply voltage, degeneration, bypass, coupling, signal input and output, almost any connection required.

**$79.50 NET**
LESS BATTERIES



World Radio History

# "CHICAGO" MULTITESTERS and VTVMs

*NEW!*

## High Sensitivity VOM

This latest design tester with 20,000 ohms per volt loading on D.C. volts will find a place in every TV tube caddy. Quality Components used throughout 1% resistors and shunts insures accuracy. Clean plastic meter with 4 color dial. Instant selection of correct meter scale by use of color coding. Scale to same color switch position. Ranges DC volts 0 25 10 25 100 250 1 K 2.5 kv.) AC volts 0 25 10 25 100 250 1K. Output; Same as AC volts. 250 MA; Ohms, 5. Ranges from 1 Ohm to 20 MEGOHMS. Size only $6\frac{3}{4}''$ x $5\frac{1}{4}''$ x $3\frac{1}{4}''$. Complete with test leads.

**Model 660** **Net $29.50**

*NEW!*

## (New) High Sensitivity VOM

Same sensitivity and ranges except output, as Model 660. Case style and protective wrap around similar to Model 551. Designed for horizontal or angle use. Complete with test leads.

**Model 660A** **Net $29.50**

## Model 450 Featherweight VOM

The original palm size multitester has retained its popularity over the years because of its accuracy, convenience and rugged dependability. Tiny molded case has no projections to catch in the pocket — a real pleasure to use! 1000 ohms per volt sensitivity. Same accuracy as larger Chicago instruments. DC Volts: 0-5 10 50 500 1000. Mils: 0-1. Ohms Full Scale: 5000 50,000 500,000. Ohms Center Scale: 30 300 3000. Size only $3\frac{15}{16}''$ x $2\frac{7}{8}''$ x $2''$. With leads.

**Model 450** **Net $14.00**

## Simplex AC-DC VOM

Ranges: AC-DC Volts: 0-25 50 125 250. AC-DC Mils: 0-50. Ohms Full Scale: 100,000. Ohms Center Scale: 2400. Capacity: .05 to 15 MFD.

**Model 312** **Net $9.00**

## AC-DC VOM

*New Type*

A radically new type of multitester offering more useful ranges than many instruments twice its size and price. All shunts and multipliers are within 1% accuracy and are mounted inside the actual meter case. 1000 ohms per volt sensitivity. Instrument protected by attractive black leather wrap-around case permanently attached. Compare these ranges: DC Volts: 0-5 10 50 100 500 2000. AC Volts: 0-12.5 25 125 250 1250. Lo Ohm Scale: 0-1000. Ohms Full Scale: 0-200,000 2 meg. DC Mils: 0-1 10 100. Size only $6\frac{1}{2}''$ x $5\frac{1}{2}''$ x $2\frac{3}{8}''$. With leads.

**Model 551** **Net $18.50**

## Model 431-A AC-DC VOM

**Net $21.50**

A quick, rotary type range selector is featured in this popular multitester. Shunts and multipliers accurate to 1%. 1000 ohms per volt sensitivity. AC-DC Volt Ranges: 0-15 30 150 300 1500 3000. DC Amperes: 0-7.5 DC Milliamperes: 0-1.5 150. Ohms Full Scale: 0-10,000 100,000 1 meg. Ohms Center Scale: 60 600 6000. Aluminum Case with protective aluminum cover. Size: $6\frac{1}{8}''$ x $3\frac{1}{4}''$ x $3\frac{5}{16}''$. With leads.

**Model 431-A** **Net $21.50**

## Vacuum Tube Voltmeter

*New!*

**504-458-A**

A complete service laboratory in an easy to read slant front case is yours in this top quality instrument. Precision 1% multipliers, ease of function-range selection and capacitance ranges are found only in instruments costing much more. Zero center for TV and FM alignment. Price includes DC probe and test leads. Sizes: 10" x $6\frac{3}{4}''$ x 6". 30 Ranges. AC-DC Volts 0-5 10 50 100 500 1000 5000. Decibels: —20 to +16. Ohms: 0-1000 10K 100K 1 meg 100 meg 1000 meg. Ohms Center Scale: 10 100 1000 10K 1 meg 10 meg. Capacitance: 50 to 5000 mmf. .0005 to .05 mf. .05 to 5 mf. .5 to 50 mf. 5 to 500 mf. 50 to 5000 mf. DC Mills: 0-1 10 100 500.

**Model 504** **Net $47.00**

**Model 504 Accessories**

Model P-505 R.F. Probe. Extends range to 100 MC. **Net $6.50**

Model P-506 High Voltage Probe. Extends range to 30,000. **Net $6.50**

## AC-DC VOM

Exclusive design case slanted for better visibility. Ideal for bench use as large meter can be read at a distance. Contains every useful range including amperes. Appearance similar to Model 504 V.T.V.M. 1000 Ohms per volt sensitivity. AC-DC Volts: 0-2.5 10 50 250 1000 Amps: 0-.05 1 5 10. DC Amps: 0-1 10. 5000. AC-DC Mils: 0-1 10 100. AC Ohms Full Scale: 1000 200,000 2 meg. Ohms Center Scale: 50 2250 22,500. Attractive brown Hammerloid finished case with leather carrying strap. Size $10\frac{1}{8}''$ x $6\frac{3}{4}''$ x $5\frac{1}{2}''$ over all.

**Model 458-A** **Net $29.50**

*Continued . . .*
**NEXT PAGE**

*Chicago*

*more ranges — more accuracy — more style for the money*

**INDUSTRIAL INSTRUMENT COMPANY**



World Radio History

# Continued: CHICAGO INDUSTRIAL INSTRUMENTS

## Unidial Electric Multi-Tester

**only $35.00**
Net

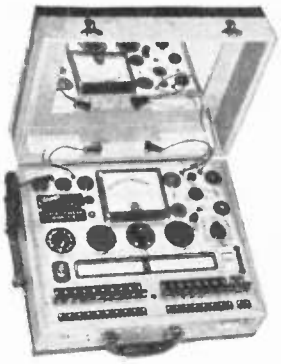
Model 541 — An extremely high grade compact VTVM with single knob selector for both function and range. 11 Megohm input. High torque jewelled meter with burn-out protection. Decibel scale. Polarity reverse for D.C. volts. Peak volts scale. 1% Resistors. Latest TV type rectifier. AC operation. A precision factory wired and tested instrument at the price of a kit. No batteries used on ohm function. Ranges: AC-DC Volts: 0-3/30/300/1200. Ohms: 1/5 ohm to 1000 meg. Size Only 6¾" x 5¼" x 3¼".

**Model 541 Accessories**

Model 541-1 Hi-voltage Probe. Extends range to 30,000 V. Net $6.50

Model 541-2 Hi-freq. Probe. Net $6.50

## Tube Checkers and Special Purpose Instruments



### TUBE CHECKER and SERVICE UNIT

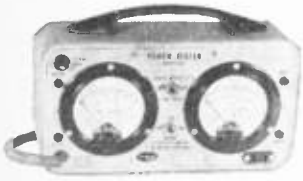
Complete TEST UNIT **only $99.00** Net

Model 432 — Consists of an up-to-minute plate conductance tube checker, an AC-DC Volt-Ohmmeter, a condenser leakage tester, selenium rectifier and dry battery tester, all in one atractive luggage type carrying case. The tube checker features a patented quick set-up key arrangement that tests diodes as diodes, triodes as triodes and pentodes as pentodes. Illuminated roll chart lists all receiving tube types. Lid contains **handy chrome mirror** to assist in making picture tube adjustments. Volt Ohmmeter ranges: AC-DC Volts: 0-10/100/500/1000. Ohms: 0-5000/50,000/500,000/50 meg. Readings are all made on modern, 5" square lucite meter. Add the cost of each instrument in this atractive case and you will recognize the outstanding value the Model 532 offers. Price includes test leads and picture tube adapter, Fabricoid covered case and instruments. Dimensions: 16" x 13" x 7½".

### No. 531 — TUBE CHECKER and BATTERY TESTER

Similar to the Model 432 above but for tube, dry battery and selenium rectifier testing only. Battery tester is the latest design which tests all popular types under rated load. Price includes test leads, picture tube adapter, simulated leather covered wood carrying case and instructions. Dimensions: 16" x 13" x 7". **only $74.00** Net

## Appliance Power Tester



Model 543 Net $32.00

Shows volts, amps and watts simultaneously for accurate analysis of all types of electrical appliances. Provision for shorting out ammeter on motor starting current. Highest quality jewelled meters. AC Volts: 0-150/300. AC Amps: 0-5/15. AC Watts: 0-600/1200 and 0-1750/3500. Dimensions: 11½"x6"x4". With heavy-duty test leads.

## Photoflash Battery Tester

Model 545 Price $17.50

This unit has nationwide acceptance as a battery merchandiser. Tests all photoflash batteries under Bureau of Standards recommended loading. Ranges: 1½AA / 1½C / 1½D / 15v / 22.5 / 22.5 / 30v / 45v / 90v / 225v / 240v / 510v. Large 4½ meter with 4 color scale. Full instructions screened on side of case. Rubber feet to avoid scratching counter. Size 6½ x 5½ x 2⅜.

## Featherweight DRY BATTERY TESTER

only Net $12.50

Model 4540—This unit supercedes Model 454 which long has found favor with Radio Servicemen.

4 New Ranges have been added to meet the testing requirements of new batteries developed for transistor radios. Tests under manufacturers recommended loading the following ranges: 0-1.5/4.5/6/7.5/9/15/22.5/30/45/67.5/75/90 volts. It is pocket sized 3 15/16" x 2⅞" x 2" with attached leads. Pin termination allows testing of any battery terminal style.

## DRY BATTERY TESTER

Portable or Counter Type

Boost your profitable dry battery sales with this instant reading instrument. Tests Radio and Flashlight batteries according to factory specifications. Volt Ranges: 1½ to 10 and 10 to 150. Complete with test leads. Dimensions: 6¾" x 5¼" x 3¼". Simple to operate, with full instructions on front panel, color coded dial with "Bad", ?, and "Good" indication for easy reading.

Model 4710 Net $18.00

## PHOTOFLASH BATTERY TESTER

Model 667 Price $12.50

This unit was designed to satisfy the requirements of the professional photographer and the amateur hobbyist for a tester for 1½ volt "AA", "C", and "D" batteries. It is correctly loaded according to U. S. Bureau of Standard recommendations and will quickly pay for itself when used by one who cannot afford flash bulb failures. It is pocket sized, 3 15/16" x 2⅞" x 2".

Continued NEXT PAGE

Chicago

*more ranges — more accuracy — more style for the money*

**INDUSTRIAL INSTRUMENT COMPANY**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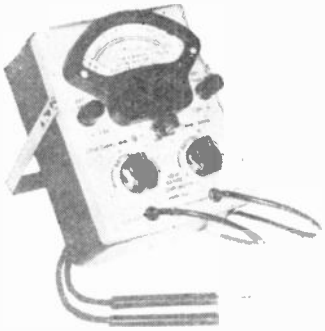
World Radio History

# "CHICAGO" INDUSTRIAL & SPECIAL PURPOSE INSTRUMENTS



## Centi-Low Range Ohmmeter

(with leather case)

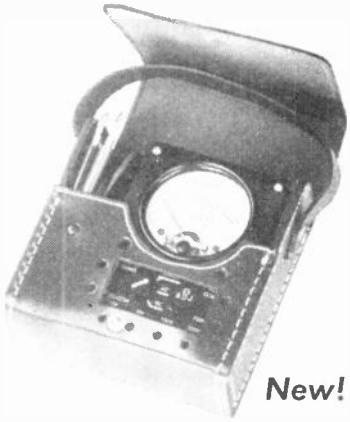
**Model 555** **Net $49.50**

An instrument so sensitive it will detect a shorted winding in a motor or generator, detect poor solder connections and switch contacts. Never before available except in costly laboratory set-ups. The Model 555 is priced for the motor and generator maintenance man, factory inspection department as well as for the laboratory. Powered by self-contained long life dry battery external batteries or power supply when ohmmeter is continuously operated. Low Ohm Ranges: lowest increment .01 ohms center 5 ohms, high 5 ohms. Ohms Range: lowest increment 0.2 ohms, center 5 ohms, high .50 ohms. Price includes Kelvin principle test leads which introduce no error into the indicated meter reading and a special leatherette carrying case. Over all size: 7" x $5\frac{1}{2}$" x $3\frac{3}{4}$".

## Moisture Tester

**Model 510** **Net $27.50**

This pocket size teacher is invaluable for determining electrical conductivity of surfaces such as plaster, wood, etc. For dryness before painting. It has proven its value for 7 years for this application. This year's model, 20 times more sensitive, is expected to find increasing applications in industry where duplicating satisfactory mixes employing water is a factor, such as match plates, castings, general foundry, plastic moulding compounds; cement mixes, etc. Housed in black plastic case. Size $3\frac{15}{16}$ x $2\frac{7}{8}$ x 2". Complete with probes.



*New!*

## General Utility Tester

**Model 663** **Net $18.50**

Same as Model 450 except for ranges. AC volts and output — 0 15 30 150/300 750.
DC volts — 0 15 30 150 300/750.
Ohm full scale 100 K. Center scale 3500.
Co. Complete with test leads.

**With Leather Case — Net Price $23.50**

## SELECTOHM LINEAR POTENTIOMETER

**Model 501** **Net $10.00**

Precision wire wound potentiometer is of laboratory quality but is priced so the service man and industrial user may take advantage of its many uses. Widely used as a resistance substitute for determining value of blackened, burned out resistors, for making quick set-ups in circuit design, decade box, divider network, etc. 100,000 ohm linear scale is accurately calibrated with 500 ohm markings. Rated at 25 watts.

## CUSTOM TEST EQUIPMENT

**We also design and build test units to fit your individual requirements; resistance bridges, calibrating equipment, industrial battery life testers, etc.**

## Photoflash Battery Tester

**Model 664** **Price $19.50**

Same as Model 545 in circuitry and useage but uses more rugged type construction for heavy duty counter use and has all components on one plane for rapid testing.

## Resistance Thermometer

**Model 533A** **Net $58.00**

Latest design bridge thermometer, direct reading scales, color coded to reduce error. Large $4\frac{1}{2}$" sq. meter. Wire would bridge resistors. Compensated for ambient temperature variation with NTC resistor. All wiring cabled and color coded. Carrying handle locks to form easel for angular positioning.

| | |
|---|---|
| Ranges | (50° F/ plus 212° F) |
| Low | (50° C plus 100° C) |
| High | (Plus 212° F/ plus 600° F) |
| | (Plus 100° C plus 300° C) |

Size $6\frac{3}{4}$" x $5\frac{1}{4}$" x $3\frac{1}{4}$".
Supplied with 1 general purpose probe, instructions, and handy felt-lined leatherette carrying case.

*Chicago*

*more ranges — more accuracy — more style for the money*

**INDUSTRIAL INSTRUMENT COMPANY**



World Radio History

ELECTRO-MECHANICAL INSTRUMENT CO. PERKASIE, PENNSYLVANIA

PRECISION-PLUS

# EMICO

# PRECISION

## Modern Engineering . . .

*EMICO panel and test meters are rugged and reliable instruments. (Available with plastic or metal face.) DC meters have the new HI-TORK magnetic movements and are accurate to well within 5%. AC meters are of the moving iron type and are also accurate to within 5%.*

*MOUNTING — All model NF-2C, RF-2C, and RF-2¼C with plastic front meters will fit into a 2-1/16" diameter hole and are mounted by means of a U clamp.*

*DESIGN — EMICO meters are designed to give satisfactory service under the most severe conditions. They are styled to add to the prestige and appearance of electrical equipment.*

*CALIBRATION — Since the instruments are calibrated in steel cases, their accuracy is not affected by panels made of magnetic materials of nominal thickness.*

*GUARANTEED — ALL EMICO instruments are guaranteed against defective material and workmanship for a period of one year after date of purchase, and will be repaired or replaced if sent to the factory postpaid with a 50¢ handling charge.*

## PRICE LIST

### DC AMMETERS

| Range | Approximate Resist. Ohms | MODEL NF-2C Catalog Number | MODEL NF-2C Dealers' Net Price | MODEL RF-2C Catalog Number | MODEL RF-2C Dealers' Net Price | MODEL RF-2¼C Catalog Number | MODEL RF-2¼C Dealers' Net Price |
|---|---|---|---|---|---|---|---|
| 0-1 | .15 | 2101 | $1.75 | 2201 | $1.85 | 2301 | $2.15 |
| 0-3 | .032 | 2101-A | 1.75 | 2201-A | 1.85 | 2301-A | 2.15 |
| 0-5 | .016 | 2102 | 1.75 | 2202 | 1.85 | 2302 | 2.15 |
| 0-10 | .00115 | 2103 | 1.75 | 2203 | 1.85 | 2303 | 2.15 |
| 0-15 | .00115 | 2103-A | 1.75 | 2203-A | 1.85 | 2303-A | 2.15 |
| 0-20 | .00115 | 2104 | 1.75 | 2204 | 1.85 | 2304 | 2.15 |
| 0-25 | .00115 | 2104-A | 1.75 | 2204-A | 1.85 | 2304-A | 2.15 |
| 0-30 | .00115 | 2105 | 1.75 | 2205 | 1.85 | 2305 | 2.15 |
| 0-60 | .000116 | 2106-A | 2.40 | 2206-A | 2.50 | 2306-A | 2.80 |
| 1-0-1 | .08 | 2109 | 1.75 | 2209 | 1.85 | 2309 | 2.15 |
| 3-0-3 | .00115 | 2110 | 1.75 | 2210 | 1.85 | 2310 | 2.15 |
| 6-0-6 | .00115 | 2111 | 1.75 | 2211 | 1.85 | 2311 | 2.15 |
| 10-0-10 | .00115 | 2112 | 1.75 | 2212 | 1.85 | 2312 | 2.15 |
| 15-0-15 | .00115 | 2113 | 1.75 | 2213 | 1.85 | 2313 | 2.15 |
| 20-0-20 | .00115 | 2114 | 1.75 | 2214 | 1.85 | 2314 | 2.15 |
| 30-0-30 | .00115 | 2115 | 1.75 | 2215 | 1.85 | 2315 | 2.15 |
| 75-0-75 | .000116 | 2116-A | 2.75 | 2216-A | 2.85 | 2316-A | 3.15 |

### DC MILLIAMMETERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-1 | 850 | 2120 | $3.60 | 2220 | $3.65 | 2320 | $3.95 |
| 0-3 | 425 | 2121 | 2.50 | 2221 | 2.55 | 2321 | 2.85 |
| 0-5 | 925 | 2125 | 2.25 | 2225 | 2.30 | | |
| 0-5 | 1300 | | | | | 2325 | 2.60 |
| 0-10 | 300 | 2126 | 2.10 | 2226 | 2.15 | | |
| 0-10 | 350 | | | | | 2326 | 2.45 |
| 0-20 | 95 | 2127 | 1.75 | 2227 | 1.85 | | |
| 0-20 | 105 | | | | | 2327 | 2.15 |
| 0-25 | 65 | 2127-A | 1.75 | 2227-A | 1.85 | 2327-A | 2.15 |
| 0-30 | 37 | 2128 | 1.75 | 2228 | 1.85 | | |
| 0-30 | 45 | | | | | 2328 | 2.15 |
| 0-50 | 14.5 | 2129 | 1.75 | 2229 | 1.85 | | |
| 0-50 | 18 | | | | | 2329 | 2.15 |
| 0-100 | 7.0 | 2130 | 1.75 | 2230 | 1.85 | | |
| 0-100 | 8.3 | | | | | 2330 | 2.15 |
| 0-150 | 1.8 | 2130-A | 1.75 | 2230-A | 1.85 | | |
| 0-150 | 2.15 | | | | | 2330-A | 2.15 |
| 0-200 | 1.5 | 2130-B | 1.75 | 2230-B | 1.85 | | |
| 0-200 | 1.7 | | | | | 2330-B | 2.15 |
| 0-300 | .61 | 2131 | 1.75 | 2231 | 1.85 | | |
| 0-300 | .8 | | | | | 2331 | 2.15 |
| 0-500 | .21 | 2132 | 1.75 | 2232 | 1.85 | | |
| 0-500 | .27 | | | | | 2332 | 2.15 |

### DC VOLTMETERS (HIGH RESISTANCE)

(100 ohms/volt except 150 and 300 volt ranges are 200 ohms per volt)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-10 | 1050 | 2140 | $2.65 | 2240 | $2.75 | 2340 | $3.05 |
| 0-30 | 2800 | 2141 | 2.65 | 2241 | 2.75 | 2341 | 3.05 |
| 0-50 | 4000 | 2142 | 2.85 | 2242 | 2.95 | 2342 | 3.25 |
| 0-150 | 28000 | 2143 | 3.00 | 2243 | 3.10 | 2343 | 3.40 |
| 0-300 | 55000 | 2144 | 3.10 | 2244 | 3.20 | 2344 | 3.50 |

### DC VOLTMETERS (LOW RESISTANCE)

| Range | Approximate Resist. Ohms | MODEL NF-2C Catalog Number | MODEL NF-2C Dealers' Net Price | MODEL RF-2C Catalog Number | MODEL RF-2C Dealers' Net Price | MODEL RF-2¼C Catalog Number | MODEL RF-2¼C Dealers' Net Price |
|---|---|---|---|---|---|---|---|
| 0-1 | 33 | 2134 | $1.75 | 2234 | $1.85 | 2334 | $2.15 |
| 0-3 | 100 | 2135 | 1.75 | 2235 | 1.85 | 2335 | 2.15 |
| 3-0-3 | 30 | 2136 | 1.75 | 2236 | 1.85 | 2336 | 2.15 |
| 0-5 | 140 | 2136-A | 1.75 | 2236-A | 1.85 | 2336-A | 2.15 |
| 0-8 | 225 | 2136-B | 1.75 | 2236-B | 1.85 | 2336-B | 2.15 |
| 0-10 | 280 | 2137 | 1.75 | 2237 | 1.85 | 2337 | 2.15 |
| 0-15 | 450 | 2137-A | 1.75 | 2237-A | 1.85 | 2337-A | 2.15 |
| 0-20 | 600 | 2137-B | 1.75 | 2237-B | 1.85 | 2337-B | 2.15 |
| 0-30 | 1000 | 2137-C | 1.75 | 2237-C | 1.85 | 2337-C | 2.15 |
| 0-50 | 1400 | 2138 | 1.75 | 2238 | 1.85 | 2338 | 2.15 |

### AC AMMETERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-1 | .365 | 6101 | $2.90 | 6201 | $3.00 | 6301 | $3.30 |
| 0-3 | .078 | 6102 | 2.90 | 6202 | 3.00 | 6302 | 3.30 |
| 0-5 | .023 | 6103 | 2.90 | 6203 | 3.00 | 6303 | 3.30 |
| 0-10 | .013 | 6104 | 2.90 | 6204 | 3.00 | 6304 | 3.30 |

### AC MILLIAMMETERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-25 | 750 | 6125 | $2.90 | 6225 | $3.00 | 6325 | $3.30 |
| 0-50 | 175 | 6126 | 2.90 | 6226 | 3.00 | 6326 | 3.30 |
| 0-100 | 58 | 6127 | 2.90 | 6227 | 3.00 | 6327 | 3.30 |
| 0-250 | 12 | 6128 | 2.90 | 6228 | 3.00 | 6328 | 3.30 |
| 0-500 | 1.75 | 6129 | 2.90 | 6229 | 3.00 | 6329 | 3.30 |

### AC VOLTMETERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0-5 | 50 | 6135 | $2.90 | 6235 | $3.00 | 6335 | $3.30 |
| 0-10 | 175 | 6136 | 2.90 | 6236 | 3.00 | 6336 | 3.30 |
| 0-15 | 300 | 6137 | 2.90 | 6237 | 3.00 | 6337 | 3.30 |
| 0-25 | 920 | 6137-A | 2.90 | 6237-A | 3.00 | 6337-A | 3.30 |
| 0-50 | 1800 | 6138 | 2.90 | 6238 | 3.00 | 6338 | 3.30 |
| 0-150 | 9530 | 6139 | 3.50 | 6239 | 3.60 | 6339 | 3.90 |
| 0-300 | 32000 | 6140 | 4.10 | 6240 | 4.15 | 6340 | 4.45 |

**PRICES**—Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.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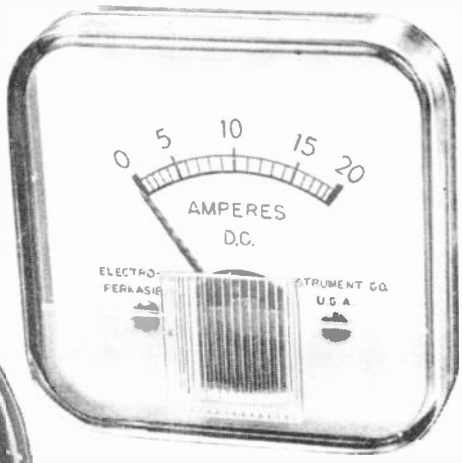
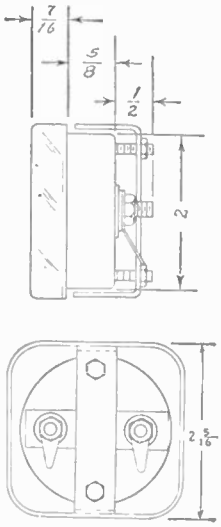
# INSTRUMENTS FOR PANELS AND TEST SETS

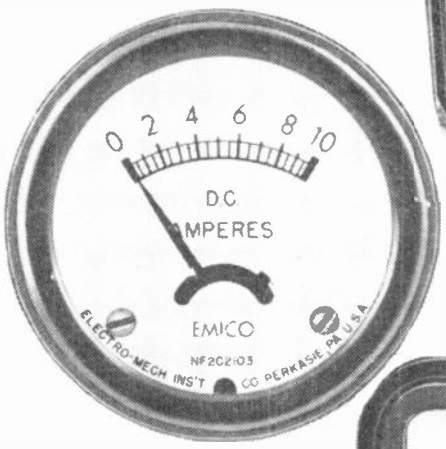
## Precision Workmanship!

- PEAK EFFICIENCY
- TOP SERVICE
- LONG LIFE

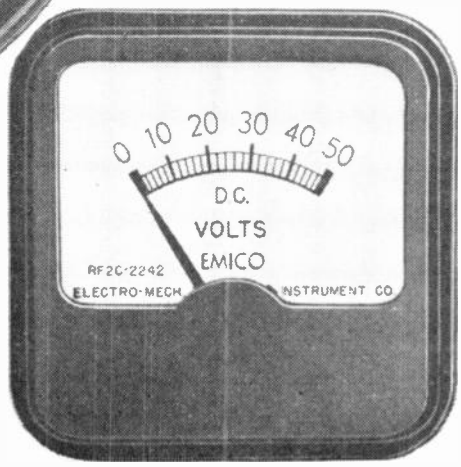



MODEL RF2¼C

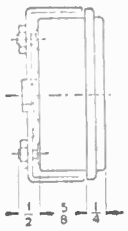


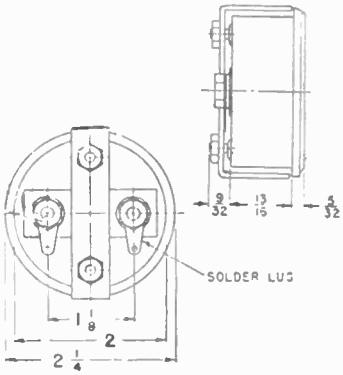



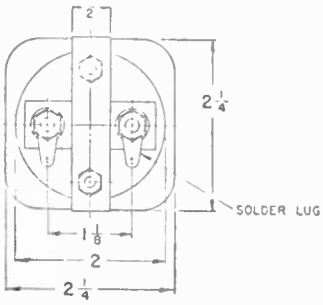

MODEL NF2C




MODEL RF2C



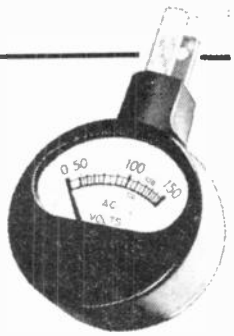




EMICO offers a complete line of precision direct current indicating instruments having the simplicity of construction of polarized vane meters with an accuracy and performance comparable to moving coil indicators. This new development is the result of years of experience in instrument designs, manufacturing techniques and the use of modern magnetic materials.

**EMICO Sensitive Sub-Miniature Plug-in Relay**
Single pole, double throw, rotating magnet instrument type Relay. Hermetically sealed unit. 1400 Ohm coil operates at 1 MW. Plugs in a standard 9-pin miniature tube base.
Dealers' Net **$18.75**

**EMICO Circuit Indicator**
Sub-miniature power indicator* with sensitivity to 1 MW. Maximum resistance to 1400 Ohms. Voltage to 25 volts D.C. Front panel mounting.
Dealers' Net **$7.50**
*Variation Available in Quantity

**EMICO A.C. Voltage Tester**
Accurate, precision mechanism plug-in type with damped meter movement. Convenient 90 swivel prongs for ease of reading from any position.
Dealers' Net **$3.00**




ELECTRO-MECHANICAL INSTRUMENT CO. PERKASIE, PENNSYLVANIA



World Radio History

# Test with confidence

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

## SLAUGHTER CO.

**PIQUA 3, OHIO**

### High-Voltage Insulation Tester

with buzzer signal on breakdowns
. . . grounds
. . . shorts

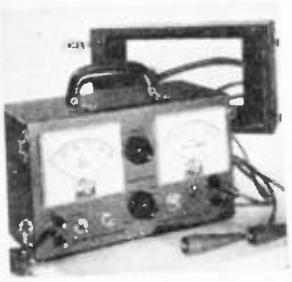
MODEL **101**

Watch what you are doing . . . not the tester

SIX TEST VOLTAGES . . . 500 to 2500 V.A.C. PRICED SO YOU CAN AFFORD TO SPOT A FEW ALONG YOUR ASSEMBLY LINES. FOR SAFETY

### High-Voltage Leakage Tester

checks insulation for leakage
. . . grounds
. . . arcing



MODEL **122**

16 lb. Portable for lab and field work

0/2100 V.A.C. . . . 0/100/1000 MICROAMPS CAPACITY COMPENSATION . . . MEASURES A.C. RESISTANCE, CAPACITY, AND POWER FACTOR.

### Adjustable High-Voltage Tester

with buzzer signal on breakdowns
. . . grounds
. . . shorts

MODEL **106**

Voltmeter shows actual Test Voltage

ADJUSTABLE VOLTAGES TO 2500 V.A.C. RECOMMENDED FOR BREAKDOWN TESTING AT FINAL ASSEMBLY AND INSPECTION.

### Precision Stroboscope

with high intensity daylight lamp
. . . stable
. . . accurate

MODEL **162**

Interchangeable Heads . . . 0.1% accuracy

FOR SPEED MEASUREMENTS TO 30,000 RPM FOR MOTION STUDIES . . . CAN BE SYNCHRONIZED WITH EXTERNAL SIGNALS . . . CAN BE TRIGGERED WITH EXTERNAL CONTACTS . . . CAN BE COUPLED TO COUNTER, SCOPE, OR OTHER EQUIPMENT.

**SLAUGHTER CO.** • PIQUA 3, OHIO

### High-Voltage Leakage Tester

audibly signals excess leakage
. . . grounds
. . . arcing

MODEL **103**

Measures Leakage . . . not capacity current

TEST VOLTAGE ADJUSTABLE TO 2100 V.A.C. LEAKAGE LIMIT ADJUSTABLE . . . 0 TO 5 MA. DETECTS 20 MICROAMPERE ARCS . . . CANCELS CHARGING CURRENT CAUSED BY INHERENT CAPACITY. USED AT FINAL INSPECTION FOR BREAKDOWN AND LEAKAGE TESTS.

**SLAUGHTER CO.** • PIQUA 3, OHIO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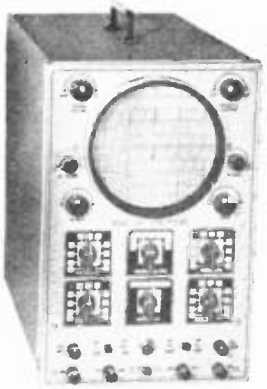
World Radio History

save MORE... service BETTER with **EMC** precision instruments



## NEW EMC MODEL 601 OSCILLOSCOPE

**CHECK THIS LIST OF EXCLUSIVE FEATURES**

- Full 5 mc bandwidth for color TV servicing.
- Down only 1 DB at 3.58 mc color burst sync frequency.
- Has a push-pull vertical amplifier with sensitivity of .02 volts per inch.
- The DC positioning controls provide for instantaneous trace positioning without bounce or overshoot.
- Uses new 5UP1-5" scope tube for sharp focusing and great intensity.
- Retrace blanking amplifier eliminates confusion and gives clearer pictures.
- Has built-in 60 cycle phasing control and sweep for TV servicing.
- Uses astigmatism control for better focusing.
- Provision for Z axis input or intensity modulation.
- Synchronization available in positive or negative phase of input voltage or from external source.
- Built-in peak to peak calibration reference.
- Uses a 2 step compensated attenuator input.
- Multivibrator sweep from 15 cps to over 75,000 cps.

**SPECIFICATIONS**

**Tube Complement:** 1-5UP1 cathode ray; 1-5AB4 (vert. amp.); 1-6BQ7A (vert. amp); 1-12BH7 (vert. amp.); 1-12AU7 (multivibrator); 1-12AT7 (horiz. amp.); 2-6C4 (phase splitter & blanking Amplifier); 2-5Y3 rectifier tubes.

**Sweep Generator:** Multivibrator type. Frequency Range: 15 to over 75,000 cycles.

**Vertical Amplifier:** Max. Sensitivity—.02 volts (RMS) per inch; Freq. Response—Flat within 1.5 DB from 15 cycles to 5 megacycles; Input Impedance—2 megohms 20 MMFD.

**Horizontal Amplifier:** Max. Sensitivity—2 volts RMS per inch; Freq. Response—Useful to 1 megacycle; Input Impedance—5 meg 40 MMD.

**Synchronization:** Positive or negative from vertical amplifier or from external source.

**Power Requirements:** 105-130 volts 50/60 cycles AC 50 watts.

**Dimensions:** 8¾" wide x 14" high x 15½" deep.

**Weight:** 29 lbs.

NEW MODEL 601 (completely wired & tested) $117.90

## VOLOMETER* EMC MODEL 102

A sturdy, durable pocket instrument from EMC's economy line housed in a molded-bakelite case. This instrument features a three-inch, accurate to within 2%—800 microamperes D'arsonval-type meter with three AC current ranges; and the same zero adjustment for both resistance ranges.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES: 0 to 12-120-600-3000 volts. DC VOLTAGE—5 RANGES: 0 to 6-60-300-600-2000 volts. AC CURRENT—3 RANGES: 0 to 30-150-600 ma. DC CURRENT—4 RANGES: 0 to 6-30-150 ma; 0 to 1.2 amps. TWO RESISTANCE RANGES: 0 to 1000 ohms; 0 to 1 megohm.

MODEL 102—Weight 1 lb. 5 oz.: Size 3¾" x 6¼" x 2" ..... $14.90
MODEL 102K—in Kit Form ..... 12.50

*Reg. trade mark for volt-ohm milliameter.

## VOLOMETER* EMC MODEL 104

A valuable addition to EMC's economy line is this accurate, precision-engineered instrument. This model features a 4½ inch, 50 microampere meter, with alnico magnet . . . housed in a molded-bakelite case; with three AC current ranges to 3 amps and three resistance ranges to 20 megohms.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES (1,000 ohms per volt): 0 to 6-60-300-600-3000 volts. DC VOLTAGE—5 RANGES (20,000 ohms per volt): 0 to 6-60-300-600-3000 volts. AC CURRENT—3 RANGES: 0 to 30-300 ma; 0 to 3 amps. DC CURRENT—3 RANGES: 0 to 6-60-600 ma. THREE RESISTANCE RANGES: 0 to 20K; 0 to 200K; 0 to 20 megs. FIVE DB RANGES: -4 to +67 DB.

MODEL 104—With carrying strap. Wt. 2 lb. 5 oz. Size: 5¼" x 6¾" x 2⅞" ..... $26.95
MODEL 104K—in Kit Form ..... 19.25
MODEL HVT—30,000 Volt Probe for MODEL 104 ..... 7.95

*Reg. trade mark for volt-ohm milliameter.

## VACUUM TUBE VOLTMETER EMC MODEL 106

CHECK THESE FEATURES:

● Specially designed for field alignment of television and FM sets. ● Uses dual triode balanced bridge circuit ● All functions and ranges completely electronic—meter cannot burn out ● Zero center position for FM discriminator alignment ● Uses 1% precision resistors for voltage multipliers ● 5 DB ranges ● Full scale deflection of 1½ volts for both AC-DC volts ● Measures resistance in 5 ranges from .2 to 1000 megs. ● 1 meg. isolating resistor in probe ● Housed in compact, portable bakelite case ● Size: 4¼" x 5¼" x 2⅞", net wt. 3 lbs.

SPECIFICATIONS:

AC VOLTAGE—5 RANGES: 0 to 1.5, 10, 100, 300, 1000 volts. Input resistance 2 megohms. Frequency response flat from 25 to 100,000 cycles. DC VOLTAGE—5 RANGES: 0 to 1.5, 10, 100, 300, 1000 volts (up to 30,000 volts with accessory probe). Input Resistance: 16.5 megs. or 1⅝ megohms per volt. OHMS: 1000-10,000-100,000-10 megohms, 1000 megohms, 10 megohms center on 1000 megohms range. DECIBELS RANGES: -24 to +5, -8 to +15, +12 to +35, +21.5 to +44.5, +32 to +55.

MODEL 106—Illustrated ..... $35.90
MODEL 106—In Kit Form ..... 23.90
MODEL RFP—High Frequency Probe (useful to 200 megacycles) ..... 6.95
MODEL HVP—30,000 Volt Probe for MODEL 106 ..... 8.75
MODEL IS—Rubber covered, Instrument stand for volt-ohm, milliameters and VT volt-meters ..... 0.98

**EMC**

**ELECTRONIC MEASUREMENTS CORP.**
**NEW YORK 12, N. Y.**



World Radio History

# save MORE... service BETTER with EMC precision instruments

Accessory Probes Available

## EMC MODEL 107

**Peak-to-Peak Vacuum Tube Volt-Ohm-Capacity Meter**

Directly measures capacity, resistance and complex waveforms peak to peak. This new multi-function meter contains an exclusive combination of features never before offered for less than $100. Expanded scale meter cannot burn out . . . measures capacity from 50 MMFD to 5000 MFD . . . inductance from 1.4 henries to 140,000 henries in 4 ranges . . . uses an electronic balanced push-pull circuit and peak to peak rectification . . . 1% multipliers for voltage capacity and resistance measurements . . . has zero center position for FM discriminator alignment.

**SPECIFICATIONS:**

PEAK TO PEAK AC VOLTAGES—6 RANGES: 0 to 4, 28, 84, 280, 840, 2800 volts. Input resistance 1.5 megohms.

AC RMS VOLTAGES 6 RANGES: 0 to 1.5, 10, 30, 100, 300, 1000 volts. Input resistance 1.5 megohms.

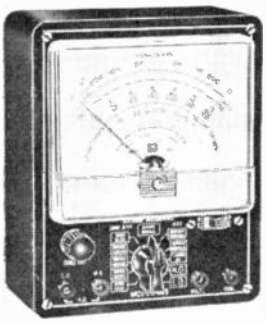
CAPACITY—6 RANGES. .00005 MFD to .005 MFD, .005 to .05, .005 to .5, .05 to 5, 5 to 500, 50 to 5000 MFD.

RESISTANCE—6 RANGES: 0-1000, 10,000, 1 meg, 10 MEG, 1000 MEGS. 10 MEGS center on 1000 MEGS range.

DC VOLTS—6 RANGES 0 to 1.5, 10, 30, 100, 300, 1000 volts (up to 30,000 volts with accessory probe).
Input resistance 16.5 megs or 1⅔ megohms per volt. 1 meg isolating resistor in probe.

DB RANGES. −24 DB to +55 DB in 5 ranges.

Model 107 Complete with Leads ..... $48.90
Model 107 Kit Form ..... $34.50



## EMC MODEL 103

**VOLOMETER***

EMC's economy line offers another accurate and efficient instrument housed in a molded-bakelite case. This model features a 4½ inch, accurate to within 2%—800 microamperes D'arsonval-type meter with three AC current ranges; and the same zero adjustment for both resistance ranges.

**SPECIFICATIONS:**

AC VOLTAGE—5 RANGES: 0 to 12-120-600-1200-3000 volts.

DC VOLTAGE—5 RANGES: 0 to 6-60-300-600-3000 volts.

FIVE DB RANGES: −4 to +61 DB.

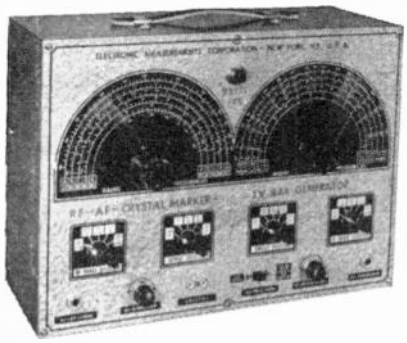
AC CURRENT—3 RANGES 0 to 30-150 600 ma.

DC CURRENT—4 RANGES: 0 to 6-30-120 ma.: 0 to 1.2 amps.

TWO RESISTANCE RANGES: 0 to 1000 ohms, 0 to 1 megohms.

MODEL 103—Weight 2 lb. 3 oz. Size: 5¼" x 6¾" x 2⅞" ..... $18.75
MODEL 103-S: with plastic carrying strap ..... 19.25
MODEL 103K, in Kit Form ..... 14.90

*Reg. trade mark for volt-ohm milliameter.



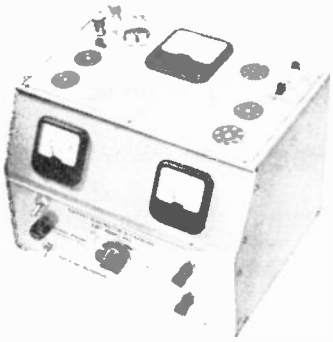
## EMC MODEL 700

**RF-AF-Crystal Marker — TV Bar — Generator**

**Only the EMC Model 700 gives you all of these outstanding features:**

1. Complete coverage from 18 cycles to 108 megacycles on fundamentals.
2. Bar generator for TV adjustment with a variable number of bars available for horizontal or vertical alignment.
3. Square Wave Generator to 20 kilocycles.
4. Wien Bridge AF oscillator with sine wave output from 18 cycles to 300 kilocycles.
5. Crystal marker and amplitude control.
6. Individually tuned coils.
7. Constant RF output impedance.
8. Stepped RF attenuator.
9. Electrostatically shielded transformer.
10. Thorough shielding.
11. Colpitts RF oscillator from 300 KC to 108 megacycles on fundamentals — up to 216 megacycles on 2nd harmonic.
12. Variable percentage of modulation.

MODEL 700 ..... $55.90



## EMC MODEL 905-6A

**Battery Eliminator, Charger & Vibrator Checker**

A combination unit housed in a single sloping metal case. Has identical features of Models 905 & 906.

MODEL 905-6A (wired) ..... $67.90
(in Kit Form) ..... 44.90

MODEL 905 Battery Eliminator and Charger

• Continuously variable voltage output • Automatic overload relay-self resetting • Either 6 or 12 volt operation • Separate voltmeter and ammeter • Heavy duty rectifier

MODEL 905 Battery Eliminator and Charger only (wired) ..... $37.50
(in Kit Form) ..... 28.90

MODEL 906 Vibrator Checker

• Checks both 6 volt and 12 volt vibrators • Reads condition of vibrator on "Bad Good" Scale • Checks both interrupter and self-rectifier type for proper starting point as well as quality of operation • Operating instructions are printed on front panel • Instruction sheets list data for testing all popular vibrators • Can be used with any battery eliminator such as Model 905

MODEL 906 Vibrator Checker (wired) ..... $31.80
(in Kit Form) ..... 17.05

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**NEW YORK 12, N. Y.**


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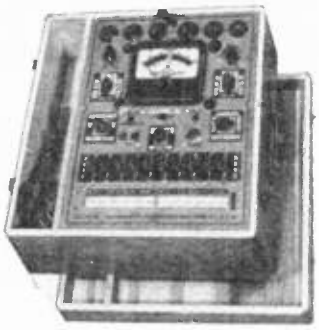
# save MORE... service BETTER with EMC precision instruments



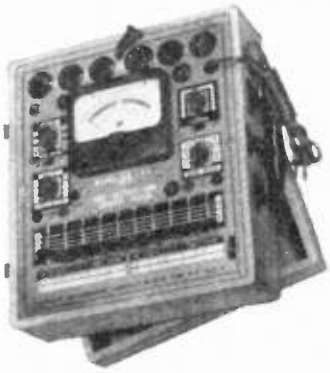
## MUTUAL CONDUCTANCE TUBE TESTER
### EMC MODEL 206

This completely flexible model using lever-type switches offers extremely accurate results with ease of operation. It represents the finest in tube testing equipment at a price comparing favorably with emission-type testers.

**CHECK THESE FEATURES:**

● Checks mutual conductance on a calibrated micromho and "reject-good" scale ● Checks 5 element tubes as pentodes ● Checks tubes for gas content ● Sufficient plate current to check both emission and mutual conductance ● Detects both shorted and open elements ● Complete switching flexibility allows all present and future tubes to be tested, regardless of location of elements on tube base ● Tests tubes for radio frequency and other noise ● Tests all tubes from .75 volts to 117 filament volts ● Tests all lortal, octal, and miniature tubes ● Tests cold cathode, magic eye, voltage regulator, ballast resistors ● Instrument fuse is easily replaced from panel front ● Individual sockets for each tube base type eliminates possible errors ● Checks individual sections of multi-purpose tubes ● Checks 9-prong miniature tubes ● Checks subminiature tubes ● Attractive four-color panel with durable hardwrinkle finish ● Built-in roll chart.

| | |
|---|---|
| MODEL 206P—With hand-rubbed oak carrying case | $83.50 |
| MODEL 206C—Sloping counter case | 79.50 |
| MODEL CTA—Cathode ray tube adaptor for MODEL 206 | 6.50 |



## TUBE-BATTERY-OHM CAPACITY TESTER
### EMC MODEL 204

In this model EMC offers a durable, accurate instrument that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in a hand-rubbed, portable oak carrying case with removable hinged cover.

**CHECK THESE FEATURES:**

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Checks batteries under rated load on "reject-good" scale ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Checks for shorts and leakages ● Line voltage control compensates for line variations between 105 and 135 volts ● Built-in roll chart protected by non-breakable transparent plastic ● Checks condenser leakage to 1 megohm ● Checks resistance up to 4 megohms ● Checks capacity from .01 to 1 mfd. ● Three color hammertone panel

| | |
|---|---|
| MODEL 204C—Sloping counter case | $54.90 |
| MODEL 204P—With hand-rubbed oak carrying case (illustrated) | 55.90 |
| MODEL CRA—Cathode ray tube adaptor | 4.50 |
| MODEL 204CK—in Kit Form | 39.50 |

## TUBE TESTER
### EMC MODEL 205

In this durable, accurate instrument EMC offers a model that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in either a hand-rubbed, portable oak carrying case with removable hinged cover; or in a sloping counter case.

**CHECK THESE FEATURES:**

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests all cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Line voltage control compensates for line variations between 105 and 135 volts ● Checks for shorts and leakages ● Three color hammertone panel

| | |
|---|---|
| MODEL 205C—Sloping counter case | $46.50 |
| MODEL 205P—With hand-rubbed oak carrying case (illustrated) | 47.50 |
| MODEL CRA—Cathode ray tube adaptor | 4.50 |
| MODEL 205CK—in Kit Form | 34.50 |

## EMC MODEL 207
### Tube-Battery-OHM-Capacity-Tester

Features large, easy to read, 7½" meter for counter use. In this model EMC offers a durable, accurate instrument that gives easy, direct readings for all tubes through the standard emission method of testing. It uses four-position lever-type switches and is housed in a hand-rubbed, portable oak carrying case with removable hinged cover.

**CHECK THESE FEATURES:**

● Tests all tubes including Noval and subminiatures ● Completely flexible switching arrangement ● Checks batteries under rated load on "reject-good" scale ● Individual sockets for each type of tube base ● Tests all tubes from .75 volts to 117 filament volts ● Tests all cold cathode, magic eye, voltage regulator and ballast tubes ● Has pilot light indicator ● Checks for shorts and leakages ● Line voltage control compensates for line variations between 105 and 135 volts ● Built-in roll chart protected by non-breakable transparent plastic ● Checks condenser leakage to 1 megohm ● Checks resistance up to 4 megohms ● Checks capacity from .01 to 1 mfd. ● Three color hammertone panel

| | |
|---|---|
| MODEL 207C—Sloping counter case (illustrated) | $65.90 |
| MODEL 207P—Portable case, removable cover | 69.50 |
| MODEL CRA—Cathode ray tube adaptor | 4.50 |

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**ELECTRONIC MEASUREMENTS CORP.**
**NEW YORK 12, N. Y.**



World Radio History

# Tracks 'em Down Dead or Alive

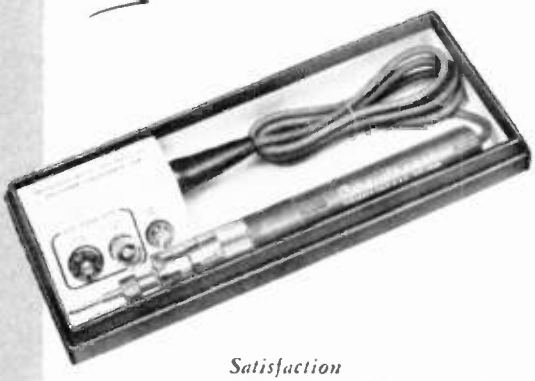
## ONLY THE VERSATILE DESCO* Circuitracer*

## GIVES YOU A 3-IN-1 ELECTRICAL TEST LABORATORY

# Pocket Size!

**DON'T SEND A MAN TO DO A BOY'S JOB!**

Are the technicians in your laboratories and shops using expensive meters and instruments for simple continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster, easier than expensive, bulky meters.



*Satisfaction Unconditionally Guaranteed*

**CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER** because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

**SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS.** An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

The CIRCUITRACER is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits AND high voltage live circuits. It is made of the finest materials available and is designed for long life.

**LIST PRICE**
**$4.95**

Weighs only 2½ ozs.

Circuitracer*

**POINTERS**

1. As a continuity tracer for dead circuits
2. As a low voltage live circuit tester
3. As a high voltage live circuit tester

*T.M.

DESCO Circuitracer*

**DESCO MFG. CO., GLENDALE, CALIF.**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TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

World Radio History

# EICO® KITS and WIRED...TEST INSTRUMENTS • HI-FI • HAM GEAR

214

221

232

1180

1171

803

249

536, 526

PTP-11-25

HVP-2

565, 555, 566, 556

460, 470, 425

### GEIGER COUNTER No. 803

KIT $19.95 Factory Wired $29.95

### DECADE RESISTANCE BOX No. 1171

KIT $19.95 Wired $24.95

Exceptionally accurate, wide-range, versatile instrument. 0-99,999 ohms in 1-ohm steps with 5 decades and ½% precision.

### DECADE CONDENSER BOX No. 1180

KIT $14.95 Wired $19.95

Precision silver-mica capacitors (± 1% accuracy, 500 VDC rated) arranged in 3 decades for extremely wide range of 100 mmf to 0.111 mf in steps of 100 mmf. Positive detent ceramic wafer switches, silverplated contacts.

### *NEW!* MODEL 232 PEAK-TO-PEAK VTVM with DUAL-PURPOSE AC/DC UNI-PROBE

(Pat. Pend.)

KIT $29.95 Wired $49.95

The new leader in professional peak-to-peak VTVMs—revolutionary engineering for laboratory precision and lowest price! Measure **directly** p-p voltage of complex and sine waves: 0-4, 14, 42, 140, 420, 1400, 4200. DC/RMS sine volts: 0-1.5, 5, 15, 50, 150, 500, 1500 (up to 30,000 v. with HVP probe, and 250 mc with PRF probe). Ohms: 0.2 ohms to 1000 megs. 7 **non-skip** ranges on every function. Calibration without removing from cabinet. 4½" meter, can't-burnout circuit. Zero center, 1% multipliers. Exceptional stability and accuracy.

### *NEW!* DUAL-PURPOSE AC/DC UNI-PROBE

(Pat. Pend.)

Available separately for EICO No. 221 and other VTVMs.
Terrific time saver! Only 1 probe performs all functions — a half-turn of probe-tip selects DC or AC-OHMS!

KIT $4.95 Factory Wired $6.95

### NEW DELUXE PEAK-TO-PEAK VTVM No. 249 with 7½" METER and EXCLUSIVE UNI-PROBE

(Pat. Pend.)

All the outstanding and exclusive features of Model 232 — PLUS the convenience and readability of its big 7½" meter. An ideal bench instrument.

KIT $39.95 Factory Wired $59.95

### VACUUM TUBE VOLTMETER No. 221

KIT $25.95 Wired $39.95

The popular, reliable, performance-proven VTVM — over 50,000 in use! Large 4½" meter in can't-burnout circuit. Zero center for TV/FM discriminator alignment. AC/DC Volts: 0-5, 10, 100, 500, 1000 (up to 30,000 v. with HVP probe, up to 250 mc with PRF probe, and peak-to-peak with PTP probe). Ohms: 0.2 ohms to 1000 megs. DB: —20 to +55. Input R: 25 megs. 1% precision multipliers. Stable, accurate double-triode bridge circuit. Satin aluminum etched panel; steel case.

**Leatherette Carrying Case**
For No. 221 ..... $3.95

### DELUXE VTVM No. 214

KIT $34.95 Wired $54.95

All the versatility and performance-proven features of Model 221—PLUS the extra convenience and legibility of its big 7½" meter.

### 6 EICO VOLT-OHM-MILLIAMETERS

**No. 565 — 20,000 OHMS/VOLT V-O-M**
KIT $24.95 Wired $29.95
31 Full Scale Ranges - DC/AC/Output Volts: 0-2.5, 10, 50, 250, 1000, 5,000 - DC Current: 0-100 ua; 10, 100, 500 ma; 10 Amp. - Ohms: 0-2000, 200K, 20 meg. - 5 DB Ranges: —12 to +55. - Large 4½" 50 UA Meter Movement. - High-Impact Bakelite case. 6¾" x 5¼" x 3". Ship. wt. 2¾ lbs.

**No. 555 — 20,000 OHMS/VOLT V-O-M**
KIT $29.95 Wired $34.95
As above, with 1% precision resistors.

**No. 566 — 1000 OHMS/VOLT V-O-M**
KIT $14.90 Wired $18.95
Ranges: Same as Model 536 (see below), plus 7 output voltage ranges. Large 4½" 400 ua meter movement. 6¾" x 5¼" x 3". Ship. wt. 3 lbs.

**No. 556 — 1000 OHMS/VOLT V-O-M**
KIT $16.90 Wired $23.50
Same as Model 566, with 1% precision resistors.

**No. 536 — 1000 OHMS/VOLT V-O-M**
KIT $12.90 Wired $14.90
31 1000 Ohms/Volt Full-Scale Ranges! - DC/AC Volts: Zero to 1, 5, 10, 50, 100, 500, 5000. - DC/AC Current: 0-1, 10 ma.; 0.1, 1 Amp. - Ohms: 0-5000, 100K, 1 meg. - 6 DB Ranges: —20 to +69 - Large 3" 400 UA Meter Movement - High-Impact Bakelite case. 6¼" x 3¾" x 2". Ship. wt. 2 lbs.

**No. 526 — 1000 OHMS/VOLT V-O-M**
KIT $13.90 Wired $16.90
As above, with 1% precision resistors.

### VTVM PROBES

**MODEL PTP-11 or 25 PEAK-TO-PEAK VTVM PROBES**
KIT $4.95 Wired $6.95
**For Color and Monochrome TV Servicing**
Accurate reading of p-p voltages directly on DC scales of your VTVM. Use with any 11 or 25 megohm VTVM. For tracing complex AC waveforms thru TV receiver deflection systems.

**MODEL PRF-11 or 25 RF VTVM PROBES**
KIT $3.75 Wired $4.95
For RF voltage measurements up to 250 mc. Accuracy ±10%. Use with any 11 or 25 megohm VTVM.

### HIGH VOLTAGE PROBE No. HVP-2

$4.95

For safe measurement up to 30,000 volts dc with any VTVM or 20,000 ohms/volt VOM. Ideal for TV high voltage measurement. Includes a choice of high quality multiplier resistor to match most popular instruments.

### HIGH VOLTAGE PROBE No. HVP-1

$6.95

Popular choice for years. Same applications as Model HVP-2 above and supplied with matching resistor for your instrument.

### DC WIDE BAND 5" OSCILLOSCOPE No. 460

KIT $79.95 Wired $129.50
**For Color and Monochrome TV Servicing**
Incomparable! The world's FINEST professional scope value — far outperforms and outfeatures scopes of many times its cost! For Color, Black-and-White TV, lab and industry.
Flat from DC to 4.5 mc. usable to 10 mc., featuring DC amplifers. Vert. Sens.: 25 mv/in., push-pull thruout. Sweep freqs.: 10 cps to 100 kc, low sweep with ext. condenser. Automatic sync limiter and amplifier eliminates sync voltage adjustment. On front panel: int. mod., saw-tooth output, 60 cps, ext. sync, ext. capacitor jacks! 60 cps variable phase sine sweep. Pre-set TV V&H sweep positions. Edge-lit plexiglass filter screen with variable illumination. 4 freq. compensated attenuator positions up to 1000:1 on either direct or capacitive coupled input.

### 7" PUSH-PULL OSCILLOSCOPE No. 470

KIT $79.95 Wired $129.50
Deluxe TV servicing scope that sets a new high for sensitivity at wide bandwidth! Vertical: flat ±2 db 10 cps-1 mc, .01 rms v/in. Horizontal: flat 10 cps-200 kc, —4 db at 500 kc; .3 rms v/in. Sweep: 15 cps-100 kc. 3-step freq.-compensated attenuator. K-follower inputs and push-pull outputs in both amplifiers. Return trace blanking, variable phasing of 60 cps sine sweep, internal voltage calibrator, direct connection to CRT plates; int. mod. input, sawtooth from sweep oscillator and 60 cps outputs.

### 5" PUSH-PULL OSCILLOSCOPE No. 425

KIT $44.95 Wired $79.95
The popular, dependable, performance-proven Scope — tens of thousands in use! Push-pull Vert. and Hor. amplifiers. High V&H sens.: 0.05-0.1 rms v/in. V&H resp., 5 cps-500 kc. Useful to 2.5 mc. Sweep: 15 cps-75 kc. Z-axis intensity mod. Direct connections to CRT plates. 2-6J5, 3-6SN7, 2-5Y3, 5" CRT.

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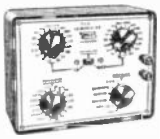
World Radio History

666

495

488

625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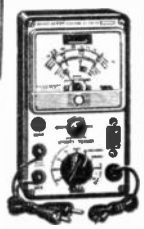
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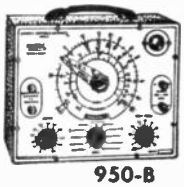
PD, PLC, PSD

630

CRA

584

944


950-B

1120

1100

## SCOPE PROBES

**For Color and Monochrome TV Servicing**

### MODEL PSD OSCILLOSCOPE DEMODULATOR PROBE

**KIT $3.75** **Wired $5.75**

For signal tracing and checking of TV/radio RF and IF stages. Demodulates amplitude-modulated carriers between 150 kc and 250 mc.

### MODEL PD OSCILLOSCOPE DIRECT PROBE

**KIT $2.75** **Wired $3.95**

For TV waveform tracing in low Z or low frequency circuits. Eliminates stray pickup and signal re-radiation.

### MODEL PLC OSCILLOSCOPE LOW CAPACITY PROBE

**KIT $3.75** **Wired $5.75**

For TV waveform tracing in high Z, high frequency or wide-band circuits.

### OSCILLOSCOPE VOLTAGE CALIBRATOR No. 495

**KIT $12.95** **Wired $17.95**

Makes your scope an accurate, wide-range, peak-to-peak AC electronic voltmeter; Enables p-p voltage measurement of complex TV sweep waveforms displayed on scope, calibration of vert. and hor. scope amplifiers, etc. Output variable from zero on every range with full-scale readings of 0.1, 1, 10, and 100 volts p-p. Accuracy ±5% of full scale on each range. VR tube regulated power supply.

### ELECTRONIC SWITCH No. 488

**KIT $23.95** **Wired $39.95**

Makes your 1 Scope more useful than 2 in many cases! Simultaneously observe 2 patterns on 1 scope: compare voltage and current amplitudes, waveforms, freqs. and phase relationships. Continuously variable switching rates from less than 10 cps to over 2000 cps. Very useful as square wave generator over same range.

### TUBE TESTER No. 625

**KIT $34.95** **Wired $49.95**

**CRA pix tube adapter for tube tester — $4.50**

A professional, dependable tube tester and merchandiser. Tests ALL conventional and TV tubes. 10 individual lever-type element switches. 4½" meter, 3-color scale. Illuminated anti-backlash "SPEEDROLL" roll-chart. Protective overload bulb. Line-adjust control. 2 grid caps. Blank socket for future tube types. Pilot light test socket. Also tests TV picture tubes with EICO CRA Adapter.

- Tests new 600 ma filament series string tubes.

**Tube Tester Kit with Counter Display Case**

**Model 625-CK, Kit** ..... **$44.95**

**Model 625-C, factory wired** ..... **$59.95**

**Lid for your EICO Tube Tester** ..... **$3.98**

### PICTURE TUBE TEST ADAPTER No. CRA

**(For EICO Models 625, 625-K, 666 and 666-K Tube Testers)**

With the new Model CRA and your EICO Tube Tester, you check all sizes TV Picture Tubes as fast and easily as any ordinary tube. Model CRA gives a quantitative measurement of cathode emission, and tests for filament continuity and shorts between elements. Comes complete with standard 12-pin TV tube socket, octal plug-in connector, and extra long 4-foot cable that enables Pix Tube to remain in set WHILE TESTING.

**Factory Wired $4.50**

### CATHODE RAY TUBE CHECKER No. 630

**KIT $13.95** **Factory Wired $18.95**

Easy, fast, dependable testing of all sizes TV picture and oscilloscope type C-R tubes—right in the set or carton. Bridge measurement of peak beam current (proportional to screen brightness) using neon lamp as sensitive balance indicator. Balancing control calibrated directly in terms of tube condition. Detects open and shorted elements. Size: 9½" x 6½" x 3". Ship. wt. 5 lbs.

### DYNAMIC CONDUCTANCE TUBE AND TRANSISTOR TESTER No. 666

**KIT $69.95** **Factory Wired $109.95**

Unexcelled testing thoroughness and accuracy. Checks transistor collector current and Beta using internal dc power supply. Tests all receiving tubes including subminiatures (and tv pic tubes with accessory adapter). Composite indication of mutual conductance, plate conductance, and peak emission. Simultaneous sel. of any 1 of 4 combinations of 3 plate, 3 screen, and 3 ranges of control grid voltage. Grid voltage variable over 3 ranges with 5% accuracy pot. New series-string voltages for 600, 450 and 300 ma types. 5 ranges meter sens. with 1% precision shunts and 5% accurate pot. 10 SIX-position lever switches for free-point connection of every tube pin or cap. 10 push-buttons for rapid insert of any tube element in leakage circuit and speedy sel. of individual tube sections. Direct reading of inter-element leakage in ohms. New gear-driven rollchart. Steel case with cover and handle. Sensitive 200 ua meter.

### BATTERY TESTER No. 584

**KIT $9.95** **Factory Wired $12.95**

For accurate, true DYNAMIC test of all A and B portable radio batteries, lantern batteries, and other types — in or out of equipment. Test Positions (Volts): 1.5, 4.5, 6.0, 7.5, 9.0, 22.5, 45, 67.5, 75, 90 plus Spare Position. Test leads provided. High-impact Bakelite case and satin aluminum panel. 6¼" h x 3¾" w x 2" d.

### READI-TESTER No. 540

**KIT $12.95** **Wired $15.95**

Designed specifically for the ever-expanding do-it-yourself market, the 540 is excellent for electrical and electronic servicing, for home and automotive repairs. Low-cost, dependable, extremely versatile, the 540 is ALL of the following multi-range instruments: ac/dc voltmeter, ammeter, ohmmeter, wattmeter and leakage checker. Its rotary switch selection and one-place visual indication — both unique in instruments of this type — permits much faster and convenient operation. Locates defects in electrical appliances, motors, house wiring, furnace control, air conditioning, automotive equipment, tv and radio tubes and parts. Its instruction book, contains an introduction to electricity, complete operating method, and procedures for common repair jobs.

### FLYBACK XFMR & YOKE TESTER No. 944

**KIT $23.95** **Wired $34.95**

Positive check of all flybacks and yokes, in or out of set, **in just seconds!** Uses sensitive grid-dip principle — shows up even 1 shorted turn! **Exclusive** separate calibration for air- and iron-core flybacks. Checks any inductance of not too low impedance; also usable for general continuity testing. Large 4½" 50 μa meter, 3 separate colored scales.

### R-C BRIDGE & R-C-L COMPARATOR No. 950B

**KIT $19.95** **Wired $29.95**

Latest bridge-type instrument directly reads 0.5 ohms—500 megs resistance (4 ranges), 10 mmfd-5000 mfd capacitance (4 ranges), and power factor. (Kit includes precision calibrating resistor.) Unique comparator range for R, C, and L comparison measurement against external standard. Leakage testing of all capacitors at rated dc working voltage with internal 0-500 vdc source. Electron—ray tube as both bridge balance and capacitor leakage indicator.

### CAPACITANCE SUBST. BOX No. 1120

**KIT $5.95** **Wired $9.95**

Enables rapid substitution of a wide range of RETMA capacitance values from 0.0001 to 0.22 mfd in an operating circuit to determine value needed for optimum performance and to find value of badly damaged or illegible capacitors. Minimum accuracy ±10%. Uses silver mica and molded plastic capacitors, most conservatively rated at 600 volts. Convenient 5-way jack-top binding posts.

### RESISTANCE SUBST. BOX No. 1100

**KIT $5.95** **Wired $9.95**

Enables rapid substitution of wide range of RETMA resistance values from 15 ohms to 10 megohms in decade multiples of 15, 22, 33, 47, 68, 100 ohms. Uses standard 1 watt, ±10% RETMA resistors.

### SERIES/PARALLEL R-C COMBINATION BOX No. 1140

**KIT $13.95** **WIRED $19.95**

**Only EICO has it!**

A combination of Models 1100 and 1120 (above) with switching facilities permitting selection of any R alone, any C alone, or 1350 combinations of same in series or parallel. Open and short circuit positions provided. Standard E.I.A. values, 10% accuracy. Convenient jack-top binding posts.

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World Radio History

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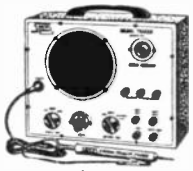
360

377

324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145A

352

320, 322

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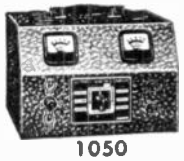
1050

1055

### *NEW!* EICO RF SIGNAL GENERATOR No. 324

"The Best Generator Buy in the World!" say EICO customers. For IF-RF alignment, signal tracing and trouble-shooting of TV, FM, AM sets all on fundamentals . . . marker generator for alignment of new h-f and older I-f TV IF's . . . 400 cps sine wave audio testing . . . lab and experimental work. Extended frequency range: 150 kc to 145 mc on fundamentals in 6 bands; 111-435 mc on calibrated harmonics. ±1 5% frequency accuracy; 6:1 vernier tuning knob and excellent spread at most important alignment frequencies. Etched tuning dial, plexiglass windows, edgelit hairlines. Colpitts RF oscillator, directly plate-modulated by cathode follower for improved modulation. Variable depth of internal modulation 0-50% by 400 cps Colpitts oscillator. Variable gain external modulation amplifier: only 3.0 volts needed for 30% modulation. Turret-mounted slug-tuned coils. Fine and Coarse (3-step) attenuators, 50-ohm output Z. RF and AF outputs respectively 100,000 uv and up to 10 v. Tubes: 12AU7, 12AV7, selenium rectifier, xfmr-operated. 5-way jack-top binding posts for AF in/out; coaxial connector and shielded cable for RF out. Satin aluminum panel and grey wrinkle steel case. 8" H x 10" W x 4¾" D. Ship. wt. 10 lbs.

**KIT $26.95** **Factory Wired $39.95**

### *NEW!* TV-FM SWEEP GENERATOR AND MARKER No. 368

The FINEST service instrument of this type ever offered in either kit or wired form at ANY price! Outstanding ease and accuracy in FM and TV (including Color) alignment. Entirely electronic sweep circuit with accurately biased increductor: superb linearity on both sides of selected center freq. Newly-designed AGC circuit automatically adjusts osc. for max. output on each band with min. amplitude variations. Sweep gen. range 3-216 mc in 5 OVERLAPPING FUND. BANDS. Sweep width continuously variable from 0-3 mc lowest max. deviation to 0-30 mc highest max. deviation. Variable marker gen. range from 2-75 mc in 3 FUND. BANDS plus a calibrated harmonic band 60-225 mc. Variable marker calibrated with int. xtal marker gen. 4.5 mc xtal included. Ext. marker provision. Double pi line filter. Edge-lit hair-lines eliminate parallax.

**KIT $69.95** **Factory Wired $119.95**

### RF SIGNAL GENERATORS

MODEL 320: For AM-FM precision alignment and TV marker frequencies. Vernier Tuning Condenser. Highly stable RF oscillator, range: 150 KC - 102 MC with fundamentals to 34 MC. Separate audio oscillator supplies 400-cycle pure sine wave voltage. Pure RF, modulated RF or pure AF for external testing. Satin aluminum etched panel; rugged steel case. Ship. wt. 10 lbs.

**Model 320—KIT $19.95** **Factory Wired $29.95**

MODEL 322: In addition to all the outstanding laboratory-precision qualities of the famous EICO Model 320, the brand new Model 322 features the individual calibration of each of its 5 bands.

**Model 322—KIT $23.95** **Factory Wired $34.95**

### DELUXE RF SIGNAL GENERATOR No. 315

Laboratory-precision generator EICO Service-Engineered with 1% accuracy. Frequency range: 75 kc-150 mc in 7 calibrated ranges. Extremely stable. Illuminated hairline VERNIER TUNING. VR stabilized line supply. 400-cycle pure sine wave with less than 5% distortion. Tube complement: 6X5, 6SL7, 6C4, VR-150. Satin aluminum etched panel; rugged steel case. 115 v., 60 cycles AC. Size: 12" x 13" x 7". Ship. wt. 21 lbs.

**KIT $39.95** **Factory Wired $59.95**

### TV-FM SWEEP GENERATOR No. 360

Covers all TV-FM alignment frequencies, 500 KC - 228 MC. Vernier-driven dial. Center of each of 13 TV channels marked on front panel. Sweepwidth variable 0-30 MC with mechanical inductive sweep — permits gain comparison of adjacent TV channels. Crystal marker oscillator, variable amplitude. Provides for injection of external marker. Phasing control. Complete with HF tubes. Less Crystal. Size: 10" x 8" x 6¾". Ship. wt. 12 lbs.

**KIT $34.95** **Factory Wired $49.95**

**EICO 5 MC and 4.5 MC Crystals — $3.95 ea.**

### SINE AND SQUARE WAVE AUDIO GENERATOR No. 377

Complete sine wave coverage: 20-200,000 cps. Complete square wave coverage: 60-50,000 cps. 2-gang tuning condenser. All frequency range resistors have 1% or better accuracy. Large easy-reading dial calibration: 0-100 linear reference scale. Response ±1.5 db from 60 cps to 150 kc. Wien bridge RC oscillator. Improved cathode follower output circuit. Output Voltage: 10 v. at 1000 ohms load, 14 v. at 10,000 ohms and higher, 8 v. at 500 ohms on sine wave; square wave ouput higher. High power output: 100mw into rated load. Rated load impedance: 1000 ohms resistive. Continuously variable output attenuator. Distortion 1% of rated output. Hum less than 0.4% of rated output. Tubes: 6X5, 6SJ7, 2-6K6, 6SN7, 6S6 (G-E 6-watt lamp). Satin aluminum etched rub-proof panel; rugged steel case. 115 V., 50/60 cycles, 50 W. Size: 11⅛" x 7⅛" x 7⅝". Ship. wt. 14 lbs.

**KIT $31.95** **Factory Wired $49.95**

### BAR GENERATOR No. 352

Enables rapid adjustment of TV picture Vertical and Horizontal linearity without hard-to-find station-transmitted test pattern. Produces 16 to 23 V bars and 13 to 22 H bars, adjustable in number to accommodate all screen sizes. Incorporates VHF osc., RF osc., and LF multi-vibrator. Adjustable from Channel 2 to 6. Deluxe 3-way antenna terminal clip fits any type antenna terminal including plug-in type. Output voltage: 100,000 microvolts. Tubes: 1-12AU7, 1-6C4; selenium rectifier. Size: 5" x 7½" x 4½". Ship. wt. 6 lbs.

**KIT $14.95** **Factory Wired $19.95**

### *NEW!* DELUXE MULTI-SIGNAL TRACER No. 147

Entirely new 5-tube instrument provides high gain RF and low gain audio channels with both visual and aural monitors (electron-ray tube and 5" speaker). Permits RF, IF and audio signal tracing in TV, FM and AM sets. Highly useful noise localizer circuit that applies DC test voltage thru probe to suspected component and simultaneously picks up and amplifies effect. Wattmeter circuit detects abnormal power consumption in TV and radio receivers. May be connected as test speaker, amplifier or output transformer, and has output for VTVM or scope. Excellent for gain-per-stage estimation, null detector, scope preamplifier, utility amplifier, small P.A. system. New satin finish etched panel; grey wrinkle steel case. 105-125 VAC, 50 60 cps. Size: 8" x 10" x 4¾". Ship. wt. 10 lbs.

**KIT $24.95** **Factory Wired $39.95**

### LOW-COST MULTI SIGNAL TRACER 145A

High gain RF and low gain audio input channels for signal tracing and trouble shooting RF, IF, and audio stages of AM, FM, and TV receivers. More than enough RF gain to trace up to receiver input; signal is heard through built-in 5" PM speaker. Shielded RF crystal demodulator and direct probes supplied. Noise localizer circuit applies DC test voltage through probe to suspected component and simultaneously picks up and amplifies effect. May be connected as test speaker, amplifier or output transformer. Output for VTVM or scope. For null detector, scope preamp, etc. Remarkably compact. With all parts. 7-13/16 x 5-9/16 x 5-1/16. Shipping weight. 7 lbs.

**KIT $19.95** **Factory Wired $28.95**

### 6V and 12V BATTERY ELIMINATOR and CHARGER No. 1050

Gives you all the electrical power you need for 6-volt and 12-volt battery charging and auto radio servicing. Two DC ranges: 0-8 v (10 amps continuous, 20 amps intermittent), 0-16 volts (6 amps continuous, 12 amps intermittent). Continuous voltage adjustment with variac-type transformer. Separate voltmeter and ammeter. Heavy duty selenium rectifiers. Fused primary; automatic reset circuit-breaker opens secondary circuit upon overload. Rugged, well-ventilated steel cabinet. Size: 8¾" x 10½" x 7¾". Ship. wt. 15 lbs.

**KIT $29.95** **Factory Wired $38.95**

### BATTERY ELIMINATOR ACCESSORY FILTER No. 1055

L-C filter provides additional filtering of output of EICO No. 1050 above, or any similar unit, when the battery eliminator is used for powering transistor and "hybrid" car radios. Functions on either 6V or 12V ranges of the b.e. up to 10 amps max current; can remain in use for ALL functions of the b.e.

**KIT $11.95** **Factory Wired $15.95**

### "EXTRA-FILTERED" 6V and 12V BATTERY ELIMINATOR and CHARGER No. 1060

Combines Model 1050K Battery Eliminator and Model 1055 Filter in a single unit. Powers both transistor and conventional equipment. New dual-range ammeter permits more accurate readings. Selection of voltage range automatically provides appropriate current range.

**KIT $38.95** **Factory Wired $47.95**

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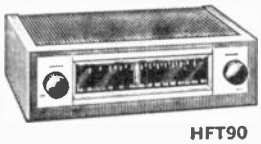
HF85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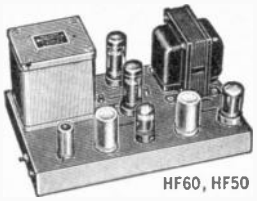

HF60, HF50

HFS2

HF81

HF65

HF32

HFS1

## STEREOPHONIC DUAL AMPLIFIER PREAMPLIFIER HF81

**KIT $69.95** **WIRED $109.95**

Selects, amplifiers and controls any stereo source—tape, discs, broadcasts—and feeds it thru self-contained dual 14W amplifiers to a pair of speakers. Monophonically: 28 watts for your speakers; complete stereo preamplifier. "Service Selector" switch permits you to drive both internal power amplifiers of the HF 81 from one of the preamp-control sections while the other preamp-control section is left free to drive an existing external amplifier. Ganged level controls, separate focus (balance) control, independent full-range bass and treble controls for each channel. Identical Williamson type, push-pull EL84 power amplifiers with high quality output transformers. Attractive "low silhouette" construction permits you to dispense with cabinetry if desired.

**Output Power:** 28 watts (two 14 watt channels) continuous; 56 watts peak. **IM Distortion (60 & 6000 cps at 4:1):** 2% at 28 watts (14 watts each channel); 0.5% at 10 watts (5 watts each channel). **Frequency Response:** 2W (1W each channel) ±0.5db 10 cps to 100 kc. **Harmonic Distortion:** 16W (8W each channel) less than 1% from 30 cps to 10 kc; 20W (10W each channel) less than 1% from 40 cps to 10 kc; 28W (14W each channel) less than 1% from 50 cps to 5 kc. **Sensitivity (input for 14W):** mag. phono—4mv; tape head—2 mv; mic.—6mv; tuners, auxiliaries—0.5V. **Hum & Noise Level (below 14W):** mag. phono—60 db; tape head—51 db; mic—57 db; tuners, auxiliaries—75 db. **Tone Control Range:** ± 15 db at 50 c and 10 kc. **Speaker Connections:** 4, 8, and 16 ohms. **Tubes:** 4-ECC83/12AX7, 2-ECC82/12AU7, 4-EL84, 2-EZ81. **Size** 15" wide, 4¾" high, 10½" deep. **Weight:** 24 lbs.

## STEREOPHONIC DUAL PREAMPLIFIER HF85

**KIT $39.95** **WIRED $64.95**

Offers practically every control and switching facility anyone could want in a physical design adaptable to any type of installation. With it, you can select, preamplify and control accurately, any stereophonic source—tape, discs or broadcasts. Extremely low distortion, bordering on the immeasurable (even at high output levels), precludes any degradation of quality from the best modern program sources. Self-powered, utilizing a full-wave rectifier tube power supply. Works in conjunction with any two high quality power amplifiers, such as the EICO HF14, HF22, HF30, HF35, HF50 and HF60. Separate low level input in each channel for mag. phono, tape head, and microphone. Separate high level inputs for AM tuner, FM tuner, and FM Multiplex. Also two auxiliary A inputs (one in each channel) and two auxiliary B inputs (one in each channel). Independent level controls that may be operated together with built-in clutch. Independent full-range bass and treble tone controls in each channel, may be operated together with built-in clutch. Switch permits hearing each stereo channel individually, also use of unit for stereo or monophonic play. Stereo channels may be reversed. On monophonic record playback, channels are mixed for rumble cancellation. 30 db feedback amplifier pair reduces tone control distortion to immeasurable levels in each section. Low impedance output to tape recorder, useful on all inputs. New "low-silhouette" construction matches EICO tuner. Very attractive when placed on a shelf or out in the open, yet permits easy console installation with full shielding and adaptability to any panel thickness.

**Frequency response:** ±0.3 db 5-200,000 cps at any level up to 3V RMS out. **Sensitivity (input for 2V RMS output at 1000 cps):** Mag. Phono—1 mv; Microphone—1 mv; Tape-head—0.5 mv; High Level Inputs—0.17V. **Hum Noise:** Mag. Phono—60 db; Microphone—60db; Tape Head—50 db; High level inputs—75 db. **IM Distortion (60 and 7000 cps at 4:1):** 0.04% at 2 V out. **Harmonic Distortion (20-20,000 cps):** 0.1% at 3V RMS out; 0.15% at 5V RMS out. **Tone Control Range:** At 10kc: 15 db boost, 15 db cut; At 50 cps: 15 db boost, 15 db cut. **Equalization:** Phono-RIAA; Tape Head-NARTB for 15 ips, 7½ ips, 3¾ ips. **Tape Output Impedance:** 1400 ohms. **Tube Complement:** 5—12AX7 ECC83, 1-6X4. **Size** 3⅝" high, 12" wide, 8¼" deep.

## MONAURAL PREAMPLIFIERS
(stack 2 for STEREO)

**HF65A: KIT $29.95** **WIRED $44.95**
**with Power Supply:**
**HF65: KIT $33.95** **WIRED $49.95**

For those who desire to incorporate tape head and microphone into their hifi systems, and to match the attractive **"low silhouette" look** of the EICO HFT90 FM Tuner, EICO has designed the new Model HF65 Preamplifier. It also features a new 3-stage tone control circuit comprised of a 30 db feedback amplifier pair driving a true variable crossover feedback tone control stage. **The HF65 offers practically every control and switching facility an audiophile could want,** plus adaptability to any panel thickness for easy console installation.

### SPECIFICATIONS

**Frequency Response:** ±0.3 db 5-200,000 cps at any level up to 3 V RMS out. (Measured from high level inputs with level and loudness controls set at maximum and tone controls electrically flat). **Sensitivity (input for 2 V RMS output at 1000 cps):** LO Mag. Phono: 1 mv; Hi Mag. Phono: 3 mv; Microphone: 1 mv; Tape Head 0.5 mv; High Level Inputs: 0.17 V. **Hum-Noise:** Mag. Phono: 60 db; Microphone: 60 db; Tape Head: 50 db; High Level Inputs: 75 db. (For low level inputs, values given are equivalent noise input in db down from 10 mv input level. For high level inputs, value given is equivalent noise input in db down from 0.5 V input level.)

**IM Distortion (60 and 7000 cps at 4:1):**

| V RMS Out | I. M. Dist. |
|---|---|
| 0.5V | 0.02% |
| 1.0V | 0.03% |
| 2.0V | 0.04% |
| 3.0V | 0.07% |
| 4.0V | 0.11% |
| 5.0V | 0.17% |

**Harmonic Distortion (20-20,000 cps):** 0.1% at 3 V RMS out; 0.15% at 5 V RMS out. **Filter Cut-off Frequencies:** Rumble Filter: 50 or 100 cps at 9 db/octave; Scratch Filter: 5 kc or 10 kc at 9 db/octave. **Tone Control Range:** At 10 kc: 15 db boost, 15 db cut; At 50 cps: 15 db boost, 15 db cut. **Phono Equalizations:** RIAA, LONDON, COLUMBIA, 78. **Tape Head Equalization:** NARTB for 7½ i.p.s. **Output to Tape Recorder Impedance:** 1400 ohms. **Output to Main Amplifier Impedance:** 770 ohms. **Tube Complement:** 3-12AX7 ECC83, 1-6X4. **Size:** 3⅝" high, 12" wide, 8¼" deep. WT.: 9 lbs.

**HF61A: KIT $24.95** **WIRED $37.95**
**with Power Supply:**
**HF61: KIT $29.95** **WIRED $44.95**

"Rivals the most expensive preamps"—Marshall, AUDIOCRAFT.

### SPECIFICATIONS

**Freq. Resp. (thru hi-level input):** ±1.0 db 8-100,000 cps; ±0.3 db 12-50,000 cps. **Sensitivity (input for 2 V RMS output at 1000 cps):** Lo Mag. Phono: 10 mv; Tuner, etc.: 0.6 V; Hi Mag Phono: 30 mv. **Hum-Noise:** Mag. Phono: 60 db equivalent noise input below 10 mv; Tuner, etc.: 75 db equivalent noise input below 0.6 V. **Im Distortion (60 & 7000 cps, 4:1 ratio):** 0.25% at 1.5 V RMS output; 0.5% at 0.5 V RMS out. **Harmonic Distortion:** 0.1% at 1.5 V RMS out (at 1 kc); less than 0.3%, 20-20,000 cps at 1.5 V RMS out. **Filter Cut-off Freqs:** rumble filter: 50 or 100 cps at 12 db/octave; scratch filter: 5 or 10 kc at 12 db/octave. **Tone Control Range:** ±15 db at 10 kc; ±15 db at 50 cps. **Phono Equalizations:** RIAA, Columbia, London, Amer. 78, Eur. 78. **Tubes:** 1-12AX7 ECC83, 2-12AU7/ECC82, 1-6X4 **Size:** HWD: 7⅞" x 12-5/16" x 4⅞" installed in case. Wt.: 8 lbs.

## MONAURAL POWER AMPLIFIERS
(use 2 for STEREO)

**60-WATT Ultra-Linear Power Amplifier HF60 with Acro TO-330 Output Transformer**

**KIT $72.95** **Wired $99.95**

**Superlative** performance, obtained through finest components and circuitry. EF86 low-noise voltage amplifier direct-coupled to 6SN7GTB cathode coupled phase inverter driving a pair of Ultra-Linear connected push-pull EL34 output tubes operated with fixed bias. **Rated power output:** 60 w (130 w peak). **IM Distortion** (60 & 6000 cps at 4:1): less than 1% at 60 w; less than 0.5% at 50 w. **Harmonic Distortion:** less than 0.5% at any freq. between 20 cps & 20 kc within 1 db

**ELECTRONIC INSTRUMENT CO., Inc. • Long Island City 1, N. Y.**

**ALL PRICES 5% HIGHER IN THE WEST**



World Radio History

of 60 w. Sinusoidal Freq. Resp.: at 1 w: ±0.5 db 5 cps — 100 kc; ±0.1 db 15 cps to 35 kc at any level from 1 mw to rated power; no peaking or raggedness outside audio range. **Square Wave Resp.:** excellent from 20 cps to 25 kc, 3 usec rise-time. Sensitivity: 0.55 v for 60 w. **Damping Factor: 17. Inverse Feedback: 21 db. Stability Margin:** 16 db. **Hum:** 90 db below rated output. **ACRO TO-330 Output Transformer** (fully potted). **Speaker Taps:** 4, 8, 16 ohms. **GZ34 extra-rugged rectifier** (indirectly-heated cathode eliminates high starting voltage on electrolytics & delays B+ until amplifier tubes warm up). **Input level** control. Panel mount fuse holder. Both **bias** and **DC — balance** adjustments. Std octal socket provided for pre-amplifier power take-off. Size: 7" x 14" x 8". 30 lbs. Matching cover **Model E-2 $4.50.**

**HF50: 50-Watt Ultra Linear Power Amplifier** with extremely high quality Chicago Standard Output Transformer. Identical in every other respect to HF60, same specifications at 50 watts. Kit **$57.95.** Wired **$87.95.** Matching Cover **E-2** $4.50. **HF35: 35-Watt Ultra-Linear Power Amplifier** version of the HF60 above. Kit **$47.95.** Wired **$72.45. HF30: 30-Watt Power Amplifier** employs 4-EL84 high power sensitivity output tubes in push-pull parallel (Williamson circuit, 20 db feedback, & high stability margin. 2-EZ81 full-wave rectifiers for highly reliable power supply. Unmatched value in medium-power amplifiers. Kit **$39.95.** Wired **$62.95.** Matching Cover E-3 $3.95. **HF22: 22-Watt Power Amplifier** version of the HF60 above. Kit **$38.95.** Wired **$61.95. HF14: 14-Watt Power Amplifier** of the HF81 above. Kit **$23.50.** Wired **$41.50.**

## MONAURAL INTEGRATED AMPLIFIERS

**(use 2 for STEREO)**
**20-WATT Ultra-Linear Williamson-type Integrated Amplifier HF20**
**With Preamplifier, Equalizer & Control Section.**
**KIT $49.95 Wired $79.95**
**"well-engineered"—Stocklin, RADIO TV NEWS**

The HF-20 employs an output transformer capable of handling far in excess of its 20 watts rated power, a full ULtra-Linear Williamson power amplifier circuit, and the finest preamplifier-control facilities. During its first year it has received consistently high praise from its users, and has become established as the outstanding value in amplifiers of this power class. A low-cost complete-facility amplifier of the highest quality that sets a new standard of performance at the price, kit or wired. **Rated Power Output:** 20 w(34 w peak). **IM Distortion (60 & 6000 cps/4:1) at rated power:** 1.3%. **Max. Harmonic Distortion between 20 & 20,000 cps at 1 db under rated power:** approx. 1%. **Mid-band Harmonic Distortion at rated power:** 0.3%. **Power Response (20 w):** ±0.5 db 20-20,000 cps; ±1.5 db 10-40,000 cps. **Freq. Resp.** (¼ w); ±0.5 db 13-35,000 cps; ±1.5 db 7-50,000 cps. **5 feedback equalizations** for LPs & 78s. **Low-distortion feedback tone controls:** large boosts or cuts in bass or treble with mid-freqs. and volume unaffected. Loudness control and separate level set control on front panel. Low Z output to tape recorder. 4 **hi-level switched inputs:** tuner, tv, tape, aux; **2 low-level inputs** for proper loading with all cartridges. **Hum bal. control.** DC superimposed on filament supply. **Extremely fine** output transformer: interleaved windings, tight coupling, careful balancing, grain-oriented steel. 8½" x 15" x 10". 24 lbs. Matching cover **Model E-1, $4.50.**

## 50-Watt Ultra-Linear Integrated Amplifier HF52

**With Preamplifier, Equalizer and Control Section**
**KIT $69.95 Wired $109.95**

Combines a power amplifier section **essentially identical** to the **HF50 power amplifier with a preamp-equalizer control section similar to HF20 above.** Provision for use with electronic crossover network and additional amplifier(s). See HF50 for response and distortion specs; HF60 for square wave response, rise-time, inverse feedback, stability margin, damping factor, speaker connections; HF20 for preamplifier, equalizer and control section description. Hum and noise 60 db below rated output on magnetic phono input (8 mv input for rated output), and 75 db below rated output on high level inputs (0.6 v input for rated output). "Excellent value" —Hirsch-Houck Labs. Matching cover **Model E-1, $4.50.**

**HF32: 30-Watt Integrated Amplifier** combines excellent HF30 power amplifier above with versatile preamplifier featuring tape head & microphone inputs, scratch & rumble filters, all amplifier facilities. Kit **$57.95.** Wired **$89.95.** Both include cover.

**HF12: 12-Watt Integrated Amplifier** provides complete "front end" facilities & excellent performance for any medium-power application. "Packs a wallop"—POPULAR ELECTRONICS. Kit **$34.95.** Wired **$57.95.**

## FM TUNER HFT90

| | |
|---|---|
| **KIT, less cover** | **$39.95*** |
| **WIRED, less cover** | **$65.95*** |
| **Cover** | **$ 3.95*** |

* excise tax incl.

**"Drift absolutely absent;** audio quality excellent; novel tuning quite effective."—ELECTRONICS ILLUSTRATED. **"One of the best buys you can get in high fidelity kits."—AUDIOCRAFT Kit Report.** Newly-designed, extremely sensitive, low-noise "front end", supplied in a cast housing completely pre-wired, pre-aligned, ready to use. Employs temperature-compensated components and advanced circuitry to completely eliminate need for AFC. Drift less than 2 parts in 10,000 from cold start. Radiation suppressed far below FCC standards. Also features new DM-70 traveling tuning eye. Sensitivity, unapproached among FM tuner kits, of 1.5 uv for 20 db quieting**. Input 300 ohms, IF bandwith 260 kc, detector Peak separation at 600 kc. Freq. resp. 20-20,000 cps ±1 db. Audio output 1 V for 10 uv input with 75 kc deviation. Hum 60 db below 1 V. Cathode follower and multiplex outputs. Flywheel sliderule tuning, AGC, stabilized low limiting threshold for excellent performance from weaker signals, broad-band ratio detector for improved capture ratio and easier tuning, full-wave rectifier and heavy filtering, very low distortion. Uses 1-ECC85/6AQ8, 3-6AU6, 1-6AL5, 1-6C4, 1-DM70, 1-6X4. Flexible "low silhouette" design adaptable to any panel thickness for console installation; optional cabinet. HWD: 3⅝" x 12" x 8¼". Operates from 110-125 VAC, 60 cps line.

**Typical unit, measured with Marconi TF 955A/2 FM-AM signal generator.

### SPEAKER SYSTEMS (use 2 for STEREO)

**HFS2:** Natural bass 30-200 cps via slot-loaded 12-ft. split conical bass horn. Middles & lower highs; front radiation from 8½" edge-damped cone. Distortionless spike-shaped super-tweeter radiates omni-directionally. Flat 45-20,000 cps, useful 30-40,000 cps. 16 ohms. HWD 36", 15¼", 11½". "Remarkable realism; eminently musical; unusual suitability for stereo."—Holt, HIGH FIDELITY. Completely factory-built: Walnut or Mahogany. **$139.95;** Blonde, **$144.95.**

**HFS1: Bookshelf Speaker System,** complete with factory-built cabinet. Jensen 8" woofer, matching Jensen compression-driver exponential horn tweeter. Smooth clean bass; crisp extended highs. 70-12,000 cps range. Capacity 25 w. 8 ohms. HWD: 11" x 23" x 9". Wiring time 15 min. Price **$39.95.**

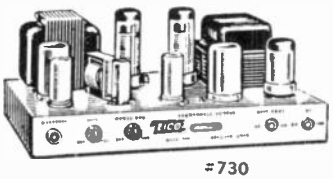
# the specs prove . . . now your best buy in HAM GEAR is EICO®

#720

## 90-WATT CW TRANSMITTER

**KIT $79.95 Wired $119.95**

Conservative, highly efficient design plus stability, safety, and excellent parts quality. Covers 80 thru 40, 20, 15, 11, 10 meters (popular operating bands) with one knob band-switching. 6146 final amplifier for full "clean" 90 W input, protected by clamper tube circuit. 6CL6 Colpitts oscillator, 6AQ5 buffer-multiplier, GZ34 rectifier. "Novice limit" calibration on meter keeps novice inside the FCC-required 75W limit. No shock hazard at key. Wide range, hi-efficiency pi-network matches antennas 50 to 1000 ohms, minimizes harmonics. EXT plate modulation terminals for AM phone modulation with 65W input. Excellent as basic exciter to drive a power amplifier stage to maximum allowable input of 1KW. Very effective TVI suppression. Ingenious new "low silhouette" design for complete shielding and "living room" attractiveness. Finest quality, conservatively rated parts, copper-plated chassis, ceramic switch insulation. 5" H, 15" W, 9½" D.

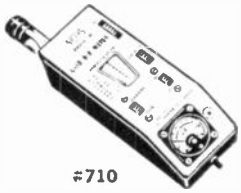


#730

## NEW UNIVERSAL MODULATOR-DRIVER No. 730

**KIT $49.95 WIRED $79.95 Cover E-5 $4.50**

Superb, truly versatile modulator at low cost. Can deliver 50 watts of undistorted audio signal for phone operation, more than sufficient to modulate **100%** the EICO #720 CW Transmitter or any xmitter whose RF amplifier has a plate input power of up to 100W. Multimatch output xfmr matches most loads between 500-10,000 ohms. Unique over-modulation indicator permits easy monitoring, precludes need for plate meter. Low level speech clipping and filtering with peak speech frequency range circuitry. Low distortion feedback circuit, premium quality audio power pentodes, indirectly heated cathode rectifier. Balance & bias adjust controls. Inputs for crystal or dynamic mikes, phone patch, etc. Excellent deluxe driver for high-power class B modulation. ECC83/12AX7 speech amplifier, 6AL5 speech clipper, 6AN8 amplifier driver, 2-EL34/6CA7 power output, EM84 over-modulation indicator, GZ34 rectifier. Finest quality, conservatively rated parts, copper-plated chassis. 6" H, 14" W, 8" D.



#710

## NEW GRID DIP METER No. 710

**KIT $29.95 WIRED $49.95 including complete set of coils for full band coverage.**

Exceptionally versatile, stable, rugged, compact. Basically a VFO with a microammeter in its grid circuit: determines frequency of other oscillators or tuned circuits; sensitivity control and phone jack facilitate "zero beat" listening. Also excellent absorption wave meter. Ham uses: pre-tuning and neutralizing xmitters, power indication, locating parasitic oscillations, antenna adj., correcting TVI, general de-bugging with xmitter power off, determining C.L.Q. Electronic servicing uses: alignment of traps, filters, IF's, peaking compensation networks; as signal or marker generator. Easy to hold & thumb-tune with one hand. Continuous coverage of 400 kc-250 mc (broadcast, FM, ham, TV bands) in 7 ranges with pre-wound coils of ±0.5% accuracy. 500 ua meter movement. 6AF4(A) or 6T4 Colpitts oscillator. Xmfr-operated selenium rectifier. 2¼" H, 2-9 16" W, 6⅞" L. Brushed satin deep-etched aluminum panel; grey wrinkle steel case.



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# *PRECISION* makes ONLY the instruments you need for:

INDUSTRIAL ELECTRONICS • AUDIO • AM RADIO • FM RADIO • MONOCHROME TV • COLOR TV

PACE

## Model E-420

**DOT AND BAR GENERATOR**

- provides white dot, cross hatch, vertical and horizontal bar patterns
- provides variable dot size and number, and variable bar width and number
- provides both video and RF output

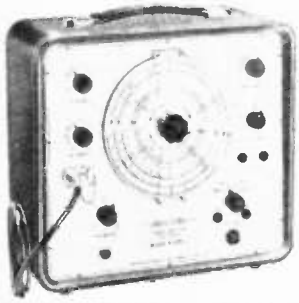
**Code: NEWSY** **Net Price: $150.00**

## Model E-440

**COLOR BAR GENERATOR**

- provides all required test signals for adjustment of color TV circuitry, including phasing and matrix networks
- all crystal-controlled signals for maximum stability and reliability

**Code: NOBLE** **Net Price $235.00**



## Model E-200C

**SIGNAL-MARKING GENERATOR**

- direct frequency reading 88 Kc to 440 Mc
- 1% accuracy on all bands
- 0 to 100% variable internal modulation
- built-in AGC override bias supply

**Code: TRUTH** **Net Price $95.00**

## Model E-400

**SWEEP SIGNAL GENERATOR**

- direct frequency reading from 3 to 900 Mc
- internal retrace blanking circuit
- wide and narrow-band sweep circuits

**Code: NELDA** **Net Price $160.00**

## Model E-310

**SINE AND SQUARE WAVE GENERATOR**

- both sine and square wave coverage through entire frequency range from 5 cycles to 600Kc with ±1% (or 1 cycle) accuracy
- distortion less than 1% at full output
- square wave rise-time .15 μsec.

**Code: WHITE** **Net Price $165.00**

## Model ES-550

**HIGH-SENSITIVITY, WIDE-BAND 5" SCOPE**

- 5 Mc bandwidth—ideal for color TV
- push-pull V and H amplifiers
- 10 mv/inch vertical sensitivity
- built-in P-P voltage calibrator

**Code: QUEEN** **Net Price: $235.00**

## Model ES-500A

**HIGH-SENSITIVITY, WIDE-RANGE 5" SCOPE**

- 1 Mc bandwidth, 20 mv/inch V sensitivity
- built-in P-P voltage calibrator
- push-pull V and H amplifiers

**Code: QUICK** **Net Price: $195.00**

## Model ES-520

**GENERAL-PURPOSE 5" SCOPE**

- 500 Kc bandwidth, 20 mv/inch V sensitivity
- push-pull V and H amplifiers
- built-in P-P voltage calibrator

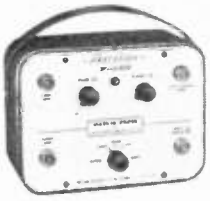
**Code: QUIRE** **Net Price: $145.00**

## Model SP-5

**OSCILLOSCOPE TEST PROBE SET**

- engineered for use with all *PRECISION* scopes
- includes master cable and 4 detachable probe heads: low capacity, crystal, isolating, direct

**Code: QUOIT** **Net Price: $26.50**



## Model 220

**MARKER-ADDER**

- greatly increases accuracy and speed of front-end and IF alignment on color and monochrome TV, and FM
- permits use of large-size markers without distortion of response curves

**Code: NYMPH** **Net Price: $52.50**

## Model 230

**VOLTAGE-REGULATED MULTI-BIAS SUPPLY**

- provides 4 simultaneous, individually adjustable bias voltages
- for color and monochrome TV alignment (AGC, AVC, chroma)

**Code: NAOMI** **Net Price: $27.50**

All prices and specifications subject to change without notice.



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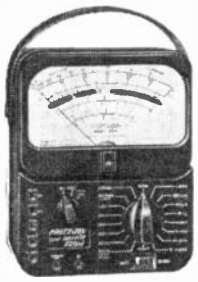
# PRECISION makes ALL the instruments you need for:

INDUSTRIAL ELECTRONICS • AUDIO • AM RADIO • FM RADIO • MONOCHROME TV • COLOR TV

PACE — THE METER OF PRECISION



## Model 120M

**MIRRORED-SCALE LABORATORY-TYPE V-O-M**

- 20,000 ohms/volt DC — 5000 ohms volt AC
- ½% multipliers—1% meter—DC polarity reversal switch
- 59 ranges to 6000 volts, 12 amperes, +77 db, 20 megohms
- AC frequency response from 15 cycles to 100 Kc

**Code: WINDY Net Price: $52.95**

## Model 120

**LAB-TYPE V-O-M**

- **Identical to the Model 120M above, but with standard 2% meter, 1% multipliers and shunts**

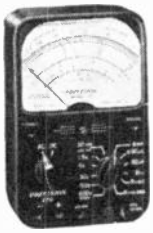
**Code: WHEEL Net Price: $44.95**

**Accessories for Models 120 and 120M**

| | |
|---|---|
| TV-2B—Super High Voltage Probe | $14.75 |
| LC-3—Ever-Ready Carrying Case | 9.50 |
| ST-1—Snap-On Tilt Stand | 1.00 |

## Model 110

**POCKET-SIZE V-O-M**



- 20,000 ohms/volt DC — 5000 ohms/volt AC
- full-size performance — pocket-size convenience
- extra-wide ranges to 3000 volts, 600 ma, 20 Megs, +71 db

**Code: VALET Net Price: $34.50**

## Model 100

**POCKET-SIZE V-O-M**

- Similar to the Model 110 above, but with sensitivity of 1000 ohms/volt AC and DC

**Code: VALUE Net Price: $29.95**

**Accessories for Models 100 and 110**

| | |
|---|---|
| LC-4 Ever-Ready Carrying Case | $5.95 |
| TV-5B—Super High Voltage Probes | $14.75 |

## Model 68

**MODESTLY PRICED METAL-CASED VTVM**

- 30 wide-spread voltage and resistance ranges
- peak-to-peak, negative, positive, RMS, zero center, resistance

**Code: PINTO Net Price: $54.50**

## Model 78

**BATTERY-OPERATED, METAL-CASED VTVM**

- provides every modern VTVM function
- a must where power line is unavailable or connection to power line undesirable

**Code: PIANO Net Price: $62.50**

## Model 88

**COMPACT, LAB-TYPE VTVM**

- designed for the lab—priced for the technician
- specially engineered peak-to-peak voltage ranges
- 7 functions—40 ranges—26-2/3 megs zero-center input

**Code: PLANT Net Price: $74.50**

## Model 98

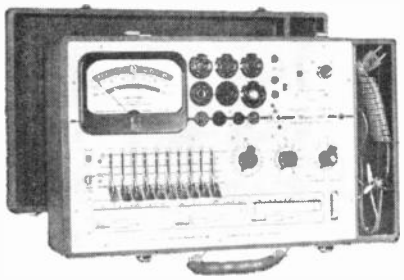
**LABORATORY VTVM with 7" METER**

- PRECISION's finest VTVM — electrically similar to Model 88
- 50 ranges—8 functions — extra-high impedance

**Code: PRINT Net Price: $119.50**

**VTVM Accessories**

| | |
|---|---|
| RF-10A—High-Frequency Probe for Models 88 and 98 | $14.40 |
| RF-12 High-Frequency Probe for Models 68 and 78 | 10.95 |
| TV-4—High-Voltage Probe for Models 68 and 78 | 14.75 |
| TV-8—High-Voltage Probe for Models 88 and 98 | 14.75 |
| LC-1 Carrying Case for Model 88 | 9.50 |
| ST-1—Snap-On Tilt Stand for Model 88 | 1.00 |



## Model 660

**TUBE AND TRANSISTOR TESTER**

- complete cathode conductance tube testing facilities
- comprehensive transistor tests for leakage, gain, leakage, shorts, etc.
- crystal diodes tested for both forward and reverse current
- plus: TV picture tube beam current test

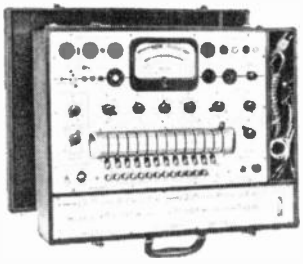
**Code: BARON Net Price: $109.00**

## Model 640

**CATHODE CONDUCTANCE TUBE TESTER**

Similar to the Model 660 above, but without transistor, crystal diode and picture tube beam current testing facilities.

**Code: BAKER Net Price: $79.50**



## Model 10-60

**ELECTRONAMIC® TUBE AND TRANSISTOR CHECKER**

- engineered for positive, all-inclusive Electronamic tube performance testing, not limited to mutual conductance alone
- ultra-sensitive gas test read directly on meter
- tests voltage regulator tubes in accordance with manufacturers' specs
- comprehensive transistor tests for leakage, gain, leakage, shorts, etc.
- crystal diodes tested for both forward and reverse current
- TV picture-tube beam-current test

**Code: FRIAR Net Price: $195.00**

**PICTURE TUBE TESTING ACCESSORIES**

PTA — standard duodecal picture tube adapter cable $7.75

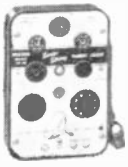
PAA — 110° socket adapter for use with Model PTA Cable $5.00

## Model 10-40

**Electronamic® Tube Tester**

- similar to the Model 10-60 above, but without transistor and crystal diode testing facilities.

**Code: FERRY Net Price: $149.50**



## Model SS-10

**SERIES-STRING FILAMENT CHECKER**

- quick-checks receiver and picture tubes for filament continuity
- quick-checks sets for fuse and AC circuit continuity

**Code: SAVER List Price: $6.50**

*All prices and specifications subject to change without notice.*

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World Radio History

# SEE WATERMAN FIRST

# FOR YOUR OSCILLOSCOPE NEEDS

- *LIGHT*
- *COMPACT*
- *ACCURATE*
- *PORTABLE*
- *COMPLETE*
- *DC COUPLED*

| | Industrial Pocketscope S-11-A | Hi Gain Pocketscope S-14-A | Wide Band Pocketscope S-14-B | Computer Pocketscope S-14-C | Twin Tube Pocketscope S-15-A | TV & Hi-Fi Craftscope S-16-A | | Direct Reading Pocketscope Hi-Gain S-17-A |
|---|---|---|---|---|---|---|---|---|
| **CR TUBE** | | | | | | | | |
| Size—Inches | 3 | 3 | 3 | 3 | 1½ x 3 | 5 | | 1⅓ x 3 |
| Accelerating Voltage | 560 | 820 | 820 | 1000 | 820 | 1600 | | 850 |
| **VERTICAL RESPONSE** | | | | | | WIDE BAND | HI SENS | |
| Sens. (MV rms) | 100/in | 12/in† | 50 in | 70 in** | 12 in*† | 35 cm | 3 cm | |
| Sens. (MV dc) | 280 in | 34/in | 140/in | 200/in | 34/in* | 100/cm | —— | 10/div. |
| Sinewave in cps-2DB | DC-200K | DC-180K | DC-700K | DC-700K | DC-180K* | DC-4.5M | 5-500K | DC-200K |
| Pulse rise in μseconds | 2 | 1.8 | 0.35 | 0.35 | 1.8* | 0.1 | —— | 2 |
| **HORIZONTAL RESPONSE** | | | | | | LO | HI | |
| Sens. (MV rms) | 100 in | 15/in | 150/in | —— | 1K in* | 150/cm | 15/cm | 400 P.P/div. |
| Sens. (MV dc) | 280 in | 42 in | 420/in | —— | 2.8K/in* | —— | | —— |
| Sinewave in cps-2DB | DC-200K | DC-180K | DC-200K | —— | DC-150K* | 5-35K | | 3-80K |
| **LINEAR TIME BASE** | | | | | | | | |
| Range in cps or time | 3-50K | 0.5-50K | 0.5-50K | 20μS-2S | 0.5-50K | 6-100K | | 100μs to 10S |
| Type | REP | REP-TRIG | REP-TRIG | TRIG | REP-TRIG | REP | | TRIG |
| **CASE SIZE** | | | | | | | | |
| Depth—inches | 11 | 12 | 12 | 12 | 12 | 12½ | | 10 |
| Width—inches | 5 | 6 | 6 | 6 | 6 | 7 | | 5½ |
| Height—inches | 7 | 7 | 7 | 7 | 7 | 10½ | | 4¾ |
| Weight—pounds | 8¾ | 12¾ | 14 | 16 | 16¼ | 18 | | 8 |
| Shipping weight—pounds | 10 | 16 | 17 | 19 | 19 | 21 | | 10 |
| **AC INPUT** | | | | | | | | |
| Voltage | 115 | 115 | 115 | 115 | 115 | 115 | | 115 |
| Frequency in cps | 50 to 400 | 50 to 400 | 50 to 400 | 50 to 400 | 50 to 400 | 60 | | 50 to 400 |
| Watts | 30 | 50 | 65 | 85 | 75 | 65 | | 40 |
| **SUGGESTED RESALE PRICE** | $149.50 | $249.00 | $239.00 | $289.00 | $399.00 | $245.00 | | $295.00 |

* Each Channel ** 7 MV rms with Amplifier Probe A-11-D † Usually 10 MV rms

## ACCESSORIES

| | Combination Probe A-10-A | Amplifier Probe A-11-D |
|---|---|---|
| APPLICABLE TO | S-14-A<br>S-14-B<br>S-15-A | S-14-C<br>——<br>—— |
| ATTENUATION | 1 & 10 | —— |
| AMPLIFICATION | —— | 10 AC |
| PRICE | $19.90 | $39.90 |

***Engineering Data Sheets available with complete descriptions***

***See page A-36 for Waterman Rayonic Cathode Ray Tubes.***

# WATERMAN PRODUCTS CO., INC.

**Philadelphia 25, Pa. Cable Address: Poketscope**

WATERMAN PRODUCTS


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World Radio History

# TEST EQUIPMENT

TRIPLETT

## MODEL 630-PL

Instant vision, wider spread scales; streamlined case, handsome modern design.
Outstanding linear ohm scale; low reading .1 ohm; high to 100 megs.
One switch selects any range; minimizes chance of incorrect settings and burnouts. 5 to 500,000 cycles per second frequency response in AC measurements.
DC Polarity reversing switch.
High Sensitivity: 5,000 ohms per volt AC; 20,000 ohms per volt DC.

### RANGES

**DC Volts:** 0-2.5-10-50-250-1,000-5,000—at 20,000 ohms/volt.
**AC Volts:** 0-3-10-50-250-1,000-5,000—at 5,000 ohms/volt.
**Decibels:** —20 to +11, +21, +35, +45, +61, +75, "0" DB at 1 MW on 600 ohm line.
**DC Microamperes:** 0-100—at 250 millivolts.
**DC Milliamperes:** 0-10-100-1,000—at 250 millivolts.
**DC Amperes:** 0-10—at 250 millivolts.
**Ohms:** 0-1,000-10,000—(4.4-44 at center scale).
**Megohms:** 0-1-100—(4,400-440,000 at center scale).
**Output V (AC):** 0-3-10-50-250-1,000—at 5,000 ohms/volt, jack with condenser in series with AC ranges.
**Case:** Molded, fully insulated; 3-11/32" x 5-1/2" x 7-1/2".

**MODEL 630-PL**—U.S.A. Dealer Net **$44.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

## MODEL 630-APL

Laboratory type V-O-M featuring ½% resistors and more accurate movement for greater accuracy.
Long MIRRORED scales to eliminate parallax in reading.
One switch selects any range; minimizes chance of incorrect settings and burnouts. 5 to 500,000 cycles per second frequency response in AC measurements.
DC Polarity Reversing switch.
High Sensitivity: 5,000 ohms per volt AC; 20,000 ohms per volt DC.

### RANGES

**DC Volts:** 0-2.5-10-50-250-1,000-5,000—at 20,000 ohms/volt.
**AC Volts:** 0-3-10-50-250-1,000-5,000—at 5,000 ohms/volt.
**Decibels:** —20 to +11, +21, +35, +49, +61, +75, "0" DB at 1 MW on 600 ohm line.
**DC Microamperes:** 0-100—at 250 millivolts.
**DC Milliamperes:** 0-10-100-1,000—at 250 millivolts.
**DC Amperes:** 0-10—at 250 millivolts.
**Ohms:** 0-1,000-10,000—(4.4-44 at center scale).
**Megohms:** 0-1-100—(4,400-440,000 at center scale).
**Output V (AC):** 0-3-10-50-250-1,000—at 5,000 ohms/volt, jack with condenser in series with AC ranges.
**Case:** Molded, fully insulated; 3-11/32" x 5-1/2" x 7-1/2".

**MODEL 630-APL**—U.S.A. Dealer Net **$54.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

## MODEL 631 — COMBINATION VOLT-OHM-MILLIAMMETER AND VACUUM TUBE VOLTMETER

Two fundamental units at the price of a single tester; the number one instrument for all electronic men.
VTVM stability assured by battery operation.
Sensitivity plus—sensitivity of the 1.2 volt (VTVM) range is equal to over nine million ohms per volt.
Long battery life on VTVM section.
A V-O-M for general use and a VTVM when needed; ranges entirely adequate for servicing needs.
Large meter easy to read; unbreakable meter face.
Single switch selects all ranges; minimizes chance of incorrect settings and burnouts.
Accuracy 3% DC to 1200 V.

**DC Volts:** 0-3-12-60-300-1,200 (20,000 ohms per volt).
**AC Volts:** 0-3-12-60-300-1,200 (5,000 ohms per volt).
**Ohms:** 0-1,500-15,000.
**Megohms:** 0-1.5-150.
**DC Microamperes:** 0-60 at 250 MV.
**DC Milliamperes:** 0-1.2-12-120-1,200 at 250 MV.
**DC Amperes:** 0-12 at 250 MV.
**DB:** —20, +4, +16, +30, +44, +56. (600 ohm line at 1 MW).

### VTVM RANGES

**DC Volts:** 0-1.2-6-30-120.

**CASE**—Molded, fully insulated, 3⅞" x 5½" x 7½".
**MODEL 631**—U. S. A. Dealer Net **$64.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

## MODEL 630-NA — VOLT-OHM-MILLIAMMETER

The super deluxe of VOMs.
Seventy ranges; nearly double those of conventional testers.
Frequency compensated from 35 cps to 20 kc.
Temperature compensated.
Accurate within 1½% of full scale reading on DC.
Large open front meter easy to read.
Mirrored scale.
Meter protection against overloads.

### RANGES

**DC Volts:** 0-.240-.6-3-12-60-300-1,200-6,000 at 10,000 ohms per volt.
0-.120-.3-1.5-6-30-150-600-3,000 at 20,000 ohms per volt.
**AC Volts:** 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
0-1.5-6-30-150-600-3,000 at 10,000 ohms per volt.
**Ohms:** 0-1K-10K-100K.
**Megohms:** 0-1-10-100.
**DC Microamperes:** 0-120 at 240 millivolts.
0-60-600 at 120 millivolts.
**DC Milliamperes:** 0-1.2-12-120-1,200 at 240 millivolts.
0-60-600 at 120 millivolts.
**DB:** —20 to +70 (600 ohm line at 1 MW).
**CASE**—Molded, fully insulated, 3⅝" x 5½" x 7½".
**MODEL 630-NA**—U. S. A. Dealer Net **$74.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.



World Radio History

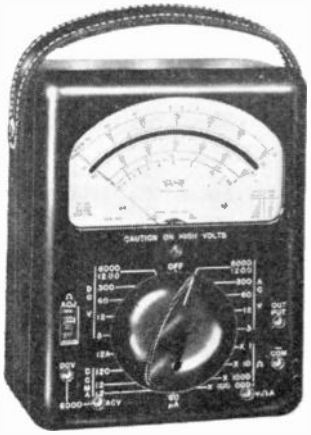
# TRIPLETT TEST EQUIPMENT

## MODEL 630 — VOLT-OHM-MILLIAMMETER

Popular streamlined tester with long meter scales arranged for easy reading.
Outstanding linear ohm scale; low reading .1 ohm, high 100 megs.
One switch will select any range; minimizes chance of incorrect settings and burnouts.
Accuracy 3% DC to 1200 V.

### RANGES

**DC Volts:** 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
**AC Volts:** 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
**Ohms:** 0-1,000-10,000.
**Megohms:** 0-1-100.
**DC Microamperes:** 0-60 at 250 millivolts
**DC Milliamperes:** 0-1.2-12-120 at 250 millivolts .
**DC Amperes:** 0-12.
**DB:** —20 to + 70 (600 ohm line at 1 MW).
**CASE**—Molded, fully insulated, 3 7/32" x 5½" x 7½".
**MODEL 630**—U. S. A. Dealer Net ..... **$44.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.



## MODEL 630-A — VOLT-OHM-MILLIAMMETER

A laboratory type VOM with ½% resistors for greater accuracy.
Long mirrored scale to eliminate parallax.
Banana jacks, low resistance connections.
High flux magnet for increased ruggedness.
One switch selects any range; minimizes chance of incorrect settings and burnouts.
Accuracy 1½% on DC to 1200 V.

### RANGES

**DC Volts:** 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
**AC Volts:** 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
**Ohms:** 0-1,000-10,000.
**Megohms:** 0-1-100.
**DC Microamperes:** 0-60 at 250 millivolts.
**DC Milliamperes:** 0-1 2-12-120 at 250 millivolts.
**DC Amperes:** 0-12 at 250 millivolts.
**DB:** —20 to +70 (600 ohm line at 1 MW).
**CASE**—Molded, fully insulated, 3 7/32" x 5½" x 7½".
**MODEL 630-A**—U. S. A. Dealer Net ..... **$54.50**
Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

**MODEL 310**
**VOLT-OHM**
**MILLIAMMETER**

## MODEL 310 — HAND-SIZE MIGHTY MITE

The only complete miniature V-O-M with 20,000 ohms per volt and selector range switch.
Self-shielded for checking in strong magnetic field.
Rugged, high torque, bar-ring instrument.
Unbreakable plastic meter window. Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand.
Standard sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC.
Accuracy 3% DC.

### RANGES

**DC Volts:** 0-3-12-60-300-1,200 (at 20,000 ohms per volt). **AC Volts:** 0-3-12-60-300-1,200 (at 5,000 ohms per volt).
**Ohms:** 0-20,000-200,000. **Megohms:** 0-2-20.
**DC Microamperes:** 0-600 at 250 millivolts. **DC Milliamperes:** 0-6-60-600 at 250 millivolts.
**WEIGHT**—Approx. 14 oz., complete with battery. **CASE**—Molded, fully insulated, 2¾" x 4¼" x 1 3/16".
**MODEL 310**—U. S. A. Dealer Net ..... **$34.50**
Complete with leads, batteries and instruction manual.

## TRIPLETT MODEL 10 CLAMP-ON ADAPTER

Just plug into any Triplett Model 310 Miniature V-O-M it becomes an AC clamp-on ammeter to measure AC amperes without cutting or opening current carrying wires. The split transformer yoke opens at the touch of a lever to fit around a single conductor or bus-bar for direct readings of AC amperes from 6 to 300 in 6 steps. **MODEL 10** **$14.50 net**
The Model 10 can be used at a distance from the Model 310 by using No. 311 lead attachment. This permits readings in difficult locations. **No. 311 Leads** **$1.90 net**
In addition, to use with the Model 310, the Model 10 Adapter also can be used as a Clamp-On Ammeter with any Volt-Ohm-Milliammeter having a 3 AC Volt scale at 5,000 ohms per volt such as Triplett Models 630, 630-A, 630-NA, 631, etc. by employing **Triplett No. 611 Leads** **$1.90 net.**

### RANGES

**MODEL 10:**
**AC Amperes:** 0-6-12-30-60-120-300.

## TRIPLETT MODEL 101 LINE SEPARATOR

Serves to plug in at outlet to divide 2 conductor cords for clamp-on measuring. Makes accurate, rapid testing of radio and TV sets, phonographs, appliances, motors, etc. possible without opening or splitting double conductors. Also serves to increase ammeter sensitivity 10X and 20X, if desirable, for easier reading. **Model 101** ..... **$5.50 net.**

**Capacity of Model 101:**
**Range:** Direct—Divide by 10
Divide by 20
**Maximum Capacity Amperes:** 30-12-6.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# TEST EQUIPMENT

TRIPLETT

### MODEL 630-T — VOLT-OHM-MILLIAMMETER

Specially designed for telephone maintenance.
Accuracy 2% on DC.
Fused protected circuit protects resistors and meter in ohms ranges.
Special neck strap supplied to hold instrument, leaving both hands free.
Banana jack connectors to eliminate all shock hazard.
Completely insulated case to protect instrument from ground.

**RANGES**

**DC Volts:** 0-.3-3-12-60-300-600 at 20,000 ohms per volt.
**AC Volts:** 0-3-12-60-300-600 at 3,000 ohms per volt.
**Ohms:** 01K-10K-100K.
**Megohms:** 0-1-10.
**DC Microamperes:** 0-60 at 150 millivolts.
**DC Milliamperes:** 0-1.2-12-120 at 150 millivolts.
**CASE**—Molded, completely insulated to protect instrument from ground, 3 7/32" x 5½" x 7½".
**WEIGHT**—4 lbs.

**MODEL 630-T**—U. S. A. Dealer Net ..... **$54.50**

### MODEL 666-R — POCKET VOLT-OHM-MILLIAMMETER

Hand-size — the ideal tester for electrical maintenance.
Recessed range knob enables tester to fit in tool kit.
AC rectifier pre-calibrated unit for easy replacement.
Banana jacks at top of the panel lessen possibility of leads falling over the meter dial.
Single switch selects all ranges; minimizes chance of incorrect settings and burnouts.
Accuracy 3% DC to 1000 V.

**RANGES**

**DC Volts:** 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
**AC Volts:** 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
**Ohms:** 0-3,000-300,000.
**Megohms:** 0-3.
**DC Milliamperes:** 0-10-100 at 250 MV.
**DC Amperes:** 0-1 at 250 MV.
**CASE**—Black molded, streamlined, completely insulated. Handy pocket size, 3 1/16" x 5⅞" x 2 9/16".

**MODEL 630-T**—U. S .A. Dealer Net ..... **$54.50**
Complete with leads, alligator clips, batteries and instruction manual.
*Special field case designed for the 666-R. Camera-type leather case, No. 669-RL, $6.60.*

### MODEL 625-NA — VOLT-OHM-MILLIAMMETER

Dual sensitivity provides extra ranges.
Large mirror scale for excellent readability.
Three color meter scale, 5" long.
Six inch instrument, 0-50 microamp.
AC volts at 10,000 O/V permits checking many audio and high impedance AC circuits where a VTVM usually is required.
Accuracy 3% DC to 1000 V.

**RANGES**

**DC Volts:** 0-1.25-5-25-125-500-2,000 at 20,000 ohms per volt.
**AC Volts:** 0-2.5-10-50-250-1,000-5,000 at 10,000 ohms per volt.
**Ohms:** 0-2,000-200,000.
**Megohms:** 0-40.
**DC Microamperes:** 0-50 at 250 millivolts.
**DC Milliamperes:** 0-1-10-100-1,000 at 250 millivolts.
**DC Amperes:** 0-10 at 250 millivolts.
**DB:** —30 to 69 on 500 ohm line 6 MW.
**CASE**—Black molded, insulated, 2½" x 5½" x 6".

**MODEL 625NA**—U. S. A. Dealer Net ..... **$54.50**
Complete with leads, alligator clips, batteries and instruction manual.

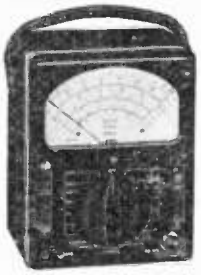
### MODEL 666-HH — POCKET VOLT-OHM-MILLIAMMETER

Compact, hand-size V-O-M.
Three-inch meter integral with panel, adjusted to 400 microamperes at 250 millivolts.
Only three jacks necessary for all ranges.
Accuracy 3% DC to 1000 V.

**RANGES**

**DC Volts:** 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
**AC Volts:** 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
**Ohms:** 0-2,000-400,000.
**DC Milliamperes:** 0-10-100-500 at 250 millivolts.
**CASE**—Black molded, insulated, 3 1/16" x 5⅞" x 2 9/16".

**MODEL 666-HH**—U. S. A. Dealer Net ..... **$27.50**
Complete with leads, alligator clips, batteries and instruction manual.



### MODEL 650 — VACUUM TUBE VOLTMETER

Complete frequency coverage from 15 cps to over 150 MC, with one probe supplied with instrument.
One volt full scale reading on both DC-AC.
Reads peak to peak AC volts and RMS.
Separate 1 volt AC and 5 volt AC scales for greater accuracy.
Pointer will remain zero when changing ranges.
Single selector switch for all ranges.
Accuracy 3% DC.

**RANGES**

**DC Volts:** 0-1-5-10-50-100-500-1,000.
**AC-RF Volts:** 0-1-5-10-50-100-500 (15 cps to over 150 MC).
**Peak to Peak Volts:** 0-2.8-14-28-140-280-700.
**Ohms:** 0-1K-10K-100K-1 Meg.-100 Meg.-1,000 Meg.
**CASE**—Insulated molded case and panel, 3¾" x 5½" x 7½". Removable strap handle.

**MODEL 650**—U. S. A. Dealer Net ..... **$89.50**
Complete with leads, alligator clips, rubber feet, battery and instruction manual.
**DC High Voltage Probe:** 50 KV-500 DC volt; 10 KV-100 DC volt; 5KV-50 DC volt. **$14.50 net each.**

### MODELS 630, 630-A, 630-PL, 630-APL AND 631— HIGH VOLTAGE PROBES

Completely insulated polystyrene test probe with guard-type handle. Probe is 11¾" long, with 48" hi-voltage wire lead with banana plug at tester end.

| | | |
|---|---|---|
| Part T-79-68 | 0-12,000 D. C. Volts | $14.50 |
| Part T-79-69 | 0-12,000 A. C. Volts | 14.50 |
| Part T-79-70 | 0-30,000 D. C. Volts | 14.50 |
| Part T-79-71 | 0-30,000 A. C. Volts | 14.50 |

Also probes for 630-NA

**REPLACEMENT LEADS**

**LEADS** for Models 630, 630-A, 666-HH, 666-R and 625NA. Plastic (T-79-49) and Rubber (T-79-127). Net ..... **$1.90**
**REPLACEMENT LEAD** for Model 630-T T-79-136 Net ..... **$2.80**
**REPLACEMENT LEAD** for Model 310. T-79A-153. Net ..... **$1.90**

### TESTER STAND

Metal stand holds Model 630, 630-A, 630-NA, 630-T, 631 or 650 tester in approximately a 45° angle; will enable you to make easier readings.

**STAND ONLY**—Pt. T-255-A-33. U. S. A. Dealer Net ..... **$ .50**

### EXTERNAL SHUNTS

Pt. T-91-247—30 Amperes (Plug-In) ..... **$ 9.00**
Pt. T-91-248—60 Amperes (Portable) ..... **$12.00**
Pt. T-91-255—120 Amperes (Portable) ..... **$12.00**

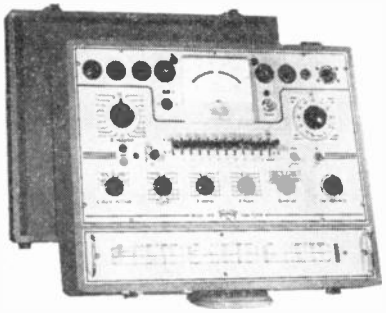


World Radio History

# TRIPLETT TEST EQUIPMENT

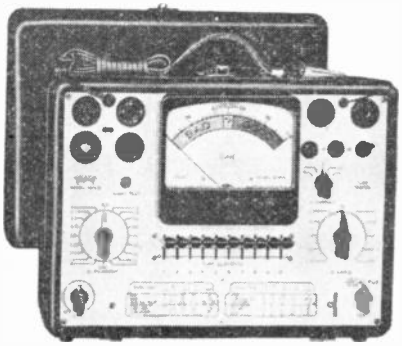
## MODEL 690 — TRANSISTOR TESTER

Triplett Model 690 Transistor tester is a rugged, small, easily portable unit. It is battery-operated and independent of any external power source.
It provides LEAKAGE and GAIN tests for all low and medium power PNP and NPN type transistors. (Current gain and leakage current are two transistor characteristics it is always necessary to know.)
A single switch is provided for simplicity in selecting transistor type settings. The OFF position prevents drain on the batteries in case of accidentally shorting the leads.
Another operating feature is the use of separate "Calibrate" and "Gain" buttons to eliminate errors.
A transistor socket and a set of external leads are provided for use with any basing arrangement.
**SCALES**—3.11 inches long. Red, Green, and Black markings on white. Top 0-100 scale is used for measuring per cent gain. Bottom 0-500 scale is used for measuring leakage in microamperes.
**MODEL 690**—Suggested U.S.A. Dealer Net Price ..... **$29.50**



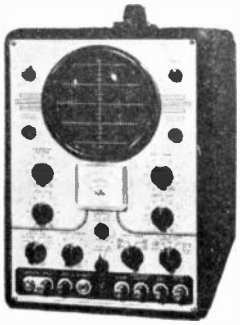
## MODEL 3423 — MUTUAL CONDUCTANCE TUBE TESTER

Variable plate voltage, 0-250 volts, available only in better testers.
Uses high frequency signal on grid (4KC).
Selenium rectifiers, crystal diodes and transitsors can be tested with no extra accessories.
All new heater voltages are available from .63 to 117 voltage.
Direct leakage measurement on meter from 0 to 10 Meg. between any one element and all other elements.
**METER SCALES**—0-1,800-6,000-18,000-36,000 for micromhos.
**Good - ? - Bad** scale for diodes and rectifiers.
0-100 scale for thyratron tubes.
This tester registers per cent of target value.
Speed roll tube chart; easy to use; easily replaced when listings are revised to include new tubes.
**CASE**—Wood, gray leatherette covered, with white trim. Chrome hardware. Hinged removable lid, $6\frac{13}{32}$" x $14\frac{3}{4}$ x $18\frac{25}{32}$". Instrument model 420, 4" long scales.
**MODEL 3423**—U. S. A. Dealer Net ..... **$199.50**



## MODEL 3413-B — FASTER, FLEXIBLE TUBE TESTER

Greater meter sensitivity for tubes with low current.
Neon Short Test—Dual sensitivity shows inter-element short or leakage while cathodes are hot.
All the new heater voltages. Filament voltages 0.63 to 110 in 19 steps.
The tester does not become obsolete when new tubes are announced.
Quick-change roll chart supplied at regular intervals; revised to keep up with tube changes.
TV picture tube test by means of an adapter (available extra) without removing tube from receiver. (See BV Adapter.)
Counter and portable case with cover.
Flexible three position lever switches for complete coverage of present and future tube connections.
Large six inch meter has three color easy-to-read GOOD - ? - BAD scale.
**CASE**—Metal, with attractive baked on black enamel finish, $6\frac{1}{8}$" x $11\frac{1}{32}$" x $15\frac{11}{32}$", detachable hinged cover, leather strap handle, nickel plated hardware and rubber feet.
**MODEL 3413-B**—U. S. A. Dealer Net ..... **$79.50**
**BV ADAPTER** for Picture Tube tests with Models 3413-B and 3423. Net ..... **$5.40**



## MODEL 3441-A — NEW 5" OSCILLOSCOPE

Maximum sensitivity (10 millivolts per inch).
Wide band width 4.5 MC (Usable to 9 MC).
Wide band amplifiers for color TV servicing.
Calibration voltage metered so line voltage is not a factor.
Horizontal amplifier frequency range flat to +1 or —1 DB from 20 cycles to 60 KC. Deflection sensitivity .15 volts RMS per inch.
Saw tooth output supplies a saw tooth wave form from 10 to 60,000 cycles. Output variable 0-70 volts peak to peak.
Polarity-reversing switch keeps wave form showing in conventional manner.
**PANEL**—Black and red on white. Characters etched on aluminum.
**CASE**—Metal with black suede enamel finish, $15\frac{11}{32}$" x $11\frac{1}{32}$" x 16". Leather handle.
**MODEL 3441-A**—U. S. A. Dealer Net ..... **$249.50**
Crystal (Demodulating or Signal Tracing) Probe. Part Number 9989 ..... **$10.50**
Low Capacity (10-1). Part Number 10379-A ..... **$11.90**

## MODEL 3439 — COLOR BAR GENERATOR

Crystal controlled RF output.
A built-in VTVM circuit with meter on the panel provides quick and easy checking of sync, subcarrier and modulation amplitudes.
Unit completely self-contained—no extra accessories or equipment needed. Easy to set up, with RF output direct.
Sound carrier (unmodulated insures precise tuning of the receiver; and permits checking sound rejection and presence of beat interference between the color subcarrier and the sound carrier.
Brightness modulation is available to check for possible shift of hue in the bright areas or highlights.
Amplitude of the color subcarrier is adjustable; for checking the color sync lock action in the receiver.
Video signals of positive or negative polarity are provided for low impedance (75 ohms) and high impedance (5,000 ohms) video circuits.
**CASE**—Metal with black baked enamel suede finish, $15\frac{11}{32}$" x $11\frac{1}{32}$" x $6\frac{1}{4}$". Leather handle.
**MODEL 3439**—U. S. A. Dealer Net ..... **$249.50**

## MODEL 3438 — DOT BAR COLOR GENERATOR

Frequency RF output fundamental coverage on channels 2 to 6.
Provides its own horizontal and vertical sync pulses.
RF and IF output.
Video output—Video signals as above with positive or negative polarity supplied across low impedance source of 2,000 ohms with 1 mfd. 200 volt blocking condenser.
Color oscillator provides three base colors (red, blue and green) plus colors corresponding to phases of R-Y, B-Y, I and Q axis.
Completely self-contained; no extra accessories or equipment is needed.
No additional sync is required from the set.
Can be used for signal tracing completely through either b/w or color TV sets.
**CASE**—Metal with attractive baked black enamel suede finish, $6\frac{1}{4}$" x $11\frac{1}{32}$" x $15\frac{11}{32}$", panel silver black and red etched aluminum. Shielded output co-axial cable.
**MODEL 3438**—U. S. A. Dealer Net ..... **$229.50**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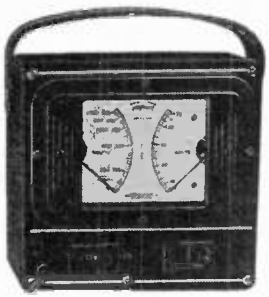
# TEST EQUIPMENT

TRIPLETT



### MODEL 660 — LOAD CHEK

A time-saver, designed for TV servicing. Helps prevent repair come-backs. No time lost in connecting this unit. Just plug in the power cord of the radio and all meters are connected.
Quick way to locate hidden shorts and overloaded circuits.
Double meter indication provides simultaneous check of line voltage and power.
Shows faulty power line wiring as well as proper functioning of the appliance under test.
Simple operation by means of only one toggle switch to change watts range.
Double range on Watts meter permits one unit to serve from a 5-tube radio to the largest TV set.

**RANGES**

**Watts: DC-AC:** 0-500-1,000.
**Volts: DC-AC:** 0-150.
**CASE**—Black molded, 2½" x 5½" x 6", insulated to protect instrument from ground. Removable black leather strap handle.
**MODEL 660**—U. S. A. Dealer Net ..... **$34.50**

**MODEL 661**

Designed for Radio and Low Wattage Appliances. Appearance and construction same as 660 with watt range 150-300.

**RANGES**

**Watts: DC-AC:** 0-150-300.
**Volts: DC-AC:** 0-150.
**MODEL 661**—U. S. A. Dealer Net ..... **$34.50**

### MODEL 2002 — APPLIANCE TESTER

For installations and servicing.
Shows power consumption of industrial equipment, radios, electric ranges, refrigerators, washers and other household appliances under actual operating conditions, on either DC or AC between 25 and 133 cycles.
A Wattmeter on the left and a Voltmeter on the right permit Watts and Volts to be read simultaneously or independently.
Shows if voltage remains within limits under operating loads.
Current coils assure ample capacity for momentary tests on motor starting overloads.
Heavy inner construction assures ample current capacity for momentary tests on motor starting overloads.
Shows faulty power lines.

**RANGES**

**Watts:** DC-AC: 0-1,500-3,000.
**Volts:** DC-AC: 0-130-260.
**CASE**—Heavy leather and snap button cover and leather handle, 6½" x 4½" x 3¼". Storage space for leads furnished which include one cord to plug into wall socket, another with a socket to receive connections from appliances under test.
**MODEL 2002**—U. S. A. Dealer Net ..... **$44.50**

**MODEL 2000-B**

Same as Model 2002, but with Watt range 750-1,500.
**MODEL 2000-B**—U. S. A. Dealer Net ..... **$42.50**

### MODEL 3432-A — SIGNAL GENERATOR

Designed for new servicemen coming into the service field. One generator to align radio, television (monochrome and color).
Complete frequency coverage 160 KC to 110 MC fundamental with seven bands (220 MC harmonics).
R.F. circuits are double shielded with copper steel shields.
Large easily read etched aluminum dial.
Cathode follower output provides good stability by acting as a buffer to the oscillator.

The generator is provided with a 400 cycle audio frequency with variable control for 0-100 per cent modulation.

| | | | |
|---|---|---|---|
| Band A | 160-370 KC | Band E | 4.85-13 MC |
| B | 360-735 KC | F | 12.5-35 MC |
| C | 715-1875 KC | G | 34-110 MC |
| D | 1825-4950 KC | G (Harmonics) | 68-220 MC |

**CASE**—Metal with black baked enamel suede finish, 15 11/32" x 11 1/32" x 6¾". Black leather strap handle, rubber feet.
**MODEL 3432-A**—U. S. A. Dealer Net ..... **$99.50**

### NEW TRIPLETT UNIMETERS

An innovation in self-service meters these Select Your-Range Unimeters consist of two basic meter movements, which can be combined with any one of a number of separate dial-component units for a wide variety of meter ranges. The basic meter movements and the Dial-Component units lock together simply; no soldering, no wiring, no opening of the dust-proof movement is required.

Two basic movements give a complete line of DC Voltmeters, Millivoltmeters, Microammeters, Milliammeters, Ammeters, Rectifier types for AC Volts. Both DC movements are the exclusive Triplett Bar-Ring self-shielded type.

Unimeter Kit A which makes 8 meters consists of one basic movement (0-1 DC-MA) and 8 dial-components and sells for **$29.50.**

Unimeter Kit B consists of two basic movements (0-1 DC-MA) and 12 dial-components and makes 12 meters.

Unimeter Kit B is priced at **$49.50.**

Unimeter Kit C consists of 4 basic movements (3 0-1 DC-MA and 1 0-50 DC-Ua) and 23 dial-components and makes 23 meters. Unimeter Kit C is priced at **$99.50.**

Also available as separate standard individual units as follows:

#### BASIC MOVEMENTS

**Model 327**—U 0-1 DC Milliammeter (50 MV) ..... **$11.00**
**Model 327**—U 0-50 DC Microammeter (250 MV) ..... **$15.90**

#### DIAL-COMPONENT UNITS

U.S.A. Dealer Net Price Each Unit ..... **$2.50**

| DC-MA | DC-VM 1000 o/v Film Type | DC-AM | AC-VM Rectifier Type* | DC-UA |
|---|---|---|---|---|
| 0-1 | 0-10 | 0-1 | 0-10 | 0-50 |
| 0-5 | 0-25 | 0-5 | 0-150 | 0-100 |

| DC-MA | DC-VM 1000 o/v Film Type | DC-AM | AC-VM Rectifier Type* | DC-UA |
|---|---|---|---|---|
| 0-10 | 0-50 | 0-10 | 0-300 | 0-200 |
| 0-15 | 0-150 | 0-15 | | 0-500 |
| 0-25 | 0-300 | 0-25 | | |
| 0-50 | 0-500 | 0-50 | | |
| 0-100 | | | | |
| 0-150 | | | | |
| 0-200 | | | | |
| 0-250 | | | | |
| 0-300 | | | | |
| 0-500 | | | | |

*500 o/v

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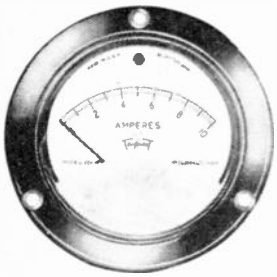
World Radio History

# TRIPLETT INSTRUMENTS




## RUGGEDIZED INSTRUMENTS

A complete line of 2½" and 3½" ruggedized and sealed instruments designed to meet government specification MIL-M-10304A.

Triplett ruggedized instruments employ the unique and exclusive bar-ring construction so well adapted to ruggedization, that the addition of spring loaded jewels and an internal rubber mount (both designed for jewel protection) constitute the essential difference between the commercial and ruggedized movements.

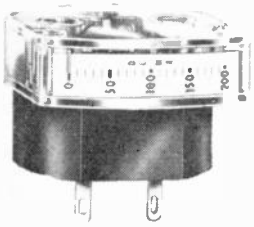
The bar-ring construction is inherently self-shielding so that the heavy steel case does not affect instrument calibration nor does mounting in a steel panel of any thickness.

The unusually strong housing consists of a drawn steel case with heavy die cast window bezel. The bezel seals the window to the case with a simple gasket and screws. A tough plastic window is used instead of glass.

Husky gasket-sealed studs are used for electrical connections to provide additional protection over delicate glass sealed types.

Most catalog ranges of DC, MV, Volts, Mic, Ma, Amp and AC rectifier type can be supplied. Regular dials in accordance with MIL-M-10304A are supplied although special dials of all descriptions can be made up for special applications.

## MINIATURE EDGEWISE PANEL METERS



If space on your panel is at a premium here is a miniature meter that will fit into even the most restricted area—yet give you the readability, performance and reliability you expect from the conventional 2½" sizes.

Weighing only four ounces this meter also is of value to the user who has a weight limitation factor on his hands.

**Accuracy**—D.C. 2% of full scale; A.C. Rectifier type 5% of full scale.

**Self-Shielded Bar-Ring Magnet**—Not affected by magnetic panels. High torque, exceedingly rugged and accurate.

**Mounting**—Horizontal, zero at left and barrel down is standard.

**Vertical mounting or other special adaptations in quantity orders.**

**Panel Hole Required**—Only 9/16" x 1-11/16".

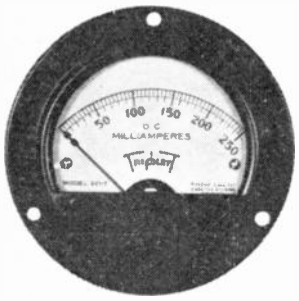
| DC-MA | Dealer Net |
|---|---|
| 0-1 | $10.10 |
| 0-10 | 10.10 |
| 0-25 | 10.80 |
| 0-50 | 10.80 |
| 0-100 | 10.80 |
| 0-150 | 10.80 |
| 0-200 | 10.80 |
| 0-300 | 10.80 |
| 0-500 | 10.80 |
| **DC-VM** | |
| 0-10 | $11.20 |
| 0-50 | 11.20 |
| 0-150 | 11.20 |

| | Dealer Net |
|---|---|
| **DC-UA** | |
| 0-50 | $15.10 |
| 0-100 | 13.50 |
| 0-200 | 11.60 |
| **DC-AM** | |
| 0-10 | $11.20 |
| **AC-VM (Rect. Type)** | |
| 0-150 | $16.10 |
| 0-300 | 17.10 |
| **VU Meters** | |
| A or B Scales | $19.90 |

## D.C. MILLIVOLTMETERS

| Range | Approx. Res. | Scale Div. | 2" Models 221-T 227-T | 2" Models 221-PL 227-PL | 3" Models 321-T 327-T | 3" Models 321-PL 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|---|---|
| 0-50 | 6.3 | 50 | $9.90 | $10.40 | $10.50 | $11.00 | $11.60 | $11.60 | $13.60 |
| 0-100 | 12.5 | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-150 | 20 (30) | 75 | 9.90 | | 10.50 | | 11.60 | | 13.80 |

## D.C. VOLTMETERS — (1000 Ohms Per Volt — Film Type Resistors)




| Range | 2" Models 221-T 227-T | 2" Models 221-PL 227-PL | 3" Models 321-T 327-T | 3" Models 321-PL 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|
| 0-10 | $10.70 | $11.20 | $11.20 | $11.70 | $12.30 | $12.30 | $14.50 |
| 0-25 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-50 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-100 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-150 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-200 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-250 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-300 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-500 | 11.20* | 11.70* | 11.80 | 12.30 | 12.90 | 12.90 | 15.10 |
| 0-750 | 11.20* | 11.70* | 11.80 | 12.30 | 12.90 | 12.90 | 15.10 |
| 0-1000* | 13.30 | 13.80 | 13.90 | 14.40 | 15.00 | 15.00 | 17.20 |
| 0-2000* | 13.30 | 13.80 | 13.90 | 14.40 | 15.00 | 15.00 | 17.20 |
| 0-3000* | 13.30 | 13.80 | 13.90 | 14.40 | 15.00 | 15.00 | 17.20 |
| 0-4000* | 13.30 | 13.80 | 13.90 | 14.40 | 15.00 | 15.00 | 17.20 |
| 0-5000* | 13.30 | 13.80 | 13.90 | 14.40 | 15.00 | 15.00 | 17.20 |

* Supplied with external resistors

## D.C. VOLTMETERS — 1000 Ohms Per Volt (Wirewound)

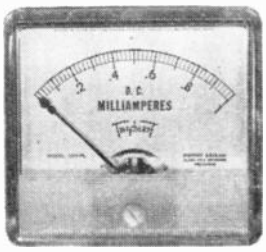
| Range | Scale Div. | 2" Models 221-T 227-T | 2" Models 221-PL 227-PL | 3" Models 321-T 327-T | 3" Models 321-PL 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|---|
| 0-1 | 50 | $10.70 | $11.20 | $11.20 | $11.70 | $12.30 | $12.30 | $14.50 |
| 0-3 | (30) 60 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-5 | 50 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-10 | 50 | 10.70 | 11.20 | 11.20 | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-25 | 50 | 13.10 | 13.60 | 13.60 | 14.10 | 14.70 | 14.70 | 16.90 |
| 0-50 | 50 | 13.10 | 13.60 | 13.60 | 14.10 | 14.70 | 14.70 | 16.90 |
| 0-100 | 50 | 13.60 | 14.10 | 14.20 | 14.70 | 15.30 | 15.30 | 17.50 |
| 0-150 | (30) 75 | 13.60 | 14.10 | 14.20 | 14.70 | 15.30 | 15.30 | 17.50 |
| 0-300 | (30) 60 | 16 60 | 17.10 | 17.20 | 17.70 | 18.30 | 18.30 | 20.50 |
| 0-500 | 50 | 18.60* | 19.10 | 19.10 | 19.60 | 20.20 | 20.20 | 22.40 |
| 0-750 | (30) 75 | 21.30* | 21.80 | 21.90 | 22.40 | 23.00 | 23.00 | 25.20 |
| | | The following supplied with external resistor boxes at prices shown. | | | | | | |
| 0-1000 | 50 | 37.50 | 38.00 | 38.10 | 38.60 | 39.20 | 39.20 | 41.40 |
| 0-2000 | 40 | 61.50 | 62.00 | 62 00 | 62.50 | 63.10 | 63.10 | 65.30 |

* Supplied with external resistors. Scale divisions for 2" models in parenthesis.

## D.C. MICROAMMETERS

| Range | Approx. Res. | Scale Div. | 2" Models 221-T 227-T | 2" Models 221-PL 227-PL | 3" Models 321-T 327-T | 3" Models 321-PL 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|---|---|
| 0-20 | 3000 | 40 | $17.60 | $18.10 | $18.20 | $18.70 | $19.30 | $19.30 | |
| 0-50 | 1510 | 50 | 14.90 | 15.40 | 15.40 | 15.90 | 16.50 | 16.50 | $18.70* |
| 0-100 | 825 | 50 | 13.00 | 13.50 | 13.50 | 14.00 | 14.60 | 14.60 | 16.80* |
| 0-200 | 360 | 40 | 11.10 | 11.60 | 11.70 | 12.20 | 12.80 | 12.80 | 15.00 |
| 0-500 | 156 | 50 | 10.60 | 11.10 | 11.10 | 11.60 | 12.20 | 12.20 | 14.40 |
| 50-0-50 | 825 | | 13.00 | 13.50 | 13.50 | 14.00 | 14.60 | 14.60 | |
| 100-0-100 | 360 | | 11.10 | 11.60 | 11.70 | 12.20 | 12.80 | 12.80 | |
| 500-0-500 | 55 | | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | |

* Supplied only with knife-edge pointers.



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# INSTRUMENTS

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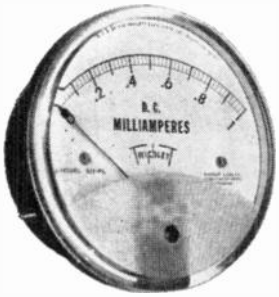



Models 221-PL, 231-PL, 321-PL, 331-PL, 341-PL

## D.C. MILLIAMMETERS

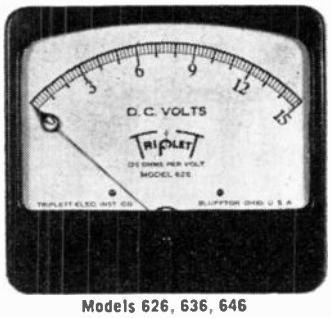
| Range | Approx. Res. | | Scale Div. | 2" Models 221-T 227-T | 2" Models 221-PL 227-PL | 3" Models 321-T 327-T | 3" Models 321-PL 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1 | 55 | | 50 | S$ 9.90S | S$10.40S | S$10.50S | S$11.00S | S$11.60 | S$11.60 | $13.80 |
| 0-1.5 | 30 | **(30) | 75 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-3 | 14 | **(30) | 60 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-5 | 8.5 | | 50 | S 9.90 | 10.40 | 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-10 | 3.1 | | 50 | 9.90S | 10.40 | S 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-15 | 6.6 | | 75 | 9.90 | 10.40 | 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-25 | 4 | | 50 | 10.30S | 10.80 | 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-50 | 2 | | 50 | 10.30S | 10.80 | S 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-75 | 1.3 | **(30) | 75 | 10.30 | 10.80 | 10.90 | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-100 | 1 | | 50 | S 10.30S | 10.80 | S 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-150 | 0.6 | **(30) | 75 | S 10.30S | 10.80 | 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-200 | 0.5 | | 40 | 10.30S | 10.80 | S 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-250 | 0.4 | | 50 | 10.30 | 10.80 | 10.90 | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-300 | 0.33 | **(30) | 60 | 10.30S | 10.80 | 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-400 | 0.25 | | 40 | 10.30 | 10.80 | 10.90 | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-500 | 0.2 | | 50 | S 10.30S | 10.80S | S 10.90S | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-750 | 0.13 | **(30) | 75 | 10.30 | 10.80 | 10.90 | 11.40 | 12.00 | 12.00 | 14.20 |
| 0-1000 | 0.1 | | 50 | 10.30 | 10.80 | 10.90 | 11.40 | 12.00 | 12.00 | 14.20 |
| 500-0-500 (Galv.) | 55 | | 50-0-50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |

Ranges above 10 Milliamperes are shunted and have a drop of approximately 100 millivolts. Special resistance may be obtained to order. Double-range Milliammeters available on special order. Prices on request.

## D.C. AMMETERS

| Range | | Scale Div. | 2" Models 221-T, 227-T | 2" Models 221-PL, 227-PL | 3" Models 321-T, 327-T | 3" Models 321-PL, 327-PL | 4" Model 420 | 4" Model 420-PL | 6" Model 626 |
|---|---|---|---|---|---|---|---|---|---|
| 0-1 | | 50 | $ 9.90 | $10.40 | S $10.50S | $11.00 | $11.60 | $11.60 | $13.80 |
| 0-3 | **(30) | 60 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-5 | | 50 | 10.70 | 11.20 | S 11.20S | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-10 | | 50 | 10.70S | 11.20 | S 11.20S | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-15 | **(30) | 75 | 10.70 | 11.20 | 11.20S | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-25 | | 50 | 10.70 | 11.20 | 11.20S | 11.70 | 12.30 | 12.30 | 14.50 |
| 0-30 | **(30) | 60 | 10.70 | 11.20 | 221-PL 11.20 | 11.70 | 321-PL 12.30 | | 14.50 |
| 0-50 | | 50 | 10.70 | 11.20 | only S 11.20S | 11.70 | only 12.30 | | 14.50 |

D.C. Ammeters are self-contained up to and including 50 Amperes. Shunts 75 Amperes (50 M.V.) and higher are switchboard type with 5 ft. leads.




Models 626, 636, 646

## A.C. VOLTMETERS

| Range | Approx. Ohms/Volt | | Scale Div. | 2" Models 231-S, 237-S | 2" Models 231-PL, 237-PL | 3" Models 331-S, 337-S | 3" Models 331-PL, 337-PL | 4" Model 430 | 4" Model 430-PL | 6" Model 636 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1.5 | 1.33 | **(30) | 75 | $ 9.90 | $10.40 | $10.50 | $11.00 | $11.60 | $11.60 | $13.80 |
| 0-3 | 3.33 | **(30) | 60 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-5 | 4 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-10 | 10 | | 50 | 9.90 | 10.40 | 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-15 | 16 | **(30) | 75 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-25 | 20 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-50 | 50 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-100 | 91 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-150 | 125 | **(30) | 75 | S 10.90S | 11.40 | S 11.40S | S 11.90S | S 12.50 | S 12.50 | 14.70 |
| 0-250 | 144 | | 50 | 11.40 | 11.90 | 12.00 | 12.50 | S 13.10 | 13.10 | 15.30 |
| 0-300 | 144 | **(30) | 60 | 12.00 | 12.50 | S 12.50S | 13.00 | 13.60 | 13.60 | 15.80 |
| 0-500 | 125 | | 50 | 15.70† | 16.20† | 16.30† | 16.80† | 17.40† | 17.40† | 19.60† |
| 0-750 | 125 | **(30) | 75 | 16.30* | 16.80* | 16.80* | 17.30* | 17.90* | 17.90* | 20.10* |
| 0-1000 | 125 | | 50 | 16.80* | 17.30* | 17.40* | 17.90* | 18.50* | 18.50* | 20.70* |

These A.C. Voltmeters are for use on frequencies from 25 to 133 cycles. † Indicates instruments supplied with external wire-wound series resistors at price shown. * Supplied with external resistor boxes at prices shown above. All other instruments are self-contained. Double-range Voltmeters are available on special order. Prices on request.

## A.C. AMMETERS

| Range | Approx. Res. | | Scale Div. | 2" Models 231-S, 237-S | 2" Models 231-PL, 237-PL | 3" Models 331-S, 337-S | 3" Models 331-PL, 337-PL | 4" Model 430 | 4" Model 430-PL | 6" Model 636 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1 | .21 | | 50 | $9.90 | $10.40 | S$10.50S | $11.00 | $11.60 | $11.60 | $13.80 |
| 0-2 | .11 | | 40 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-3 | .02 | **(30) | 60 | 9.90 | 10.40 | 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-5 | .01 | | 50 | 9.90S | 10.40 | S 10.50S | 11.00 | S 11.60 | 11.60 | 13.80 |
| 0-10 | .005 | | 50 | 9.90S | 10.40 | S 10.50S | S 11.00 | 11.60 | 11.60 | 13.80 |
| 0-15 | .002 | **(30) | 75 | 9.90 | 10.40 | S 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-25 | .001 | | 50 | 9.90 | 10.40 | S 10.50S | 11.00 | S 11.60 | 11.60 | 13.80 |
| 0-30 | .011 | **(30) | 60 | 9.90 | 10.40 | S 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-50 | .0005 | | 50 | 9.90 | 10.40 | S 10.50S | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-75 | .0003 | | 74 | | | 12.10S | | 13.20 | | 15.40 |

For use on frequencies from 25 to 500 cycles. Instruments listed above are self-contained. For ranges above 75, (above 50 on 2" models) use current transformers, with 5 Amp. secondary (60-133 cycles). Add Do-Nut transformer price to price of 0-5 A.C. Ammeter shown above. Transformers: Primary Ampere Range 75, 100, 200, 250, 300, 400 Amp. $10.50 net each; 500, 600 Amp., $13.80 net each; 750, 1000 Amp. $19.30 net each, and 1200 Amp., $28.60 net each.

## A.C. MILLIAMMETERS

| Range | Approx. Res. | | Scale Div. | 2" Models 231-S, 237-S | 2" Models 231-PL, 237-PL | 3" Models 331-S, 337-S | 3" Models 331-PL, 327-PL | 4" Model 430 | 4" Model 430-PL | Model 636 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 2900 | | 50 | $ 9.90 | $10.40 | $10.50 | $11.00 | $11.60 | $11.60 | $13.80 |
| 0-15 | 1150 | **(30) | 75 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-25 | 344 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-50 | 82 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-100 | 21 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-200 | 6.7 | | 40 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-250 | 0.4 | | 50 | 9.90 | 10.40 | 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |
| 0-500 | 0.8 | | 50 | 9.90 | 10.40 | S 10.50 | 11.00 | 11.60 | 11.60 | 13.80 |

For use on frequencies from 25 to 500 cycles.

## THERMO AMMETERS (R. F.)

| Range | Approx. Res. | | Scale Div. | 2" Models 241-T, 247-T | 3" Models 341-T, 347-T | 3" Models 341-PL, 347-PL | 4" Model 440 | 4" Model 440-PL | 6" Model 646 |
|---|---|---|---|---|---|---|---|---|---|
| 0-.5 Amps | .93 | | 50 | $11.00 | $11.60 | $12.10 | $12.70 | $12.70 | $14.90 |
| 0-1 Amps | .35 | | 50 | 11.00 | 11.60 | 12.10 | 12.70 | 12.70 | 14.90 |
| 0-1.5 Amps | .21 | **(30) | 75 | 11.00 | 11.60S | 12.10 | 12.70 | 12.70 | 14.90 |
| 0-2.5 Amps | .13 | | 50 | 11.00 | 11.60 | 12.10 | 12.70 | 12.70 | 14.90 |
| 0-5 Amps | .06 | | 50 | 11.00 | 11.60 | 12.10 | 12.70 | 12.70 | 14.90 |
| 0-10 Amps | .03 | | 50 | 11.00 | 11.60 | 12.10 | 12.70 | 12.70 | 14.90 |

Internal couples are normally furnished at prices shown. If external couples are required, please specify on order, adding $5.50 net to price of instrument shown above. External couples only less meter, with leads, $6.60 net each. S — NORMALLY CARRIED IN STOCK

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World Radio History

# SUPERIOR TEST EQUIPMENT

*The New Model TD-55*

## TUBE TESTER

**For the Experimenter or Part-time Serviceman, who has delayed purchasing a higher priced Tube Tester.**
**For the Professional Serviceman, who needs an extra Tube Tester for outside calls.**
**For the Busy TV Service Organization, which needs extra Tube Testers for its field men.**

***Speedy, yet efficient operation is accomplished by:***

1. **Simplification of all switching and controls.**
2. **Elimination of old style sockets used for testing obsolete tubes (26, 27, 57, 59, etc.) and providing sockets and circuits for efficiently testing the new Noval and Sub-Minar types.**

**YOU CAN'T INSERT A TUBE IN WRONG SOCKET**
It is impossible to insert the tube in wrong socket when using the new Model TD-55. Separate sockets are used, one for each type of tube base.

**CHECKS FOR SHORTS AND LEAKAGES BETWEEN ALL ELEMENTS**
The Model TD-55 provides a super sensitive method of checking for shorts and leakages up to 5 Megohms between any and all of the terminals. Continuity between various sections is individually indicated.

**ELEMENTAL SWITCHES ARE NUMBERED IN STRICT ACCORDANCE WITH R.M.A. SPECIFICATION**
The 4 position fast-action snap switches are all numbered in exact accordance with the standard R.M.A. numbering system. Thus, if the element terminating in pin No. 7 of a tube is under test, button No. 7 is used for that test.

**"FREE-POINT" ELEMENT SWITCHING SYSTEM**
Any pin may be used as a filament pin and the voltage applied between that pin and any other pin, or even the "top cap."

Model TD-55 complete with operating instructions, charts and streamlined case. **$26.95 NET**

*The New Model TW-11*

## STANDARD PROFESSIONAL TUBE TESTER

- Tests all tubes, including 4, 5, 6, 7, Octal, Lock-in, Hearing Aid, Thyratron, Miniatures, Sub-miniatures, Novals, Sub-minars, Proximity fuse types, etc.
- Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base numbering system, the user can instantly identify which element is under test. Tubes having tapped filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TW-11 as any of the pins may be placed in the neutral position when necessary.
- The Model TW-11 does not use any combination type sockets. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket.
- Free-moving built-in roll chart provides complete data for all tubes. All tube listings printed in large easy-to-read type.
- **NOISE TEST:** Phono-jack on front panel for plugging in either phones or external amplifier will detect microphonic tubes or noise due to faulty elements and loose internal connections.

**EXTRAORDINARY FEATURE**

- **SEPARATE SCALE FOR LOW-CURRENT TUBES** — Previously, on emission type tube testers, it has been standard practice to use one scale for all tubes. As a result, the calibration for low-current types has been restricted to a small portion of the scale. The extra scale used here greatly simplifies testing of low-current types.

The Model TW-11 operates on 105-130 Volt 60 Cycles A.C. Comes housed in a beautiful hand-rubbed oak cabinet complete with portable cover. **$47.50 NET**

*The New Model TV-12*

## TRANS-CONDUCTANCE TUBE TESTER

ALSO TESTS TRANSISTORS

**TESTING TUBES**

- **Employs improved TRANS-CONDUCTANCE circuit.** An in-phase signal is impressed on the input section of a tube and the resultant plate current change is measured. This provides the most suitable method of simulating the manner in which tubes actually operate in Radio & TV receivers, amplifiers and other circuits. Amplification factor, plate resistance and cathode emission are all correlated in the meter reading.
- **NEW LINE VOLTAGE ADJUSTING SYSTEM.** A tapped transformer makes it possible to compensate for line voltage variations to a tolerance of better than 2%.
- **SAFETY BUTTON** — protects both the tube under test and the instrument meter against damage due to overload or other form of improper switching.
- **NEWLY DESIGNED FIVE POSITION LEVER SWITCH ASSEMBLY.** Permits application of separate voltages as required for both plate and grid of tube under test, resulting in improved Trans-Conductance circuit.

**TESTING TRANSISTORS**

A transistor can be safely and adequately tested only under dynamic conditions. The Model TV-12 will test all transistors in that approved manner, and quality is read directly on a special "transistor only" meter scale.
The Model TV-12 will accommodate all transistors including NPN's, PNP's, Photo and Terrodes, whether made of Germanium or Silicon, either point contact or junction contact types.

Model TV-12 housed in handsome rugged portable cabinet sells for only .. **$72.50 NET**

*The New Model 770-A* — The FIRST POCKET-Sized

## VOLT-OHM MILLIAMMETER

**USING THE NEW *"FULL-VIEW"* METER**

**71% MORE SCALE AREA!!**

Yes, although our new FULL-VIEW D'Arsonval type meter occupies exactly the same space used by the older standard 2½" Meters, it provides 71% more scale area. As a result, all calibrations are printed in large easy-to-read type and for the first time it is now possible to obtain measurements instead of approximations on a popular priced pocket-sized V.O.M.

**FEATURES:**

- Compact—measures 3¾" x 5⅞" x 2¼"
- Uses "Full View" 2% accurate, 850 Microampere D'Arsonval type meter
- Housed in round-cornered, molded case
- Beautiful black etched panel. Depressed letters filled with permanent white, insures long-life even with constant use.

**SPECIFICATIONS**

6 **A.C. VOLTAGE RANGES:** 0-15/30/-150/300/1500/3000 volts.
6 **D.C. VOLTAGE RANGES:** 0-7.5/15/-75/150/750/1500 volts.
2 **RESISTANCE RANGES:** 0-10,000 Ohms, 0-1 Megohm.
3 **D.C. CURRENT RANGES:** 0-15/150 Ma., 0-1.5 Amps.
3 **DECIBEL RANGES:** —6 db to + 18 bd. + 14 db to + 38 db. + 34 db to + 58 db

**$15.85 NET**

**The Model 770-A comes complete with self-contained batteries, test leads and all operating instructions.**

*Manufactured by*

# SUPERIOR INSTRUMENTS CO.

**NEW YORK 67, N. Y.**



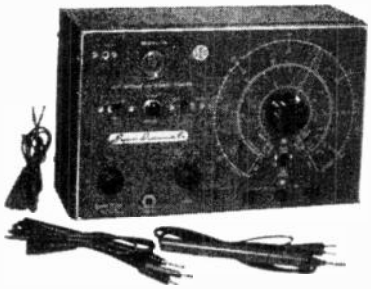
Net

*Copyright by U. C. P., Inc.*

World Radio History

# SUPERIOR TEST EQUIPMENT

*For the first time ever*
**ONE TESTER PROVIDES ALL THE SERVICES LISTED AT RIGHT**



The New Model 76

## ALL PURPOSE BRIDGE

**IT'S A CONDENSER BRIDGE** with a range of .00001 Microfarad to 1000 Microfarads (Measures power factor and leakage too.)

**IT'S A SIGNAL TRACER** which will enable you to trace the signal from antenna to speaker of all receivers and to finally pin-point the exact cause of trouble whether it be a part or circuit defect.

**IT'S A RESISTANCE BRIDGE** with a range of 100 ohms to 5 megohms.

**IT'S A TV ANTENNA TESTER.** The TV Antenna Tester section is used first to determine if a "break" exists in the TV antenna and if a break does exist the specific point (in feet from set) where it is.

SPECIFICATIONS

**CAPACITY BRIDGE SECTION**
4 Ranges: .00001 Microfarad to .005 Microfarad; .001 Microfarad to .5 Microfarad; .1 Microfarad to 50 Microfarads; 20 Microfarads to 1000 Microfarads. Will locate shorts, and leakages up to 20 megohms. Will measure the power factor of all condensers.

**TV ANTENNA TESTER SECTION**
Loss of sync., snow and instability are only a few of the faults which may be due to a break in the antenna, so why not check the TV antenna first? The Model 76 will enable you to locate a break in any TV antenna and if a break does exist, the Model 76 will measure the location of the break in feet from the set terminals.

**RESISTANCE BRIDGE SECTION**
2 Ranges: 100 ohms to 50,000 ohms; 10,000 ohms to 5 megohms.

**SIGNAL TRACER SECTION**
With the use of the R.F. and A.F. Probes included with the Model 76, you can make stage gain measurements, locate signal loss in R.F. and Audio stages, localize faulty stages, locate distortion and hum, etc. Provision has been made for use of phones and meter if desired.

Model 76 comes complete with all accessories including R.F. and A.F. Probes; Test Leads and operating instructions. Nothing else to buy. **$26.95 NET**

---

The New Model 77

## VACUUM TUBE VOLTMETER

### *WITH NEW 6" FULL-VIEW METER*

**Compare it to any peak-to-peak V.T.V.M. made by any other manufacturer at any price!**

- Model 77 completely wired and calibrated with accessories (including probe, test leads and portable carrying case) sells for only $42.50.
- Model 77 employs a sensitive six inch meter. Extra large meter scale enables us to print all calibrations in large easy-to-read type.
- Model 77 uses new improved SICO printed circuitry.
- Model 77 employs a 12AU7 as D.C. amplifier and two 9006's as peak-to-peak voltage rectifiers to assure maximum stability.

**AS A DC VOLTMETER:** The Model 77 is indispensable in Hi-Fi Amplifier servicing and a must for Black and White and color TV Receiver servicing where circuit loading cannot be tolerated.

**AS AN AC VOLTMETER:** Measures RMS values if sine wave, and peak-to-peak value if complex wave. Pedestal voltages that determine the "black" level in TV receivers are easily read.

**AS AN ELECTRONIC OHMMETER:** Because of its wide range of measurement leaky capacitors show up glaringly. Because of its sensitivity and low loading, intermittents are easily found, isolated and repaired.

- Model 77 uses a selenium-rectified power supply resulting in less heat and thus reducing possibility of damage or value changes of delicate components.
- Model 77 meter is virtually burn-out proof. The sensitive 400 microampere meter is isolated from the measuring circuit by a balanced push-pull amplifier.
- Model 77 uses selected 1% zero temperature coefficient resistors as multipliers. This assures unchanging accurate readings on all ranges.

**SPECIFICATIONS**

• **DC VOLTS**—0 to 3/15/75/150/300/750/1,500 volts at 11 megohms input resistance. • **AC VOLTS (RMS)** — 0 to 3/15/75/150/300/750/1,500 volts • **AC VOLTS** (Peak to Peak) — 0 to 8/40/200/400/800/2,000 volts. • **ELECTRONIC OHMMETER** — 0 to 1,000 ohms/10,000 ohms/100,000 ohms/1 megohm/10 megohms/100 megohms/1,000 megohms. • **DECIBELS** —10 db to + 18 db, + 10 db to + 38 db, + 30 db to + 58 db. All based on 0 db = .006 watts (6 mw) into a 500 ohm line (1.73v). • **ZERO CENTER METER** — For discriminator alignment with full scale range of 0 to 1.5/7.5/37.5/75/150/375/750 volts at 11 megohms input resistance.

Model 77 comes complete with operating instructions, probe and test leads. Use it on the bench — use it on calls. A streamlined carrying case, included at no extra charge, accommodates the tester, instruction book, probe and leads. Operates on 110-120 volt 60 cycle. Only ..... **$42.50 NET**

---

**The Most Versatile All-Purpose Multi-Range Tester Ever Designed!**

The New Model 79

## SUPER-METER

### *WITH NEW 6" FULL-VIEW METER*

***A Combination* VOLT-OHM MILLIAMMETER.**
***Plus* CAPACITY, REACTANCE, INDUCTANCE AND DECIBEL MEASUREMENTS.**
***Also Tests* SELENIUM AND SILICON RECTIFIERS, SILICON AND GERMANIUM DIODES**

SPECIFICATIONS

- **D.C. VOLTS:** 0 to 7.5/15/75/150/750/1,500.
- **A.C. VOLTS:** 0 to 15/30/150/300/1,500/3,000.
- **D.C. CURRENT:** 0 to 1.5/15/150 Ma. 0 to 1.5/15 Amperes.
- **RESISTANCE:** 0 to 1,000/100,000 Ohms. 0 to 10 Megohms.
- **CAPACITY:** .001 to 1 Mfd. 1 to 50 Mfd.
- **REACTANCE:** 50 to 2,500 Ohms. 2,500 Ohms to 2.5 Megohms.
- **INDUCTANCE:** .15 to 7 Henries. 7 to 7,000 Henries.
- **DECIBELS:** —6 to +18, +14 to +38, +34 to +58.

The following components are all tested for QUALITY at appropriate test potentials. Two separate BAD-GOOD scales on the meter are used for direct readings.

- **All Electrolytic Condensers from 1 MFD to 1000 MFD.**
- **All Selenium Rectifiers.**
- **All Silicon Rectifiers.**
- **All Germanium Diodes.**
- **All Silicon Diodes.**

Model 79 comes complete with operating instructions and test leads. Use it on the bench—use it on calls. A streamlined carrying case included at no extra charge accommodates the tester, instruction book and test leads ..... Only **$38.50 NET**



World Radio History

# *Instruments* IN KIT & WIRED FORM . . . precise above all else

## • NEW PRECISE MODEL 111 Mutual Conductance and Emission Tube Tester

USED BY U. S. BUREAU OF STANDARDS

111K kit form $79.95

111W factory wired $139.95

Incl. Carrying Case & Cover

INDEPENDENT SCIENTIFIC SURVEY AND LAB TESTS PROVE PRECISE MODEL 111 "BEST COMMERCIAL TUBE TESTER AT ANY PRICE."

ENGINEERING DESIGN CONSIDERATION: To understand the Model 111 Mutual Conductance and Emission Tube Tester, it is perhaps best to spend a moment with the original design considerations. Basically we recognize the fact that:

1. A GM or Emission type tube tester actually read a goodly percentage of tube troubles—BUT each alone missed a great many. We could not say with any degree of assurance which type of tube test was the best. Certain applications required GM, while others required Emission. PRECISE Solution: The Model 111 checks Gm and Emission separately. It indicates on the roll chart the most important single test for normal applications. It is, of course, desirable to make both tests.
2. In series T.V. filament arrangements, which are daily enjoying greater popularity, the "Voltage Sapper" (a tube which developed too much filament voltage as compared to the other tubes) was a constant trouble. PRECISE Solution: The Model 111 allows the filament current to be measured directly on the meter.
3. A whole series of different test voltages (sweeping from zero voltage up) was required. PRECISE Solution: The Model 111 sweeps from 0 through the normal testing range when making measurements. This gives an average evaluation for the tube over an extended range of operation.
4. Short tests usually require elaborate switch manipulation. PRECISE Solution: The Model 111 uses a single rotary switch which checks each element against every other element. No conversion chart is required to ascertain which pins are shorted. This test may be made at any time hot or cold without changing any other switches.
5. The instrument would have to be rugged to stand the "trunk of a car" type of abuse. PRECISE Solution: In the Model 111 a heavy wooden cabinet houses the entire unit. The panel is deeply etched aluminum.
6. Tube Bias, being an important consideration, should actually be measured on the meter. PRECISE Solution: The Model 111 measures tube bias directly on the indicating meter.
7. The instrument should be simple to operate. PRECISE Solution: The Model 111 uses a no-blacklash roll chart, and a sectionalized design setting off each section.
8. There should be a provision for new tubes. PRECISE Solution: The Model 111 is one of the simplest type tube testers to set up for new tubes. The pin connections and function positions may be taken directly from the tube manual. The instrument already includes provisions for testing many color tubes.
9. It should check all modern tubes. PRECISE Solution: The Model 111 is provided with sockets for testing the following type bases. Large 4 prong, large 5 prong, large 6 prong, large 7 prong, medium 7 prong, miniature 7 prong, in-line 7 prong (sub-miniature), Octal, Noval, sub-miniature 8 prong, CRT and Loctals. Weight 24 lbs. Size 14" x 16" x 6".
10. The instrument should check Cathode Ray Tubes. PRECISE Solution: The Model 111 also checks cathode ray tubes with CRT adaptor. Model PTA-K $2.95, PTA-W $4.25.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## TEST 5 TUBES in 4 SECONDS each . . . ACCURATELY

## • NEW PRECISE MODEL 116

### Em & Gm ULTRAFAST TUBE & TRANSISTOR TESTER

Servicemen know the Precise Model 111 (the winner in an independent survey) easily rates "the finest tube tester in the field" at any price. BUT FOR AN ON THE JOB QUICK-TEST . . . the fastest, most accurate is the PRECISE Model 116. What's more you test tubes the foolproof method inherent in the famous Precise Model 111.

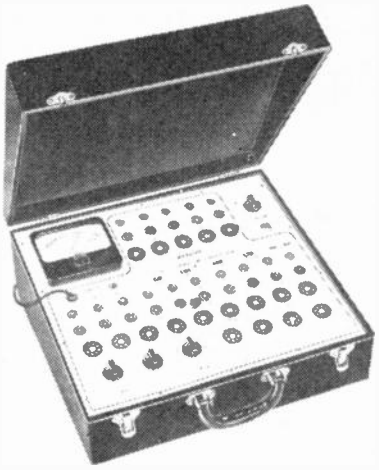
Did you ever wish you could plug in 5 of the same type tubes at once and check each one individually by rotating a switch? YOU CAN WITH THE PRECISE MODEL 116—Plug in 5 IF tubes and let them heat up at once and then check each one separately by rotating the TUBE BANK switch. ACTUALLY CHECK 5 TUBES IN 20 SECONDS, 4 SECONDS PER TUBE.

The Precise Model 111 taught the lesson that IF amplifier tubes (like the 6BC5 or 6AU6) should be tested for GM (mutual transconductance) while the power amplifiers (like the 6L6) should be tested for Em (emission). The Model 116 test checks each section of each tube separately . . . by rotating the FUNCTION SWITCH . . . each triode of a dual triode is checked individually . . . each diode and the triode of a duo-diode-triode is separately tested and not lumped as in other testers . . . and a pentode is tested as a pentode—not a diode. TRANSISTORS, SHORTS, GAS, LIFE, Em Gm etcetera can be tested with the PRECISE Model 116.

You can inexpensively extend the Precise Model 116 to test filament current, etc. The Model 116 gives an accurate, ultra-fast (3 basic knobs for testing) check of television tubes!

No Surplus—An etched panel—beautiful Moleskin covered wood carrying case and cover and specially simplified instructions makes the PRECISE MODEL 116 THE FINEST FAST-CHECK TUBE TESTER AND DOLLAR EARNING TRAVELING COMPANION A TV SERVICEMAN EVER HAD.

PTA-K (Picture tube adapter).....$2.95 PTA-W (Wired).....$4.25



MODEL 116K in kit form..... $69.95

MODEL 116W factory wired $119.95

Incl. Carrying Case & Cover

Prices Slightly Higher in the West — Prices and Specifications Subject to Change Without Notice on All PRECISE Equipment.

# PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.



World Radio History

# *Instruments* IN KIT & WIRED FORM . . . precise above all else

## THE FIRST AND STILL TOP COLOR SCOPE BELOW $1000

## *NEW AMAZING* PRECISE MODEL #300 COLOR OSCILLOSCOPE

The Oscilloscope you've been seeking. . . . No other oscilloscope at any price — high or low — with these desirable features —in both Kit and Wired Form:

SPECIFICATIONS: PRECISE MODEL 300 OSCILLOSCOPE —

VERTICAL: Vertical-flat (3db) DC through 5 megacycles with sensitivity of greater than 10 millivolts push-pull (3.94 Millivolts/cm); Constant Resistance; Push-pull input immediately converted to single-ended normal or reverse phase by shorting bar at inputs 1 and 2; Frequency compensated vertical stepping attenuator selects AC or DC inputs; Push-pull DC amplifiers from input through output; Internal electronic mixing through inputs 1 and 2; five-way binding posts.

POSITIONING: Bridge type positioning on vertical and horizontal does not vary tube characteristics.

HORIZONTAL: Frequency compensated stepping attenuator in horizontal amplifier; Push-pull Horizontal out.

BLANKING: Internal (return trace blanked), external (return trace not blanked), 60 cycle or 120 cycle Blanking through Blanking amplifier circuit.

SYNCHRONIZATION: External, Internal Positive, Internal Negative, Internal 60 cycle or Internal 120 cycle synchronization.

SWEEP RATE: Driven or non-driven linear sweeps from 1 cycle to 80KC in five ranges (1-10 cycles uses external C circuit); Trigger potentiometer.

MAGNIFIER: Electronic magnifier and magnifier positioner allow any part of a signal to be magnified up to ten times (equivalent to 70 inches of horizontal deflection).

CALIBRATION: Internal square wave calibrator and potentiometer for using oscilloscope as a VTVM on Peak to Peak measurements.

CALIBRATION SCREEN: Edge-illuminated scale and graticule may be turned on or off; filtered screen.

OUTPUTS ON FRONT PANEL: Plus Gate output; Sawtooth output; 60 cycle phasing output; 60 cycle unphased output; Calibration output.

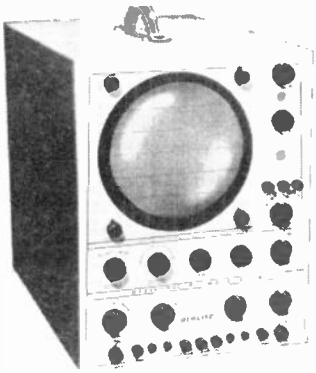
FOCUSING: Astigmatism, focus and intensity control.

CRT: NEW 7" Tube, normally supplied is medium persistency type 7VP1, or 7JP1 may also be used (oscilloscope green trace) — high persistency types available at additional cost.

DIRECT: Deflection plates available from rear of cabinet.

INTENSITY MODULATION: Z modulation through modulation amplifier.

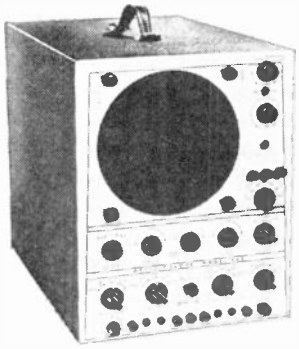
GENERAL: Low loss components; Over-designed fused power supply for additional circuitry; Deeply etched aluminum panel. New parts from original manufacturers — (NO SURPLUS); Steel cabinet; 11" x 14" x 17"; complete with instruction book and all components; Accessories; Model 912T (MM) Demodulator Probe and Model 960 Capacity Attenuator Probe available at extra cost — please see specifications on following panes. There are many additional features and circuits in kit form, which may be added to the Model 300. Please write us for descriptive literature.



300K ..... kit form $99.95

300W ..... factory wired $199.50

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★



## • NEW PRECISE 8½" COLOR OSCILLOSCOPE MODEL 308

### USED BY COLOR MANUFACTURERS ALL OVER THE COUNTRY

An oscilloscope unique in the industry . . . THE ONLY 8½" scope on the commercial market . . . All the general specifications of the time proven PRECISE Model #300; plus over 85 sq. inches of viewing space provided by its NEW 8½" tube; ANODE INTENSIFIER; FREQUENCY SYNCHRONIZATION CONTROL TO ELIMINATE HORIZONTAL JITTERS (this and other features not found in other scopes at many times the cost) PLUS VOLTAGE REGULATION.

Weight.....35 lbs. Size.....11" x 14" x 19"

308K..... kit form $129.50

308W..... factory wired $229.50

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## • NEW PRECISE MODEL #315 5" OSCILLOSCOPE

The PRECISE Model 315 is a best buy as a low cost, high quality oscilloscope for general radio and TV applications. It features such innovations as frequency compensated vertical and horizontal attenuators along with identical vertical and horizontal amplifiers.

The Model 315 is rugged and simple to build. It uses a 5CP1 type tube with a post accelerator. Both the horizontal and vertical sections are cathode-follower input type and are AC coupled.

The instrument is housed in a grey steel cabinet. Attractive brushed aluminum with black lettering and a bezel comprise the front panel.

SPECIFICATIONS:

VERTICAL — The vertical amplifiers are within ±6db through 500KC. Single ended, AC coupled, cathode follower, frequency compensated stepping attenuator input. Basic sensitivity is approximately 250 millivolts per inch. Outputs are push-pull.

HORIZONTAL — The same general specifications as the vertical amplifier.

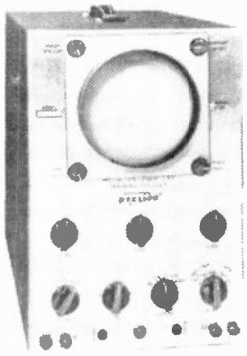
SYNCHRONIZATION — External, internal.

SWEEP RATE — From approximately 10 cycles to 100 KC. Hard vacuum type sweep circuit.

CALIBRATION — 6.3 volts sine wave.

FOCUSING — Focus, intensity and astigmatism controls. The astigmatism control is available from the rear. A standby switch is used to turn off CRT filaments when not in use.

As you know Precise does not use, nor advocate, surplus parts — especially in a kit. In accordance with this policy (although a cathode ray tube is supplied with each Model 315 as a convenience, at no charge) we are officially listing this instrument without CRT. The CRT supplied, free of charge, is new, guaranteed for 1 year, has never been used and was purchased from the Government in its original unopened carton. If a new tube, not Government, is desired it is available at an additional charge of $14.00.



The Model 315K ..... $49.95

The Model 315 Wired ... $84.95

# PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.



World Radio History

# *Instruments* IN KIT & WIRED FORM . . . precise above all else

## THE VERY LATEST PRECISE 'SCOPE FOR COLOR . . . MODEL 3151

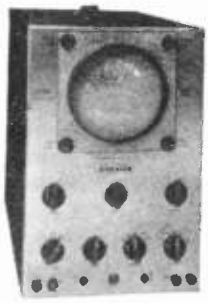
It's hard to believe, but here is an oscilloscope that goes up beyond nine megacycles and is flat through five megacycles. It not only takes color in its stride, but is ready for the new advances still on the drafting boards. There is truly no other 'scope below $100.00 that can meet all its specifications. There are no short cuts in the laboratory type service scope—Push-Pull vertical and horizontal—High sensitivity—5CP1 tube with post acceleration—Frequency compensated Stepping Attenuators for both Vertical and Horizontal—Focus, Intensity and Astigmatism controls—Calibration output voltage.

**VERTICAL**—The Vertical Amplifiers are flat through 5 mc and ± 8 db through 9 mc. The sensitivity is 10 millivolts per cm. Frequency compensated Stepping Attenuators in input. The output is push-pull pentodes.

**HORIZONTAL**—The Horizontal Amplifiers are within ± 6 db through 500 kc, Push-Pull output. Frequency Compensated Stepping Attenuator input and cathode follower assures linear horizontal trace. Hard vacuum sweep frequencies with sufficient expansion to see color bursts clearly. Horizontal Sensitivity is approximately 40 millivolts per cm.

**FOCUSING**—Focus, Intensity and Astigmatism controls.
Brushed Aluminum Panel; Heavy Steel Cabinet, 13¾" x 8¾" x 18½".

UP to 9 mc FLAT to 5 mc



3151K.....kit form **$59.95**
3151W.....factory wired $109.95

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## • NEW PRECISE MODEL 9071
### Voltage Regulated VTVM

Special 7½" meter • 1% CERAMIC PRECISION RESISTORS • FM zero alignment scale • Coax DC connector • Burn-out proof circuit • DC input 25 Meg • Power transformer operated (no selenium rectifier used) • 4 tube circuit • Compact design • Size: 8½" x 12" x 5".

9071K..... kit form $35.95 • 9071W..... factory wired **$49.95**

Same ranges as Model 909

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## • PRECISE MODEL 909 Vacuum Tube Voltmeter

**WHAT BETTER WAY TO BUY THAN BY MAKING A COMPARISON!**
Ceramic precision resistors—1% OR BETTER; deeply etched panel; steel cabinet; Amphenol type DC connector.

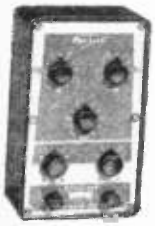
**FREQUENCY RANGE:** Up to 250 megacycles with PRECISE 912 Probe (available at additional cost).
**VOLTAGE RANGE:** Up to 30,000 V. with PRECISE 999 High Voltage Probe (available at additional cost).
**FM & TV:** Special true zero alignment scale for FM & TV discriminators; Burn-out proof circuit; 25 Megohm input impedance on DC; complete with test leads and internal battery; oversize 4½" meter; 105-120V., 50-60 cycles, AC; wt.: 10 lbs.; 10" x 7" x 5".

**RANGES:** +DC: 0-5-25-250-500-1000 Volts: —DC: 0-5-25-250-500-1000 Volts: AC: 0-5-25-250-500-1000 Volts
Ohms: Rx1-Rx10-Rx1000-Rx10,000-Rx1,000,000 ohms; from .2 Ohms to 1 Billion Ohms; DB: From —20 to +55 DB.

909K..... **$25.98** • Factory Wired..... **$37.50**

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## • PRECISE NEW MODEL 468
### Resistance Decade Box



3¾"x6¼"x2"

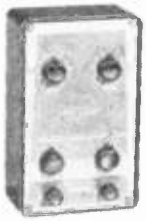
PRECISE AGAIN LEADS THE FIELD with its New Low-Priced Resistance Decade Box. Compact in size for Bench Drawers and Tool Boxes.

5 Separate Switches, 11 Positions on Each; plus or minus 1%. Readings from 10 OHM to 1,111,110 OHM in 5 Decades. 1% Dep. Carbon Non Ind. above 10 OHM. Binding Posts permit quick substitution of equivalent Resistors indicated on Selector Panel. Deeply etched Aluminum Panel; Rugged Construction; Complete with Simplified Construction Manual.

468K..... kit form **$18.95**
468W..... factory wired $24.95

## • PRECISE MODEL 478
### Newest Capacity Decade Box

PUTS 10,000 CAPACITORS IN YOUR POCKET . . . first in the low price field to reach over 1 MFD at 1% accuracy . . . Four decades from 100 MMFD to 1.1111 MFD (100 MMFD steps) . . . 10 TIMES THE CAPACITY RANGE . . . Capacitors well within 1%; SILVER MICA, except for highest values which are special low-drift, molded, oil impregnated; rated at 600 volts, except for highest ranges rated 400 volts. . . . All capacitors fully tested, including: leakage resistance (thousands of megohms); accuracy measured on standard bridges; voltage breakdown tested; power factor, temperature cycling and aging. — STURDY HIGH IMPACT BAKELITE CASE REDUCES GROUND CAPACITY AND INSURES LONG LIFE.



3¾"x6¼"x2"

478K..... kit form **$18.95**
478W..... factory wired $24.95

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Net

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World Radio History

# *Instruments* IN KIT & WIRED FORM . . . precise

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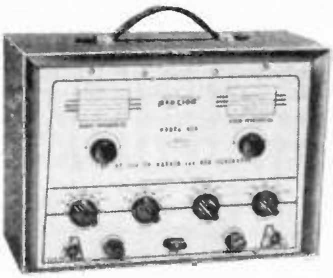
## • PRECISE MODEL 630 RF-AF-TV Marker & Bar Generator



The very first kit to reach 110 MC on fundamentals. 330 MC on harmonics. The first kit to offer a complete factory preassembled and calibrated RF head. *Pre-tuned RF Head; Audio: 20-20,000 cycles; variable percent modulation; cathode-follower output; stepping attenuator; external modulation; speech amplifier; crystal marker; crystal amplitude control; RF & AF stand-by; Wien Bridge AF Oscillator; Colpitts RF Oscillator; Drum Dials; Coaxial fittings; individually tuned coils; constant output impedance; filtered line; Vernier tuning on RF & AF; Separate RF Section; Complete shielding.

**RF FREQUENCIES:** BAND 1—300KC to 1MC FUNDAMENTALS • BAND 2—1MC to 3MC FUNDAMENTALS • BAND 3—3MC to 10MC FUNDAMENTALS • BAND 4—10MC to 30MC FUNDAMENTALS • BAND 5—30MC to 110MC FUNDAMENTALS • BAND 5A—60MC to 220MC 2nd HARMONIC • BAND 5B—90MC to 330MC 3rd HARMONIC

**AF FREQUENCIES:** Band 1—20 to 40 Cycles • Band 2—40 to 200 Cycles • Band 3—200 to 2K Cycles • Band 4—2K to 20K

8" x 12" x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs.

630K (Kit) **$33.95**

*630KA preassembled RF head $38.95
Factory Wired $53.95

## • PRECISE MODEL 610

### Newest RF Signal Generator for AM, FM and TV

The first low-priced RF Signal Generator to reach 110 MC on fundamentals. 330 MC on harmonics, with the accuracy and stability of high-priced equipment. PRECISE achieves this by slug and capacity tuning of the coils, along with complete isolation of the Colpitts Oscillator by a Cathode Follower Buffer Output.

The first kit to offer a complete factory pre-assembled and pre-tuned RF Head; Cathode-Follower Output; External Modulation; Speech Amplifier; Bridge Type AF Oscillator; Colpitts RF Oscillator; Drum Dial; Coaxial Fittings; Individually Tuned Coils; Vernier Tuning; Separate RF Section; Complete Shielding, 400 Cycle and 60 Cycle Internal Modulation.

**RF FREQUENCIES:**

BAND 1—300KC to 1MC FUNDAMENTALS
BAND 2— 1MC to 3MC FUNDAMENTALS
BAND 3— 3MC to 10MC FUNDAMENTALS
BAND 4— 10MC to 30MC FUNDAMENTALS
BAND 5— 30MC to 110MC FUNDAMENTALS
BAND 5A—60MC to 220MC 2nd HARMONIC
BAND 5B—90MC to 330MC 3rd HARMONIC

8½" x 12" x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs. TUBE COMPLEMENT: 6C4, 12AX7, 6X5.

610K **$23.95**

#610KA preassembled RF head $28.95
610W (factory wired) $39.95

## • PRECISE MODEL 635

### Universal AF Sine, Square and Pulse Generator

Efficiently and effectively ascertains all Audio and Video troubles

Sine waves; square waves; Wien Bridge Oscillator; Pulses; variable impedance output; voltage regulation insures a veritably constant output; cathode follower output; Minimum overshoot & round-off through 50,000 cycles on square waves and pulses; sine waves through 200,000 cycles.

8 x 11 x 5"; leather handle; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs.

TUBE COMPLEMENT:
1—6AU6; 3—6SN7; 1—6X5; 1—6S6

**RANGES:** 20-40 cycles • 40-200 cycles • 200-2000 cycles • 2000-20,000 cycles • 20,000-200,000 cycles.

635-W Factory wired $52.50 • 635K Kit form **$33.50**

## • PRECISE MODEL 760

### Voltage Regulated Power Supply

The Model 760 is an extremely versatile electronically regulated power supply capable of delivering an assortment of different voltages. It is invaluable in general repair and laboratory use.

**REGULATED VOLTAGE**

Range—75 volts to over 450 volts.
% Regulation—Within 1% at specified current duration.
% Ripple—.01% at specified currents.
Max. Current—100 ma depending on voltages.
Metering—Voltage and current are both metered by switches.
High Voltage—Unregulated variable to 1000 volts DC positive or negative. Voltage is metered. Maximum current of 1 ma.
Low AC Voltage—Unregulated 6.3 volts AC. 4 amperes capacity.
High AC Voltage—375 volts AC, 50 ma. DC Capacity. Unregulated.
V.R. Tube Reference DC Voltage—DC reference voltage, low current, available for reference or screen operation.
All voltages are capable of being used simultaneously except for the plus or minus 1000 volts. Either plus or minus may be used but not simultaneously.

**GENERAL**

The instrument is housed in a sturdy steel cabinet with a deeply etched aluminum panel. A rugged 4½" meter movement is used for all metering. Shunt and multiplier resistors are within 1% accuracy. A leather carrying handle is povided. 5 Way binding posts are used for the regulated outputs. All other voltages are available by pin jacks. The high and low voltage supplies each have a standby position and the voltage metered is indicated by a jeweled pilot light for the HV and LV.

Weight: 11 lbs.
Size: 8½" x 12" x 5"
760K kit form **$39.95**
760W factory wired $59.95

**PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.**



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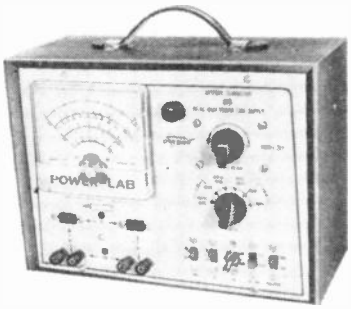
## • PRECISE 711 and 713 . . .




### POWER-LAB

711K (100 Watts of Isolation) **$49.95 kit**

711W (100 Watts of Isolation) **$64.95 wired**

713K (300 Watts of Isolation) **$62.95 kit**

713W (300 Watts of Isolation) **$79.95 wired**

**OPERATES YOUR WHOLE BENCH AND SHOP**
You'll start and end each working day with the POWER-LAB. For the first time in the industry, one instrument takes the place of more than 11 pieces of equipment and makes you wonder why no one ever did this before . . . the most useful, often used, test device in your shop.
There's NO OTHER INSTRUMENT LIKE THE POWER LAB ON THE MARKET Here again, Precise engineering is proud to be the first to supply a need that has too long existed in the service trade. When you buy POWER LAB by Precise, you get all the advantages of owning a battery eliminator for servicing auto radios (even signal seekers), an AC DC Converter, a supply for transistor sets, AND OF MAINTAINING A CONSTANT 115 volts in checking on TV set variations. You can even run the set down to 105 volts for testing horizontal jitter, and back up to 125 volts for high-voltage breakdown, thereby eliminating the cause of many call backs due to arcing . . . PLUS . . . the 101 uses you'll find each day for POWER-LAB versatility.

Here's the story . . . now you can get all this
**COMPLETE IN ONE KIT (or wired)**

- A BATTERY ELIMINATOR
- A BATTERY CHARGER
- A HIGH CURRENT LINE VOLTAGE VARIAC
- AN AC LINE VOLTAGE METER
- AN AC LINE AMMETER
- AN AC LINE WATTMETER
- AN AC LINE ISOLATION TRANSFORMER
- A LOW VOLTAGE, HIGH CURRENT AC SUPPLY
- A DC LINE VOLTAGE VARIABLE SUPPLY
- A DC HIGH CURRENT AMMETER
- AN AGC BIAS BOX

**ALL SPECS BELOW ARE FOR MOD. 711 AND 713 UNLESS OTHERWISE SPECIFIED**

| | VOLTS | MAXIMUM | CONTINUOUS |
|---|---|---|---|
| Low Voltage DC | 2 ranges 0-15v Full Wave<br>0-30v Full Wave Bridge | 20 amps*<br>20 amps* | 10 amps*<br>10 amps* |
| Low Voltage AC | 0-24v | | 20 amps |
| High Voltage AC | No Isolation 90-140 volts | 20 amps<br>2000 watts | 10 amps<br>1000 watts |
| High Voltage AC | Model 713 with Isolation<br>90-140 volts | | 3 amps<br>300 watts |
| High Voltage AC | Model 711 with Isolation<br>90-140 volts | | 1 amp<br>100 watts |
| High Voltage DC | 110-180 volts | 1 amp** | 075 amp** |

*Depending on voltage
**May be increased up to 10 amperes at additional cost.

## MODEL 999

**The PRECISE Model 999 High Voltage Probe was designed for high voltage measurements with special emphasis on SAFETY, OPERATIONAL SIMPLICITY AND RUGGED CONSTRUCTION. FIRST IN THE INDUSTRY to include any one or more of the following EXCLUSIVE features.**

**Multiple Insulation: The only probe with at least three individual media that must be penetrated before a voltage breakdown could occur.**

**Mechanically shockproof construction: The only probe to utilize a double spring suspension system in order to protect the Ceramic high wattage multiplier resistor.**

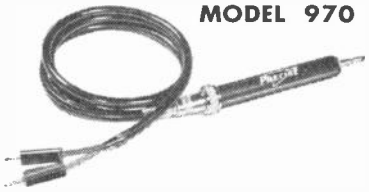
**Interchangeable Tips: The only probe where two tips are supplied—one, the conventional type for probing; the other, an alligator clip for connecting permanently to the circuit.**

**Swivel Lead Connection: A special fixed slip-ring arrangement is provided which prevents the test lead cable from snagging or developing high strains at the junction of the cable and probe handle.**

**Interchangeable Resistors.**

Wired Only.....Dealer Net..... **$6.98**

## MODEL 970




PRECISE MODEL 970 . . . direct Probe: Shielded, interchangeable tips and non-hydroscopic insulation. WIRED ONLY . . . Dealer Net . . . **$3.75**

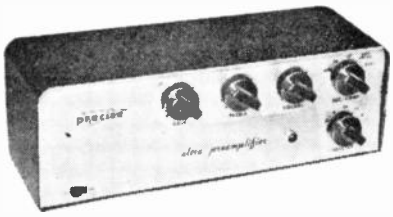
PRECISE MODEL 912 . . . RF Probe: Frequency range—rms readings from AF through 250 mc; built-in 600 v blocking capacitor.
WIRED ONLY . . . **$4.25**

PRECISE MODEL 960 . . . 10-to-1 Capacity Attenuator Probe: Frequency range through 100 mc, flat, input capacity less than 7 mmfd.
WIRED ONLY . . . **$5.95**

PRECISE RE-MO-TUNER . . . Model SMK: Clip Re-Mo-Tuner to controls behind set while you adjust from front. Sturdy, compact.
DEALER NET . . . **$2.95**

## • NEW PRECISE MODEL UPA-IN AND UPA-IP ULTRA PREAMPLIFIER

**The PRECISE Model UPA-1 preamplifier is an ultra-modern presentation of true high fidelity, set off in a beautiful rich brushed brass colored panel, designed to enhance a living area. • It embodies the most modern circuitry with separate controls for Bass Boost, Treble Boost and Roll-off, Volume Record Compensation which also includes the latest AES curves (this year), a main Selector switch which connects to Phono, Microphone, Radio Television and an auxiliary position (4 separate input jacks are mounted on the rear chassis), a separate On-Off switch also operates the Convenience outlet at the rear of the instrument. • The instrument is designed so that it is completely self-contained or, if desired, it may be mounted directly into a console panel. In the latter case, no additional hardware is required because of a unique cabinet and chassis design. The cabinet dimensions are 12 x 4 x 4 and it weighs approximately six pounds. • The input gain and amplifier latitude is more than ample for Reluctance or Crystal inputs. Long lines may be used with the cathode-follower input**



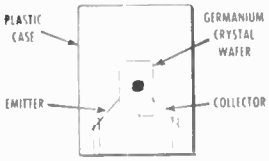

**The UPA-I is available in two circuits: UPA-IP has its own transformer supply and is operated directly from the 110 volt AC line.**
**UPA-IPK • Kit Form • $25.95**
**UPA-IPW • Wired Form • $39.95**

**UPA-IN does not include a power supply. Power is taken directly from the main amplifier. It does, however, have its own filtering circuits.**
**UPA-INK • Kit Form • $19.95**
**UPA-INW • Wired Form • $34.95**

## T1 — TRANSISTOR KIT — Only $14.95

**ANOTHER *NEW* EXCLUSIVE KIT BY PRECISE**

PRECISE makes it possible to build your own experiments with the most remarkable kit you've ever seen . . . the new PRECISE T1 TRANSISTOR KIT. Components include transformer, chassis, TRANSISTORS, germanium diode, wire, etc. — everything you need for experimental construction PLUS the finest step-by-step instruction book.




# PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.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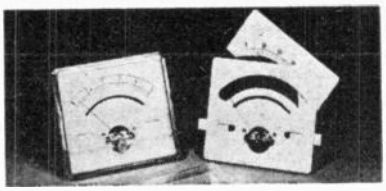
World Radio History

*Instruments*



**precise**
above all else

# PDC CUSTOM METERS

***A Completely New Idea in CUSTOM METER Design****

ONCE again, from the engineering laboratories of the Precise Development Corp., a remarkable achievement in the field of testing... PDC CUSTOM METERS... immediately available for general meter use, engineers, experimenters, hobbyists, pilot runs, spot applications, and in-the-field measurements.

**PRECISE PDC METERS** now offer you an opportunity to have **immediately available** individual custom meters that will cover any one of 100 voltage and current AC and DC ranges.

## EACH METER FEATURES

- D'Arsonval Moving Coil Design
- Polished Jewels and Pivots
- Fatigue Tested Springs
- Stress-released units
- 2% Accuracy
- Knife-Edged Pointer
- Mirror Scale
- Lithographed Scale Faces
- High Quality Shunts and Multipliers
- Optional Illumination Packet
- Optional Shadow Mask
- Plastic Case
- Sizes: 2½", 3½", 4½"

## REVOLUTIONARY DESIGN ADDS METER VERSATILITY

**PDC CUSTOM METERS are INTERCHANGEABLE.** All Precise Custom Meters are interchangeable. Special interchangeable slip-on scales, and companion snap-in shunts and multipliers, add to the ranges that may be covered from one basic custom meter.

**Here's How It Works.** Let's say you have a 15-volt, 20,000 ohms-per-volt PDC custom meter, and you need a 2.5 volt, 20,000 ohms-per-volt meter for another application. With the PRECISE PDC revolutionary design, you don't have to buy another separate meter. All you need do is to take the same 15-volt, 20 000 ohms volt meter, open the case, slip out the interchangeable scale face, pull out the resistor in the rear... and then slip on a 2.5 scale face, snap in its companion multiplier into the lock-type jaws in the rear... and when you snap the cover back in place...

**In Less Than a Minute You Have a New Custom Meter.** That's how simple it is to have a professionally accurate, perfectly calibrated custom meter with a special lithographed scale face, and scale identification... **WITHOUT BUYING ANOTHER CUSTOM METER.**

**Precise PDC Custom Meters** are comparably priced with custom meters currently being sold today. Now you can have many custom meters from just one... PRECISE'S revolutionary design adds meter versatility to save you money.

**Basic meters for replacement, as well as scale faces, shunts or multipliers are available from local electronic distributors.**

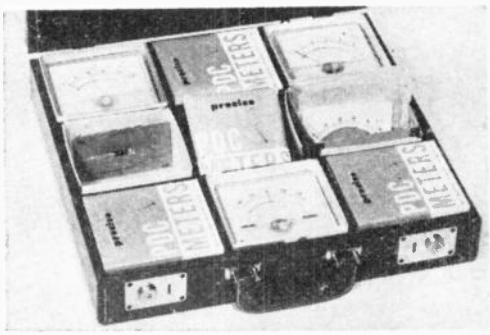
*Pat. Pending

## SPECS & RANGES

| DC 1000 ohms v VOLTS | DC 2000 ohms/v VOLTS | DC 20,000 ohms/v VOLTS | AC 1000 ohms/v VOLTS | DC Current AMPERES | AC Current AMPERES |
|---|---|---|---|---|---|
| .05 | .05 | .1 | | | |
| .5 | .25 | .5 | | 50 ua | |
| 1.0 | .5 | 1.0 | 1 | 100 ua | |
| 1.5 | .75 | 1.5 | 1.5 | 200 ua | |
| 2.5 | 1.25 | 2.5 | 2.5 | 400 ua | |
| 3 | 1.5 | 3 | 3 | 500 ua | 1 ma |
| 5 | 2.5 | 5 | 5 | 1 ma | 3 ma |
| 10 | 5 | 10 | 10 | 3 ma | 10 ma |
| 15 | 7.5 | 15 | 15 | 10 ma | 25 ma |
| 25 | 12.5 | 25 | 25 | 25 ma | 50 ma |
| 30 | 15 | 30 | 30 | 50 ma | .1 |
| 50 | 25 | 50 | 50 | .1 | .25 |
| 100 | 50 | 100 | 100 | .25 | .3 |
| 150 | 75 | 150 | 150 | .3 | .5 |
| 250 | 125 | 250 | 250 | .5 | 1.0 |
| 300 | 250 | 300 | 300 | 1.0 | |
| 500 | 500 | 500 | 500 | | |
| 1000 | 750 | 1000 | 1000 | | |
| 1500* | | 1500* | 1500* | | |

ANY ONE OR MORE OF THE ABOVE METERS WITHIN ONE MINUTE

*SPECIAL ORDER. OTHER SPECIAL SCALES, SUCH AS VU-DB, AVAILABLE, AS WELL AS ZERO CENTER GALVANOMETER



### SPECIAL INDUSTRIAL
### PDC-IND METER PACKAGE

Here's a special introductory package from PRECISE, one which will provide you with complete coverage of all the ranges indicated above.

**You Get:**

- Six Meter Movements
- Interchangeable Scale Faces
- Shunts and Multipliers
- Illumination Packet
- Beautiful Attache type Case
- Meter Master Chart

**$129.95**

**PRECISE DEVELOPMENT CORP. · OCEANSIDE, N. Y.**

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World Radio History

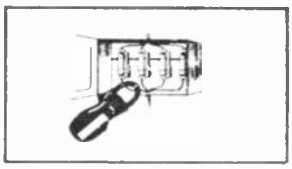
# AMPROBE ...the world's most versatile electrical testing instrument

## VOLTMETER · AMMETER · OHMMETER

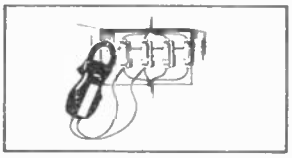
The Amprobe RS-3 is an all-purpose instrument. It permits you to measure current, voltage and resistance.

Here are a few of the jobs AMPROBE can do for you . . .

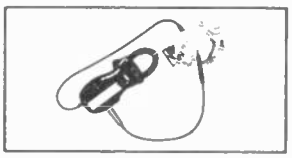
- Determine load conditions without having to shut down equipment
- Spot motor overloads and underloads
- Diagnose trouble calls faster, under actual load
- Measure voltage at motor terminals
- Set overload relays
- Load balancing
- Determine starting current of motors
- Determine causes for excessive voltage losses in a distribution system
- Determine causes for improper operation of fluorescent fixtures
- Measure resistance of coils
- Determine opens and continuities



AMPROBE's a snap-around ammeter



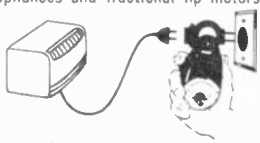
AMPROBE's a voltmeter



AMPROBE's an ohmmeter

### MODEL A-40 AMPROBE ENERGIZER

Multiplies sensitivity of any AMPROBE by 10X for precise readings on small appliances and fractional hp motors.



By plugging appliance into Direct Reading receptacles (no increase in sensitivity), you can "split" double-conductor line cords for a quick reading at the outlet. Capacity 25 amps.

**FOR VOLTAGE READING**

The Energizer has receptacles for measuring line voltage at the outlet under actual load conditions, while the appliance is connected to the line.

**$3.75 with pouch**

The all-purpose, multi-range snap-around instrument with rotary scale. Price includes genuine top-grain cowhide leather case and voltage leads. RS-3 also includes ohmmeter attachment.

RS-1 & 2 **$39.85**
RS-3 **$52.50**

Budget economy model designed to fill a specific job at low cost.

All models including voltage leads.
**$19.85**
Case $2.85

Ideal for general all-around work. Tapered probe jaws perfect for hard-to-get-at wires in crowded switch boxes. Price includes cowhide leather case and test leads. **$49.50**

Same as 300 but designed to handle extra heavy loads. Price includes top-grain cowhide leather case and test leads.

600 **$59.50**
1200 **$67.50**

## CHOOSE THE MODEL THAT FITS YOUR JOB

| MODEL | WGT (oz) | SPECIFICATIONS (in.) | AMMETER RANGES (amps ac) | VOLTMETER RANGES (volts ac) |
|---|---|---|---|---|
| RS-3* | 12 | $7\frac{3}{32} \times 2\frac{5}{8} \times 1\frac{11}{32}$ | 0-5/15/40/100/300 | 0-150/300/600 |
| RS-2 | 12 | $7\frac{3}{32} \times 2\frac{5}{8} \times 1\frac{11}{32}$ | 0-5/15/40/100 | 0-150/300 |
| RS-1 | 12 | $7\frac{3}{32} \times 2\frac{5}{8} \times 1\frac{11}{32}$ | 0-5/15/40/100 | 0-150/600 |
| JUNIOR "525" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-25 | 0-150/600 |
| "550" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-50 | 0-150/600 |
| "500" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-100 | 0-150/600 |
| "10" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-10 | 0-125/250 |
| "25" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-25 | 0-125/250 |
| "50" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-50 | 0-125/250 |
| "100" | 11 | $4\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{3}{8}$ | 0-100 | 0-125/250 |
| 300 | 13 | $8 \times 2\frac{5}{8} \times 1\frac{1}{4}$ | 0-6/15/30/60/150/300 | 0-150/300/600 |
| 600 | 15 | $8\frac{1}{2} \times 2\frac{5}{8} \times 1\frac{1}{4}$ | 0-15/30/60/150/300/600 | 0-150/300/600 |
| 1200 | 15 | $8\frac{1}{2} \times 2\frac{5}{8} \times 1\frac{1}{4}$ | 0-15/60/150/300/600/1200 | 0-150/300/600 |

*RS-3 Ohmmeter Range—25 Ohms MID-SCALE

**PYRAMID INSTRUMENT CO., Lynbrook, L. I., N.Y.**



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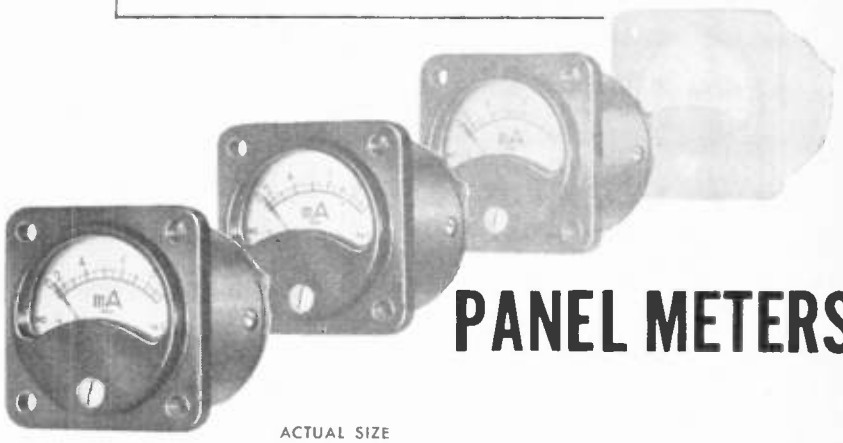
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# ALCO MINIATURES

# 1" MINIATURES

*Save valuable space in compact equipment*



# PANEL METERS

ACTUAL SIZE

### D. C. MICROAMMETERS

| | |
|---|---|
| 0-200 | 6.95 |
| 0-300 | 5.95 |
| 0-500 | 5.75 |

### D. C. GALVONOMETERS

| | |
|---|---|
| 100-0-100 | 7.95 |
| 500-0-500 | 5.95 |

### D. C. MILLIAMMETERS

| | |
|---|---|
| 0-1 | 4.95 |
| 0-5 | 4.95 |
| 0-10 | 4.95 |
| 0-25 | 4.95 |
| 0-50 | 4.95 |
| 0-100 | 4.95 |
| 0-150 | 4.95 |
| 0-200 | 4.95 |
| 0-250 | 4.95 |
| 0-300 | 4.95 |
| 0-500 | 4.95 |

### D. C. VOLTMETERS

1000 Ohms Per Volt

| | |
|---|---|
| 0-3 | 4.95 |
| 0-10 | 4.95 |
| 0-15 | 4.95 |
| 0-30 | 4.95 |
| 0-50 | 4.95 |
| 0-100 | 4.95 |
| 0-150 | 4.95 |
| 0-300 | 4.95 |

### RECTIFIER TYPE A. C. VOLTMETERS

1000 Ohms Per Volt

| | |
|---|---|
| 0-15 | 5.25 |
| 0-150 | 5.25 |
| 0-300 | 5.25 |

### "S" METERS

| | |
|---|---|
| 0-1 MA MOV. | 5.25 |

## FEATURES

- Smallest and lightest moving coil meter commercially available.
- In step with the modern trend toward miniaturization.
- Unique case design allows optional mounting as round or rectangular meter.
- New core magnet meter movement eliminates need to calibrate for steel panels. Not affected by strong magnetic fields.
- Minimum scale arc of 90° permitting accurate readings.
- Nine Alco Miniatures occupy the space of one standard 3½" rectangular meter.
- Accuracy within 2% of full scale.
- Requires only a 1" mounting hole.
- All meters equipped with zero set.

## APPLICATIONS

Alco miniatures pave the way for many new possibilities formerly impractical because of the bulk and weight of conventional meters.

Ideal for installation into commercial tuners, transmitters, computors and other equipment now without means of meter monitoring.

**ALCO ELECTRONICS MFG. CO.**

MANUFACTURERS & IMPORTERS — Lawrence, Mass.

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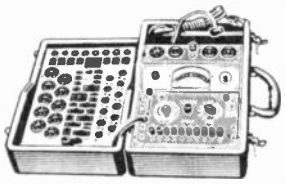
World Radio History

# SECO TEST EQUIPMENT

MODEL 107

## TUBE TESTER



Here's the tube tester you've been waiting for! 3 complete tests in one handy portable instrument! Designed for outstanding performance and accuracy — Dynamic Mutual Conductance Test of all popular radio and TV amplifier tubes — Cathode Emission Test for all tubes by free point selector system — "Good - Bad" meter indicates results. Nationally accepted Grid Circuit Test developed and patented by Seco — Electron-Eye indicates results. Saves you valuable time — quickly pays for itself by justifiably culling and selling more tubes for you!

12AU7 Cascode Amplifier; 6AF6G Electron-Eye Indicator; 3" meter; Heavy duty power transformer. Size: 13½" long x 9" high x 6" wide. Shipping weight: 14½ pounds. Completely self-contained in compact portable carrying case. Furnished with handy flip-chart for fast, easy tube set-up data. 105-115V AC 60 Cycle operation.

**MODEL 107** . . . . . **$139.50** NET

MODEL GCT-8

## GRID CIRCUIT TUBE TESTER

(U. S. Pat. No. 2,784,372)

Here's the perfect companion unit to use with any tube tester! Quickly spots grid errors and leakage — checks critical "control grid" condition of vacuum tubes faster, more accurately than any other tester! As many as eleven simultaneous checks — automatically! Eliminates guessing, substitution checking and costly call-backs. Electron-Eye tube indicates following faults at a glance: Control Grid Emission Excl.; Grid-to-Cathode Shorts; Gaseous Condition; Cathode-to-Heater Shorts; Grid-to-Heater Shorts; Grid-to-Plate Shorts; Plate-to-Heater Shorts; Grid-to-Screen Shorts; Screen-to-Heater Shorts; Heater-to-Suppressor Shorts; Grid-to-Suppressor Shorts.

12AU7 Cascode Amplifier; 6AF6G Electron-Eye Indicator; Filament selector switch for 2V thru 12V tubes; 10 pre-wired sockets; one spare socket for popular tube types. Size: 6½" wide x 2½" deep x 6½" high. Shipping weight: 4 pounds. Truly portable — may be stored and carried anywhere. Easy-to-assemble kit or factory wired and tested. For 105-115V AC 60 Cycle operation.

**MODEL GCT-8** Kit . . . . . **$19.95** NET
**MODEL GCT-8** Wired and Tested . . . . . **29.95** NET

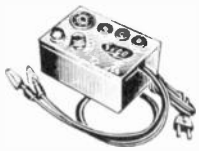
MODEL FB-4

## FLYBACK CIRCUIT AND INDUCTANCE ANALYZER

Troubleshoot TV Deflection Circuits fast — 100% accuracy! Simply connect one test lead to the plate of the horizontal output tube, ground the other — then without disconnecting anything, rotate control knob and Electron-Eye tube instantly tells you whether or not flyback transformer and yoke are all right. Resonant frequency and "Q" meter principle used for testing — will not be obsoleted due to variables in engineering design of circuits to be checked.

12AU7 Variable Frequency Oscillator; 6C4 Cathode Follower and Output Equalizer; 6E5 Electron-Eye Indicator. Size: 7" wide x 5½" deep x 5¼" high. Shipping weight: 5 pounds. Complete with self-contained power supply and matched 18" leads.

**MODEL FB-4** . . . . . **$38.95** NET



MODEL FP-1

## FILAMENT CONTINUITY CHECKER and 90 VOLT BIAS SUPPLY PACK

This handy servicing aid quickly checks continuity of the following radio and TV tube types:

- 7 pin heater type
- 9 pin heater type
- 7 pin filament type
- Octal heater and filament type
- Loctal heater and filament type

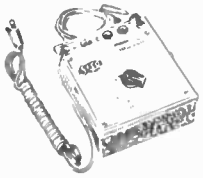
Bias pack supplies up to 90 volts of well filtered and isolated D.C. Suitable for many bias substitution jobs as well as for use on various low voltage and low current pre-amplifiers, oscillators and similar devices.

Size: 3" wide x 2" wide x 4½" long. Shipping weight: 1¾ pounds. With 115V power cord and matched leads.

**MODEL FP-1** . . . . . **$12.95** NET

MODEL PS-2

## BATTERY ELIMINATOR FOR TRANSISTOR EQUIPMENT



This compact power supply is designed for use in place of the battery normally used to operate and service portable radios and other low-power transistorized equipment. The PS-2 speeds up transistorized equipment servicing—quickly pays for itself in time savings alone. The PS-2 supplies clean, filtered DC and cannot be damaged by a short circuit. Voltage may be varied from 0 to 15 V for checks on sensitivity and operation under virtually all conditions. Output supply is sufficient for checking transistor receivers up to 22½ V. Substitution of the PS-2 in circuit will quickly spot faulty batteries. Output supply is continuously variable—a feature especially useful in development and design of transistor circuits, since it is easy to select optimum performance with least current drain.

PS-2 Battery Eliminator uses line by-pass system to eliminate hum modulation. Internal impedance is less than 2 ohms. Voltage scale is calibrated at 15 ma—maximum output is 100 ma; output supply isolated from power line by transformer. Size: 4½" wide x 5" long x 1½" deep. Shipping weight: 1½ lbs. Complete with plug-in jacks for external voltmeter, 40" leads, and insulated clips. Excellent for shop or lab—ideal for technicians or hobbyists.

**MODEL PS-2** . . . . . **$13.95** NET

MODEL 208

## VACUUM TUBE VOLTMETER

Here is a "fool-proof" VTVM offering features never before available on similar-type equipment. Large, easy-to-read 4½", 200 microamp meter on sloping panel provides 7 AC, 7 DC, and 7 ordinary Ohm ranges—plus a special RETMA (EIA) Ohm scale to check standard resistors and tolerance limits. Unit incorporates specially designed "shift-lever" type function switch with most commonly used functions located at "can't miss" positions—allowing you to change functions fast without looking. Color coding on function switch identifies proper probe—switch connects proper probe for each function and isolates probe not in use. Line voltage check is independent of VTVM bridge circuit. Meter may be damped by ON-OFF switch, which shunts meter in OFF position to prevent damage when unit is carried. All-metal shielded case permits use in strong RF fields—unit has accuracy within 3% on all scales. Compact, portable, easy-to-use . . . a real time-saver.

Meter equipped with burn-out protective circuit. 12AU7 Twin Triode Meter Bridge; 6AL5 Twin Diode Full Wave AC Rectifier. Power requirements: 105 to 125 V 50-60 cycle AC. Size: 5¼" wide x 8½" long x 3½" high. Shipping weight: 5 lbs. Complete with bracket for wall mounting; 40" leads with slim probes and common lead clip; extra jack for HV and RF probe—eliminates "probe jockeying".

**MODEL 208** . . . . . **$74.50** NET

Genuine Leather, felt-lined carrying case for the Model 208 With handle and pocket for AC cord and probes . . . . . **$ 9.95** NET

**SECO MANUFACTURING CO.**
**MINNEAPOLIS • MINNESOTA**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World Radio History

# a quarter-century of *PRECISION* know-how is now yours ...in PACO

## quality electronic equipment in KIT FORM

**Now, for the first time** — a line of test instrument kits engineered and produced under the auspices of a leading electronic test equipment and meter manufacturer — and conveniently available directly from your own local electronic parts distributor.

- Compare **PACO** kits against any others for performance, appearance, ruggedness, ease of operation and simplicity of assembly and wiring.
- Compare **PACO's** superbly detailed, step-by-step instruction manuals and giant size wiring diagrams, against any you have ever seen.
- See how **PACO** sets an entirely new standard in electronic instrument kit design and kit assembly instruction.

**for:**

- electronics hobbyists and amateur radio
- hi-fi custom-building and service
- radio and TV service
- science education and technical schools
- industrial testing and quality control

### Model B-10

**BATTERY ELIMINATOR KIT**

- less than 0.3% ripple output
- no external filter adapter required

**Code: HEAVY**
**Kit Net Price: $41.95**

### Model C-20

**RESISTANCE-CAPACITY-RATIO BRIDGE KIT**

- 10 mmfd to 2000 mfd
- ½ ohm to 200 megs

**Code: RATIO**
**Kit Net Price: $20.95**

### Model G-30

**RF SIGNAL GENERATOR KIT**

- 160 Kc to 240 Mc in 8 bands
- 120 Mc fundamental output

**Code: GENNY**
**Kit Net Price: $28.50**

**Model G-30PC** Same as Model G-30 but with pre-calibrated front end.
**Code: GERRY** **Kit Net Price: $35.50**

### Model M-40

**HIGH-SENSITIVITY V-O-M KIT**

- 20,000 ohms volt DC
- 10,000 ohms volt AC

**Code: METER**
**Kit Net Price: $31.50**

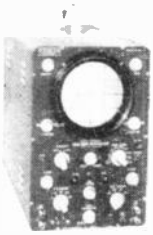
### Model S-50

**5 inch CATHODE RAY OSCILLOSCOPE KIT**

- push-pull vertical and horizontal amplifiers

**Code: SCOPE**
**Kit Net Price: $49.50**

### Model S-55

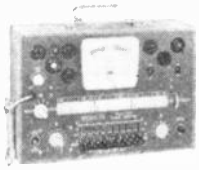


**WIDEBAND 5" OSCILLOSCOPE**

- response DC to 5 Mc
- push-pull V and H amplifiers

**Code: SCALE**
**Kit Net Price: $87.50**

### Model T-60



**TUBE CHECKER KIT**

- full free-point lever selector system
- built in roll chart

**Code: CHECK**
**Kit Net Price: $38.75**

### Model T-65

**TRANSISTOR and Crystal Diode TESTER KIT**

- test Icbo gain, leakage, shorts, etc.
- tests both p-n-p and n-p-n transistors, plus tetrode types

**Code: TRAIN**
**Kit Net Price: $39.95**

### Model V-70

**VACUUM TUBE VOLTMETER KIT**

- wide-range
- peak-to-peak

**Code: RANGE**
**Kit Net Price: $31.50**

### Model Z-80

**RF-AF SIGNAL TRACER KIT**

- high gain RF & AF amplifier
- visual and audible indicator

**Code: TRACE**
**Kit Net Price: $29.50**

## ACCESSORIES

**Completely factory-wired and tested— ready for use**

**For the Model V-70 VTVM**

- **AV-1** RF crystal probe ..... $5.95
- **AV-2** High-voltage probe ..... $5.95

**For the Models S-50 and S-55 OSCILLOSCOPES**

- **AS-1** Set of oscilloscope probes consisting of: low-capacity probe, demodulator probe, direct probe $14.95

**For the Model T-60 TUBE TESTER**

- **AT-1** Standard picture-tube test cable ..... $4.50
- **AT-2** 110° picture tube socket adapter ..... $4.50
- **AT-3** Hinged cover for tube tester cabinet ..... $3.95

**For the Model M-40 V-O-M**

- **AM-1** High-voltage probe $5.95

**NOTE: For those who do not have the time or the inclination to wire their own PACO kit, the test instruments shown here are also available factory-wired, tested and calibrated.**

*All prices and specifications subject to change without notice.*

**PACO ELECTRONICS CO., INC.**
A DIVISION OF *PRECISION* Apparatus Company, Inc.
Export: 458 Broadway, New York 13, U.S.A.
Canada: Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto 19

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World Radio History

# WESTON INSTRUMENTS

## The new, distinctive CROWN SERIES

### HANDSOME, FUNCTIONAL DESIGN DISTINGUISHES THIS READABLE, RELIABLE LINE OF 2½-INCH INSTRUMENTS

Weston's new Crown Instruments represent the ultimate in meter design and performance, with striking new cases to enhance the most modern panels or advanced electronic equipment.

Clear plastic covers and exceptionally long scales afford unmatched readability, with excellent natural illumination from top, front and sides. Confusing shadows are eliminated. In poorly lighted areas, one bulb mounted above the instrument furnishes adequate illumination. The neutral tone of the multi-prism front is designed to complement test equipment or panels of any color. Available custom colored to your specifications on special order. CORMAG® mechanisms eliminate the need for external shielding; they can be closely grouped on magnetic or non-magnetic panels without special adjustments or danger of intereffects.

### SPECIFICATIONS

**MECHANISM**
0.4" x 0.6" CORMAG®

**ACCURACY**
Model 1721 d-c instrument: within ±2% of full scale value. Model 1722 rectifier type a-c instrument: within ±3% of full scale when used on sine wave 60 cycle source at normal room temperature of 25°C.

**MOUNTING**
Interchangeable with any 2.5" JAN or MIL Spec Instrument, or the flush round Bakelite case, Weston Model 506.

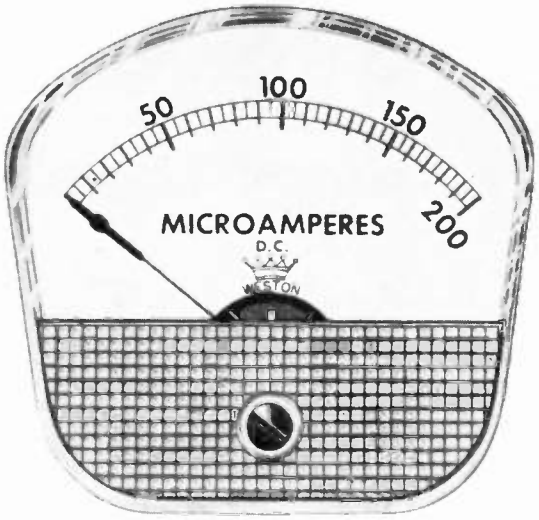
**CASE**
Crown shape, with molded Bakelite base and clear plastic cover. Cover easily removed, yet securely fastened by specially designed clamps.

**ZERO CORRECTOR**
Screwdriver type; 360° rotation.

**TERMINALS**
8 — 32 x ¾" long BC rods with nuts and washers.

**POINTERS**
Lance type, black finish.

**SCALES**
Full 2.5" long (longer than most 3½" panel instruments); 100° arc; black printing on white dials.




### RANGES

#### D-C MODEL 1721

VOLTMETERS*

| Range | Scale Div. | List Price |
|---|---|---|
| 5 | 50 | $11.50 |
| 15 | 75 | 11.50 |
| 50 | 50 | 11.50 |
| 150 | 75 | 11.50 |
| 300 | 60 | 12.00 |

* 1,000 ohms per volt approx.

AMMETERS

| Range (Self-Contained) | Scale Div. | List Price |
|---|---|---|
| 1 | 50 | $11.25 |
| 3 | 60 | 11.25 |
| 5 | 50 | 11.25 |
| 10 | 50 | 11.25 |

| External Shunt Type | Scale | Scale Div. |
|---|---|---|
| 50 mv | 100 amps | 50 |
| 50 mv | 150 amps | 75 |
| 50 mv | 200 amps | 40 |

MILLIAMMETERS

| Range | Approx. Res | Scale Div. | List Price |
|---|---|---|---|
| 1 | 88 | 50 | $11.00 |
| 5 | 8 | 50 | 11.00 |
| 10 | 1.1 | 50 | 11.00 |
| 20 | 1.1 | 40 | 11.00 |
| 50 | 2 | 50 | 11.00 |
| 100 | 1 | 50 | 11.00 |
| 200 | 0.5 | 40 | 11.00 |
| 300 | 0.33 | 60 | 11.00 |
| 500 | 0.2 | 50 | 11.00 |
| 1/0/1 | 45 | 50 | 11.00 |

MICROAMMETERS

| Range | Approx. Res | Scale Div. | List Price |
|---|---|---|---|
| 20 | 5500 | 40 | $21.00 |
| 50 | 4700 | 50 | 17.00 |
| 100 | 1700 | 50 | 14.00 |
| 200 | 600 | 40 | 11.50 |
| 500 | 230 | 50 | 11.50 |
| 50/0/50 | 1700 | 50 | 14.00 |

#### RECTIFIER TYPE A-C MODEL 1722

VOLTMETERS*

| Range | Scale Div. | List Price |
|---|---|---|
| 5 | 50 | $17.00 |
| 15 | 75 | 17.00 |
| 50 | 50 | 17.00 |
| 150 | 75 | 17.00 |
| 300 | 60 | 17.00 |

* 1,000 ohms per volt approx.

MILLIAMMETERS

| Range | Approx. Res | Scale Div. | List Price |
|---|---|---|---|
| 1 | 470 | 50 | $17.00 |
| 5 | 150 | 50 | 17.00 |

MICROAMMETERS

| Range | Approx. Res | Scale Div. | List Price |
|---|---|---|---|
| 200 | 2400 | 40 | $19.50 |
| 500 | 750 | 50 | 17.00 |

VOLUME LEVEL INDICATORS

| Model | Type | Scale | List |
|---|---|---|---|
| 1722 | 30 | A or B | $25.00 |

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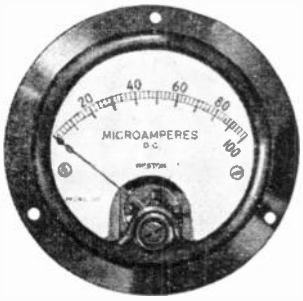
World Radio History

# WESTON INSTRUMENTS

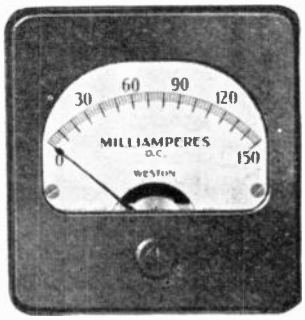



*Round Style*

## PANEL INSTRUMENTS

**These panel instruments reflect half a century of instrument skill and the Weston tradition of building instruments to the highest standards of dependability and service.**

**Models 301, 425 and 476 are available in round flush bakelite cases 3½" or 3⅜", and 3¼" metal cases with black finish; also in round surface metal and rectangular flush bakelite cases. Models 301 and 425 supplied in round surface bakelite cases. All are calibrated normally for use on non-magnetic panels. For magnetic panel use, instruments will be adjusted for a specified steel panel thickness. Order instruments in bakelite cases for use on circuits above 300 volts when it is not possible to connect in grounded side of line. The 1301 line of instruments listed at bottom incorporate the Weston CORMAG® self-shielded mechanism. They can be mounted interchangeably on magnetic or non-magnetic panels without need for adjustment. For other instrument prices, write to Weston Instruments, Division of Daystrom, Inc., Newark 12, New Jersey.**




*Rectangular Style*

## 3½" PANEL INSTRUMENTS

### MODEL 301 — D-C VOLTMETERS

With Resistance of 1,000 ohms per volt

| Range | List Price | Range | List Price | Range | List Price |
|---|---|---|---|---|---|
| 3 | $19.75 | 15 | $19.75 | 150 | $21.75 |
| 5 | 19.75 | 30 | 19.75 | 200 | 22.00 |
| 8 | 19.75 | 50 | 19.75 | 300 | 23.50 |
| 10 | 19.75 | 100 | 20.50 | 500 | 28.00 |
| | | | | 1KV | 35.50 |

### MODEL 301 — D-C MILLIAMMETERS *

| Range | Approx. Res. Ohms | List Price | Range | Approx. Res. Ohms | List Price |
|---|---|---|---|---|---|
| 1 | 105 | $19.00 | 30 | 1.2 | $19.00 |
| 1.5 | 27 | 19.00 | 50 | 2.0 | 19.00 |
| 2 | 27 | 19.00 | 100 | 1.0 | 19.00 |
| 5 | 5.7 | 19.00 | 150 | 0.66 | 19.00 |
| 10 | 2.0 | 19.00 | 200 | 0.5 | 19.00 |
| 15 | 2.0 | 19.00 | 300 | 0.33 | 19.00 |
| 20 | 2.0 | 19.00 | 500 | 0.2 | 19.00 |

* Milliammeters with ranges above 40 MA. are shunted and have a drop of approximately 100 MV.

### MODEL 301 — D-C AMMETERS *

Single Ranges: 1/1.5/2/3/5/10 15 30 50 at $19.00 List

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts

### MODEL 301 — D-C MICROAMMETERS

| Range | List Price | Range | List Price |
|---|---|---|---|
| 20 | $33.25 | 100 | $30.25 |
| 30 | 33.25 | 200 | 22.75 |
| 50 | 37.50 | 500 | 22.75 |

### MODEL 301 — RECTIFIER TYPE A-C VOLTMETERS

| Range | 1000 ohms per volt | 2000 ohms per volt | Range | 1000 ohms per volt | 2000 ohms per volt |
|---|---|---|---|---|---|
| 1 | ..... | $32.50 | 50 | $29.50 | $32.50 |
| 1.5 | ..... | 32.50 | 100 | 30.25 | 33.25 |
| 3 | $29.50 | 32.50 | 150 | 31.00 | 34.00 |
| 5 | 29.50 | 32.50 | 300 | 30.25 | ..... |
| 15 | 29.50 | 32.50 | | | |

### MODEL 301 — RECTIFIER TYPE A-C MILLIAMMETERS

| Range | List Price | Range | List Price |
|---|---|---|---|
| 0.5 | $32.50 | 2 | $28.75 |
| 1 | 28.75 | 5 | 28.75 |

### MODEL 301 — RECTIFIER TYPE A-C MICROAMMETERS

| Range | List Price | Range | List Price |
|---|---|---|---|
| 100 | $39.00 | 250 | $32.50 |
| 200 | 32.50 | 500 | 32.50 |

### MODEL 301 VU METER

A OR B SCALE.....List Price $39.50

### MODEL 476 — A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10 15 30 50 at $19.00 List

### MODEL 476 — A-C VOLTMETERS

Single Ranges: 1.5 3/5/8/10/15/30/50 at $19.00 List

| Range | List Price | Range | List Price |
|---|---|---|---|
| 100 | $19.75 | 250 | $22.00 |
| 130 | 20.50 | 300 | 22.75 |
| 150 | 20.50 | 500 | 25.75 |

### MODEL 425 — THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/8/10/15/20 at $28.25 List

### MODEL 425 — THERMO MILLIAMMETERS

Ranges: 10/20 50 ..... $70.00 List
100 115/120 150 200/300/500 ..... $32.25 List

## CORMAG® 3½" PANEL INSTRUMENTS

### MODEL 1301 — D-C VOLTMETERS

With sensitivity of approximately 1000 ohms per volt.

Single Ranges 3/5 10/15 30 50 100 150 at $13.75 List
200 volts at $14.25 List

### MODEL 1301 — D-C AMMETERS *

Single Ranges. 1 2 3 5 10 at $13.25 List
15/30 50 at $14.25 List

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts.

### MODEL 1301 — D-C MILLIAMMETERS

| Range | Approx Res | List Price | Range | Aporox. Res. | List Price |
|---|---|---|---|---|---|
| 1 | 88 | $13.25 | 50 | 2.0 | $13.25 |
| 5 | 8 | 13.25 | 100 | 1 | 13.25 |
| 10 | 1.1 | 13.25 | 200 | 0.5 | 13.25 |
| 15 | 1.1 | 13.25 | 300 | 0.33 | 13.25 |
| 20 | 1.1 | 13.25 | 500 | 0.2 | 13.25 |
| 30 | 1.0 | 13.25 | | | |

### MODEL 1301 — D-C MICROAMMETERS

| Range | List Price |
|---|---|
| 100 | $16.25 |
| 200 | 13.75 |
| 500 | 13.75 |

### MODEL 1302 — RECTIFIER TYPE A-C VOLTMETERS

| Range | List Price 1000 Ω/V | List Price 2000 Ω/V | Range | List Price 1000 Ω/V | List Price 2000 Ω/V |
|---|---|---|---|---|---|
| 1.5 | $..... | $21.25 | 50 | $19.25 | $..... |
| 3 | 19.25 | 21.25 | 100 | 19.25 | ..... |
| 5 | 19.25 | ..... | 150 | 19.25 | 19.75 |
| 15 | 19.25 | 21.25 | 300 | 19.75 | ..... |

### MODEL 1302 — RECTIFIER TYPE A-C MILLIAMMETERS

Single Ranges: 1/5 at $19.25 List

### MODEL 1302 — RECTIFIER TYPE A-C MICROAMMETERS

| Range | List Price |
|---|---|
| 200 | $21.75 |
| 500 | 19.25 |

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World Radio History

# WESTON INSTRUMENTS

## 4¼" PANEL INSTRUMENTS

### MODEL 961—D-C INSTRUMENTS

Rated accuracy 2% of full scale—Scale 3.17" (80.3 mm)—Permanent Magnet Moving Coil Type.

#### D-C VOLTMETERS

| Range | Scale Div. | List Price |
|---|---|---|
| 1 | 50 | $31.00 |
| 2 | 40 | 31.00 |
| 3 | 60 | 31.00 |
| 5 | 50 | 31.00 |
| 7.5 | 75 | 31.00 |
| 10 | 50 | 31.00 |
| 15 | 75 | 31.00 |
| 25 | 50 | 31.00 |
| 50 | 50 | 31.00 |
| 80 | 40 | 31.00 |
| 100 | 50 | 31.75 |
| 130 | 65 | 32.50 |
| 150 | 75 | 32.50 |
| 200 | 40 | 33.25 |
| 250 | 50 | 34.75 |
| 300 | 60 | 35.50 |
| 500 | 50 | 38.50 |

Self-contained ranges listed have sensitivity of approximately 200 ohms per volt up to and including 200 volts; higher ranges are 1000 ohms per volt.

#### D-C MILLIAMMETERS

| Range | Scale Div. | Approx. Res. | List Price |
|---|---|---|---|
| 1 | 50 | 80 | $31.00 |
| 3 | 60 | 7.3 | 31.00 |
| 5 | 50 | 2.8 | 31.00 |
| 10 | 50 | 1.25 | 31.00 |
| 25 | 50 | 1.0 | 31.00 |
| 50 | 50 | 2 | 31.00 |
| 100 | 50 | 1 | 31.00 |
| 200 | 40 | 0.5 | 31.00 |
| 300 | 60 | 0.33 | 31.00 |
| 500 | 50 | 0.2 | 31.00 |

Ranges above 25 milliamperes are shunted and have a drop of approximately 100 millivolts.

#### D-C AMMETERS

| Range | Scale Div. | List Price | Range | Scale Div. | List Price |
|---|---|---|---|---|---|
| 1 | 50 | $31.00 | 5 | 50 | $31.00 |
| 1.5 | 75 | 31.00 | 10 | 50 | 31.00 |
| 2 | 40 | 31.00 | 25 | 50 | 31.00 |
| 3 | 60 | 31.00 | 50 | 50 | 31.00 |

Regularly supplied with self-contained shunts up to and including 50 amperes, but can be supplied with external 50 mv shunts and 5 foot (0.065 ohm) leads.

#### D-C MICROAMMETERS

| Range | Scale Div. | Approx. Res. Ohms | List Price |
|---|---|---|---|
| 30 | 60 | 1800 | $46.75 |
| 50 | 60 | 720 | 45.00 |
| 75 | 75 | 450 | 45.00 |
| 100 | 50 | 250 | 43.75 |
| 200 | 40 | 400 | 34.75 |
| 300 | 60 | 175 | 34.75 |
| 500 | 50 | 80 | 34.75 |

### MODEL 963—THERMO AMMETERS

Rated accuracy 2% of full scale . . . Scale 3.17" . . . Thermocouple type.

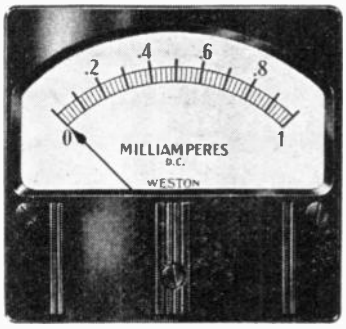
POWER CONSUMPTION: 1 to 4 amperes incl. varies from 0.2 to 0.4 watt per ampere. Approx. 5 amperes and above—0.2 watt per ampere.

Frequency errors less than 2% up to 65 megacycles.

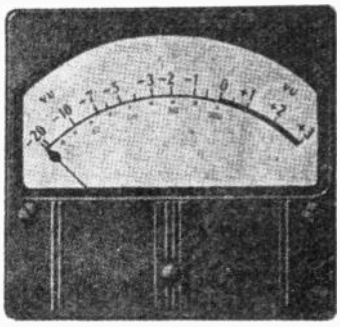
| Amps. | Scale Div. | List Price | Amps. | Scale Div. | List Price |
|---|---|---|---|---|---|
| 1 | 50 | $39.50 | 5 | 50 | $39.50 |
| 1.5 | 75 | 39.50 | 6 | 60 | 39.50 |
| 2 | 40 | 39.50 | 8 | 40 | 39.50 |
| 2.5 | 50 | 39.50 | 10 | 50 | 39.50 |
| 3 | 60 | 39.50 | 15 | 75 | 39.50 |
| 4 | 40 | 39.50 | 20 | 40 | 39.50 |

The ranges are all self-contained.

Through the use of specially controlled characteristics, thermo ammeters can be supplied to meet the special requirements of the FCC for antenna ammeters.




MODEL 961



### MODEL 962—TYPE 30 VU METERS

Model 962 VU Meters are available with a choice of two scales. Type A stresses the level in VU and is used largely in monitoring wire lines. Type B emphasizes per cent use of transmitter output and is the standard for broadcast service. Scale backgrounds are buff colored.

Scale A or B ..... Model 962—$51.50 List

## MATCHED A-C AND D-C PORTABLE INSTRUMENTS

### MODEL 433—A-C INSTRUMENTS

**Scale Length 4.04"—Accuracy within ¾ of 1% — Movable Iron Type — Shielded Case Size 5-1/16" x 5¼" x 3¼"—Weight 2½ lbs.—Hand Calibrated Mirror Scales Bakelite Case with Carrying Strap.**

Note: These instruments are calibrated for use in a horizontal position.

#### A-C VOLTMETERS

Made with single, double and triple ranges. For use on frequencies from 25 to 125 cycles.

| Range | List Price |
|---|---|
| 10, 30, 50, 75 | $ 90.00 |
| 10/5, 20/10, 30/15 | 97.50 |
| 450/300/150 | 119.75 |
| 600/300/150 | 121.50 |
| 750/300/150 | 123.75 |

#### A-C MILLIAMMETERS

Made in single and double ranges only, for use on frequencies from 25 to 500 cycles.

| Range | List Price |
|---|---|
| 15, 30, 75, 500 | $ 88.50 |
| 300/150 | 103.50 |

#### A-C AMMETERS

Made in single, double and triple ranges for use on frequencies from 25 to 500 cycles. All instruments have two binding posts; double and triple range instruments are provided with a range selector switch.

| Range | List Price |
|---|---|
| 1, 1.5, 2, 3 | $ 88.50 |
| 15, 25, 30 | 94.50 |
| 2/1, 5/2.5, 10/5 | 103.50 |
| 3/1.5/0.75, 5/2.5/1, 10/5/1 | 148.50 |
| 20/5/2, 30/7.5/3, 50/20/5 | 154.50 |

### MODEL 931—D-C INSTRUMENTS

**Scale Length 4.04"—Accuracy within ½ of 1% Core Magnet Moving Coil Type. Case Size 5-1/16" x 5¼" x 3¼"—Weight 2 lbs. — Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.**

Note: These instruments are calibrated for use in a horizontal position.

#### D-C VOLTMETERS

| Range | Net Price 1,000 Ohms Per Volt | List Price 5,000 Ohms Per Volt |
|---|---|---|
| 3, 15, 50 | $ 91.00 | $106.00 |
| 300/150/3 | 109.00 | 124.00 |
| 750/300/150 | 115.75 | 130.75 |

#### D-C AMMETERS

| Range | List Price |
|---|---|
| 1, 1.5, 3, 5 | $ 94.00 |
| 30/15/3 | 109.00 |
| 50/20/5 | 109.00 |

Self-contained up to 50 amperes inclusive, but can be supplied with external 50 mv shunts and 5 ft. leads.

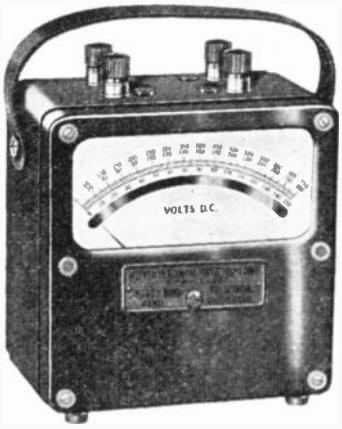
#### D-C MILLIAMMETERS

| Range | List Price |
|---|---|
| 15, 150 | $ 89.50 |
| 1500/150/15 | 109.00 |
| 15/1.5/.15 | 113.50 |

Single range Milliammeters with ranges above 30 ma are shunted and have a drop of 50 mv ±5%.

#### D-C MICROAMMETERS

| Range | High Resistance Approx. Res. Ohms | High Resistance List Price | Low Resistance Approx. Res. Ohms | Low Resistance List Price |
|---|---|---|---|---|
| 30 | 2300 | $113.50 | 490 | $121.00 |
| 100 | 2000 | 106.00 | 60 | 113.50 |
| 200 | 600 | 98.50 | 15 | 106.00 |




### MODEL 432—D-C AND SINGLE PHASE A-C WATTMETERS

Double voltage and single or double current ranges, self-contained up to 300 volts and 50 amperes, frequencies from 25 to 125 cycles.

Electrodynamometer Type

Accuracy ½ of 1% ..... Scale Length 4.04"

Case Size 5 1/16" x 5¼" x 3¼" ..... Wt. 3¼ lbs.

| Normal Volts | Normal Amps | List Price |
|---|---|---|
| 150 75 | .1 | $181.25 |
| Double Current Ranges | | |
| 300/150 | 5/2.5 | 194.75 |

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# WESTON Electronic TEST EQUIPMENT

## MODEL 983 OSCILLOSCOPE

The Model 983 is a high gain, wideband Oscilloscope designed to accurately reproduce waveforms comprising a wide band of frequencies. High sensitivity of 15 millivolts per inch RMS makes this Oscilloscope ideal for — setting resonant traps . . . signal tracing in low level stages . . . as a general null indicator . . . for phase characteristic measurement in Industrial Applications . . . and for sweep frequency visual alignment of TV receivers.

The scope contains identical vertical and horizontal push-pull amplifiers with a choice of a-c or d-c coupling without affecting either sensitivity or bandwidth. Both amplifiers have compensated step attenuators and cathode follower input.

It has excellent square wave reproduction with overshoot of only 2 to 5% with a rise time of 0.1 microsecond. The scope response is essentially flat throughout the specified range of 4.5 mc and is usable to 6 mc.

The unit has provisions for internal voltage calibration, internal phased sine wave, and Z-axis intensity modulation. Reversal of polarity of both horizontal and vertical signals is easily accomplished by means of toggle switching. Tube replacements are noncritical and etched circuitry facilitates quick and rapid maintenance.

### SPECIFICATIONS

WIDE BAND FREQUENCY RESPONSE: Flat within 1.5db from 0-3.6 mc and within —3db to 4.5 mc on both vertical and horizontal amplifiers. Transient response: overshoot 2 to 5%. Rise time: 0.1 microsecond.

HIGH DEFLECTION SENSITIVITY: 15.0 millivolts per inch, RMS on both vertical and horizontal amplifiers.

PHASE SHIFT: Between Horizontal-Vertical Amplifiers, 0 to 500 kc — 0°; to 1 mc within 2°; by internal adjustment with gain controls at max. 0° phase shift possible on any specific frequency to 6 mc.

CALIBRATING VOLTAGES: 500 millivolts, 5 volts, 50 volts, 500 volts, peak to peak.

Z-AXIS MODULATION: Input terminal mounted on front panel.

SWEEP FREQUENCIES: 10-500,000 cps, variable. Preset TV/V Position—30 cps. Preset TV/H Position—7875 cps. Retrace Time—better than 2% to 100 kc; at 500 kc less than 10%.

INTERNALLY PHASED SINE WAVE.

VERTICAL AND HORIZONTAL POLARITY: Reversible.

INPUT IMPEDANCE: Vertical Amplifier (without Shielded Cable), 1 meg shunted by 60$\mu\mu$f. Vertical Amplifier (with Shielded Cable), 1 meg shunted by 120$\mu\mu$f. Vertical Amplifier (with Low Capacitance Probe), 2 meg shunted by 15$\mu\mu$f. Horizontal Amplifier (without Shielded Cable), 1 meg shunted by 60$\mu\mu$f.

POWER SUPPLY: 105/125 volts, 50/60 cycles.

TUBE COMPLEMENT: (1)-1V2, (1)-5U4-GA, (5)-6BQ7A, (4)-12BY7A, (4)-6AH6V, (1)-6U8, (1)-5UP1, (1)-OD3, (1)-5N060T, (1)-6BK7A. Flat faced tube available at a surcharge.

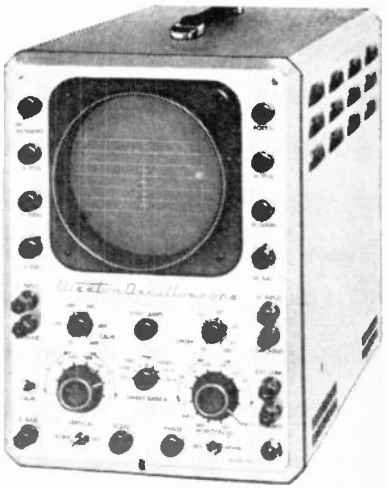
CASE: Grey hammertone finished steel.

PANEL: Aluminum finish with etched, black markings.

SIZE: 10" x 14" x 19.5". (254 x 342.9 x 457.2mm)

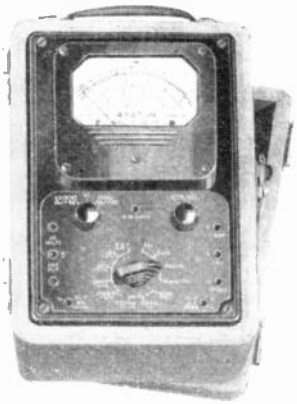
APPROX. WEIGHT: 40 lbs. (18.2 kgs.)

**List Price $460.00**



Model 983

## SUPER-SENSITIVE ANALYZER MODEL 779



Model 779 Type 1

List Price $160.00

**ACCURACY: A-C within 3%; D-C within 2% to 250 volts; 3% on 1,000 volt range.**

**Size: 6 3/8" x 9 1/8" x 4 7/8" (162 x 232 x 124 mm) Approx. Wt.: 6 lb. (2.72 kgs.)**

A compact 26 range ultra-sensitive analyzer with five d-c voltage ranges at a sensitivity of either 1,000 or 20,000 ohms per volt. A-C temperature compensated; precision resistors throughout. Supplied in a rugged solid oak case with a removable cover and convenient carrying handle. Test leads are provided.

### RANGES

| Volts D-C | Volts A-C | Current D-C Only | Decibels | Ohms |
|---|---|---|---|---|
| 2.5 | 2.5 | .1 Ma | — 14 to + 2* | 0-3000 |
| 10 | 10 | 1 Ma | — 2 to + 14* | 0-30,000 |
| 50 | 50 | 10 Ma | + 12 to + 28* | 0-300,000 |
| 250 | 250 | 50 Ma | + 26 to + 42† | 0-30 Meg |
| 1000 | 1000 | 250 Ma | + 38 to + 54†† | |
| | | 1 Amp | (6 milliwatts, | |
| | | 10 Amp | 500 ohms, zero level) | |

* Substantially flat to 10,000 cycles.
† Substantially flat to 3,000 cycles. †† Substantially flat to 1,000 cycles.

## MODEL 799 INSULATION TESTER

Model 799

ACCURACY: Within 1/8" of scale length. SCALE: 2.375" (60.3 mm)

Size: 3/16 x 5 1/4 x 5" (86 x 133 x 127 mm) Approx. Wt.: 3.8 lbs. (1.7 kgs.)

For leakage measurements up to 10,000 megohms at low voltage at a maximum test potential 50 volts. Test leads, tubes, batteries and oak case are supplied.

RANGES: 0-10,000 megohms (Logarithmic scale)

**List Price $48.50**

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# WESTON Electronic TEST EQUIPMENT

## WESTON MODEL 982 VACUUM TUBE VOLTMETER

The Weston Model 982 is a self-contained, battery operated Vacuum Tube Voltmeter. It is particularly adaptable to the Radio-TV Servicing industry where the requirements of peak to peak measurement of a-c voltages exclude the use of conventional meters. This instrument makes possible quantitative measurement of all complex wave form voltages utilized in video, sync and deflection circuits with no a-c line interference in critical measurements.

### FEATURES

BATTERY OPERATED: Unit affords complete isolation from spurious response due to stray a-c fields and circulating ground currents. Extremely low drain for long battery life. Power Consumption: Less than 25 milliwatts.

DIRECT PEAK TO PEAK MEASUREMENTS.

NO SWITCHING OF LEADS IS REQUIRED: One shielded lead is used for all measurements, a-c, d-c, ohms, and peak to peak.

RANGE FUNCTION SWITCH: Makes negative and positive d-c potentials measurable DIRECTLY.

HIGH INPUT IMPEDANCE: 10 megohms on d-c for accurate measurements — 2.8 megs. a-c, RMS — 1 meg. a-c, peak to peak.

NO ZERO SCALE DRIFT: Instrument can be used immediately without waiting for warm up . . . resetting of zero corrector when switching from range to range is entirely eliminated.

DC ISOLATION ADAPTOR: Makes d-c measurements possible in the presence of a-c voltages.

FREQUENCY RESPONSE: Suitable for measurement of TV wave forms, such as sync pulses, saw tooth, drive voltages, and other complex wave form voltages.

DISCRIMINATOR ALIGNMENT: Zero corrector knob has sufficient latitude to center scale.

A-C VOLTS: 20 cps — 1.5 kc; Peak-to-Peak Volts: 20 cps — 300 kc; for voltages above 160 volts peak-to-peak containing frequency components up to 300 kc a low capacitance probe is furnished. For frequencies above 300 kc to 250 megacycles an RF Probe is available.

RF PROBE is available as an accessory.

### SPECIFICATIONS

ACCURACY: ±3% d-c — ±5% a-c, RMS. Sinusoidal wave form.

IMPEDANCE: 10 megs. d-c — 2.8 megs., a-c, RMS — 1 meg. a-c, peak to peak.

RANGES:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-C Volts | 1.6 | 8 | 40 | 160 | 400 | 800 | 1600 |
| A-C Volts | 1.6 | 8 | 40 | 160 | 400 | 800 | 1200 |
| P-P Volts | 1.6 | 8 | 40 | 160 | 400 | 800 | 1600 |
| Low-C Probe P-P Volts | | | | 16 | 80 | 400 | 1600 |
| Ohms | X1 Meg. | X100K | X10K | X1K | X100 | X10 (10 ohms center) | X1 |

BATTERY LIFE: Battery A* — Approx. 90 days . . . is easily replaceable (Standard 1.5 volt, Size D Cell).
Battery B* — Shelf life approx. 1 year.

SCALE LENGTH: 4.63".

CASE: Grey hammertone finished steel with carrying strap.

PANEL: Aluminum finish with markings etched in black.

SIZE: 10" x 7.38" x 3.625".

APPROX. WEIGHT: 6 lbs. (complete with batteries and accessories).

*Based on maximum use — 8 hours per day.

**Model 982** ..... **List Price $87.00**

## WESTON MODEL 980 MARK II ANALYZER

(VOLT-OHM-MILLIAMMETER)

The Weston Model 980 Volt-Ohm-Milliammeter is a highly sensitive, accurate and rugged instrument with a combination of functional ranges which provide a wide range of test measurement applications in the electronic field. The instrument has a d-c sensitivity of 20,000 ohms/volt, and an a-c sensitivity of 1000 ohms/volt. Accuracy is 2% d-c, 3% a-c. Fuse protected ohms ranges.

Range and functional switching is greatly simplified by use of a single dial for all ranges and functions. Famous CORMAG® mechanism with spring mounted jewels to assure long, trouble-free life.

### SPECIFICATIONS

ACCURACY: 2%, d-c; 3%, a-c.

SCALE LENGTH: 4.63".

RANGES:
- D-C Volts: 1.6, 8, 40, 160, 400, 800, 4000 . . . at 20,000 ohms/volt.
- A-C Volts: 1.6, 8, 40, 160, 400, 1600 . . . at 1,000 ohms/volt.
- DB Range: −15 db to +54 db (in six ranges)
- D-C Milliamperes: 1.6, 8, 80, 800.
- D-C Microamperes: 80.
- D-C Amperes: 8.

| Ohms Range | Center Scale | Full Scale |
|---|---|---|
| R x 1 | 25 | 1,000 |
| R x 10 | 250 | 10,000 |
| R x 100 | 2,500 | 100,000 |
| R x 1,000 | 25,000 | 1 megohm |
| R x 10 000 | 250,000 | 10 megohms |

CASE: Black molded HYCAR, with carrying strap. Break-resistant.

PANEL: Black molded HYCAR with engraved white markings.

SIZE: 6.25" x 7.50" x 2.25".

APPROX. WEIGHT: 2.5 lbs.

**Model 980 Mark II**

**List Price $49.50**

Combination protective front-cover and tilt-stand .....$5.50

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# WESTON Electronic TEST EQUIPMENT

## WESTON MODEL 981 PROPORTIONAL MUTUAL CONDUCTANCE TUBECHECKER

### FEATURES

METER MEASUREMENT OF HIGH LEAKAGE RESISTANCE: Provides an accurate meter measurement of leakage resistance as high as 5 megohms between tube elements, thus being particularly useful for TV servicing and TV line production assembly.

MULTIPLE SWITCHING FACILITIES: Protection against obsolescence is assured through the use of nine single circuit, twelve position, selector switches. These multiple switching facilities make possible many more combinations of tube connections.

TWIN SECTION TUBES: Three toggle switches make it possible to rapidly check and compare the respective sections of twin section tubes at only one setting of the selector switches.

SINGLE SOCKET FOR EACH TUBE BASE REGARDLESS OF TUBE CONNECTION: Eliminates the possibility of plugging a tube into the wrong socket. Sockets are provided for conventional type tube bases as well as acorn, and 7 and 8 pin subminiatures.

Gm MEASUREMENTS: Gm measurements are made more accurately by using filtered d-c plate, screen grid and control grid potentials. A precision voltage divider network and selector switch allows a proportionate value of signal voltage to be chosen for testing tubes having transconductances up to 30,000 micromhos. Signal voltages of 5.2, 2.6, 1.3, and 0.65 volts peak-to-peak having a frequency of 5000 cycles are provided.

ROLL INDEX CHART: Provides comprehensive, up-to-date test data on commonly encountered tubes, as well as those infrequently used.

LEAKAGE TEST: The leakage tests are performed at a d-c potential of 125 volts. For each numbered position of the LEAKAGE TEST switch, a specific tube element is isolated and connected into a series ohmmeter circuit consisting of the isolated element, the 125 volt d-c potential, a current limiting resistor, a milliammeter, and all other elements of the tube.

VOLTAGE REGULATOR TUBES: A selenium rectifier supply furnishes 200 volts d-c for testing of voltage regulator tubes.

SUBMINIATURE TYPE TUBES: A 45 volt potential source facilitates testing of subminiature tubes.

### SPECIFICATIONS

FILAMENT VOLTAGES: .65, 1.1, 1.5, 2, 2.5, 0.6a, 3.3, 5, 6.3, 7.5, 10, 13, 20, 27.5, 35, 47, 70, 115.

PLATE VOLTAGES: 90, 130, 220 volts d-c; 22, 44, 160 volts a-c.

SIGNAL VOLTAGES: 5.2, 2.6, 1.3, 0.65 volts peak-to-peak.

Gm RANGE: Up to 30,000 micromhos.

POWER REQUIREMENTS: 100 to 125 volts, 60 cycles single phase a-c, 30 watts.

CASE: Grey hammertone finished steel.

SIZE: 17.50" x 13.25" x 6.00".

WEIGHT: 23½ lbs. (10.7 Kgs.).

**Model 981 ..... List Price $315.00**

## Model 749 Miniature Clamp Volt-Ammeter

Light weight and rugged pocket-size instrument for quick easy servicing. Has self-shielded core magnet mechanism with spring backed jewels, and shatter-proof Plexiglas window. Only one scale for all ranges and functions. Jaws take up to 1" round, or 1¾" x ⅜" rectangular conductors. Furnished with test leads in scuff-proof case.

Plug-In Adapter available for making both current and voltage measurements . . . has female recepticals on both sides for plugging in load without disturbing circuit being tested . . . convenient for lead insertion for voltage checks . . . serves as 10 to 1 divider for low current measurements.

RATED ACCURACY: (Model 749) ±3% full scale deflection.
RANGES: Current 300/150/60/30/15/6 amperes a-c.
Voltage 600/300/150 volts a-c.

List — Model 749 — *$49.50 complete* — List Plug-In Adapter — *$4.75*

## Model 633 Clamp Volt-Ammeter and Clamp-Ammeter

MODEL 633 Type VA-1

| | List Price |
|---|---|
| **Model 633 Type VA-1** (Incl. Potential Leads) — 1000/250/100/25/10 amperes a-c 700/350/175 volts a-c | $125.00 |
| **Model 633 Type A-1** — 500/250/100/50/25/10 amperes a-c | $117.00 |
| **Model 633 Type A-2** — 1000/500/250/100/25/10 amperes a-c | $117.00 |
| **Model 633 Type A-3** — 2000/1000/500/250/100/50 amperes a-c | $125.00 |
| **Model 9958**, 50 Foot Extension Cable, Plug & Receptacle for Model 633 Types A-1, A-2, A-3 | $ 72.00 |
| **Leather Carrying Case** (Model 633 Types VA-1, A-1, A-2, A-3) | $ 13.50 |
| **Leather Carrying Case** (Model 9958 — Cable, Plug and Receptacle) | $ 22.50 |

— NOTE —

*Model 633 instruments may be used for continuous duty up to 500 amperes.*

**Approximate Dimensions and Weights**

Model 633 Types VA-1, A-1, A-2, A-3 ..... 13⅝x4⅜"x2½" 3¼ lbs.
Leather Carrying Case (Types VA-1, A-1, A-2, A-3) .... 14½"x5½"x3⅝" 2¼ lbs.
Model 9958, 50 Foot Extension Cable, Plug & Receptacle ..... 4¼ lbs.
Leather Carrying Case (Model 9958—Cable, Plug & Receptacle) 14"x8½"x3¾" 4¼ lbs.

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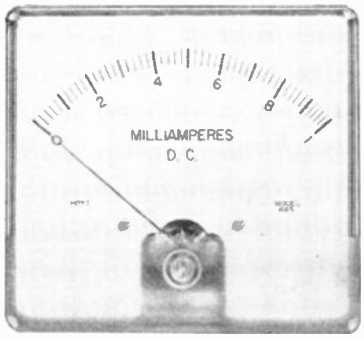
# PRECISION ELECTRICAL INSTRUMENTS

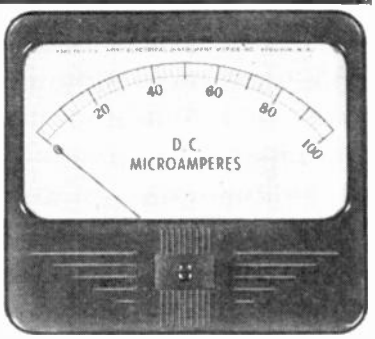
**For Original Equipment and Replacement Applications**

Hoyt SINCE 1904



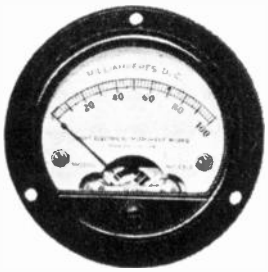

MODEL Nos. 641, 645, 653 and 649, D.C.
MODEL Nos. 642, 646, 654 and 650, A.C.
Clear Plastic Styrene Cases

HOYT moving-coil Meters are built on the D'Arsonval principle using carefully selected jewel bearings and polished steel pivots. Accuracy within 2%. Alnico Magnets with soft-iron pole-pieces of uniform flux density used in all movements. Permanently correct balance assured by HOYT "cross arm" spiral wire balance. High torque to weight ratio. Quick response and good damping under all conditions. Choice of "knife-edge" or "lance" type pointers.




MODEL Nos. 600 and 647, D.C.
MODEL Nos. 601 and 648, A.C.
Bakelite Cases

MODEL Nos. 635 and 597, D.C.
MODEL Nos. 636 and 598, A.C.



MODEL Nos. 582 & 17/3, D.C.
MODEL Nos. 584 and 552, A.C.

| MODEL DC | MODEL AC | CASE TYPE PANEL MTG. | SCALE LENGTH AC - DC | FLANGE | BODY DIA. AC - DC | BODY DEPTH AC - DC |
|---|---|---|---|---|---|---|
| 17/3 | 552 | Bakelite Rd. | 1⅞" | 2.690" | 2.200" | 1⅜" |
| 17/3 | 552 | Metal Rd. | 1⅞" | 2 35/64" | 2 1/16" | 1 19/64" |
| 635 | 636 | Bakelite Sq. | 1⅞" | 2⅜" x 2⅜" | 2.200" | 1.400" |
| 649 | 650 | Styrene Sq. | 2½" | 2⅝" x 2⅜" | 2.200" | 1⅛" |
| 17/L | 560 | Metal Rd. | 2¼" | 3 7/32" | 2½" | 1½" |
| 17/L | 560 | Metal Surface | 2¼" | 3 1/16" | 2½" | — |
| 582 | 584 | Bakelite Rd. | 2½" | 3½" | 2¾" | 1⅜" |
| 597 | 598 | Bakelite Sq. | 2½" | 3" x 3" | 2¾" | 1⅜" |
| 653 | 654 | Styrene Sq. | 3½" | 3⅜" x 3⅛" | 2¾" | 1⅛" |
| 570 | 580 | Metal Rd. | 2⅝" | 3¾" | 3" | 1 11/16" |
| 570 | 580 | Metal Surface | 2⅝" | 3⅝" | 3" | — |
| 607 | 610 | Bakelite Sq. | 2¾" | 3⅝" x 3 5/16" | 2¼" | 1 1/16" |
| 574 | 617 | Metal Rd. | 3¾" | 4½" | 3¾" | 1 19/32" |
| 574 | 617 | Metal Surface | 3¾" | 4½" | 3¾" | — |
| 600 | 601 | Bakelite Sq. | 3¾" | 4½" x 4" | 2¾" | 1 1/16" |
| 641 | 642 | Styrene | 4¼" | 4½" x 3 27/32" | 2¾" | 1⅛" |
| 645 | 646 | Styrene Sq. | 4½" | 4⅝" x 4 3/16" | 2¾" | 1⅛" |
| 647 | 648 | Bakelite Sq. | 4" | 4½" x 4 3/16" | 2¾" | 1⅛" |

## PRICE LIST:

| Range | Approx. Resist. | PANEL MOUNTING = 17/3 = 635 = 649 | = 17L | = 653 = 582 = 597 | = 570 = 607 | = 574 = 641-5 = 600 = 647 | = 583 = 602 | PORTABLE = 578 | = 515 |
|---|---|---|---|---|---|---|---|---|---|
| **D.C. MILLIAMMETERS** | | | | | | | | | |
| 0/1* | 50 | $ 8.70 | $ 9.00 | $ 9.20 | $ 9.70 | $10.20 | — | $11.15 | $13.10 |
| Above prices also apply to 0/3, 0/5, 0/10, 0/15, 0/25, 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA. standard ranges. | | | | | | | | | |
| **D.C. MICROAMMETERS** | | | | | | | | | |
| 0/20 | 2,800 | 15.70 | 16.00 | 16.20 | 16.70 | 17.20 | ‡ | — | — |
| 25/0/25 | 1,550 | 13.20 | — | 13.70 | — | 14.70 | | — | — |
| 0/50 | 1,550 | 13.20 | 13.50 | 13.70 | 14.20 | 14.70 | | — | — |
| 50/0/50 | 950 | 11.50 | — | 12.00 | — | 13.00 | | — | — |
| 0/100 | 950 | 11.50 | 11.80 | 12.00 | 12.50 | 13.00* | | 13.95 | 15.90 |
| 100/0/100 | 450 | 9.75 | — | 10.30 | — | 11.30 | | — | — |
| 0/200 | 450 | 9.75 | 10.10 | 10.30* | 10.80 | 11.30 | | 12.25 | 14.20 |
| 0/500 | 110 | 9.30 | 9.50 | 9.80 | 10.30 | 10.80 | | 11.75 | 13.70 |
| 500/0/500 | 50 | 8.70 | — | 9.20 | — | 10.20 | | — | — |
| ‡ Prices on request for all ranges of Models = 583 and = 602. | | | | | | | | | |
| **D.C. MILLIVOLTMETERS** | | | | | | | | | |
| 0/50 | 0.3 | 8.70 | 9.00 | 9.20 | 9.70 | 10.20 | — | 11.15 | 13.40 |
| **D.C. AMMETERS** | | | | | | | | | |
| 0/1 | 0.005 | 8.70 | 9.00 | 9.20 | 9.70 | 10.20 | — | 11.15 | 13.10 |
| 0/5 | 0.004 | 8.90 | 9.20 | 9.35 | 10.20 | 10.40 | — | 11.35 | 13.30 |
| Above prices for 0 5 amp. range also applies to standard ranges of 0/10, 0/15, 0/25, 0/30*, 0/50* amps. on all models. See Shunt Table below for High Current Ammeter Ranges. | | | | | | | | | |
| **D.C. VOLTMETERS** | | | | | | | | | |
| 0/1 | 1000Ω/V. | 9.40 | 9.70 | 9.90 | 10.40 | 10.90 | — | 11.85 | 13.80 |
| Above prices also apply to standard ranges of 0/3, 0/5, 0/10, 0/15, 0/25, 0/30, 0/50*, 0/100, 0/150* volts on all models. | | | | | | | | | |
| 0/300* | 2000Ω/V. | 9.90 | 10.20 | 10.40 | 10.90 | 11.40 | — | 12.35 | 14.30 |
| Above prices also apply to standard ranges at 0/500, 0/600, 0/750 volts on all models. *These ranges carried IN STOCK . . . Models = 582, = 597, and = 647 only. (Calibrated for non-magnetic panels). | | | | | | | | | |

NOTE: If "in-between" ranges are required, add $1.00 to price of next higher range listed. If "zero-center" ranges are required, add $1.00 to price of that range. For in-between ranges on moving-coil type Voltmeter 150 volts and up, add $2.50 to prices shown.

NOTE: Please specify type of case on order from chart above. Unless specified, all meters are calibrated on non-magnetic panels. If steel panels are used, give thickness of steel and size of panel hole (No extra charge). All prices are net — subject to change or withdrawal without notice.

## STANDARD SWITCHBOARD SHUNTS AND AMMETER RANGES

For price of High Current Ammeters, add price of 0/50 millivoltmeter to price of external shunt, below. 3-ft. leads furnished with shunts. *Stock shunts.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0/25—$7.00 | 0/50—$7.00* | 0/100—$7.00* | 0/200—$7.00* | 0/500—$12.25* | 0/800 —$19.00* | 0/1500—$37.45* | 0/2500—$56.75 |
| 0/30— 7.00 | 0/75— 7.00* | 0/150— 7.00* | 0/300— 8.10* | 0 600— 14.65* | 0/1000— 26.50* | 0/2000— 44.75 | 0/3000— 68.15 |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World Radio History

# PRECISION ELECTRICAL INSTRUMENTS

Hoyt SINCE 1904

*For Original Equipment and Replacement Applications*

**PRICE LIST:**

| Range | Approx. Resist. | PANEL MOUNTING #552 #636 #650 | #560 | #654 #584 #598 | #580 #610 | #617 #601 #648 #642-6 | PORTABLE #562 | #517 |
|---|---|---|---|---|---|---|---|---|
| **A.C. MILLIAMMETERS** | | | | | | | | |
| 0/6 | *6000* | $9.40 | $9.80 | $10.00 | $10.60 | $11.20 | — | — |
| 0/10 | *2700* | 8.40 | 8.80 | 9.00 | 9.60 | 10.20 | $11.15 | $13.10 |
| Prices for ranges: 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA for all models—same as 0/10 MA range above. | | | | | | | | |
| **A.C. AMMETERS** | | | | | | | | |
| 0/1 | *0.271* | 8.40 | 8.80 | 9.00 | 9.60 | 10.20 | 11.15 | 13.20 |
| Above prices also apply to all models of standard single ammeter ranges—0/3, 0/5*, 0/10, 0/15, 0/25, 0/30*, 0/50* amps. A.C. Ammeters are self-contained to 75 amps. | | | | | | | | |
| 0/75 | *0.001* | — | — | 10.70 | 11.30 | 11.70 | 12.85 | 14.80 |
| For High Current Ranges—See Transformer Section below. | | | | | | | | |
| **A.C. VOLTMETERS (Repulsion Type)** | | | | | | | | |
| 0/5 | *77* | 8.40 | 8.80 | 9.00 | 9.60 | 10.20 | 11.15 | 13.10 |
| Above prices also apply to all models in standard ranges of 0/10 and 0/15 volts. | | | | | | | | |
| 0/25 | *1476* | 8.70 | 9.10 | 9.30 | 9.90 | 10.20 | 11.15 | 13.10 |
| Above prices also apply to all models in standard ranges of 0/30, 0/50, 0/100 volts. | | | | | | | | |
| 0/150* | *25,000* | 9.45 | 9.90 | 10.10 | 10.60 | 11.10 | 12.05 | 14.95 |
| 0/300* | *50,000* | | | | | | | |
| 0/500 | *83,300* | — | — | 14.50 | 15.00 | 15.50 | 16.45 | 19.35 |
| 0/600* | *99,960* | | | | | | | |

*These ranges carried IN STOCK on Models #584, #598 and #648 only (calibrated for non-magnetic panels).

**NOTE:** For A.C. RECTIFIER-TYPE VOLTMETERS—5 through 300 volts—add $5.00 to price of comparable D.C. model in 5 volt range. Accuracy within 5%.

**NOTE:** If "in-between" ranges are required, add $1.00 to next higher price as shown above (add $2.50, if above 150 volts). Standard calibration is for non-magnetic panels. Steel panel calibration at no extra charge if order specifies thickness of steel and size of panel hole. Please specify type of meter case.

MODEL Nos. 636 and 598, A.C.

HOYT A.C. Meters for indicating 60 cycle Voltage and Current are of the repulsion type with pneumatic damping. Furnished in the same case styles and sizes as HOYT D.C. Meters, they match the D.C. meter where both types are used on the same panel. See DC-AC Specification Chart on opposite page.

Accuracy is 2%. A choice of pointers is available, and special shields can be supplied at additional cost.

VU METERS, with "A" scale, available in #649, #653, #645, and #647 case styles. Prices on request.

NOTE: A.C. Meters calibrated at any special frequency, 50 - 2000 cycles. Prices on request.

## HIGH CURRENT DONUT TYPE TRANSFORMERS (In Stock)

For prices of HIGH CURRENT AC AMMETERS, add price of ammeter model above to transformer price below. Transformers have 2-ft. leads and 2 VA burden. Other ranges available on request.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 50/5 | $8.45 | 100/5 | $8.45 | 200/5 | $8.45 | 500/5 | $10.55 |
| 75/5 | 8.45 | 150/5 | 8.45 | 300/5 | 8.45 | 600/5 | 10.55 |

## MOVING MAGNET INDICATORS

HOYT Moving Magnet Indicators have been used for many years by the leading manufacturers of electrical devices. Accuracy within 5%.

Attractive appearance is combined with a sturdy movement. Furnished in round or square cases at low cost. Standard finish on metal cases is black. Chrome Plate is available at slight additional cost. Many types of mounting arrangements available.

MODEL No. 793, D.C.
2½" Plastic Case

NOTE: A.C. Vane Meters are furnished in quantity only. Prices on request.

MODEL No. 640, D.C.
2¼" Metal Case

| MODEL DC | MODEL AC | CASE TYPE PANEL MTG. | SCALE LENGTH AC - DC | FLANGE | BODY DIA. AC - DC | BODY DEPTH AC - DC |
|---|---|---|---|---|---|---|
| 640 | 531AC | Nar. Metal Rd. | 1¼" | 2 9/32" | 2" | 1 5/64" |
| 640 | 531AC | Metal Surface | 1¼" | 2⅜" | 2" | — |
| 693 | 594 | Metal Sq. | 1 5/16" | 2⅝" x 2⅝" | 2 1/16" | 9/16" |
| 793 | — | Plastic Sq. | 1¾" | 2⅜" x 2⅜" | 2" | ½" |

### D.C. MILLIAMMETERS

| Range | Approx. Resist. | #640 | #693 | #793 |
|---|---|---|---|---|
| 0/1 | *1000* | $3.45 | $3.50 | $3.75 |
| 0/3 | *700* | 2.55 | 2.60 | 2.85 |
| 0/5 | *480* | 2.30 | 2.35 | 2.60 |
| 0/10 | *180* | 2.15 | 2.20 | 2.45 |
| 0/15 | *130* | 1.85 | 1.90 | 2.15 |
| Prices for 0/25, 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA. ranges: | | 1.80 | 1.85 | 2.10 |

### D.C. AMMETERS

| Range | #640 | #693 | #793 |
|---|---|---|---|
| 0/1 | $1.80 | $1.85 | $2.10 |
| Above prices also apply to 1/0/1, 3/0/3, 0/5, 6/0/6, 0/10, 10/0/10, 0/15 amp. ranges. | | | |
| 20/0/20 | 2.25 | 2.30 | 2.55 |
| Above prices also apply to 0/25, 0/30, 30/0/30 amp. ranges. | | | |
| 0/50 | 2.45 | 2.50 | 2.75 |
| 50/0/50 | 2.45 | 2.50 | 2.75 |
| 0/75 | 2.85 | 2.95 | 3.20 |
| 0/100 | 3.30 | 3.40 | 3.65 |

### D.C. VOLTMETERS

| Range | Approx. Resist. | #640 | #693 | #793 |
|---|---|---|---|---|
| 0/1 | — | $1.80 | $1.85 | $2.10 |
| Above prices also apply to 0/3, 0/5, 0/10, 0/15 volt ranges. | | | | |
| 0/25 | *1375* | 2.10 | 2.15 | 2.40 |
| 0/30 | *1650* | 2.10 | 2.15 | 2.40 |
| 0/50 | *2200* | 2.25 | 2.30 | 2.55 |
| 0/100 | *20,000* | 2.25 | 2.30 | 2.55 |
| 0/150 | *30,000* | 2.30 | 2.35 | 2.60 |
| 0/300 | *60,000* | 3.10 | 3.20 | 3.50 |

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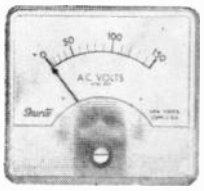
World Radio History

# Shurite PANEL METERS


Model 850
with Zero Adjuster

Model 950

Model 950
with Zero Adjuster

Model 550

Model 650

## 0-1 DC MILLIAMPERES

Sensitive-type meters such as Stock No. 9300Z, 0-1 DC Ma. with approximately 1000 ohms internal resistance, and Stock No. 9332Z, 0-3 DC Ma., 500 ohms internal resistance, open new design possibilities. Where the necessarily more costly D'Arsonval permanent magnet meter was formerly thought to be the only choice, these Shurite variations are now used in many circuits. Substantial quantity production makes moderate prices possible.

Shurite panel meters are attractive, rugged, dependable instruments with accuracy well within 5%. All models have metal cases with telephone-black fronts except the 850 which is plastic. All models fit 2-5/32" hole. Model 850 also fits any smaller hole down to 2-1/64". DC meters are polarized-vane solenoid type, or moving-magnet construction when indicated, AC meters are double-vane repulsion type with jeweled bearing. Although the jewel construction costs more to build, it pays off by providing continuing accuracy during a longer useful life. All are guaranteed.

- **GUARANTEE:** Meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 40¢ handling charge within one year after purchase.
- **ALL-METAL DIALS**—age and moisture resistant, lithographed in black on white for high visibility.
- **STURDY DESIGN**—with husky new coil frames designed to prevent breakage, rigidly mounted in cases with anti-turning hex head studs. Interchangeable in other respects with a popular brand formerly available.
- **MODERN APPEARANCE**—with concealed coils and new raised dial design, enhancing appearance and greatly increasing readability.
- **WIDE SELECTION**—Shurite offers the broadest line of standard meters in the economy-priced field. Distributor stocks are backed by an extensive factory inventory.

**TYPICAL USES:** Shurite products, with their rugged design, and ability to duplicate readings, enjoy wide acceptance in the electronic and electrical fields for transmitters, receivers, TV antenna rotator controls, battery indicators, appliances, power sources, battery eliminators, electric fence controllers, and the very popular basic meters in radio test kits, battery voltage indicators on emergency lighting, burglar and fire alarm systems, output meters on rectifiers, rate-of-charge indicators, testers for hearing aid batteries and their chargers, ammeters for plating sets, and polarity indicators for metals analysis, automotive test equipment to pin-ball circuit testers, and well-depth indicators. Shurite has long been the favorite brand for hobbies and experiments.

## DC MILLIAMMETERS

| RANGE | RESIST. | Model 550* | Model 650* | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Ma. | Approx Ohms | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 0-1** | 1000 | 5300Z | 6300Z | 9300Z | $3.50 | 8300Z | $3.70 |
| 0-3L** | 500 | 5332Z | 6332Z | 9332Z | 3.15 | 8332Z | 3.35 |
| 0-3 | 4800 | 5301 | 6301 | 9301 | 2.60 | — | — |
| 0-5 | 3475 | 5302 | 6302 | 9302 | 2.35 | 8302 | 2.55 |
| 0-10 | 870 | 5303 | 6303 | 9303 | 2.20 | 8303 | 2.40 |
| 0-15 | 485 | 5304 | 6304 | 9304 | 1.90 | 8304 | 2.10 |
| 0-25 | 172 | 5305 | 6305 | 9305 | 1.85 | 8305 | 2.05 |
| 0-50 | 46 | 5306 | 6306 | 9306 | 1.85 | 8306 | 2.05 |
| 0-100 | 10.4 | 5307 | 6307 | 9307 | 1.85 | 8307 | 2.05 |
| 0-150 | 4.7 | 5308 | 6308 | 9308 | 1.85 | 8308 | 2.05 |
| 0-200 | 2.8 | 5309 | 6309 | 9309 | 1.85 | 8309 | 2.05 |
| 0-300 | 1.5 | 5310 | 6310 | 9310 | 1.85 | 8310 | 2.05 |
| 0-400 | .46 | 5311 | 6311 | 9311 | 1.85 | 8311 | 2.05 |
| 0-500 | .30 | 5312 | 6312 | 9312 | 1.85 | 8312 | 2.05 |

** Sensitive type, note internal resistance. Moving-magnet construction, patent pending. Price includes zero adjuster built-in.

* For zero adjuster add 35c to price and Z to stock number.
No zero adjuster on Model 950 stock models; except 9300Z and 9332Z.

## AC MILLIAMMETERS

| RANGE | RESIST. | Model 550 | Model 650 | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Ma. | Approx Ohms | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 0-10 | 4800 | 5607 | 6607 | 9607 | $3.30 | — | — |
| 0-25 | 750 | 5601 | 6601 | 9601 | 3.00 | — | — |
| 0-50 | 150 | 5602 | 6602 | 9602 | 3.00 | — | — |
| 0-100 | 37 | 5603 | 6603 | 9603 | 3.00 | 8603 | 3.20 |
| 0-250 | 5.4 | 5604 | 6604 | 9604 | 3.00 | 8604 | 3.20 |
| 0-500 | 1.34 | 5605 | 6605 | 9605 | 3.00 | — | — |

* Zero adjuster on AC meters available only on Model 850.
Add 35c to price and Z stock number.

## DC AMMETERS

| RANGE | RESIST. | Model 550* | Model 650* | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Amps | Approx Ohms | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 0-1 | .105 | 5201 | 6201 | 9201 | $1.85 | — | — |
| 0-3 | .02 Max | 5202 | 6202 | 9202 | 1.85 | — | — |
| 0-5 | .02 Max | 5203 | 6203 | 9203 | 1.85 | 8203 | $2.05 |
| 0-8 | .02 Max | 5204 | 6204 | 9204 | 1.85 | — | — |
| 0-10 | .02 Max | 5205 | 6205 | 9205 | 1.85 | 8205 | 2.05 |
| 0-15 | .02 Max | 5206 | 6206 | 9206 | 1.85 | 8206 | 2.05 |
| 0-25 | .02 Max | 5207 | 6207 | 9207 | 2.30 | 8207 | 2.50 |
| 0-50 | .02 Max | 5208 | 6208 | 9208 | 2.50 | — | — |
| 3-0-3 | .02 Max | 5210 | 6210 | 9210 | 2.05 | — | — |
| 5-0-5 | .022 | 5211 | 6211 | 9211 | 2.05 | — | — |
| 6-0-6 | 02 Max | 5212 | 6212 | 9212 | 2.05 | — | — |
| 10-0-10 | .02 Max | 5213 | 6213 | 9213 | 2.30 | — | — |
| 20-0-20 | .02 Max | 5214 | 6214 | 9214 | 2.35 | 8214 | 2.55 |
| 30-0-30 | .02 Max | 5215 | 6215 | 9215 | 2.50 | — | — |
| 50-0-50 | .02 Max | 5216 | 6216 | 9216 | 2.60 | — | — |

* For zero adjusters add 35c to price and Z to stock number.
No zero adjuster on Model 950 stock models.

**Prices NET, F.O.B. New Haven, Conn. Individually Boxed, Domestic Packed, Effective March 1, 1958**


Net
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World Radio History

## AC AMMETERS

| RANGE | RESIST. | Model 550 | Model 650 | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Amps | Approx Ohms | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 0-1 | .42 Max | 5501 | 6501 | 9501 | $2.95 | — | — |
| 0-3 | .072 Max | 5502 | 6502 | 9502 | 2.95 | — | — |
| 0-5 | .041 Max | 5503 | 6503 | 9503 | 2.95 | 8503 | $3.15 |
| 0-10 | .02 Max | 5504 | 6504 | 9504 | 2.95 | 8504 | $3.15 |
| 0-15 | .02 Max | 5508 | 6508 | 9508 | 2.95 | 8508 | 3.15 |
| 0-30 | .02 Max | 5505 | 6505 | 9505 | 3.20 | 8505 | 3.40 |
| 0-50 | .02 Max | 5506 | 6506 | 9506 | 3.40 | — | — |

* Zero adjuster on AC meters available only on Model 850.

## DC VOLTMETERS

| RANGE | RESIST. | Model 550* | Model 650* | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Volts | Approx Ohms | Stock No. | Stock No. | Stock No | Net Each | Stock No. | Net Each |
| 0-1 | 10 | 5101 | 6101 | 9101 | $1.85 | — | — |
| 0-3 | 93 | 5102 | 6102 | 9102 | 1.85 | — | — |
| 3-0-3 | 250 | 5103 | 6103 | 9103 | 1.95 | — | — |
| 0-5 | 300 | 5104 | 6104 | 9104 | 1.85 | — | — |
| 0-6 | 390 | 5105 | 6105 | 9105 | 1.85 | — | — |
| 0-8 | 600 | 5106 | 6106 | 9106 | 1.85 | 8106 | $2.05 |
| 0-10 | 880 | 5107 | 6107 | 9107 | 1.85 | 8107 | 2.05 |
| 0-15 | 2370 | 5108 | 6108 | 9108 | 1.85 | 8108 | 2.05 |
| 0-20 | 3500 | 5121 | 6121 | 9121 | 1.90 | — | — |
| 0-25 | 1240 | 5109 | 6109 | 9109 | 2.15 | 8109 | 2.35 |
| 0-25H** | 5800 | 5110 | 6110 | 9110 | 2.75 | — | — |
| 0-50 | 2540 | 5122 | 6122 | 9122 | 2.30 | 8122 | 2.50 |
| 0-50H** | 11800 | 5111 | 6111 | 9111 | 2.95 | — | — |
| 0-75 | 3740 | 5112 | 6112 | 9112 | 2.30 | — | — |
| 0-100 | 5140 | 5113 | 6113 | 9113 | 2.30 | — | — |
| 0-100H** | 23800 | 5114 | 6114 | 9114 | 3.00 | — | — |
| 0-150 | 7540 | 5115 | 6115 | 9115 | 2.35 | 8115 | 2.55 |
| 0-150H** | 34800 | 5116 | 6116 | 9116 | 3.10 | — | — |
| 0-300H**† | 74800 | 5117 | 6117 | 9117 | 3.20 | — | — |
| 0-500H**† | 124800 | 5118 | 6118 | 9118 | 3.45 | — | — |
| 0-750H**† | 184800 | 5119 | 6119 | 9119 | 4.05 | — | — |

* For zero adjuster add 35¢ to price and Z to stock number. No zero adjuster on No. 950 stock models.
** H denotes high resistance.
† Supplied with external resistors.

## AC VOLTMETERS

| RANGE | RESIST. | Model 550 | Model 650 | Model 950 | | Model 850** | |
|---|---|---|---|---|---|---|---|
| Volts | Approx Ohms/Volts | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 0-4 | 11 | 5401 | 6401 | 9401 | $3.00 | — | — |
| 0-6 | 15.8 | 5402 | 6402 | 9402 | 3.00 | — | — |
| 0-10 | 27 | 5403 | 6403 | 9403 | 3.00 | — | — |
| 0-15 | 32.3 | 5404 | 6404 | 9404 | 3.00 | — | — |
| 0-25 | 53 | 5412 | 6412 | 9412 | 3.00 | 8412 | 3.20 |
| 0-50 | 96 | 5405 | 6405 | 9405 | 3.60 | 8405 | 3.80 |
| 0-150 | 100 | 5406 | 6406 | 9406 | 3.60 | 8406 | 3.80 |
| 0-300* | 100 | 5407 | 6407 | 9407 | 4.25 | 8407 | 4.45 |
| 0-600* | 100 | 5408 | 6408 | 9408 | 4.65 | — | — |
| 0-750* | 100 | 5409 | 6409 | 9409 | 5.25 | — | — |

* Supplied with external resistors
** Zero adjuster on AC meters available on Model 850. Add 35c.

## RESISTANCE METERS

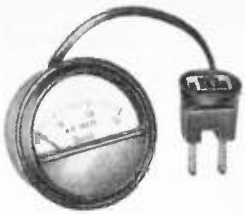
| RANGE | | Model 550* | Model 650* | Model 950 | | Model 850* | |
|---|---|---|---|---|---|---|---|
| Ohms | Volts | Stock No. | Stock No. | Stock No. | Net Each | Stock No. | Net Each |
| 10,000 | 4.5** | 5701 | 6701 | 9701 | $2.45 | 8701 | $2.65 |

* For zero adjuster add 35¢ to price and Z to stock number. No zero adjuster on No. 950 stock models.
** Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

## POCKET TYPE METERS

A typical pocket meter in bright-plated Model 450 case is this transistor battery tester, 0-7 DC volts. Please ask for Catalog 63 which includes Battery Testers (Pocket Type) which have stock numbers beginning with the digit 4. Stock No. 4151, 0-7 DC volts, approx. resistance 670 ohms. (illustrated) ..... $2.30

## HANDY AC LINE VOLTAGE TESTER



Stock 5406-LT—Here's how to use this highly popular line tester: push in the plug and read line voltage, then plug in the TV set, ironer, toaster, washer, air-conditioner, or other appliance and note the new reading. Find (and demonstrate) voltage drop or inadequate wiring as a major source of service problems with this compact, sturdily-built device. Cord is permanently attached to metal-cased meter which tests single outlets without accessories. Range 0-150 Volts A.C. Standard package of 6 individually boxed meters includes attractive counter display at no extra charge. Per meter ..... $3.95

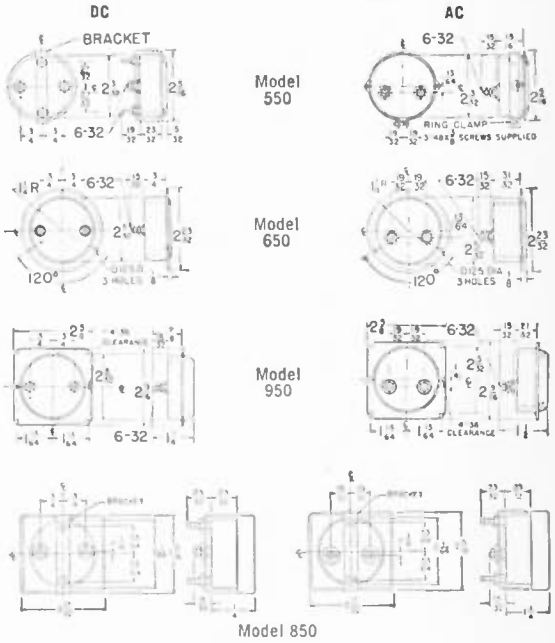
## FLANGE ADAPTER RING

To adapt any Model 550 (round) meter to look like Model 650, attach this 2¾" flange from front of panel.

Model 5-A, Standard black, with hardware, each ..... $0.18

## MOUNTING DETAILS

All cases mount flush, using 2 5/32" hole (850 Series can also use 2 1/64" hole); most standard ranges use 6-32 studs.




## IMPORTANT — HOW TO ORDER

For all standard models, give: (1) Model Number, (2) Range, (3) Stock Number. If Model number and stock number are not stated, Model 550 will be supplied.

**ZERO ADJUSTERS (Z)** For DC meters, zero adjusters are available on Models 550, 650 and 850, but on only two Models 950 — 9300Z and 9332Z. For AC meters, zero adjusters are available only on Model 850. When ordering, add Z to stock number. Example: Model 550-DC voltmeter, 0-1 volt range without zero adjuster is 5101. With zero adjuster, it is 5101Z. Add 35c to price.

**PANEL CALIBRATION (S)** Meters are calibrated for non-magnetic panels. If for magnetic (steel) panel mounting, specify thickness and overall size of panel, and add -S to stock number when ordering, as 5101-S.

**VISCOSITY DAMPING (V)** Careful application of new silicone compound on bearing surfaces damps pointer overtravel. Add V to stock number, as 5406V, and 5 cents to price. Not regularly stocked; available only on quantity order.

**SEE YOUR DISTRIBUTOR** Besides carrying most types, and being able to obtain your other needs promptly, your authorized Shurite distributor of electronic parts is qualified to suggest the right meter for your need.

Prices NET, F.O.B. New Haven, Conn. Individually Boxed, Domestic Packed, Effective March 1, 1958

**SHURITE METERS** NEW HAVEN 8, CONNECTICUT

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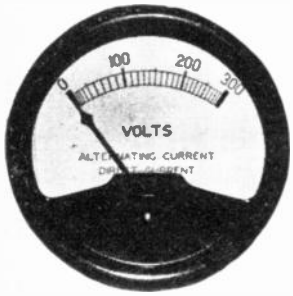
World Radio History

# STERLING PANEL METERS

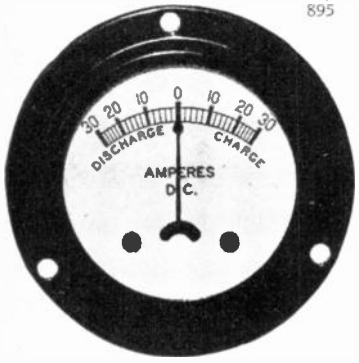
TYPE 80

Flush case, narrow flange, standard finish black enamel. Speed Nut Mounting. Diam. flange 2 1/32". Speed Diam. case 2". Depth case 31/32". Requires hole 2 3/32" in diam. Length terminals 7/16".




TYPE 88

Flush case, narrow apron flange. Standard finish black enamel. Same dimensions as Type 80. Speed Nut Mounting.




TYPE 70

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting. Diam. flange 2 5/8". Diam. case 2". Depth case 7/8". Requires hole 2 3/32" in diam.

STERLING'S NEW SPEED NUT CLAMP

REGULAR BACK CLAMP

## ALTERNATING CURRENT METERS

### A.C. VOLTMETERS

| Number | Range | List Price |
|---|---|---|
| 870 | 0-4 Volts | $4.00 |
| 871 | 0-6 Volts | 4.00 |
| 872 | 0-10 Volts | 4.00 |
| 873 | 0-15 Volts | 4.00 |
| 910 | 0-30 Volts | 4.00 |
| 879 | 0-50 Volts | 4.25 |
| 911 | 0-75 Volts | 4.25 |
| 874 | 0-150 VHR† | 5.50 |
| 912 | 0-250 Volts | 6.00 |
| 875 | 0-300 Volts | 6.25 |
| 913 | 0-500 Volts | 7.25 |
| 876 | 0-600 Volts | 7.25 |
| 877 | 0-750 Volts | 8.75 |
| 878 | 0-10-140 Volts | 5.50 |

†VHR—Volts High Resistance

### A.C. MILLIAMMETERS

| Number | Range | List Price |
|---|---|---|
| 880 | 0-25 Milliamperes | $4.00 |
| 881 | 0-50 Milliamperes | 4.00 |
| 882 | 0-100 Milliamperes | 4.00 |
| 883 | 0-250 Milliamperes | 4.00 |
| 914 | 0-300 Milliamperes | 4.00 |
| 884 | 0-500 Milliamperes | 4.00 |

### A.C. AMMETERS

| Number | Range | List Price |
|---|---|---|
| 886 | 0-1 Amperes | $4.00 |
| 915 | 0-2 Amperes | 4.00 |
| 887 | 0-3 Amperes | 4.00 |
| 888 | 0-5 Amperes | 4.00 |
| 916 | 0-7 1/2 Amperes | 4.00 |
| 889 | 0-10 Amperes | 4.00 |
| 917 | 0-15 Amperes | 4.00 |
| 890 | 0-20 Amperes | 4.25 |
| 918 | 0-25 Amperes | 4.25 |
| 892 | 0-30 Amperes | 4.25 |
| 891 | 0-40 Amperes | 4.50 |
| 893 | 0-60 Amperes | 4.75 |
| 894 | 0-75 Amperes | 4.75 |
| 895 | 0-100 Amperes | 4.75 |

## DIRECT CURRENT METERS

### D.C. VOLTMETERS

| Number | Range | List Price |
|---|---|---|
| 801 | 0-1 Volts | $2.50 |
| 802 | 0-3 Volts | 2.50 |
| 803 | 3-0-3 Volts | 2.50 |
| 804 | 0-5 Volts | 2.50 |
| 805 | 0-6 Volts | 2.50 |
| 806 | 0-8 Volts | 2.50 |
| 807 | 0-10 Volts | 2.50 |
| 808 | 0-15 Volts | 2.50 |
| 809 | 0-25 Volts | 2.50 |
| 810 | 0-25 Volts High Res. | 3.75 |
| 811 | 0-50 Volts | 2.50 |
| 812 | 0-50 Volts High Res. | 4.25 |
| 823 | 0-75 Volts | 2.75 |
| 813 | 0-100 Volts | 2.75 |
| 814 | 0-100 Volts High Res. | 4.25 |
| 815 | 0-150 Volts | 3.00 |
| 816 | 0-150 Volts High Res. | 4.25 |
| 817 | 0-300 Volts | 4.25 |
| 818 | 0-500 Volts | 5.75 |
| 819 | 0-750 Volts | 6.75 |
| 820 | 0-8-160 Volts | 3.75 |

### RESISTANCE METERS

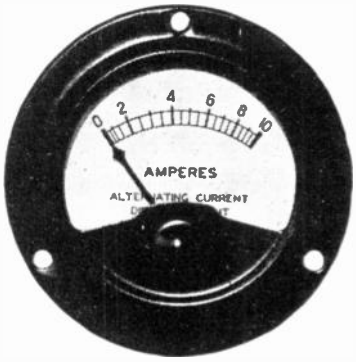
Direct Reading

901.....1.5 Volts, 10,000 Ohms 3 Flashlight cells required List Price $3.75

902....2 M.A., 9 Volts, 100,000 Ohms, 6 Flashlight cells required List Price $5.25

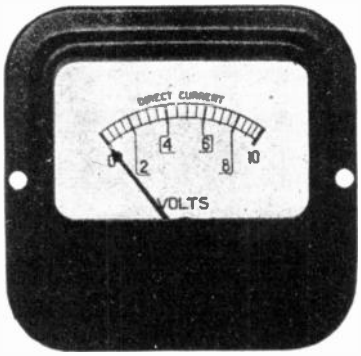
### D.C. MILLIAMMETERS

| Number | Range | List Price |
|---|---|---|
| 835 | 0-2 Milliamps. | $4.00 |
| 836 | 0-5 Milliamps. | 3.25 |
| 837 | 0-10 Milliamps. | 3.00 |
| 838 | 0-15 Milliamps. | 2.50 |
| 839 | 0-25 Milliamps. | 2.50 |
| 840 | 0-50 Milliamps. | 2.50 |
| 841 | 0-100 Milliamps. | 2.50 |
| 842 | 0-150 Milliamps. | 2.50 |
| 843 | 0-200 Milliamps. | 2.50 |
| 844 | 0-300 Milliamps. | 2.50 |
| 845 | 0-400 Milliamps. | 2.50 |
| 846 | 0-20-100 Milliamps | 3.25 |
| 847 | 0-15-150 Milliamps. | 3.25 |
| 848 | 0-500 Milliamps. | 2.50 |




TYPE 78

Flush case, wide flange with apron. Standard finish black, screw holes in flange for mounting. Same dimensions as Type 70.




TYPE 68N

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2 5/8". Diam. case 2 3/32". Depth case 3/4".

### D.C. AMMETERS

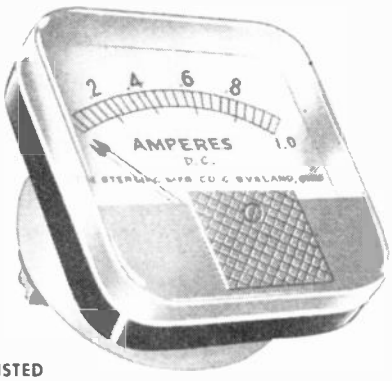
| Number | Range | List Price | Number | Range | List Price |
|---|---|---|---|---|---|
| 855 | 0-1 Amperes | $2.50 | 868 | 0-20 Amperes | $2.75 |
| 859 | 1-0-1 Amperes | 2.50 | 863 | 20-0-20 Amperes | 2.50 |
| 856 | 0-3 Amperes | 2.50 | 865 | 0-30 Amperes | 2.75 |
| 860 | 3-0-3 Amperes | 2.50 | 867 | 30-0-30 Amperes | 2.75 |
| 857 | 0-5 Amperes | 2.50 | 869 | 0-40 Amperes | 3.50 |
| 861 | 6-0-6 Amperes | 2.50 | 866 | 0-50 Amperes | 3.50 |
| 858 | 0-10 Amperes | 2.50 | 925 | 50-0-50 Amperes | 3.75 |
| 862 | 10-0-10 Amperes | 2.50 | 926 | 60-0-60 Amperes | 3.75 |
| 864 | 0-15 Amperes | 2.50 | 927 | 75-0-75 Amperes | 4.00 |

Now you can plan your panel meter requirements with the new Sterling clear plastic face unit at moderate cost. Its fine physical construction assures satisfying operation and provides accuracy not to exceed ± 5%. No need to fear the disturbance of the internals when loosening or adjusting the terminal nuts, for construction assures no damage. Here is handsome appearance plus long life utility.

Choose any color you desire for case and dial; any special needs in these units for your adaption can be supplied.

Order your Sterling Plastic Face panel meters from this range:

1 Volt D.C. to 750 Volts D.C.
1 Mill D.C. to 75 Amps D.C.
1 Volt A.C. to 750 Volts A.C.
25 Mill A.C. to 100 Amps A.C.




**TYPE 70 PRICES LISTED**

***Note: Specify if for magnetic steel panel mounting. Type 80, 88, 78, and 68N square flange case furnished for any range of meter at an additional list price of 25c each.***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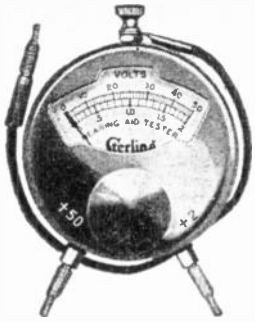
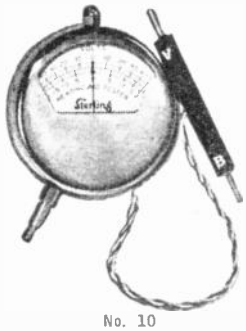


No. 31A



No. 10

No. 13

# STERLING HEARING AID BATTERY TESTERS

**NO. 31A DOUBLE VOLTMETER**—for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v. 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs.....**Price $4.25**

**NO. 32A DOUBLE VOLTMETER**—for special 30 v. "B" batteries and 1½ v. "A" batteries, scale 0-35 v. 1 v. div. scale 0-2 v. 1/10 v. divisions. Equipped with new STERLING flexible plugs.....**Price $4.25**

**NO. 10 DUAL CONTACT PROD METER** in pocket or desk model. Marked "A" at one contact and "B" at the other, the prod is simply inserted into the corresponding battery for quick and easy reading. No. 10 is for earlier type hearing aid batteries. Scale 50-0-50 v., 2 v. div. and 2-0-2 v., 1/10 v. div. No. 10 has one cord and one plug.....**Price $5.00**

**NO. 11** Formerly called the 108 this tester is used on 22½ v. and 30 v. "B" batteries. The load requirement is proportionately less than 1 mil. No. 11 has one cord and one plug. **Price $7.50**

**NO. 12** This new meter has no spur and a new voltage scale 30-0-30 v., 1 v. div. and 2-0-2 v., 1/10 v. div. Made extra sensitive for the latest type miniature batteries. Load: on 22½ v. batteries approx. 565 micro-amperes, on 15 v. batteries approx. 375 micro-amperes, on 1½ v. batteries approx. 40 mils.....**Price $7.50**

**NO. 13 TRANSISTOR TYPE BATTERY TESTER** with voltage scale 0-7, 2/10 v. divisions. Tests up to five mercury batteries in series. Indicates battery strength with a minimum consumption of power.....**Price $4.65**

# STERLING POCKET METERS

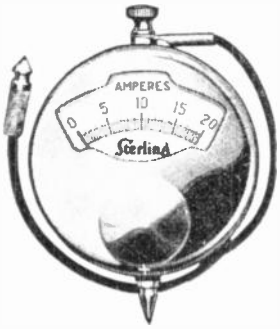
Standard Line Direct Current Pocket Ammeters, Voltmeters and Voltammeters.

| | | LIST PRICE |
|---|---|---|
| | **Ammeters** | |
| No. 23 | for photo-flash dry batteries. 0-20 amp. scale, ½ amp. div | $3.00 |
| No. 24 | for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions | $2.75 |
| No. 24A | for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions | $2.85 |
| | **Voltmeters** | |
| No. 33 | for ordinary single cells and "Flashlight" cells, 0-3 v. scale 1/10 v. div. | $2.85 |
| No. 34 | for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt. div. | $2.85 |
| No. 34A | for 12 volt batteries. 0-16 volt scale, ½ volt divisions | $3.00 |
| No. 34B | for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions | $3.00 |
| No. 34C | for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div. | $3.25 |
| | **Voltammeters** | |
| No. 44 | for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions | $3.25 |
| No. 44A | for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, ½ volt divisions | $3.25 |
| No. 45 | for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale; 1 volt divisions | $4.25 |
| No. 45A | for testing dry cells including the heavy duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div. | $4.50 |

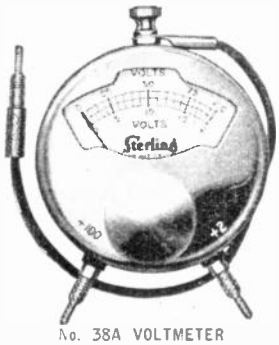
## SPECIAL PURPOSE POCKET METERS

### Voltmeters

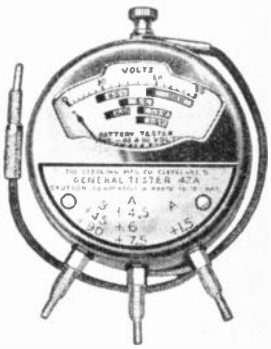
| | | |
|---|---|---|
| No. 37A | for 45 v. "B" batteries and 1.5 "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries | $3.75 |
| No. 38A | for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries | $4.00 |
| No. 39A | for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5-v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries | $4.00 |
| No. 40A | for 90 v. and 135 v. "B" batteries and 1.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries | $4.25 |
| No. 42A | Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., 6 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio Batteries | $6.25 |



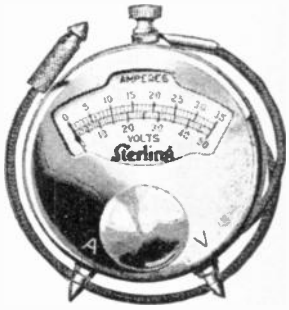
No. 23 AMMETER



No. 38A VOLTMETER



No. 42A GENERAL TESTER



No. 45 VOLTAMMETER

**STANDARD LINE**—Sterling's direct current pocket ammeters, voltmeters and voltammeters may be used in all kinds of battery testing, in railroad signal work, for photo flash purposes and in telephone and low-voltage electrical work generally. **They are polarity indicators.** Meters 2½" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments. Shipping Weight 4 lbs.

## THE STERLING MANUFACTURING COMPANY

**CLEVELAND 2, OHIO**

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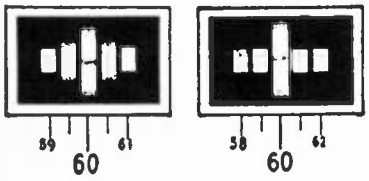
World Radio History

# VIBRATING REED FREQUENCY METERS (PATENTED)

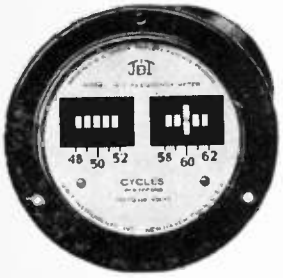
**J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards, in inspection set-ups — wherever constant or known frequency is important to efficient operation of equipment. More than 17 years of continuous experience covering many thousands of these instruments are your assurance of quality for both commercial and defense applications.**

The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to but one frequency. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

The response patterns differ with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right.




**CAUTION:** If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.




(Meter operating at 60 cycles)

## 10 REEDS

**Range:** 48-52 and 58-62 cycles. Double window for ease of reading either range. Often specified for export. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy ±0.3% at reference temperature. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

**30-F,** (illustrated). 48-52 and 58-62 cy., 3¼" Metal Case **$28.50**

**30-FX,** 48-52 and 58-62 cy., 3½" Molded Case, MIL-M-6A mtg. **$27.50**

## 5 REEDS

Used on standby power equipment. Handy for accurately measuring frequency of power source. Five reeds, 58-62 cycles, 100-130 volts. Other characteristics same as Model 30-F. See Table of Dimensions, lines 4 and 5. (This meter also is made with 7 reeds.)

**31-F,** (illustrated). 58-62 cy., 3¼" Metal Case **$24.65**

**31-FX,** 58-62 cy., 3½" Molded Case, MIL-M-6A mtg. **$23.65**

**ADVANTAGES:** Guaranteed accuracy at reference temperature of 77°F is ±0.3% or better of the AC frequency being measured, unless otherwise stated. Accuracy on interrupted DC may be somewhat less. High fatigue safety factor for continuous operation. Temperature compensations are not required as temperature coefficient of reeds is only approximately 75 parts per million per degree F., negative.

All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external magnetic fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

## 9 REEDS — 400 CY.

Used for measuring frequency of high-cycle power sources, particularly aircraft. Accuracy ±0.3% at reference temperature. Nine reeds, 380-420 cycle range. 100-130 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

**33-F,** (illustrated). 380-420 cy., 3¼" Metal Case **$35.10**

**33-FX,** 380-420 cy., 3½" Molded Case, MIL-M-6A mtg. **$34.10**

## 9 REEDS — 60 CY.

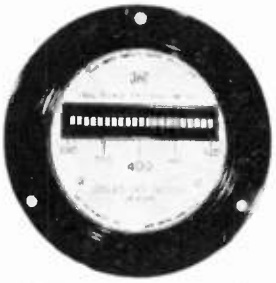
Covers a broad frequency band. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy ±0.2%) 58-62 cycles. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

**34-F,** 56-64 cy., 3¼" Metal Case, 1-cycle steps **$28.25**

**34-FX,** (illustrated). 56-64 cy., 3½" Molded Case, MIL-M-6A mtg. **$27.25**

**34-F-Z,** 58-62 cy., 3¼" Metal Case, ½-cycle steps **$29.90**

**34-FX-Z,** 58-62 cy., 3½" Molded Case, MIL-M-6A mtg. **$28.90**



## 18 OR 21 REEDS

Advanced design offers 21 reeds as an interchangeable 3½" panel meter with 2-cycle intervals for close reading over the band of 380 to 420 cycles per second. Accuracy ±0.3% at reference temperature. The reed flag size is necessarily smaller than the 9-reed 400-cycle meter, such as the model 33-FX, but the 21 reeds are located in an enlarged window 2" wide with flags 3/32" high x 1/16" wide to give maximum readability. A revised internal construction for mounting the reeds in one clamp assures ruggedness. This instrument and its variations are particularly useful where unusually close indication of frequency throughout the band has not been available heretofore. These meters are not regularly stocked. See Table of Dimensions, line 5.

**36-FX-21,** (as illustrated). 380-420 cycles, 21 reeds, 28 volts operation, 3½" Molded Case; 17 ohms per volt; 1.7 watts power consumption. **$51.60**

**36-FX-21-115,** 380-420 cycles, 21 reeds, 100-130 volts; 50 ohms per volt; 2.5 watts power consumption **$52.80**

**30-FX-18,** (not illustrated). 46-54 and 56-64 cycles, 18 reeds in one window with two groupings, 100-130 volts; 300 ohms per volt; 0.35 watts power consumption **$36.30**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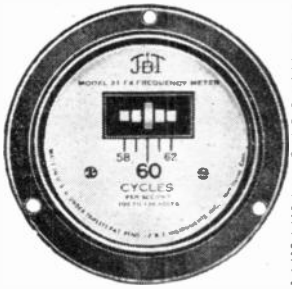
(See Additional J-B-T Appliance Testers on Page L-615)
World Radio History

# Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

## 2½" METERS — 5 REEDS

**MODEL 21-FX,** illustrated, matches other 2½" panel instruments. Meets ASA C39.1-1951 and MIL-M-6A (Type MR 24 or MR 25) in depth of case and mounting dimensions. Weighs only 4½ ozs.; 5 reeds; 850 ohms per volt; 0.15 watt power consumption. Also 116 to 124 cy.; 250 ohms per volt; 0.5 watt power consumption. 390 to 410 cy.; 100 ohms per volt; 1.3 watts power consumption. Flush panel mounting see Print MD-20, also Table of Dimensions, Line 2.

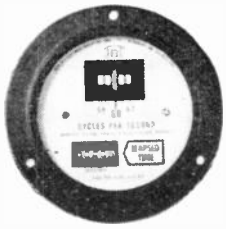



(Operating at 60 cycles)

**21-FX,** 58-62 cy., 2-11/16" Molded Case, 1 cy. steps.....**$22.55**
**21-FX,** 116-124 cy., 2-11/16" Molded Case, 2 cy. steps.....**$25.30**
**21-FX,** 390-410 cy., 2-11/16" Molded Case, 5 cy. steps.....**$27.50**
**21-FX,** 380-420 cy., 2-11/16" Molded Case, 10 cy. steps..**$27.50**

## ELAPSED TIME — FREQUENCY METERS

**31-FE SERIES.** To conserve panel space and centralize information, this panel instrument combines the elapsed time or running time meter with frequency reeds. It is used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours, and 58-62 cycles with 5 reeds, for 100-130 volt operation; self starting. Tenths shown in red, all other numerals in black. Black metal case with front mounting per Table of Dimensions Line 6. Power consumption is 3.5 watts. For variations having 7 9 or 11 reeds not regularly stocked, such as Model 34-FE see revised print SK-45.




**31-FE,** 3¼" metal case.....**$33.00**

**31-FEX-1,** (per print SK-44—not regularly stocked) like Model 31-FE, except with 3½" metal flange permanently attached for MIL-M-6A front mounting per line 7, Table of Dimensions.....**$34.10**

## RUGGEDIZED METERS

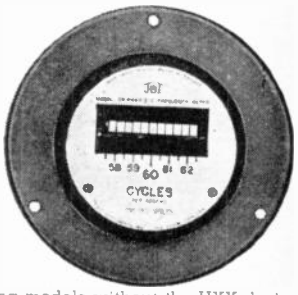
**Models with "RUG"** Series vibrating reed frequency meters and sealed elapsed time meters can be supplied, on special order, to the intent of MIL-M-6A which covers ruggedization of other kinds of meters. This feature usually is specified only for extra severe [illegible]

## NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made only for the purpose of reading two or more voltages, not additional phases.

## 3½" SEALED METERS

**FHXX TYPE** sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters (Print SK-24). While JAN-I-6 and MIL-M-6A (Type MR36) do not refer to frequency indicators, the FHXX series uses the front mounting dimensions, and meets or exceeds the sealing and electrical requirements including the 3000 volt breakdown. Mounting dimensions are shown below. Standard voltage is 100-130. Electrical characteristics and accuracy are the same as for corresponding models without the HXX designation. Every meter tested in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. While not regularly stocked, these meters are in production. For dimensions, see Table, line 8.




**30-FHXX,** 10 reeds, 48-52 cy. and 58-62 cy.....**$34.30**
**31-FHXX,** 5 reeds, 58-62 cy.....**30.45**
**33-FHXX,** 9 reeds, 380-420 cy.....**40.90**
**34-FHXX,** 9 reeds, 56-64 cy.....**34.05**
**34-FHXX-11,** 11 reeds, 55-65 cy.....**36.25**
**34-FHXX-Z-11,** illustrated, 11 reeds, 57.5-62.5 cy.....**37.90**

## 2½" SEALED METERS

On special order, J-B-T supplies 2½" sealed frequency meters. MIL-M-6A mounting. See Table of Dimensions, line 3.

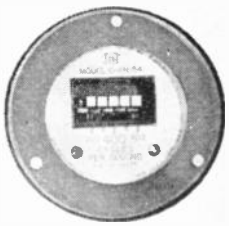
**21-FHXX,** 5 reeds, 58-62 cy. 100-130 volts.....**$34.85**
**23-FHXX,** 5 reeds, 380-420 cy. 100-130 volts.....**$39.80**

## 1½" SEALED METERS

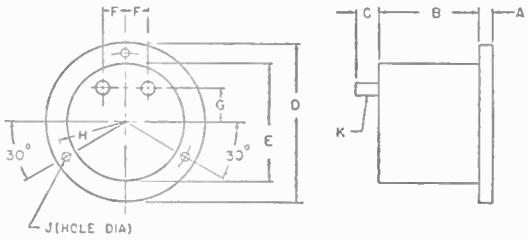
**MODEL 15-FHAC.** Widely used as the frequency standard on audio-oscillators the model illustrated operates 2 reeds, 60 and 400 cycles, at approximately 8-10 volts on 0.04 watts for a cathode follower circuit. Accuracy ±0.5% at 77°F. Steel case has telephone black case, solder terminals. Barrel is 1½" diameter; 2-3 32" detachable flange FL-4 covers glass-to-metal seal. See Table of Dimensions, line 1.

**15-FHAC**.....**$20.30**

**15-FH-5 METERS** (lower photo) also use the 1½" black metal case with 2-3 32" detachable flange and glass-to-metal seal. The 15-FH-5 series features 5 reeds in a row for 100-130 volt operation. Specified where size and weight are important. Same 100% inspection for approx. 57,000 ft. altitude as FHXX types. Standard meter, but not regularly stocked. See Table of Dimensions, line 1.



**15-FH-54,** 5 reeds, 390-410 cycles, 2.5 watts power consumption.....**$25.85**
**15-FH-56,** 5 reeds, 58-62 cycles, 0.25 watts power consumption.....**$21.45**
**15-FH-400,** 5 reeds, 380-420 cy., 2.5 watts power consumption.....**$25.85**




**FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES**

| | MODEL | MIL-M-6A* MOUNTING | A | B | C | D | E | F | G | H | J | K | TERMINAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Line 1 | 15-FH Series | — | 1/8 | 1-9/16 | 3/8 | 2-3/32 | 1-1/2 | 3/8 | 3/8 | 0.875 | 0.125 | Solder. | 1/16" dia. hole |
| Line 2 | 21-FX Series | MR 24, MR 25 | 13/64 | 1-3/8 | 23/32 | 2-11/16 | 2-5/32 | 7/16 | 9/16 | 1.220 | 0.116 | 10-32 | NF-2 studs |
| Line 3 | 21-FHXX, 23-FHXX | MR 26 | 3/32 | 1-27/32 | 11/16 | 2-11/16 | 2-1/8 | 1/2 | 1/2 | 1.220 | 0.125 | Solder, | 3/32 hole |
| Line 4 | 30-F to 34-F Series | — | 7/64 | 2-3/32 | 23/32 | 3-1/4 | 2-9/16 | 7/16 | 7/8 | 1.453 | 0.150 | 10-32 | NF-2 studs |
| Line 5 | 30-FX to 36-FX Series | MR 34, MR 35 | 19/64 | 2 | 23/32 | 3-1/2 | 2-11/16 | 7/16 | 7/8 | 1.580 | 0.150 | 10-32 | NF-2 studs |
| Line 6 | 31-FE Series | — | 7/64 | 3-7/8 | 23/32 | 3-1/4 | 2-9/16 | 7/16 | 7/8 | 1.453 | 0.150 | 10-32 | NF-2 studs |
| Line 7 | 31-FEX-1 Series | MR 34, MR 35 | 7/64 | 3-7/8 | 23/32 | 3-1/2 | 2-9/16 | 7/16 | 7/8 | 1.453 | 0.150 | 10-32 | NF-2 studs |
| Line 8 | 30-FHXX to 34-FHXX Series | MR 36 | 3/32 | 2-1/4 | 5/8 | 3-1/2 | 2-11/16 | 1/2 | 3/4 | 1.580 | 0.150 | Solder, | 3/32 hole |

* Also JAN-I-6 and ASA C39.1-1951 Mounting

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(See Additional J-B-T Appliance Testers on Page L-615)



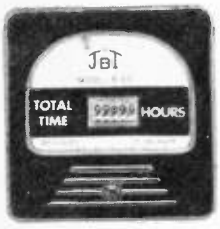
World Radio History

# ELAPSED TIME METERS; 4" AND PORTABLE FREQUENCY METERS

## ELAPSED (OR RUNNING) TIME METERS — 60 Cycles

**MODEL 31-EX.** To record operating time of AC electrical and electronic equipment, this self-starting synchronous instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically re-sets. Shows tenths in red numerals, all others in black. Black molded case matches FX, 3½" frequency meters, and fully encloses all parts. This case, with centered terminals, meets type MR34 or MR35 mounting dimensions of MIL-M-6A, also JAN-I-6. Referring to line 5 of the Table of Dimensions on the preceding page, barrel depth (B) is 2½", stud height above center (G) is zero, and all other measurements are as shown. J-B-T engineers recommend AC elapsed time meters for superior accuracy, especially where voltage or ambient temperatures vary widely. Popular for tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. Types for 99,999 hours, or 50 cycles, or special voltages are available on special order.

**31-EX,** 60 cy., 110-125 volts ..... $15.95
**31-EX-200,** 60 cy., 230 volts (not regularly stocked) ..... 17.05




**Model 31-ES.** The black molded square case 3" x 3" is the major difference between this meter and the 31-EX. Four molded-in studs on standard 2¼" distances between centers provide mounting from rear of panel: meter barrel is 2¾" diameter. For complete details see Print SK-84. Variations including 99,999 hours, 230 volts, matte finish, 50 cycles, or readings in minutes are quoted upon request.

**31-ES,** 60 cy., 110-125 volts, 0-9,9999.9 hours ..... $17.05

## ELAPSED TIME METERS—Tenths of Minutes

**MODEL 31-EXM,** 60 cycles, 110-125 volts, reading 0-9,999.9 **minutes;** for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red, minutes in black numerals, otherwise identical with 31-EX ..... $16.25

## 3½" SEALED ELAPSED METERS—60 Cycles

**MODEL 31-EHXX.** Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction, with flat glass front and 3½" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearance match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1000 volts, R.M.S. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically re-sets. Tenths indicator is in red, all others in black. Mount according to Print SK-85.

**31-EHXX,** 60 cy., 110-125 volts ..... $19.75

## 2½" SEALED ELAPSED TIME METERS

**MODEL 21-EHXX.** This new 2½" sealed meter, with front mounting dimensions the same as Type MR-26 electrical indicating instruments in MIL-M-6A, nevertheless offers a full-size counter reading 0-9,999.9 hours in 1/10th hour steps and a rugged self-starting synchronous motor. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68. A 2½" 400 cycle-meter also is made on special order.

**21-EHXX,** 60 cy., 110-125 volts ..... $24.75

## SEALED ELAPSED TIME METER—400 Cycles

**MODEL 33-EHXX.** Meeting a long-felt need for a stable 400-cycle elapsed time meter compact enough to fit in a 3½" flanged case, with all parts enclosed, is this new 400-cycle elapsed time meter. The instrument now is being produced only in sealed construction, glass-to-metal, with separable flange, heavy-duty solder terminals and flat glass front. External appearance matches FHXX series and Model 31-EHXX sealed, 60-cycle, elapsed time meter. A slightly larger case is used per drawing SK-61.

**33-EHXX,** 400 cy., 0-9,999.9 hours, 1/10 hour steps, 110-125 volts ..... $58.00

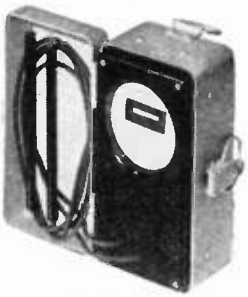
## 400 CYCLE BROAD AND VERNIER INDICATORS

**Model 41-FX-42** (supersedes Model 41-FX). This 2-window frequency meter is widely used for electronic and aircraft testing in commercial and military applications. The lower window shows a broad range of 300-500 cycles, with 21 reeds in 10-cycle steps. The upper window gives a vernier effect with 21 reeds indicating 380-420 cycles in 2-cycle steps. Housed in black molded case with flush front 4¼" wide x 4⅜" high and 3½" deep behind panel over studs, the instrument looks well with other panel meters. Made for 100-130 volt operation. Also available with 4 studs for 200-240, 115, and 30 volts as used in aircraft analyzers. Power consumption is 1 watt at 30 volts, 4.5 watts at 115 volts, 7.7 watts at 200 volts. Full dimensions on drawing MD-36-11.

**41-FX-42,** 100-130 volts ..... $120.00
**41-FX-42,** triple voltage, without switch ..... 135.00

# PORTABLE FREQUENCY TESTERS

## METAL CASE (TS-328A/U, 33-FP-9M, 34-FP-9M)



This portable frequency meter meets the exacting test requirements of aviation, signal and communication equipment. Its accuracy of ±0.3% results from the J-B-T reed construction, based on 13 years of field and laboratory use, plus care in manufacture and thorough run-in for permanent calibration. The sturdy, light-weight case of anodized aluminum with gray protective finish locks tightly when not in use. The detachable cover is the only removable portion: leads, sub-panel, and meter assembly are permanently attached. Case dimensions are 6⅜" long x 4" wide x 3-9/32" deep with attached D-ring for belt or carrying strap. Panel and meter barrel are molded in one piece to exclude moisture and dirt; coil and electrical connections are fungus treated. When made to Government specifications, using pertinent name plate, the 9-reed, 380-420 cycle model is known as TS-382A/U. See Print SK-63-10.

**33-FP-9M,** 380-420 cy., 9 reeds, 100-130 volts, 70 ohms per volt, 1.75 watts power consumption; com. quality and packing ..... $49.25

**34-FP-9M,** 60 cycles portable same as above, except 9 reeds, 56-64 cy., 100-130 volts, 130 ohms per volt, 1 watt power consumption, commercial quality and packing ..... $42.35

## CASE PORTABLES (33-FP-9L, 34-FP-9L)

Handy, compact, portable instrument of same ±0.3% accuracy and electrical characteristics as above. Housed in sturdy molded case 3⅞" x 3-1/16" x 2⅝". Black polished top grain leather carrying case 6-3/32" x 4¼" x 3¾" and 4' leads complete with sharp 5" insulated test picks and banana plugs also supplied. This model is popular for laboratory and engineering tests.

**33-FP-9L,** 380-420 cy., 9 reeds, 100-130 volts ..... $47.60
**34-FP-9L,** 56-64 cy., 9 reeds, 100-130 volts ..... 40.70

## OTHER REED PRODUCTS

**Inquiries are invited on these new J-B-T products:**

1. **Reed Tachometers**—Reading rpm by resonance alone—without any electrical circuitry or complicated mechanical connections—these instruments are held or mounted against the housing of turbines, electric shavers, vacuum cleaners, sewing machines, or other motor-driven products. (Ask for Bulletin MT-458.)

2. **Reed Relays**—Reed-relays for selective frequency calling, or single-reed types for response to a single transmitted signal, such as 100 or 500 cycles, are made in plug-in cans. One type, a unique J-B-T construction with patent pending, eliminates vibrating contacts and substitutes a mechanism with exceptional efficiency which often eliminates need for further amplification. The device also can be added as a frequency-limit control on an indicating reed meter.

3. **Oscillator Controls**—Plug-in reed-type oscillator controls to match transmitted frequencies to those picked up by vibrating reed relays can be supplied, for example, to operate in mobile or other communications equipment.


(See Additional J-B-T Appliance Testers on Page L-615)
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World Radio History

# TEMPERATURE INDICATORS

(See Also Page L-615)

**WHERE TO USE: To determine heat rise of motors, transformers and coils; for laboratory furnaces, inspection set-ups, for remote indication of infrared and other oven temperatures; and to check temperatures in industrial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples, as in diesel exhaust manifold applications.**

## MODEL 32-J

**MODEL 32-J PYROMETER IN SN-7 STAND.** Mounted in sloping front black metal stand, 4¼" high x 4⅜" deep x 4⅛" wide. Compensated for ambient temperature. Medium resistance system damped for quick reading on 2⅜" scale, assures ruggedness and pointer stability. To retain the ±2% accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead—coil it—change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.

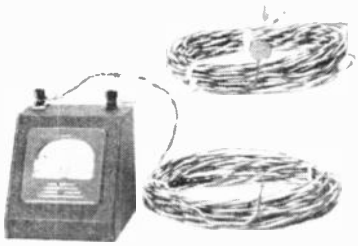
**MODEL 32-J IN SN-7 STAND** (Supersedes SN-3 Stand)

0°— 650° F— 350° C, includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block **$33.50**
0 —1200° F — 650° C includes SA-87, SA-82 and CB-1 **33.50**
0°—2000° F — 1100° C includes SA-87, SA-82, and CB-1 **33.50**

**MODEL 32-J IN SN-8 STAND** (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. (Stand Supersedes SN-5)

0°—650° F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible extra lead and thermocouple **$37.50**

## INFRARED TEMPERATURE UNITS



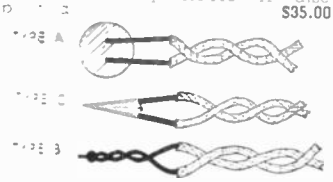
**MODEL 32-J PYROMETER COMBINATION.** When used with the thermocouple shown below the unit checks operating temperatures of infrared baking, drying, and preheating. After selection of the proper matched type the user measures heat at the most important place and method — at the surface of the work in process.

Here's a moderate priced always-handy tester for laboratory and pilot-run experiments, mounted on the infrared heat source, and trouble-shooting on the finish itself. Equally important the user can keep temperatures consistent and reproduce good results. Select the unit that manufacturers of finishes and of infrared ovens supply to their customers' field men. Like all pyrometers this instrument is automatically compensated for ambient temperature — no need to reset the zero adjuster when reading.

**MODEL 32-J INFRARED PYROMETER COMBINATION.** Indicator 0-650 F. for RP-1030 iron-constantan mounted in SN-7 sloping front metal stand 4¼" high x 4⅜" deep x 4⅛" wide; complete with two of the 35' thermocouples below (may be one type and a spare, or two types): SA-113 "A" disc type and SA-115 "B" ball type supplied, not other as specified **$40.00**

**MODEL 32-J INFRARED PYROMETER WITH SINGLE THERMOCOUPLE.** Same combination as above except SA-113 "A" disc type or one other type and spare **$35.00**

**SPARE THERMOCOUPLES.**

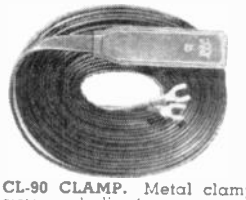



**SA-113.** 35' ±20 asbestos insulated duplex thermocouple with disc type "A" junction for attachment flush to surface **$5.75**

**SA-114**—35' thermocouple as above except needle type "C" junction for soft material or where crevices are present **$5.75**

**SA-115**— 35' thermocouple as above except ball type "B" junction; an extremely durable all-purpose tip **$5.50**

## RESISTANCE BULBS (FOR COLD TESTING)



**SA-142.** Bulb with 14' polyethylene ribbon type lead, for use only with Model 60-JRT; calibration is not interchangeable with SA-162; has no embossed number **$6.50**

**SA-162.** Bulb with 14' polyethylene ribbon type lead, for use only with Models 50-50 and 61-JRT; has embossed part number **$6.50**

**CL-90 CLAMP.** Metal clamp for holding SA-142 and SA-162 resistance bulbs in contact with surfaces up to ¼" **$0.30**

## TRANSFORMERS

**AS-TR-2.** Attachment for compartment of 61-JRT all-purpose tester, completely housed, with jumper lead and panel; reads 30 and 60 AC amp scales on tester **$18.00**

**AS-TR-3.** Attachment for increasing usefulness of 60-JRT all-purpose tester. Includes side rails for attaching inside compartment; fully housed. Reads 30 and 60 AC amp. by dividing volt scale by 10 or 5 **$20.00**

## TEMPERATURE ACCESSORIES

**LEAD WIRES.** To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include.

**SA-82** 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block **$1.70**

**SA-83** 26' compensating lead for chromel-alumel same construction as above **$5.35**

**SA-84** 6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; same construction as above **$1.70**

**SA-85** 26' extension lead for iron-constantan, 1938 calibration; similar to above **$5.35**

**SA-86** 7' iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 650° F scales; terminals at meter end; other end welded. (Resistance not interchangeable with SA-84 or SA-85) **$2.05**

**THERMOCOUPLES.** For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

**SA-87** 12" No. 14 Ga. chromel-alumel, 2-hole ceramic beads fits ⅛" hole; welded tip **$3.40**

**SA-88** same except 24" No. 14 Ga. **$4.25**

**SA-89** 12" No. 8 Ga. chromel-alumel, 2-hole ceramic beads fits ⅛" hole; welded tip **$3.40**

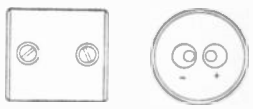
**SA-90** same except 24" No. 8 Ga. **$4.25**

**SA-91** 12" No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits 5/16" hole; welded tip **$2.90**

**Flexible Thermocouple,** 7' length, see SA-86 lead wire.

**SA-92** same except 24" No. 14 Ga. **$3.75**

**CONNECTOR BLOCK Model CB-1.** Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head **$1.85**



**PROTECTION TUBES.** To support, enclose, and protect thermocouples like the above, especially at higher temperature or in damaging atmospheres, various wrought iron or alloy protection tubes are recommended. See Page 5 of Catalog 558 for such protection tubes and CH-6 connector head.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World Radio History

# PHAOSTRON

# PANEL METERS

*Standard of Quality for the Industry*

2½" 3½" Square

2½" 3½" Round

**CUSTOM**

4½" Rectangular

6" Rectangular

1½" Square

2½" 3½" 4½" Round

**RUGGEDIZED**

2½" 3½" Round

2½" 3½" 4½" Rectangular

**PRESTIGE**

| TYPE | RANGE | RUGGEDIZED AND SEALED METERS | | | | CUSTOM METERS | | | | | | | PRESTIGE METERS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1½" Square | 2½" Round | 3½" Round | 4½" Round | 2½" Rnd. or Sq | 3½" Rnd. or Sq | 3½" Rectangular Black | 3½" Rectangular Chrome | 4½" Rectangular Black | 4½" Rectangular Chrome | 6" Rectangular | 2½" Round | 3½" Round | 2½" Rectangular | 3½" Rectangular | 4½" Rectangular |
| Voltmeter DC | 0-1.5<br>0-3<br>0-5<br>0-8<br>0-10<br>0-15<br>0-30<br>0-50<br>0-80<br>0-100<br>0-150<br>0-200<br>0-300<br>0-500 | 16.35 | 15.80 | 16.35 | 17.50 | 12.20 | 13.05 | 15.55 | 17.75 | 16.80 | 19.30 | 22.05 | 10.70 | 11.20 | 11.20 | 11.70 | 12.55 |
| Voltmeter AC (Rectifier Type) | 0-1.5<br>0-3<br>0-5<br>0-10<br>0-15<br>0-25<br>0-50<br>0-100<br>0-150<br>0-300 | 18.85 | 18.30 | 18.85 | 20.00 | 16.35 | 17.20 | 20.20 | 22.40 | 21.45 | 23.95 | 26.70 | 14.75 | 15.25 | 15.20 | 15.70 | 16.55 |
| Ammeter DC | 0-1<br>0-1.5<br>0-2<br>0-3<br>0-5<br>0-10<br>0-15<br>0-30<br>0-50<br>5-0-5<br>10-0-10<br>15-0-15<br>20-0-20<br>30-0-30<br>50-0-50 | Not Available At Present | 21.10 | 21.65 | 22.75 | 11.10 | 11.95 | 14.30 | 16.50 | 15.55 | 18.05 | 20.85 | 10.30 | 10.75 | 10.60 | 11.20 | 12.00 |
| Milliammeter DC | 0-1<br>0-1.5<br>0-2<br>0-3<br>0-5<br>0-10<br>0-15<br>0-20<br>0-30<br>0-50<br>0-100<br>0-150<br>0-200<br>0-300<br>0-500<br>1-0-1<br>100-0-100 | 15.00 | 14.45 | 15.00 | 16.10 | 11.10 | 11.95 | 14.30 | 16.50 | 15.55 | 18.05 | 20.85 | 9.90<br>10.70 | 10.60<br>10.70 | 10.50 | 11.00<br>11.20 | 11.80<br>12.00 |
| Milliammeter AC (Rectifier Type) | 0-1<br>0-2<br>0-5 | 18.85 | 18.30 | 18.85 | 20.00 | 16.35 | 17.20 | 20.20 | 22.40 | 21.45 | 23.95 | 26.70 | 14.75 | 15.25 | 15.20 | 15.70 | 16.55 |
| Microammeter DC | 0-20*<br>0-30<br>0-50<br>0-100<br>0-200<br>0-500<br>50-0-50<br>100-0-100<br>500-0-500 | –<br>–<br>–<br>21.90<br>18.05<br>16.65<br>21.90<br>18.05<br>15.00 | –<br>–<br>24.15<br>21.35<br>17.50<br>16.10<br>21.35<br>17.50<br>14.45 | 25.00<br>25.00<br>25.00<br>21.90<br>18.05<br>16.65<br>21.90<br>18.05<br>15.00 | 26.10<br>26.10<br>26.10<br>23.05<br>19.15<br>17.75<br>23.05<br>19.15<br>16.10 | 16.65<br>14.45<br>12.20<br>11.65<br>14.45<br>12.20<br>11.10 | 20.55<br>20.55<br>17.50<br>15.25<br>13.05<br>12.50<br>15.25<br>13.05<br>11.95 | 23.90<br>23.90<br>20.50<br>18.05<br>15.55<br>14.90<br>18.05<br>15.55<br>14.30 | 26.10<br>26.10<br>22.70<br>20.25<br>17.75<br>17.10<br>20.25<br>17.75<br>16.50 | 25.20<br>25.20<br>21.80<br>19.25<br>16.80<br>16.20<br>19.25<br>16.80<br>15.55 | 27.70<br>27.70<br>24.30<br>21.75<br>19.30<br>18.70<br>21.75<br>19.30<br>18.05 | 38.85<br>38.85<br>36.35<br>34.85<br>24.55<br>23.30<br>34.85<br>24.55<br>20.85 | 16.80<br>16.80<br>14.40<br>13.00<br>11.00<br>10.60<br>13.15<br>11.15<br>10.05 | 17.50<br>17.50<br>14.90<br>13.50<br>11.70<br>11.10<br>13.65<br>11.85<br>10.65 | 17.30<br>17.30<br>14.85<br>13.40<br>11.35<br>10.90<br>13.55<br>11.50<br>10.65 | 18.05<br>18.05<br>15.35<br>14.00<br>12.10<br>11.50<br>14.10<br>12.25<br>11.15 | 18.65<br>18.65<br>16.25<br>15.10<br>13.65<br>13.40<br>16.25<br>13.25<br>11.85 |
| Microammeter AC (Rectifier Type) | 0-100<br>0-200<br>0-250<br>0-500 | 24.40<br>20.25<br>20.00<br>19.15 | 23.85<br>19.70<br>19.45<br>18.60 | 24.40<br>20.25<br>20.00<br>19.15 | 25.55<br>21.35<br>21.10<br>20.25 | 19.70<br>17.50<br>17.20<br>16.65 | 20.55<br>18.30<br>18.05<br>17.50 | 23.90<br>21.45<br>21.10<br>20.50 | 26.10<br>23.65<br>23.30<br>22.70 | 25.20<br>22.70<br>22.40<br>21.80 | 27.70<br>25.20<br>24.90<br>24.30 | 37.65<br>26.10<br>26.10<br>25.80 | 18.10<br>15.90<br>15.70<br>15.10 | 18.60<br>16.40<br>16.20<br>15.55 | 18.65<br>16.40<br>16.20<br>15.55 | 19.15<br>16.90<br>16.70<br>16.05 | 19.95<br>17.70<br>17.50<br>16.85 |
| Null Indicator | A<br>B<br>C | Not Available At Present | 28.85 | 31.35 | 33.60 | 23.05 | 23.85 | 27.65 | 29.85 | 26.50 | 32.00 | 36.95 | | | | | |
| VU Meter | A<br>B | Not Available At Present | 28.60 | 29.15 | 30.25 | 20.55 | 21.35 | 24.85 | 27.05 | 26.10 | 28.60 | 31.40 | 18.15 | 18.60 | 18.70 | 19.20 | 21.40 |
| Expanded Scale Voltmeter AC | 90-130 | | | | | 27.45 | 28.30 | 32.65 | 34.85 | 33.50 | 36.40 | 39.15 | | | | | |

*60° SCALE



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World Radio History

# AERO Instrument Company

NORTH HOLLYWOOD, CALIFORNIA

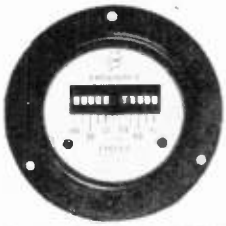
## VIBRATING REED FREQUENCY & TIMING INSTRUMENTS

### GENERAL DESCRIPTION

**Vibrating Reed Instruments** are direct reading frequency indicators for use where the efficient operation of A.C. equipment depends upon the maintenance of known or constant frequency. They are self contained, their accuracy is not affected by wide voltage variations or wave form distortions and require no auxiliary apparatus. They consist of a number of steel reeds, of high Q, each of which is tuned to a single frequency within the band covered by the instrument. Indication is by visual pattern formed by the vibration of the reed in resonance with the line frequency. Excitation is electromagnetic, and the reeds are the only moving elements. **Running Time Meters** are synchronous motor operated instruments to automatically measure service periods or service requirements.

### APPLICATIONS

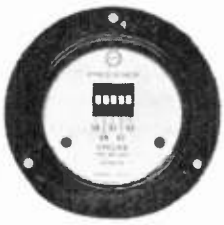
A large demand exists for VIBRATING REED FREQUENCY METERS for use with engine driven A.C. generator units as this is the most simple speed and frequency indicator yet devised for A.C. generator sets. These meters are also generally used in laboratory and portable test equipment, electronics, telephony, aircraft, industrial plants and numerous applications where electrical frequency indication is desired. Engineering services are available for those desiring assistance on their application problems. **Running Time Meters** are often used in conjunction with reed type frequency meters.



### SERIES 7002

**Range:** 48-52 and 58-62 cycles for reading in either 50 or 60 cycles. **Voltage:** 125 volts ±20 volts. **Accuracy:** ±0.3% of designated frequency. **Power Consumption:** 1 watt. **Resistance:** Approximately 100 ohms per volt. Flush panel mounting.

2810-134—48-52 and 58-62 cy. in 3½" flange MIL-M-6A molded bakelite case.....$25.00
2810-133—48-52 and 58-62 cy. in 3½" flange metal case..... 25.00
2810-153—48-52 and 58-62 cy. in 3¼" flange metal case..... 25.00
2810-123—48-52 and 58-62 cy. in 2½" flange metal case..... 25.00



### SERIES 7004

**Range:** 59-63 cycles. Used extensively on standby power supplies for measuring generator frequency and engine speeds. **Electrical characteristics:** Same as the Series 7002.

6915-134—59-63 cy. in 3½" flange MIL-M-6A molded bakelite case.....$21.50
6915-133—59-63 cy. in 3½" flange metal case.....$21.50
6915-153—59-63 cy. in 3¼" flange metal case.....$21.50
6915-123—59-63 cy. in 2½" flange metal case.....$21.50

### SERIES 4009

**Range:** 380-420 cycles. For use on 400 cycle commercial power supplies and aircraft inverters. **Accuracy:** ±0.2% at 70° F. **Power consumption:** Approximately 1.25 watts. **Resistance:** Approximately 70 ohms per volt. Flush panel mounting.

4059-134—380-420 cy. in 3½" flange MIL-M-6A molded bakelite case.....$31.00
4059-133—380-420 cy. in 3½" flange metal case.....$31.00
4059-153—380-420 cy. in 3¼" flange metal case.....$31.00
4059-123—380-420 cy. in 2½" flange metal case.....$31.00

**VOLTAGES**—All frequency meters can be supplied for voltages from 10 to 440 volts.

**DISCOUNTS**—Quantity prices quoted upon request.

**SPECIAL INSTRUMENTS**—Prices on special ranges will be furnished upon request.

**RUNNING TIME METERS**—Special ranges, frequencies and voltages available.

Write for catalog describing complete line of Aero stock instruments.

### SERIES 1001

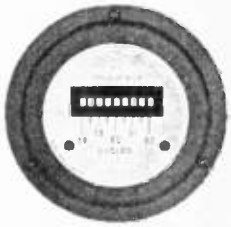
Direct reading indicators to automatically and cumulatively register total operating or idle time of any equipment, machine, circuit or system to which they are connected. **Range:** 0 to 10,000 hours in hours and tenths of hours—automatically reset. **Voltage:** 125 ±20 volts. **Power consumption:** 2.5 watts. **Frequency:** 50, 60 and 400 cycles.

61134—60 cy. in 3½" flange MIL-M-6A molded bakelite case.....$19.00
41134—400 cy.....Price upon request

### 3½" SEALED METER

Meets all applicable requirements of MIL-M-6A Specification. All 3½" meters can be supplied in hermetically sealed cases. **Electrical characteristics:** Same as unsealed instruments.

Prices on all models available upon request.



### 1½" SEALED METER

**Range:** 380-420 cycles. For use in airborne or ground equipment where size and weight are important factors. **Voltage:** 125 ±20 volts. **Resistance:** Approximately 70 ohms per volt. **Accuracy:** ±0.2% at 70° F. or 1.5% over range of −65° to +165° F. **Breakdown voltage:** 1500 volts. **Power consumption:** Approximately 1.25 watts.

4005-115—380-420 cy. in 1½" hermetically sealed case.....$23.85

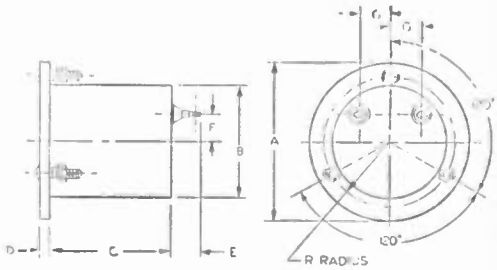



TABLE I

| CASE SIZE CHART | | | | | | | | | | | | | | | MOUNTING SCREWS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CASE STYLE | A MAX | B MAX | C MAX | D MAX | E MAX | F MAX | F MIN | G MAX | G MIN | H MAX | H MIN | | | | |
| A | 3.10 | 1.31 | 1.56 | 0.14 | 0.40 | .41 | .35 | .41 | .35 | .877 | .873 | 4-36NS-2A | | | |

Series 4005
Range 380 to 420 C.P.S. Hermetically Sealed.

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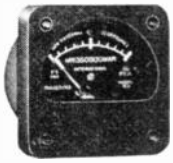
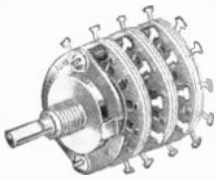
World Radio History



## RUGGEDIZED METERS

1½" Square

Meets MIL-M-10304 (SIG.C.) Accurate within ±3% of full scale deflection. Basic d-c ranges 0-100 d-c ua, 0-1 d-c ma, and 0-10 d-c mv. RF and VU meters and other ranges also available.



## SUB-MINIATURE ROTARY SWITCH

Wafer size 1" x ⅞". Twelve positions per deck . . . one to three decks. One, two, three or four poles per deck. Shorting or non-shorting contacts. Positive indexing with 30° spacing.

# *SPECIALISTS in Sub-Miniature Panel Meters*

**FIRST** in U.S. to manufacture 1" diameter meter.

**FIRST** to produce 1" and 1½" illuminated meters.

**FIRST** to produce 1½" self-contained DB and VU meters.

**FIRST** to produce Miniature Side Indicators.

## 1" ROUND

**MODEL 100**

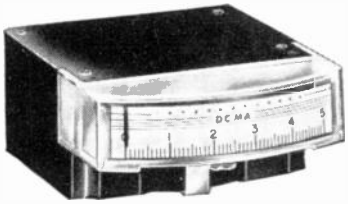
1" barrel diameter. Full 90° scale arc, scale length .770".
VU, DB and Illuminated meters also available with external accessory attached.

## 1½" ROUND and SQUARE

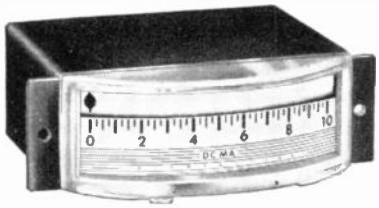
**MODEL 150**

1½" barrel diameter. Full 90° scale arc, scale length 1.322" Model 153 meets MIL-M-3823 requirements.
Also available: self-contained VU and DB meters — illuminated meters with lamp housing attached.

**MODEL 153**



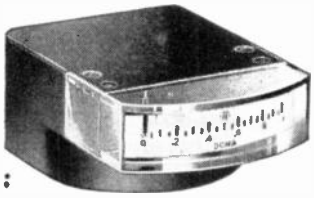
**MODEL 1135**
Single Horizontal Mounting



**MODEL 1145**
Single Horizontal Mounting

## SIDE INDICATORS*

- GREATER READABILITY
- REDUCES PANEL AREA ⅓ OVER CONVENTIONAL METER INSTALLATIONS OF SAME SCALE LENGTH
- HORIZONTAL OR VERTICAL MOUNTING



**MODEL 1120**

### *THREE SIZES AVAILABLE:*

**MODEL 1120**—Scale length 1.3".
**MODEL 1135**—Scale length 2.1".
Front external zero adjuster.
**MODEL 1145**—Scale length 2.75".
Front external zero adjuster.

International Instruments' components lead the way for miniaturization through practical engineering design.

*Pat. Pending

***ENGINEERING DATA SHEETS***
***COMPLETELY DESCRIBING THESE INSTRUMENTS ARE AVAILABLE. WRITE FOR YOUR COPIES TODAY.***

# *international instruments*

INCORPORATED

**NEW HAVEN 15, CONN., CABLE "INTERINST"**





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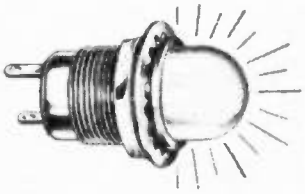
World Radio History

# Sub-Miniature PILOT LIGHTS

## Two Terminal • Fully Insulated

### *The Ultimate in Compactness*

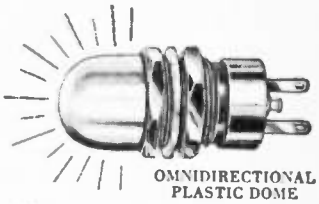
*(Illustrations are approx. actual size)*



**THESE PILOT LIGHTS CONFORM TO ALL APPLICABLE MILITARY SPECIFICATIONS.**

For FRONT of Panel Insertion: Requires single 17/32" clearance hole.

For BACK of Panel Insertion: Requires single 15/32" clearance hole.



OMNIDIRECTIONAL PLASTIC DOME

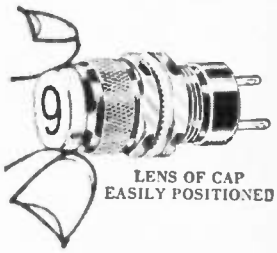
*EASY LAMP REPLACEMENT*: All assemblies (whether for front or rear insertion) have this important feature: The plastic domes or metal caps are easily removed from front of panel — thus making the lamps accessible for easy lamp replacement. Please refer to our Form L-156C which describes these units in detail.

*PLASTIC DOME — OMNIDIRECTIONAL*: The unique "stovepipe" lens, moulded of high heat plastic, radiates light in all directions. Heavy plastic walls are reinforced by threaded brass insert. This fitting receives lamp well up into plastic dome for maximum light dispersion.

*LENS WITH MESSAGE — easily positioned.* A DIALCO exclusive is the specially designed cap-and-lens (as shown at right). By pressing on spring-mounted lens and rotating in either direction the legends may be positioned *after* installation of the assembly.

*INSULATED*: Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached.

*FINISH*: Black nickel . . . *TERMINALS*: Soldering or Taper-Tab.



LENS OF CAP EASILY POSITIONED

LIGHT SOURCE: T-1¾ midget flanged incandescent lamps. Available in the following voltages.

| Lamp No. | Volts | Amps. | Life (Hours) |
|---|---|---|---|
| 331 | 1.3 | .06 | 500 |
| 338 | 2.7 | .06 | 500 |
| 328 | 6.0 | .20 | 500 |
| 345 | 6.0 | .04 | 1000 |
| 344 | 10.0 | .015 | L |
| 330 | 14.0 | .08 | 750 |
| 327 | 28.0 | .04 | 1000 |

L = indefinite, over 6000 hours

NON-DIMMING

DIMMING

## CATALOGUE NUMBERS

### PLASTIC DOME TYPES

All caps are available in transparent or completely diffusing plastic. Two colors only are made in light diffusing material.

*Non-diffusing (transparent) colors*

| Color | Catalogue No. (Back insertion) | Catalogue No. (Front insertion) |
|---|---|---|
| Red | 101-3830-931 | 101-5030-931 |
| Green | 101-3830-932 | 101-5030-932 |
| Amber | 101-3830-933 | 101-5030-933 |
| Blue | 101-3830-934 | 101-5030-934 |
| White (Opal) | 101-3830-935 | 101-5030-935 |
| Yellow | 101-3830-936 | 101-5030-936 |
| Clear (Colorless) | 101-3830-937 | 101-5030-937 |

*Completely diffusing colors*

| | | |
|---|---|---|
| Red | 101-3830-971 | 101-5030-971 |
| Green | 101-3830-972 | 101-5030-972 |
| Amber | 101-3830-973 | 101-5030-973 |
| Blue | 101-3830-974 | 101-5030-974 |
| White (Opal) | 101-3830-975 | 101-5030-975 |
| Yellow | 101-3830-976 | 101-5030-976 |

*Light diffusing colors*

| | | |
|---|---|---|
| Red | 101-3830-951 | 101-5030-951 |
| Green | 101-3830-952 | 101-5030-952 |

### LIGHTS WITH MESSAGES

| Translucent Colors | (Back insertion) | (Front insertion) |
|---|---|---|
| Red | 134-3830-351 | 134-5030-351 |
| Green | 134-3830-352 | 134-5030-352 |
| Amber | 134-3830-373 | 134-5030-373 |
| White | 134-3830-375 | 134-5030-375 |
| Yellow | 134-3830-376 | 134-5030-376 |

### INDICATOR LIGHT (Non-dimming)

| Lens, frosted back | Lens, frosted all over | Lens, unfrosted |
|---|---|---|
| 111-3830-111 | 111-3830-121 | 111-3830-131 |

### DIMMER TYPES (Mechanical or Polaroid)

| | Lens, frosted back | Lens, frosted all over | Lens, unfrosted |
|---|---|---|---|
| Semi-blackout | 109-3830-111 | 109-3830-121 | 109-3830-131 |
| Blackout | 108-3830-111 | 108-3830-121 | 108-3830-131 |
| Polaroid | 112-3830-111 | 112-3830-121 | 112-3830-131 |

**LENS COLOR**: The *final figure* in the catalogue number indicates that the lens has *RED* color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Trans.—5 Yellow—6 Clear (Colorless)—7

## New . . . NEON INDICATOR LIGHTS

SUB-MINIATURE

*Use tiny T-2 G.E. Glow Lamps*

No. 137-7236-931

NE-2D or NE-2J*

This series houses newly improved lamps with formed bulbs and midget flanged bases. Lamps are designated as *NE-2D* for the regular lamp, and as *NE-2J* for the high brightness type which may be operated at high current. The *NE-2J* has higher voltage characteristics requiring 110V. A.C. or 160V. D.C. for reliable performance . . . a resistor (or other ballast device) must be used to limit the lamp current. Since the current is never more than 3 milliamperes, the resistor may be the small 1/3 watt type . . . All assemblies have 2 terminals (*Soldering or Taper-Tab*); conform to applicable Mil. Specs. . . . *For full details, ask for Brochure L-159A.*

*New HIGH BRIGHTNESS lamp.

## Also ONE terminal units For use on grounded circuits

DIALCO also makes a complete line of *single terminal sub-miniature pilot lights* intended for use where it is desired to ground one side of circuit. Available in the styles similar to the above. Instead of the single soldering terminal, a binding screw terminal may be specified. Brochure L-157A describes these units in detail.

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

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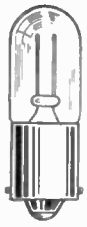
World Radio History

# DIALIGHT CORPORATION

*Foremost Manufacturer of Pilot Lights*

**BROOKLYN 37, N. Y.**

# PILOT LIGHT ASSEMBLIES



NE-51
or NE-51H
(High Brightness)

## *for* T-3¼ NEON LAMP • NE-51 *types*

## For 11/16"* and 1"** MOUNTING HOLES

## BUILT-IN RESISTORS

(Patent No. 2,421,321)

**For operation on 105-125V. or 210-250V. . . . The required resistor is an integral part of the unit — BUILT IN. (See below.) Also, simple external resistors for all higher voltages.**

**All of these assemblies are listed by Underwriters' Laboratories, Inc.**

**PROPER CHOICE OF LAMP AND BUILT-IN RESISTOR VALUES:** The NE-51 glow lamp types are shown with resistor tables for each. The lamps are the *standard NE-51* and the *new NE-51H*. The *new high brightness lamp* may be operated at about three times the level of current that may be applied to the standard lamp and it will produce more than six times as much light.

**BUILT-IN RESISTOR VALUES for the NE-51 TYPE GLOW LAMPS (Values in ohms)**

| NE-51 | | | New NE-51H (high brightness) | | |
|---|---|---|---|---|---|
| | Applied to terminals | | | Applied to terminals | |
| VOLTS | 105-125 | 210-250 | VOLTS | 105-125 | 210-250 |
| BRIGHT LIGHT | 56,000 (1/3 watt) | 180,000 (1/3 watt) | BRIGHT LIGHT | 18,000 (1/3 watt) | 56,000 (1/3 watt) |
| MEDIUM LAMP LIFE | 100,000 (1/3 watt) | 270,000 (1/3 watt) | MEDIUM LAMP LIFE | 33,000 (1/3 watt) | 120,000 (1/3 watt) |
| VERY LONG LAMP LIFE | 220,000 (1/3 watt) | 680,000 (1/3 watt) | VERY LONG LAMP LIFE | 82,000 (1/3 watt) | 220,000 (1/3 watt) |

The NE-51H Neon Glow Lamp is not recommended for use on DC circuits up to 160 V.

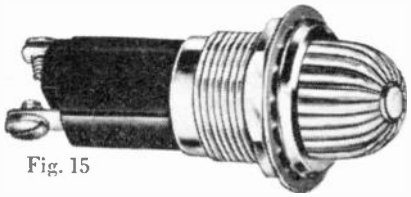


Fig. 15

Multivue caps

BINDING SCREWS

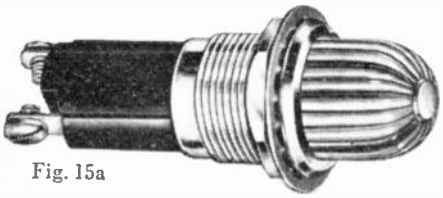


Fig. 15a

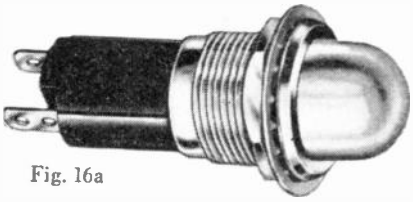


Fig. 16a

SOLDERING TERMINALS

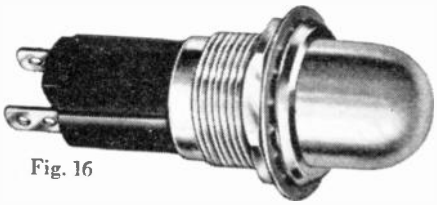


Fig. 16

## CATALOGUE NUMBERS

### *For 11/16" Mounting Hole

521308-991 Short multivue cap. Screw terminals (Fig. 15)
531308-991 Long multivue cap. Screw terminals (Fig. 15a)
91408-931 Long clear cap. Soldering terminals (Fig. 16)
95408-931 Short clear cap. Soldering terminals (Fig. 16a)
81408-111 Screw-in cap, Convex lens. Soldering terminals (Fig. 17)

*For High Brightness, add "H"; example: 521308H-991.*

**Units for 9/16" Mounting Hole are also available**

### **For 1" Mounting Hole

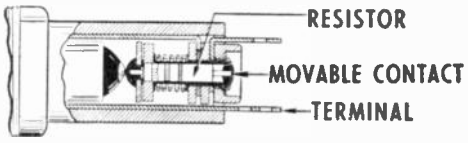
80108-831 Screw cap. Dome plastic lens. Soldering terminals (Fig. 18)
801308-831 Screw cap, Dome plastic lens (Fig. 18). Screw terminals similar to those in Fig. 15
51408-111 Screw cap. Convex lens. Soldering terminals (Fig. 19)
511308-111 Screw cap, Convex lens (Fig. 19). Screw terminals similar to those in Fig. 15

**LENS COLOR:** The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note: white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2* Amber—3 Blue—4*
White Translucent—5 Yellow—6 Clear (Colorless)—7

* Not recommended with neon lamps.

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.




(U. S. Patent No. 2,421,321)

**External resistors will be furnished which will permit use of these pilot lights on voltages higher than 250 volts.**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World Radio History

# DIALIGHT CORPORATION

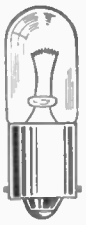
*Foremost Manufacturer of Pilot Lights*

**BROOKLYN 37, N. Y.**

# PILOT LIGHT ASSEMBLIES

## FOR T-3¼ BULB WITH MINIATURE BAYONET BASE

DIALCO®



## CATALOGUE NUMBERS

### *For 11/16″ Mounting Hole

| | |
|---|---|
| 521310-991 | Short multivue cap, Screw terminals (Fig. 15) |
| 531310-991 | Long multivue cap, Screw terminals (Fig. 15a) |
| 91410-931 | Long clear cap, Soldering terminals (Fig. 16) |
| 95410-931 | Short clear cap, Soldering terminals (Fig. 16a) |
| 81410-111 | Screw-in, Convex lens, Soldering terminals (Fig. 17) |
| 211310 | Light shield, Screw terminals (Fig. 20) |
| 93410-111 | Polaroid dimmer cap, Convex lens, Soldering terminals (Fig. 21a) |
| 98B410-111 or 98SB410-111 | Dimmer cap, Convex lens, Soldering terminals (Fig. 21) |

### **For 1″ Mounting Hole

| | |
|---|---|
| 80110-831 | Screw cap, Dome plastic lens, Soldering terminals (Fig. 18) |
| 801310-831 | Screw cap, Dome plastic lens, (Fig. 18). Screw terminals similar to those in Fig. 20 |
| 51410-111 | Screw cap, Convex lens, Soldering terminals (Fig. 19) |
| 511310-111 | Screw cap, Convex lens, (Fig. 19). Screw terminals similar to those in Fig. 20 |

**LENS COLOR:** The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

for low voltages

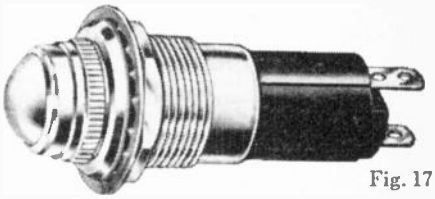


Fig. 17

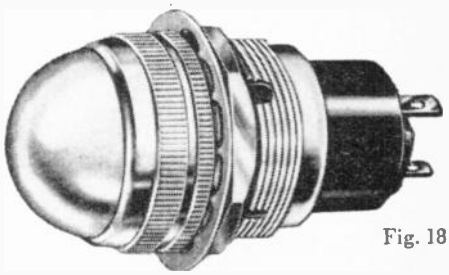


Fig. 18

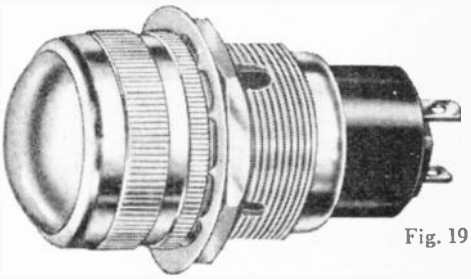


Fig. 19

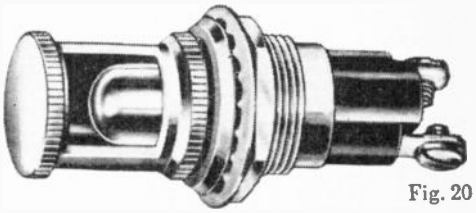
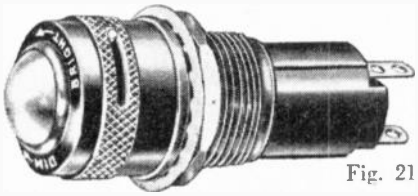


Fig. 20

## MECHANICAL and POLAROID DIMMERS



mechanical

Fig. 21

polaroid

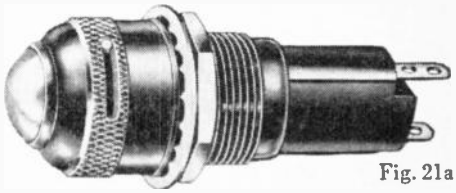


Fig. 21a

Any of the mechanical dimmers can be supplied either for "Complete Blackout" or for "Semi-Blackout". Typical Catalogue Numbers are as follows:
**98*B*410-111** ("Complete Blackout" . . . **98*SB*410-111** ("Semi-Blackout")

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World Radio History

# DIALIGHT CORPORATION

*Foremost Manufacturer of Pilot Lights*

**BROOKLYN 37, N. Y.**

*All illustrations are approximately actual size*

# LENS CAPS

**FRICTION**

Convex

Fig. 34

**BAYONET**

Convex

Fig. 6

**SCREW**

Torpedo

Fig. 3

Large Convex

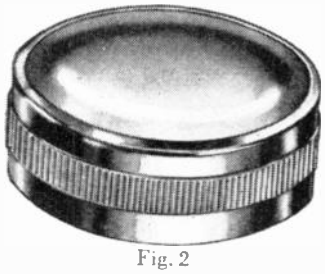


Fig. 2

Dome

Fig. 35

**SCREW**

Faceted

Fig. 5

Small Convex

Fig. 1

Large Torpedo

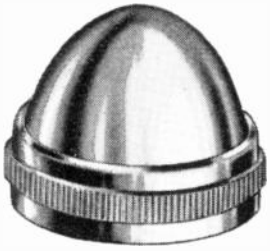


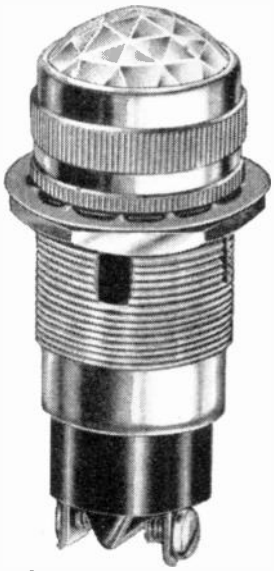
Fig. 4

## ASSEMBLIES FOR 1 INCH MOUNTING HOLE

### DOUBLE CONTACT BAYONET

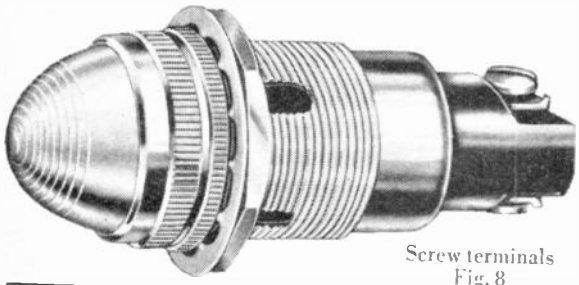
Screw terminals Fig. 11
(moveable type)

Soldering terminals Fig. 12

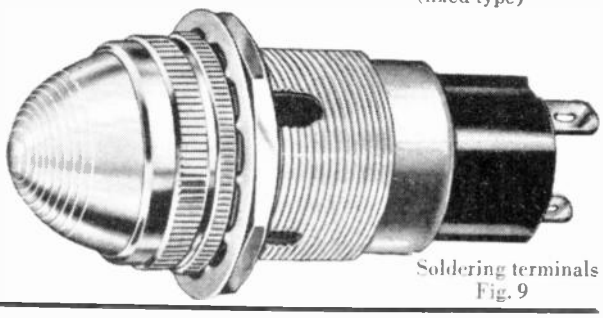


Screw terminals Fig. 10
(fixed type)

### CANDELABRA SCREW



Screw terminals
Fig. 8



Soldering terminals
Fig. 9



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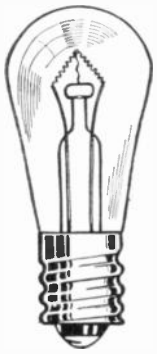
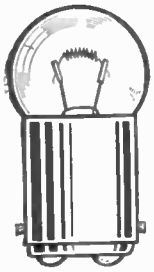
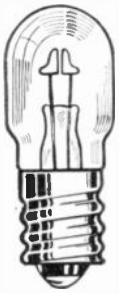
World Radio History







# CATALOG NUMBERS FOR ENCLOSED ASSEMBLIES

Mount in ONE INCH clearance hole

## *UNDERWRITERS' LISTED*

### For S-6 Lamp with Candelabra Screw Base

51901-111 Screw cap, Convex lens, frosted back (Fig. 1). Screw terminals (Fig. 8)
61901-211 Screw cap, Large convex lens, frosted back (Fig. 2). Screw terminals (Fig. 8)
51901-431 Screw cap, Faceted lens (Fig. 5). Screw terminals (Fig. 8)
19901-531 Screw cap, Large torpedo lens (Fig. 4). Screw terminals (Fig. 8)
514001-111 Screw cap, Convex lens, frosted back (Fig. 1). Soldering terminals (Fig. 9)
41901-111 Bayonet cap, Convex lens, frosted back (Fig. 6). Screw terminals (Fig. 8)
31901-111 Friction cap, Convex lens, frosted back (Fig. 34). Screw terminals (Fig. 8)
47901 Light Shield cap (Fig. 13). Binding Screw terminals (Fig. 8)
71B4001-111 Mechanical dimmer, Screw cap, Convex lens, frosted back (Fig. 14)
784001-111 Polaroid dimmer, Screw cap, Convex lens, frosted back (Fig. 14)

### For S-6 Lamp with Double Contact Bayonet Base

513202-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)
613202-211 Screw cap, Large convex lens, frosted back (Fig. 2) Screw terminals (Fig. 10)
513202-431 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 10)
803202-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 10)
413202-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Screw terminals (Fig. 10)
313202-111 Friction cap, Convex lens, frosted back (Fig. 34) Screw terminals (Fig. 10)

### For G-6 Lamp with Double Contact Bayonet Base

513504-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 11)
513504-431 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 11)
803504-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 11)
803504-1211 Screw cap, Dome glass lens, frosted back (Fig. 35) Screw terminals (Fig. 11)
51204-111 Screw cap, Convex lens, frosted back (Fig. 1) Soldering terminals (Fig. 12)
41204-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Soldering terminals (Fig. 12)
31204-111 Friction cap, Convex lens, frosted back (Fig. 34) Soldering terminals (Fig. 12)

### For NE-15 Neon Glow Lamp, Candelabra Screw Base

51914-131 Screw cap, Convex lens, unfrosted (Fig. 1) Screw terminals (Fig. 8)
80914-841 Screw cap, Dome lens, matted back (Fig. 35) Screw terminals (Fig. 8)
41914-131 Bayonet cap, Convex lens, unfrosted (Fig. 6) Screw terminals (Fig. 8)
31914-131 Friction cap, Convex lens, unfrosted (Fig. 34) Screw terminals (Fig. 8)
514014-131 Screw cap, Convex lens, unfrosted (Fig. 1) Soldering terminals (Fig. 9)
801014-531 Screw cap, Torpedo lens, unfrosted (Fig. 3) Soldering terminals (Fig. 9)

**LENS COLOR:** The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 *Green—2 Amber—3 *Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7
***Green and blue lenses are not recommended with neon glow lamps.***

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

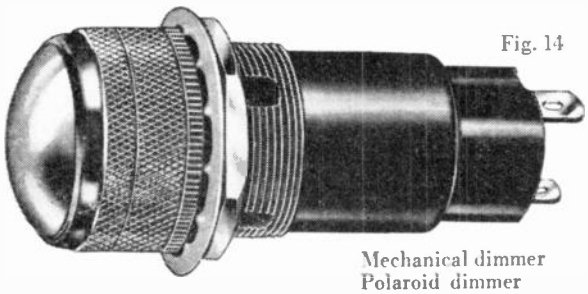


Fig. 14

Mechanical dimmer
Polaroid dimmer

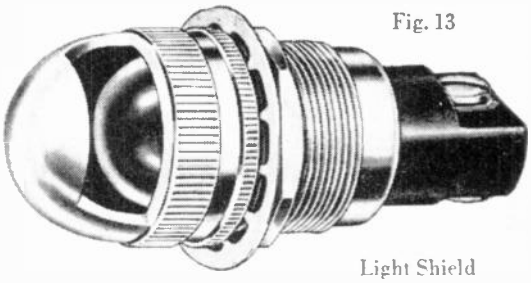


Fig. 13

Light Shield

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World Radio History

# DIALIGHT CORPORATION

*Foremost Manufacturer of Pilot Lights*

**BROOKLYN 37, N. Y.**

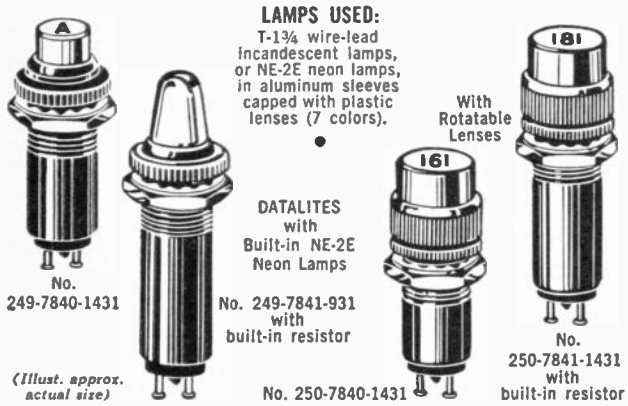
## In this brochure—complete facts on DIALCO's

# DATALITES®

## For the Computer-Automation Industries

DATALITES by DIALCO are ultra-miniature Indicator Lights specially designed to meet the critical requirements of the computer-automation fields. Made in 2 basic styles: *Lamp Holders with* DIALCO'S own *replaceable Lamp Cartridges* (see above); or integrated DATALITES *with Built-in Neon Lamps* which are *not replaceable* (see below). Ultra-compact, single units mount in ⅜" clearance hole; the twin-lamp assembly mounts in ¾" clearance hole.

**LAMPS USED:**
T-1¾ wire-lead incandescent lamps, or NE-2E neon lamps, in aluminum sleeves capped with plastic lenses (7 colors).

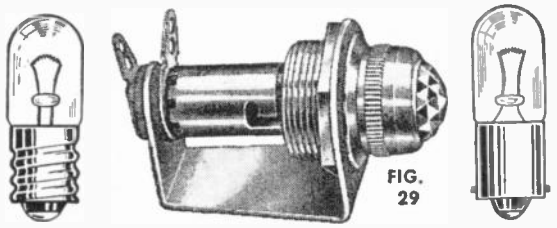


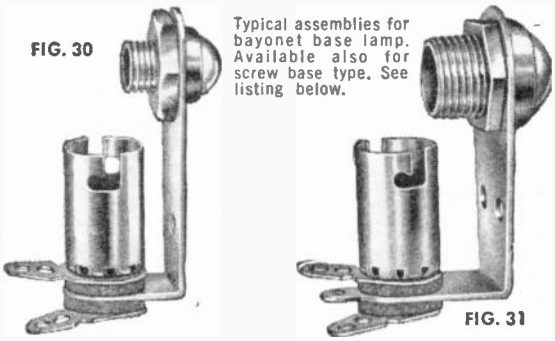

DATALITES have fully insulated terminals and conform to all applicable military specifications. Integrated units are available *with or without built-in resistors*. The cylindrical lenses can be hot-stamped with digits, letters, etc. Complete details in *Brochure L-160*. Send for it now.

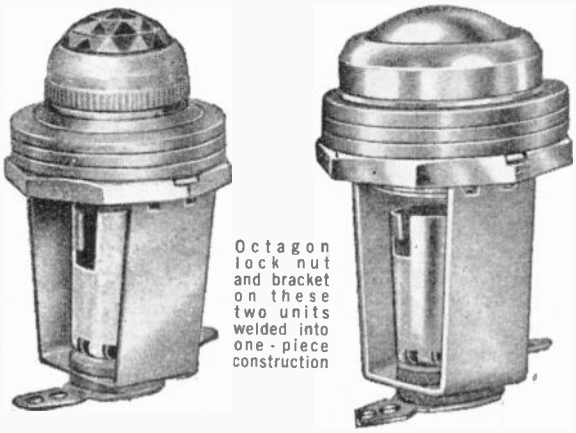
# DIALCO® PILOT LIGHTS

## A SELECTION OF OPEN TYPES

**For T-3¼ Low Voltage Incandescent Lamps**




### CATALOGUE NUMBERS

**Assemblies for T-3¼ miniature bayonet base lamps**

| | | | | | |
|---|---|---|---|---|---|
| No. 810B-431 | Faceted | ½" lens. | For | 11/16" mounting hole. | Fig. 29 |
| No. 710-121 | Convex | ½" lens. | For | 7/16" mounting hole. | Fig. 31 |
| No. 755-621 | Convex | 11/32" lens. | For | 9/32" mounting hole. | Fig. 30 |
| No. 857B-431 | Faceted | ½" lens. | For | 11/16" mounting hole. | Fig. 32 |
| No. 67B-111 | Convex | ¾" lens. | For | 13/16" mounting hole. | Fig. 33 |

**Assemblies for T-3¼ miniature screw base lamps**

| | | | | | Similar to |
|---|---|---|---|---|---|
| No. 810M-431 | Faceted | ½" lens. | For | 11/16" mounting hole. | Fig. 29 |
| No. 510-121 | Convex | ½" lens. | For | 7/16" mounting hole. | Fig. 31 |
| No. 555-621 | Convex | 11/32" lens. | For | 9/32" mounting hole. | Fig. 30 |
| No. 855-431 | Faceted | ½" lens. | For | 11/16" mounting hole. | Fig. 32 |
| No. 66M-111 | Convex | ¾" lens. | For | 13/16" mounting hole. | Fig. 33 |

**LENS COLOR:** The final figure in the catalogue number indicates that lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7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World Radio History

# DIALIGHT CORPORATION

*Foremost Manufacturer of Pilot Lights*

**BROOKLYN 37, N. Y.**

# PILOT LIGHT ASSEMBLIES

## A SELECTION OF OPEN TYPES

**For Candelabra Screw Base Lamps**

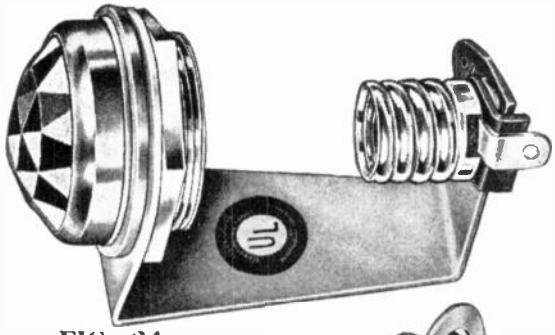


FIG. 24

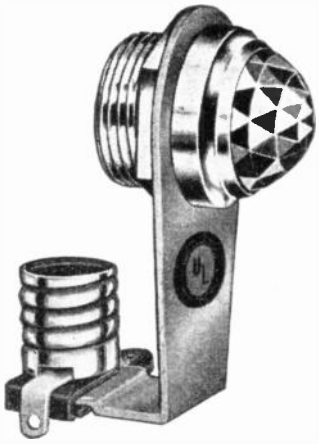
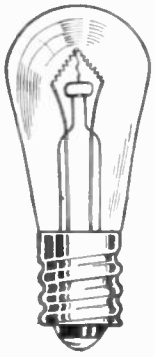


FIG. 23



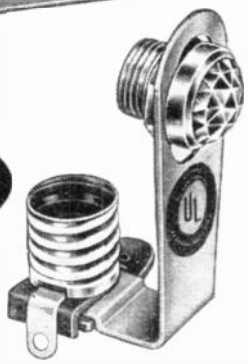


FIG. 22

**For S-6 Incandescent Lamps, candelabra screw base**

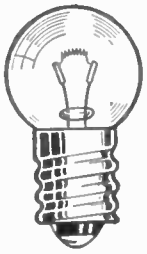
No. 10-18-14-431 Faceted ½" Lens (for 7/16" mounting hole) (Fig. 22)
No. 25-18-15-431 Faceted ⅝" Lens (for 11/16" mounting hole) (Fig. 23)
No. 31-18-16-431 Faceted 1" Lens (for 1" mounting hole) (Fig. 24)

**All of the above assemblies are listed by Underwriters' Laboratories, Inc.**

**LENS COLOR:** The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.



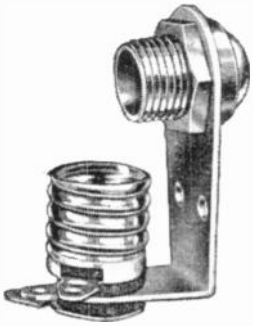


FIG. 25

**For G-6 Low voltage lamps, candelabra screw base**

No. 610-121 Convex ½" lens
Fig. 25 (for 7/16" mounting hole)

*Octagon lock nut and bracket on these two units welded into one-piece construction.*

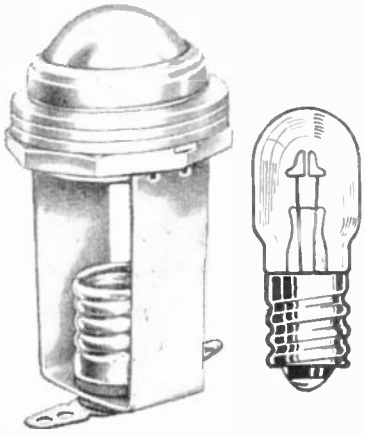


FIG. 26

FIG. 27

**For NE-45 Neon Glow Lamps, candelabra screw base**

No. 67BN-831 Dome Plastic Lens (¾" diam.) Fig. 26
No. 66N-131 Convex Glass Lens (¾" diam.) Fig. 27
(Both mount in 13/16" hole. Cap removable)

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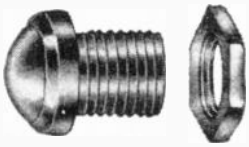
World Radio History

# Lens Holders with Lenses for Panel Mounting

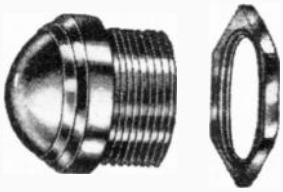
## Screw Types Are Complete With Nut for Shank

**5006-631**
*9/32"-32 thread*

**7005-631**
*3/8"-24 thread*

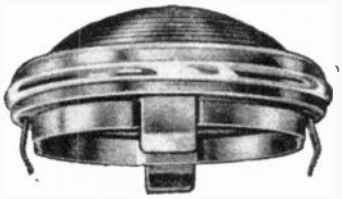


**10006-111**
*7/16"-27 thread*



**25006-111**
*11/16"-27 thread*

**34-431**
GLASS LENS



**34-841**
PLASTIC LENS

*These holders snap into 1½" hole*

PUSH-IN TYPES

**6004-631**
*9/32" hole*

**38003-631**
*⅜" hole*

Shank, 3/16" long

FLAT

**76006-231**

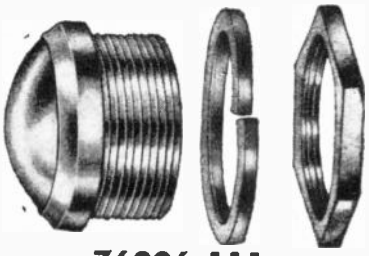
FACETED

**76006-431**

TORPEDO

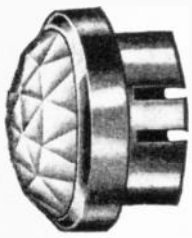
**76006-531**

CONVEX



**76006-111**

FACETED



**31-431**

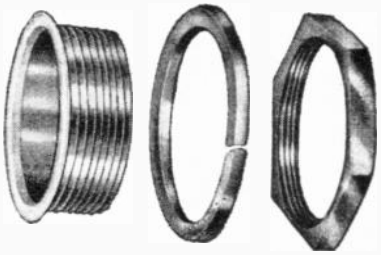
TORPEDO

**31-531**

CONVEX

**31-111**

BUSHING



**31246**

**The above two groups mount in 1" clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.**

**LENS COLOR:** The *final figure* in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

●

**ORDER COMPLETE WITH LAMPS** so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.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World Radio History

# DIALCO SOCKETS — Bracket Mounted

Underwriters Labs. Listed— **75 Watts, 125 Volts** —Appr. Canadian Standards Assoc.

## Double Contact Candelabra Bayonet

**12-200 Series**

Cat. No. 12-258

*12-200 Series Sockets* are furnished with bakelite discs, including separately sprung contacts, and have 6" wire leads. They can also be furnished with ceramic discs (called *1200 Series*) for heat-resistant applications.

*5700 Series Sockets* use tab terminals. These assemblies are ruggedly constructed with moulded bakelite housings and specially designed contacts.

**5700 Series**

Cat. No. 57-07

## CANDELABRA SCREW

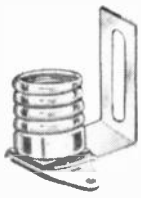
**400 Series**

Cat. No.4-45

*400 Series Sockets* are housed in heavy moulded bakelite. They are equipped with built-in wire leads, 6" long.

*1800 Series Sockets* are intended for use with lamps on commercial voltages. Terminals are locked in place and thoroughly insulated from the bracket and each other.

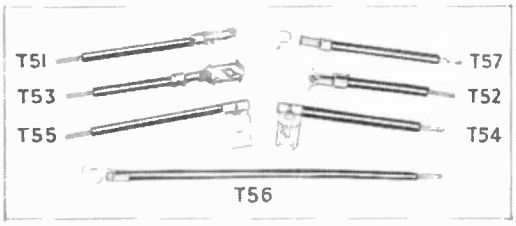
**1800 Series**



Cat. No. 18-79

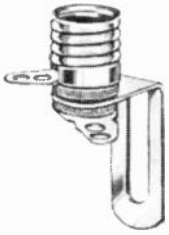
## WIRE TERMINATIONS

All wire assemblies are furnished with 6" long standard leads, ends stripped ½". Standard insulation is vinyl plastic with copper conductors. Special insulations such as Asbestos, 105°C Plastic, Rubber, SRIR, etc., may be furnished.




A large variety of *solderless terminals* can be furnished with most wire lead assemblies. Some standard popular types are shown here. To assure your receiving the correct terminal, please specify our assembly part number as well as the terminal required.

**600 Series**



Cat. No. 6-06

## Candelabra Screw

*600 Series Sockets* have soldering terminals, and can be furnished with the same basic brackets as shown in grouped illustration below.

## Miniature Screw

**500 Series**

Cat. No. 5-03

*500 Series Sockets* are supplied with soldering terminals. This group, as well as those sockets in the *600* and *700 Series*, are also furnished for *Grounded* use. When grounded sockets are required, one terminal only will be furnished.

**ORDER COMPLETE with LAMP** so that you will be assured of receiving the proper socket and correct lamp at one time, ready for immediate use.

**CHOICE OF BRACKETS** ⟶ **The series of brackets shown at the right can be used with any of our 200, 500, 600, and 700 Series Sockets. All the sockets have 2 terminals.**

## MINIATURE BAYONET SOCKETS

*300 Series Sockets* have moulded bakelite housing. They are listed by Underwriters Laboratories, and have Canadian Standards Association approval.

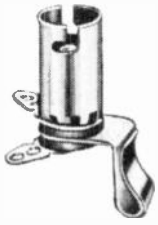
*700 Series Sockets* have soldering terminals. Some popular basic types are shown in illustration below.

*200 Series Sockets* are supplied with insulating sleeves, eliminating any accidental grounding.

**300 Series**

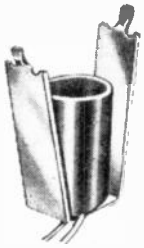
Cat. No. 3-05

**700 Series**

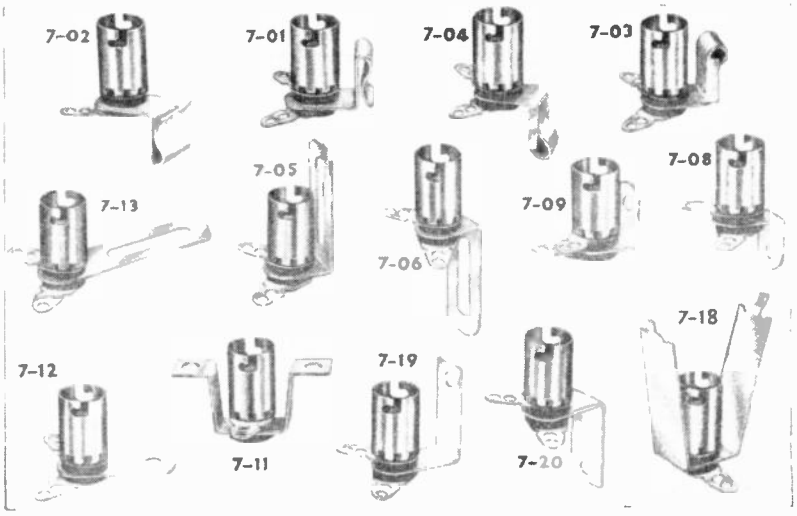


Cat. No. 7-02

**200 Series**



Cat. No. 2-15

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World Radio History

# CONNECTORS FOR SINGLE CONDUCTOR CABLE FOR MICROPHONES - SPEAKERS - PICK-UPS - JACKS

## *(using cable shield for second conductor)*

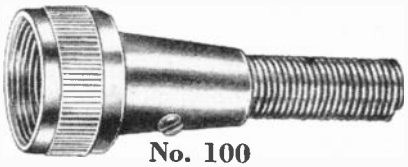
The fittings shown here are designed for use with standard metal shielded single conductor cable up to ¼″ diameter. These connectors are heavily constructed from solid brass and all exposed parts are chrome plated and highly polished.

The cable end connectors are provided with rugged wire spring protectors which prevent sharp bends at the connection. The protector is soldered to the cable sheath and secured in the connector by a set screw so that all strain is relieved from the conductor.

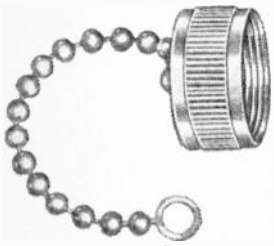
No. 101

**No. 101 MALE CONNECTOR FOR CABLE** — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.

**No. 100 FEMALE CONNECTOR FOR CABLE** — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



No. 100



No. 103

**No. 51 MALE CONNECTOR FOR CHASSIS** — Has sprung center contact which grounds before cable connection is broken preventing open circuit howls.

**No. 103 CAP AND CHAIN** — To protect unused male connectors. Chain secured by screw prevents loss when removed to make connection.

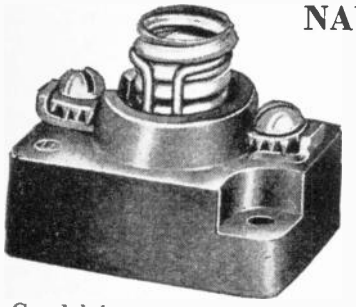
**No. 50 MALE CONNECTOR FOR CHASSIS** — Shell grounds to panel — or may be insulated by washers. Fit ⅜″-24 threaded hole or may be secured by nut.

**No. 50P MALE CONNECTOR FOR CHASSIS** ***(Similar to No. 50 above)*** — Designed for force fit in hole in panel. Requires no nut to secure in place.

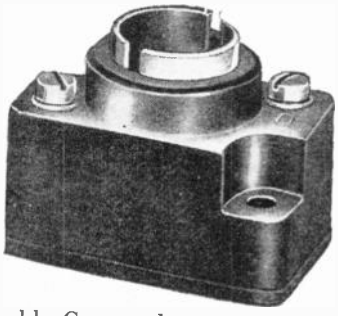
No. 51

No. 50

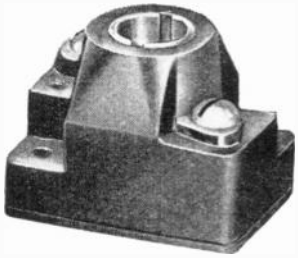
# NAVY SPECIFICATION SOCKETS



Candelabra screw 9S2036-L
Candelabra screw 9S5038-L
(not illustrated)



Double Contact bayonet 9S4634-L



Miniature bayonet
9S4931-L

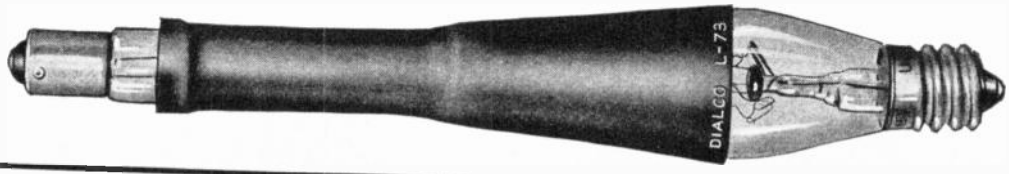
# LAMP INSTALLER

The DIALCO lamp installer shown below is a useful tool in installing lamps and in servicing pilot lights.

**No. L-73**

●

**No. L-45**
For NE-45 Neon





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World Radio History

# CHICAGO MINIATURE LAMPS

***Standard or Special Design***

If you can use one of the standard styles of miniature lamps, of which only the most popular are listed here, this company offers a dependable, prompt source of supply. If a special lamp is required for a new product development, the Chicago Miniature Lamp Works has the experience and the engineering ability and resources to design and produce it quickly and economically.

Standard or special design, your lamps will be built to the highest standards of quality and precision for long life and superior service.

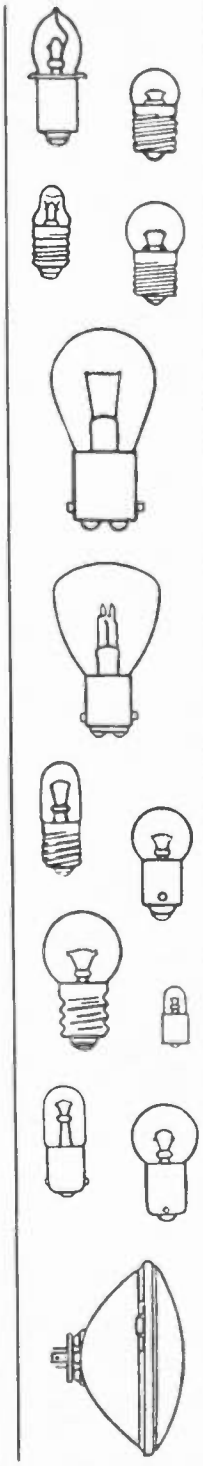
**CHICAGO MINIATURE LAMP WORKS ● Chicago, Illinois**

## INDICATOR — RADIO — COIN MACHINE LAMPS

| Lamp No. | Bulb | Base | Volts | Amps | Hours Life |
|---|---|---|---|---|---|
| 10 | G-3½ | Min. 2 Pin | 2.5 | .50 | 3000 |
| 12 | G-3½ | Min. 2 Pin | 6.3 | .15 | L |
| 19 | G-3½ | Min. 2 Pin | 12.0 | .10 | 1000 |
| 39 | T-3¼ | Min. Bay. | 6.3 | .36 | L |
| 40 | T-3¼ | Min. Screw | 6.3 | .15 | 3000 |
| 41 | T-3¼ | Min. Screw | 2.5 | .50 | 3000 |
| 43 | T-3¼ | Min. Bay. | 2.5 | .50 | 3000 |
| 44 | T-3¼ | Min. Bay. | 6.3 | .25 | 3000 |
| 45 | T-3¼ | Min. Bay | 3.2 | .35 | 3000 |
| 46 | T-3¼ | Min. Screw | 6.3 | .25 | 3000 |
| 47 | T-3¼ | Min. Bay | 6.3 | .15 | 3000 |
| 48 | T-3¼ | Min. Screw | 2.0 | 0.6 | 1000 |
| 49 | T-3¼ | Min. Bay | 2.0 | 0.6 | 1000 |
| 50 | G-3½ | Min. Screw | 7.5 | .25 | 500 |
| 51 | G-3½ | Min. Bay. | 7.5 | .22 | 1000 |
| 53 | G-3½ | Min. Bay. | 14.4 | .12 | 1000 |
| 55 | G-4½ | Min. Bay. | 7.0 | .41 | 500 |
| 63 | G-6 | S. C. Bay. | 7.0 | .63 | 1000 |
| 71K | G-6 | Cand. Sc. | 22 | .20 | 200 |
| 81 | G-6 | S. C. Bay. | 6.5 | 1.02 | 500 |
| 82 | G-6 | D. C. Bay. | 6.5 | 1.02 | 500 |
| 87 | S-8 | S. C. Bay | 6.75 | 1.82 | 300 |
| 89K | G-6 | Cand. Sc. | 13 | .58 | 750 |
| 509K | G-6 | Cand. Sc. | 24 | .18 | 1000 |
| 1224K | G-6 | Cand. Sc. | 32 | .18 | 200 |
| 1446 | G-3½ | Min. Sc. | 12 | .20 | 250 |
| 1447 | G-3½ | Min. Sc. | 18 | .15 | 250 |
| 1456 | G-5 | Min. Bay. | 18 | .25 | 250 |
| 1458 | G-5 | Min. Bay. | 20 | .25 | 250 |
| 1471 | G-6 | Cand. Sc. | 12 | .26 | 250 |
| 1474 | T-3 | Min. Sc. | 14 | .17 | 250 |
| 1476 | T-3 | Min. Sc. | 18 | .17 | 250 |
| 1477 | T-3 | Min. Sc. | 24 | .17 | 250 |
| 1481 | T-3¼ | Min. Sc. | 14 | .15 | 200 |
| 1487 | T-3¼ | Min. Sc. | 14 | .20 | 3000 |
| 1488 | T-3¼ | Min. Bay. | 14 | .15 | 200 |
| 1489 | T-5 | S. C. Bay. | 6.5 | 2.75 | 125 |
| 1490 | T-3¼ | Min. Bay. | 3.2 | .16 | 3000 |
| 1493 | S-8 | D. C. Bay. | 6.5 | 2.75 | 100 |
| 1767 | T-1¾ | Mid. Sc. | 2.5 | .20 | 500 |
| 1768 | T-1¾ | Mid. Sc. | 6 | .20 | 500 |
| 1815 | T-3¼ | Min. Bay. | 14 | .20 | 3000 |
| 1816 | T-3¼ | Min. Bay. | 13 | .33 | 1000 |
| 1820 | T-3¼ | Min. Bay. | 28 | .10 | 1000 |
| 1822 | T-3¼ | Min. Bay. | 36 | .10 | 1000 |
| 1891 | T-3¼ | Min. Bay | 14 | .24 | 500 |
| 1892 | T-3¼ | Min. Bay. | 14 | .12 | L |

## FLASHLIGHT AND LANTERN LAMPS

| Lamp No. | Bulb | Base (Min.) | Design Volts | Amps | Hours Life |
|---|---|---|---|---|---|
| PR2 | B-3½ | Flanged | 2.38 | .50 | 15 |
| PR3 | B-3½ | Flanged | 3.57 | .50 | 15 |
| PR4 | B-3½ | Flanged | 2.33 | .27 | 10 |
| PR6 | B-3½ | Flanged | 2.47 | .30 | 30 |
| PR7 | B-3½ | Flanged | 3.70 | .30 | 30 |
| PR8 | B-3½ | Flanged | 1.90 | .60 | 10 |
| PR9 | B-3½ | Flanged | 2.7 | .15 | 45 |
| PR12 | B-3½ | Flanged | 5.95 | .50 | 15 |
| PR13 | B-3½ | Flanged | 4.75 | .50 | 15 |
| PR15 | B-3½ | Flanged | 4.8 | .50 | 15 |
| 13 | G-3½ | Screw | 3.70 | .30 | 15 |
| 14 | G-3½ | Screw | 2.47 | .30 | 15 |



| Lamp No. | Bulb | Base (Min.) | Volts | Design Amps | Hours Life |
|---|---|---|---|---|---|
| 27 | G-4½ | Screw | 4.90 | .30 | 30 |
| 112 | TL-3 | Screw | 1.20 | .22 | 5 |
| 114 | TL-2¾ | Sp. Screw | 1.20 | .20 | 5 |
| 123 | G-3½ | Screw | 1.25 | .30 | 10 |
| 131 | G-3½ | Screw | 1.30 | .1 | 50 |
| 136 | G-4½ | Screw | 1.25 | .60 | 75 |
| 222 | TL-3 | Screw | 2.25 | .25 | 5 |
| 224 | TL-2¾ | Sp. Screw | 2.15 | .22 | 5 |
| 425 | G-4½ | Screw | 5.0 | .50 | 15 |
| 502 | G-4½ | Screw | 5.10 | .15 | 100 |
| 605 | G-4½ | Screw | 6.15 | .50 | 15 |
| 965 | T-4½ | Screw | 9.84 | .50 | 15 |
| 1209 | RP-11 | S. C. Pref. | 6.1 | 32 cp. | 125 |
| 1651 | S-8 | S. C. Bay. | 5.0 | .60 | 20 |
| P4512 | PAR-36 | Screw Term. | 5.0 | .50 | . . |
| P4546 | PAR-36 | Screw Term. | 4.7 | .50 | . . |

P4512 & P4546: plastic sealed beams w/replaceable bulb.

## AIRCRAFT TYPES

| Lamp No. | Bulb | Base | Volts | C. P. or Amps | Hours Life |
|---|---|---|---|---|---|
| 301 | G-5 | S. C. Bay. | 28 | 3 CP | 500 |
| 301NR | G-5 | S. C. Bay. | 28 | 3 CP | 500 |
| 302 | G-5 | D. C. Bay. | 28 | 3 CP | 500 |
| 303 | G-6 | S. C. Bay. | 28 | 6 CP | 500 |
| 303-OF | G-6 | S. C. Bay. | 28 | 6 CP | 500 |
| 303NR | G-6 | S. C. Bay. | 28 | 6 CP | 500 |
| 304 | G-6 | D. C. Bay. | 28 | 6 CP | 500 |
| 305 | S-8 | S. C. Bay. | 28 | 15 CP | 300 |
| 305IF | S-8 | S. C. Bay. | 28 | 15 CP | 300 |
| 305NR | S-8 | S. C. Bay. | 28 | 15 CP | 300 |
| 306 | S-8 | D. C. Bay. | 28 | 15 CP | 300 |
| 307 | S-8 | S. C. Bay. | 28 | 21 CP | 300 |
| 307IF | S-8 | S. C. Bay. | 28 | 21 CP | 300 |
| 307NR | S-8 | S. C. Bay. | 28 | 21 CP | 300 |
| 308 | S-8 | D. C. Bay. | 28 | 21 CP | 300 |
| 309 | S-11 | S. C. Bay. | 28 | 32 CP | 300 |
| 309IF | S-11 | S. C. Bay. | 28 | 32 CP | 300 |
| 309NR | S-11 | S. C. Bay. | 28 | 32 CP | 300 |
| 310 | S-11 | D. C. Bay. | 28 | 32 CP | 300 |
| 311 | S-11 | S. C. Bay. | 28 | 50 CP | 300 |
| 311NR | S-11 | S. C. Bay. | 28 | 50 CP | 300 |
| 312 | S-11 | D. C. Bay. | 28 | 50 CP | 300 |
| 313 | T-3¼ | Min. Bay. | 28 | .17 A | 500 |
| 313NR | T-3¼ | Min. Bay. | 28 | .17 A | L |
| 315 | S-8 | S. C. Bay | 28 | 32 CP | 300 |
| 323 | T-1¼ | Special | 3 | .19 A | 350 |
| 323NR | T-1¼ | Special | 3 | .19 A | 350 |
| 324 | T-1¼ | Wire Term. | 3 | .19 | 350 |
| 325 | T-1¼ | Special | 3 | .19 A | 350 |
| 327 | T-1¾ | Mid. Flngd. | 28 | .04 A | 1000 |
| 328 | T-1¾ | Mid. Flngd. | 6 | .20 A | 500 |
| 330 | T-1¾ | Mid. Flngd. | 14 | .08 A | 750 |
| 331 | T-1¾ | Mid. Flngd. | 1.35 | .06 | 500 |
| 334 | T-1¾ | Mid. Gr. | 28 | .04 A | 1000 |
| 335 | T-1¾ | Mid. Scr. | 28 | .04 A | 300 |
| 1251 | G-6 | S. C. Bay. | 28 | .26 A | 1000 |
| 1816 | T-3¼ | Min. Bay. | 13 | .33 A | 1000 |
| CM680 | T-1 | Wire Term. | 5 | .06 A | L |
| CM682 | T-1 | Spec. | 5 | .06 A | L |

NR—natural ruby glass bulb
IF—inside frosted bulb
OF—outside frosted bulb
Also Special Types, Neon Glow Lamps

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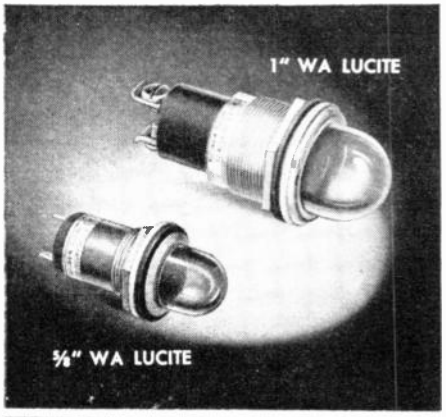
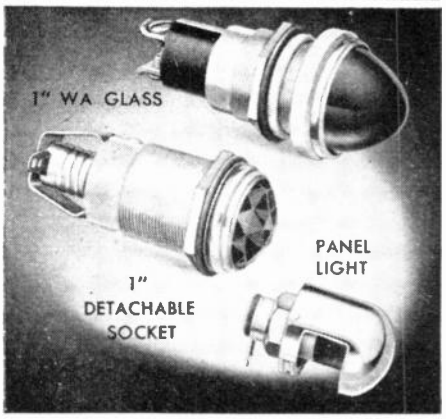
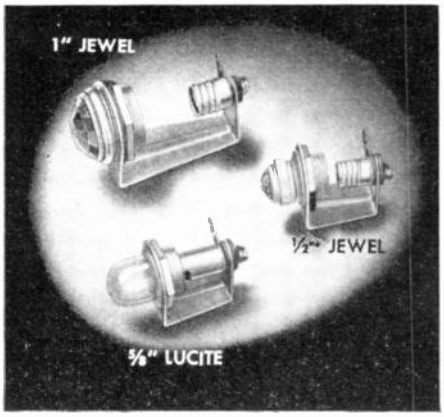
World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA




## *Quick and Easy... Pilot Light Selection!*

Now you can save valuable replacement or specification time with Johnson Panel Indicators. Available in a wide variety of types, Johnson "preferred" units are immediately available at parts distributors throughout the country. Careful standardization, with an eye to replacement as well as interchangeability, makes Johnson Pilot Lights the first choice of leading manufacturers.

Available types include: continuous indication neon types; models for high and low voltage incandescent bulbs; standard or wide angle glass and lucite jewels in clear, red, green, amber, blue or opal. Specials, including those meeting military specifications are also available in production quantities. For full information, write today!

## NEW PILOT LIGHT CATALOG!

Write for your copy today. Complete specifications, prices and technical data . . . everything you need to pick a unit for original equipment manufacture or "in the field" replacement.

Net

(See pages J-434 and J-435 for complete listing)

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World Radio History

# HUDSON Miniature Lamp Bulbs

## for RADIOS - FLASHLIGHTS - COIN MACHINES - TOYS - APPLIANCES

### LAMPS for RADIO PANEL, COIN MACHINE and OTHER SERVICE

| LAMP NUMBER | RETAIL PRICE INCL. TAX | BULB | BASE | DESIGN VOLTS | AMPS (CP) |
|---|---|---|---|---|---|
| 40 | $0.15 | T-3¼ | Min. Sc. | 6.3 | .15 |
| 41 | .15 | T-3¼ | Min. Sc. | 2.5 | .50 |
| 42 | .20 | T-3¼ | Min. Sc. | 3.2 | .35 |
| 43 | .15 | T-3¼ | Min. Bay. | 2.5 | .50 |
| 44 | .15 | T-3¼ | Min. Bay. | 6.3 | .25 |
| 45 | .15 | T-3¼ | Min. Bay. | 3.2 | .35 |
| 46 | .15 | T-3¼ | Min. Sc. | 6.3 | .25 |
| 47 | .15 | T-3¼ | Min. Bay. | 6.3 | .15 |
| 48 | .15 | T-3¼ | Min. Sc. | 2.0 | .06 |
| 49 | .15 | T-3¼ | Min. Bay. | 2.0 | .06 |
| 50 | .15 | G-3½ | Min. Sc. | 7.5 | 1 cp |
| 52 | .20 | G-3½ | Min. Sc. | 14.4 | 1 cp |
| 313 | .35 | T-3¼ | Min. Bay. | 28.0 | .17 |
| 1458 | .17 | G-5 | Min. Bay. | 20.0 | .25 |
| 1490 | .15 | T-3¼ | Min. Bay. | 3.2 | .16 |
| 1816 | .30 | T-3¼ | Min. Bay. | 13.0 | .33 |
| 1891 | .15 | T-3¼ | Min. Bay. | 14.0 | .25 |

### LAMPS for FLASHLIGHT, BICYCLE and OTHER SERVICE

| LAMP NO. | RET. PRICE INCL. TAX | BULB | BASE | DESIGN VOLTS | AMPS | BATTERY |
|---|---|---|---|---|---|---|
| PR2 | $0.20 | B-3½ | Min. Fig. | 2.38 | .50 | 2 D Cells |
| PR3 | .20 | B-3½ | Min. Fig. | 3.57 | .50 | 3 D Cells |
| PR4 | .20 | B-3½ | Min. Fig. | 2.33 | .27 | 2 C Cells |
| PR6 | .20 | B-3½ | Min. Fig. | 2.47 | .30 | 2 D Cells |
| PR7 | .20 | B-3½ | Min. Fig. | 3.70 | .30 | 3 D Cells |
| 13 | .17 | G-3½ | Min. Sc. | 3.70 | .30 | 3 D Cells |
| 14 | .17 | G-3½ | Min. Sc. | 2.47 | .30 | 2 D Cells |
| 27 | .17 | G-4½ | Min. Sc. | 4.9 | .30 | 4 F Cells |
| 31 | .20 | G-4½ | Min. Sc. | 6.15 | .30 | 5 D Cells |
| 112 | .17 | TL-3 | Min. Sc. | 1.20 | .22 | 1 AA Cell |
| 123 | .17 | G-3½ | Min. Sc. | 1.25 | .30 | 1 C or D Cell |
| 131 | .17 | G-3½ | Min. Sc. | 1.30 | .10 | 1 D Cell |
| 222 | .17 | TL-3 | Min. Sc. | 2.25 | .25 | 2 AA Cells |
| 233 | .17 | G-3½ | Min. Sc. | 2.33 | .27 | 2 C Cells |
| 502 | .17 | G-4½ | Min. Sc. | 5.10 | .15 | 4 F Cells |
| 605 | .17 | G-4½ | Min. Sc. | 6.15 | .50 | 5 D Cells |

### LAMPS for TOY TRAIN SERVICE

| LAMP NUMBER | RETAIL PRICE INCL. TAX | BULB | BASE | DESIGN VOLTS | AMPS |
|---|---|---|---|---|---|
| 363 | $0.17 | G-3½ | Min. Bay. | 14.0 | .20 |
| 430 | .17 | G-4½ | Min. Sc. | 14.0 | .25 |
| 431 | .17 | G-4½ | Min. Bay. | 14.0 | .25 |
| 432 | .17 | G-4½ | Min. Sc. | 18.0 | .25 |
| 433 | .17 | G-4½ | Min. Bay. | 18.0 | .25 |
| 1445 | .20 | G-3½ | Min. Bay. | 18.0 | .15 |
| 1447 | .20 | G-3½ | Min. Sc. | 18.0 | .15 |
| 1449 | .17 | G-3½ | Min. Sc. | 14.0 | .20 |

### NEON GLOW LAMPS

| LAMP NO. | RET. PRICE INCL. TAX | BULB | BASE | CIRCUIT VOLTS | EXTERNAL RESISTANCE | WATTS NOMINAL |
|---|---|---|---|---|---|---|
| NE-2 | $0.10 | T-2 | Unbased (Wire Term.) | 105-115 | 200,000 Ohms | 1/25 |
| NE-17 | .90 | T-4½ | D.C. Bay. | 105-115 | 30,000 Ohms | 1/4 |
| NE-45 | .85 | T-4½ | Cand. Sc. | 105-115 | None | 1/4 |
| NE-48 | .70 | T-4½ | D.C. Bay. | 105-115 | 30,000 Ohms | 1/4 |
| NE-51 | .21 | T-3¼ | Min. Bay. | 105-115 | 200,000 Ohms | 1/25 |
| NE-57 | .99 | T-4½ | Cand. Sc. | 105-115 | None | 1/4 |
| NE-58 | .95 | T-4½ | Cand. Sc. | 210-230 | None | 1/2 |

### LAMPS for HOME SERVICE, NITE LITE and INDICATOR

| LAMP NUMBER | RETAIL PRICE INCL. TAX* | BULB | WATTS | BASE | VOLTAGE | RATED LIFE |
|---|---|---|---|---|---|---|
| 6S6 | .22 | S6 Type | 6 | Candelabra Screw | 120 | 1500 hrs |
| 7C7 | .20 | C7 White or Clear | 7 | Candelabra Screw | 115-125 | 3000 |

### APPLIANCE LAMPS

| LAMP NUMBER | RETAIL PRICE INCL. TAX* | BULB | BASE | DESIGN VOLTS | AMPS |
|---|---|---|---|---|---|
| 6 | $0.35 | S-8 | D. C. Bay | 6.4 | 3.00 |
| 6 IF | .45 | S-8 (Frosted) | D. C. Bay | 6.4 | 3.00 |
| 8 | .35 | S-8 | D. C. Bay | 8.0 | 2.20 |
| 8 IF | .45 | S-8 (Frosted) | D. C. Bay | 8.0 | 2.20 |

*Manufactured by* HUDSON LAMP CO., Kearney, New Jersey

SOLD THROUGH **OXFORD Components, Inc.**

*Subsidiary of* OXFORD ELECTRIC CORP.

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO • EXPORT: ROBURN AGENCIES, NEW YORK CITY



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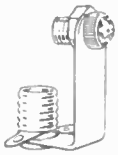
World Radio History

# Dial and Jewel PILOT LIGHT ASSEMBLIES

## JEWEL LIGHT ASSEMBLIES

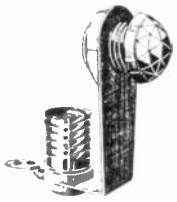


No. 5 Type

### 11/32" JEWEL . . VERTICAL MOUNTING

Mounts in 5/16" diameter hole on panels up to 1/8" thick. Tested at 125 volts. Panel Hardware cadmium and iridite — other parts cadmium. Standard colors. Available with faceted plastic jewels as standard.

No. 5.....Min. Screw (globular lamp)....List $0.40
No. 5B ..Min. Bayonet (globular lamp)..List .40
No. 5T ..Min. Bayonet (tubular lamp)..List .42

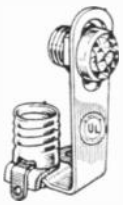


No. 10 Type

### 1/2" JEWEL . . VERTICAL MOUNTING

Mounts in 7/16" hole on panels up to 1/4" thick. Tested at 125 volts. Standard colors. Panel Hardware, bright nickel — other parts cadmium. No. 10B has bracket with oblong hole permitting adjustment to obtain best position for lamp filament back of Jewel. (Frosted jewels, 7c extra).

No. 10.....Min. Screw .....List $0.42
No. 10G.....Min. Bayonet .....List .42
No. 10B.....Min. Bayonet .....List .42

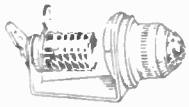


No. 10C Type

### 1/2" JEWEL . . VERTICAL MOUNTING *UNDERWRITERS APPROVED*

Candelabra screw base Jewel light which is Underwriters Approved for 75 watt — 125 volt service. Takes minimum depth behind panel. Oblong hole permits adjustment for placing lamp filament behind Jewel for maximum illumination. Mounts in 7 16" hole on panels up to 1/4" thick. Standard colors. (Frosted, 7c extra).

No. 10C.....Candelabra Screw.....List $0.48



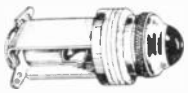
No. 20S Type

### 1/2" JEWEL HORIZONTAL MOUNTING

Lamp removable from front of panel. Mounts in 11 16" hole. Tested at 125 volts. Standard colors. Faceted glass. Bulk pack.

| TYPE NUMBER | STYLE SOCKET | DEPTH BACK OF PANEL | PANEL THICKNESS | LIST PRICES |
|---|---|---|---|---|
| 20 | Min. Bay | 1-13 32" | 0" to 7 64" | $0.55 |
| 30 | Min. Bay | 1-7 32" | 1/4" | .55 |
| 40 | Min. Bay | 1-11 32" | 1/8" to 15 64" | .55 |
| 20S | Min. Screw | 1-1 16" | 0" to 15 64" | .55 |
| 30S | Min. Screw | 15 16" | 1/4" | .55 |

### 1/2" POLARIZED VARIABLE INTENSITY



No. 80 Type

Incorporates use of polarized discs to regulate light intensity. A partial turn of the Jewel dims the light. Supplied with three fibre washers to compensate for different panel thicknesses. Mounts in 11 16" hole. Finish bright nickel. Standard Colors. Regularly supplied with smooth glass frosted on back only. Other glass types optional.

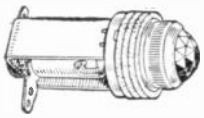
| TYPE NUMBER | STYLE SOCKET | LIST PRICE |
|---|---|---|
| 80 | Miniature Bayonet | $1.62 |

No. 75AP .....$1.66

### 1" JEWEL . . . *Underwriters App.*

A heavy-duty Candelabra screw base assembly designed to be used on rugged equipment. UL for 125 volt 75 watt service. The socket assembly and mounting tube are one piece. Solder terminals. Mounts in 1" hole on panels up to 1/2" thick. Panel Hardware, highly polished chrome. All other parts cadmium plated. Standard colors in FAC, SP or SFB glass. Depth back of panel 2 1/4".

### 1/2" JEWEL . . . HORIZ. MOUNTING



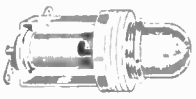
No. 50 Type

Specially designed for use on more than one thickness of panel. Three fibre washers compensate for panel thicknesses. Mounts in 11 16" hole. Lamp removable from front of panel. Tested at 125 volts. Faceted glass in standard colors.

| TYPE NUMBER | STYLE SOCKET | DEPTH BACK OF PANEL | PANEL THICKNESS | LIST PRICES |
|---|---|---|---|---|
| 50 | Min. Bayonet | 1-5/16"* | 0" to 1/4" | $0.88 |
| 50S | Min. Screw | 1-1/4"* | 0" to 1/4" | .87 |

*Subtract panel thickness.

### 5/8" PLASTIC CAP HORIZONTAL MOUNTING



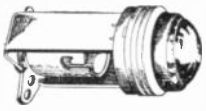
No. 51 Type

Gives wide angle vision . . . easily seen from sides. Lamp removable from front of panel. Supplied with three 1/16" thick fibre washers for adjustment of thickness of panel. Mounts in 11 16" hole. Tested at 125 volts. Standard colors.

| TYPE NUMBER | STYLE SOCKET | DEPTH BACK OF PANEL | PANEL THICKNESS | LIST PRICE |
|---|---|---|---|---|
| 51 | Min. Bayonet | 1-1/4"* | 0" to 1/4" | $0.81 |

*Subtract panel thickness.

### 3/4" JEWEL . . . HORIZ. MOUNTING

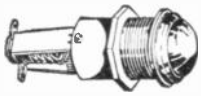


No. 60 Type

Polished chrome "slip-fit" bezel. Mounts in 13 16" hole. Supplied with fibre washers to compensate for panel thickness. Miniature types tested at 125 volts. Candelabra type UL listed for 75W — 125 V. Standard colors. No. 60 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel.

| TYPE NUMBER | STYLE SOCKET | LIST PRICES With 6 Discs | LIST PRICES Colored Jewel |
|---|---|---|---|
| 60 | Miniature Bayonet | $1.41 | $1.28 |
| A460N-IL | Cand. Screw for NE45 Lamp | not avail. | 1.41 |
| 60S | Miniature Screw | 1.40 | 1.27 |
| A460T-IL | Cand. Screw for 115V, 6W, T4½ Lamp | 1.56 | 1.43 |

### 1" JEWEL . . . HORIZ. MOUNTING



No. 75 Type

Easy to install. Has "slip-fit" bezel. Mounts in 1" diameter hole on panels up to 1/2" thick. UL listed. No. 75 will take any candelabra screw base lamp up to 2 1/8" long and 7/8" diameter. Nos. 175 and 275 take any miniature lamp up to 1-3/16" long and 7/8" diameter. The bezel has a highly polished chrome finish. Standard colors. No. 75 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel. Comes in FAC, SP, or SFB. *We recommend smooth plain glass for use with Neon Glow Lamps.*

| TYPE NUMBER | STYLE SOCKET | LIST PRICES With 6 Discs | LIST PRICES Colored Jewel |
|---|---|---|---|
| 75 | Candelabra Screw | $1.55 | $1.40 |
| 175 | Miniature Screw | 1.58 | 1.44 |
| 275 | Miniature Bayonet | 1.59 | 1.45 |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World Radio History

# *Dial and Jewel* PILOT LIGHT ASSEMBLIES

## TOTALLY ENCLOSED MINIATURE BAYONET ASSEMBLIES

*UNDERWRITERS LISTED*

No. 100 Type—½" JEWEL  No. 101 Type—PLASTIC DOME

*(ALSO Types 100N, 101N for Use with NE51 NEON GLOW LAMPS)*

The 100 and 100N have glass Jewels. The 101 and 101N have transparent plastic domes. The fluted-on-inside type plastic dome has three times the visibility of the plain cap. All types mount in 11/16" diameter hole on panels up to 3/8" thick. Breakdown 2000 volts. 101 and 101N come in amber, colorless, red and milky white in the transparent; and standard colors in the translucent.

With proper current limiting resistors 100N and 101N can be operated on any voltage over 65 volts AC and 90 volts DC. Resistor is built into the housing. Units carried in stock have 100,000 ohm resistors for 115 volt operation.

LIST PRICES

No. 100....$1.03  No. 100N....$1.24  No. 101....$0.96  No. 101N....$1.16

*With screw terminals, 13c extra (prefix BS to part no.)*

## NEON INDICATOR LIGHTS

No. 105 POSTLITE

**for maximum visibility**

No. 110 FLUSHLITE

No. 110 FLUSHLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Can be mounted by two screws or on studs on either front or back of panel. Body is milky white polystyrene. Rated at 125 volts, 1/10 watt.

No. 105 POSTLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Body and head molded in one piece from clear, colorless polystyrene. Mounts in ½" diameter hole. Rated at 125 volts, 1/10 watt. Other colors available on special order on both items.

LIST PRICES

No. 105 POSTLITE.....$0.96  No. 110 FLUSHLITE.....$0.71

## DIAMOND-CUT JEWELS IN STANDARD COLORS

### THREADED TYPE — WITH NUTS

| TYPE NO. | SHANK | O.D. | LIST PRICE |
|---|---|---|---|
| *14-15 | 1/4" long | 5/16" | $0.16 |
| *16-17 | 3/8" long | 7/16" | .17 |
| *16L-17 | 1/2" long | 7/16" | .22 |
| *16S-17 | 9/32" long | 7/16" | .18 |
| 60A3-27 | 3/8" long | 11/16" | .64 |
| *(* Frosted Jewels, 7c extra)* | | | |
| 75A3-C | 3/8" long | 1" | .84 |

TYPES 16-17 11/32" Jewels

No. 60A3-27 ¾" Jewels

No. 60A3-27 and 75A3-C POLISHED CHROME FINISH. OTHER NOS., NICKEL FINISH.

### SLOTTED TYPES

| TYPE No. | SHANK | O.D. | LIST PRICES |
|---|---|---|---|
| 23 | 3/16" long | 3/8" | $0.15 |
| 24 | 1/4" long | 9/32" | .15 |
| *(Frosted, 7c extra)* | | | |

No. 75A3-C 1" Jewels

No. 24 11/32" JEWEL

**OTHER JEWEL FINISHES**

*SP.....Smooth Plain*
*SFB.....Smooth Frosted Back*
*SFA.....Smooth Frosted All Over*

No. 23 ½" JEWEL

***LOOK FOR THIS***

## DRAKE DISPLAY BOARD

***AT YOUR DEALER'S***

It shows a representative assortment of DRAKE units . . . will help you in selecting exactly the right Indicator Lights for your requirements.

## LAMPHOLDER ASSEMBLIES

Code numbers for Types:
MIN. SCREW — 100 SERIES  MIN. BAYONET — 200 SERIES
CAND. SCREW — 400 SERIES

### BASIC TYPES

117H MINIATURE SCREW

217H MINIATURE BAYONET

417H CANDELABRA SCREW

### CLIP BRACKET TYPES

103AH - 203AH
403AH
*WITH FLANGE BRACKETS*

103CE
203CE - 403CE
*WITH FLANGE BRACKETS*

104AH - 204AH
404AH
*WITH FLAT BRACKETS*

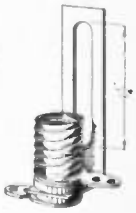
### LIST PRICES

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | $.14 | 109 | .14 | 206 | $.15 | 403 | $.16 | 409 | $.16 |
| 104 | .14 | 117H | $.14 | 208 | .15 | 404 | .16 | 417H | .16 |
| 106 | .14 | 203 | .15 | 209 | .15 | 406 | .16 | 617H | .16 |
| 108 | .14 | 204 | .15 | 217H | .15 | 408 | .16 | | |

### MISCELLANEOUS TYPES

106AE
206AE
406AE

108AH
208AH
408AH



109CH
209CH
409CH

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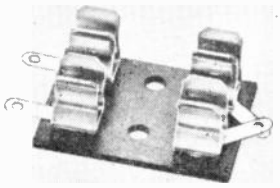
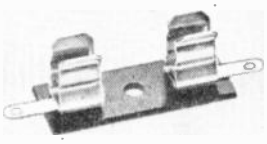
# ANOTHER LITTELFUSE FIRST





## MOUNTINGS DESIGNED AND DEVELOPED FOR THE NEW SARKES-TARZIAN SILICON RECTIFIERS

Mountings listed below are now tooled and readily available. They are approved by Sarkes Tarzian engineers.

Mountings designed to your specifications are available upon request. Let our engineers assist you.

| Part No. | | Description | Length | Width | Thickness | List Price Each |
|---|---|---|---|---|---|---|
| 099062 | (a) | 1 Pole | 1-3/8" | 1/2" | 3/16" | $ .25 |
| 099063 | (a) | 2 Pole | 1-3/8" | 1" | 3/16" | .50 |
| 099065 | (b) | 2 Pole | 1-3/8" | 1" | 1/16" | .27 |
| 099065-2 | | Fishpaper Insulator | 2" | 1/2" | 1/32" | .009 |
| 099065-3 | (b) | Bakelite Insulator | 1-3/8" | 1" | 1/16" | .018 |
| 099067 | (b) | 1 Pole | 1-3/8" | 1/2" | 1/16" | .14 |
| 099067-2 | | Fishpaper Insulator | 2" | 1/2" | 1/32" | .006 |
| 099067-3 | (b) | Bakelite Insulator | 1-3/8" | 1/2" | 1/16" | .01 |
| 099077 | (c) | 2 Pole | 1-3/8" | 1-1/8" | 3/16" | .51 |
| 099078 | (c) | 3 Pole | 1-3/8" | 1-11/16" | 3/16" | .74 |
| 099079 | (c) | 4 Pole | 1-3/8" | 2-1/4" | 3/16" | .99 |
| 099080 | (c) | 6 Pole | 1-3/8" | 3-3/8" | 3/16" | 1.48 |
| 099081 | (c) | 8 Pole | 1-3/8" | 4-1/2" | 3/16" | 1.97 |
| 099082 | (c) | 10 Pole | 1-3/8" | 5-5/8" | 3/16" | 2.46 |

NOTE: (a) Designed for M500 rectifier.
(b) Inexpensive style designed for M500 rectifier recommended particularly for use by the TV servicemen.
(c) Designed for use with either M500 or L1250 rectifier.

**LITTELFUSE,** *Des Plaines, Illinois*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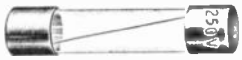
# LITTELFUSE "Quicker than a Short Circuit"

## 3 AG "LITTELFUSES"



¼" x 1¼"

Standard Package—100

**Blow Time**

| Percentage of rating | Blow Time |
|---|---|
| 110% | Life |
| 135% | 0–1 hour |
| 200% | 0–2 minutes |

311000 Series **Littelfuses**—Quick to medium-blowing fuses—for use in radios, auto-radios, amplifiers, etc. Straight-type fuse element—positioned to center of fuse—makes open link always in the visible portion of fuse.

| Catalog No. | Amp. rating | Max. volt | List Price, each |
|---|---|---|---|
| 311005. | 5 | 32 | $0.05 |
| 31107.5 | 7½ | 32 | .05 |
| 311010. | 10 | 32 | .05 |
| 311015. | 15 | 32 | .05 |
| 311020. | 20 | 32 | .045 |
| 311025. | 25 | 32 | .06 |
| 311030. | 30 | 32 | .06 |

312000 Series **Littelfuses**—Quick-acting fuses—for low time-lag applications similar to the **311000** fuse series above. Protective-coated elements, on fuses to 3 amperes, prevent oxidation and promote clean break on fusion. Diagonal element alignment of this fuse assures accurate alignment and calibration, even when the fuse element is expanded by heat.

| Catalog No. | Amp. rating | Max. volt. | List Price each |
|---|---|---|---|
| 312.062 | 1/16 | 250 | $0.20 |
| 312.125 | ⅛ | 250 | .20 |
| 312.150 | 15/100 | 250 | .20 |
| 312.175 | .175 | 250 | .20 |
| 312.187 | 3/16 | 250 | .20 |
| 312.250 | ¼ | 250 | .13 |
| 312.300 | 3/10 | 250 | .13 |
| 312.375 | ⅜ | 250 | .13 |
| 312.500 | ½ | 250 | .13 |
| 312.750 | ¾ | 250 | .13 |
| 312001. | 1 | 250 | .08 |
| 31201.5 | 1½ | 250 | .08 |
| 312002. | 2 | 250 | .08 |
| 312003. | 3 | 250 | .07 |
| 312004. | 4 | 250 | .10 |
| 312005. | 5 | 250 | .10 |
| 312006. | 6 | 250 | .10 |
| 312008. | 8 | 125 | .15 |

Approved by Underwriters' Laboratories.

## 3 AG "SLO-BLO" "LITTELFUSES"

¼" x 1¼"

Standard package—100

**Blow time**

| Percentage of rating | Blow Time |
|---|---|
| 110% | Life |
| 135% | 0–1 hour |
| 200 | 60 seconds max.<br>5 seconds min. |

313000 Series **Littelfuses—Slo-Blo** fuses with high time-lag to withstand heavy surges—quick on shorts. Designed for circuits with equipment having high inductive or capacitative surges, such as magnets, solenoids, etc., and for circuits with heavy starting currents such as motors and lamp circuits. Anti-fatigue construction (compound element, with spring and resistor) makes these fuses ideal for intermittent-duty circuits on vibrators, control circuits, hi-tension electric fences, small magnets, coils, etc. **"Pioneered by Littelfuse."**

| Catalog No. | Former No. | Amp. rating | Max. volt. | List Price, each |
|---|---|---|---|---|
| 313.010 | 1259 | 1/100 | 125 | $0.36 |
| 313.032 | 1261 | 1/32 | 125 | .36 |
| 313.062 | 1262 | 1/16 | 125 | .27 |
| 313.100 | ... | 1/10 | 125 | .27 |
| 313.125 | 1263 | 1/8 | 125 | .27 |
| 313.150 | ... | 15/100 | 125 | .27 |
| 313.175 | ... | .175 | 125 | .27 |
| 313.187 | 1263-A | 3/16 | 125 | .27 |
| 313.200 | ... | 2/10 | 125 | .27 |
| 313.250 | 1264 | 1/4 | 125 | .27 |
| 313.300 | ... | 3/10 | 125 | .27 |
| 313.375 | 1265 | 3/8 | 125 | .27 |
| 313.400 | ... | 4/10 | 125 | .27 |
| 313.500 | 1266 | 1/2 | 125 | .27 |
| 313.600 | ... | 6/10 | 125 | .27 |
| 313.700 | ... | 7/10 | 125 | .27 |
| 313.750 | 1267 | 3/4 | 125 | .27 |
| 313.800 | ... | 8/10 | 125 | .27 |
| 313001. | 1268 | 1 | 125 | .27 |
| 31301.2 | ... | 1 2/10 | 125 | .25 |
| 3131.25 | ... | 1¼ | 125 | .25 |
| 31301.5 | 1041-C | 1½ | 125 | .25 |
| 31301.6 | ... | 1-6/10 | 125 | .25 |
| 313002. | 1042-C | 2 | 125 | .25 |
| 31302.5 | ... | 2½ | 125 | .20 |
| 313003. | 1043-C | 3 | 125 | .20 |
| 31303.2 | ... | 3-2/10 | 125 | .20 |
| 313004. | ... | 4 | 125 | .20 |
| 313005. | 1080-C | 5 | 125 | .20 |
| 3136.25 | ... | 6¼ | 32 | .20 |
| 313008. | ... | 8 | 32 | .20 |
| 313010. | 1081-C | 10 | 32 | .20 |
| 313015. | 1082-C | 15 | 32 | .20 |
| 313020. | 1083-C | 20 | 32 | .20 |
| 313025 | ... | 25 | 32 | .20 |
| 313030 | ... | 30 | 32 | .20 |

Approved by Underwriters' Laboratories through 5 amps.

## 3 AB "TINY MIGHTY" "LITTELFUSES"

¼" x 1¼"

Standard package—100.

**Blow Time**

| Percentage of rating | Blow Time |
|---|---|
| 110% | Life |
| 135% | 0–1 hour |
| 200% | 0–2 minutes |

314000 Series **Littelfuses**—The smallest Underwriters' Laboratory approved fuses in ratings this high. Steatite enclosed, arc-quenching, powder filled fuses. Shatter-proofed against quick shorts. Medium time lag. Recommended for use with amplifiers, rectifiers, battery charging equipment, small generators, control panels, amusement devices, communication and electronic equipment, radios, signal apparatus, small motor circuits, etc. Take less space than N.E.C. fuses—**"Pioneered by Littelfuse."**

| Catalog No. | Amp. rating | Max. volt. | List Price, each |
|---|---|---|---|
| 314001. | 1 | 250 | $0.17 |
| 314002. | 2 | 250 | .17 |
| 314003. | 3 | 250 | .17 |
| 314005. | 5 | 250 | .17 |
| 314008. | 8 | 250 | .17 |
| 314010. | 10 | 250 | .17 |
| 314012. | 12 | 250 | .17 |
| 314015. | 15 | 250 | .17 |
| 314020. | 20 | 250 | .17 |
| 314030. | 30 | 125 | .20 |

Approved by Underwriters' Laboratories 8 amps through 15 amps.

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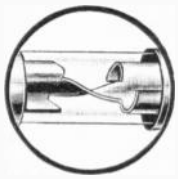
World Radio History

# LITTELFUSE "Quicker than a Short Circuit"

## AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

**Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life**



**4 AG Aircraft Fuse showing reinforced twisted element**

**Bakelite-enclosed 4 AB Fuse**

**CONSTRUCTION:** Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft services for their strength and greater carrying capacity than 3 AG fuses.

**BAKELITE-ENCLOSED:** 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

**CURRENT RATING:** Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

**VOLTAGE RATING:** Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

**VIBRATION FACTOR:** Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

**4AG "LITTELFUSES"**
1¼" x 9/32" Dia.
Unit Wt.—3.5 Gms.

| Cat. No. | Former No. | Amp. Rating | Max. Volt. | Price Each |
|---|---|---|---|---|
| "Slo-Blo" | | | | |
| 413.100 | — | 1;10 | 250 | .35 |
| 413.150 | — | 15;100 | 250 | .35 |
| 413.200 | — | 2;10 | 250 | .35 |
| 413.250 | 1452C1;4 | 1;4 | 250 | .35 |
| 413.300 | — | 3;10 | 250 | .35 |
| 413.400 | — | 4;10 | 250 | .35 |
| 413.500 | 1452C1;2 | 1;2 | 250 | .35 |
| 413.600 | — | 6;10 | 250 | .35 |
| 413.750 | — | 3;4 | 250 | .35 |
| 413.800 | — | 8;10 | 250 | .35 |
| 413001 | 1091C | 1 | 250 | .35 |
| 4131.25 | — | 1-1;4 | 250 | .35 |
| 41301.6 | — | 1-6;10 | 250 | .35 |
| 413002 | 1092C | 2 | 250 | .35 |
| 41302.5 | — | 2-1"2 | 250 | .27 |
| 413003 | 109 C | 3 | 250 | .27 |

**4AG "LITTELFUSES" (Con.)**
1¼" x 9/32" Dia.
Unit Wt.—3.5 Gms.

| Cat. No. | Former No. | Amp. Rating | Max. Volt. | Price Each |
|---|---|---|---|---|
| 41303.2 | — | 3-2;10 | 250 | .27 |
| 413004 | — | 4 | 32 | .27 |
| 413005 | 1094C | 5 | 32 | .27 |
| 4136.25 | — | 6-1;4 | 32 | .27 |
| 413008 | — | 8 | 32 | .27 |
| 413010 | 1095C | 10 | 32 | .27 |
| 413015 | 1096C | 15 | 32 | .27 |
| 413020 | 1097C | 20 | 32 | .27 |
| 413025 | 1098C | 25 | 32 | 27 |
| 413030 | 1099C | 30 | 32 | .27 |
| Aircraft | | | | |
| 411010. | 1095 | 10 | 32 | .15 |
| 411015. | 1096 | 15 | 32 | .15 |
| 411020. | 1097 | 20 | 32 | .15 |
| 411025. | 1098 | 25 | 32 | .15 |
| 411030. | 1099 | 30 | 32 | .15 |
| 411035. | — | 35 | 32 | .15 |

**4AB "LITTELFUSES"**
1¼" x 9/32" Dia.
Unit Wt.—3.75 Gms.

| Cat. No. | Former No. | Amp. Rating | Max. Volt. | Price Each |
|---|---|---|---|---|
| 414001. | 1091B | 1 | 250 | .25 |
| 414002. | 1092B | 2 | 250 | .25 |
| 414003. | 1093B | 3 | 250 | .25 |
| 414005. | 1094B | 5 | 125* | .25 |
| 414008. | — | 8 | 125* | .25 |
| 414010. | 1095B | 10 | 125* | .25 |
| 414015. | 1096B | 15 | 125* | .25 |
| 414020. | 1097B | 20 | 125* | .25 |
| 414025. | 1098B | 25 | 32 | .25 |
| 414030. | 1099B | 30 | 32 | .25 |
| 414035. | — | 35 | 32 | .25 |
| 414040. | 1100B | 40 | 32 | .25 |

*Good for power supplies up to 25 KVA at 115V—400 cycles.

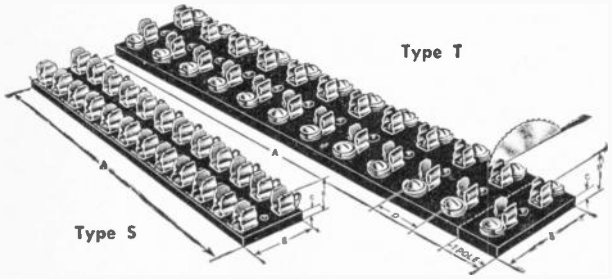
**5AG "LITTELFUSES"**
1½" x 13/32" Dia.
Unit Wt.—8.5 Gms

| Cat. No. | Former No. | Amp. Rating | Max. Volt. | Price Each |
|---|---|---|---|---|
| "Slo-Blo" | | | | |
| 513001. | 1160C | 1 | 250 | $0.45 |
| 513002. | 1161C | 2 | 250 | .45 |
| 513003 | 1162C | 3 | 250 | .35 |
| 513005. | 1163C | 5 | 32 | .35 |
| 513010. | 1164C | 10 | 32 | .35 |
| 513015 | 1165C | 15 | 32 | .35 |
| 513020 | 1166C | 20 | 32 | .35 |
| 513025 | — | 25 | 32 | .40 |
| 513030 | 1167C | 30 | 32 | .40 |
| Aircraft | | | | |
| 511005. | — | 5 | 32 | .20 |
| 511010. | 1164 | 10 | 32 | .20 |
| 511015. | 1165 | 15 | 32 | .20 |
| 511020. | 1166 | 20 | 32 | .20 |
| 511025. | 1442 | 25 | 32 | .20 |
| 511030. | 1167 | 30 | 32 | .20 |
| 511035. | 1472 | 35 | 32 | .20 |
| 511040. | 1168 | 40 | 32 | .20 |
| 511050. | 1169 | 50 | 32 | .20 |
| 511060. | 1222 | 60* | 32 | .20 |

*Carries only 100% rating on life test.

## NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (1/8" allowance for saw cut).




| Fuse Type | Mtg. Type | Dim. "B" | Dim. "C" | Dim. "D" | Dim. "E" |
|---|---|---|---|---|---|
| 8AG | S | 1 3/8 | 3/16 | 5/8 | 21/32 |
| 3AG | S | 1 5/8 | 3/16 | 5/8 | 21/32 |
| 3AG | T | 2 3/8 | 7/32 | 29/32 | 11/16 |
| 4AG | T | 2 3/8 | 7/32 | 29/32 | 13/16 |
| 5AG | T | 2 3/4 | 9/32 | 31/32 | 1 1/32 |

**Mountings with Solder Terminals—Type "S".** Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

**Mountings with Screw Terminals—Type "T".** Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 456 (4AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L.

**FOR 4AG FUSES—TYPE "T"**

| Catalog No. | No. Poles | Dim. "A" | List Price Each |
|---|---|---|---|
| 456001 | 1 | 25/32 | $0.55 |
| 456002 | 2 | 1 11/16 | 1.10 |
| 456003 | 3 | 2 19/32 | 1.65 |

Prices 456004 to 456012, 4 to 12 poles, on special quotation only.

**FOR 3AG FUSES—TYPE "S"**

| Catalog No. | No. Poles | Dim. "A" | List Price Each |
|---|---|---|---|
| 357001 | 1 | 1/2 | $0.20 |
| 357002 | 2 | 1 1/8 | .40 |
| 357003 | 3 | 1 3/4 | .60 |

Prices 357004 to 357012, 4 to 12 poles, on special quotation only.

**FOR 3AG FUSES—TYPE "T"**

| Catalog No. | No. Poles | Dim. "A" | List Price Each |
|---|---|---|---|
| 356001 | 1 | 25/32 | $0.43 |
| 356002 | 2 | 1 11/16 | .86 |
| 356003 | 3 | 2 19/32 | 1.29 |

Prices 356004 to 356012, 4 to 12 poles, on special quotation only.

**FOR 5AG FUSES—TYPE "T"**

| Catalog No. | No. Poles | Dim. "A" | List Price Each |
|---|---|---|---|
| 556001 | 1 | 7/32 | $0.65 |
| 556002 | 2 | 1 13/16 | 1.30 |
| 556003 | 3 | 2 25/32 | 1.95 |

Prices 556004 to 556012, 4 poles, on special quotation only.

**FOR 8AG FUSES—TYPE "S"**

| Catalog No. | No. Poles | Dim. "A" | List Price Each |
|---|---|---|---|
| 387001 | 1 | 1/2 | $0.20 |
| 387002 | 2 | 1 1/8 | .40 |
| 387003 | 3 | 1 3/4 | .60 |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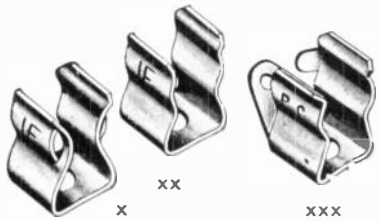
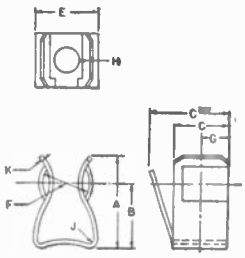
**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***
World Radio History

# LITTELFUSE "Quicker than a Short Circuit"

## LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS

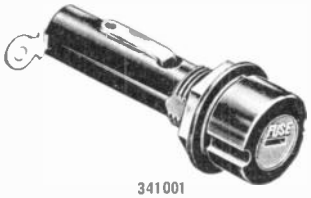



Littelfuse fuse clips are available in three standard styles: "X," with "ears" or fuse stops; "XX," earless; and "XXX," "Lug-Clips," a new Littelfuse clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.




| Catalog Number | Former Number | Fuse Adaptation | Type | DIMENSIONS A | B | C | E | F | G | H | Unit Wt. grams | Std. Pkg. 100 Wt.—lbs. | List Price Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BERYLLIUM COPPER CLIPS** | | | | | | | | | | | | | |
| **SILVER PLATED—WITH FUSE STOP "EARS"** | | | | | | | | | | | | | |
| 121001 | 1216B | SFE, 3AG & 8AG Fuses | X | 29/64 | 1/4 | 5/16 | 11/32 | 1/4 | 5/32 | .131 | 1 | 1 | $0.06 |
| 123001 | 1217B | 4AG & 4AB Fuses | X | 9/16 | 3/8 | 13/32 | .385 | 9/32 | 3/16 | .171 | 1.6 | 1 | .09 |
| 125001 | 1218B | 5AG, Hi-Voltage-Midget | X | 3/4 | 1/2 | 7/16 | 1/2 | 13/32 | 7/32 | .196 | 3 | 2 | .15 |
| 127001 | 1219 | N.E.C.-30 Fuses | X | 13/16 | 9/16 | 19/32 | 5/8 | 9/16 | 1/4 | .203 | 5.5 | 2 | .20 |
| 129001 | 1221 | Standard Hi-Voltage | X | 1 7/32 | 13/16 | .750 | 7/8 | 13/16 | 5/16 | .265 | 14.5 | 4 | .50 |
| **SILVER PLATED—EARLESS TYPE** | | | | | | | | | | | | | |
| 121002 | 1417 | SFE, 3AG & AB, & 8AG | XX | 29/64 | 1/4 | 5/16 | 11/32 | 1/4 | 5/32 | .131 | 1 | 1 | .06 |
| 123002 | 1437 | 4AG & 4AB | XX | 9/16 | 3/8 | 13/32 | .385 | 9/32 | 3/16 | .171 | 1.6 | 1 | .09 |
| 125002 | | 5AG, Hi-Voltage-Midget | XX | 3/4 | 1/2 | 7/16 | 1/2 | 13/32 | 7/32 | .196 | 3 | 2 | .15 |
| 127002 | 1475 | N.E.C.-30 Fuses | XX | 13/16 | 9/16 | 19/32 | 5/8 | 9/16 | 1/4 | .203 | 5.5 | 2 | .20 |
| 129002 | 1476 | Standard Hi-Voltage | XX | 1 7/32 | 13/16 | .750 | 7/8 | 13/16 | 5/16 | .265 | 14.5 | 4 | .50 |
| **SILVER PLATED—"LUG-CLIP"—SOLDER TERMINAL ATTACHED** | | | | | | | | | | | | | |
| 121004 | New | SFE, 3AG, AB, & 8AG | XXX | 29/64 | 1/4 | 37/64 | 11/32 | 1/4 | [illegible] | .131 | [illegible] | 1 | .09 |
| **PHOSPHOR BRONZE CLIPS** | | | | | | | | | | | | | |
| **BURNISHED NICKEL PLATE—WITH FUSE STOP "EARS"** | | | | | | | | | | | | | |
| 101001 | 1011B | SFE, 3AG & AB, & 8AG | X | 29/64 | 1/4 | 11/32 | 11/32 | 1/4 | 5/32 | .131 | 1 | 1 | .025 |
| 103001 | 1319 | 4AG & 4AB | X | 9/16 | 3/8 | 13/32 | .385 | 9/32 | 3/16 | .173 | 1.7 | 1 | .05 |
| 105001 | 2049 | 5AG, Hi-Voltage-Midget | X | 3/4 | 1/2 | 7/16 | 1/2 | 13/32 | 7/32 | .196 | 3.2 | 2 | .05 |
| 107001 | 5048 | N.E.C.-30 Fuses | X | 13/16 | 9/16 | 19/32 | 5/8 | 9/16 | 1/4 | .203 | 5.8 | 2 | .08 |
| 109001 | 1463 | Standard Hi-Voltage | X | 1 7/32 | 13/16 | .750 | 7/8 | 13/16 | 5/16 | .265 | 15.6 | 4 | .22 |
| **BURNISHED NICKEL PLATE—EARLESS TYPE** | | | | | | | | | | | | | |
| 101002 | 125-2 | SFE, 3AG & AB, 7AG & 8 AG | XX | 29/64 | 1/4 | 7/16 | 11/32 | 1/4 | 5/32 | .131 | 1 | 1 | .025 |
| 104002 | | 4AG & 4AB | XX | 9/16 | 3/8 | 13/32 | .385 | 9/32 | 3/16 | .173 | 1.7 | 1 | .05 |
| 105002 | 2049B | 5AG, Hi-Voltage-Midget | XX | 3/4 | 1/2 | 7/16 | 1/2 | 13/32 | 7/32 | .196 | 3.2 | 2 | .06 |
| 107002 | SP-178 | N.E.C. 30 Fuses | XX | 13/16 | 9/16 | 19/32 | 5/8 | 9/16 | 1/4 | .203 | 5.8 | 2 | .08 |
| 109002 | | Standard Hi-Voltage | XX | 1 7/32 | 13/16 | .750 | 7/8 | 13/16 | 5/16 | .265 | 14.5 | 4 | .22 |
| **BRIGHT-DIP PHOSPHOR BRONZE—"LUG CLIP" SOLDER TERMINAL ATTACHED** | | | | | | | | | | | | | |
| 101003 | | SFE, 3AG & AB & 8AG | XXX | 29/64 | 1/4 | 37/64 | 11/32 | 1/4 | [illegible] | .131 | 1.2 | 1 | .035 |

Finger Operated Knob




341001

342003

## "LITTELFUSE" FUSE EXTRACTOR POSTS

Quicker, safer method for mounting and changing fuses. Held in end of removable knob, fuse is easily replaced by unscrewing knob. Available with finger-operated knob or with screw driver slot knob.

| Catalog No. | Former No. | Descr.—Knob, How Operated | Mtg. Hole | Length Under Panel | List Price Each |
|---|---|---|---|---|---|
| 341001 | 1075S | 3AG—Screw Driver | .500-.505" | 2 1/32 | $0.50 |
| 342001 | 1075F | 3AG—Finger | .500-.505" | 2 7/32 | .50 |
| 342003 | ..... | 3AG—Miniature | .500-.505" | 1.035 | .50 |
| 342007 | ..... | 3AG—(elongated hole) | .535/.540 x .685"/.690" | 1.171 | 3.30 |
| 342008 | ..... | 3AG—Miniature—Dustproof | .500-.505" | 1.035 | .55 |
| 342012 | ..... | ..... | .502-.510" | 1.3 | .50 |
| 442001 | ..... | 4AG—Finger | .625-.630" | 2.156 | 1.25 |
| 371001 | 1087S | 8AG—Screw Driver | .500-.505" | 2 1/32 | .50 |
| 372001 | 1087F | 8AG—Finger | .500-.505" | 2 7/32 | .50 |

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World Radio History

# LITTELFUSE *"Quicker than a Short Circuit"*

## 8AG INSTRUMENT *high speed* LITTELFUSES

Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, micro-ammeters, milliammeters, voltmeters, etc. Glass-enclosed: 1 x 1¼" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.

| Catalog No. | Former No. | Amp. Rating | Max. Volt. | APPLICATIONS: Voltmeters Ohms P.V. | All Magnetic Movement Milliammeters | Thermocouples | List Price Ea. |
|---|---|---|---|---|---|---|---|
| 361.002 | ..... | 1/500 | 250 | Over 1000 | Galvanometers | 0–0.1 to 0–0.5 | $1.20 |
| 361.005 | 1000 | 1/200 | 250 | Over 1000 | Galvanometers | Up to 0.1 | .50 |
| 361.010 | 1001 | 1/100 | 250 | 1000 | Up to 0–1 | 0–5 to 0–10 | .45 |
| 361.031 | 1002 | 1/32 | 250 | 500–1000 | 0–1 to 0–10 | 0–10 to 0–25 | .40 |
| 361.062 | 1003 | 1/16 | 250 | 100–500 | 0–10 to 0–25 | 0–25 to 0–60 | .27 |
| 361.125 | 1004 | 1/8 | 250 | 20–100 | 0–25 to 0–75 | 0–75 to 0–150 | .20 |
| 361.250 | 1005 | 1/4 | 250 | 10–20 | 0–75 to 0–150 | 0–115 to 0–200 | .13 |
| 361.375 | 1006 | 3/8 | 250 | 5–10 | 0–150 to 0–250 | 0–200 to 0–300 | .13 |
| 361.500 | 1007 | 1/2 | 250 | 3–5 | 0–250 to 0–350 | 0–300 to 0–400 | .13 |
| 361.750 | 1007-A | 3/4 | 250 | | 0–350 to 0–500 | 0–400 to 0–600 | .13 |
| 361001. | 1008 | 1 | 250 | | 0–500 to 0–750 | 0–600 to 0–1000 | .10 |
| 36101.5 | 1008-A | 1½ | 250 | | 0–750 to 0–1000 | 0–1000 to 0–1500 | .10 |
| 361002. | 1009 | 2 | 250 | | 0–1000 to 0–1500 | 0–1500 to 0–2000 | .10 |
| 361003. | | 3 | 250 | | 0–1500 to 0–2000 | 0–2000 to 0–3000 | .10 |
| 361005. | | 5 | 32 | | 0–2000 to 0–4000 | 0–3000 to 0–5000 | .10 |

## BAKELITE IN-LINE FUSE RETAINER

Designed to hang in the cable or mount in the chassis, the inline fuse retainer molded of high impact bakelite is primarily for low-voltage applications: car radios, heaters, spot lights, clocks, etc.

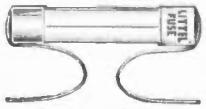
The disassembled unit consists of the bakelite body receptacle, bakelite knob with metal insert, one spring, two knife-edge rivet contacts.

155000 Series—Assembled with a 19" loop of wire lead:

| | |
|---|---|
| 155004A | For 4-amp SFE and 1AG fuses |
| 155006A | For 6-amp SFE fuses |
| 155009A | For 9-amp SFE and 7AG fuses |
| 155014A | For 14-amp SFE and 8AG fuses |
| 155020A | For 20-amp SFE and 3AG fuses |

List Prices **.50 ea.**

In-line fuse retainer now assembled with 19" loop of wire lead.
094020 FUSE RETAINER ASSORTMENT—$6.00 EACH CARD



| Catalog Number | Description | List Price Each |
|---|---|---|
| **3AG SLO-BLO PIGTAIL FUSES** | | |
| 315.010 | 1/100 amp. (125 volt) | $.45 |
| 315.032 | 1/32 amp. (125 volt) | .45 |
| 315.062 | 1/16 amp. (125 volt) | .34 |
| 315.100 | 1/10 amp. (125 volt) | .34 |
| 315.150 | 15/100 amp. (125 volt) | .34 |
| 315.187 | 3/16 amp. (125 volt) | .34 |
| 315.200 | 2/10 amp. (125 volt) | .34 |
| 315.250* | ¼ amp. (125 volt) | .34 |
| 315.300 | 3/10 amp. (125 volt) | .34 |
| 315.375 | ⅜ amp. (125 volt) | .34 |
| 315.400 | 4/10 amp. (125 volt) | .34 |
| 315.500* | ½ amp. (125 volt) | .34 |
| 315.600 | 6/10 amp. (125 volt) | .34 |
| 315.750 | ¾ amp. (125 volt) | .34 |
| 315.800 | 8/10 amp. (125 volt) | .34 |
| 315001. | 1 amp. (125 volt) | .34 |
| 31511.25 | 1¼ amp. (125 volt) | .32 |
| 31501.5 | 1½ amp. (125 volt) | .32 |
| 31501.6 | 1-6/10 amp. (125 volt) | .32 |
| 315002. | 2 amp. (125 volt) | .32 |
| 31502.5 | 2½ amp. (125 volt) | .27 |
| 315003. | 3 amp. (125 volt) | .27 |
| 31503.2 | 3-2/10 amp. (125 volt) | .27 |
| 315004. | 4 amp. (125 volt) | .27 |
| 315005. | 5 amp. (125 volt) | .27 |

| Catalog Number | Description | List Price Each |
|---|---|---|
| **3AG PIGTAIL FUSES** | | |
| 318.062 | 1/16 amp. (250 volt) | $.25 |
| 318.125 | ⅛ amp. (250 volt) | .25 |
| 318.250* | ¼ amp. (250 volt) | .20 |
| 318.375 | ⅜ amp. (250 volt) | .20 |
| 318.500* | ½ amp. (250 volt) | .20 |
| 318.750 | ¾ amp. (250 volt) | .20 |
| 318001. | 1 amp. (250 volt) | .15 |
| 31801.5 | 1½ amp. (250 volt) | .15 |
| 318002. | 2 amp. (250 volt) | .15 |
| 318003. | 3 amp. (250 volt) | .15 |
| 318004. | 4 amp. (250 volt) | .16 |
| 318005. | 5 amp. (250 volt) | .16 |
| 318006. | 6 amp. (250 volt) | .16 |
| **8AG T.V. FUSES (No Pigtail)** | | |
| 362.125 | ⅛ amp. (250 volt) | .16 |
| 362.250* | ¼ amp. (250 volt) | .13 |
| 362.375* | ⅜ amp. (250 volt) | .13 |
| 362.500 | ½ amp. (250 volt) | .13 |
| 362.750 | ¾ amp. (250 volt) | .13 |
| 362001. | 1 amp. (250 volt) | .08 |
| 36201.5 | 1½ amp. (125 volt) | .08 |
| 362002. | 2 amp. (125 volt) | .08 |
| 362003. | 3 amp. (125 volt) | .08 |
| 362005. | 5 amp. (125 volt) | .05 |

*Most commonly used by large volume set manufacturers.

All above fuses approved by Underwriters' Laboratories except 315004 and 315005.

## METER BACK MOUNTING

Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1⅛". Length over screw terminal, 1½". Standard Package 20. Weight ½ lb.

List Price Each.....$0.35

## FUSE CADDY

A handy fuse kit for instant accessibility—correct fuse at your fingertips. 18 individual compartments contains 15 boxes; 3 spare compartments.

| | | |
|---|---|---|
| 3 AG ¼ A | 3 AG 5A | N ¼ LC |
| 3 AG ½A | 3 AG ¼ A SB | N 1 LC |
| 3 AG 1A | 3AG ½ A SB | N 1¼ LC |
| 3 AG 2A | 8 AG ¼ | C 2½ LC |
| 3 AG 3A | 8 AG ½ | |

Part 094037

List Price.....$12.68

## LC FUSE CADDY

A handy all inclusive LC (Limited Current) Fuse Caddy for servicemen's tube caddy. One call is all. 18 individual compartments. LC Fuse Caddy comes with 75 fuses; 15 different types plus three spare compartments.

Part 094041

List Price.....$16.98

## FUSE CHANNELS

Single channel fuse dispensers for servicemen to mount in multiple arrangements over workbench in store.

Part 890-62

| | |
|---|---|
| 1-48 | $0.22 |
| 49-96 | .18 |
| 97 and over | .14 |

## SNAP-ON MOUNTINGS

Time saver for pigtail replacement. Snap on blown pigtail, then use regular fuse in other side. No soldering. This Snap-On mounting has a cut out on both sides which makes the fuse accessible for replacement from both sides. They are available in bulk, on display cards of 24, or in handy merchandising plastic boxes of ten.

| | | List Price |
|---|---|---|
| Card of 24 | No. 094024 | $7.20 |
| Box of 10 | No. 094025 | 3.00 |



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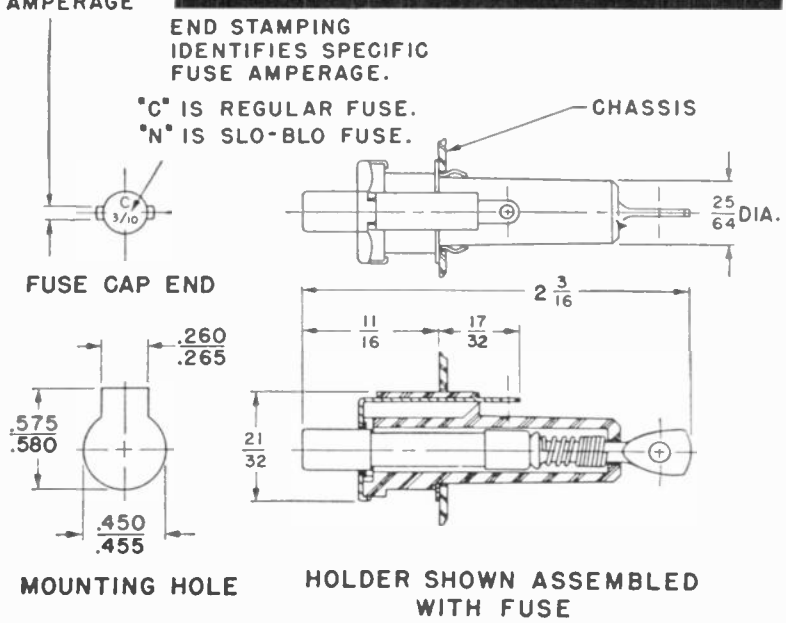
World Radio History

# LITTELFUSE "Quicker than a Short Circuit"

## THE LIMITED CURRENT (L.C.) LINE OF FUSES AND FUSE HOLDERS




Here is a completely new approach to circuit protection to completely eliminate the possibility of over-fusing circuits.

This has been accomplished by a combination of three different fuse lengths and seven different widths of bayonet locking tabs on the fuse caps.

The fuse post is made to accept only the size amperage range and type (regular or slo blo) in its range. For example: a 1 amp. slo blo fuse is 1¼" long with .115 to .120 width tabs. The holder used with this will only accept a slo blo fuse (N type) above ¾ to 1¼ amps.

The holder is a ruggedly designed unit, molded from high strength bakelite.

It snaps into a predetermined chassis mounting hole and locks into place by means of a quick snap-in type lock washer. It can be pressed into place by hand or simple tools.

The fuse locks into the holder by means of a bayonet lock which permits easy and quick insertion and removal of fuses.

Both solder connections are behind panel making the installation of the unit simple and inexpensive.

### REGULAR FUSES / FUSE HOLDERS

| Cat. No. | Type | Amps. | (Max.) Volts | Cat. No. | Range (Amps.) |
|---|---|---|---|---|---|
| 332.032 | C | 1/32 | 250 | 346001 | |
| 332.062 | C | 1/16 | 250 | | |
| 332.125 | C | 1/8 | 250 | | 0 |
| 332.187 | C | 3/16 | 250 | | to |
| 332.250 | C | 1/4 | 250 | | 3/10 |
| 332.300 | C | 3/10 | 250 | | |
| 332.375 | C | 3/8 | 250 | 346002 | Over 3/10 |
| 332.500 | C | 1/2 | 250 | | to ½ |
| 332.750 | C | 3/4 | 250 | 346003 | Over ½ to ¾ |
| 332001 | C | 1 | 250 | 346004 | Over ¾ |
| 3321.25 | C | 1-1/4 | 250 | | to 1¼ |
| 33201.5 | C | 1-1/2 | 250 | 346005 | Over 1¼ |
| 3321.75 | C | 1-3/4 | 250 | | to 1¾ |
| 332002 | C | 2 | 250 | 346006 | Over 1¾ |
| 33202.5 | C | 2-1/2 | 250 | | to 2½ |
| 332003 | C | 3 | 250 | 346007 | Over 2½ |
| 33203.5 | C | 3-1/2 | 250 | | to 3½ |
| 332004 | C | 4 | 250 | 346012 | Over 3½ |
| 332005 | C | 5 | 250 | | to 5 |
| 332006 | C | 6 | 250 | 346013 | Over 5 |
| 332007 | C | 7 | 125 | | to 7 |
| 332008 | C | 8 | 125 | 346014 | Over 7 |
| 332010 | C | 10 | 125 | | to 10 |

### SLO BLO FUSES / FUSE HOLDERS

| Cat. No. | Type | Amps. | (Max.) Volts | Cat. No. | Range (Amps. |
|---|---|---|---|---|---|
| 333.010 | N | 1 100 | 125 | 346008 | |
| 333.032 | N | 1 32 | 125 | | |
| 333.062 | N | 1 16 | 125 | | |
| 333.100 | N | 1 10 | 125 | | 0 |
| 333.150 | N | 15/100 | 125 | | to |
| 333.200 | N | 2/10 | 125 | | 3 10 |
| 333.250 | N | 1/4 | 125 | | |
| 333.300 | N | 3 10 | 125 | | |
| 333.400 | N | 4 10 | 125 | 346009 | Over 3 10 |
| 333.500 | N | 1 2 | 125 | | to ½ |
| 333.600 | N | 6/10 | 125 | 346010 | Over ½ |
| 333.750 | N | 3 4 | 125 | | to ¾ |
| 333.800 | N | 8/10 | 125 | 346011 | Over ¾ |
| 333001 | N | 1 | 125 | | to 1¼ |
| 3331.25 | N | 1-1/4 | 125 | | |
| 33301.6 | N | 1-6 10 | 125 | 346016 | Over 1¼ |
| 3331.75 | N | 1-3 4 | 125 | | to 1¾ |
| 333002 | N | 2 | 125 | 346017 | Over 1¾ |
| 33302.5 | N | 2-1/2 | 125 | | to 2½ |
| 33302.8 | N | 2-8 10 | 125 | 346018 | Over 2½ |
| 33303.2 | N | 3-2/10 | 125 | | to 3½ |
| 33303.5 | N | 3-1/2 | 125 | | |
| 333004 | N | 4 | 125 | 346019 | Over 3½ |
| 333005 | N | 5 | 125 | | to 5 |
| 3336.25 | N | 6-1/4 | 32 | 346020 | Over 5 |
| 333007 | N | 7 | 32 | | to 7 |

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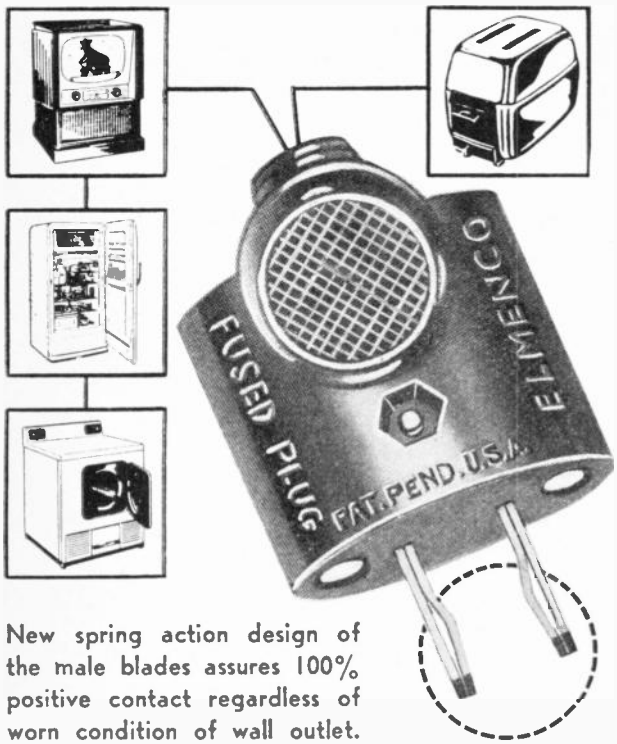
World Radio History

# *Announcing an important NEW Feature*




New spring action design of the male blades assures 100% positive contact regardless of worn condition of wall outlet.

OF THE

# ELMENCO
## *Fused Plug*

# *Spring Action*

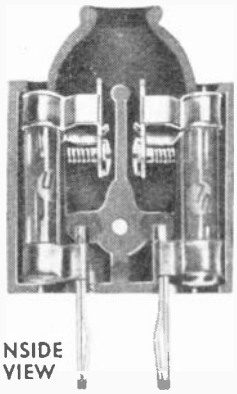
For
POSITIVE CONTACT
plus
Impact Resistant Cover

LIST PRICE **50¢** LESS FUSES

## OFFERS COMPLETE PROTECTION AGAINST CURRENT SURGES & SHORT CIRCUITS PROTECTS ELECTRICAL APPLIANCES!

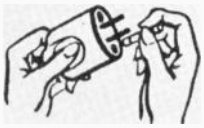
Conveniently Packed 10 to a Box In Colorful Self-merchandising displays. Easy to handle for resale

The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it contains 2 small fuses which provide complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.



INSIDE VIEW

## REPLACE FUSE Instantly!



Fuses are replaced instantly without need of opening plug. Can be used with standard 3AG and 3AB glass tubular fuses up to 20 amps.

**ELMENCO PRODUCTS CO. NEW YORK 13, N. Y.**
BRANCHES: CHICAGO • DALLAS • LOS ANGELES



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World Radio History

# BUSS Fuses

# FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of TV, Radios, Instruments and Electronic Equipment*

## FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.

Formerly called 8AG.
Dimension ¼ x 1 inch, Glass tube.

Provide high speed action necessary to protect sensitive instruments.

Test specification—carry 100%, open at 200% in 5 seconds.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 250 or less | AGX | 1/500 | $1.20 |
| " | AGX | 1/200 | .50 |
| " | AGX | 1/100 | .45 |
| " | AGX | 1/32 | .40 |
| 250 or less | AGX | 1/16 | .27 |
| " | AGX | 1/10, 1/8, 3/16, 2/10 | .20 |
| " | AGX | 1/4, 3/8, 4/10 or 1/2 | .13 |
| 125 or less | AGX | 3/4 | .13 |
| " | AGX | 1, 1 1/2 or 2 | .08 |

Formerly called 8AG
Dimension ¼ x 1 inch, Glass tube.

Test specification—carry 110%, open at 135% within 1 hour.

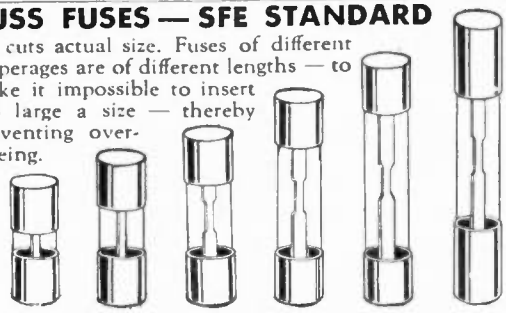
AGX are listed as approved by Underwriters' Laboratories.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 125 or less | AGX | 3, or 4 | $0.08 |
| " | AGX | 5 | .05 |
| 32 or less | AGX | 8, 10, 15 or 20 | .05 |
| " | AGX | 25 or 30 | .06 |

**MJB & MJW FUSES NOW CALLED AGX**

## BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fuseing.



SFE 4 SFE 6 SFE 7½ & SFE 9 SFE 14 SFE 20 SFE 30

Glass tube — diameter ¼ inch. Length as per table below.

Test specification—carry 100%, open at 125% in ½ hour.

Listed as approved by Underwriters' Laboratories.

Made according to specifications of Society of Automotive Engineers.

| Voltage | Symbol & Amperes | Length Inches | Pounds per 100 | List Price |
|---|---|---|---|---|
| 32 or less | SFE4 | 5/8 | .73 | $0.055 |
| " | SFE6 | 3/4 | .75 | .055 |
| " | SFE7½ | 7/8 | .80 | .05 |
| " | SFE9 | 7/8 | .80 | .05 |
| " | SFE14 | 1 1/16 | .82 | .045 |
| " | SFE20 | 1 1/4 | .87 | .045 |
| " | SFE30 | 1 7/16 | 1.60 | .06 |

## BUSS PIG-TAIL FUSES

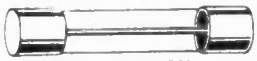
¼ x 1¼ inch Glass tube fuse with 1½ inch leads of No. 20 tinned copper wire.

Test specifications—carry 110%, open at 135% in 1 hour or less.

Listed as approved by Underwriters' Laboratories.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 250 or less | GJV | 1/16 | $0.33 |
| " | GJV | 1/8 | .25 |
| " | GJV | 1/4, 3/8, 1/2 or 3/4 | .20 |
| " | GJV | 1, 1 1/2, 2 or 3 | .15 |
| " | GJV | 4, 5 or 6 | .16 |

## BUSS GLASS TUBE FUSES, ¼ x 1¼ inch

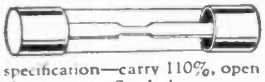


Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Listed as approved by Underwriters' Laboratories.

| Voltage | Symbol | Amperes | List Price | Voltage | Symbol | Amperes | List Price |
|---|---|---|---|---|---|---|---|
| 250 or less | AGC | 1/500 | $1.20 | 250 or less | AGC | 175/1000 | $0.20 |
| " | AGC | 1/200 | .50 | " | AGC | 3/16 | .20 |
| " | AGC | 1/100 | .45 | " | AGC | 1/4, 3/10, 3/8 | .13 |
| " | AGC | 1/32 | .40 | " | AGC | 1/2, 3/4 | .13 |
| " | AGC | 1/16 | .27 | " | AGC | 1, 1 1/2, or 2 | .08 |
| " | AGC | 1/8 | .20 | " | AGC | 3 | .07 |
| " | AGC | 15/100 | .20 | " | MTH | 4, 5 or 6 | .10 |



Formerly called 3AG

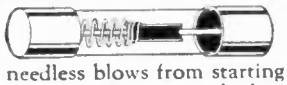
Test specification—carry 110%, open at 135% in 1 hour.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 125 or less | GLH | 8 or 10 | .15 |
| 32 or less | AGC | 4 | $0.07 |
| " | AGC | 5, 6, 7½, 8, 10 or 15 | .05 |
| " | AGC | 25 or 30 | .06 |

20 ampere size is an SFE 20 fuse.
Sizes larger than 30 ampere are not recommended as clips or fuse holders would not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fusetron dual-element fuses.

**MBW & MBB FUSES NOW CALLED AGC**

## FUSETRON FUSES, ¼ x 1¼ inch



**DUAL-ELEMENT SLOW BLOWING TYPE**

Stop needless blows from starting currents or surges. Fuse link operates only on very high overloads or short-circuits. Thermal cutout functions on low overloads — cannot operate quickly at any load, so long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% in 1 hour.

Approximate blowing time: at 200% load **MDL** 25 sec. **MDX** 12 sec.
at 300% " " 8 " " 3 "
at 500% " " 3 " " ½ "

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 250 or less | MDL | 1/100 or 1/32 | $0.36 |
| 250 or less | MDL | 1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 7/10, 3/4, 8/10 or 1 | .27 |
| " | MDX | 1 1/4, 1 1/2, 1 6/10 or 2 | .30 |
| 125 or less | MDL | 1 1/4, 1 1/2, 1 6/10 or 2 | .25 |
| " | MDL | 2 1/2 or 2 8/10 | .20 |
| " | MDX | 3 or 3 2/10 | .20 |
| " | MDX | 4, 5, 6 1/4 or 7 | .23 |
| 32 or less | MDL | 3, 3 2/10, 4, 5, 6 1/4, 8, 10, 15, 20, 25 or 30 | .20 |

## FUSETRON PIG-TAIL FUSES

Leads are No. 20 tinned wire 1½ inch long. Listed as approved by Underwriters' Laboratories. Test specifications and performance, MDV 1/100 to 2 8/10 amps. same as MDL fuses. 3 to 7 amps. same as MDX fuses.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 250 or less | MDV | 1/100 or 1/32 | $0.45 |
| " | MDV | 1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 3/4, 8/10 or 1 | .34 |
| 125 or less | MDV | 1 1/4, 1 1/2, 1 6/10 or 2 | .32 |
| " | MDV | 2 1/2, 2 8/10, 3, 3 2/10, 4, 5, 6 1/4 or 7 | .27 |

**BUSSMANN MFG. DIVISION** McGraw-Edison Co. **St. Louis 7, Mo.**

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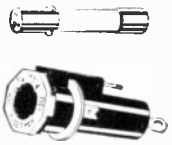
World Radio History

# BUSS Fuses

# FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of TV, Radios, Instruments and Electronic Equipment*

## FUSETRON and BUSS MATCHED FUSES and FUSEHOLDERS



Safeguard against use of wrong size and type of fuse. FUSETRON Type N are "slow-blowing" fuses for use where harmless surges or starting currents might cause ordinary fuses to open needlessly. Use in Type HN fuseholder.

BUSS Type C are "quick-blowing" fuses for fast interruption of fault current. Use in Type HC fuseholder.

| FUSETRON FUSE | | FUSEHOLDER | |
|---|---|---|---|
| Symbol & Amperes | List Price | Symbol & Range | List Price |
| N 1/100 | $0.40 | | |
| N 1/32 | .40 | | |
| N 1/16 | .28 | | |
| N 1/10 | .28 | HN | |
| N 15/100 | .28 | 0 to 3/10 | $0.20 |
| N 2/10 | .28 | | |
| N 1/4 | .28 | | |
| N 3/10 | .28 | | |
| N 4/10 | .28 | HN | |
| N 1/2 | .28 | 3/10 to 1/2 | .20 |
| N 6/10 | .28 | | |
| N 7/10 | .28 | HN | |
| N 3/4 | .28 | 1/2 to 3/4 | .20 |
| N 8/10 | .28 | | |
| N 1 | .28 | HN | |
| N 1 1/4 | .26 | 3/4 to 1 1/4 | .20 |
| N 1 6/10 | .26 | HN | |
| N 1 3/4 | .26 | 1 3/10 to 1 3/4 | .20 |
| N 2 | .26 | HN | |
| N 2 1/2 | .24 | 1 3/4 to 2 1/2 | .20 |
| N 2 8/10 | .24 | | |
| N 3 2/10 | .24 | HN | |
| N 3 1/2 | .24 | 2 1/2 to 3 1/2 | .20 |
| N 4 | .24 | HN | |
| N 5 | .24 | 3 1/2 to 5 | .20 |
| N 6 1/4 | .24 | HN | |
| N 7 | .24 | 5 to 7 | .20 |

| BUSS FUSE | | FUSEHOLDER | |
|---|---|---|---|
| Symbol & Amperes | List Price | Symbol & Range | List Price |
| C 1/32 | $0.42 | | |
| C 1/16 | .27 | | |
| C 1/8 | .21 | HC | |
| C 3/16 | .21 | 0 to 3/10 | $0.20 |
| C 1/4 | .16 | | |
| C 3/10 | .16 | | |
| C 3/8 | .16 | HC | |
| C 1/2 | .16 | 3/10 to 1/2 | .20 |
| C 3/4 | .16 | HC 1/2 to 3/4 | .20 |
| C 1 | .09 | HC | |
| C 1 1/4 | .09 | 3/4 to 1 1/4 | .20 |
| C 1 1/2 | .09 | HC | |
| C 1 3/4 | .09 | 1 1/4 to 1 3/4 | .20 |
| C 2 | .09 | HC | |
| C 2 1/2 | .09 | 1 3/4 to 2 1/2 | .20 |
| C 3 | .09 | HC | |
| C 3 1/2 | .12 | 2 1/2 to 3 1/2 | .20 |
| C 4 | .12 | HC | |
| C 5 | .12 | 3 6/10 to 5 | .20 |
| C 6 | .12 | HC | |
| C 7 | .12 | 5 to 7 | .20 |
| C 8 | .17 | HC | |
| C 10 | .18 | 7 to 10 | .20 |

## BUSS INDICATING FUSES, 1/4 x 1 1/4 inch

Fibre Tube. Silverplated indicating pin extends from end of fuse when fuse is blown. This pin can also be used to actuate a signal by using fuses in BUSS HKA Fuseholders or BUSS Signal Fuse Blocks. GLD fuses in sizes larger than 5 amperes have dual tube construction. They can be used in BUSS Signal Fuse Blocks but not in HKA Fuseholders.

Test specifications—carry 110%, open at 135% in one hour or less.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 125 or less | GLD | 3/4 | $0.56 |
| " | GLD | 1, 2, 3, or 5 | .50 |
| " | GLD | 8, 10, 12 or 15 | .26 |

### 13/32 x 1 1/2 inch

| | | | |
|---|---|---|---|
| 125 or less | MIC | 1, 2, 3, 5, 10 or 15 | .33 |
| 32 or less | MIC | 20, 25 or 30 | .33 |

## FUSETRON FIBRE TUBE FUSES

### 13/32 x 1 1/2 inch

Dual-Element — Slow Blowing Type. Avoid needless blows from starting currents or surges. Have fuse link that operates only on very high overloads or short-circuits, and thermal cutout on low overloads. Thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is provided against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% within 1 hour.

Approximate blowing time: at 200% load 25 seconds.
at 300% load 8 seconds.
at 500% load 5 seconds.

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 250 or less | FNM | 1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/8, 1 1/4, 1 4/10, 1 6/10, 1 8/10, 2, 2 1/4, 2 1/2, 2 8/10, 3 2/10, 3 1/2, 4, 4 1/2, 5, 5 6/10, 6 1/4, 7, 8, 9 or 10 | $0.33 |
| 125 or less | FNM | 12 or 15 | .33 |
| 32 or less | FNM | 20, 25 or 30 | .33 |

### SIGNAL OR VISUAL INDICATING TYPE

FNA are FNM Fusetron fuses with silverplated indicating pin that extends from fuse when fuse blows. Pin can also actuate a signal by using fuse in BUSS Signal Fuse Block.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 125 or less | FNA | 1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/8, 1 1/4, 1 6/10, 1 8/10, 2, 2 1/4, 2 1/2, 2 8/10, 3, 3 2/10, 3 1/2, 4, 4 1/2, 5, 5 6/10, 6, 6 1/4, 8, 10, 12 or 15 | $0.625 |
| 32 or less | FNA | 20, 25 or 30 | .688 |

## HIGH INTERRUPTING CAPACITY FUSES

### 13/32 x 1 1/2 inch

Glass fibre melamine tube with sand filler surrounding a silver fuse element. For use on circuits capable of delivering currents as high as 68,000 amperes at voltages of 500 or less AC or DC.

Test specification—carry 110%, open at 135% in 1 hour or less.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 500 or less | KTK | 1/10, 1/8, 2/10, 1/4, 3/10, 1/2, 3/4, 1, 1 1/2, 2, 3, 4, 5, 6, 8, 10, 15, 20, 25 or 30 | $1.50 |

**BUSSMANN MFG. DIVISION** McGraw-Edison Co. **St. Louis 7, Mo.**



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World Radio History

# BUSS Fuses

# FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

*for Protection of TV, Radios, Instruments and Electronic Equipment*

## BUSS "QUICK-BLOWING" FUSES

600 Volt. $1\frac{3}{32}$ x $1\frac{3}{8}$ inch. Fibre tube. For protection of control circuits or fluorescent lighting circuits or wherever a fuse with "quick-blowing" characteristics is desirable. Listed as approved by Underwriters' Laboratories for voltages up to 600, 0 to 5 ampere.

| Voltage | Symbol | Amperes | List Price |
|---|---|---|---|
| 600 or less | BBS | $\frac{1}{10}$, $\frac{3}{4}$ or $\frac{8}{10}$ | $0.22 |
| 600 or less | BBS | 1, 2, 3, 4 or 5 | 0.20 |

**Fuseholder for BBS fuses.** Use HPC-L fuseholder or No. 3845 single pole, side barrier porcelain fuse block. Only BBS fuses (or others with exact same dimensions) will fit these holders. This assures replacement of proper size fuse.

## PANEL MOUNTED HOLDERS for $^{13}/_{32}$ x $1\frac{1}{2}$ inch Fuses

Screw type knob. Molded phenolic body. Holder attached to panel by screws or rivets. Strong coil spring provides contact pressure on ends of fuse. Normal current carrying capacity 30 amperes. Listed as approved by Underwriters' Laboratories for 15 ampere rating for any voltage up to 250.

**HPC** (for FNM and KTK fuses) ..... List Price $0.75

**HPC-C** (Same as above, but has transparent knob) ..... List Price $0.95

**HPC-L Holder for $^{13}/_{32}$ x $1\frac{3}{8}$ inch Fuses.**

Like **HPC** Holder. Has Underwriters' Laboratories approved listing for 5 ampere rating and any voltage up to 600.

**HPC-L** (for BBS fuses) ..... List Price $0.75

## PANEL MOUNTED HOLDERS for ¼ inch Fuses

Can be used on panels up to $\frac{5}{16}$ inch thick. Bayonet type knob. No screw driver is needed.

Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen.

Vibration will not cause failure of terminals as they are designed to stand severe service.

Neoprene washer and steel locking nut furnished with each holder.

Wire hole in terminals; .115 inch.

Normal current carrying capacity; 30 amperes.

Listed as approved by Underwriters' Laboratories.

| | List Price |
|---|---|
| **HJM** for ¼ x 1 inch fuses (AGX, SFE 14) | $0.50 |
| **HJM-CC** (Same as HJM but projects shorter distance behind panel) | .50 |
| **HKP** for ¼ x 1¼ inch fuses (ABC, AGC, SFE20, MDL, MDX, MTH) | .50 |
| **HKP-CC** (Same as HKP but projects shorter distance behind panel) | .50 |

## IN-THE-LINE HOLDERS for ¼ inch fuses

For mounting fuse in wire. Holders consist of body and bayonet type knob — two contacts ready to be staked on ends of wire — and a contact pressure spring.

Holders can also be mounted in panel up to $\frac{5}{16}$ inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat area on holder permits locking against rotation.

Normal current carrying capacity: 15 amperes.

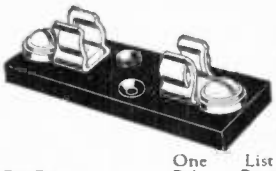
| Symbol | | List Price |
|---|---|---|
| **HDI-A** | for ¼ x 1 inch fuses (AGX, SFE 14) Takes No. 18 or smaller wires. | $0.20 |
| **HDJ-A** | for ¼ x 1¼ inch fuses (ABC, AGC, MDL, MDX, MTH, SFE 20) Takes No. 18 or smaller wires. | .20 |
| **HDJ-B** | for ¼ x 1¼ inch fuses (as above) Takes No. 14 or 16 wires. | .20 |
| **No. 9969** | Spring nut for panel mounting above holders. | .04 |

## LAMP INDICATING FUSEHOLDERS

For panel mounting ¼ x 1 and ¼ x 1¼ inch fuses. Bayonet type knob. Molded phenotic body. Strong coil spring provides contact pressure at ends of fuse. Transparent knob permits indicating light to be readily seen.

| Type | Fuse Size Inches | Circuit Voltage | Max. Amp. Rating | Type Lamp | List Price |
|---|---|---|---|---|---|
| **HKL** | ¼ x 1¼ | 100 to 250 | 20 | Neon | $2.15 |
| **HKL-X** | ¼ x 1¼ | 100 to 250 | 20 | Neon | 2.15 |
| **HKR** | ¼ x 1¼ | 24 to 32 | 20 | Incand. | 3.50 |
| **HKX** | ¼ x 1¼ | 24 to 32 | 20 | Incand. | 3.50 |
| **HKT** | ¼ x 1¼ | 10 to 14 | 20 | Incand. | 3.50 |
| **HJL** | ¼ x 1 | 100 to 250 | 20 | Neon | 2.15 |

## BUSS FUSE BLOCKS



Bakelite base blocks $\frac{3}{16}$ inch thick. Countersunk mounting holes for No. 6 flat head screws. Brass No. 6 terminal screws and spring bronze clips.

**Full base, Screw terminal Blocks**

| For Fuses | One Pole | List Price | Two Pole | List Price | Three Pole | List Price |
|---|---|---|---|---|---|---|
| **SFE4** | 4511 | $0.43 | 4521 | $0.86 | 4531 | $1.29 |
| **SFE6** | 4516 | .43 | 4526 | .86 | 4536 | 1.29 |
| **SFE7½, 9** | 4517 | .43 | 4527 | .86 | 4537 | 1.29 |
| **SFE14, AGX** | 4514 | .43 | 4524 | .86 | 4534 | 1.29 |
| **SFE20, ABC, AGC, MDL, MDX, MTH** | 4512 | .43 | 4522 | .86 | 4532 | 1.29 |

**Small base, Solder Terminal Blocks**

| For Fuses | One Pole | List Price | Two Pole | List Price | Three Pole | List Price |
|---|---|---|---|---|---|---|
| **SFE14, AGX** | 4520 | $0.20 | 4485 | $0.40 | 4403 | $0.60 |
| **SFE20, ABC, AGC, MDL, MDX, MTH** | 4405 | .20 | 4408 | .40 | 4411 | .60 |

## BUSS TWIN-CLIPS for ¼" FUSES

Make it easy to replace blown pigtail fuses without cutting or unsoldering pigtails.

Just snap Twin-Clips on blown fuse and insert ordinary or Fusetron fuse of same amperage as blown fuse.

Strong spring clip pressure assures good contact.

| | List Price |
|---|---|
| No. 4121 BUSS Twin Clips One pair | $0.19 |

### Other standard and special fuses, fuse blocks and fuse holders

If the fuses, blocks and holders shown do not fit your requirements ask for information on other types.

Fuses and fuse mountings to meet JAN and Military specifications also are available.

If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

**BUSSMANN MFG. DIVISION**
McGraw-Edison Co.
**University at Jefferson ST. LOUIS 7, MO.**

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World Radio History

# JAMES MILLEN

**MALDEN · MASSACHUSETTS**

### ONE INCH INSTRUMENTATION OSCILLOSCOPE

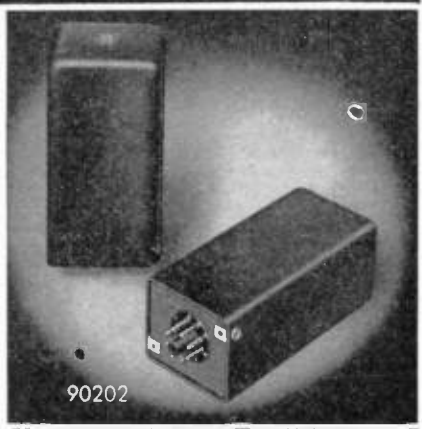
Miniaturized, packaged panel mounting cathode ray oscilloscope designed for use in instrumentation in place of the conventional "pointer type" moving coil meters uses the 1" tube. Panel bezel matches in size and type the standard 2" square meters. Magnitude, phase displacement, wave shape, etc. are constantly visible on scope screen.

No. 90901, 1CP1, less tube.....
No. 90911, 1EP1, less tube.....

### POWER SUPPLY FOR OSCILLOSCOPE

750 volts d.c. at 3 ma. and 6.3 volts a.c. at 600 ma. 117 volts 50–60 cycle input. Designed especially for use with No. 90901 and No. 90911 one inch instrumentation oscilloscopes. 5 in. high x $2\frac{13}{32}$ x 2 in. Octal plug for input and output. Entire assembly including rectifier is encapsulated.

No. 90202 Power Supply (complete).....



### GRID DIP METER

The No. 90651 MILLEN GRID DIP METER is compact and completely self contained. The AC power supply is of the "transformer" type. The drum dial has seven calibrated uniform length scales from 1.7 MC to 300 MC with generous over laps plus an arbitrary scale for use with special application inductors. Internal terminal strip permits battery operation for antenna measurement.

No. 90651, with tube.....

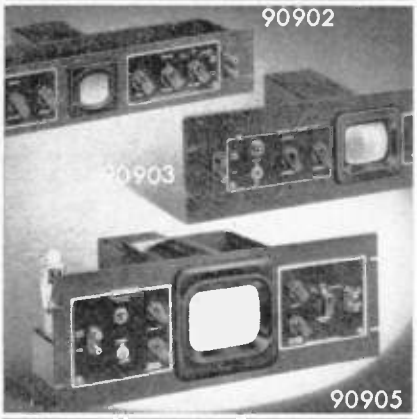
Additional Inductors for Lower Frequencies

No. 46702—925 to 2000 KC.....
No. 46703—500 to 1050 KC.....
No. 46704—325 to 600 KC.....
No. 46705—220 to 350 KC.....

### LABORATORY SYNCHROSCOPES

The 5" laboratory synchroscopes are available with and without detector-video strips.

Model P-4-2, with tubes.....
Model P-4E-2, with tubes.....




### MINIATURE SYNCHROSCOPE

The compact design of the No. 90952, measuring only $7\frac{1}{2}$" x $5\frac{5}{8}$" x 13", and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service" Synchroscope.

No. 90952 with tubes.....

### CATHODE RAY OSCILLOSCOPES

The No. 90902, No. 90903 and No. 90905 Rack Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive *basic units* comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches, etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known trapezoidal monitoring patterns are secured by feeding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode ray tube and audio modulating voltage to horizontal plates. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic 'scope unit may be expanded to serve any conceivable industrial or laboratory application.

No. 90902, less tubes.....
No. 90903, less tubes.....
No. 90905, less tubes.....

### 'SCOPE AMPLIFIER—SWEEP UNIT

Vertical and horizontal amplifiers along with hard-tube, saw tooth sweep generator. Complete with power supply mounted on a standard $5\frac{1}{4}$" rack panel.

No. 90921, with tubes.....

### FLAT FACE OSCILLOSCOPE

90905-B 5-inch Rack Mounting Basic Oscilloscope features include: balanced deflection, front panel input terminals, rear panel input terminals, astigmatism control, blanking input terminals, flat face precision tolerance Dumont 5ADP1 tube, 1800 or 2500 volts accelerating, good sensitivity, sharp focus, horizontal selector switch, 60 cycle sine wave sweep available, power supply available to operate external equipment, minimum control interaction, rugged construction, light filter. 7 x 19 in. panel.

No. 90905-B Oscilloscope, less tubes.....

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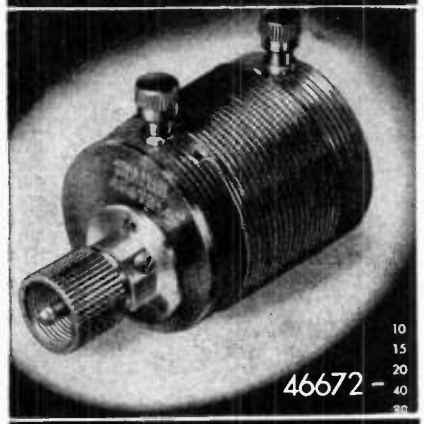
World Radio History

# JAMES MILLEN

MALDEN · MASSACHUSETTS



### STANDING WAVE RATIO BRIDGE

The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratio on antennas using co-ax cable. As assembled the bridge is set up for 52 ohm line. A calibrated 75 ohm resistor is mounted inside the case for substitution in the circuit when 75 ohm line is used.

No. 90671 .....

### BALUNS

The No. 46672 (1 for each amateur band) wound Balun is an accurate 2 to 1 turns ratio, high Q auto transformer with the residual reactances tuned out and with very tight coupling between the two halves of the total winding. The points of series and parallel resonance are selected so that each Balun provides an accurate 4 to 1 impedance ratio over the entire band of frequencies for which it was designed. Suitable for use with the No. 90672 Antenna Bridge or medium power transmitters.

No. 46672–80/40/20/15/10 .....

### ANTENNA BRIDGE

The Millen 90672 Antenna Bridge is an accurate and sensitive bridge for measuring impedances in the range of 5 to 500 ohms (or 20 to 2000 ohms with balun) at radio frequencies up to 200 mc. The variable element is an especially designed differential variable capacitor capable of high accuracy and permanency of calibration. Readily driven by No. 90651 Grid Dipper.

No. 90672 .....

### 50 WATT EXCITER-TRANSMITTER

Modern design includes features and shielding for TVI reduction, bandswitching for 4–7–14–21–28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter for high power PA stages. 5763 oscillator-buffer-multiplier and 6146 power amplifier. Rack mounted.

No. 90801, less tubes .....

### VARIABLE FREQUENCY OSCILLATOR

The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6SK7 broad-band buffer or frequency doubler, a 6AG7 tuned amplifier which tracks with the oscillator tuning, and a regulated power supply. Output sufficient to drive a 6146 is available on 160, 80 and 40 meters and reduced output is available on 20 meters. Since the output is isolated from the oscillator by two stages, zero frequency shift occurs when the output load is varied from open circuit to short circuit. The entire unit is unusually solidly built so that no frequency shift occurs due to vibration. The keying is clean and free from annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.

No. 90711, with tubes .....

### HIGH VOLTAGE POWER SUPPLY

The No. 90281 high voltage power supply has a d.c. output of 700 volts, with maximum current of 235 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available so that this power supply is an ideal unit for use with transmitters, such as the Millen No. 90801, as well as general laboratory purposes. The power supply uses two No. 816 rectifiers. The panel is standard 8¾" x 19" rack mounting.

No. 90281, less tubes .....

### HIGH FREQUENCY RF AMPLIFIER

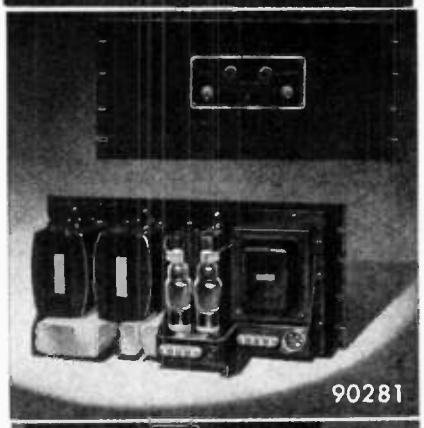
A physically small unit capable of a power output of 70 to 85 watts on 'Phone or 87 to 110 watts on C-W on 20, 15, 11, 10, 6 or 2 meter amateur bands. Provision is made for quick band shift by means of the No. 48000 series VHF plug-in coils. The No. 90811 unit uses either an 829-B or 3E29.

No. 90811 with 10 meter band coils, less tube .....

### RF POWER AMPLIFIER

This 500 watt amplifier may be used as the basis of a high power amateur transmitter. The No. 90881 RF power amplifier is wired for use with the popular "812A" type tubes. Other popular tubes may be used. The amplifier is of unusually sturdy mechanical construction, on a 10½" relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 or 80 meter amateur bands. The standard Millen No. 90801 exciter unit is an ideal driver for the No. 90881 RF power amplifier.

No. 90881, with one set of coils, but less tubes .....



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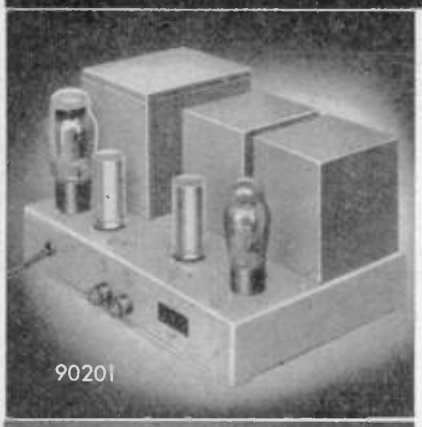
World Radio History

# JAMES MILLEN

## MALDEN · MASSACHUSETTS

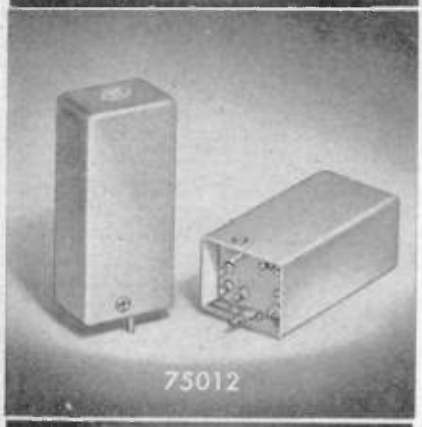



### REGULATED POWER SUPPLY

A compact, uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipment. 250 v.d.c. unregulated at 115 ma. 105 v.d.c. regulated at 35 ma. Minus 105 v.d.c. regulated bias at 4 ma. 6.3 v. a.c. at 4.2 amps.
No. 90201, with tubes.....

### INSTRUMENT DIAL

The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. Veeder type counter is direct reading in 99 revolutions and vernier scale permits readings to 1 part in 100 of a single revolution. Has built-in dial lock and ¼" drive shaft coupling. May be used with multi-revolution transmitter controls, etc., or through gear reduction mechanism for control of fractional revolution capacitors, etc., in receivers or laboratory instruments.
No. 10030.....

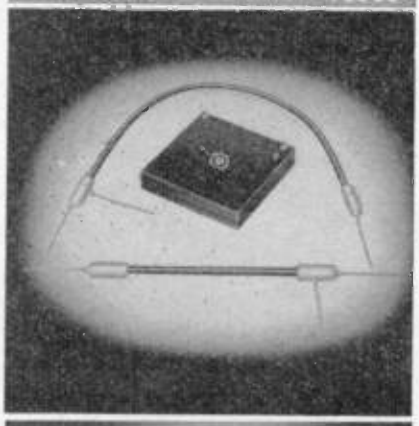



### PHASE-SHIFT NETWORK

A complete and laboratory aligned pair of phase-shift networks in a single compact 2" x 1 7/16" x 4" case with characteristics so as to provide a phase shift between the two networks of 90° ± 1.3° over a frequency range of 225 cycles to 2750 cycles. Well adapted for use in either single sideband transmitter or receiver. Possible to obtain a 40 db suppression of the unwanted sideband. The No. 75012 precision adjusted phase-shift network eliminates the necessity of complicated laboratory equipment for network adjustment.
No. 75012.....

### DELAY LINES

No. 34751—Sealed flexible distributed constants line. Excellent rise time. 1350 ohms, 22 inches per microsecond or 550 ohms, 50 inches per mu.-sec. Delay cut to specifications.
No. 34700—Hermetically sealed encased line. Good rise time. 0–0–45 mu.-sec. 1350 ohm line or 0.22 mu.-sec. 500 ohm line in 1" x 1" x 5½" in case. Also larger standard cases and cases made to order. Special impedances 400 to 2200 ohms.
No. 34600—Lumped delay line built to specifications. Delays 0.05 mu.-sec. to 250 mu.-sec. Impedance 50 ohms to 2000 ohms.



### PHOTO MULTIPLIER SHIELDS MU-METAL

The photo multiplier tube operates most effectively when perfectly shielded. Careful study has proven that mu-metal provides superior shielding. Millen Mu-Metal shields are available from stock for the most popular tubes.
No. 80801B for the 1P21.....
No. 80802B for the 5819, 6217, 6292, 6343.....
No. 80802C for the 6199, 6291, 6497...
No. 80802E for the 6866.....
No. 80803J for the 6363.....
No. 80805M for the 6364.....

### BEZELS FOR CATHODE RAY TUBES

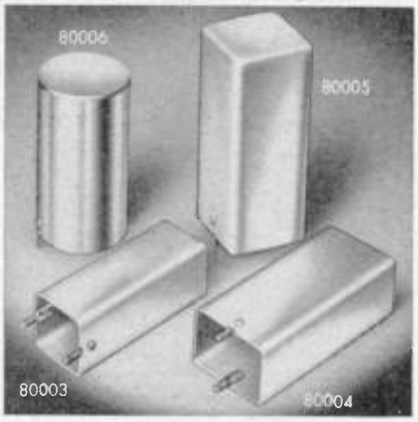
Standard types are of satin finish black plastic. 5" size has neoprene support cushion and green lucite filter. 3" and 2" sizes have integral cushioning.
No. 80075—5".....
No. 80073—3".....
No. 80072—2".....
No. 80071—1".....

### CATHODE RAY TUBE SHIELDS

For many years we have specialized in the design and manufacture of magnetic metal shields of nicoloi and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.
No. 80045—Nicoloi for 5BP1.....
No. 80055—Nicoloi for 5CP1.....
No. 80043—Nicoloi for 3" tube.....
No. 80042—Nicoloi for 2" tube.....

### SHIELD CASES ALUMINUM

Effective RF shielding for coils and transformers can be provided by Millen Aluminum cans. Available in several sizes from stock.
No. 80003—1⅜" x 1⅜" x 4".....
No. 80004—1⅞" x 1 7/16" x 4½".....
No. 80005—2" x 2" x 4⅞".....
No. 80006—2⅛" round x 4".....
No. 80007—2¼" round x 2⅜" open ends



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World Radio History

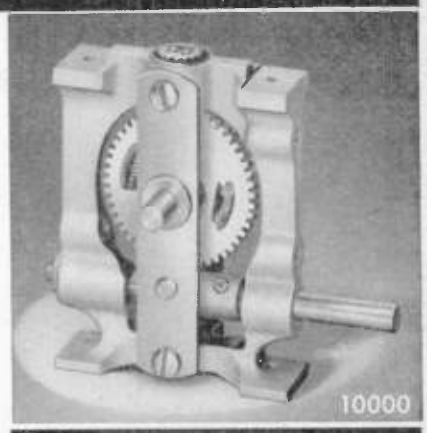
# JAMES MILLEN

MALDEN · MASSACHUSETTS

## PANEL DIALS

The No. 10035 illuminated panel dial has 12 to 1 ratio; size, 8½" x 6½". Small No. 10039 has 8 to 1 ratio; size, 4" x 3¼". Both are of compact mechanical design, easy to mount and have totally self-contained mechanism, thus eliminating back of panel interference. Provision for mounting and marking auxiliary controls, such as switches, potentiometers, etc., provided on the No. 10035. Standard finish, either size, flat black art metal.

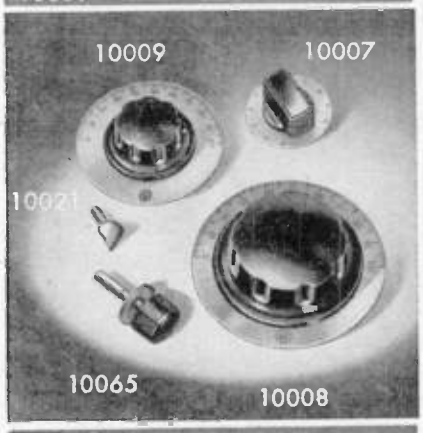
No. 10039.....
No. 10035.....




## WORM DRIVE UNIT

Cast aluminum frame may be panel or base mounted. Spring loaded split gears to minimize back lash.
Standard ratio 16/1. Also in 48/1 on request.

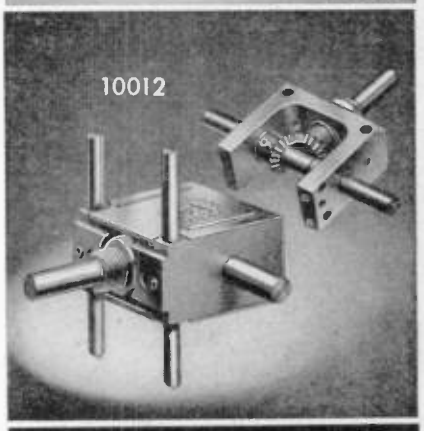
No. 10000—(state ratio).....




## DIALS AND KNOBS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is 1⅜" diameter, 10009 is 2¾" and 10008 is 3½".

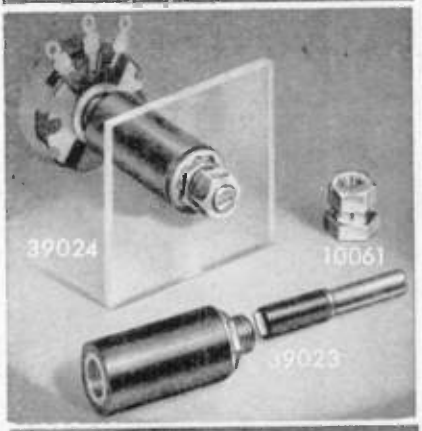
No. 10002.....
No. 10007.....
No. 10008.....
No. 10009.....
No. 10015.....
No. 10018.....
No. 10021.....
No. 10065.....




## RIGHT ANGLE DRIVE

Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

No. 10012.....




## HIGH VOLTAGE INSULATED SHAFT EXTENSION

No. 10061 shaft locks and the No. 39023 insulated high voltage potentiometer extension mountings are available as a single integrated unit—the No. 39024. The proper shaft length is independent of the panel thickness. The standard shaft has provision for screw driver adjustment. Special shaft arrangements are available for industrial applications. Extension shaft and insulated coupling are molded as a single unit to provide accuracy of alignment and ease of installation.

No. 39023, non locking type.....
No. 39024, locking type.....

## SHAFT LOCKS

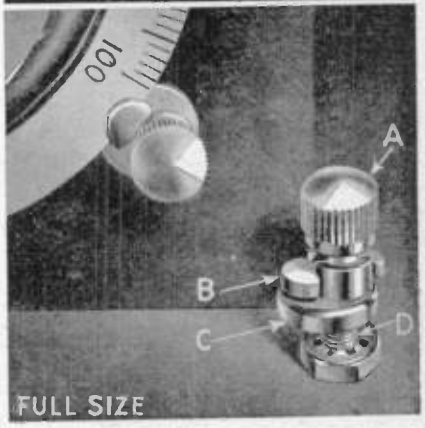
In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain "¼ shaft" volume control, condenser, etc. from "plain" to "shaft locked" type. Easy to mount in place of regular mounting nut.

No. 10060.....
No. 10061.....
No. 10062.....
No. 10063.....

## TRANSMISSION LINE PLUG

An inexpensive, compact, and efficient polystyrene unit for use with the 300 ohm ribbon type polyethylene transmission lines. Fits into standard Millen No. 33102 (crystal) socket. Pin spacing ½", diameter .095".

No. 37412.....




## DIAL LOCK

Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

No. 10050.....

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World Radio History

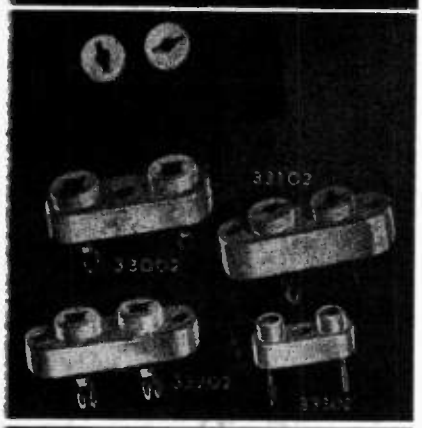
# JAMES MILLEN

**MALDEN · MASSACHUSETTS**

## TUBE SOCKETS
## DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

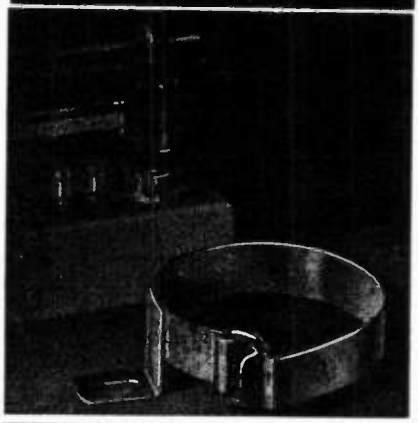
The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.



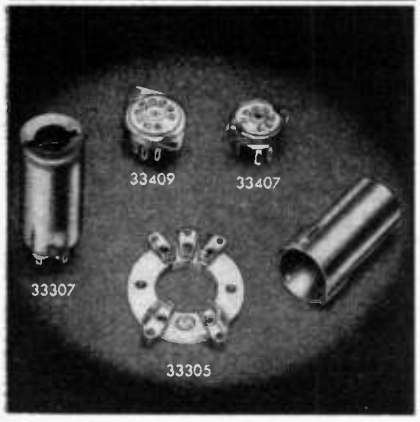
The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multifinger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

Voltage regulator dual contact bayonet socket, 33991 black phenolic insulation and 33992 with low loss high leakage mica filled phenolic insulation.



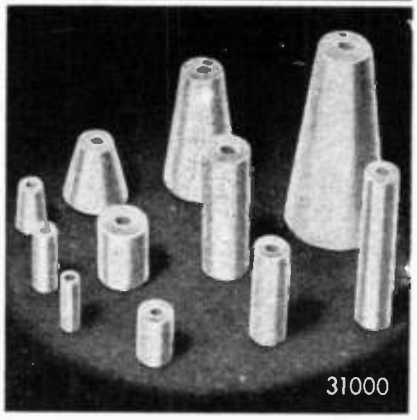
No. 33004—4 Pin Tube Socket.....
No. 33005—5 Pin Tube Socket.....
No. 33006—6 Pin Tube Socket.....
No. 33008—8 Pin Tube Socket.....
No. 33888—Shield for 33008.....
No. 33087—Tube Clamp.....
No. 33002—Crystal Socket ¾" x .125"..
No. 33102—Crystal Socket .487" x .050"
No. 33202—Crystal Socket ½" x .125"..
No. 33302—Crystal Socket .487" x .050"
No. 33446—Contact Discs.....
No. 33991—Socket for 991.....
No. 33992—Socket for 991.....
No. 33207—829 Socket.....
No. 33305—Acorn Socket.....
No. 33307—Miniature Socket and Shield, ceramic.....
No. 33309—Noval Socket and Shield, ceramic.....
No. 33405—5 Pin Socket Eimac.....
No. 33407—Miniature Socket only, ceramic
No. 33409—Noval Socket only, ceramic..




## STAND-OFF INSULATORS

Steatite insulators are available in a variety of sizes—Listed below are some of the most popular.

No. 31001—Stand-off ½" x 1".....
No. 31002—Stand-off ½" x 2½".....
No. 31003—Stand-off ¾" x 2".....
No. 31004—Stand-off ¾" x 3½".....
No. 31006—Stand-off 9/32" x ⅞".....
No. 31007—Stand-off ⅜" x 1".....
No. 31011—Cone ¾" x ½" (box of 5)..
No. 31012—Cone 1" x 1".....
No. 31013—Cone 1½" x 1".....
No. 31014—Cone 2" x 1".....
No. 31015—Cone 3" x 1½".....



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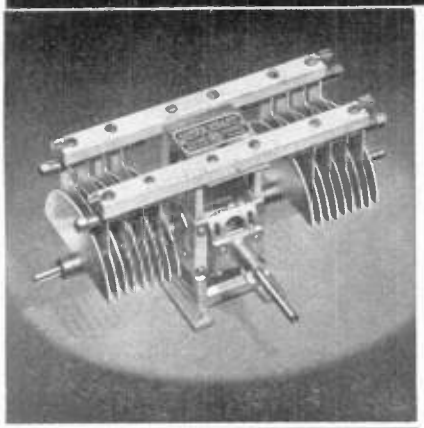
World Radio History

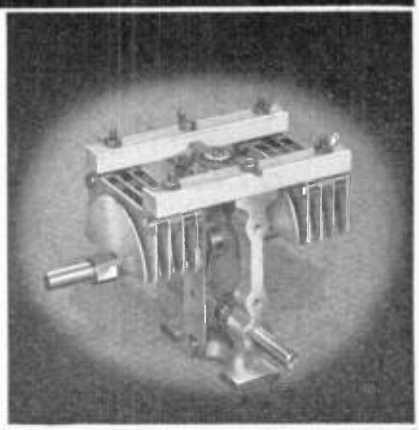
# JAMES MILLEN
## MALDEN · MASSACHUSETTS

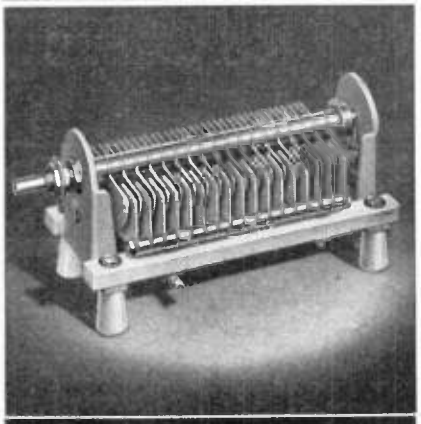


### 04000 and 11000 SERIES TRANSMITTING CONDENSERS

Another member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1–1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, round-edged, polished aluminum plates with 1¾" radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16/1 ratio center drive and fixed angle drive shaft.

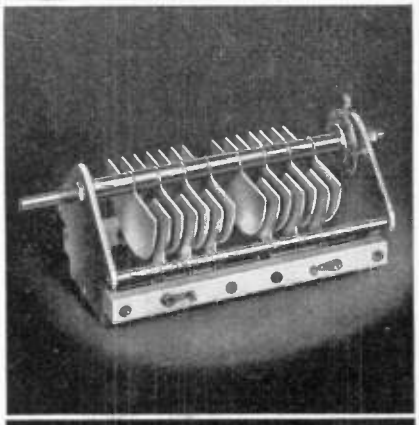




### 12000 and 16000 SERIES TRANSMITTING CONDENSERS

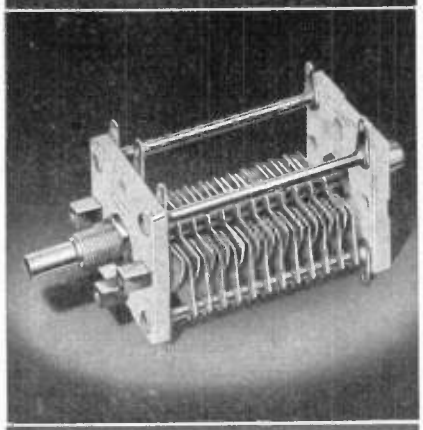
Rigid heavy channeled aluminum end plates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.



### THE 28000–29000 SERIES VARIABLE AIR CAPACITORS

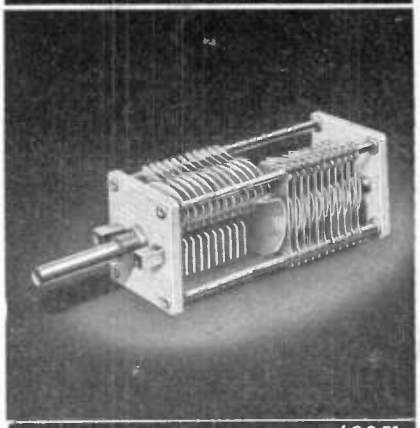
"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022" or .066" air gap. End plate size: 19/16" x 11/16". Rotor plate radius: ¾". Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.

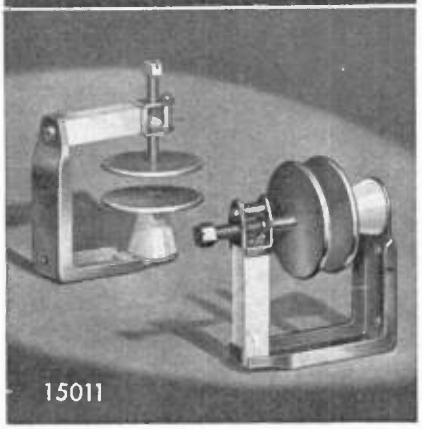


### NEUTRALIZING CAPACITOR

Designed originally for use in our own No. 90881 Power Amplifier, the No. 15011 disc neutralizing capacitor has such unique features as rigid channel frame, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are 2" diameter. Glazed Steatite insulation.

No. 15011 .....

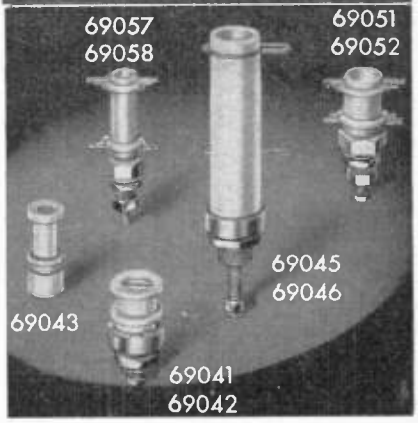





### PERMEABILITY TUNED CERAMIC FORMS

In addition to the popular shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceramic permeability, tuned unshielded forms are available as standard stock items. Winding diameters available from 3/16" to ½" and winding space from 11/32" to 1½".

No. 69041—(Copper Slug).....
No. 69042—(Iron Core).....
No. 69043—(Copper Slug).....
No. 69044—(Iron Core).....
No. 69045—(Copper Slug).....
No. 69046—(Iron Core).....
No. 69047—(Copper Slug).....
No. 69048—(Iron Core).....
No. 69051—(Copper Slug).....
No. 69052—(Iron Core).....
No. 69054—(Iron Core).....
No. 69055—(Copper Slug).....
No. 69056—(Iron Core).....
No. 69057—Copper Slug.....
No. 69058—(Iron Core).....
No. 69061—(Copper Slug).....
No. 69062—(Iron Core).....

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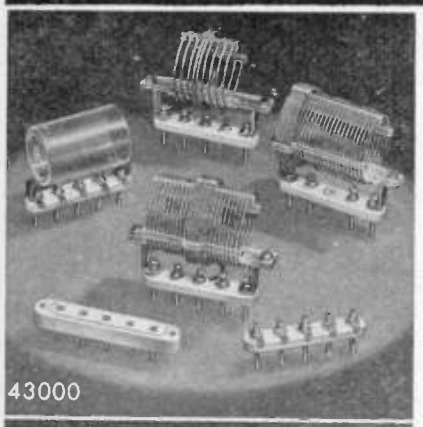
World Radio History

# JAMES MILLEN

**MALDEN · MASSACHUSETTS**



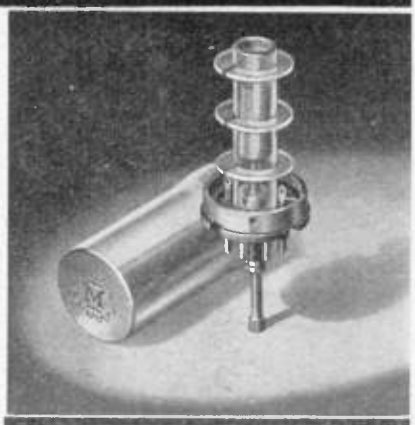

### TRANSMITTING TANK COILS

A full line—all popular wattages for all bands. Send for special catalog sheet.

### TUNABLE COIL FORM

Standard octal base of low loss mica-filled bakelite, polystyrene ½" diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

No. 74001, with iron core.....
No. 74002, less iron core.....



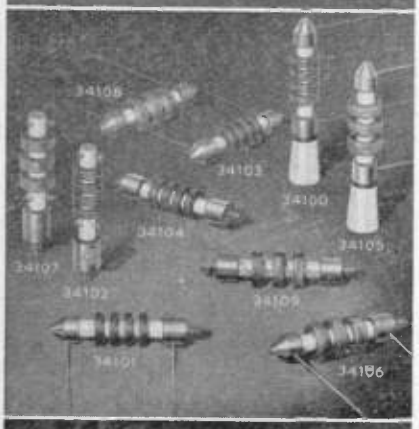
### RF CHOKES

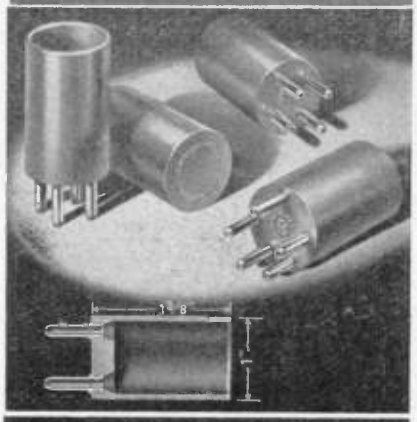
Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.

Figures 1 and 4 illustrate special types of RF chokes available on order. The popular 34300 and 34200 series are shown in figures 2 and 3 respectively.

General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104 and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

No. 34100.....
No. 34101.....
No. 34102.....
No. 34103.....
No. 34104.....

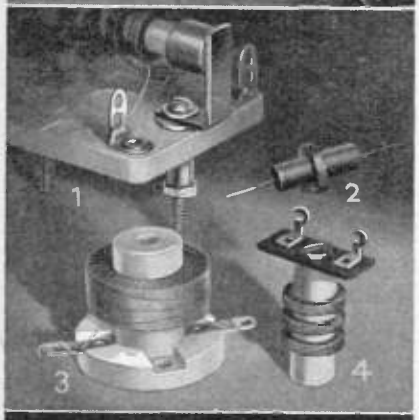


### MIDGET COIL FORMS

Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

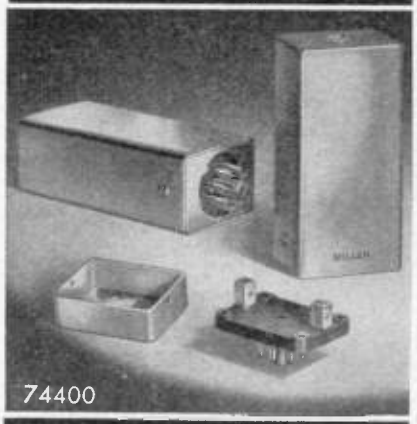
No. 45000.....
No. 45004.....
No. 45005.....




### OCTAL BASE AND SHIELD

Low loss phenolic base with octal socket plug and aluminum shield can 1 7/16 x 1 7/8 x 3 15/16.

No. 74400.....

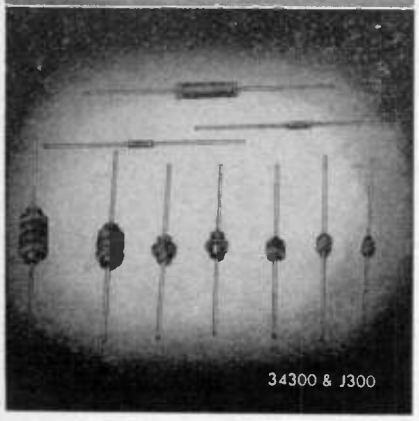



### MINIATURE POWDERED IRON CORE RF INDUCTANCES

The No. J300—Miniature powdered iron core inductances. 0.107 in dia. x ⅜ in. long. Inductances from 25 microhenries to 2.5 millihenries ± 5%. RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Three layer solenoids from 25 to 350 microhenries. ¼ in. wide single pi from 360 to 2500 microhenries. Current rating 50 milliamperes. Special coils on order.

### PHENOLIC FORM RF INDUCTANCES

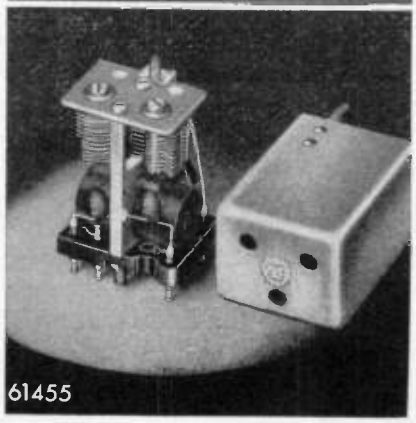
The No. 34300 Inductances—Phenolic coil form with axial leads. Inductances from 1 microhenry to 2.5 millihenries ± 5%. RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Solenoids from 1 to 16 microhenries. Single pi from 18 to 300 microhenries. Multiple pi for higher inductances. Forms 7/32" dia. x 7/16 in. long, 3/16" x ⅜", ¼" x ¾", and ¼" x 1". Current rating 250 milliamperes. Special coils on order.




### MINIATURE IF TRANSFORMERS

Extremely high Q—approximately 200 Variable Coupling—(under, critical, and over) with all adjustments on top. Small size 1 1/16" x 1 9/16" x 1 7/8" Molded terminal base. Air capacitor tuned. Coils completely enclosed in cup cores. Topped primary and secondary. Rugged construction. High electrical stability.

No. 61455, 455 kc. Universal Trans.....
No. 61453, 455 kc. BFO.....
No. 61160, 1600 kc. Universal Trans.....
No. 61163, 1600 kc. BFO.....



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World Radio History

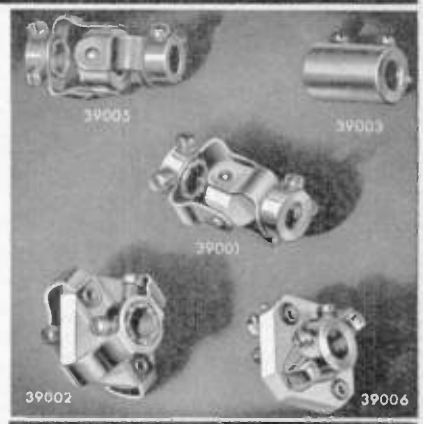
# JAMES MILLEN
## MALDEN · MASSACHUSETTS

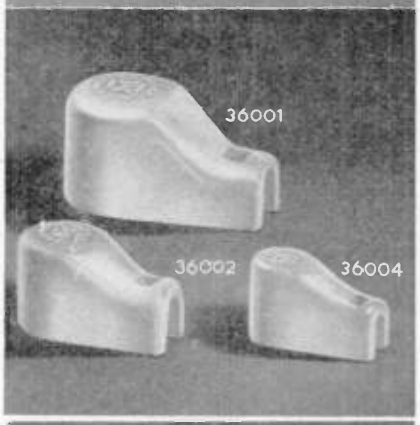
### FLEXIBLE COUPLINGS

The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 and 39005-B (high torque) are similar to the No. 39001, but are not insulated. The steatite insulated No. 39001 has a special anti-backlash pivot and socket grip feature. All of the above illustrated units are for ¼" shaft and are standard production type units. The No. 39016 incorporates features which have long been desired in a flexible coupling. No Back Lash—Higher Flexibility—Higher Breakdown Voltage—Smaller Diameter—Shorter Length—Higher Alignment Accuracy—Higher Resistance to Mechanical Shock—Solid Insulating Barrier Diaphragm—Molded as a Single Unit.

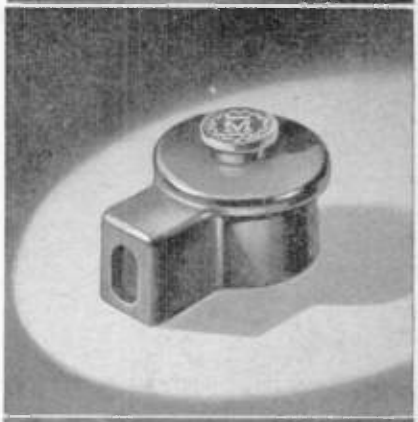



### CERAMIC PLATE OR GRID CAPS

Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate each combination "mechanical plus soldered" connection of cable.

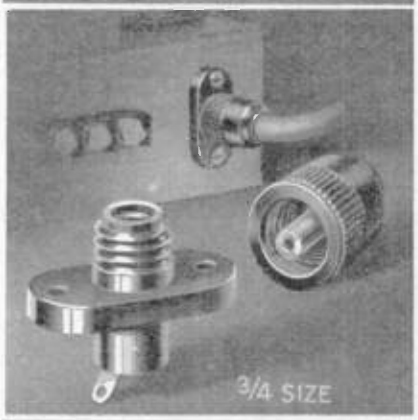
No. 36001—9/16" .....
No. 36002—3/8" .....
No. 36004—¼" .....



### SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

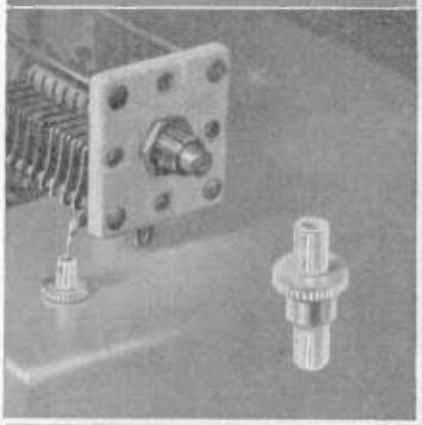
No. 36011—9/16" .....
No. 36012—3/8" .....




### SAFETY TERMINAL

Combination high voltage terminal and thru-bushing Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

No. 37001, Black or Red .....
No. 37501, Low loss .....



### THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits ¼" hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

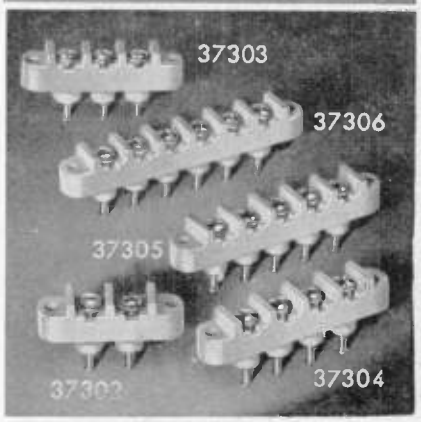
No. 32150 .....

### POSTS, PLATES, AND PLUGS

The No. 37200 series, including both insulated and non-insulated binding posts with associated plates and plugs, provide various combinations to meet most requirements. The posts have captive heads and keyed mounting.

The No. 37291 and No. 37223 are standard in black or red with other colors on special order. No. 37201, No. 37202, and No. 37204 and No. 37222 are available in black, red, or low loss. The No. 37202 is also available in steatite.

No. 37201—Single plates, pr. .....
No. 37291—Single plates (tapered), pr. ..
No. 37202—Dual plates, pr. .....
No. 37204—Double dual plates, pr. .....
No. 37212—Dual plug .....
No. 37222—Non-insulated binding post, ea.
No. 37223—Insulated binding posts, ea. ..




### STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.

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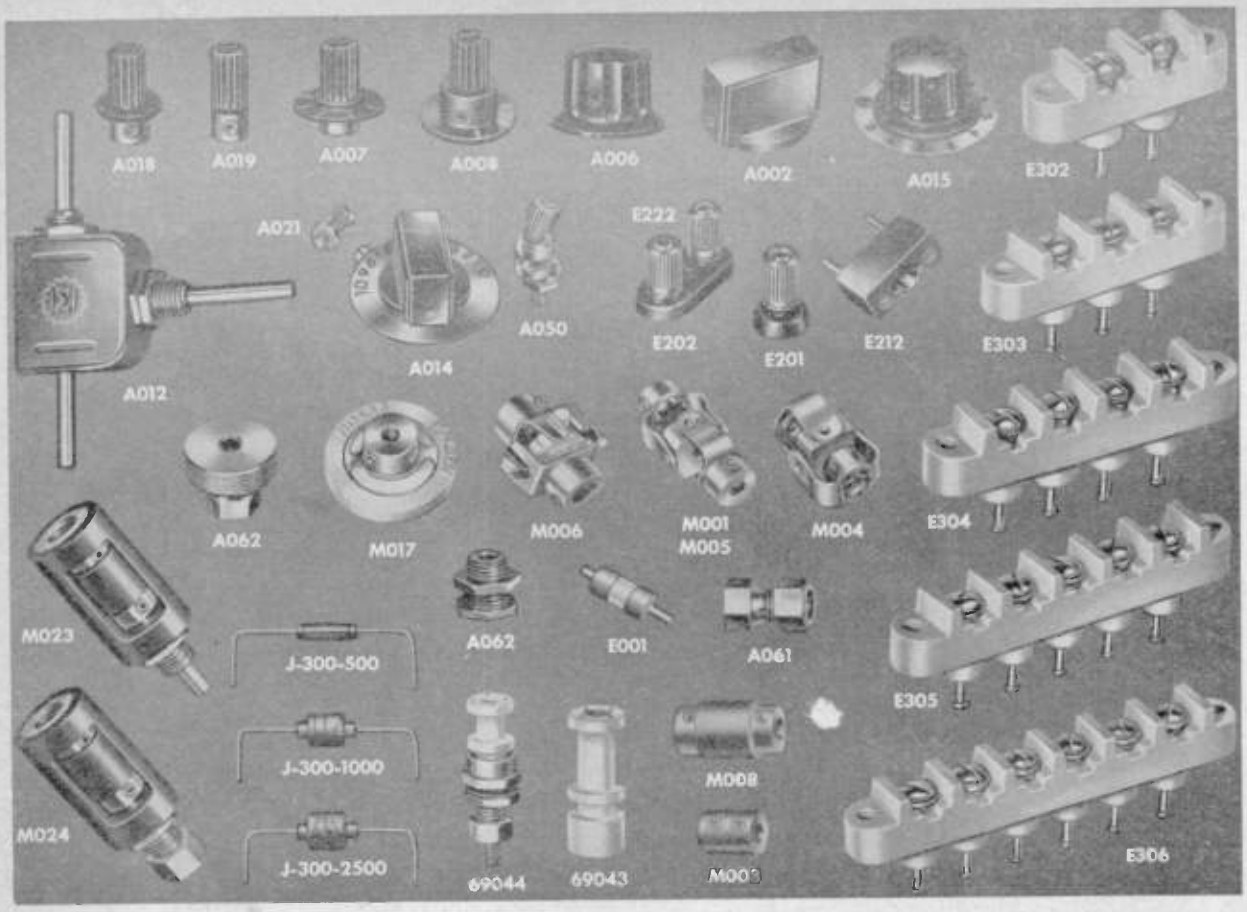


# MINIATURIZED COMPONENTS

**DESIGNED for APPLICATION** miniaturized components developed for use in our own equipment such as the 90901 Oscilloscope, are now available for separate sale. Many of these parts are similar, in most details except size, to their equivalents in our standard component parts group. In certain devices where complete miniaturization is not paramount, a combination of standard and miniature components may possibly be used to advantage. For convenience, we have also listed on this page the extremely small sized coil forms from our standard catalog.

| CODE | DESCRIPTION |
|---|---|
| A001 | Bar knob for 1/8" shaft. 1/2" high by 3/4" long. |
| A006 | Fluted black plastic knob with brass insert for 1/8" shaft. 1/2" high by 3/4" diameter. |
| A007 | 1/4" black plastic dial knob with brass insert for 1/8" shaft. 7/8" diameter dial. 5/16" high. |
| A008 | 1/4" black plastic knob. Same as no. A007 except for style. |
| A012 | Right angle drive for 1/8" shafts. Single hole mounting. |
| A014 | 1" bar dial for 1/8" shaft. 1/2" high. 180° or 280° dials for clockwise or counter-clockwise rotation. |
| A015 | 1" fluted knob dial for 1/8" shaft. 1/2" high. Same dial plates as no. A014. |
| A017 | 1 1/8" diameter fluted black plastic knob for 1/8" shaft. |
| A018 | Knob, same as no. A007 except with 3/8" diameter skirt. |
| A019 | Knob, same as no. A007, but without dial. |
| A021 | Miniature metal index for miniature dials. |
| A050 | Miniature dial lock. |
| A061 | Shaft lock for 1/8" diameter shaft. 1/4"-32 bushing. Nickle plated brass. |
| A062 | Shaft lock with knurled locking nut. |

| CODE | DESCRIPTION |
|---|---|
| A066 | Shaft bearing for 1/8" diameter shafts. Nickle plated brass. Fits 17/64" diameter hole. |
| E001 | Steatite ceramic standoff or tie-point. Integral mounting eyelet. 0.205" overall diameter. |
| E201 | Black or red plastic binding post plates for No. E222. |
| E202 | Black or red plastic plates for two binding posts spaced 1/2". |
| E212 | Black or red plastic plug for two binding posts spaced 1/2". |
| E222 | Metal binding post with jack top. |
| E302A | to E306A Steatite ceramic terminal strips. 5/16" wide. Terminals spaced 3/8" on centers. Screw type or solder type thru-terminals. |
| J300–350 | to J300–2500 Complete line of miniature inductances 3.3 to 2500 microhenries. 5/8" long. Diameter 0.115" to 0.297". |
| M001 | Insulated universal joint style flexible coupling for 1/8" dia shafts. |
| M003 | Solid coupling for 1/8" dia. shafts. Nickle plated brass. |
| M004 | Universal joint style flexible coupling for 1/8" diameter shafts. Inverted hubs for short length. Not insulated. |
| M005 | Universal joint style flexible coupling for 1/8" diameter shafts. External hub for maximum flexibility. Not insulated. |
| M006 | Universal joint style flexible coupling for 1/8" diameter shafts. Spring finger. Steatite ceramic insulation. |
| M008 | Plastic insulated coupling with nickle plated brass inserts for 1/8" diameter shafts. |
| M017 | Plastic insulated flexible coupling for 1/8" diameter shafts. 15/16" long by 15/16" diameter. Bronze yoke. |
| M023 | Insulated shaft extension for 1/4"-32 bushing and 1/8" shaft. For mounting sub-miniature potentiometer. |
| M024 | Locking insulated shaft extension similar to no. M023. |
| 69043 | Steatite ceramic coil form. Adjustable core. Winding space 1/8" diameter by 15/32" long. Mounting 4-40 hole. |
| 69044 | Steatite ceramic coil form. Adjustable core. Winding space 0.187" diameter by 3/16" long. No. 10-32 mounting. |

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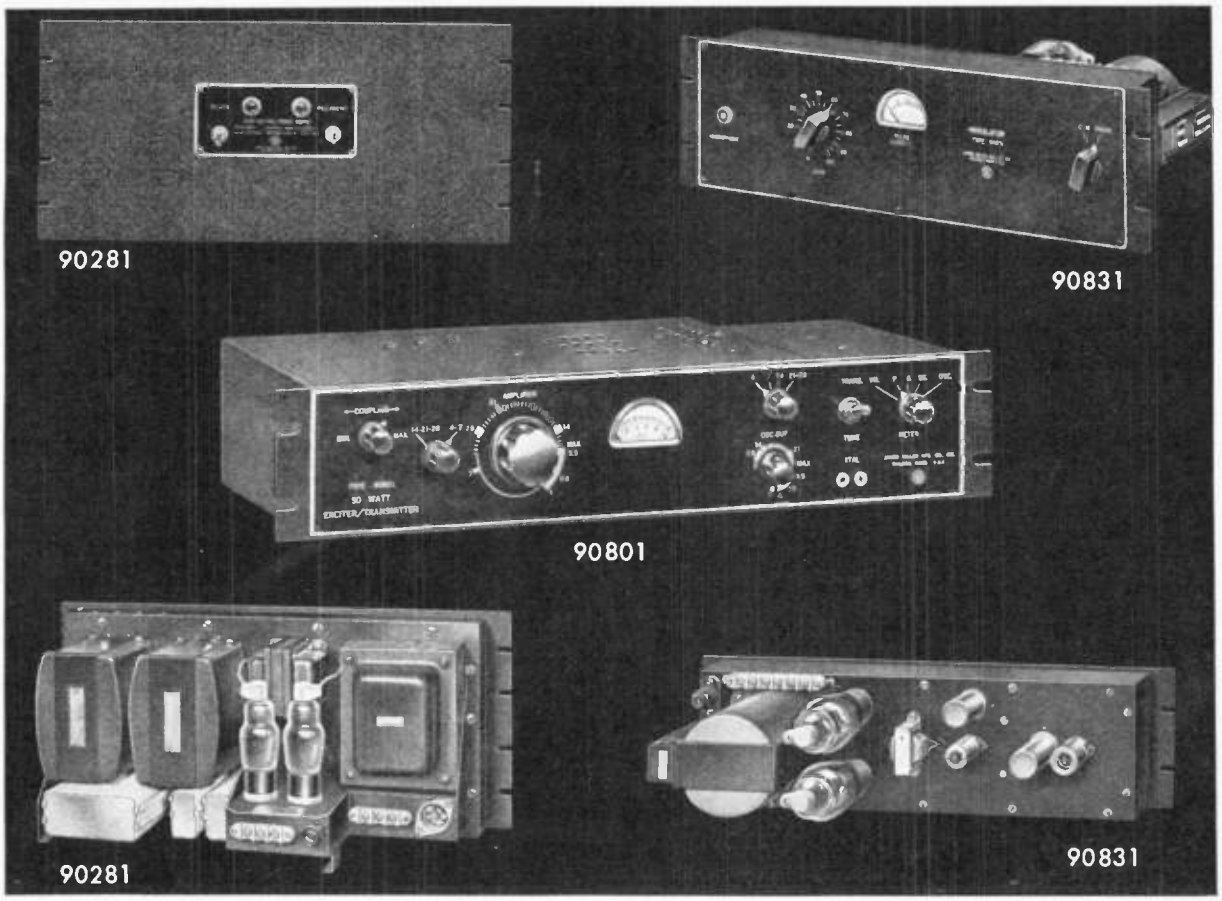


# Exciters, Modulators and Power Supplies

## EXCITER-TRANSMITTER

The 90801 Exciter-Transmitter is of the most modern design including features and shielding for TVI reduction, band-switching for the 4–7–14–21 and 28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter. 5763 oscillator-buffer-multiplier and 6146 power amplifier. 90 watts input for CW. Can be keyed in the oscillator and/or amplifier or by means of keyed external V.F.O. such as the 90711. 67 watts input phone. Rack mounted. 3½" panel height.

No. 90801, less tubes.....

## MODULATOR

The 90831 40 watt modulator designed especially for use with 90801 transmitter. 12AX7 speech amplifier-6C4 voltage amplifier-class AB1 6146's. Suitable for modulating transmitters with power input up to 80 watts. Gain is ample for the use of low level, high impedance crystal or dynamic microphones. Frequency response is adjusted for good communication intelligibility with limited side bands. Modulator incorporates a switch for complete change-over of modulator and transmitter from CW to 'phone. Rack mounted. 5¼" panel height.

No. 90831, less tubes.....

## HIGH VOLTAGE POWER SUPPLY

The 90281 high voltage power supply has a d.c. output of 550 to 700 volts, with maximum current of 235 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available. This power supply is an ideal unit for use with transmitters as well as general laboratory purposes. A single power supply will provide high voltage for both the 90801 Transmitter and the 90831 Modulator. Uses 2 — 816 mercury vapor rectifiers and incorporates a two section filter which results in excellent regulation and very low ripple. Rack mounted. 8¾" panel height.

No. 90281, less tubes.....

## LOW VOLTAGE POWER SUPPLY
*(not illustrated)*

The 90201 is a compact uncased regulated and general purpose power supply either for table use, in the laboratory or for incorporation as an integral part of larger equipments. It will provide modulator and exciter low voltage as well as bias and heater voltages when used with the 90801 and 90831. Its multiple outputs include 250 volt 125 ma. unregulated — 105 volt 35 ma. regulated-bias voltage of minus 100 volts — 6.3 volt filament power at 4.2 amperes.

Model 90201, with tubes.....

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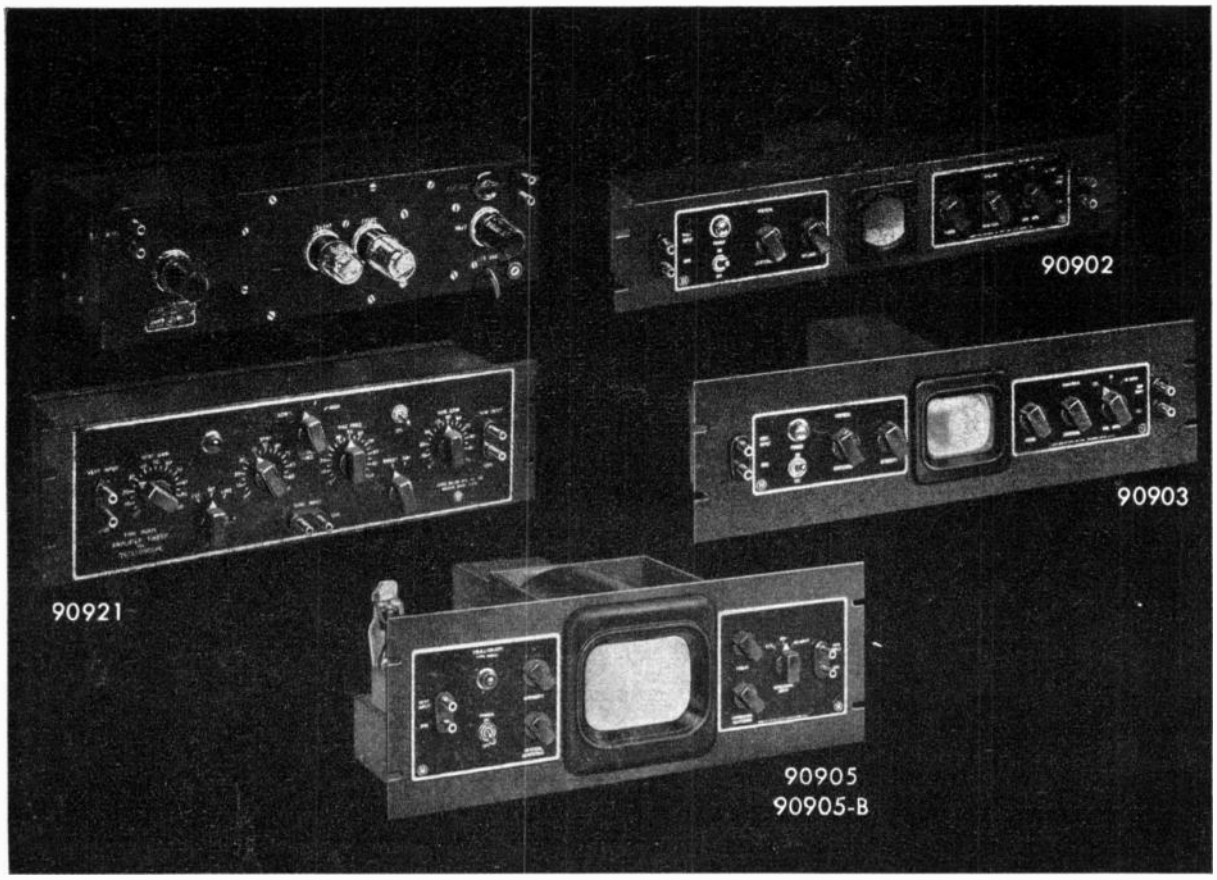


# The Oscilloscopes and the Amplifier Sweep

The oscilloscopes in their packaged form are entirely adequate for many laboratory as well as industrial and communication uses. As a transmitter modulation monitor; no additional equipment or accessories are required. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic scope unit can be expanded to serve any conceivable application.
Here again the research engineer is freed of the drudgery of time consuming mechanical construction and other such details of the basic scope before being able to proceed with his specialized work.
The oscilloscopes are designed for standard rack mounting and incorporate mu-metal shielding and power supply as well as functional controls.

## NO. 90902 TWO INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 19 watts
Physical Dimensions: Height — 3½ Inches, Width — 19 Inches, Depth — 9¼ Inches, Weight — 12 Pounds
Tube Complement: 1 — 2BP1 — C.R.T., 1 — 2X2-A High Voltage Rectifier
Deflection Sensitivity d.c. volts per inch: Vertical — 100. Horizontal — 120

## NO. 90903 THREE INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 19 watts
Physical Dimensions: Height — 5¼ Inches, Width — 19 Inches, Depth — 13½ Inches, Weight — 14 Pounds
Tube Complement: 1 — 3KP1 C.R.T., 1 — 2X2-A High Voltage Rectifier
Deflection Sensitivity d.c. volts per inch: Vertical — 40. Horizontal — 46

## NO. 90905 FIVE INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 32 watts
Physical Dimensions: Height — 6 15/16 Inches, Width — 19 Inches, Depth (Overall) — 16½ Inches, Weight — 24 Pounds
Tube Complement: 1 — 5UP1 — C.R.T., 1 — 2X2-A — Negative High Voltage Rectifier, 1 — 5Y3-GT-Positive High Voltage Rectifier
Deflection Sensitivity d.c. volts per inch: Vertical — 50. Horizontal — 60

## NO. 90905-B FLAT FACE FIVE INCH OSCILLOSCOPE

Power Supply: 105–125 volts — 60 cycles. Power consumption — 35 watts
Physical Dimensions: Height — 6 15/16 Inches, Width — 19 Inches
Tube Complement: 1 — 5ADP1 — C.R.T., 2 — 2X2-A High Voltage Rectifiers, 1 — 5Y3-GT Low Voltage Rectifier
Deflection Sensitivity d.c. volts per inch: Vertical 32 to 43, Horizontal 41 to 51

## NO. 90921 AMPLIFIER SWEEP

The Millen 90921 Amplifier-Sweep may be used with any basic oscilloscope even though designed especially for use with the Millen 90902, 90903 and 90905 basic oscilloscopes. It contains both horizontal and vertical amplifiers together with a sawtooth sweep generator using a "hard" tube oscillator. The sweep amplifier is designed for standard rack mounting and matches the MILLEN basic oscilloscopes in appearance.

Power Supply: 105–125 volts — 60 cycles. Power consumption — 32 watts
Physical Dimensions: Height — 5¼ Inches, Width — 19 Inches, Depth (Overall) — 8⅜ Inches, Weight — 13 Pounds
Tube Complement: 2 — 6SJ7s Vertical and Horizontal Amplifiers, 1 — 6SN7-GT-Sweep Generator, 1 — 5Y3-GT-Rectifier
Gain of each amplifier — Approximately 25 db.
Frequency Response — 15 cycles to 125 kilocycles. Flat within 2 db.
Sweep Frequencies — 15 cycles to 40 kilocycles, 4 overlapping ranges
Maximum D.C. to amplifier input — 400 volts
Maximum undistorted amplifier output — Approximately 70 volts peak to peak both vertical and horizontal amplifiers

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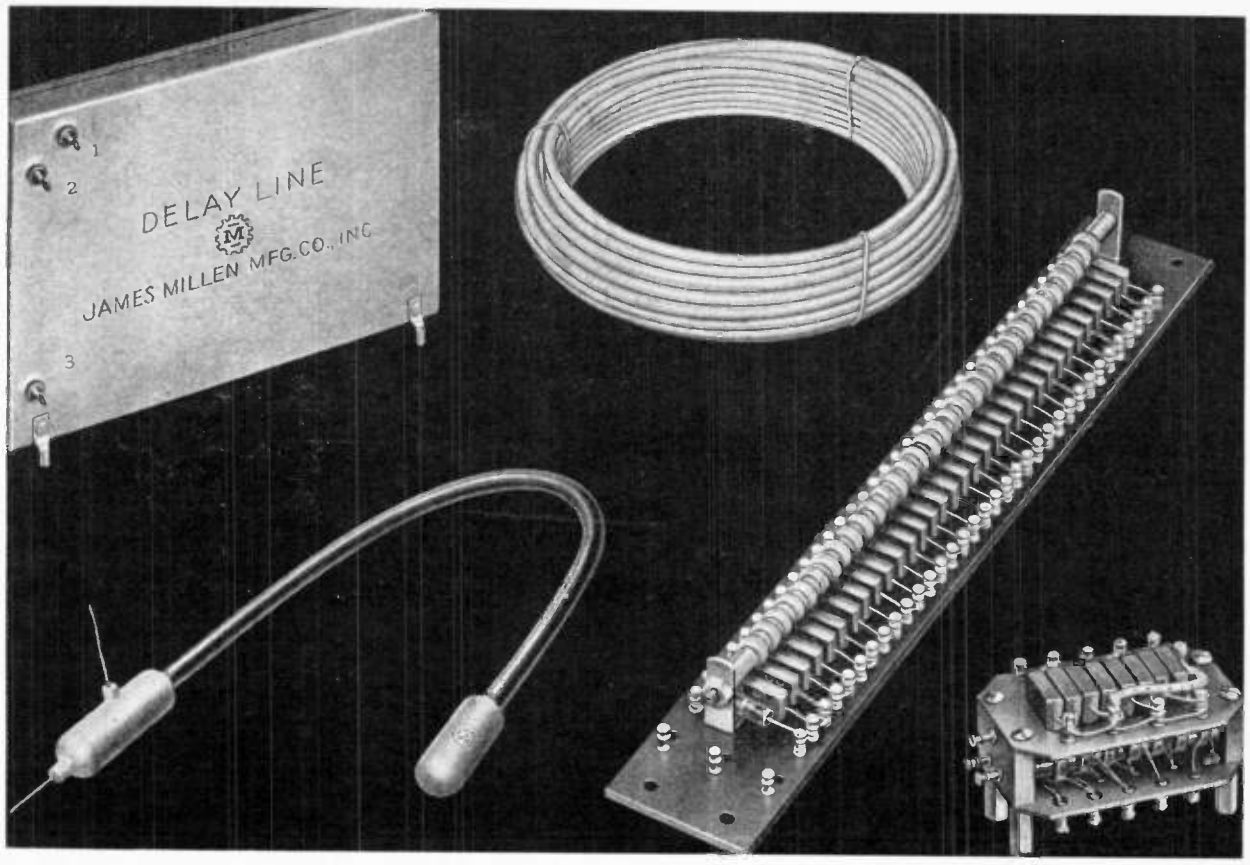


# Delay Lines and Networks • *"Designed for Application"*

The James Millen Mfg. Co., Inc. has been producing continuous delay lines and lump constant delay networks since the origination of the demand for these components in pulse formation and other circuits requiring time delay. The most modern of these is the distributed constant delay line designed to comply with the most stringent electrical and mechanical requirements for military, commercial and laboratory equipment.

Distributed-constants delay line is furnished in three forms:

1. Bulk line
2. Flexible sealed completed units
3. Cased hermetically sealed completed units

The bulk delay line is approximately 5/16 in. diameter and is furnished in random lengths. It is priced "by the foot."

The flexible, sealed, complete lines are furnished with delay time of from 0.1 microseconds to 10 microseconds. The terminals are No. 18 tinned leads, extended through molded end caps. This form of line is particularly useful in applications where space is at a premium, as the line can be tucked around the edges of the chassis, in otherwise waste space. The flexible lines are furnished with terminals on both ends for transmission use or with a dummy molded end replacing one of the terminals for pulse forming lines. Delay time is specified as time required for the transmission through one length of line only.

Care must be used not to coil line around a diameter of less than 4½ in.

The cased lines are mounted in hermetically sealed metal containers with "metal to glass" terminals. Lines of this type can be furnished in values up to approximately 30 microseconds and with multiple sections, in a single case. Delay lines from 0.5 microsecond to 1.5 microseconds 1350 ohm characteristic impedance are mounted in a standard can 4¾ in. long by 4¾ in. high, by 1 in. thick. Delay lines from 0.1 microseconds to 0.5 microseconds are mounted in a standard can 1 inch by 1 inch square and length to accommodate the particular time-delay line requirements. Delay lines 550 ohm impedance from 0.1 microseconds to 0.25 microseconds are also mounted in the standard 1 x 1 inch square can.

Case size, terminal arrangement, mounting feet or lugs, etc., can be furnished to customer's requirements.

Due to the special nature of delay line applications, we list no standard units, but solicit correspondence regarding your exact requirements.

ELECTRICAL CHARACTERISTICS:

Characteristic Impedance: 1350 ohms ± 20% or 550 ohms ± 20%. Special lines of any impedance between 400 ohms and 2000 ohms can be supplied.

Time Delay: Approximately 22 inches per microsecond for 1350 ohm line. Approximately 4.1 feet per microsecond for 550 ohm line.

Frequency Response: 1350 ohm line — When a 1 microsecond square pulse is applied to the line, the leading edge of the pulse after transmission through 4 microseconds of line has a time rise of not more than 0.2 microseconds and the duration of the pulse is less than 1.5 microseconds. (Line terminated by characteristic impedance.) Rise time is a function of delay.

Band Pass: A function of delay.

Attenuation: Approximately 1.0 db. per foot for one microsecond pulse. With a four microsecond delay line terminated in its characteristic impedance and a one microsecond square pulse input, the transmitted pulse height is no less than 35% of the input pulse height.

Test Voltage: 600 volts d.c. between winding and shield, between winding and case and between shield and case.

Leakage Resistance: 100 megohms or more between winding and shield and between winding and case.

Ambient Temperature Range: Minus 50 degrees centigrade to plus 85 degrees centigrade.

Thermal Drift: Less than 0.00038 microseconds per microsecond delay per degree centigrade.

Weight: Approximately 0.6 ounce per foot.

***Many special applications require lumped-constant delay line. We are in a position to manufacture such lines to your specifications. The above illustrations are typical examples. Other designs including hermetically sealed units can be supplied.***

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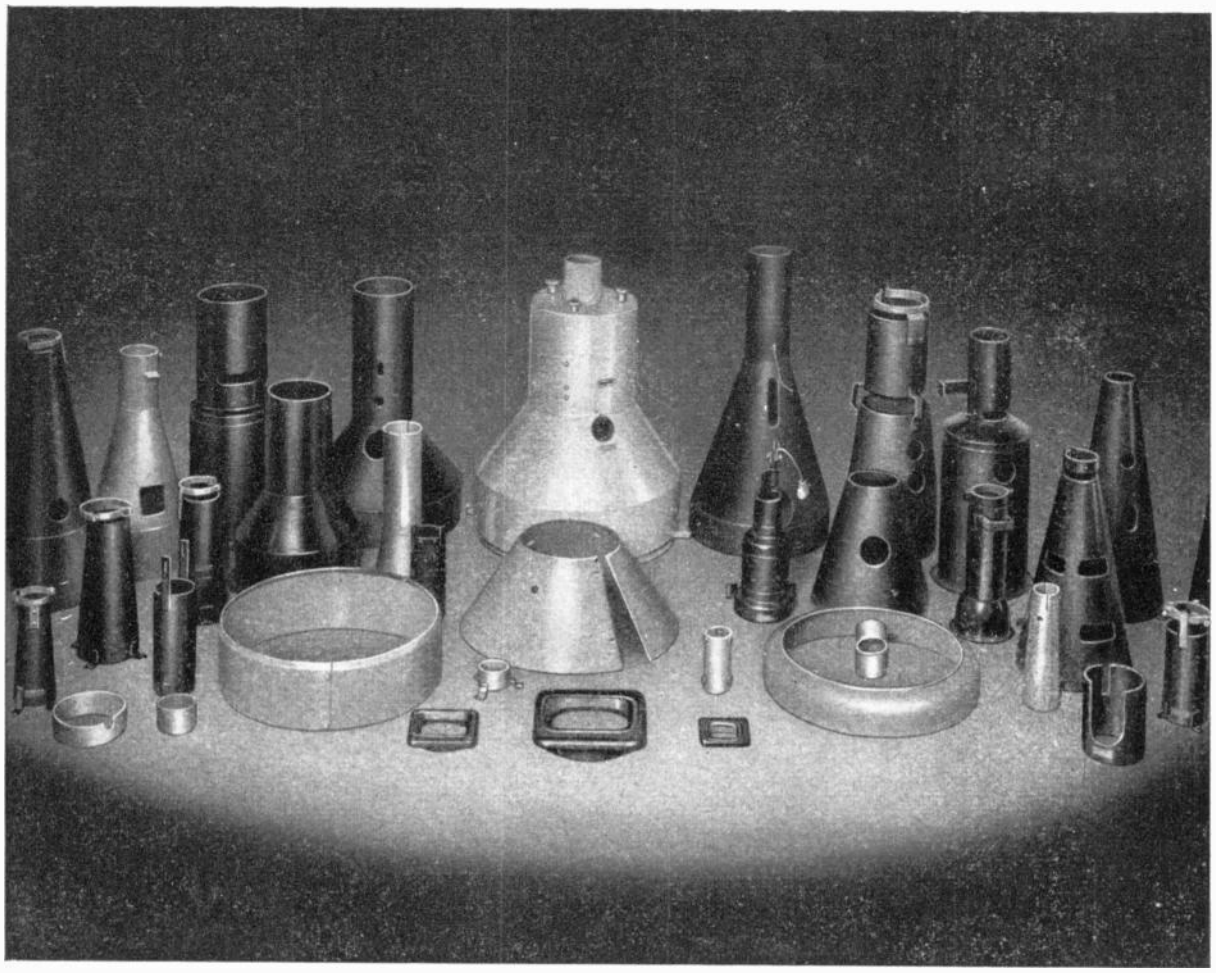

# Magnetic Metal Shields

The James Millen Mfg. Co., Inc. has for many years specialized in the production of magnetic metal cathode ray tube shields and bezels for the entire electronic industry, supplying magnetic metal shields to manufacturing companies, laboratories and research organizations. The study of such problems has resulted in the use of two outstanding metals for this purpose: NICOLOI and MU METAL. It is possible by selecting the proper material, that is, Mumetal or Nicoloi, or the correct combination of these materials, to reduce the effect of undesired magnetic fields.

Mumetal is generally used on equipment requiring the most thorough shielding, and where the trouble-causing field is not of excessive magnitude. Nicoloi is very effective in reducing fields of high flux concentration. Single Nicoloi shields are satisfactory for general purpose application where the ultimate design does not necessitate too critical consideration of the effect of external fields. Where there is a combination of the requirement for optimum shielding and an abnormally high external field, the combination of Nicoloi outer shield and a Mumetal inner shield is used. The Nicoloi outer shield reduces the high field most effectively; and the Mumetal inner shield is then operating under the best condition whereby it reduces the interference from a low field to a minimum. For most applications, however, the single Mumetal shield is entirely adequate and to be recommended.

Both Nicoloi and Mumetal obtain their effectiveness due to the correct selection of alloys on one hand, and the process of annealing so as to relieve stresses and provide the best possible molecular structure for effective shielding, on the other.

Magnetic metal shields can be furnished to meet the most stringent requirements and match the color of the equipment incorporating such shields. Due to the high alloy content neither Nicoloi or Mumetal is subject to corrosion and, in general, it is recommended that a zinc chromate primer and a high heat lacquer be used in finishing the shields. Plating is generally avoided due to the possibility that the shields might become magnetized in the plating process which necessarily is done after annealing. Care is used in the selection of materials used in conjunction with the shields for such purposes as brackets, supports, etc., so as to minimize many operations on the shields after annealing.

Cold rolled or stainless steel brackets are recommended as it is impractical to use brass which would melt under the high annealing temperature. Tube clamps must necessarily be made of spring metal which would lose its temper during annealing. In order to avoid this clamps are mounted on the shields after treatment by means of spun rivets so as to avoid any shock to the shield.

Shields and bezels have been designed to meet the stringent requirements of military, laboratory and industrial uses and still provide units which are economical and can be assembled into the complete equipment without complexity. Our standard shields and bezels are arranged to support the cathode ray tube from the front panel without addition of complicated supports and brackets.

Standard shields and bezels for the more popular tubes are available from stock for both production and research programs.

Many production programs, however, make desirable shields designed in conjunction with the specialized requirements of the basis apparatus. Our Custom Shield design and fabrication department is at the service of our customers for the development of magnetic metal shields for such specialized application.

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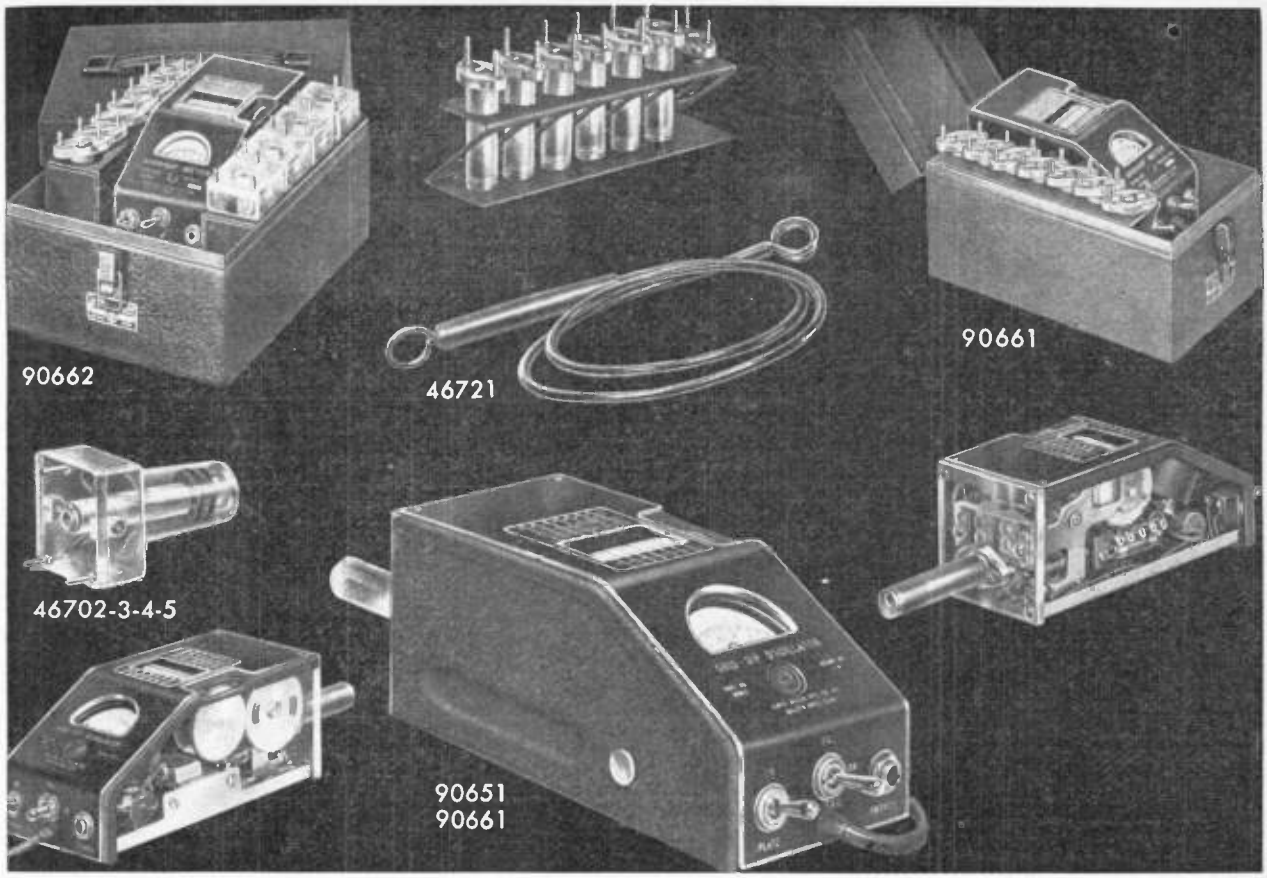


# *Designed for Application*

# Grid Dip Meters

Millen Grid Dip Meters are available to meet all various laboratory and servicing requirements.

The 90662 Industrial Grid Dip Meter band calibrated ± 0.5% for laboratory use with a range from 225 kc. to 300 mc. incorporates features desired for both industrial and laboratory application, including three wire grounding type power cord and suitable carrying case.

The 90661 Industrial Grid Dip Meter is similar to the 90662 except for a reduced range of 1.7 to 300 mc. It likewise incorporates the three wire grounding type cord and metal carrying case.

The 90651 Standard Grid Dip Meter is a somewhat less expensive version of the grid dip meter. The ± 2.0% calibration is adequate for general usage. It is supplied without grounding lead and without carrying case. The range is 1.7 to 300 mc. Extra inductors available extends range to 220 kc.

The Millen Grid Dip Meter is a calibrated stable RF oscillator unit with a meter to read grid current. The frequency determining coil is plugged into the unit so that it may be used as a probe.

These instruments are complete with a built-in transformer type A.C. power supply and internal terminal board to provide connections for battery operation where it is desirable to use the unit on antenna measurements and other usages where A.C. power is not available. Compactness has been achieved without loss of performance or convenience of usage. The incorporation of the power supply, oscillator and probe into a single unit provides a convenient device for checking all types of circuits. The indicating instrument is a standard 2 inch instrument with an easy to read scale. The calibrated dial is a large 205° drum dial which provides seven direct reading scales, plus an additional universal scale, all with the same length and readability. Each range has its individual plug-in probe completely enclosed in a contour fitting polystyrene case for assurance of permanence of calibration as well as to prevent any possibility of mechanical damage or of unintentional contact with the components of the circuit being tested.

*The Grid Dip Meters may be used as:*

1. A grid Dip Oscillator
2. An Oscillating Detector
3. A Signal Generator
4. An Indicating Absorption Wavemeter

The most common usage of the Grid Dip Meter is as an oscillating frequency meter to determine the resonant frequencies of de-energized tuned circuits.

Size of Grid Dip Meter only (less probe): 7 in. x 3 3/16 in. x 3 3/8 in.

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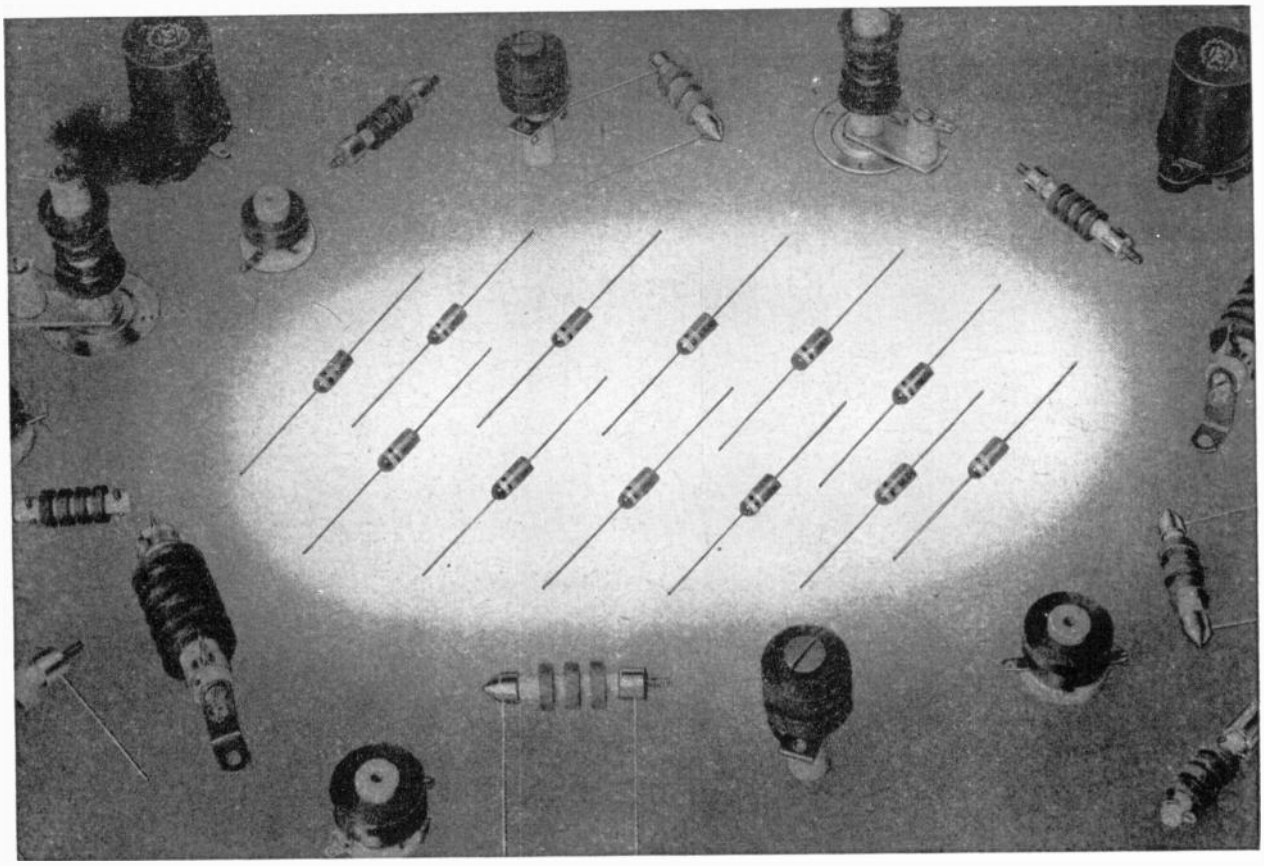

# Encapsulated Inductances

Millen DESIGNED for APPLICATION encapsulated coils provide another advance in the r-f inductor field. Modern application requires miniature, heat and cold resistant, hermetically sealed, and abrasion resistant r-f inductor assemblies. The James Millen Manufacturing Company has pioneered many advances in the r-f inductor field, including the now standard 4 pi r-f choke, the axial lead r-f choke, and the miniature r-f choke. Developments have now made possible another advance, the No. 34301 and No. J301 encapsulated inductors—hermetically sealed—miniature size. Ambient temperature minus 55 degrees to plus 100 degrees C.

## NO. J301 MINIATURE ENCAPSULATED INDUCTANCES

DESIGNED for APPLICATION miniature inductances are: extremely small (see table at right)—hermetically sealed—wound on axial lead Carbonyl cores—color coded. Coils are available in RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Coils are three layer solenoids up to 350 microhenries. From 360 to 2500 microhenries coils are pi-wound. Current rating 50 to 600 milliamperes depending on coil size. Inductance ± 5%. Special coils on order.

## NO. 34301 STANDARD ENCAPSULATED INDUCTANCES

Encapsulated DESIGNED for APPLICATION axial lead phenolic form r-f inductances. Hermetically sealed—heat resistant—abrasion proof—color coded. 1 to 350 microhenries available in RETMA standard values plus 25, 50, 150, 250, and 350 microhenries. Inductance ± 5%. Values available in same progression as J301 coils listed in the table at the right. Solenoid winding for 1 to 15 microhenries. Universal pi winding from 20 microhenries to 350 microhenries. Current rating 250 to 1500 milliamperes, depending on coil size. Ambient temperature range—minus 55 degrees to plus 100 degrees Centigrade. Size: 3/8 inches diameter × 7/8 inches long. Special coils on order.

| COIL NUMBER | INDUCTANCE MICROHENRIES | DIAMETER INCHES | LENGTH INCHES |
|---|---|---|---|
| J301-25 | 25 | 3/16 | 7/16 |
| J301-33 | 33 | 3/16 | 7/16 |
| J301-47 | 47 | 3/16 | 7/16 |
| J301-50 | 50 | 3/16 | 7/16 |
| J301-82 | 82 | 3/16 | 7/16 |
| J301-100 | 100 | 3/16 | 7/16 |
| J301-120 | 120 | 3/16 | 7/16 |
| J301-150 | 150 | 3/16 | 7/16 |
| J301-200 | 200 | 3/16 | 7/16 |
| J301-220 | 220 | 3/16 | 7/16 |
| J301-250 | 250 | 3/16 | 7/16 |
| J301-300 | 300 | 3/16 | 7/16 |
| J301-330 | 330 | 3/16 | 7/16 |
| J301-350 | 350 | 3/16 | 7/16 |
| J301-360 | 360 | 7/32 | 9/16 |
| J301-390 | 390 | 7/32 | 9/16 |
| J301-430 | 430 | 7/32 | 9/16 |
| J301-470 | 470 | 1/4 | 11/16 |
| J301-500 | 500 | 1/4 | 11/16 |
| J301-510 | 510 | 1/4 | 11/16 |
| J301-560 | 560 | 1/4 | 11/16 |
| J301-620 | 620 | 1/4 | 11/16 |
| J301-680 | 680 | 9/32 | 3/4 |
| J301-750 | 750 | 9/32 | 3/4 |
| J301-820 | 820 | 9/32 | 3/4 |
| J301-910 | 910 | 9/32 | 3/4 |
| J301-1000 | 1000 | 9/32 | 3/4 |
| J301-1200 | 1200 | 5/16 | 13/16 |
| J301-1300 | 1300 | 5/16 | 13/16 |
| J301-1500 | 1500 | 5/16 | 13/16 |
| J301-1800 | 1800 | 5/16 | 13/16 |
| J301-2000 | 2000 | 3/8 | 7/8 |
| J301-2200 | 2200 | 3/8 | 7/8 |
| J301-2400 | 2400 | 3/8 | 7/8 |
| J301-2500 | 2500 | 3/8 | 7/8 |

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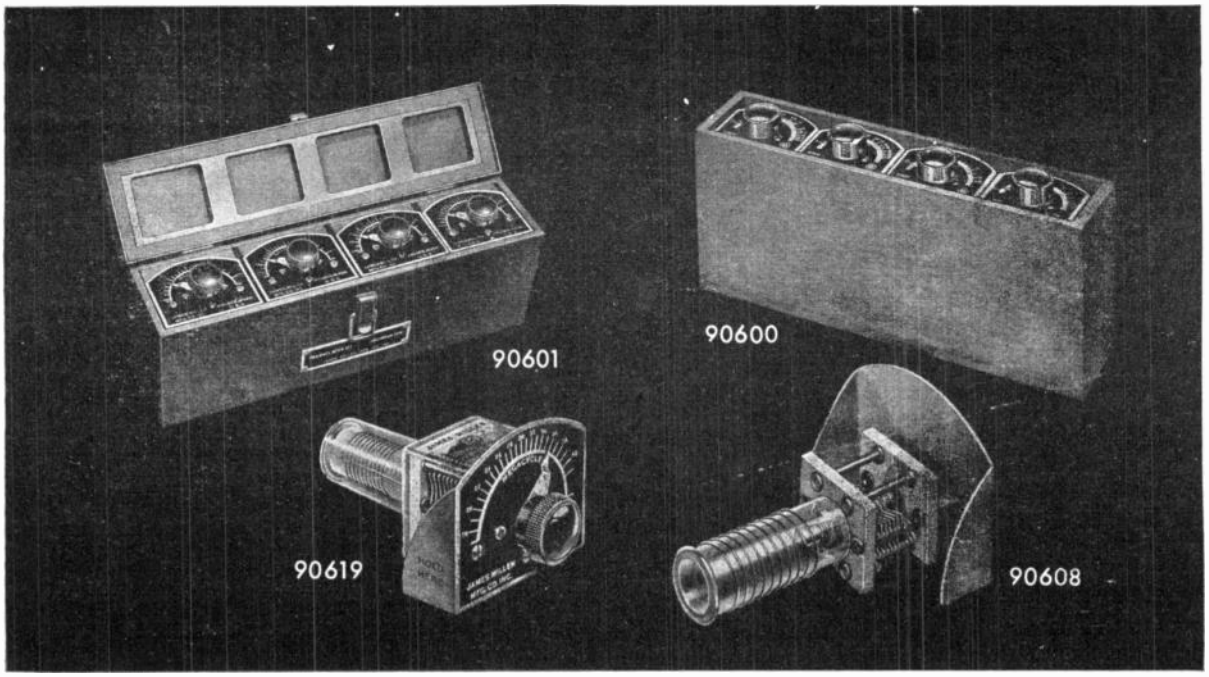


# Midget Absorption Frequency Meters

Many amateurs and experimenters do not realize that one of the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield compartments, coil cans, corners of chassis, etc., to check harmonics; parasitics; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickly enables the design engineer to find out what is really "going on" in a circuit.

Types 90604 thru 90610 are extremely small and designed primarily for engineering laboratory use where they will be handled with reasonable care. The most useful combination being the group of four under code No. 90600 and covering the total range of from 3.0 to 140 megacycles. When purchased in sets of four under code No. 90600 a convenient carrying and storage case is included. Series 90601 are slightly larger and very much more rugged. They are further protected by a contour fitting transparent polystyrene case to protect against damage and dirt. This latter series is designed primarily for field use and are not quite as convenient for laboratory use as the 90605 thru 90608 types. All types have dials directly calibrated in frequency.

| Code | Description | Net Price |
|---|---|---|
| 90604 | Range 160 to 210 mc. | |
| 90605 | Range 3.0 to 10 mc. | |
| 90606 | Range 9.0 to 23 mc. | |
| 90607 | Range 23 to 60 mc. | |
| 90608 | Range 50 to 140 mc. | |
| 90609 | Range 130 to 170 mc. | |
| 90610 | Range 105 to 150 mc. | |
| 90611 | Range 1.5 to 3.5 mc. | |
| 90612 | Range 3.5 to 8 mc. | |
| 90613 | Range 8 to 18.5 mc. | |
| 90614 | Range 18 to 41 mc. | |
| 90619 | Range 0.35 to 1.0 mc.—Neon Indicator | |
| 90620 | Range 0.15 to 0.35 mc.—Neon Indicator | |
| 90625 | Range 2 to 6 mc.—Neon Indicator | |
| 90626 | Range 5.5 to 15 mc.—Neon Indicator | |
| 90600 | Complete set of 90605 thru 90608, in case | |
| 90601 | Complete set Field type Frequency Meters in metal carrying case 1.5 to 40 mc. | |

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V. Jensen
2616 Second Avenue

**INDIANAPOLIS**
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820 E. 64th Street

**SAN FRANCISCO**
Moulthrop & Hunter
165—11th Street

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Brookline

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W. Bert Knight
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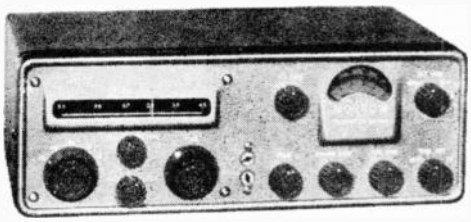
# AMATEUR COMMUNICATIONS EQUIPMENT

## MB-565 TRANSMITTER



New compact design provides grouped controls; turret-type, hooded, illuminated dial always in view, showing operating band only. Ten tubes, for 80-40-20-15 and 10-meter bands. VFO or crystal controlled. VFO always operates at ½ the carrier frequency into a cathode follower, then through a Class A buffer stage to the driver operating as a doubler. Neutralized PI network final operates straight through on all five amateur bands at 60 watts input. Uses carbon, crystal or dynamic microphone. High level plate modulation. Operates into 50 to 75-ohm antenna or antenna tuner. 4⅛" x 11⅞" x 7¼". Weight, 14 lbs.

Amateur Net Price: **$249.50**

## MB-6 RECEIVER

A companion unit to the MB-565 Transmitter. 13 tubes, covers 80-40-20-15 and 10-meter bands. Sensitivity 1 microvolt or better on all bands. Signal to noise plus signal is better than 20 db. Crystal-controlled second mixer. Band-pass, 4 kc at 6 db down. Integral, 100 kc crystal calibrator. Illuminated "S" meter converts to field strength meter for transmitter tune-up. RF and audio gain controls. Antenna trimmer. Noise limiter. Noise balanced squelch circuit eliminates inter-station noise but opens on extremely weak signals. 4⅛" x 11⅞" x 7¼". Weight, 12 lbs.

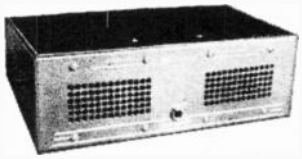
Amateur Net Price: **$239.50**

## 5BR-2 CONVERTER

Superheterodyne tuner for use with auto radio to cover the 75-40-20-15 and 10-meter amateur bands. Sensitivity better than one (1) microvolt. Features a built-in series gate noise limiter, very effective on ignition noise. For 6 or 12-volt use. Size: 4¼" x 6" x 6¾". Shpg. wt., 5½ lbs.

Amateur Net Price: **$89.95**

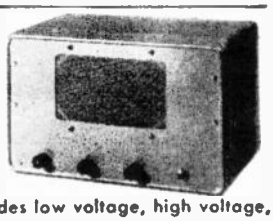
## RAP 250S POWER SUPPLY



Tilt-base with built-in AC power supply and dual speakers for use with Moradco receivers. Size: 3⅝" x 6½" x 10⅝". Shpg. wt., 15 lbs.

Amateur Net Price: **$41.50**

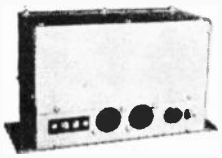
## RTS 600S POWER SUPPLY



Speaker and power supply. Handsome matching unit for 115-volt AC operation. Supplies power for Moradco transmitters and receivers. Includes low voltage, high voltage, bias and DC supply for operating antenna change-over relay. 5" x 7" quality speaker, built-in phone jack and fuses on front panel. Size: 7½" high, 11⅞" long, 7¼" deep. Shpg. wt. 25 lbs.

Amateur Net Price: **$142.50**

## RVP 260 RVP 260B POWER SUPPLY



**RVP 260**

Low voltage vibrator power supply. Supplies DC voltage for Moradco receivers and for the exciter stages of the transmitter. Built-in starting relay. Completely fused. Size: 5¼" high, 9¼" long, 3⅜" deep. Shpg. wt., 9 lbs.

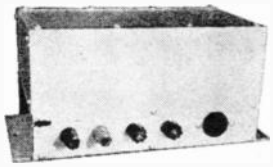
Amateur Net Price: **$44.75**

**RVP 260B**

Same as RVP 260, but has built-in bias supply delivering 75 volts regulated at 15 Ma. For use with Moradco transmitter-receiver combinations.

Amateur Net Price: **$49.95**

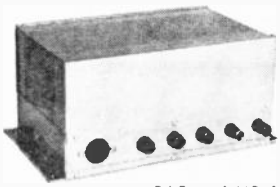
## TV 600A POWER SUPPLY



High voltage vibrator power for 6 or 12-volt operation. Delivers nominal 600 volts at 200 Ma. Uses silicon rectifiers. Has built-in starting relay. Completely fused. Designed for use with Moradco transmitters. Size: 5¼" high, 11⅛" long, 5⅜" deep. Shpg. wt., 17 lbs.

Amateur Net Price: **$79.50**

## RTV-630 POWER SUPPLY



High and low voltage vibrator power supply delivers combined voltages of RVP-260B and TV-600A. Supplies all necessary voltages for MB-565 and MB-6. Order connecting cable number 010-020. 12-volt only. 5½" high, 11⅞" long, 6¾" deep. Shpg. wt., 20 lbs.

Amateur Net Price: **$119.95**

**MORROW RADIO MANUFACTURING CO. SALEM, OREGON**



World Radio History

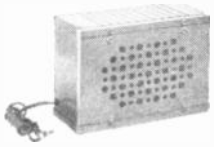
# AMATEUR
## MATCHED ACCESSORIES

### MK-N1 MIKE

Handy push-to-talk carbon microphone in modern cylindrical case. Shpg. wt., 1 lb.

Amateur Net: **$16.95**

### SH-7 SPEAKER



5" x 7" speaker housed in attractive metal case. For use with Moradco receivers. Size: 3½" x 5½" x 7⅞". Shpg. wt., 3½ lbs.

Amateur Net: **$11.50**

### TH 1 TOP HAT

Capacity hat used to increase the mobile whip capacity to ground. Shpg. wt., 1 lb.

Amateur Net Price: **$2.50**

### MLV 50, 6-12 ANTENNA TUNER

Remote control, motor driven, variable antenna inductor to tune mobile whip to exact operating frequency. For 75-80, 40, 20, 15 and 10-meter bands. Has remote control reversing switch and cable. 3" x 4" x 10". Shpg. wt., 5 lbs.

Amateur Net Price: **$24.95**

### FS 1 FIELD STRENGTH METER

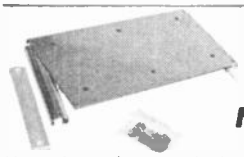
Versatile field strength meter for measuring field intensity. Built-in sensitivity control and antenna switch. Size: 2⅝" x 3" x 4". Shpg. wt., 2 lbs.

Amateur Net: **$19.50**

### GC 6, 10, 15, 20 NOISE FILTER

Generator noise filter. A tuned circuit "hash" filter for bands designated. Engineered to attenuate generator noise from brush sparking. Easy to install, adjust. Shpg. wt., 1 lb.

Amateur Net Price: **$4.55**



### JM JIFFY MOUNTS

Mounting plate and slide mounts for drawer-like mounting of Moradco transmitters and receivers. Shpg. wt., 2½ lbs.

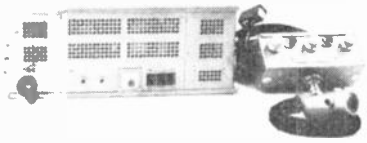
Amateur Net: **$3.95**

Jiffy mounts with handle for convenient carrying of RTS-600S or receiver-transmitter stacked are also available. Shpg. wt., 2½ lbs.

Amateur Net: **$4.95**

# COMMERCIAL
## COMMUNICATIONS EQUIPMENT

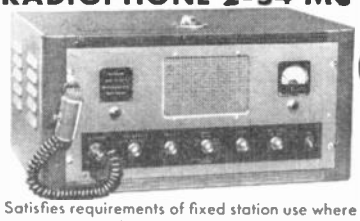
### MMRT MOBILE RADIOPHONE AM



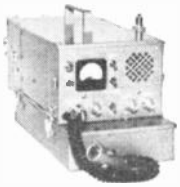
Rugged, dependable, engineered for maximum flexibility, advantageous mounting and ease of operation. All necessary operating controls, pilot lamp indicators, mounted within control unit for easy operation from driver's seat.

Transmitter and receiver crystal-controlled, available as dual channel or single channel unit for operation on one or two channels between 2 and 54 megacycles. Adjustable noise balanced squelch control eliminates external noise or receiver hiss when radiophone is on standby operation. Squelch circuit opens on reception of extremely weak signals. Crystal-controlled, dual conversion receiver has 0.25 microvolt sensitivity for 6 db signal to noise ratio for one watt of power output—affords maximum signal readability.

### FC-20-2 AM RADIOPHONE 2-54 MC



Satisfies requirements of fixed station use where compactness, dependability, and simplicity of operation are desired. Gives unusual "talk power" for its 25-watt output, without overmodulation, and will receive weak signals with remarkable readability. Sensitive squelch circuit affords silent standby operation. Both transmitter and receiver crystal controlled. Receiver features maximum readability on any channel without suppression of either signal; 0.25 microvolt input affords readable signal; dual conversion circuitry; series gate type noise limiter circuit; reception on either channel or both channels simultaneously. Transmitter operates on single or dual channel; voice frequencies below 300 and above 2500 cycles eliminated for maximum "talk power." Size: 11" x 22" x 15".



### FL-2 & FLP-2

These battery-operated portable or base stations, single or dual channel, 2-54 Mc., are engineered to provide a light, portable unit in both cases. The FL-2 unit employs an external battery pack and the FLP-2 unit accommodates a detachable battery pack held to the bottom by clamp fasteners.

**Receiver:** Sensitivity—0.5 microvolt input required for readable signal. Stability—.005% of operating crystal frequency. Sensitive squelch circuit opens at 0.5 microvolt input, will not open on noise. 270 milliwatts maximum audio output. Maximum signal readability on any channel. Crystal control on any two frequencies.
**Transmitter:** 2.97 watts RF input. Single or dual channel, crystal controlled osc. circuit or circuits for any channel or any two channels between 2 and 54 Mc. Class "B" high level modulator. Size: FL-2: 8¾" x 6¼" x 13¼"; FLP-2 (battery case attached): 8¾" x 9½" x 13¼".

### WTS WTP WTF

The Moradco WTS Pack Set is a dry-battery radiophone in a tough canvas carrying case with shoulder strap, engineered for reliable portable communication for an operator on foot. Extremely sensitive, crystal-controlled receiver uses high level class "B" modulation. Quality engineered to assure satisfaction, trouble-free operation and low maintenance. The WTP Mobile Power Supply Unit allows use of the WTS, utilizing 6 or 12 volt power from a vehicle battery and greatly increasing broadcast range. The WTF Power Supply Unit is similar, except that it is designed to operate on 115 volt, 60 cycle alternating current. WTS Pack Set weighs 9½ lbs.

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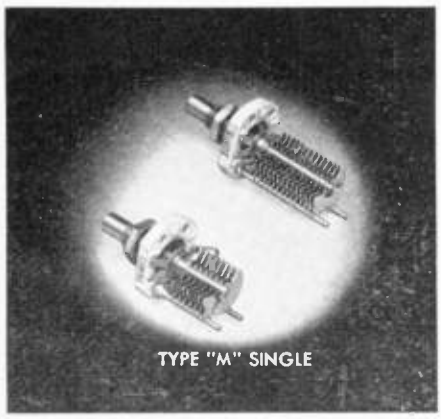
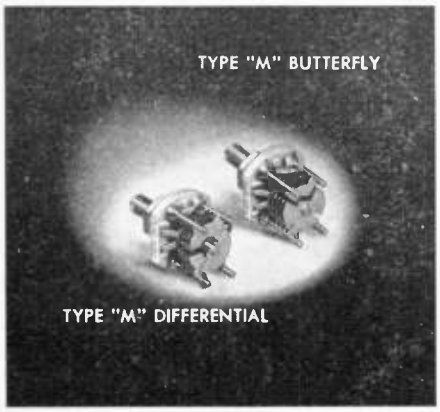
World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

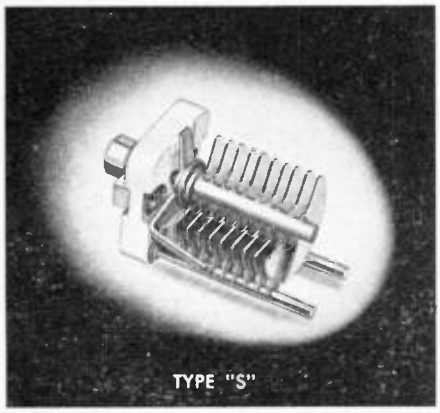


TYPE "M" SINGLE

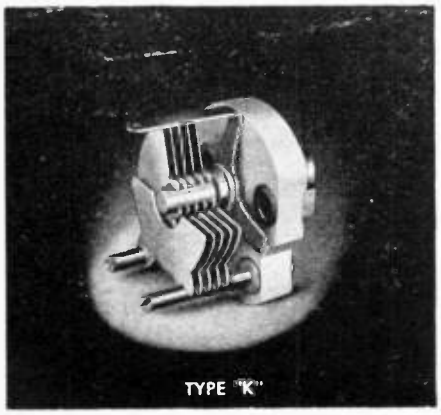


TYPE "M" BUTTERFLY

TYPE "M" DIFFERENTIAL



TYPE "S"



TYPE "K"

## EXPLANATION OF TYPE NUMBERS

The first portion of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter "D" indicates a two-section type—"A" differential, "B" butterfly. The final number multiplied by 100 is the approximate peak breakdown voltage.

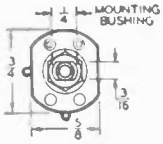
## TYPE "M" CAPACITORS

Requiring a panel area just [illegible]" wide by 3/4" high, these diminutive capacitors provide the perfect answer to problems encountered in the design of compact radio frequency equipment. Bridge type stator terminal provides extremely low inductance path to both stator supports. Soldered plate construction, oversize bearing, and heavily anchored stator supports insure extreme rigidity. Relatively large beryllium copper compression spring rotor contact provides steady torque—rotor stays "put" where set. Rotor contact nickel plated—all other metal parts nickel plated. Steatite end frames DC-200 treated. Mounting bushing threaded 1/4"-32 with flats to prevent turning—mounting nut furnished. Peak voltage 1250 volts on .017" spaced units—850 volts on 160-130 which is spaced .013"—[illegible]" diameter shaft* slotted for screwdriver adjustment. JOHNSON Miniature Air Variables are available in production quantities with the following features: 1. Locking bearing. 2. 180° stop. 3. Various shaft extensions. 4. High torque. 5. Silver or other platings.

*Instrument type tuning knob to fit [illegible]" shaft available. (See knob and dial section of this catalog.)

### SINGLE SECTION

| Cat. No. | Type No. | Cap. Sec. Max. | Cap. Sec. Min. | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|
| 160-102 | 5M11 | 5 | 1.5 | 5 | [illegible]" | $1.00 |
| 160-104 | 9M11 | 8.7 | 1.8 | 9 | [illegible]" | 1.05 |
| 160-107 | 15M11 | 14.2 | 2.3 | 15 | 1" | 1.20 |
| 160-110 | 20M11 | 19.6 | 2.7 | 21 | 1[illegible]" | 1.35 |
| 160-130 | 30M8 | 32 | 3 | 28 | 1[illegible]" | 1.40 |

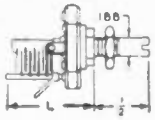



### BUTTERFLY

| | | | | | | |
|---|---|---|---|---|---|---|
| 160-203 | 3MB11 | 3.1 | 1.5 | 5 | [illegible]" | $1.40 |
| 160-205 | 5MB11 | 5.1 | 1.8 | 9 | [illegible]" | 1.60 |
| 160-208 | 9MB11 | 8 | 2.2 | 16 | 1" | 1.80 |
| 160-211 | 11MB11 | 10.8 | 2.7 | 22 | 1[illegible]" | 2.00 |

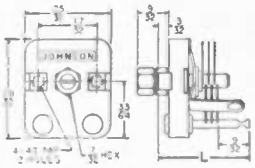
### DIFFERENTIAL

| | | | | | | |
|---|---|---|---|---|---|---|
| 160-303 | 6MA11 | 5.0 | 1.5 | 5 | [illegible]" | $1.45 |
| 160-305 | 9MA11 | 8.7 | 1.8 | 9 | [illegible]" | 1.65 |
| 160-308 | 15MA11 | 14.2 | 2.3 | 15 | 1" | 1.85 |
| 160-311 | 19MA11 | 19.6 | 2.7 | 21 | 1[illegible]" | 2.10 |




## TYPE "S" CAPACITORS

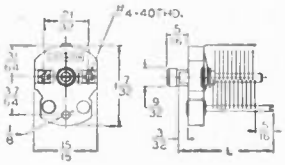
The JOHNSON type "S" capacitor falls midway between the type "M" and "K" capacitors in physical size. Design is compact—construction rugged. Equipped with DC-200 treated steatite end frame and nickel plated brass plates. Available only as a "single" type, the "S" capacitor has a plate spacing of .013" with a peak voltage rating of 850 volts. Square mounting studs tapped 4-40 on [illegible]" centers. Other spacings; single hole mounting types; straight shaft, screwdriver shaft or locking-type screwdriver shaft available on special order in production quantities.




| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|
| 148-1 | 15S8 | 15 | 2.3 | 6 | [illegible]" | $1.10 |
| 148-2 | 25S8 | 25 | 2.6 | 10 | [illegible]" | 1.15 |
| 148-3 | 35S8 | 35 | 2.9 | 14 | 1[illegible]" | 1.20 |
| 148-4 | 50S8 | 50 | 3.2 | 19 | 1[illegible]" | 1.30 |
| 148-5 | 75S8 | 75 | 3.9 | 29 | 1[illegible]" | 1.45 |
| 148-6 | 100S8 | 100 | 4.5 | 38 | 1[illegible]" | 1.65 |

## TYPE "K" CAPACITORS

Widely used for military and many commercial applications, the JOHNSON type "K" features DC 200 impregnated steatite end frames, slotted stator contacts and extra rigid soldered plate construction. Plate spacing is .015". Peak voltage rating: 1000 volts. Plates are brass, nickel plated. Available in production quantities in accordance with military specifications JAN-C-92.




| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|
| 158-1 | 10K10 | 10 | 2.9 | 3 | 7/8" | $1.25 |
| 158-2 | 25K10 | 25 | 3.7 | 7 | 1" | 1.35 |
| 158-3 | 50K10 | 50 | 4.6 | 14 | 1 3/16" | 1.55 |
| 158-4 | 75K10 | 75 | 5.5 | 20 | 1 3/8" | 1.70 |
| 158-5 | 100K10 | 100 | 6.4 | 27 | 1 5/8" | 1.85 |

Other capacities and variations for special military and commercial specifications available in production quantities.



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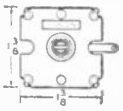
World Radio History

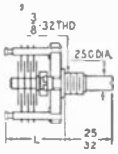
# E. F. Johnson Company

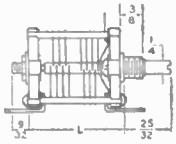
WASECA, MINNESOTA

## TYPE "L" CAPACITORS

A superior quality general purpose capacitor by JOHNSON embodying important advances in design and construction. The rotor bearing and stator support rods are actually soldered directly to the ceramic (steatite) end frames making the capacitor virtually vibration proof. A special split sleeve tension bearing and silver plated beryllium copper contact provide constant torque and smooth, silent capacity variation. Heavy brass soldered plates and large diameter tie rods provide great rigidity. Plating is heavy nickel. Bearings threaded 3/8"-32, mounting nut provided. Removable chassis mounting brackets can be used to mount auxiliary equipment. Plate spacing .030". Available with .020", .060" and .080" spacing as well as special platings, shaft lengths and stator terminal locations in production quantities. Models with 6-32 tapped mounting posts soldered to end frame are also available on special order.

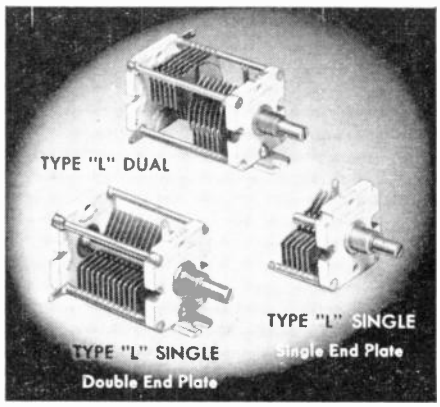


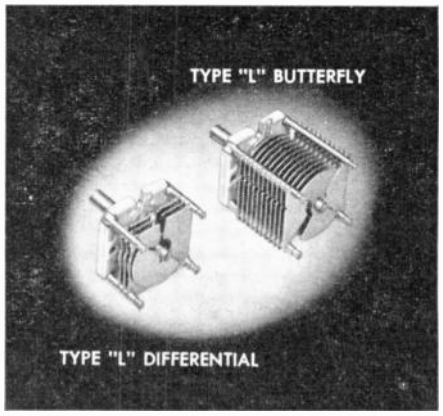


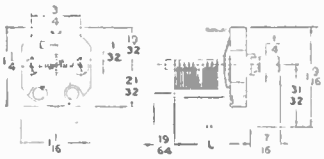


### SINGLE SECTION

| Cat. No. | Type No. | Cap. Sec. Max. | Cap. Sec. Min. | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|
| **Single End Plate** | | | | | | |
| 167-1 | 10L15 | 11 | 2.8 | 3 | 3/4" | $1.60 |
| 167-2 | 25L15 | 27 | 3.5 | 7 | 61/64" | 1.70 |
| 167-3 | 50L15 | 51 | 4.6 | 13 | 1 1/4" | 1.90 |
| 167-4 | 75L15 | 75 | 5.7 | 19 | 1 9/16" | 2.10 |
| **Double End Plate** | | | | | | |
| 167-11 | 100L15 | 99 | 6.8 | 25 | 2 1/32" | 3.30 |
| 167-12 | 200L15 | 202 | 11.6 | 51 | 2 31/64" | 4.20 |
| **BUTTERFLY** | | | | | | |
| 167-21 | 10LB15 | 10.5 | 2.8 | 5 | 55/64" | 1.95 |
| 167-22 | 25LB15 | 26 | 4.3 | 12 | 1 1/4" | 2.25 |
| 167-23 | 50LB15 | 51 | 6.8 | 23 | 1 3/4" | 2.75 |
| **DIFFERENTIAL** | | | | | | |
| 167-31 | 10LA15 | 11 | 2.8 | 3 | 3/4" | 2.00 |
| 167-32 | 25LA15 | 27 | 3.5 | 7 | 61/64" | 2.20 |
| 167-33 | 50LA15 | 51 | 4.6 | 13 | 1 1/4" | 2.50 |
| **DUAL SECTION** | | | | | | |
| 167-51 | 25LD15 | 27 | 5.0 | 7 | 1 5/16" | 3.60 |
| 167-52 | 50LD15 | 51 | 6.5 | 13 | 2 15/64" | 4.05 |
| 167-53 | 100LD15 | 99 | 9.8 | 25 | 3 7/16" | 4.95 |



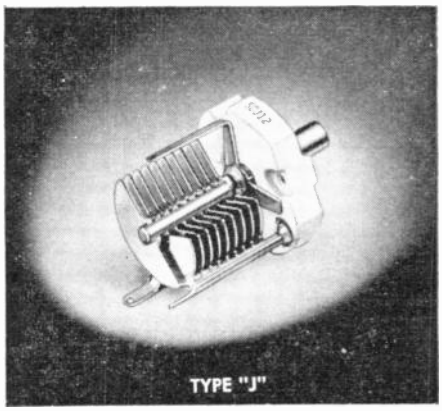



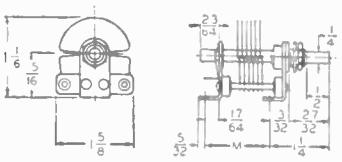
## TYPE "J" CAPACITORS

A heavy duty miniature type has wider spacing (.025") than most small air variables, yet occupies little more space. Useful for small space plate tank circuits in low power stages where standard miniatures have insufficient plate spacing. Soldered plate construction. 6-32 tapped mounting studs on 3/4" centers. Mounting brackets and 6-32 screws provided.

| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|
| 157-1 | 7J12 | 8 | 2.6 | 3 | 19/32" | $1.85 |
| 157-2 | 15J12 | 17 | 3.3 | 6 | 23/32" | 1.95 |
| 157-3 | 25J12 | 29 | 3.6 | 10 | 7/8" | 2.10 |
| 157-4 | 50J12 | 52 | 4.9 | 19 | 1 1/4" | 2.35 |
| 157-5 | 75J12 | 73 | 6 | 26 | 1 17/32" | 2.65 |
| 157-6 | 100J12 | 102 | 7 | 36 | 1 31/32" | 3.00 |



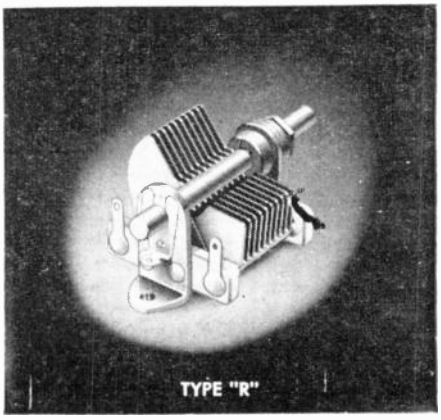

## TYPE "R" CAPACITORS



The rugged JOHNSON version of a popular standardized capacitor. Featuring extra heavy steatite stator support insulators and soldered .023" thick brass plates, all metal parts are heavily nickel plated for corrosion resistance. Heavy brass end frames provide superior rigidity. Double bearing construction and silver plated beryllium copper wiping contacts provide smooth, reliable performance in a wide variety of electronics applications. Plate spacing .024", bearing threaded 3/8"-32.

| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | Plates per Sec. | M | Net Price |
|---|---|---|---|---|---|---|
| 149-1 | 20R12 | 20 | 5 | 3 | 1 7/32" | $2.25 |
| 149-2 | 35R12 | 35 | 6 | 5 | 1 7/32" | 2.35 |
| 149-3 | 50R12 | 50 | 6.5 | 7 | 1 7/32" | 2.45 |
| 149-4 | 75R12 | 80 | 8 | 11 | 1 7/32" | 2.60 |
| 149-5 | 100R12 | 102 | 8.5 | 14 | 1 13/32" | 2.75 |
| 149-6 | 140R12 | 140 | 13.5 | 19 | 1 19/32" | 2.95 |

Johnson type "R" capacitors are available with .036", .050", .071" or .095" plate spacings as well as special platings and shaft lengths in production quantities. Also available without mounting feet for panel mounting applications.

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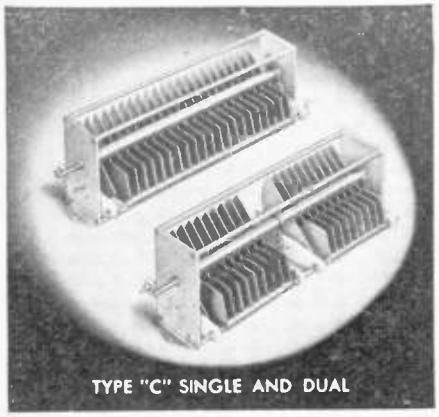
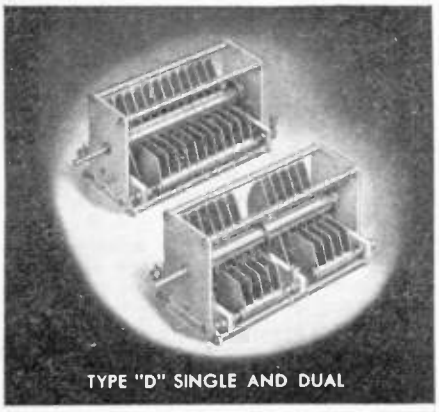
# E. F. Johnson Company

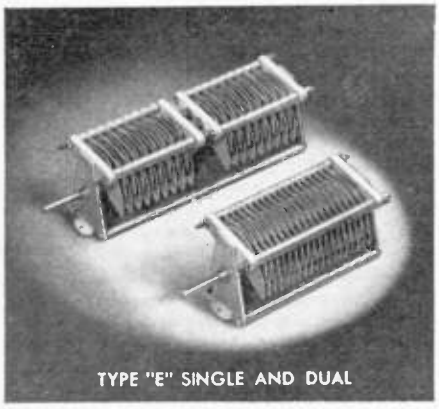
WASECA, MINNESOTA



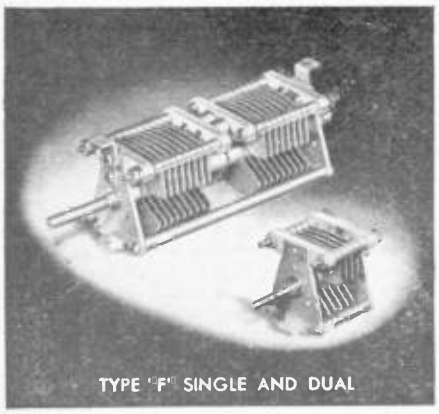
TYPE "C" SINGLE AND DUAL



TYPE "D" SINGLE AND DUAL



TYPE "E" SINGLE AND DUAL



TYPE "F" SINGLE AND DUAL

## TYPE "C" AND "D" CAPACITORS

Functional favorites built to exacting standards for medium power RF equipment. Heavy .051" aluminum plates and 3/16" tie rods. Laminated phosphor bronze contacts. Dual types have center rotor connection for balance. End frames tapped for panel mounting. Brackets furnished for chassis mounting.

| Cat. No. | Type No. | Cap. Max. | Sec. Min. | Air Gap | Plates per Sec. | M | Net Price |
|---|---|---|---|---|---|---|---|
| | | | **TYPE C SINGLE SECTION** | | | | |
| 152-1 | 250C70 | 252 | 34 | .175" | 24 | 7 11/16" | $17.95 |
| 152-2 | 500C70 | 496 | 56 | .175" | 47 | 13 1/16" | 21.80 |
| 152-6 | 100C110 | 103 | 30 | .350" | 17 | 9 15/16" | 13.65 |
| 152-8 | 50C130 | 51 | 24 | .500" | 10 | 8 3/16" | 11.90 |
| 152-9 | 100C130 | 102 | 42 | .500" | 21 | 14 7/16" | 15.95 |
| | | | **TYPE C DUAL SECTION** | | | | |
| 152-501 | 200CD45 | 204 | 21 | .125" | 15 | 9 13/16" | 18.75 |
| 152-502 | 300CD45 | 290 | 26 | .125" | 21 | 11 5/16" | 21.95 |
| 152-503 | 200CD70 | 198 | 27 | .175" | 19 | 13 1/16" | 21.80 |
| 152-504 | 300CD70 | 305 | 37 | .175" | 29 | 17 21/32" | 27.20 |
| 152-505 | 150CD90 | 147 | 30 | .250" | 19 | 15 25/32" | 23.65 |
| 152-507 | 50CD110 | 50 | 18 | .350" | 8 | 11 5/16" | 15.95 |
| 152-509 | 100CD110 | 103 | 32 | .350" | 17 | 17 21/32" | 23.20 |
| | | | **TYPE D SINGLE SECTION** | | | | |
| 153-6 | 500D35 | 496 | 36 | .080" | 39 | 7 11/16" | 16.50 |
| 153-8 | 150D45 | 146 | 23 | .125" | 17 | 5 21/32" | 10.40 |
| 153-11 | 100D70 | 98 | 23 | .175" | 15 | 5 21/32" | 10.15 |
| 153-12 | 150D70 | 151 | 31 | .175" | 23 | 7 11/16" | 11.95 |
| 153-13 | 250D70 | 244 | 45 | .175" | 37 | 11 5/16" | 15.20 |
| 153-15 | 50D90 | 53 | 20 | .250" | 10 | 5 21/32" | 9.35 |
| 153-16 | 70D90 | 73 | 25 | .250" | 14 | 6 11/16" | 10.35 |
| 153-17 | 100D90 | 99 | 30 | .250" | 19 | 8 3/16" | 11.55 |
| 153-18 | 150D90 | 149 | 43 | .250" | 29 | 11 5/16" | 13.90 |
| | | | **TYPE D DUAL SECTION** | | | | |
| 153-501 | 100DD35 | 95 | 13 | .080" | 8 | 5 21/32" | 11.60 |
| 153-502 | 150DD35 | 147 | 15 | .080" | 12 | 6 11/16" | 13.35 |
| 153-503 | 200DD35 | 202 | 19 | .080" | 16 | 8 3/16" | 15.95 |
| 153-504 | 300DD35 | 291 | 24 | .080" | 23 | 10 11/16" | 18.35 |
| 153-505 | 500DD35 | 496 | 38 | .080" | 39 | 14 7/16" | 25.40 |
| 153-506 | 150DD45 | 155 | 24 | .125" | 17 | 10 11/16" | 16.60 |
| 153-507 | 200DD45 | 198 | 27 | .125" | 23 | 13 1/16" | 18.60 |
| 153-508 | 50DD70 | 52 | 15 | .175" | 8 | 6 11/16" | 11.95 |
| 153-509 | 70DD70 | 72 | 17 | .175" | 11 | 8 3/16" | 13.70 |
| 153-510 | 100DD70 | 97 | 22 | .175" | 15 | 10 11/16" | 15.55 |
| 153-511 | 150DD70 | 151 | 31 | .175" | 23 | 14 7/16" | 19.95 |
| 153-513 | 50DD90 | 52 | 19 | .250" | 10 | 10 11/16" | 14.25 |
| 153-514 | 100DD90 | 97 | 30 | .250" | 19 | 15 25/32" | 19.10 |

## TYPE "E" AND "F" CAPACITORS

Rugged units providing a large amount of capacity per cubic inch and extremely low capacity to chassis. Panel or chassis mounting. Aluminum plates .032" thick with rounded edges—stainless steel shafts—heavy, phosphor bronze contact springs—center contact on duals—large 1/4" tie rods. Extra mounting brackets furnished.

| Cat. No. | Type No. | Cap. Max. | Sec. Min. | Air Gap | Plates per Sec. | M | Net Price |
|---|---|---|---|---|---|---|---|
| | | | **TYPE E SINGLE SECTION** | | | | |
| 154-1 | 250E20 | 244 | 12 | .045" | 23 | 3 7/16" | $6.65 |
| 154-2 | 350E20 | 353 | 15 | .045" | 33 | 3 31/32" | 7.60 |
| 154-3 | 500E20 | 488 | 19 | .045" | 45 | 4 29/32" | 8.75 |
| 154-7 | 100E30 | 100 | 11 | .075" | 15 | 3" | 5.95 |
| 154-8 | 150E30 | 154 | 14 | .075" | 23 | 3 7/16" | 6.75 |
| 154-9 | 250E30 | 251 | 20 | .075" | 37 | 5 1/16" | 8.25 |
| 154-10 | 350E30 | 347 | 25 | .075" | 51 | 6 7/16" | 9.70 |
| 154-11 | 35E45 | 38 | 9 | .125" | 9 | 2 3/4" | 5.40 |
| 154-12 | 50E45 | 53 | 11 | .125" | 12 | 3 13/16" | 5.80 |
| 154-13 | 70E45 | 74 | 13 | .125" | 17 | 4 1/16" | 6.30 |
| 154-14 | 100E45 | 101 | 16 | .125" | 23 | 4 31/32" | 6.90 |
| 154-15 | 150E45 | 145 | 20 | .125" | 33 | 6 17/32" | 7.85 |
| 154-16 | 250E45 | 241 | 32 | .125" | 55 | 10" | 10.50 |
| | | | **TYPE E DUAL SECTION** | | | | |
| 154-502 | 300ED20 | 312 | 13 | .045" | 29 | 7 3/8" | 12.30 |
| 154-503 | 50ED30 | 52 | 8 | .075" | 8 | 4 17/32" | 8.35 |
| 154-504 | 70ED30 | 72 | 8 | .075" | 11 | 4 31/32" | 8.85 |
| 154-505 | 100ED30 | 99 | 10 | .075" | 15 | 5 11/16" | 9.70 |
| 154-506 | 150ED30 | 153 | 13 | .075" | 23 | 7 1/2" | 11.35 |
| 154-507 | 200ED30 | 196 | 15 | .075" | 29 | 8 11/16" | 13.25 |
| 154-508 | 50ED45 | 52 | 10 | .125" | 12 | 6 1/8" | 8.95 |
| 154-509 | 70ED45 | 74 | 12 | .125" | 17 | 7 7/8" | 10.20 |
| 154-510 | 100ED45 | 100 | 15 | .125" | 23 | 9 29/32" | 11.60 |
| | | | **TYPE F SINGLE SECTION** | | | | |
| 155-1 | 35F20 | 35 | 7 | .045" | 6 | 1 29/32" | 4.95 |
| 155-2 | 50F20 | 54 | 8 | .045" | 9 | 2 1/16" | 5.20 |
| 155-3 | 70F20 | 66 | 8 | .045" | 11 | 2" | 5.35 |
| 155-4 | 100F20 | 106 | 10 | .045" | 17 | 2 11/16" | 5.85 |
| 155-5 | 150F20 | 154 | 12 | .045" | 25 | 3 3/16" | 6.50 |
| 155-6 | 250F20 | 252 | 17 | .045" | 41 | 4 17/32" | 7.75 |
| 155-8 | 50F30 | 52 | 9 | .075" | 13 | 2 3/4" | 5.50 |
| 155-9 | 70F30 | 67 | 11 | .075" | 17 | 3 1/32" | 5.90 |
| 155-10 | 100F30 | 99 | 14 | .075" | 25 | 4 1/16" | 6.50 |
| 155-11 | 150F30 | 148 | 18 | .075" | 37 | 5 3/16" | 7.65 |
| | | | **TYPE F DUAL SECTION** | | | | |
| 155-501 | 50FD20 | 53 | 7 | .045" | 9 | 3 15/32" | 7.95 |
| 155-502 | 70FD20 | 66 | 7 | .045" | 11 | 4 1/16" | 8.45 |
| 155-503 | 100FD20 | 104 | 9 | .045" | 17 | 5 1/16" | 9.45 |
| 155-504 | 150FD20 | 153 | 11 | .045" | 25 | 6 11/16" | 10.95 |
| 155-505 | 200FD20 | 202 | 14 | .045" | 33 | 7 3/16" | 12.20 |
| 155-506 | 50FD30 | 51 | 8 | .075" | 13 | 5 3/16" | 8.80 |
| 155-507 | 70FD30 | 66 | 10 | .075" | 17 | 6 1/16" | 9.80 |
| 155-508 | 100FD30 | 99 | 13 | .075" | 25 | 7 7/16" | 11.10 |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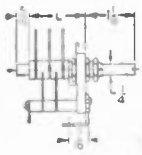
World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

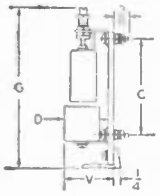
## TYPE "G" CAPACITORS



Neutralizing capacitor for medium and low power stages. .032" rounded aluminum plates, steatite insulation. Universal mounting bracket and locking nut. Mounting space required: 2 1/16" wide, 2 17/64" high.

| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | Spacing | Plates per Sec. | L | Net Price |
|---|---|---|---|---|---|---|---|
| 165-2 | 50G20 | 52 | 5 | .045" | 9 | 1 5/32" | $3.50 |
| 165-4 | 13G45 | 13 | 4.7 | .125" | 5 | 1 5/32" | 3.15 |
| 165-5 | 23G45 | 23 | 6.4 | .125" | 9 | 1 13/16" | 3.50 |
| 165-6 | 6G70 | 5.7 | 3.5 | .225" | 3 | 1 1/16" | 3.30 |
| 165-7 | 12G70 | 12 | 6 | .225" | 7 | 2 5/8" | 4.15 |

## TYPE "N" CAPACITORS



Extremely high voltage rating in proportion to size requiring a small mounting area. Constant voltage rating throughout full capacity range. Plates are aluminum cups supported by steatite frame with cast aluminum mounting bracket. Peak RF breakdown ratings at 2 MC.; N125-8,500, N250-11,500, N375-14,500.

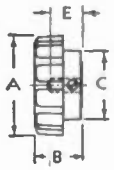
| Cat. No. | Type No. | Cap. per Sec. Max. | Cap. per Sec. Min. | D | C | G | V | Spacing | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| 159-125 | N125 | 11.0 | 1.1 | 1 3/8 | 3 1/8 | 6 15/32 | 1 13/16 | .125" | $7.30 |
| 159-250 | N250 | 10.6 | 1.4 | 1 11/64 | 3 3/4 | 7 17/32 | 2 1/32 | .250" | 8.45 |
| 159-375 | N375 | 10.7 | 1.7 | 2 3/8 | 5 19/32 | 8 29/32 | 2 15/16 | .375" | 10.50 |

## JOHNSON KNOBS AND DIALS

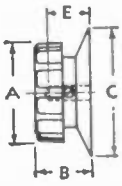
A distinctive line of matching knobs and dials, derived from a new basic knob design. Knobs have twelve well defined flutes and present an essentially round appearance.

Tough, scratch resistant black phenolic is used for all molded parts (meets MIL-P-14). Metal dials are etched satin aluminum, anodized finish. This contrasts greatly with deeply etched and filled engraving, provides maximum legibility under poor lighting conditions. All types have accurately centered metal inserts for 1/4" shafts except 116-214-2.

Variations available, such as special shaft sizes, scales or indicators in production quantities.



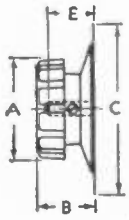
| Cat. No. | Illus. | A | B | C | E | Net Price |
|---|---|---|---|---|---|---|
| **KNOBS** | | | | | | |
| 116-220 | 1 | 1 1/8" | 5/8" | 13/16" | 1/2" | $0.32 |
| 116-260 | 1 | 1 1/8" | 3/4" | 1 1/8" | 17/32" | .45 |
| 116-280 | 1 | 2 3/8" | 13/16" | 1 3/4" | 11/16" | .59 |
| **SPINNER KNOBS** | | | | | | |
| For multi-turn devices such as variable inductors, potentiometers etc. Spinner handle is machined aluminum and projects 9/16" from knob. | | | | | | |
| 116-226 | 2 | 1 1/8" | 5/8" | 13/16" | 1/2" | $0.64 |
| 116-266 | 2 | 1 1/8" | 3/4" | 1 1/8" | 17/32" | .73 |
| 116-286 | 2 | 2 3/8" | 13/16" | 1 3/4" | 11/16" | .89 |
| **INSTRUMENT KNOBS** | | | | | | |
| Unique black phenolic knob may be finger operated or mounted so as to project thru panel and screwdriver actuated. The 116-214-1 is for 1/4" shafts. The 116-214-2 fits 5/16" shafts. | | | | | | |
| 116-214-1 | 3 | 1/2" | 7/8" | 3/4" | 5/8" | $0.33 |
| 116-214-2 | 3 | 1/2" | 7/8" | 3/4" | 5/8" | .33 |
| **SKIRTED KNOBS** | | | | | | |
| Black phenolic skirts with indicator mark. (May be white filled.) | | | | | | |
| 116-221 | 4 | 1 1/8" | 49/64" | 1 1/2" | 21/32" | $0.69 |
| 116-261 | 4 | 1 3/8" | 55/64" | 2 1/8" | 41/64" | .85 |
| 116-281 | 4 | 2 3/8" | 1 5/64" | 3" | 51/64" | .98 |



### DIALS

Etched beveled satin aluminum skirts, anodized finish, markings clearly visible even in dim light.

| Cat. No. | Illus. | Calibration | A | B | C | E | Net Price |
|---|---|---|---|---|---|---|---|
| 116-222-1 | 5 | 100-0 over 180° | 1 1/8" | 3/4" | 1 1/2" | 9/16" | $0.69 |
| 116-222-2 | 5 | 10-0 over 300° | 1 1/8" | 3/4" | 1 1/2" | 9/16" | .69 |
| 116-222-3 | 5 | 7-1 over 180° | 1 1/8" | 3/4" | 1 1/2" | 9/16" | .69 |
| 116-222-4 | 5 | ON-OFF over 60° | 1 1/8" | 3/4" | 1 1/2" | 9/16" | .69 |
| 116-222-5 | 5 | Line indicator | 1 1/8" | 3/4" | 1 1/2" | 9/16" | .69 |
| 116-222-6 | 5 | 0-100 over 180° | 1 1/8" | 3/4" | 1 1/2" | 9/16" | .69 |



Knobs have black phenolic skirts and flat etched satin aluminum calibrated dial scales. Indicator button furnished.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 116-262 | 6 | 0-100 over 180° | 1 3/8" | 59/64" | 2 3/4" | 45/64" | $1.95 |
| 116-282 | 6 | 0-100 over 180° | 2 3/8" | 17/64" | 4" | 53/64" | 2.95 |

### VERNIER DIALS

Friction vernier etched satin aluminum dials with calibrated dial scales. Vernier knobs same as 116-220 above except have friction driving wheel and bearing to mount on panels up to 1/4" thick. The 116-265 has 3 to 1 vernier, 116-285 has 5 to 1 ratio.

| Cat. No. | Calibration | A | B | C | E | Net Price |
|---|---|---|---|---|---|---|
| 116-265 | 0-100 over 180° | 1 3/8" | 15/64" | 2 3/4" | 45/64" | $3.50 |
| 116-285 | 0-100 over 180° | 2 3/8" | 1 15/64" | 4" | 53/64" | 4.60 |

### COUNTER DIAL

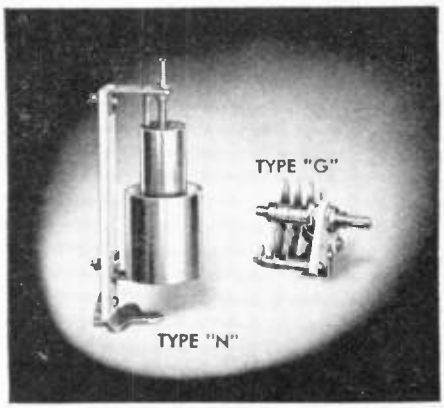
A positively calibrated drive for rotary variable inductors and other multi-turn devices. Counter records up to 99 turns. Vernier dial calibrated 0-100 over 360 degrees, making possible accurate return to any pre-determined setting. Built-in dial lock, "spinner knob" and attractive black phenolic escutcheon. Furnished with mounting template for easy installation.

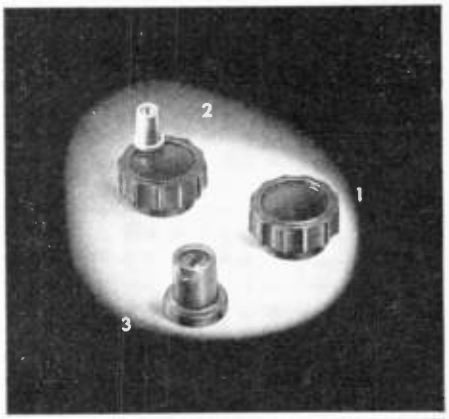
**116-208-1** Counter dial with dial lock, escutcheon and 2 3/8" spinner knob . . . . **$11.10**
**116-208-4** Same as above without dial lock . . . . . **9.80**

### ESCUTCHEON PLATE

Attractive black phenolic escutcheon shown on 116-208-1 counter dial. Provides neat "window" for back-of-panel dial plate mounting. One edge of escutcheon suitable for attaching standard 3/4" wide etched name plate. Opening 1 1/4" wide x 7/8" high. Overall size 2 1/4" x 1 11/16". Furnished with No. 2 screws.

**116-201** Escutcheon plate . . . . . **$0.65**



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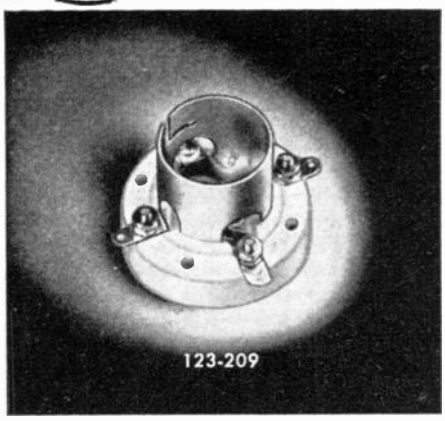
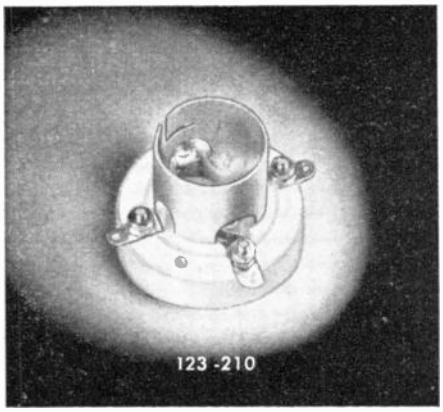
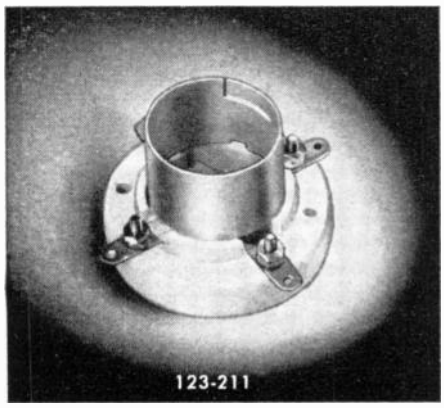
World Radio History

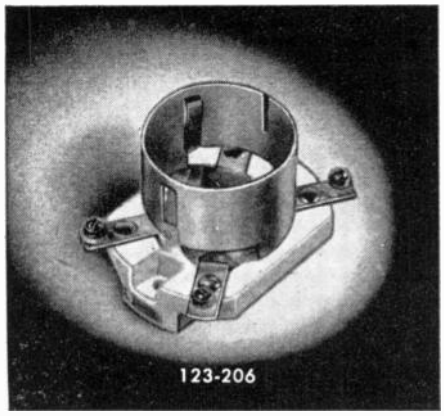
# E. F. Johnson Company

WASECA, MINNESOTA


123-209


123-210


123-211


123-206

## TUBE SOCKETS

A new standardization program calculated to simplify the selection of sockets and to provide complete specifications for standard, industrial and military requirements has been instituted recently. By reducing the number of variations in special socket types, it will permit the maintenance of stocks of military and industrial types as well as standard sockets and provide shorter delivery cycles on quantity orders. Specifications for the three variations of each socket type are as follows:

### BAYONET SOCKETS—GENERAL SPECIFICATIONS

**Standard** (designated -1) A commercial grade socket suitable for general requirements. Porcelain bases, glazed top and sides—phosphor bronze contacts, cadmium plated .0002. Nickel plated hardware. Bayonet shells are etched aluminum.

**Industrial** (designated -100) Superior in quality to Standard types, Industrial types have glazed steatite bases, DC200 treated. Phosphor bronze or beryllium copper contacts, .0005 silver plated. Aluminum bayonet shells, iridite No. 14 treated. Fungus resistant cushion washers under contacts.

**Military** (designated -200) Top quality for military requirements. Glazed L4 steatite bases, DC200 treated. Beryllium copper contacts .0005 silver plated. Hot tin-dipped terminals—brass bayonet shells, .0003 nickel plated. Threaded hardware .0002 nickel plated, unthreaded hardware .0003. Fungus resistant cushion washers under contacts.

### WAFER SOCKETS—GENERAL SPECIFICATIONS

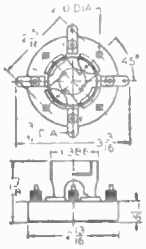
**Standard** (designated -1) A commercial grade socket suitable for general requirements. Glazed steatite base is DC200 treated—contacts are of plated brass with steel springs. Etched aluminum shields on shielded types.

**Industrial** (designated -100) Superior in quality to Standard types, Industrial types have glazed steatite bases, DC200 treated. Contacts are phosphor bronze with beryllium copper springs .0005 silver plated. Shields on shield types are iridite No. 14 treated aluminum. Fungus resistant cushion washers under contacts.

**Military** (designated -200) Top quality for all military requirements. Glazed steatite bases, DC200 impregnated. Phosphor bronze contacts and beryllium copper springs silver plated .001—hot tin-dipped solder terminals. Fungus resistant glass base melamine cushion washers iridite No. 14 treated aluminum shields on shielded types. Entire socket protected for 200 hour salt spray test.

**Write for your copy of Standardization Booklet 536, containing complete information on Johnson tube sockets for commercial, industrial and military applications.**

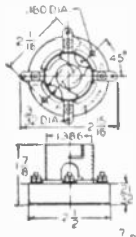
## HEAVY DUTY MEDIUM 4 PIN BAYONET



A rugged bayonet socket for medium 4 pin bayonet based tubes such as the 866A or 811A with RETMA Base No. A4-10. Designed with extra heavy, side wiping contacts and extended creepage paths to resist high voltage breakdown. Four mounting holes in base.

| Cat. No. | Type | Net Price |
|---|---|---|
| 123-209-1 | Standard | $1.50 |
| 123-209-100 | Industrial | 3.30 |
| 123-209-200 | Military | 3.95 |

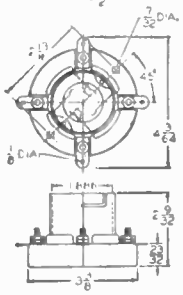
## MEDIUM 4 PIN BAYONET



A compact, economical socket for medium 4 pin bayonet based tubes (RETMA Base No. A4-10). Two mounting holes.

| Cat. No. | Type | Net Price |
|---|---|---|
| 123-210-1 | Standard | $1.45 |
| 123-210-100 | Industrial | 3.25 |
| 123-210-200 | Military | 3.90 |

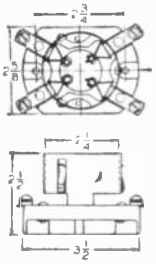
## JUMBO 4 PIN BAYONET



A popular "50 watt" socket for medium power bayonet based tubes such as the 872A, 211 and others with RETMA Base No. A4-29. Double wiping filament contacts will handle heavy current. Terminals are designed for solder or screw connections. Two mounting holes.

| Cat. No. | Type | Net Price |
|---|---|---|
| 123-211-1 | Standard | $1.95 |
| 123-211-100 | Industrial | 3.90 |
| 123-211-200 | Military | 4.80 |

## SUPER JUMBO 4 PIN SOCKET



A heavy duty industrial type socket designed for high voltages and/or heavy current. Accommodates tubes such as the 8008, 5C22, FG104, GL146, and others with RETMA Base No. A4-18. Special high current, insertion type spring contacts. Two mounting holes are recessed to prevent flashover. Three heavy retaining springs in shell hold tube securely. Furnished with screw terminals.

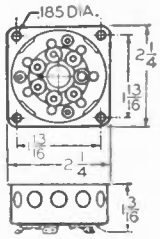
| Cat. No. | Type | Net Price |
|---|---|---|
| 123-206-1 | Standard or Industrial | $4.30 |
| 123-206-200 | Military | 4.85 |



World Radio History

# E. F. Johnson Company

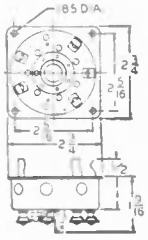
WASECA, MINNESOTA




## VHF SEPTAR SOCKETS

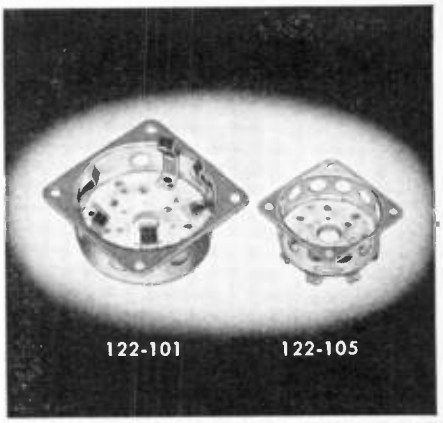
This 7-pin VHF septar socket takes 1/3 less space than previously available types—permits compact design when using septar base tubes such as the 5894, 6524, and 6252. Base is grade L4 steatite, glazed on top and sides—underside DC200 impregnated. Molded recesses in base for each contact prevent turning. Contact cushion washers of fungus-resistant glass base melamine. Aluminum shell submounts tube for optimum input and output shielding; 3/8" holes provide adequate ventilation.

| Cat. No. | Type | Net Price |
|---|---|---|
| 122-105-100 | Industrial | $1.45 |
| 122-105-200 | Military | 1.70 |



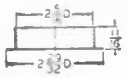

A 7 pin wafer socket designed for tubes with medium molded flare Septar base. RETMA Base No. E7-2. Equipped with a ventilated shield, five tube retainer springs. Provision for mounting button mica capacitors directly to socket. Designed for VHF use with tubes such as the 896, 832, 4D32, 4D22, PL6549, and PL6569, etc. Special terminals permit direct mounting of grid coils. Two holes provided for mounting of bus bar neutralizing leads. Standard model has silver plated phosphor bronze contacts for maximum VHF efficiency.

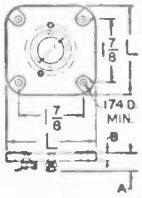
| Cat. No. | Type | Net Price |
|---|---|---|
| 122-101-100 | Industrial | $2.35 |
| 122-101-200 | Military | 2.65 |



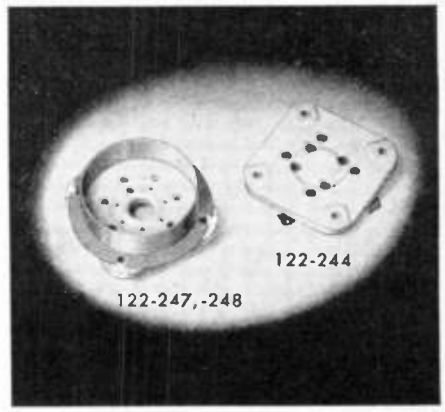

## SEPTAR SOCKETS

Sockets 122-247 and 122-248 are designed for 7 pin tubes, such as the 7094, RETMA Base No. E7-2. Each socket is furnished with a separate aluminum shield ring.





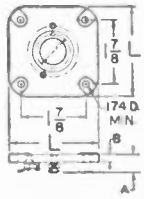

| Cat. No. | Type | A | B | L | Net Price |
|---|---|---|---|---|---|
| 122-247-1 | Standard | 17/32" | 1/4" | 2 5/8" | $1.45 |
| 122-247-100 | Industrial | 17/32" | 1/4" | 2 5/8" | 1.65 |
| 122-247-200 | Military | 17/32" | 1/4" | 2 5/8" | 1.90 |
| 122-248-1 | Standard | 17/32" | 1/4" | 2 3/8" | 1.30 |
| 122-248-100 | Industrial | 17/32" | 1/4" | 2 3/8" | 1.50 |
| 122-248-200 | Military | 17/32" | 1/4" | 2 3/8" | 1.75 |




## SUPER JUMBO 4 PIN SOCKETS

A heavy duty, steatite insulated, 4 pin wafer. Accommodates super jumbo base tubes such as the 8008 and many rectifier and thyratron types, RETMA Base No. A4-15, 16, and 18. Long, parallel contacts are designed to withstand high current.

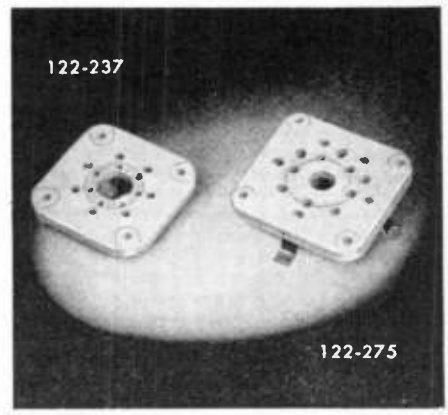
| Cat. No. | Type | A | B | L | Net Price |
|---|---|---|---|---|---|
| 122-244-1 | Standard | 11/16" | 9/32" | 2 5/8" | $1.60 |
| 122-244-100 | Industrial | 11/16" | 9/32" | 2 5/8" | 1.80 |
| 122-244-200 | Military | 11/16" | 9/32" | 2 5/8" | 2.15 |



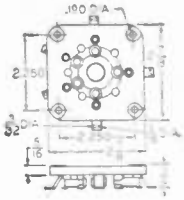

## GIANT 7 PIN SOCKET

A rugged wafer socket for tubes with a Giant 7 pin base, RETMA Base No. A7-17 such as the 4E27, HK257 and 813. Contacts are designed with maximum surface area against tube prongs. Ventilating hole in base 3/4" diameter provides tube seal cooling.

| Cat. No. | Type | A | B | L | Net Price |
|---|---|---|---|---|---|
| 122-237-1 | Standard | 9/16" | 1/4" | 2 5/8" | $1.20 |
| 122-237-100 | Industrial | 9/16" | 1/4" | 2 5/8" | 1.40 |
| 122-237-200 | Military | 9/16" | 1/4" | 2 5/8" | 1.60 |




## GIANT 5 PIN SOCKET



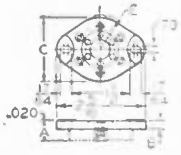

A large steatite wafer socket for tubes with a Giant 5 pin base, RETMA Base No. A5-19, such as the 4-125A, 4-250A, and RK-48. Tube seal ventilation is provided by one central and five ventilating holes located between contacts. Contacts are designed to withstand heavy current.

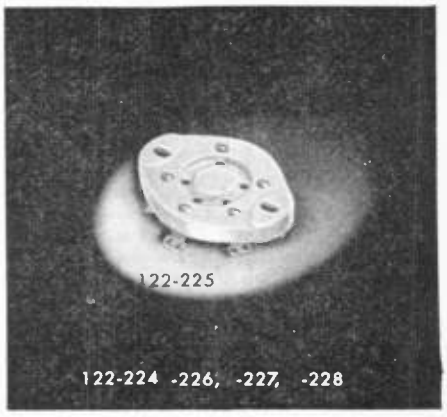
| Cat. No. | Type | Net Price |
|---|---|---|
| 122-275-1 | Standard | $1.90 |
| 122-275-100 | Industrial | 2.20 |
| 122-275-200 | Military | 2.60 |

## STANDARD WAFER SOCKETS

Steatite sockets for receiving and low power transmitting tubes.

| Cat. No. | Type | A | B | C | E | For Tube | Net Price |
|---|---|---|---|---|---|---|---|
| 122-224-1 | Standard | 9/16" | 1/4" | 1 11/16" | 7/8" | 4 Pin | $0.69 |
| 122-224-100 | Industrial | 9/16" | 1/4" | 1 11/16" | 7/8" | 4 Pin | .79 |
| 122-224-200 | Military | 9/16" | 1/4" | 1 11/16" | 7/8" | 4 Pin | .93 |
| 122-225-1 | Standard | 9/16" | 1/4" | 1 11/16" | 59/64" | 5 Pin | .76 |
| 122-225-100 | Industrial | 9/16" | 1/4" | 1 11/16" | 59/64" | 5 Pin | .89 |
| 122-225-200 | Military | 9/16" | 1/4" | 1 11/16" | 59/64" | 5 Pin | 1.05 |
| 122-226-1 | Standard | 9/16" | 1/4" | 1 11/16" | 59/64" | 6 Pin | .94 |
| 122-226-100 | Industrial | 9/16" | 1/4" | 1 11/16" | 59/64" | 6 Pin | 1.10 |
| 122-226-200 | Military | 9/16" | 1/4" | 1 11/16" | 59/64" | 6 Pin | 1.30 |
| 122-227-1 | Standard | 9/16" | 1/4" | 1 13/16" | 31/32" | 7 Pin | .90 |
| 122-227-100 | Industrial | 9/16" | 1/4" | 1 13/16" | 31/32" | 7 Pin | 1.10 |
| 122-227-200 | Military | 9/16" | 1/4" | 1 13/16" | 31/32" | 7 Pin | 1.35 |
| 122-228-1 | Standard | 15/32" | 9/16" | 1 11/16" | 57/64" | Octal | .97 |
| 122-228-100 | Industrial | 15/32" | 9/16" | 1 11/16" | 57/64" | Octal | 1.20 |
| 122-228-200 | Military | 15/32" | 9/16" | 1 11/16" | 57/64" | Octal | 1.45 |

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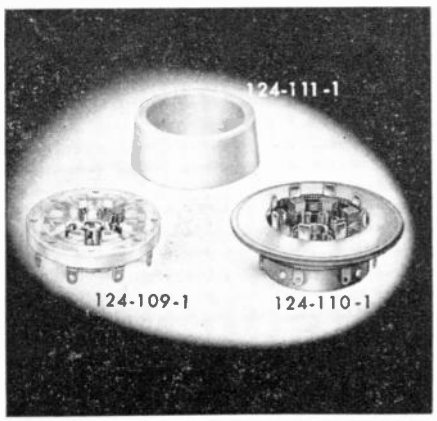
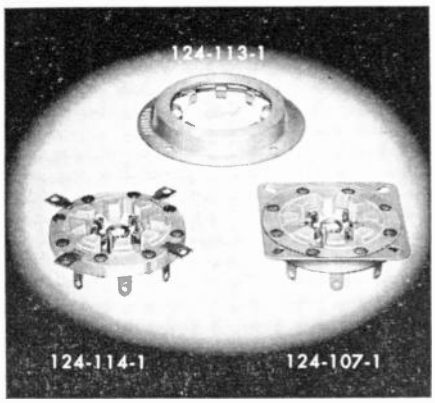
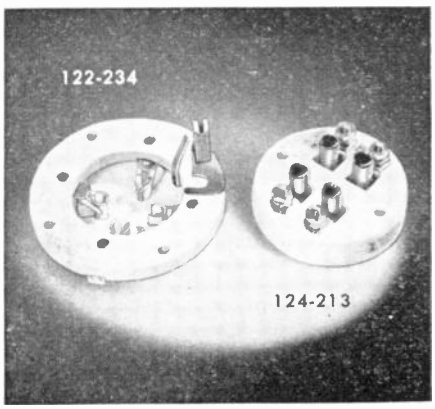
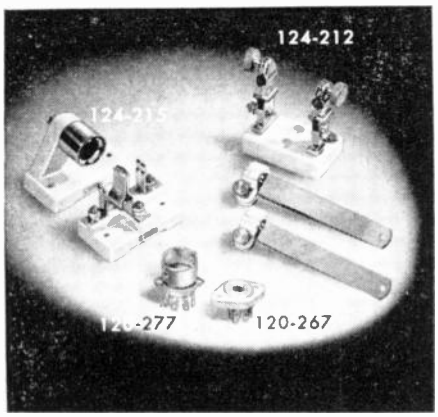
WASECA, MINNESOTA




## SOCKET FOR 4X150A, 4X150D, 4X250B, 4CX250B, 4X250F, 7034, 7035

Designed for use with high power transmitting tubes these sockets are available in several designs—with or without screen grid by-pass capacitors. Basic socket is molded of low dielectric loss-factor Kel-F plastic. Control grid contact "guide" is machined for greater alignment accuracy and tapped for 6-32 machine screw. All contacts are low-resistance silver-plated beryllium copper. Tube pin contacts are heat treated to provide positive contact pressure as well as extended life—annealed soldering tabs may be easily bent or formed.

Rugged light weight basic socket with silver-plated brass mounting saddle. Cathode terminals insulated. Four elongated .140" x .234" mounting holes to accommodate mounting circle diameters from 2 7/64" to 2 11/64". Mounts below chassis through 1 21/32" diameter hole.

**Cat. No. 124-107-1** . . . . . **Net Price $5.50**

Same as 124-107-1 except cathode terminals grounded. Four mounting holes .136" diameter on circle of 2 17/32" diameter.

**Cat. No. 124-108-1** . . . **Net Price $5.85**

Low cost, light weight basic socket without metal mounting ring. Cathode terminals insulated. Mounts under chassis through 1 21/32" diameter hole.

**Cat. No. 124-109-1** . . . . . **Net Price $5.00**

Basic socket with mounting ring and low-inductance 2700 mmfd. screen grid by-pass capacitor; cathode terminals insulated. Mounts above chassis through 2½" diameter hole with 3 clips drilled for 6-32 screws. Provision for mounting socket skirt directly to 1.625" O.D. outer conductor of coaxial-type line.

**Cat. No. 124-110-1** . . . . . **Net Price $12.50**

High quality heat resistant steatite chimney for use with 124-107-1, 124-108-1, 124-109-1, 124-110-1, 124-112-1, and 124-114-1 sockets. Tapered construction directs air flow through tube cooling fins. Maximum base diameter 2 9/32".

**Cat. No. 124-111-1** . . . . . **Net Price $0.40**

Same as 124-110-1 except cathode terminals grounded.

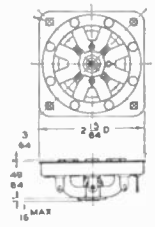
**Cat. No. 124-112-1** . . . **Net Price $13.00**

1450 MMFD circular silvered-mica screen grid by-pass capacitor mounted within a low-loss silicone resin sealed silver plated drawn brass housing. Low inducatnce silver plated beryllium copper screen grid contact fingers are heat treated to provide positive contact pressure as well as extended life. Capacitor dielectric strength tested at 1000 volts DC. Unique design permits replacement of screen grid by-pass capacitor by merely removing 4 mounting screws, socket rewiring unnecessary. Fully complies with MIL-C-10950A. For use with 124-107-1, 124-108-1, 124-109-1, 124-114-1 and similar sockets.

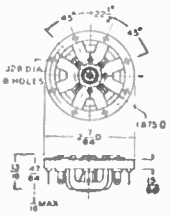
**Cat. No. 124-113-1** . . . **Net Price $5.00**

Same as 124-108-1, less metal mounting saddle. Very low inductance grounding of cathode terminals No. 2, 4, 6 and 8 by means of heavy, integral combination grounding and mounting lugs. Mounts below chassis in 1 21/32" diameter hole.

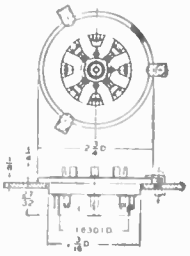
**Cat. No. 124-114-1** . . . . . **Net Price $5.65**



124-107-1
124-108-1



124-109-1



124-110-1
124-112-1

## SOCKET FOR EIMAC 152TL AND 304TL

Base is glazed porcelain—contacts nickel plated. Standard has .0001 nickel plating, Military has .0005 silver. Note: Not subject to military inspection due to porcelain base.

| Cat. No. | Type | Net Price |
|---|---|---|
| 124-213-1 | Standard or Industrial | $1.85 |
| 124-213-200 | Military | 2.30 |

**124-214-1, 124-214-200** Designed for use with tubes such as the 750TL, 1500T, 2000T, 2-2000A and the new Eimac High Vacuum Rectifier 2-450A. Write for further information.

## SOCKET FOR 5D21, 705A AND 715A & B

Designed for Western Electric tubes 5D21, 705A and 715A & B. Heavy top and sides glazed, grade L4 steatite base and special locking device for retaining tube in socket. Contacts .0003 silver plated on Standard, .001 on Military. Long post single lock .0003 nickel plated on both types.

| Cat. No. | Type | Net Price |
|---|---|---|
| 122-234-1 | Standard or Industrial | $2.20 |
| 122-234-200 | Military | 2.75 |

## 250 WATT SOCKET

A two unit socket for "250 watt" tubes such as the 204A and 849. Anode cap RETMA Nos. C1-8, C1-9, and C1-10, cathode mounting RETMA Base Nos. A3-20, A3-21, A3-23. Bases are of glazed porcelain—contacts are phosphor bronze nickel plated.

| Cat. No. | Net Price |
|---|---|
| 124-215 | $5.95 |

## SOCKET FOR 833 AND 833A

A special socket assembly for the 833 and 833A consisting of a steatite base which supports the tube and a pair of 119-843 tube cap connectors. Knurled thumb nuts permit easy tube installation. Base is designed to minimize strain on the tube envelope and prevent breakage. Heat radiating aluminum plate terminals have 4 3/8" flexible laminated leads.

| Cat. No. | Net Price | | Cat. No. | Net Price |
|---|---|---|---|---|
| 124-212 | $8.10 | Heat radiating plate connector only as used on 124-212. | 119-843 | $1.35 |

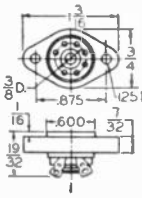
## MINIATURE SOCKETS

Wafer type, all steatite socket for miniature 7 pin tubes such as 1R5, 1S5, 6CB6, etc., RETMA Base No. E7-1. Silver plated phosphor bronze contacts.

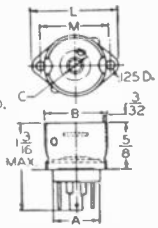
| Cat. No. | Net Price |
|---|---|
| 120-267 | $0.41 |

Standard shield base type 7 pin miniature, RETMA Base No. E7-1, of two piece steatite construction with silver plated phosphor bronze contacts, hot tin-dipped. Shield base is brass, nickel plated . . . . **Net Price $0.59**

| Cat. No. | Pins | L | M | C | A | B |
|---|---|---|---|---|---|---|
| 190-277 | 7 | 1 7/64" | 7/8" | .375" | .625" | .770" |



120-267



120-277



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World Radio History

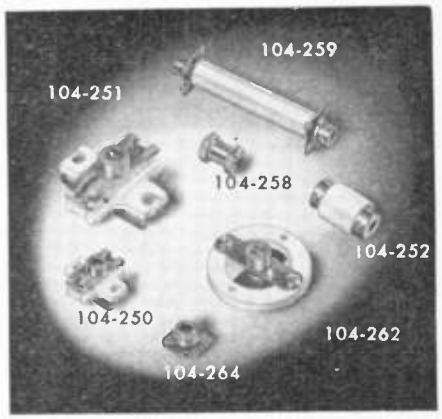
# E. F. Johnson Company

WASECA, MINNESOTA

## SHAFT COUPLINGS

Flexible and rigid models for coupling shafts, 1/4" to 1/4", 1/4" to 3/8" and 3/8" to 3/8". 104-250 and -251 series steatite insulated couplings will adjust to both axial and angular shaft misalignment. Spring material is plated phosphor bronze. 104-252 is a rigid coupling with steatite insulation. 104-258 is an all metal, rigid coupling with locking nuts for friction fits to shafts. 104-259, -262 and -264 will adjust to minor angular shaft misalignment; -259 and -262 have steatite insulation, the -264 has bakelite.

| Cat. No. | DC Breakdown | Type | Overall Length | Maximum Diameter | Couples Shafts | Net Price |
|---|---|---|---|---|---|---|
| 104-250 | 4000 | Flexible | 1 1/16" | 11/16" | 1/4" to 1/4" | $0.88 |
| 104-250-3 | 4000 | Flexible | 1 1/16" | 11/16" | 1/4" to 3/8" | 1.00 |
| 104-251 | 8000 | Flexible | 1 1/2" | 27/32" | 3/8" to 3/8" | 1.40 |
| 104-251-2 | 8000 | Flexible | 1 1/2" | 27/32" | 1/4" to 1/4" | 1.40 |
| 104-251-3 | 8000 | Flexible | 1 1/4" | 27/32" | 1/4" to 3/8" | 1.40 |
| 104-252 | 7000 | Rigid | 1 1/4" | 11/16" | 1/4" to 1/4" | .80 |
| 104-258 | .. | Rigid | 3/4" | 9/16" | 1/4" to 1/4" | .33 |
| 104-259 | 8000 | Semi-Flex. | 3 3/4" | 11/16" | 1/4" to 1/4" | 1.60 |
| 104-262 | 5000 | Semi-Flex. | 7/8" | 2" | 1/4" to 1/4" | 1.20 |
| 104-264 | 750 | Semi-Flex. | 3/4" | 11/16" | 1/4" to 1/4" | .65 |



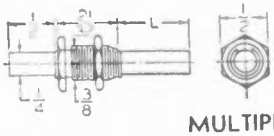

## FLEXIBLE SHAFTS

Phosphor bronze, non-rusting flexible shafts with 1/4" brass hubs. Permit out of line or up to 90 degree angular control. Will withstand torque in either direction with minimum backlash.

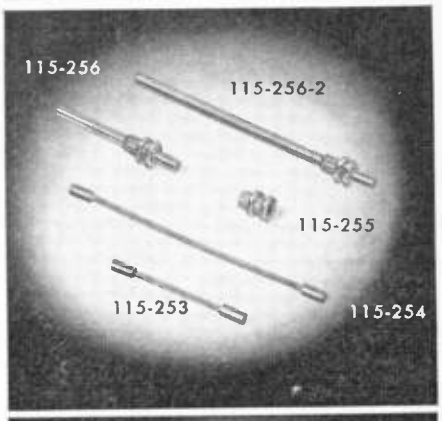
| Cat. No. | Net Price | Cat. No. | Net Price |
|---|---|---|---|
| 115-253 3" Flexible Shaft . . . | $0.50 | 115-254 6" Flexible Shaft . . | $0.75 |

## PANEL BEARINGS

Number 115-255 is nickel plated brass for 1/4" shaft and up to 3/4" panels. The 115-256 and 115-256-2 have 3" and 6" nickel plated brass shafts. Standard 3/8"-32 nut furnished. Models with locking nut and special shaft lengths available on production quantity orders.



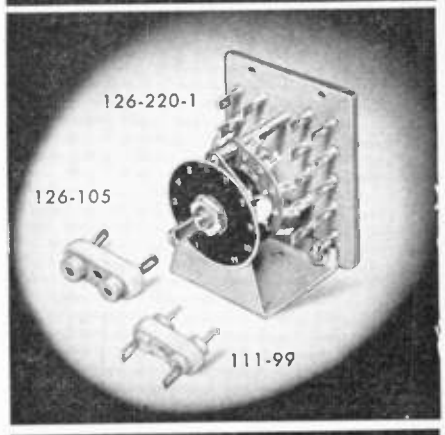

| Cat. No. | | L | Net Price |
|---|---|---|---|
| 115-255 | Panel Bearing Only | | $0.19 |
| 115-256 | Bearing and Shaft | 1 25/32" | .37 |
| 115-256-2 | Bearing and Shaft | 4 25/32" | .50 |



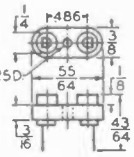

## MULTIPLE CRYSTAL SELECTOR

Accommodates up to ten FT-243 crystals (.093" diameter pins spaced .486"). Base is mica filled phenolic, 2 5/8" x 3 1/8"; switch has 11 positions and includes index plate and universal bracket.

| Cat. No. | | Net Price |
|---|---|---|
| 126-220-1 | Crystal Selector Assembly . . . . . | $5.80 |
| 126-120-1 | Crystal Board Only (no switch or bracket) . . . . . | 2.60 |




## CERAMIC CONNECTORS—CRYSTAL SOCKETS



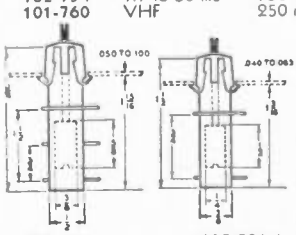

Steatite connectors for low capacity, high voltage, and high temperature operation. May be used as crystal sockets, antenna relay connectors, VFO input connectors, antenna plugs, or AC line connectors. Glazed steatite L4 or better, DC-200 impregnated. Contacts spaced .486", for pins .051" diameter, 1/2" long. Capacity between terminals with socket engaged is less than 1.5 mmf. 1/8" mounting hole also provides for attachment of strain relief cord. 5000 volts breakdown, 10 ampere current carrying capacity. Female connector will accept a type HC-6/U crystal holder.

| Cat. No. | | Net Price |
|---|---|---|
| 126-105 | Ceramic connector, female, phosphor bronze contacts | $0.16 |
| 126-105-2 | Ceramic connector, female, beryllium copper contacts | .19 |
| 111-99 | Ceramic connector, male, silver plated brass pins | .21 |

## RADIO FREQUENCY CHOKES

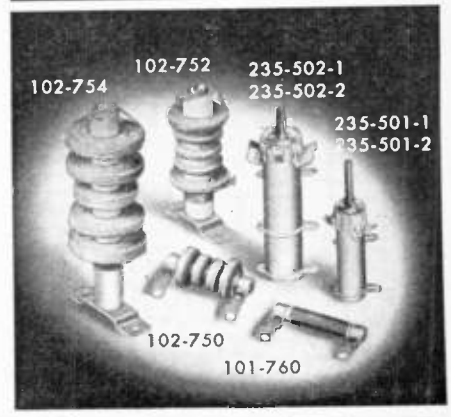
Have high reactance over the range for which they are designed. Coils are of enamelled silk-covered wire impregnated with high grade RF lacquer and wound on steatite cores. Current ratings may be increased for intermittent use.

| Cat. No. | Frequency | Current | Induct. (1 mc.) | Ohms DC | Length | Net Price |
|---|---|---|---|---|---|---|
| 102-750 | 1.7 to 30 mc | 150 ma | .83 mh | 15 | 1 1/2" | $1.25 |
| 102-752 | 1.7 to 30 mc | 500 ma | 1.0 mh | 5.2 | 2 7/8" | 1.95 |
| 102-754 | 1.7 to 30 mc | 750 ma | 1.9 mh | 4 | 4 5/16" | 2.90 |
| 101-760 | VHF | 250 ma | 6.8 uh | .33 | 1 1/2" | .62 |




## SLUG-TUNED COIL FORMS

Designed for frequencies up to 200 mcs., these precision coil forms are available with medium permeability powered iron or silver plated brass cores. Grade L4B steatite body meets JAN-I-10 specifications. Cadmium plated spring steel mounting shell provides positive snap-in mounting and alignment on a wide range of panels and chassis. Silver-plated phosphor bronze spring clips provide simple effective means for coil terminations. Powdered iron core suitable for use up to 35 mcs.—silver-plated brass slug recommended in applications to 200 mcs. 3/8" dia. form shaft thread: 4-40-1/2" dia. form: 6-32.




## TYPICAL WINDING EXAMPLES

| Catalog Number | Core Material | Frequency (MCS) | No. of Turns | Inductance—Microhenries and (Q) Core "In" | Core "Out" | Core Removed | Net Price |
|---|---|---|---|---|---|---|---|
| 235-501-1 | Pd. Iron | 7.9 | Close | 5.15 ( 45) | 2.84 ( 80) | 2.83 ( 82) | $0.45 |
| | | 25.0 | Space | .58 (122) | .34 (100) | .34 (102) | |
| 235-501-2 | Brass | 7.9 | Close | 1.95 ( 46) | 2.82 ( 78) | 2.83 ( 82) | .60 |
| | | 25.0 | Space | .27 ( 67) | .34 (100) | .34 (102) | |
| 235-502-1 | Pd. Iron | 2.5 | Close | 17.70 ( 46) | 11.10 ( 80) | 10.90 (125) | .65 |
| | | 7.9 | Space | 1.83 (125) | 1.25 (106) | 1.24 (107) | |
| 235-502-2 | Brass | 7.9 | Close | 7.50 ( 55) | 10.85 (117) | 10.90 ( 82) | .75 |
| | | 25.0 | Space | .86 (105) | 1.24 (183) | 1.24 (185) | |

**NOTE:** Close-wound is 25 turns on 3/8" dia. form and 53 turns on 1/2" dia. form of No. 22 Formex—space wound is 7 turns on 3/8" dia. form and 16 turns on 1/2" dia. form of No. 18 tinned wire, spaced wire diameter. With the same winding length and core position, the inductance will vary approximately with the square of the number of turns. The examples above are merely for reference. Slug-tuned coil forms are supplied unwound only.

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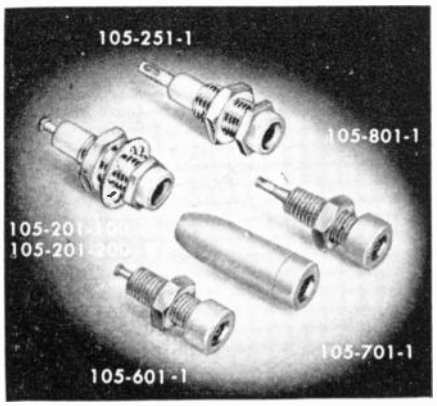
World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

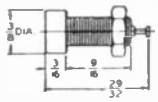



## NYLON TIP JACKS U.S. Pat. No. 2,704,357

Deluxe, completely insulated jack, body molded from tough, low loss nylon. Current rating 10 amps. Voltage breakdown 11000 volts D.C; capacity to 1/4" metal panel only 2.0 mmf. Machined beryllium copper contact is silver plated. Integral solder terminal hot tin dipped. Single 1/4"-32 nut furnished for mounting in 17/64" dia. circular hole.

| Cat. No. | Color | Net Price |
|---|---|---|
| 105-601 | White (13 colors available—see below) | $0.25 |

| Cat. No. | Color | Cat. No. | Color | Cat. No. | Color |
|---|---|---|---|---|---|
| 105-602 | Red | 105-606 | Orange | 105-610 | Dk. Blue |
| 105-603 | Black | 105-607 | Yellow | 105-611 | Ivory |
| 105-604 | Dk. Green | 105-608 | Brown | 105-612 | Violet |
| 105-605 | Lt. Blue | 105-609 | Lt. Green | 105-613 | Grey |

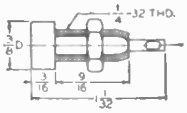


## NYLON CONNECTOR COLOR CODING

All nylon insulated connectors are available in 13 colors. The fifth and sixth digits in the catalog number indicate color as shown above. Use these numbers when ordering.

Low cost nylon tip jack formed silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown 9,000 volts DC; capacity to 1/8" panel, 2.0 mmf. 1/4"-32 nut furnished; mounts in 17/64" dia. circular, "D", or double flat hole.

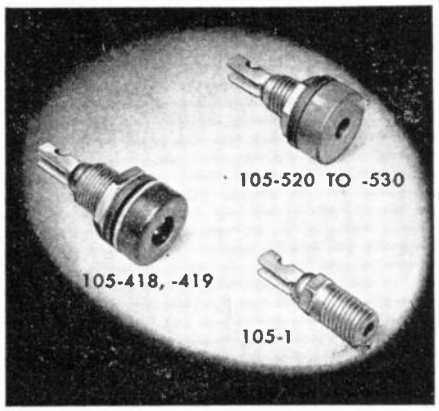
| Cat. No. | Color | Net Price |
|---|---|---|
| 105-801 | White(13 colors available, see above) | $0.13 |



105-801

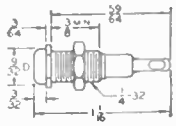
## METAL-CLAD NYLON TIP JACKS

Shock-proof nylon and metal construction. Nickel-plated machined brass jacket protects nylon body—assures positive fastening to mounting surface. Current rating: 10 amperes, Internal silver-plated contact recessed in head—accommodates tip plugs of nominal .081" dia. 1/4"-32 nut furnished. Mounts in 17/64" dia. circular hole. Variations of three available grades listed below.




**STANDARD**—Low cost metal-clad nylon tip jack with formed silver-plated phosphor bronze contact. Voltage breakdown: 7,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

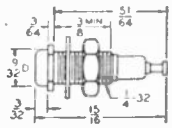
| Cat. No. | Color | Net Price |
|---|---|---|
| 105-251-1 | White (13 colors available, see above) | $0.16 |



105-251-1

**INDUSTRIAL**—Furnished with nickel-plated phosphor bronze lock washer. Machined beryllium copper contact, silver-plated—hot tin dipped terminal end. Voltage breakdown: 8,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

| Cat. No. | Color | Net Price |
|---|---|---|
| 105-201-100 | White (13 colors available, see above) | $0.30 |



105-201-100
105-201-200

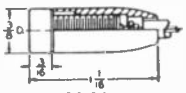
**MILITARY**—Complies with MS-16108 of MIL-STD-242A. Heavy nickel-plated brass jacket meets federal specification QQ-N-290. High insulation resistance of nylon body complies with MIL-P-17091. Machined beryllium copper contact, silver-plated—hot tin dipped terminal end. Supplied with tin-plated phosphor bronze lock washer. Voltage breakdown: 8,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

| Cat. No. | Color | Net Price |
|---|---|---|
| 105-201-200 | White (13 colors available, see above) | $0.35 |

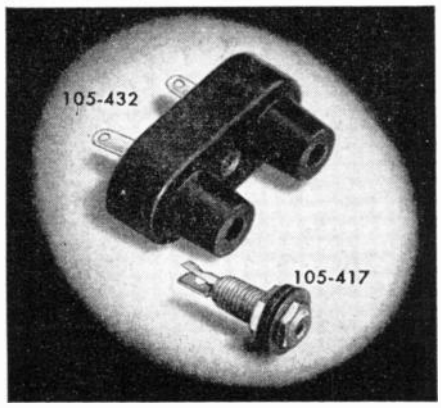
## NYLON JACK AND SLEEVE ASSEMBLY

Deluxe nylon tip jack as described above without mounting nut, equipped with an inside threaded molded nylon insulating sleeve.

| Cat. No. | Color | Net Price |
|---|---|---|
| 105-701 | White (13 colors available, see above) | $0.30 |



105-701

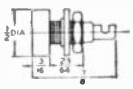



## PLASTIC HEAD TIP JACKS

General purpose jack. Large wiring terminal with solder barrier. Body nickel plated, threaded 1/4"-32. With extruded shoulder bushing and nickel plated hex nut. Mounts in 3/8" dia. circular hole. Maximum panel thickness, 5/32" where insulating washers are used, 1/4" where omitted

**Net Price $0.18**

| Cat. No. | Color | Cat. No. | Color | Cat. No. | Color | Cat. No. | Color |
|---|---|---|---|---|---|---|---|
| 105-520 | Red | 105-524 | Brown | 105-527 | Yellow | 105-530 | Ivory |
| 105-521 | Black | 105-525 | Lt. Blue | 105-528 | Lt. Green | | |
| 105-522 | Dk. Green | 105-526 | Orange | 105-529 | Dk. Blue | | |

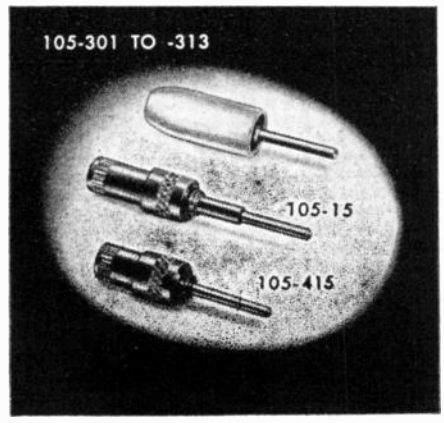


105-520

## HEAVY DUTY TIP JACKS

Plastic head molded integral with rugged nickel plated brass body. Contacts, beryllium copper, cadmium plated.

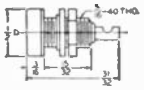
| Cat. No. | Color | Net Price | Cat. No. | Color | Net Price |
|---|---|---|---|---|---|
| 105-418 | Red | $0.25 | 105-419 | Black | $0.25 |




## HEADLESS TIP JACK

Economical headless jack for use on insulated mounting surfaces. Body has hex shoulder for tightening—is threaded 1/4"-32. Contact, beryllium copper, cadmium plated.

**Cat. No. 105-1 . . . . . Net Price $0.11**



105-418

## HEX HEAD TIP JACK

Brass nickel plated body, beryllium copper contact, cadmium plated. Threaded 1/4"-32. With extruded washer, flat washer, and nickel-plated nut. Mounts in 5/8" hole.

**Cat. No. 105-417 . . . Net Price $0.18**

## SHORTING TYPE TWIN TIP JACK

Circuit closes automatically when tips are removed. Jacks spaced 7/8". Singlehole mounting. Molded black body.

**Cat. No. 105-432 . . . . . Net Price $0.53**

## NYLON INSULATED SOLDERLESS TIP PLUG (PAT. PENDING)

Companion unit for the famous JOHNSON nylon tip jack. Withstands high voltages and a wide temperature range. Current rating 10 amps. Standard .081" diameter pin fits all standard tip jacks.

| Cat. No. | Color | Net Price |
|---|---|---|
| 105-301 | White (13 colors available, see above) | $0.16 |

## SOLDERLESS PHONE TIP PLUGS

105-15 has a 15/16" pin with the last 1/2" of tip .081" diameter. Knurled body and sleeve permit leads to be firmly secured without soldering. Body and sleeve brass, nickel plated. May be used with all standard tip jacks. 105-415 is the same as 105-15 above except tip is 9/16" long and .081" diameter throughout its length. For all standard tip jacks.

**Cat. No. 105-15 . . . . Net Price $0.18** **Cat. No. 105-415 . . . Net Price $0.17**



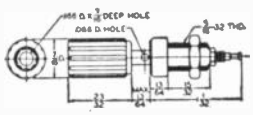
World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

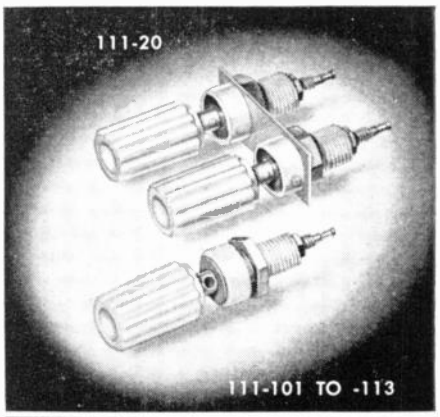
## NYLON "SIX-WAY" BINDING POST (PATENT PENDING)

Compact, completely insulated, pre-assembled 6-way binding post. Body molded of tough, durable, low-loss nylon. Retains low loss characteristics through extremely wide temperature range and high relative humidity conditions. Insulation resistance greater than 200 meg. after MIL-T-5422B humitidy test. Voltage breakdown 8000 volts D.C.; capacity to 1/8" panel, 3.3 mmf.; current carrying capacity, 15 amperes. Shank is silver-plated brass—thumb nut is self-captivated and cannot be removed. Connection is made at the solder stud, or a lug may be slipped over the threaded portion and secured with a nut. Single 5/16"—32 nut for mounting; no auxiliary mounting hardware needed. Mounts in 21/64" dia. circular hole, "D" hole or double flat hole. (1/4" across flats) Standard banana plug fits into .166" diameter hole in top of binding post.



| Cat. No. | Color | | Net Price |
|---|---|---|---|
| 111-101 | White (13 colors available—see below) | | $0.35 |

| Cat. No. | Color | Cat. No. | Color | Cat. No. | Color |
|---|---|---|---|---|---|
| 111-102 | Red | 111-106 | Orange | 111-110 | Dk. Blue |
| 111-103 | Black | 111-107 | Yellow | 111-111 | Ivory |
| 111-104 | Dk. Green | 111-108 | Brown | 111-112 | Violet |
| 111-105 | Lt. Blue | 111-109 | Lt. Green | 111-113 | Grey |



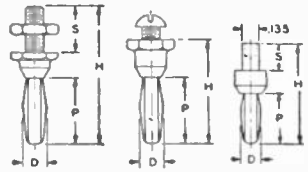

### NYLON CONNECTOR COLOR CODING

All nylon insulated connectors are available in 13 colors. The fifth and sixth digits in the catalog number indicate color as shown above. Use these numbers when ordering.

## MOUNTING PLATE

Pre-punched, this etched aluminum mounting plate permits simple, accurate mounting of either two nylon binding posts or two nylon banana jacks on exact 3/4" centers.

| Cat. No. | Net Price |
|---|---|
| 111-20 | $0.02 |

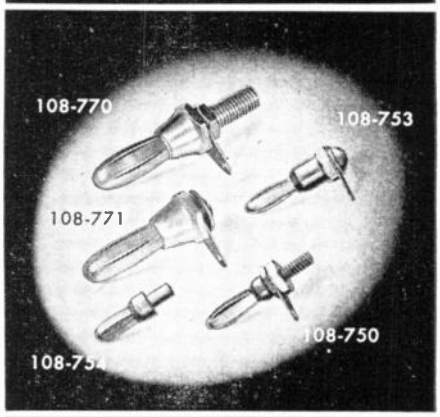


## STANDARD BANANA PLUGS

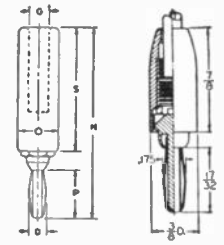
Banana plugs of advanced design. Accurately machined brass studs extend full length of pins for extra strength. Springs are nickel silver—highly resistant to corrosion. Bodies and hardware .0001 nickel plated. Solder terminals furnished. 108-770 and 108-771 are jumbo types. 108-754 designed for riveting, has beryllium copper springs and is cadmium plated.

| Cat. No. (A) | Old No. (B) | Dwg. (C) | S | P | D | H | Thread | Net Price |
|---|---|---|---|---|---|---|---|---|
| 108-750 | 108-75 | A | 3/8" | 17/32" | .175" | 1 1/8" | 6-32 | $0.13 |
| 108-750-2 | 108-75A | A | 3/4" | 17/32" | .175" | 1 1/2" | 6-32 | .14 |
| 108-753 | 108-75C | B | ... | 17/32" | .175" | 15/16" | 6-32 | .14 |
| 108-754 | 108-75D | C | 7/32" | 13/32" | .155" | 13/16" | ..... | .09 |
| 108-770 | 108-77 | A | 5/8" | 3/4" | .300" | 1 25/32" | 1/4"-28 | .30 |
| 108-771 | 108-77A | B | ... | 3/4" | .300" | 1 1/8" | 10-32 | .34 |

JOHNSON banana plugs can be furnished with beryllium copper springs and are available plated nickel, cadmium or silver when required. A selection of miniature solder type plugs is available also. Orders for special plugs should be of sufficient quantity for economical runs.




## INSULATED BANANA PLUGS (PATENT PENDING)



**Nylon Insulated Solderless Plug**

Compact high voltage insulated plug for a wide variety of applications. Easy solderless connection of up to 16 gauge stranded wire. Nylon insulating sleeve retains strength and low loss characteristics over a wide range of temperatures and withstands high voltages. Body and pin one piece nickel plated brass with high grade nickel silver springs.

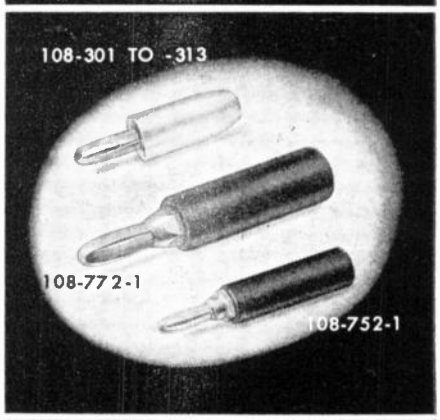
| Cat. No. | Color | Net Price |
|---|---|---|
| 108-301 | White (13 colors available—see above) | $0.21 |

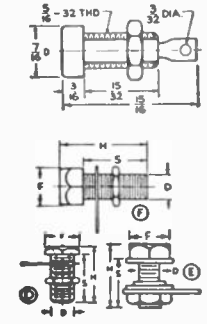
**Standard and Jumbo Insulated Plugs**

The 108-752-1 is a standard size insulated plug with a black plastic handle; 108-752-2 same as above with red plastic handle. Both have brass, nickel plated bodies with nickel silver springs.

The 108-772-1 is a jumbo size insulated plug with a black plastic handle; 108-772-2 same but equipped with red plastic handle. Both have brass, nickel plated bodies with nickel silver springs.

| Cat. No. | Old No. | S | P | D | H | G | O | Net Price |
|---|---|---|---|---|---|---|---|---|
| 108-752-1 | 108-75BB | 1 3/8" | 17/32" | .175" | 2 1/8" | 7/32" | 7/16" | $0.36 |
| 108-752-2 | 108-75BR | 1 3/8" | 17/32" | .175" | 2 1/8" | 7/32" | 7/16" | .36 |
| 108-772-1 | 108-77BB | 1 3/4" | 3/4" | .300" | 2 25/32" | 3/8" | 5/8" | .48 |
| 108-772-2 | 108-77BR | 1 3/4" | 3/4" | .300" | 2 25/32" | 3/8" | 5/8" | .48 |



## BANANA JACKS Nylon Insulated Banana Jacks

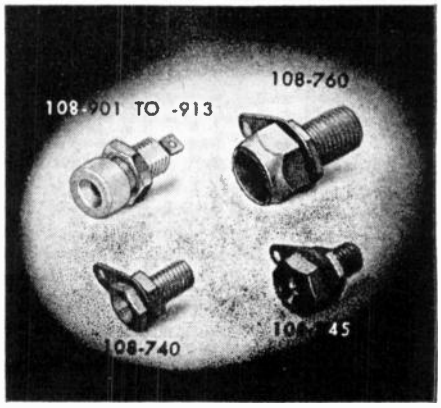
Completely insulated banana jack; body molded of tough, low-loss nylon. Retains low-loss characteristics through extremely wide temperature range and high relative humidity conditions. Voltage breakdown 12,500 volts D.C.; capacity to 1/16" panel only 1.5 mmf. Insert is cadmium-plated. Accommodates banana plugs of a nominal diameter of .175". Single 5/16"—32 nut for mounting, no auxiliary mounting hardware needed. Mounts in 21/64" dia. circular, "D", or double flat hole. (1/4" across flats.)

| Cat. No. | Color | Net Price |
|---|---|---|
| 108-901 | White (13 colors available—see above) | $0.14 |

**Standard Banana Jacks**

108-740(74) is a quality nickel plated jack of machined brass. Solder terminal and nut furnished. 108-745-1(7451) similar to the 108-740 with a red plastic head molded integral with body. Supplied with fibre insulating washers, terminal and nut. 108-745-2 (7452) same as 108-745-1 but black. 108-760 (76) for jumbo plugs. Supplied with solder terminal and nickel plated hex nut.

| Cat. No. | Old No. | Dwg. | F | D | S | H | Hole Dia. | Thread | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| 108-740 | 108-74 | D | 3/8" | 1/4" | 17/32" | 5/8" | .166" | 1/4"-28 | $0.12 |
| 108-745-1 | 108-7451 | E | 7/16" | 1/4" | 31/64" | 31/32" | .166" | 1/4"-28 | .22 |
| 108-745-2 | 108-7452 | E | 7/16" | 1/4" | 31/64" | 31/32" | .166" | 1/4"-28 | .22 |
| 108-760 | 108-76 | F | 9/16" | 5/8" | 31/32" | 1" | .277" | 5/8"-24 | .31 |

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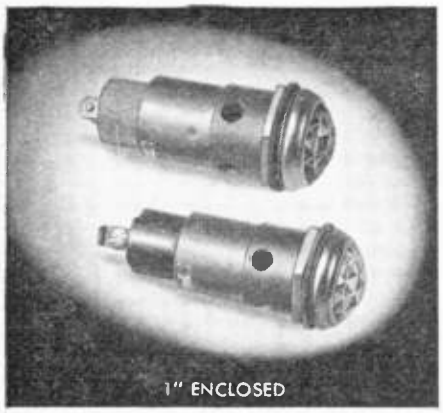
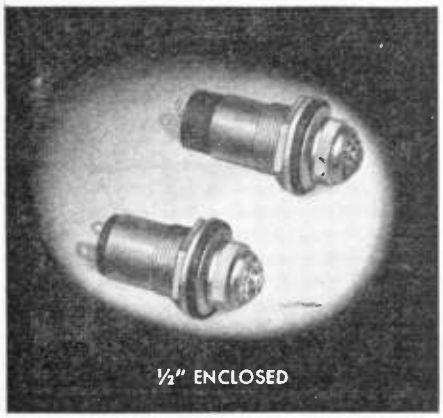
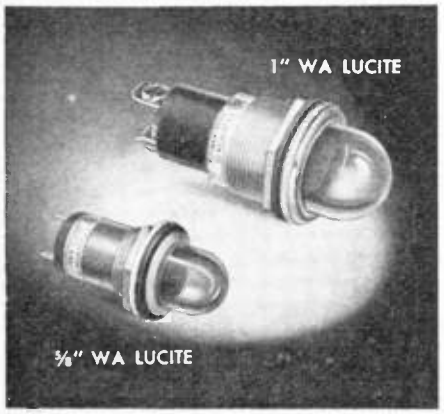
World Radio History

# E. F. Johnson Company

WASECA MINNESOTA



## PILOT LIGHTS—GENERAL SPECIFICATIONS

As a result of a comprehensive survey recently conducted among Design and Development Engineers, the following listing of Pilot and Indicator lights are classified by the E. F. Johnson Company as "PREFERRED." Pilot lights selected from this group may be quickly obtained from the factory or are immediately available at parts distributors throughout the country. Specials, including those meeting military specifications are available in production quantities.

Standard jewel colors are clear, red, green, amber, blue, and opal; green and blue not recommended for use with neon lamps. When ordering -1 indicates clear; -2, red; -3, green; 4 amber; -5, blue; -6, opal.

**For a complete listing of all available Johnson pilot lights and jewels, write for your copy of Johnson Pilot Light Catalog No. 750.**

## 1" ENCLOSED—GLASS JEWELS

U. L. approved. Friction type jewel holder, bright chrome plated brass. Nickel plated, brass body—porcelain insulation. Bulb replaceable from front panel. Solder terminals. Available in two lengths for either 110 volt, S6 candelabra screw lamp or for shorter T 4½ lamps such as the NE 45. 147-1000 has faceted jewel, 147-1004 has smooth jewel for maximum visability with neon lamps. 1" mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, amber, red, green, blue, and opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-1000 | 2½" | S6 | Candelabra Screw | $1.12 |
| 147-1004 | 2 3/16" | T4½ | Candelabra Screw | 1.10 |

Identical to 147-1000 listed above, except socket housing is phenolic and assembly has screw terminals to meet MIL-P14-CFG.

| | | | | |
|---|---|---|---|---|
| 147-1032 | 2 3/4" | S6 | Candelabra Screw | 1.38 |

U. L. approved. Threaded jewel holder, knurled brass, bright chrome plated. Nickel plated brass body 147-1200 has porcelain insulation, 147-1209 has phenolic insulation. 147-1200 has solder terminals, 147-1209 has screw terminals. 1" mounting hole required. Mounting nut and fibre washer furnished. Faceted jewels available in clear, red, green, amber, blue and opal.

| | | | | |
|---|---|---|---|---|
| 147-1200 | 2½" | S6 | Candelabra Screw | 1.39 |
| 147-1209 | 2 3/4" | S6 | Candelabra Screw | 1.49 |

## ½" ENCLOSED—FACETED GLASS JEWELS

U. L. approved. Threaded jewel holder, knurled brass, nickel plated. Assembly is available in two different lengths to accommodate the long, T3¼ miniature bayonet bulbs or the short, round G3½ miniature bayonet types. Threaded jewel holders are removable and assemblies are designed so bulbs may be replaced from front panel without using a special tool. Equipped with solder terminals. Mounting nut, fibre washer, and lock washer furnished. May be used in panels up to ⅜" thick. 11/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-1110 | 1 9/16" | T3¼ | Miniature Bayonet | $0.84 |
| 147-1112 | 1 3/8" | G3½ | Miniature Bayonet | .84 |

## ENCLOSED TYPES—WIDE ANGLE LUCITE LENS

U. L. approved. Designed for economical continuous operation utilizing neon or low power incandescent bulbs. Sockets are located so bulbs extend far forward in assemblies for maximum wide angle visibility. Tiny hemispheres on interior of lucite lens diffuse light for maximum visibility with uniform light intensity from front or sides. One inch types have chrome plated, threaded lens holders which may be removed to replace bulbs. On ⅝" types, lucite lens cap is threaded and screws out of bezel on housing for bulb replacement. Mounting nut and fibre washer furnished with both types. Recommended lens colors: clear, amber, red, or opal.

### 1" ENCLOSED—LUCITE LENS

1" mounting hole required; screw terminals on 147-1217, 147-1218 has solder terminals.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-1217 | 1 15/16" | T4½ | Candelabra Screw | $1.57 |
| 147-1218 | 1½" | T3¼ | Miniature Bayonet | 1.21 |

### ⅝" ENCLOSED—LUCITE LENS

11/16" mounting hole required; solder terminals, lock washer.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-1142 | 1 7/16" | T3¼ | Miniature Bayonet | $0.75 |
| 147-1143* | 1 7/16" | T3¼ | Miniature Bayonet | .98 |
| 147-1144** | 1 7/16" | T3¼ | Miniature Bayonet | .98 |

*Built in 180,000 ohm resistor **Built in 100,000 ohm resistor

## 1" ENCLOSED—WIDE ANGLE "BULLSEYE" LENS

U. L. approved. Threaded jewel holder, knurled brass, chrome plated. An extremely attractive assembly designed to provide excellent visibility from any angle. Jewel has large inside diameter permitting bulb to set well forward for maximum illumination. Hundreds of tiny hemispheres on interior surface of glass jewel provide diffusion of light in all directions. Lens exterior surface is smooth preventing the accumulation of dirt and dust. Bulb is replaceable from front panel. Phenolic insulation—screw terminals. May be used on panels up to ⅝" thick. 1" mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, red, green, amber, blue, or opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-1600 | 2⅛" | S6 | Candelabra Screw | $1.69 |

## 1" DETACHABLE SOCKET TYPE

Economical semi-enclosed assembly with chrome plated jewel bezel. Friction fit jewel holder easily removable for bulb replacement from front panel. Socket portion detaches from panel bushing allowing panel removal without disconnection of wiring. Body and bracket nickel plated. Fibre washer and nut furnished. 1" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|---|
| 147-800 | 1 11/16" | G3½, T3¼ | Miniature Screw | $0.79 |
| 147-802 | 2 3/16" | T4½ | Candelabra Screw | .78 |
| 147-804 | 1 11/16" | G3½, T3¼ | Miniature Bayonet | .79 |

## PANEL LIGHT

For front panel illumination. Polished nickel plated hood, easily removable for lamp replacement; rotates to any position. ½" mounting hole required.

| Cat. No. | Bulb Shape | Lamp Base | Net Price |
|---|---|---|---|
| 147-330 | T3¼, G3½ | Miniature Screw | $0.82 |
| 147-329 | T3¼, G3½ | Miniature Bayonet | .91 |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World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

## OPEN PILOT LIGHTS—HORIZONTAL MOUNTING

Designed to permit bulb replacement from the panel. Heavy gauge brackets are nickel plated—jewel holders are finished same as enclosed assemblies of comparable size. A special bushing and mounting nut serves as a jewel receptacle and as a mounting for the bracket.

### 1" HORIZONTAL OPEN—FACETED GLASS JEWELS

Friction type jewel holder, chrome plated. 1" mounting hole required. May be used on panels up to 3/16" thick. Faceted jewels available in clear, red, green, amber, blue, and opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-100 | 1 1/2" | G3 1/2, T3 1/4 | Miniature Screw | $ .66 |
| 147-103 | 2 1/16" | S6 | Candelabra Screw | .67 |
| 147-106 | 1 1/2" | G3 1/2, T3 1/4 | Miniature Bayonet | .69 |

### 1/2" HORIZONTAL OPEN—FACETED GLASS JEWELS

Threaded jewel holder, bright nickel plated. 11/16" mounting hole required. May be used on panels up to 7/32" thick. Faceted jewels available in clear, red, green, amber, blue, and opal.

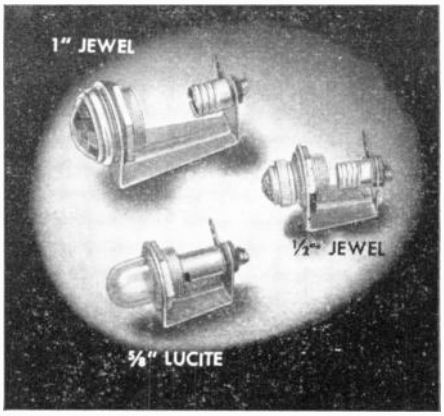
| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-400 | 1 1/4" | G3 1/2, T3 1/4 | Miniature Screw | $0.52 |
| 147-403 | 1 1/2" | G3 1/2, T3 1/4 | Miniature Bayonet | .55 |

### 5/8" HORIZONTAL OPEN—LUCITE LENS

For efficient utilization of low powered light sources. Wide angle visibility; low cost. Use with neon or incandescent lamps with 3 watts or less dissipation. 11/16" mounting hole required. Recommended lens colors: clear, amber, red, or opal.

| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-406 | 1 1/8" | T3 1/4 | Miniature Bayonet | $0.46 |
| 147-407 | 1 1/4" | NE51 | Miniature Bayonet* | .73 |

*180,000 resistor built in




## OPEN PILOT LIGHTS—VERTICAL MOUNTING

Sturdy heavily plated units for application where bulb is accessible from behind panel. Jewel holders are polished, nickel plated, and fasten with nut on rear of panel so assembly is tamper proof from front. All have solder terminals.

### 5/8" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

11/16" Mounting Hole Required—Bright Chrome Plated Jewel Holder.

| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-200 | 1 1/8" | G3 1/2 | Miniature Screw | $0.54 |
| 147-203 | 1 3/16" | S6 | Candelabra Screw | .55 |
| 147-206 | 1" | G3 1/2 | Miniature Bayonet | .58 |

### 1/2" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

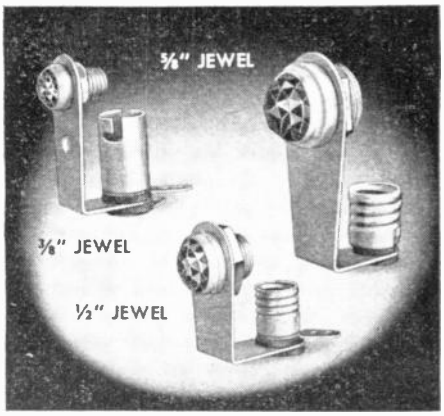
7/16" Mounting Hole Required.

| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-300 | 1 3/16" | G3 1/2 | Miniature Screw | $0.33 |
| 147-303 | 1 1/4" | S6 | Candelabra Screw | .34 |
| 147-306 | 1" | G3 1/2 | Miniature Bayonet | .36 |

### 3/8" VERTICAL OPEN—FACETED JEWELS—ALL COLORS

9/32" Mounting Hole Required

| Cat. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
|---|---|---|---|---|
| 147-500 | 1 1/8" | G3 1/2 | Miniature Screw | $0.28 |
| 147-503 | 1" | G3 1/2 | Miniature Bayonet | .31 |




## JEWEL-BUSHING AND JEWEL ASSEMBLIES

**(For use with brackets listed below)**

### 1" JEWEL AND BUSHING ASSEMBLY

Friction fit jewel holders. Chrome plated bezel fits into threaded brass, nickel plated bushing. Furnished with fibre compression washer and nut. 1" mounting hole required. Faceted jewels available in clear, red, green, amber, blue and opal.

| Cat. No. | Net Price |
|---|---|
| 147-110 | $0.49 |

### 1/2" JEWEL AND BUSHING ASSEMBLY

Threaded jewel holder, knurled brass, nickel plated. Includes jewel assembly and threaded bushing with mounting nut. 11/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

147-410 . . . . . $0.38

### 1/2" JEWEL

Threaded jewel assembly. Bright nickel plated bezel. Mounting nut furnished. 7/16" mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opal.

147-310 . . . . . $0.20

### 3/8" MINIATURE JEWEL

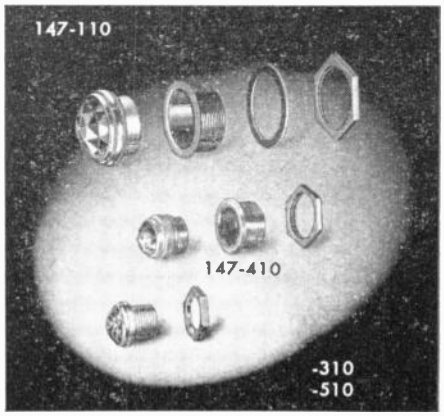
Miniature threaded jewel assembly with nut. Bright nickel plated bezel. 9/32" mounting hole required. Faceted jewels available in clear, red, green, amber, and opal.

147-510 . . . . . $0.14

### 5/8" LUCITE LENS

Lucite lens threaded 9/16"-27 as shown on 147-406 and -407 above. Recommended colors, clear, amber, red, or opal.

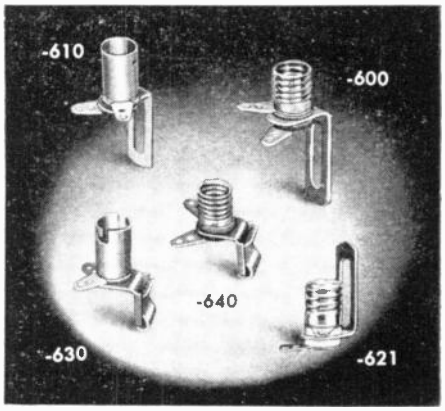
147-10 . . . . . $0.10

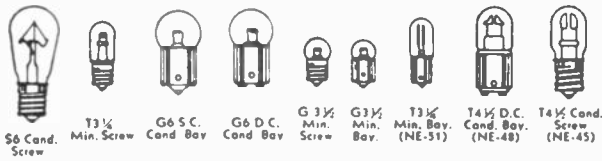



## DIAL LIGHT BRACKETS

Designed with exclusive features for long life and dependability. Socket shells are of extra heavy material and feature seamless construction. Terminals are tin plated for easy solder connection—all other parts are heavily nickel plated. Heavy gauge contact springs on bayonet types retain tension indefinitely.

| Cat. No. | Socket | Net Price | Cat. No. | Socket | Net Price |
|---|---|---|---|---|---|
| 147-600 | Min. Screw (Bracket down) | $0.12 | 147-621 | Cand. Screw (Bracket up) | .13 |
| 147-601 | Min. Screw (Bracket up) | .12 | 147-630 | Min. Bay. (Clip down) | .16 |
| 147-610 | Min. Bay. (Bracket down) | .14 | 147-631 | Min. Bay. (Clip up) | .16 |
| 147-611 | Min. Bay. (Bracket up) | .14 | 147-640 | Min. Screw (Clip down) | .14 |
| 147-620 | Cand. Screw (Bracket down) | .13 | 147-641 | Min. Screw (Clip up) | .14 |



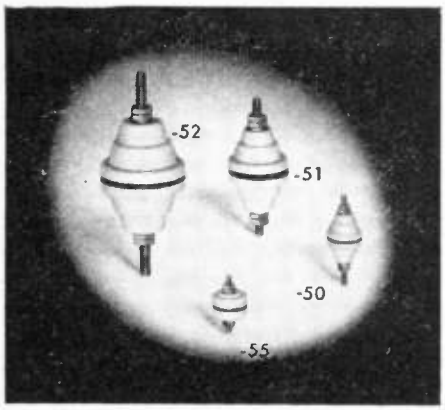

Bulbs used on all pilot lights may be identified from these illustrations. (Not included in prices.)



World Radio History

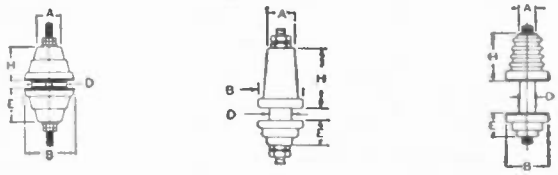
# E. F. Johnson Company

WASECA, MINNESOTA




## INSULATORS

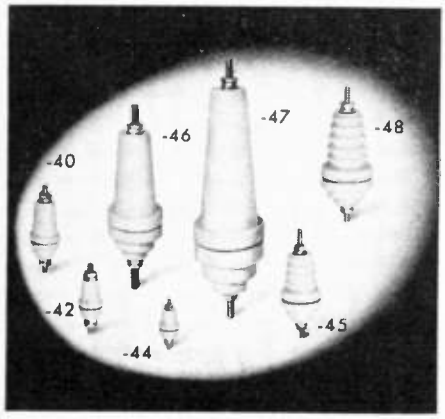
Superior quality steatite and porcelain insulators. Heavily glazed surfaces and heavy nickel plated brass hardware suitable for exposed applications. Types designated -2 have jack to accommodate JOHNSON or other standard banana plugs.




## INSULATED THRU-PANEL BUSHINGS

Assemblies consist of a pair of identical steatite insulators, hardware, and cushion washers. The 135-55 assembly has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.

| Cat. No. | H | B | D | A | Hardware | Net Price |
|---|---|---|---|---|---|---|
| 135-50 | ½" | ¾" | 15/32" | ⅜" | 6-32 | $0.33 |
| 135-51 | 13/16" | 1 1/8" | 27/32" | ⅝" | 10-32 | .54 |
| 135-52 | 1 1/8" | 1¾" | 1 7/32" | ⅞" | ¼"-20 | .78 |
| 135-55 | ¾" | ¾" | 15/32" | ½" | 6-32 | .31 |




## THRU-PANEL INSULATORS

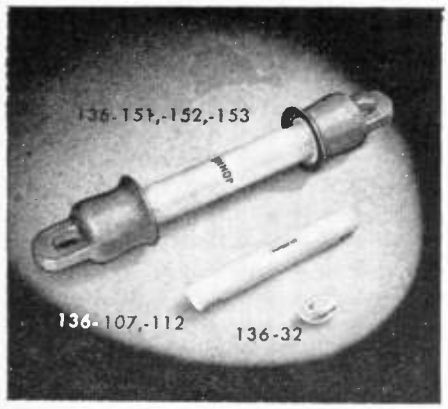
High voltage insulators compression mounted by means of a stud throughout length. Extrusion of insulator base extends thru mounting hole increasing breakdown rating. Flat mounting surfaces with cushion washer. Types with jacks have terminal permitting connection above as well as below panel.

### STEATITE

| Cat. No. | H | B | D | E | A | Hardware | Net Price |
|---|---|---|---|---|---|---|---|
| 135-40 | 1¼" | 15/16" | 7/16" | ½" | 19/32" | 10-32 | $0.35 |
| 135-40-2 | 1¼" | 15/16" | 7/16" | ½" | 19/32" | 108-740 Jack | .45 |
| 135-42 | ⅞" | ¾" | 13/32" | ⅜" | ½" | 10-32 | .35 |
| 135-42-2 | ⅞" | ¾" | 13/32" | ⅜" | ½" | 108-740 Jack | .45 |
| 135-44 | ⅝" | ⅝" | 5/16" | 5/16" | ⅜" | 6-32 | .27 |

### PORCELAIN

| Cat. No. | H | B | D | E | A | Hardware | Net Price |
|---|---|---|---|---|---|---|---|
| 135-45 | 1⅜" | 1¼" | ½" | 11/16" | ⅝" | 10-32 | $0.47 |
| 135-45-2 | 1⅜" | 1¼" | ½" | 11/16" | ⅝" | 108-740 Jack | .57 |
| 135-46 | 2¾" | 1⅝" | 11/16" | 1" | 15/16" | ¼"-20 | 1.30 |
| 135-46-2 | 2¾" | 1⅝" | 11/16" | 1" | 15/16" | 108-760 Jack | 1.50 |
| 135-47 | 4½" | 2⅛" | 31/32" | 1½" | 1 1/16" | ⅛"-20 | 1.85 |
| 135-47-2 | 4½" | 2⅛" | 31/32" | 1½" | 1 1/16" | 108-760 Jack | 2.15 |
| 135-48 | 2" | 1⅝" | 11/16" | ⅞" | ¾" | 10-32 | .70 |
| 135-48-2 | 2" | 1⅝" | 11/16" | ⅞" | ¾" | 108-740 Jack | .83 |



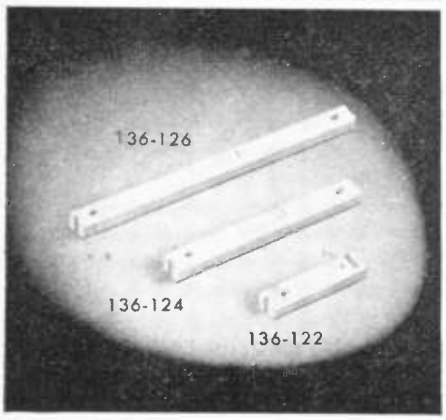

## ANTENNA STRAIN INSULATORS

The 136-151, 136-152, and 136-153 are heavy duty 1½" diameter wet process porcelain with specially sealed end bells of non-corrosive aluminum alloy. Porcelain glazed to prevent moisture absorption.

Numbers 136-107 and 136-112 are wet process, glazed porcelain 1" diameter round. Number 136-104 is dry process, glazed ⅝" square.

The 136-32 is a compression type strain insulator for aircraft or guy wire applications. Dry process, glazed porcelain.

| Cat. No. | Breaking Strength | Length Net | Length Overall | Net Price |
|---|---|---|---|---|
| 136-151 | 5000 lbs. | 8" | 15½" | $9.50 |
| 136-152 | 5000 lbs. | 12" | 19½" | 10.50 |
| 136-153 | 5000 lbs. | 20" | 25½" | 14.70 |
| 136-104 | 400 lbs. | .. | 4" | .26 |
| 136-107 | 800 lbs. | .. | 7" | 1.18 |
| 136-112 | 800 lbs. | .. | 12" | 1.25 |
| 136-32 | ..... | .. | 1½" | .12 |




## FEEDER INSULATORS

Numbers 136-122, 136-124, and 136-126 are conventional feeder spreaders for constructing open-wire antenna feeders and transmission lines. Made of high grade, low absorption porcelain, they are silicone impregnated for moisture resistance. Number 136-122 has extra notches for 1½" line spacing. All have ⅜" × ½" cross section.

| Cat. No. | Length | Net Price |
|---|---|---|
| 136-122 | 2" | $0.17 |
| 136-124 | 4" | .24 |
| 136-126 | 6" | .32 |



Net

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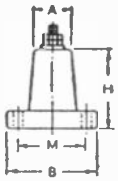
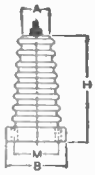
World Radio History

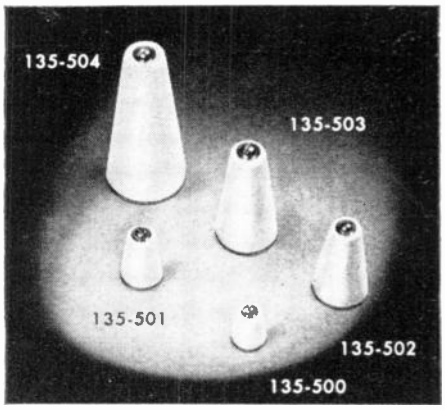
# E. F. Johnson Company

WASECA, MINNESOTA

## INSULATORS




### STEATITE CONE INSULATORS

Material, grade L-4 or better, steatite. Deep, clean threads are tapped directly into the ceramic. Furnished complete with two nickel plated machine screws, nickel plated brass washers, and a cork cushion washer.

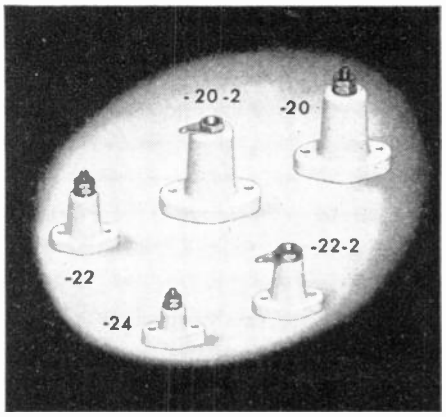
| Cat. No. | H | B | A | Hardware | Net Price |
|---|---|---|---|---|---|
| 135-500 | 5/8" | 5/8" | 7/16" | 6-32 | $0.23 |
| 135-501 | 1" | 3/4" | 1/2" | 8-32 | .31 |
| 135-502 | 1 1/2" | 1" | 1/2" | 8-32 | .51 |
| 135-503 | 2" | 1 1/4" | 5/8" | 10-32 | .71 |
| 135-504 | 3" | 1 1/2" | 3/4" | 10-32 | 1.20 |

### STEATITE STAND-OFF INSULATORS

Glazed steatite insulators combining excellent strength with economy. Relatively large mounting surface combined with two hole mounting permit substantial lateral loads. Hardware includes screw, flat washer, and two nuts.

Parts designated -2 have a standard banana jack and a solder lug mounted on the top of the insulator. Jacks, .166" inside diameter, fit standard banana plugs.

| Cat. No. | H | B | M | A | Hardware | Net Price |
|---|---|---|---|---|---|---|
| 135-20 | 1 9/16" | 1 3/4" | 1 5/16" | 3/4" | 10-32 | $0.25 |
| 135-20-2 | 1 9/16" | 1 3/4" | 1 5/16" | 3/4" | 108-740 Jack | .30 |
| 135-22 | 1" | 1 5/32" | 13/16" | 15/32" | 8-32 | .19 |
| 135-22-2 | 1" | 1 5/32" | 13/16" | 15/32" | 108-740 Jack | .23 |
| 135-24 | 5/8" | 1" | 11/16" | 3/8" | 6-32 | .15 |



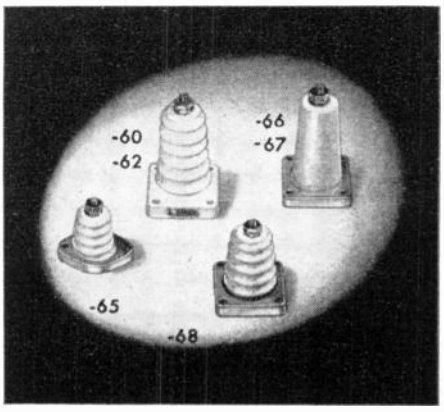

### PORCELAIN STAND-OFF INSULATORS

Ribbed porcelain insulators with square mounting bases and four mounting holes. Porcelain dense molded and glazed except on mounting surfaces.

| Cat No. | H | B | M | A | Hardware | Net Price |
|---|---|---|---|---|---|---|
| 135-60 | 4 1/2" | 2 1/2" | 1 7/8" | 1 3/16" | 1/4"-20 | $0.98 |
| 135-62 | 2 3/4" | 1 7/8" | 1 3/8" | 7/8" | 1/4"-20 | .60 |

Surface mounting porcelain insulators with drawn and etched aluminum bases. Numbers 135-65, 135-65-2, 135-68 and 135-68-2 are ribbed, 135-66, 135-66-2 and 135-67 and 135-67-2 are smooth surfaced. Types 135-65-2 and 135-68-2 have standard, .166" inside diameter banana jacks; types 135-66-2 and 135-67-2 have .277" inside diameter jacks to fit jumbo banana plugs.

| Cat. No. | H | B | M | A | Hardware | Net Price |
|---|---|---|---|---|---|---|
| 135-65 | 1 3/8" | 1 7/8" | 1 1/2" | 5/8" | 10-32 | $0.30 |
| 135-65-2 | 1 3/8" | 1 7/8" | 1 1/2" | 5/8" | 108-740 Jack | .39 |
| 135-66 | 2 3/4" | 1 3/4" | 1 3/8" | 15/16" | 1/4"-20 | .87 |
| 135-66-2 | 2 3/4" | 1 3/4" | 1 3/8" | 15/16" | 108-760 Jack | .98 |
| 135-67 | 4 1/2" | 2 1/4" | 1 3/4" | 1 1/16" | 1/4"-20 | .98 |
| 135-67-2 | 4 1/2" | 2 1/4" | 1 3/4" | 1 1/16" | 108-760 Jack | 1.25 |
| 135-68 | 2" | 1 3/4" | 1 3/8" | 23/32" | 10-32 | .46 |
| 135-68-2 | 2" | 1 3/4" | 1 3/8" | 23/32" | 108-740 Jack | .54 |




### LEAD-IN BUSHINGS

Single porcelain insulators less all hardware except cushion washer. Mounting flanges and threaded lead-in rods listed below.

| Cat. No. | H | B | A | Net Price |
|---|---|---|---|---|
| 135-53 | 1 3/4" | 2 1/2" | 1 1/16" | $0.29 |
| 135-54 | 4" | 3 1/2" | 1" | .79 |

Threaded rod for use with lead-in bushings 135-53 and 135-54. Rod threaded overall 1/4"-20. Complete assembly includes rod, 4 brass washers and 4 nuts, all parts heavily nickel plated.

| Cat. No. | Length | Net Price |
|---|---|---|
| 115-240 | 8" | $0.57 |
| 115-241 | 10" | .71 |
| 115-242 | 15" | .88 |

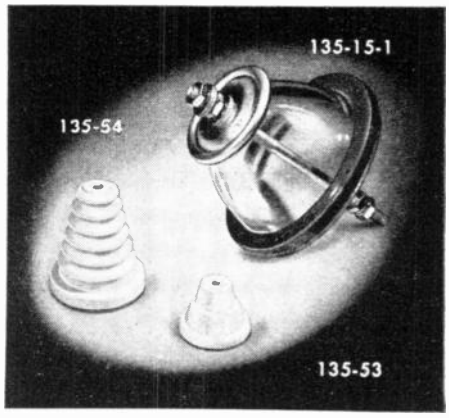
Stamped aluminum mounting flanges for lead-in bushings 135-53 and 135-54. Three mounting holes spaced 120 degrees apart.

| Cat. No. | For Bushing No. | Net Price |
|---|---|---|
| 135-90 | 135-53 | $0.34 |
| 135-91 | 135-54 | .84 |

### FEED-THRU BOWL ASSEMBLIES

Bowls, electrical glass, 6 15/16" maximum diameter, 4 3/8" high. Steel mounting flange 7 3/4" dia. Stud threaded 1/2"-13. Cork gaskets and spun aluminum corona shields included in fittings. 135-15-1 consists of single bowl with fittings, 10 1/4" stud. 135-15-3 two bowls and fittings with 16" stud for walls up to 4". 135-15-7 with 24" stud for walls up to 12". Can also be furnished with special hollow studs.

| Cat. No. | | Net Price |
|---|---|---|
| 135-15-1 | One bowl and fittings | $15.40 |
| 135-15-3 | Two bowls and fittings | 27.10 |
| 135-15-7 | Two bowls and fittings | 27.60 |
| 135-15-11 | Glass bowl only, less fittings | 8.65 |

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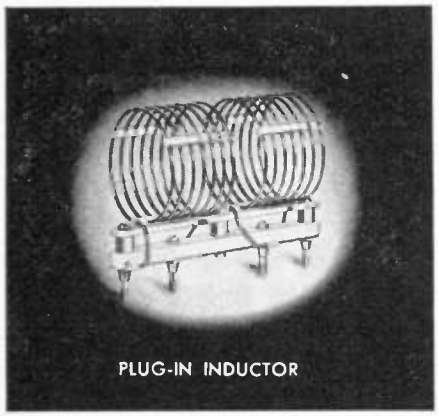
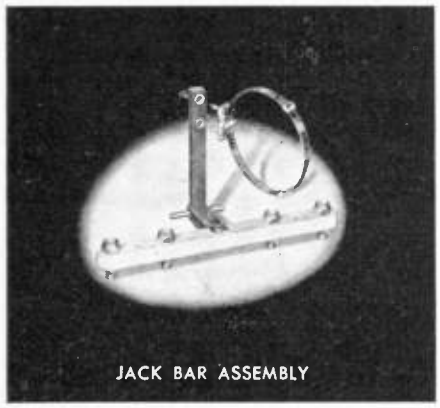
World Radio History

# E. F. Johnson Company

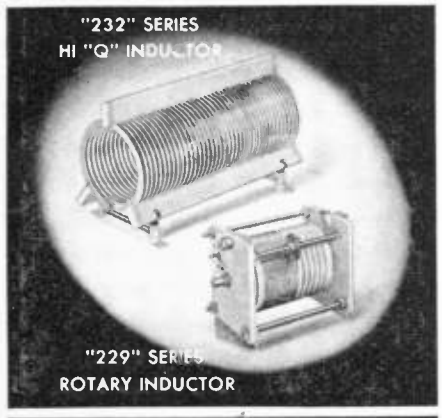
WASECA, MINNESOTA



PLUG-IN INDUCTOR

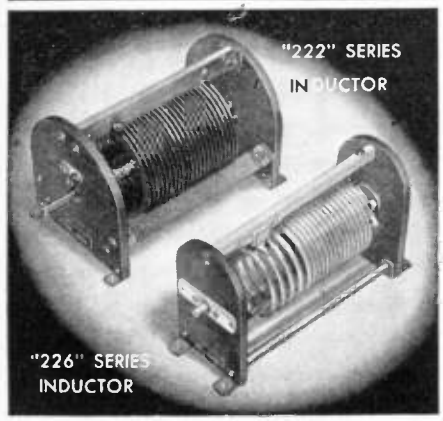


JACK BAR ASSEMBLY



"232" SERIES HI "Q" INDUCTOR

"229" SERIES ROTARY INDUCTOR



"222" SERIES INDUCTOR

"226" SERIES INDUCTOR

## SWINGING LINK INDUCTORS

Swinging link inductors for amateur bands 160 thru 6 meters; 150, 500 and 1000 watt sizes. Polystyrene insulation, steatite bases and heavy wire sizes. HCS-Inductors match high voltage, low current tubes. LCS-Inductors match low voltage, high current tubes. Complete assembly includes inductors for bands desired, Jack Bar, Link Arm Assembly and Plug-in Links required for matching to line or antenna coupler.

| Cat. No. | Type No. | Wire Size | Cap.* mmf. | Height | Width | Net Price |
|---|---|---|---|---|---|---|
| | | 1,000 watts | | | | |
| 238-106 | 1000HCS160 | 10 | 99 | 5 11/16" | 4 13/32" | $9.80 |
| 238-107 | 1000LCS160 | 10 | 140 | 5 11/16" | 4 13/32" | 9.80 |
| 238-101 | 1000HCS80 | 10 | 46 | 5" | 3 23/32" | 8.90 |
| 238-102 | 1000LCS80 | 10 | 73 | 5" | 3 23/32" | 8.90 |
| 238-103 | 1000HCS40 | 10 | 24 | 5" | 3 23/32" | 7.80 |
| 238-104 | 1000LCS40 | 8 | 55 | 5" | 3 3/4" | 7.80 |
| 238-105 | 1000HCS20 | 8 | 19 | 4 7/8" | 3 3/4" | 7.50 |
| 238-111 | 1000LCS20 | .250" | 26 | 5 1/8" | 4" | 7.50 |
| 238-112 | 1000H/LCS14 | .250" | 19 | 4 7/8" | 3 1/2" | 6.60 |
| 238-113 | 1000H/LCS10 | .250" | 18 | 4 7/8" | 3 1/2" | 6.00 |
| | | 500 watts | | | | |
| 238-125 | 500HCS160 | 14 | 100 | 4 7/32" | 3 1/8" | 6.95 |
| 238-126 | 500LCS160 | 14 | 148 | 4 7/32" | 3 1/8" | 6.95 |
| 238-121 | 500HCS80 | 14 | 45 | 3 23/32" | 2 5/8" | 6.75 |
| 238-122 | 500LCS80 | 12 | 76 | 3 3/4" | 2 21/32" | 6.75 |
| 238-123 | 500HCS40 | 12 | 27 | 3 3/4" | 2 21/32" | 6.50 |
| 238-124 | 500LCS40 | 10 | 50 | 3 25/32" | 2 23/32" | 6.50 |
| 238-131 | 500HCS20 | 6 | 25 | 3 13/16" | 2 13/16" | 5.25 |
| 238-132 | 500LCS20 | 6 | 37 | 3 13/16" | 2 13/16" | 5.25 |
| 238-133 | 500H/LCS14 | 6 | 19 | 3 11/16" | 2 11/16" | 4.95 |
| 238-134 | 500H/LCS10 | 6 | 19 | 3 9/16" | 2 5/16" | 4.50 |
| 238-135 | 500H/LCS6 | 6 | 18 | 3 9/16" | 2 5/16" | 4.50 |
| | | 150 watts | | | | |
| 238-147 | 150HCS160 | 18 | 102 | 4 3/16" | 3 1/16" | 4.65 |
| 238-148 | 150LCS160 | 16 | 151 | 4 7/32" | 3 3/32" | 4.65 |
| 238-141 | 150HCS80 | 16 | 51 | 4 7/32" | 2 13/32" | 4.40 |
| 238-142 | 150LCS80 | 16 | 68 | 4 7/32" | 2 13/32" | 4.40 |
| 238-143 | 150HCS40 | 14 | 28 | 3 23/32" | 2 5/8" | 4.15 |
| 238-144 | 150LCS40 | 12 | 57 | 3 3/4" | 2 21/32" | 4.15 |
| 238-145 | 150HCS20 | 12 | 21 | 3 1/2" | 2 13/32" | 3.95 |
| 238-146 | 150LCS20 | 12 | 32 | 3 1/2" | 2 13/32" | 3.95 |
| 238-151 | 150H/LCS14 | 8 | 19 | 3 21/32" | 2 1/2" | 3.20 |
| 238-152 | 150H/LCS10 | 8 | 19 | 3 21/32" | 2 1/2" | 2.95 |
| 238-153 | 150H/LCS6 | 8 | 16 | 3 13/32" | 2" | 2.95 |

*Total circuit capacity to effect resonance at low frequency end of band.

To determine split-stator capacitor, subtract tube output and wiring capacity (usually 5 to 20 mmf.) from total capacity in chart, then double result for capacity per section needed.

## PLUG-IN SWINGING LINKS

Select the link to match your line, coupler or output filter for optimum power transfer.

| Cat. No. | Type No. | No. Turns | Net Price | Cat. No. | Type No. | No. Turns | Net Price |
|---|---|---|---|---|---|---|---|
| 238-181 | 150/500SL12 | 12 | $1.80 | 238-191 | 1000SL10 | 10 | $2.50 |
| 238-182 | 150/500SL5 | 5 | 1.15 | 238-192 | 1000SL5 | 5 | 1.35 |
| 238-183 | 150/500SL2 | 2 | 1.00 | 238-193 | 1000SL2 | 2 | 1.20 |

## SWINGING LINK ARM ASSEMBLIES

| | | |
|---|---|---|
| 238-179 | 150/500SLA—for 150/500 watt inductors | $1.60 |
| 238-180 | 1000SLA—for 1000 watt inductors | 1.80 |

## JACK BAR ASSEMBLIES

| | | |
|---|---|---|
| 238-171 | 150JBS—150 watt, 3 3/4" x 9/16" x 3/8" | $1.15 |
| 238-172 | 500JBS—500 watt, 5 3/4" x 5/8" x 3/8" | 1.40 |
| 238-173 | 1000JBS—1000 watt, 7 1/2" x 7/8" x 1/2" | 2.50 |

## INDUCTORS

### "232" SERIES "HI-Q" COILS—1/4" x .054" RIBBON—5 AMPS.

Fixed coils wound with 1/4" copper strip, cadmium plated. Glass bonded mica support bars.

| | | | | | | |
|---|---|---|---|---|---|---|
| 232-610 | 31 uh | 3 1/4" x 6" | 7 11/32" | 3 5/8" | 4 5/8" | 11.50 |
| 232-620 | 84 uh | 3 3/4" x 7 1/8" | 9 3/32" | 4 1/2" | 6" | 14.80 |
| 232-622 | 41 uh | 3 1/4" x 4 5/8" | 6 11/32" | 3 3/4" | 5 3/4" | 11.35 |
| 232-624 | 20 uh | 3 1/4" x 4 1/4" | 6 7/32" | 3 3/4" | 5 3/8" | 8.85 |
| 232-626 | 10 uh | 3 1/4" x 3" | 4 31/32" | 3 5/8" | 4 5/8" | 7.35 |

### "229" SERIES WIRE WOUND VARIABLE INDUCTORS—3 AMPS.

Efficient, all steatite insulated variable inductors for amateur transmitters or low power commercial equipment. Variable pitch, tinned copper wire windings on grooved steatite forms. 1/4" shafts extend 1/2" on both ends. Length dimension is over mounting feet.

| Cat. No. | Inductance | Mounting | Overall Dimensions L | W | H | Wire Size | Net Price |
|---|---|---|---|---|---|---|---|
| 229-201 | 10 uh | 3 15/16" | 4 3/8" | 2 1/2" | 2 31/32" | No. 14 | $9.50 |
| 229-202 | 15 uh | 5 15/32" | 5 29/32" | 2 1/2" | 2 31/32" | No. 12 | 10.50 |
| 229-203 | 25 uh | 6 23/32" | 7 5/32" | 2 1/2" | 2 31/32" | No. 12 | 11.50 |

### "222" SERIES VARIABLE INDUCTORS—1/2" x .090" RIBBON—15 AMPS.

Excellent for medium power RF equipment where high current operation is required in minimum space. Heavy nickel plated copper ribbon windings and silver plated beryllium copper contacts with solid silver buttons. Glass bonded mica end frames and support bars. 3/8" shafts extend 1 3/4" front and rear. Length dimension is over mounting feet—does not include shaft extensions.

| Cat. No. | Type No. | Inductance | Mounting | Overall Dimensions L | W | H | Net Price |
|---|---|---|---|---|---|---|---|
| 222-1 | 4224MS4 | 25 uh | 5 3/4" x 10 3/8" | 11 1/8" | 6 1/2" | 6 5/8" | $48.25 |
| 222-2 | 4275MS4 | 50 uh | 6 3/4" x 11 5/8" | 12 3/8" | 7 1/2" | 7 5/8" | 60.00 |
| 222-3 | 4084MS6 | 5 uh | 5 3/4" x 7 7/8" | 8 5/8" | 6 1/2" | 6 5/8" | 40.25 |
| 222-5 | 4134MS6 | 10 uh | 5 3/4" x 9 3/4" | 10 1/2" | 6 1/2" | 6 5/8" | 44.00 |
| 222-7 | 4325MS4 | 62.5 uh | 6 3/4" x 12 7/8" | 13 5/8" | 7 1/2" | 7 5/8" | 63.00 |

### "226" SERIES VARIABLE INDUCTORS—1/4" x 1/8" RIBBON—10AMPS.

Popular for commercial and amateur use, these moving coil type inductors easily handle well over a kilowatt of plate modulated RF energy to 30 mc. Heavy silver plated conductors and silver plated contact bars and contacts. Glass bonded mica end frames and support bars. 3/8" shafts extend 3/4" front and rear. Length dimension is over mounting feet, does not include shaft extensions.

| | | | | | | |
|---|---|---|---|---|---|---|
| 226-1 | 22.5 uh | 3" x 12 3/4" | 13 1/2" | 4" | 6 1/2" | $63.85 |
| 226-3 | 13.5 uh | 3" x 10 3/4" | 11 1/2" | 4" | 6 1/2" | 58.30 |
| 226-5 | 8 uh | 3" x 9 1/4" | 10" | 4" | 6 1/2" | 51.20 |



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World Radio History

# E. F. Johnson Company

WASECA, MINNESOTA

## "200" SERIES FIXED COILS

Economical—compact—edgewise copper windings. Airwound with slotted, glass bonded mica supports. Construction provides exceptional current carrying capacity for size.

| Cat. No. | Type No. | Inductance | Mounting Dimensions | Overall Dimensions L | W | H | Net Price |
|---|---|---|---|---|---|---|---|
| **"200" FIXED COILS—¼" x .054" RIBBON—10 AMPERES** | | | | | | | |
| 200-101 | 2224N4 | 26 uh | 2" x 8 1/16" | 8 3/4" | 5 9/16" | 5 3/16" | $14.10 |
| 200-107 | 2105N4 | 13 uh | 2" x 5 1/16" | 5 3/4" | 6 5/16" | 6½" | 10.70 |
| 200-114 | 2284N3 | 45 uh | 2" x 7 3/16" | 8½" | 5 9/16" | 5 3/16" | 17.90 |
| 200-105 | 2455N3 | 120 uh | 2" x 11 1/16" | 11 41/64" | 5 9/16" | 5 9/16" | 24.90 |
| 200-407 | 2497N4 | 200 uh | 3" x 14 11/16" | 15 7/16" | 7½" | 7½" | 36.10 |
| **"200" FIXED COILS—⅜" x .072" RIBBON—15 AMPERES** | | | | | | | |
| 200-205 | 3164N5 | 15 uh | 2" x 7 3/16" | 8 1/4" | 5 11/16" | 5 9/16" | $13.90 |
| 200-206 | 3275N4 | 50 uh | 2" x 9 3/16" | 10" | 6 7/16" | 6 11/16" | 21.80 |
| 200-211 | 3336N5 | 73 uh | 2½" x 12 15/16" | 13 3/16" | 7 11/16" | 7 11/16" | 27.10 |
| 200-213 | 3376N4 | 102 uh | 2½" x 11 1/16" | 12½" | 7 11/16" | 7 11/16" | 30.40 |
| **"200" FIXED COILS—½" x .090" RIBBON—20 AMPERES** | | | | | | | |
| 200-301 | 4205N6 | 25 uh | 2" x 10 3/16" | 11 3/16" | 7 1/8" | 7" | $27.90 |
| 200-302 | 4346N5 | 78 uh | 2½" x 13 3/4" | 14½" | 8" | 8" | 38.40 |
| 200-303 | 4275N4 | 50 uh | 2" x 9 3/16" | 10 3/16" | 7 1/16" | 7" | 31.40 |
| 200-306 | 4164N5 | 15 uh | 2" x 8 1/16" | 8 3/16" | 6 5/16" | 6" | 20.00 |
| 200-308 | 4366N4 | 100 uh | 2½" x 12 1/16" | 12 7/16" | 8" | 8" | 40.50 |

Other standard inductance values available on special order.

## "202" SERIES FIXED COILS

Large surface area ¼", ⅜" and ½" copper tubing wound coils provide low resistance and working temperatures for continuous high current applications. Simple, rugged "airwound" design with glass bonded mica support bars.

| Cat. No. | Type No. | Inductance | Mounting Dimensions | Overall Dimensions L | W | H | Net Price |
|---|---|---|---|---|---|---|---|
| **"202" FIXED COILS—¼" TUBING—20 AMPERES** | | | | | | | |
| 202-101 | 2166NT8 | 21 uh | 2½" x 14 3/16" | 15 1/16" | 6½" | 6 3/4" | $32.10 |
| 202-401 | 2308NT8 | 76 uh | 2¼" x 21 1/16" | 21 7/16" | 8½" | 8½" | 61.20 |
| 202-402 | 2328NT6 | 102 uh | 2¼" x 18 5/32" | 18 29/32" | 8½" | 8½" | 58.00 |
| **"202" FIXED COILS—⅜" TUBING—30 AMPERES** | | | | | | | |
| 202-201 | 3106NT12 | 10 uh | 2½" x 13 7/16" | 14 3/16" | 6 3/4" | 7½" | $31.60 |
| 202-502 | 32410NT12 | 64 uh | 2½" x 24 1/16" | 24 15/16" | 10 3/4" | 10 3/4" | 76.65 |
| 202-507 | 3148NT12 | 24 uh | 2¼" x 16 3/16" | 17 5/16" | 8 3/4" | 8 3/4" | 46.20 |
| **"202" FIXED COILS—½" TUBING—40 AMPERES** | | | | | | | |
| 202-601 | 4127NT14 | 12 uh | 1½" x 16 17/32" | 17 9/32" | 8" | 8" | $45.75 |
| 202-602 | 41410NT14 | 30 uh | 2½" x 18 9/32" | 19 1/32" | 11" | 11" | 67.00 |
| 202-604 | 4147NT14 | 18 uh | 1½" x 18 9/32" | 19 1/32" | 8" | 8" | 51.00 |

## CLIPS FOR TAPPING "200" AND "202" SERIES INDUCTORS

| Cat. No. | Type No. | Fits Winding | Net Price |
|---|---|---|---|
| 235-804 | LC4 | ¼" x .054" | $0.26 |
| 235-807 | LC7 | ⅜" x .072" | .45 |
| 235-808 | LC8 | ½" x .090" | .65 |
| 235-824 | RC4 | ¼" tubing | 1.55 |
| 235-826 | RC6 | ⅜" tubing | 1.65 |
| 235-828 | RC8 | ½" tubing | 1.94 |
| 235-860 | .... | No. 14 Wire | .12 |

## "224" SERIES VARIABLE INDUCTORS

For high power RF applications, the 224 series copper tubing inductors are especially designed to handle heavy current in continuous duty. Contact wheel is heavily silver plated for optimum electrical efficiency. Inductors have cast aluminum end frames and glass bonded mica support bars. ⅜" shafts extended 2¼" from end frames at each end. Overall length dimension includes mounting feet.

| Cat. No. | Type No. | Inductance | Mounting | L | W | H | Net Price |
|---|---|---|---|---|---|---|---|
| **"224" VARIABLE INDUCTORS—⅜" TUBING—30 AMPERES** | | | | | | | |
| 224-3 | 3168MST10 | 30 uh | 8½" x 19 1/16" | 20 5/8" | 12" | 12 1/8" | $156.50 |
| 224-4 | 3108MST12 | 14.5 uh | 8½" x 16 5/16" | 18 1/8" | 12" | 12 1/8" | 148.00 |
| 224-6 | 32111MST12 | 75 uh | 8½" x 24 7/16" | 26 3/8" | 12" | 12 1/8" | 172.50 |
| **"224" VARIABLE INDUCTORS—½" TUBING—40 AMPERES** | | | | | | | |
| 224-1 | 41410MST14 | 30 uh | 8½" x 21 3/16" | 22 7/16" | 12" | 12 1/8" | $185.00 |
| 224-2 | 4128MST14 | 16.5 uh | 8½" x 19 5/16" | 21 1/8" | 12" | 12 1/8" | 158.00 |
| 224-5 | 41711MST14 | 50 uh | 8½" x 24" | 25½" | 12" | 12 1/8" | 189.75 |

## R. F. CONTACTORS

Contactors for switching high voltage, high current RF or DC. Operated by momentarily energized 220 VAC solenoids (may also be connected for 110 VAC), toggle action contacts snap into position, no holding current is required. Extremely compact for voltage ratings, overall dimensions of 145-100 series 7 7/16" long, 6½" wide, 5½" high, of 145-200 series 10½" long, 8¼" wide, 6 3/16" high. Four auxiliary micro snap switches (10 amp. at 220 VAC), actuated by contact armature. Two control solenoid voltage, two may be used to operate signaling devices or for other related functions.

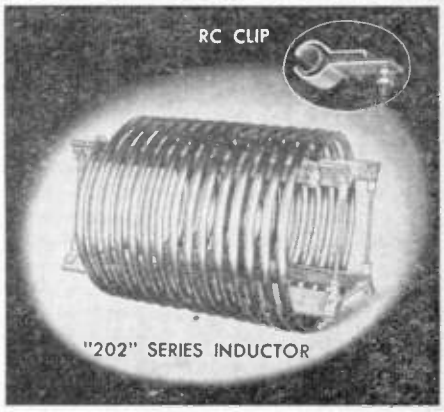
| Cat. No. | Type | Peak Voltage | Current | Net Price |
|---|---|---|---|---|
| 145-101-13 | SPDT | 17000 | 25 amp. | $106.00 |
| 145-102-13 | DPDT | 17000 | 25 amp. | 116.00 |
| 145-201-13 | SPDT | 22000 | 25 amp. | 125.00 |
| 145-202-13 | DPDT | 22000 | 25 amp. | 134.00 |

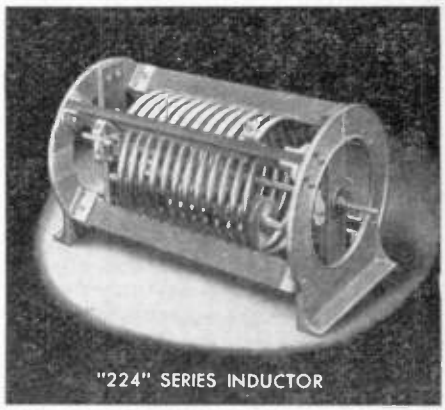
## EXPLANATION OF TYPE NUMBERS

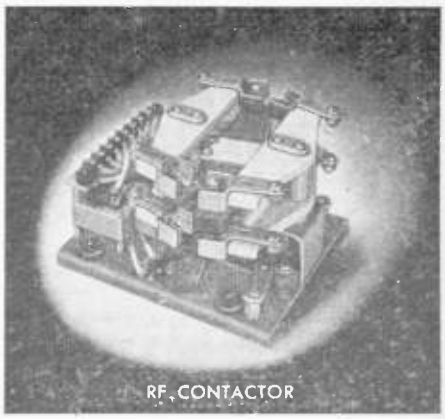
4 20 5 N 5

- 4 — Strip width or dia. of tubing in 1/16 inches
- 20 — No. of turns
- 5 — Inside dia. of winding in inches
- N — E. F. Johnson Co. type designation
- 5 — Pitch of winding in 1/16 inches

Write for your copy of Industrial and Broadcast R.F. Component Catalog 535.

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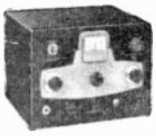
World Radio History

# E. F. Johnson
# Amateur Equipment



**VIKING "ADVENTURER" TRANSMITTER** — This completely self-contained 50 watt CW transmitter was used to earn the first novice WAC! (Worked All Continents)
Instant bandswitching 80 through 10 meters . . . operates by crystal or external VFO control. Rugged 807 transmitting tube—wide range pi-network output—TVI suppressed. Easy to assemble—complete with tubes, less crystals and key.

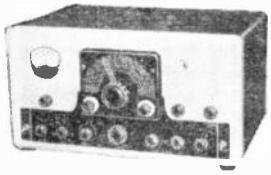
| Cat. No. | | Amateur Net |
|---|---|---|
| 240-181-1 | Kit | $54.95 |

**VIKING "NAVIGATOR" TRANSMITTER/EXCITER** — This flexible CW transmitter/exciter has enough RF power to excite most high powered amplifiers on CW and AM. 40 watts input—6146 final amplifier tube. Bandswitching 160 through 10 meters. Built-in VFO or crystal control—TVI suppressed—timed sequence keying. Pi-network output will match 40 to 600 ohm loads. With tubes and self-contained power supply, less crystals and key.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-126-1 | Kit | $149.50 |
| 240-126-2 | Wired and tested | $199.50 |

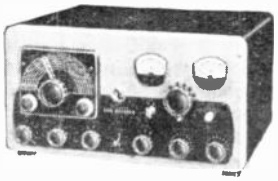
**VIKING "RANGER" TRANSMITTER/EXCITER** —This popular 75 watt CW or 65 watt phone transmitter will also serve as an RF and audio exciter for high power equipment. Completely self-contained . . . TVI supressed . . . instant bandswitching 160 through 10 meters. Extremely stable built-in VFO or crystal control. Final amplifier tube is a 6146. Easy to assemble—with tubes, less crystals, key and microphone.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-161-1 | Kit | $229.50 |
| 240-161-2 | Wired and tested | $329.50 |



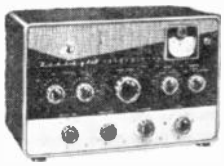
**VIKING "VALIANT" TRANSMITTER**—Here is power to slice through terrific QRM! 275 watts input CW and SSB (P.E.P. with auxiliary SSB exciter) and 200 watts phone. Instant bandswitching 160 through 10 meters —operates by built-in VFO or crystal control. Pi-network output matches antenna loads from 50 to 600 ohms . . . final amplifier utilizes three 6146 tubes in parallel. TVI suppressed—timed sequence keying—low level audio clipping—built-in low pass audio filter—self-contained power supplies. Complete with tubes, less crystals, key and microphone.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-104-1 | Kit | $349.50 |
| 240-104-2 | Wired and tested | $439.50 |



**VIKING "FIVE HUNDRED" TRANSMITTER**—Rated a full 600 watts CW . . . 500 watts phone and SSB. (P.E.P. with auxiliary SSB exciter.) Compact RF unit designed for desktop operation—power supply/modulator unit may be placed in any convenient location. All exciter stages ganged to VFO tuning—also may be operated by crystal control. Instant bandswitching 80 through 10 meters —TVI suppressed — high gain push-to-talk audio system — low level audio clipping. Final amplifier uses a 4-400A high efficiency tetrode. Pi-network output will match a wide range of antenna impedances. Complete with tubes, less crystals, key and microphone.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-500-1 | Kit | $749.50 |
| 240-500-2 | Wired and tested | $949.50 |

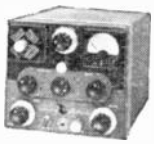


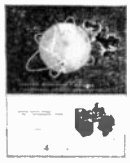
**VIKING "6N2" TRANSMITTER**—Rated at 150 watts CW and 100 watts phone — bandswitching 6 and 2 meters! TVI suppressed—may be used with Viking I, II, "Ranger" or similar power supply/modulator combinations. Operates by crystal control or external VFO with 8-9 mc. output. With tubes, less crystals, key and microphone.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-201-1 | Kit | $129.50 |
| 240-201-2 | Wired and tested | $169.50 |

**VIKING "MOBILE" TRANSMITTER**—Rated at 60 watts PA input—powerful PP807 modulator provides extra audio punch! Instant bandswitching 75 through 10 meters. All stages ganged to a single tuning knob. Under-dash mounting. Specify 6 or 12 volts. Less tubes, crystals, microphone and power supply.

| Cat. No. | | Amateur Net |
|---|---|---|
| Cat. No. 240-141-1 | Kit | $107.00 |
| Cat. No. 240-141-2 | Wired and tested on special order only. | |





**AMATEUR EQUIPMENT CATALOG 957**
Complete information on all of the world famous Johnson Transmitting Products for amateur and commercial use.

**E. F. Johnson Company**
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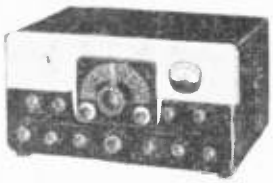
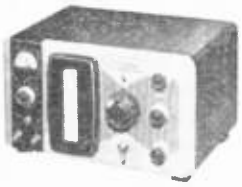
World Radio History

# E. F. Johnson
# Amateur Equipment



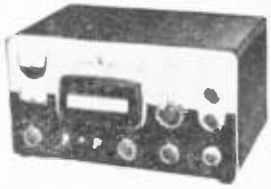
**VIKING "PACEMAKER" TRANSMITTER/EXCITER**—This exciting transmitter offers you the ultimate in single sideband . . . 90 watts SSB P.E.P. and CW input . . . 35 watts AM. Self-contained—effectively TVI suppressed. Instant bandswitching 80, 40, 20, 15, and 10 meters. Excellent stability and suppression. Temperature compensated built-in VFO . . . separate crystal control provided for each band. VOX and anti-trip circuits provide excellent voice controlled operation. Pi-network output matches antenna loads from 50 to 600 ohms. More than enough power to drive the Viking "Kilowatt" or grounded-grid kilowatt amplifiers. (Requires Cat. No. 250-34 Power Divider with Viking "Kilowatt".) With tubes and crystals, less key and microphone.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-301-2 | Wired and tested | $495.00 |



**VIKING "COURIER" AMPLIFIER**—Rated a solid 500 watts P.E.P. input with auxiliary SSB exciter as a Class B linear amplifier; 500 watts CW or 200 watts AM linear. Self-contained desk-top package—may be driven by the Viking "Ranger," "Pacemaker" or other unit of comparable output. Continuous coverage 3.5 to 30 mcs. Drive requirements: 5 to 35 watts depending on mode and frequency desired. Employs two 811A triodes in parallel. Pi-network output will match 40 to 600 ohm loads. TVI suppressed. With tubes and built-in power supply.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-352-1 | Kit | $244.50 |
| 240-352-2 | Wired and tested | $289.50 |



**VIKING "THUNDERBOLT" AMPLIFIER**—The hottest linear amplifier on the market! 2000 watts P.E.P.* input SSB; 1000 watts CW; 800 watts AM linear; in a completely self-contained desk-top package. Delivers a dominant signal on all amateur bands—continuous coverage 3.5 to 30 mcs. — instant bandswitching. May be driven by the Viking "Navigator," "Ranger," "Pacemaker" or other unit of comparable output. Drive requirements: approx. 10 watts in Class $AB_2$ linear, 20 watts Class C continuous wave. Final amplifier employs two 4-400A tetrodes in parallel, bridge neutralized. Complete with tubes and built-in power supply.

| Cat. No. | | Amateur Net |
|---|---|---|
| 240-353-1 | Kit | $524.50 |
| 240-353-2 | Wired and tested | $589.50 |

**VIKING "KILOWATT" AMPLIFIER**—The Viking "Kilowatt" is the only transmitter available that provides full, maximum legal power in all modes—SSB, CW, and AM. Class C final amplifier operation provides plate circuit efficiencies in excess of 70% with unequalled broadcast-type high level amplitude modulation. A pair of 4-400A tubes in Class $AB_2$ easily deliver 2000 watts P.E.P.* in SSB mode—provides a full 1000 watts input in AM mode with a pair of push-pull Type 810 tubes in Class B modulator service. 1000 watts input in Class C CW mode. High efficiency pi-network output circuit will match 50 to 500 ohm antenna loads.

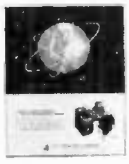
Compact pedestal contains the complete kilowatt—rolls out for easy adjustment or maintenance. Excitation requirements: 30 watts RF and 10 watts audio for AM; 2-3 watts peak for SSB. With tubes.

**Cat. No. 240-1000** Wired and tested . . . . . **Amateur Net $1595.00**

Matching accessory desk top, back and three-drawer pedestal.

**Cat. No. 251-101-1** . . . . . **FOB Corry, Pa. $132.00**

*The F.C.C. permits a maximum of one kilowatt average power input for the amateur service. In SSB operation under normal conditions this results in peak envelope power inputs of 2000 watts or more depending upon individual voice characteristics.



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Complete information on all of the world famous Johnson Transmitting Products for amateur and commercial use.

**E. F. Johnson Company**

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World Radio History

# E. F. Johnson
# Keys and Practice Sets

**DELUXE SEMI-AUTOMATIC KEYS** — Adjustable from lowest to highest speeds, this handsomely finished semi-automatic key has a smooth, easy action. Vibrator, posts, circuit closing switch, and all machine parts heavily chrome plated. Five adjustments with lock nuts—molded plastic paddles adjust separately to best height. Steel base 6¼"x3½"x½"—complete with adjustable weight and rubber feet.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-500 | ⅛" contacts, black wrinkle base | $17.95 |
| 114-501 | ¼" contacts, polished chrome base | 20.65 |

**SPECIAL SEMI-AUTOMATIC KEY** — Many operating features—attractively finished, black wrinkle enamel base. All hardware and vibrator heavily chrome plated. Same vibrator as on deluxe key. Easy action, adjustable from lowest to highest speeds. ⅛" coin silver contacts—circuit closing switch—rubber mounting feet.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-520 | Special Model, Semi-Automatic | $13.95 |

**HEAVY DUTY KEYS**—Heavy die cast base, chrome plated key arm. Well insulated for heavy duty service. Large ¼" coin silver contacts. Improved Navy-type knob. Adjustable steel bearings and spring design give light keying touch.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-320 | Black wrinkle enamel base | $4.70 |
| 114-321 | Polished chrome plated base | 5.85 |

**STANDARD KEYS** — Heavy die cast base. Smooth adjustable bearings. Provision for plugging in semi-automatic keys. ⅛" coin silver contacts. A high quality key at a low cost.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-310 | Black wrinkle, no switch | $3.10 |
| 114-310-3 | Black wrinkle with switch | 3.90 |
| 114-311 | Chrome plated, no switch | 5.20 |
| 114-311-3 | Chrome plated with switch | 6.10 |

**HIGH SPEED STANDARD KEYS**—Fully adjustable spring tension, contact spacing and bearings. Brass base and binding posts—instrument lacquer finish. .072" platinor contacts.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-100 | R48 Key, satin brass, no switch | $5.95 |
| 114-100-3 | M100 Key, satin brass with switch | 6.85 |

**PRACTICE KEY**—An inexpensive practice key—perfect in design for the average beginner. All the metal parts are nickel plated. Furnished with an adjustable key arm, spring and smooth action bearings. Contacts are of ⅛" coin silver.

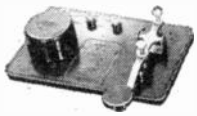
| Cat. No. | | Amateur Net |
|---|---|---|
| 114-300 | Molded phenolic base | $2.25 |

**PHENOLIC BASE KEYS**—High quality key with adjustable bearings. Improved spring-pigtail connection. ⅛" coin silver contacts—nickel plated metal parts.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-301 | Molded phenolic base, no switch | $2.50 |

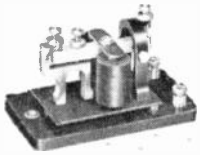
**CORD AND WEDGE**—Cord and wedge for easy attachment of semi-automatic key across circuit-closing switch of a standard hand key. Used almost universally by railroad telegraphers—ideal for amateur service where both hand key and semi-automatic are used.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-380 | Cord and wedge | $1.15 |



**PRACTICE SET** — Constant frequency buzzer and key on a 4" x 6" molded bakelite base. Buzzer tone is fully adjustable. Coin silver contacts. Uses two dry cells or "C" battery. Connect singly or in pairs for code practice.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-450 | Practice Set | $4.90 |
| | Buzzer only as used on set above. | |
| 114-400 | Buzzer | $1.85 |



**TELEGRAPH SOUNDER** — Designed for instant response, brass sounder provides clear, resonant tone. Steel bar frame, black enamel finish. Brass bridge and adjustment screws, instrument lacquer finish. Sounder plate is black lacquered steel. Mahogany finished wood base, brass binding posts and rubber mounting feet.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-112 | Sounder (4 ohms) | $9.95 |
| 114-113 | Sounder (20 ohms) | 10.45 |

**LEARNER SET** — Telegraph practice set. Bar frame steel, brass bridge and adjustment screws. Brass lacquer finish. Brass sounding bar—black lacquered steel sounder plate. Adjustable, brass finished key arm. Mahogany finished wood base, brass binding posts, rubber feet.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-110 | (4 ohms) | $14.95 |
| 114-111 | (20 ohms) | 15.45 |

**PONY RELAY**—Polished, plated steel armature—all other metal parts brass with lacquer finish. Heavy duty magnets. Mahogany finish wood sub-base—cast iron black enamel base.

| Cat. No. | | Amateur Net |
|---|---|---|
| 114-105 | (20 ohms) | $13.80 |

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World Radio History

# TWO-WAY RADIO

*communications equipment*

**VHF-FM FOR:**
MOBILE
AIRCRAFT
MARINE
MOTORCYCLE
PORTABLE
BASE

**VHF-AM FOR:**
AIRPORT VEHICLES
GROUND STATIONS
POINT-TO-POINT

**VHF**
ANTENNAS
REMOTE CONTROLS
ACCESSORIES

MODEL 278 SERIES

## CONTROLLER

### VHF-AM TWO-WAY RADIO

for airport vehicles and ground stations

The CONTROLLER mobile unit was specifically designed for airport vehicles requiring two-way communication with control towers and planes.

For use in ramp jeeps, electrician's trucks, crash trucks, tow tractors, snow plows, executive cars, police cars and at temporary locations such as construction sites.

**FEATURES**

- **FREQUENCY RANGE:** 118 to 400 MC. crystal controlled.
- **SINGLE OR DUAL CHANNEL:** maximum spread 500 Kc.
- **POWER OUTPUT:** 3 to 4 watts, more than enough for airport service.
- **LOW BATTERY DRAIN:** total standby 10 amps. at 6 volts, 5 amps. at 12 volts.
- **UNIVERSAL:** instantly changeable from 6 to 12 volt operation.
- **COMPACT:** under dash or trunk mounting, case 5½"x11"x13".
- **LOW COST MAINTENANCE:** thousands of CONTROLLERS have earned an excellent reputation for trouble-free operation.

*NEW!*

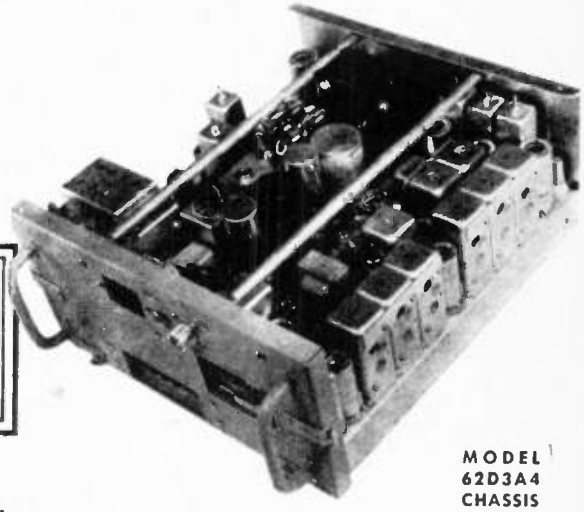
## FLIGHTCOM

### 12/24 VOLT VHF-FM FOR AIRCRAFT

Provides communications between ground FM systems and executive, patroling and utility aircraft. Used by fishing fleets, petroleum producers, pipe line helicopters, State police, Conservation departments, crop dusters, power companies and departments of the U. S. government.

**FEATURES**

- **COMPACT** . . . case size 14" x11½"x6½".
- **LIGHT** . . . 22 lbs. (without antenna and speaker).
- **UNIVERSAL** . . . instantly changed from 12 volt to 24 volt operation.
- **POWERFUL** . . . 25 watts output.
- **EFFICIENT** . . . low battery drain.
- **LOUD** . . . 1 watt minimum.
- **PERFORMANCE** . . . meets all existing and proposed FCC and FCDA requirements.



MODEL 62D3A4 CHASSIS

Package consists of: Chassis, case, shock mounting rack, control box, cables, microphone.

**ATTENTION DEALERS!**
**Write for available territories.**

DESIGNERS AND MANUFACTURERS OF RADIO COMMUNICATIONS EQUIPMENT

# COMMUNICATIONS COMPANY, Inc.

FOUNDED 1938 CORAL GABLES, MIAMI 34, FLORIDA

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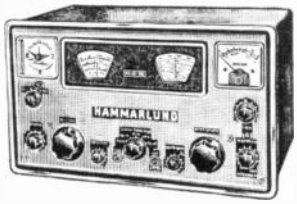
World Radio History

# HAMMARLUND

## COMMUNICATIONS RECEIVERS

Every Hammarlund communications receiver, today as in the past, is built to the highest quality standards. Every model has been designed to fill a specific need. In addition to the models listed, Hammarlund manufactures receivers for industrial and military use for operation in unusual frequency ranges.

### "HQ-100" COMMUNICATIONS RECEIVER




A general purpose receiver designed for SWL or amateur use. Continuously tunable from 540 KCS to 30 MCS. Outstanding sensitivity and selectivity. Electrical bandspread tuning with direct calibration. Q Multiplier for variable selectivity. Voltage regulated and temperature compensated high frequency oscillator for high degree stability. S Meter. Auto-response circuit automatically adjusts audio passband for best sound. Automatic noise limiter. 10-tube superheterodyne circuit. Rugged die-cast aluminum front panel. Clock-timer optional accessory.

### "HQ-110" COMMUNICATIONS RECEIVER

A receiver designed specifically for the amateur with every feature the amateur wants. Dual conversion; 12 tube superheterodyne circuit. Frequency range covering the 6, 10, 15, 20, 40, 80, and 160 meter amateur bands. Electrical bandspread tuning. S. Meter. Q Multiplier. Separate linear detector for optimum reception of SSB and CW signals. Separate beat frequency oscillator for extra stability. Crystal controlled second conversion oscillator. Built-in 100 'KC crystal controlled calibrator. Adjustable dial calibration. Automatic noise limiter. Cast aluminum front panel. Clock-timer optional accessory.

### "HQ-160" COMMUNICATIONS RECEIVER

Dual-conversion, general coverage receiver featuring many new developments for added listening pleasure. 13-tube superheterodyne circuit with automatic noise limiter. Frequency range, 540 KCS to 31 MCS. Separate linear detector for optimum reception of SSB and CW signals. Q-Multiplier. Electrical bandspread tuning. Separate stabilized BFO. Crystal-controlled 2nd conversion. Built-in crystal calibrator. Adjustable notch filter. 14 tuned circuits in IF's. S meter. New, easy-to-read calibrations every 5 KCS up to 10 MCS and every 10 MCS from 10 MCS up.

### "HC-10-SSB" CONVERTER

A SSB/CW and AM/MCW converter that provides reception equal to or exceeding the most expensive receivers available. May be used with any receiver having a stable front end and an IF frequency in the range of 450 through 500 KCS. Supplied with adapter that fits between last IF tube and socket. Does not affect normal operation of receiver. Completely self-contained with own power supply and audio output. Switch for either upper or lower or both sidebands. Permits passband width of .5, 1, 2, 3, 4, and 6 KCS. Also adjustable notch filter for up to 60 db attenuation. Seven selectivity positions, approaching mechanical filter skirt selectivity. Vernier type sideband tuning. Automatic noise limiter.

### "SP-600-JX" COMMUNICATIONS RECEIVER

In a class by itself for superior quality and performance. 20-tube, dual conversion superheterodyne covering the range of 540 KCS to 54 MCS in six bands. Operation on any one of 6 crystal controlled fixed frequencies instantly available on switch. Stability from .01 percent at 540 KCS to less than .001 percent at 54 MCS. Extremely high image rejection. Ideal for diversity reception and point-to-point reception. Available as table top or rack mounting model.

**NOTE:—The Hammarlund SP 600 Series Receiver is available in an extensive range of models for varying frequencies.**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World Radio History

# HAMMARLUND

## STANDARD VARIABLE CAPACITORS

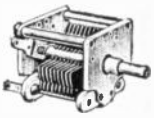
### "RMC" CAPACITORS

**FEATURES**—The "RMC" was designed specifically for applications requiring an "MC" type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods. It has a brass sleeve front bearing and a single ball thrust rear bearing for smooth tuning and a high degree of resetability. The rotor contact is a forked silver plated beryllium copper spring wiping against a wide disc on the rotor. The plate shape and other constructional features are the same as on the "MC." Tapped holes in front panel and in mounting feet, as well as additional brackets for inverted mounting permit a wide variety of assembly methods.

**SPECIFICATIONS**—Straight line capacity. Air gap is 0.0215" nominal. Tested at 1000 V. R.M.S., 60 cycles.

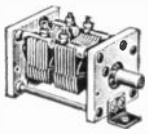
| CODE | CAPACITY* Max. | Min. | PLATES |
|---|---|---|---|
| RMC-50-S | 50. | 7.3 | 7 |
| RMC-100-S | 105. | 9.5 | 14 |
| RMC-140-S | 143.5 | 11.0 | 19 |
| RMC-325-S | 327. | 17.5 | 43 |

*Nominal Values.



RMC

### "VU" CAPACITORS



VU

**FEATURES**—The "VU" is a uniquely designed UHF tuning capacitor using completely original concepts. With it, conventional "lumped constant" circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles. In addition to employing the capacitor sections in series to eliminate the rotor wiper, the design also utilizes Pyrex balls to form precision bearings and to completely isolate the rotor. Thus, noise generated by rubbing metal-to-metal contacts and variable resistance paths in the bearings have been totally eliminated. Circuit connections are made to threaded studs on each stator. This permits vacuum tube and inductor to minimize circuit inductance. The symmetrical design is ideal for tuned circuits operating up to 500 megacycles.

**CONSTRUCTION**—Rotors and stators are of brass with plates soldered in precisely located grooves and then silver plated to increase the "Q" of the capacitor. The insulation is silicone treated steatite. All lengthwise frame members are of brass to minimize temperature effects. Base mounting brackets are provided. **SPECIFICATIONS**—The capacity characteristic approaches a straight line frequency curve as indicated by nominal values in table. Air gap is .0168" nominal. Tested at 700 V. R.M.S., 60 cycles, between rotor and each stator.

| CODE | SERIES CAPACITY* Eff. | Min. | PLATES/ SECTION |
|---|---|---|---|
| VU-20 | 22.5 | 3.35 | 11 |
| VU-30 | 31.5 | 3.5 | 15 |
| VU-45 | 45.0 | 3.8 | 21 |

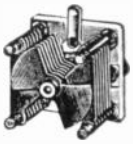
*Nominal Values.

| DIAL % ROTATION | EFFECTIVE SERIES CAPACITY VU-20 | VU-30 | VU-45 | DIAL % ROTATION | EFFECTIVE SERIES CAPACITY VU-20 | VU-30 | VU-45 |
|---|---|---|---|---|---|---|---|
| 0 | 0. | 0. | 0. | 70 | 11.2 | 15.7 | 22.4 |
| 10 | .55 | .8 | 1.15 | 80 | 14.65 | 20.55 | 29.35 |
| 20 | 1.55 | 2.2 | 3.15 | 90 | 18.6 | 26.05 | 37.2 |
| 30 | 2.75 | 3.85 | 5.45 | 100 | 22.5 | 31.5 | 45.0 |
| 40 | 4.2 | 5.85 | 8.35 | | | | |
| 50 | 6.0 | 8.4 | 12.0 | | | | |
| 60 | 8.35 | 11.65 | 16.65 | | | | |

Cap. Tol.: +.15MMFD. or 1¼% whichever is greater.

### "BFC" CAPACITORS

**FEATURES**—The "BFC" "butterfly" type capacitor has very low minimum capacity, low inductance and isolated rotor for use in VHF applications as a series capacitor with no rotor connection. For dual split stator capacitor use, it has a low-loss positive rotor contact. Mechanical and electrical symmetry and stator terminal locations minimize circuit inductance. **CONSTRUCTION**—Brass rotors and stators are soldered and nickel-plated. The contact wiper is heavily silver plated beryllium copper. Tapped studs on the silicone treated steatite front panel permit mounting the capacitor without grounding the rotor. The sleeve type bearing is nickel-plated brass. **SPECIFICATIONS**—Straight line capacity. 90° rotation from minimum to maximum capacity position. Air gap is 0.030" nominal. Tested at 1200 V. R.M.S., 60 cycles between rotor and each stator.



**High Speed Ball-Bearing Models Also Are Available.**

| CODE | CAPACITY SECTION* Max. | Min. | SERIES CAPACITY* Max. | Min. | PLATES Rotor | Each Stator |
|---|---|---|---|---|---|---|
| BFC-12 | 14.5 | 3.4 | 7.6 | 2.2 | 4 | 3 |
| BFC-25 | 27.3 | 4.8 | 14.1 | 2.9 | 7 | 6 |
| BFC-38 | 40.1 | 6.2 | 20.6 | 3.6 | 10 | 9 |

* Nominal Values.

### "MAC" CAPACITORS

MAC

**FEATURES**—The "MAC" provides the low minimum capacity essential for use as a trimmer in the VHF range. It was engineered to achieve the smallest dimensions practical to meet the requirements of a miniaturized component.

**CONSTRUCTION**—Its silicone treated steatite base is only ¾" x ⅝". Rotor and stator are soldered assemblies and are of brass, nickel-plated. Rotor and stator terminals are positioned to permit short leads. The threaded bearing is provided with flat sides to permit single hole mounting.

**SPECIFICATIONS**—Straight line capacity. Screwdriver adjustment. Air gap is 0.017" nominal. Tested at 250 V. R.M.S., 60 cycles.

| CODE | CAPACITY* Max. | Min. | PLATES |
|---|---|---|---|
| MAC-5 | 5.0 | 1.4 | 5 |
| MAC-10 | 8.7 | 1.7 | 9 |
| MAC-15 | 14.2 | 2.2 | 15 |
| MAC-20 | 19.6 | 2.7 | 21 |

* Nominal Values.

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World Radio History

# HAMMARLUND

## STANDARD VARIABLE CAPACITORS

### "APC" CAPACITORS

APC

**FEATURES**—The "APC" trimmer capacitor originated by Hammarlund over twenty years ago is still widely recognized as the standard capacitor of its type. Its use is indicated in all classes of equipment where a compact, high quality air dielectric trimmer is required. It was designed to resist effects of temperature, moisture and vibration. Silicone treated steatite insulation is used to insure high leakage resistance.

**CONSTRUCTION**—Brass rotor and stator plates are soldered to brass supports. Nickel-plated phosphor bronze wiper assures positive rotor contact. All metal parts are nickel-plated. Terminals are hot-tin dipped. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding the rotor.

**SPECIFICATIONS**—Straight line capacity characteristic. Available either with hexagonal collar on slotted shaft to permit rotor adjustments to be made with wrench or screwdriver or with ½" extended shaft for knob control or shaft coupling. "APC-C" Lock Type now also available through distributors. Air Gap is 0.015" nominal. Tested at 600 V. R.M.S., 60 cycles.

| CODE | CAPACITY* Max. | Min. | PLATES |
|---|---|---|---|
| APC-25 | 25. | 3.0 | 7 |
| APC-50 | 50. | 3.9 | 14 |
| APC-75 | 75. | 4.6 | 20 |
| APC-100 | 100. | 5.5 | 27 |
| APC-140 | 140. | 6.7 | 37 |

*Nominal Values.

### "MAPC" CAPACITORS

**FEATURES**—The "MAPC" capacitor is representative of Hammarlund's efforts to meet the demand for smaller dependable components. It is a scaled-down version of the popular "APC" with everything reduced except the quality and performance characteristics. For example, an "MAPC" is about half the size and weight of an "APC." Lower minimum capacities and low inductance make the "MAPC" suitable for VHF use. **CONSTRUCTION**—The standard "APC" construction is used in this capacitor. Rotors and stators are fabricated by soldering brass plates to supporting members and nickel-plating the assemblies. Nickel-plated Beryl. Copper wiper assures positive rotor contact. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding rotor.

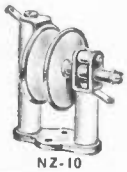
**SPECIFICATIONS**—Straight line capacity. Available either with screwdriver or socket wrench adjustment or with 7/16" extended shaft for knob control or shaft coupling. "MAPC-C" Lock Type now also available through distributors. Air Gap is 0.0125" nominal. Tested at 600 V. R.M.S., 60 cycles.

| CODE | CAPACITY* Max. | Min. | PLATES |
|---|---|---|---|
| MAPC-15 | 15. | 2.3 | 6 |
| MAPC-25 | 25. | 2.6 | 10 |
| MAPC-35 | 35. | 2.9 | 14 |
| MAPC-50 | 50. | 3.2 | 19 |
| MAPC-75 | 75. | 3.9 | 29 |
| MAPC-100 | 100. | 4.5 | 38 |

*Nominal Values.

MAPC

### "NZ-10" CAPACITORS



NZ-10

**FEATURES**—The "NZ-10" is a compact transmitter neutralizing capacitor designed for easy and accurate adjustment. The rotor is attached to a fine-thread lead screw which may be adjusted with smooth and precise action by a screwdriver and locked securely by a readily accessible clamping screw. A stop prevents shorting of plates at maximum capacity. Long leakage paths to ground from both rotor and stator are provided. Glazed steatite insulators and smoothly rounded aluminum plates minimize flashover.

**SPECIFICATIONS**—Capacity is adjustable from 2.3 to 10 mmf. Peak voltage rating is 3000 V. at maximum capacity (minimum gap) position.

### "FC" and "FNC" COUPLINGS

**FEATURES**—The "FC-46-S" is an insulated flexible coupling designed to provide for mechanical ganging of shafts even though angularly misaligned. The smallest dimensions have been incorporated consistent with the rugged construction necessary for general service. A high degree of electrical isolation is achieved through the use of silicone treated steatite insulation. Flashover voltage is approximately 5000 V. R.M.S. Brass hubs and spring temper phosphor bronze flexible arms are nickel plated. An exclusive and important feature of this coupling is its characteristic of uniform side-thrust through 360° of rotation. This eliminates tendency to vibrate at high speeds, minimizes bearing wear and assures accurate tracking.

The "FNC-46-S" is a non-insulated coupling for use where electrical continuity between shafts is required. The flexible arms are held securely to a nickel plated brass ring instead of an insulator.

**STANDARD STOCK TYPES**

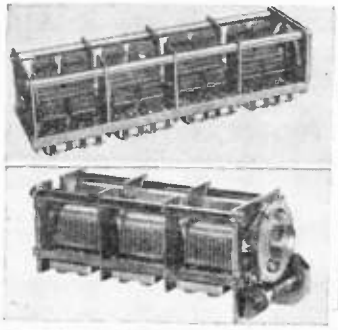
**CODE FC-46-S** Insulated flexible coupling
**CODE FNC-46-S** Non-insulated flexible coupling

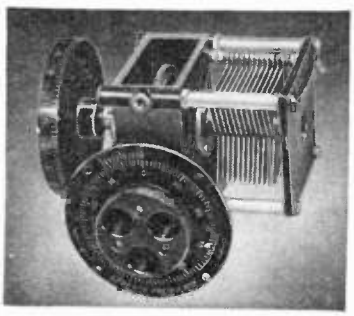
## SPECIAL VARIABLE CAPACITORS FOR ALL NEEDS

### HAMMARLUND CUSTOM ENGINEERED CAPACITORS

Hammarlund has for many years been considered the foremost designer and producer of variable capacitors for special military, scientific and precision applications. Should you have a special capacitor requirement, your engineers will find the services of our capacitor design group to be of inestimable value. Illustrated are two communications receiver multiple-section tuning capacitors and a single-section frequency meter capacitor. All of these capacitors feature exceptionally precise calibration accuracy, the highest possible degree of resetability, essentially zero temperature coefficient, close tolerances on starting and running torque, high "Q" under adverse operating conditions and complete freedom from noise. To produce these and similar capacitor designs involve the techniques of metallurgy, gearing, finishing, bearing design, ceramics, vibration and shock—to mention but a few. These techniques are possessed to a high degree here at Hammarlund.

Should you have need for facilities such as ours, we will welcome your inquiry.







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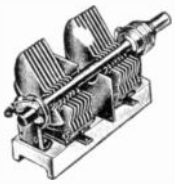
World Radio History

# HAMMARLUND

## STANDARD VARIABLE CAPACITORS

### "MC" and "MCD" CAPACITORS

MC



MCD

**FEATURES**—The "MC" is a versatile single section tuning capacitor designed to give the equipment engineer a choice of mountings, connections and capacity characteristics. The threaded brass front bearing and tapped aluminum end brackets permit panel or base mounting. A rotor stop permits 180° clockwise rotation for increasing capacity. "MC-S" capacitors have a straight line capacity characteristic. "MC-M" units have offset plates resulting in a "Midline" characteristic which more equally spaces frequencies. "MC-X" units are wide spaced for high voltages. For optimum performance all Hammarlund "MC" capacitors have silver plated beryllium copper wiping contact, silicone-treated steatite insulation, soldered nickel plated brass rotors and stators, rotor shaft supported on bearings at both front and rear of capacitor. The "MCD" is a split-stator panel mounted capacitor with all the "MC" features. Stators have terminals on both sides. Stators on single-spaced capacitors are separated by a shield. Wide spaced units have no shield. **SPECIFICATIONS** Straight line or "Midline" capacity characteristic. Single spaced types have 0.0245" nominal air gap and are tested at 1000 V. R.M.S., 60 cycles. Wide-spaced ("X") types have 0.0715" nominal air gap and are tested at 1750 V. R.M.S., 60 cycles.

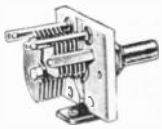
| CODE | CAPACITY* Max. | CAPACITY* Min. | PLATES/ SECTION | CODE | CAPACITY* Max. | CAPACITY* Min. | PLATES/ SECTION |
|---|---|---|---|---|---|---|---|
| MC-20-S | 20. | 5.5 | 3 | MC-20-SX | 20. | 6.8 | 7 |
| MC-35-S | 35. | 6.0 | 5 | MC-35-MX | 32. | 7.8 | 11 |
| MC-50-M | 50. | 6.3 | 7 | MC-35-SX | 32. | 8.5 | 11 |
| MC-50-S | 50. | 6.5 | 7 | MC-50-MX | 53. | 10.5 | 19 |
| MC-75-M | 80. | 7.3 | 11 | MC-50-SX | 53. | 11.5 | 19 |
| MC-75-S | 80. | 8.0 | 11 | MC-100-SX | 100. | 16.5 | 35 |
| MC-100-M | 100. | 7.7 | 14 | MCD-50-M | 50. | 5.5 | 7 |
| MC-100-S | 100. | 8.3 | 14 | MCD-100-M | 100. | 6.3 | 14 |
| MC-140-M | 140. | 9.0 | 19 | MCD-100-S | 100. | 7.0 | 14 |
| MC-140-S | 140. | 10.0 | 19 | MCD-140-M | 140. | 7.8 | 19 |
| MC-200-M | 200. | 10.3 | 27 | MCD-35-MX | 31. | 6.0 | 11 |
| MC-250-M | 250. | 12.0 | 34 | MCD-35-SX | 31. | 6.8 | 11 |
| MC-325-M | 320. | 13.5 | 43 | | | | |

M-Midline plates. S-Straightline plates. X-Wide-Spaced. *Nominal Values.

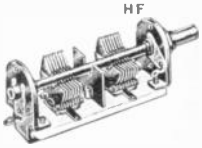
### "HF" and "HFD" CAPACITORS

**SINGLE SECTION CAPACITOR** The "HF" is a single section tuning capacitor employing "APC" rotor and stator design. Extra long sleeve bearing and positive contact nickel plated phosphor bronze wiper make this unit ideally suited to high frequency applications. Silicone treated steatite insulation. Single hole or base mounting. Special spacing, capacity values, finishes and other modifications are available to manufacturers on special order.

**DOUBLE SECTION CAPACITOR**—The "HFD" dual capacitors, like the "HF" singles, incorporate advanced features providing for maximum efficiency at high frequency. Soldered brass plates are nickel plated. Aluminum front and rear end panels are mounted on a heavy silicone treated steatite base. Wide front and rear bearings with individual silver plated beryllium copper wipers for each section assure long life and maximum contact efficiency. Single hole panel mount or base mounting. Electrostatic shield between sections. Terminals are provided on both sides of each stator to permit mounting tube and inductor on opposite sides. **SPECIFICATIONS** Straight line capacity. Single spaced types (HF and HFD) have 0.015" air gap and are tested at 600 V. RMS., 60 cycles. Wide spaced types (HF-X and HFD-X) have 0.045" air gap and are tested at 1400 V. R.M.S., 60 cycles.



HF

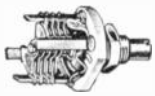


HFD

| CODE | CAPACITY* Max. | CAPACITY* Min. | PLATES/ SECTION | CODE | CAPACITY* Max. | CAPACITY* Min. | PLATES/ SECTION |
|---|---|---|---|---|---|---|---|
| HF-15 | 17.5 | 2.8 | 5 | HF-30-X | 30. | 5.2 | 20 |
| HF-35 | 36. | 3.2 | 10 | HFD-50 | 52. | 3.6 | 14 |
| HF-50 | 52. | 3.7 | 14 | HFD-100 | 102. | 5.0 | 27 |
| HF-100 | 102. | 5.3 | 27 | HFD-140 | 142. | 6.0 | 37 |
| HF-140 | 142. | 6.3 | 37 | HFD-15-X | 16. | 3.8 | 11 |
| HF-15-X | 15. | 3.6 | 10 | HFD-30-X | 28.5 | 5.0 | 19 |

D-Split stator. X-Wide-Spaced. *Nominal Values.

### MACBF CAPACITORS



MACBF

**FEATURES**—The "MACBF" is a miniaturized butterfly capacitor providing extremely low capacity for the VHF range. It is of the straight-line capacity type. **CONSTRUCTION**—Rotor and stator of brass, solder assembled, and nickel-plated. Base is of silicone treated steatite. Terminals are hot-tinned dipped. Threaded bushing with flatted sides for panel or chassis mounting. **SPECIFICATIONS**—Straight line capacity. Screwdriver adjustment. Air gap is 0.017" nominal. Tested at 750 V. R.M.S., 60 cycles.

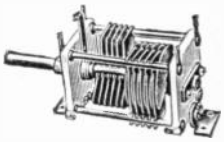
| CODE | Part No. | CAPACITY (per section) Max. ±10% | CAPACITY (per section) Min. ±15% | No. of PLATES Rotor | No. of PLATES Stator |
|---|---|---|---|---|---|
| MACBF-3 | 34604-G1 | 3.1 | 1.3 | 3 | 4 |
| MACBF-5 | 34604-G2 | 5.0 | 1.6 | 5 | 8 |
| MACBF-8 | 34604-G3 | 7.9 | 2.0 | 8 | 14 |
| MACBF-11 | 34604-G4 | 10.8 | 2.4 | 11 | 20 |

### "HFA" and "HFBD" CAPACITORS

**SINGLE SECTION CAPACITOR**—The "HFA" is a single section tuning capacitor similar to the "HF" except that larger plates permit wider air gaps for the same capacitance values. Resultant higher break down ratings extend the use of the capacitor into the high frequency low power transmitter field. A threaded sleeve bearing permits single hole mounting and the bracket supplied may be used for base mounting. A lug type terminal mounted with the bearing provides an efficient rotor connection.

**DOUBLE SECTION CAPACITOR**—The "HFBD" is a dual, balanced rotor transmitting capacitor employing front and rear panels plus a ball-thrust rear bearing, but other incorporating constructional features identical to the smaller "HFA." An insulted shaft extension safeguards operating personnel from the high voltages which may be applied to the rotor. The small size, rugged construction, balanced rotor and range of capacitance values and breakdown voltages make this capacitor ideally suited to many applications.

HFA



HFBD

| CODE | CAPACITY** Max. | CAPACITY** Min. | SPACING | PLATES/ SECTION | CODE | CAPACITY** Max. | CAPACITY** Min. | SPACING | PLATES/ SECTION |
|---|---|---|---|---|---|---|---|---|---|
| HFA-100-A | 102. | 4.5 | 0.020 | 19 | HFA-100-B† | 100. | 7.5 | 0.030 | 27 |
| HFA-140-A | 145. | 6.0 | 0.020 | 27 | HFA-15-E | 16. | 4.0 | 0.070 | 9 |
| HFA-10-B | 9. | 2.3 | 0.030 | 3 | HFBD-50-C | 50. | 9.0 | 0.050 | 11 |
| HFA-15-B | 16. | 2.8 | 0.030 | 5 | HFBD-100-C | 105. | 14.0 | 0.050 | 23 |
| HFA-25-B | 25. | 3.0 | 0.030 | 7 | HFBD-35-E* | 37. | 9.5 | 0.070 | 11 |
| HFA-50-B | 50. | 4.3 | 0.030 | 14 | HFBD-65-E* | 63. | 12.5 | 0.070 | 19 |

60 cycle voltage: "HFA"—"A" 800 V. R.M.S. "B" 1200 V. R.M.S. "E" 1750 V. R.M.S. "HFBD"—"C" 1500 V. RMS. "E*" 3000 V. R.M.S.; plates have rounded edges.
†Has front and rear supporting panels. **Nominal Values.

**SPECIFICATIONS**—Straight line capacity. Air gaps and test voltages are as indicated in table. However, "HFBD" breakdown voltages are doubled and capacitance values approximately halved when stator sections are connected in series.

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# GONSET

DIVISION OF L. A. YOUNG SPRING & WIRE CORP.

# GONSET Communications Equipment

ANTENNAS.... ACCESSORIES...

## G-66B COMPLETE FIXED-MOBILE RECEIVER

A highly flexible receiver, well suited for fixed station use...without equal for superior mobile reception. 6-band coverage, stable, sensitive, selective.

6 bands: .54 to 2 mcs. 3.54 mcs. 7-7.3 mcs. 14-14.35 mcs. 21-21.45 mcs. 28-29.7 mcs. AM, CW, SSB reception. Highly stable HF and BF oscillators and xtal controlled second conversion oscillator. Steep skirt selectivity by 265 kc 2nd I-F with 8 tuned circuits. Double conversion all bands. AVC and famous Gonset noise limiter, antenna trimmer, "S" meter. Slide rule dial exposes only band in use. 40:1 tuning ratio. Universal power supply is a separate unit, operates on 6V or 12V DC and 115V AC. Loudspeaker is built into power supply unit. Specify whether operation is to be 6V or 12V DC.

"Thin pack" power supply is available for 12 volt DC only operation. Only 2½" thick, plugs directly to G-66B as cabinet extension or can be connected with patch cable. Less speaker.

**G-66B, less power supply.....#3046.....**

**Universal "three way" power supply/speaker unit. (6V-12V DC-115V AC).....#3069-6....**

**Same as above. Factory wired 12V DC, 115V AC. With patch cable.....#3069-12.....**

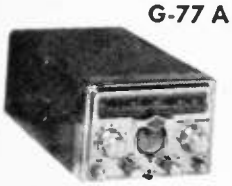
**"Thin pack" power supply. (12V DC only) less patch cable ....#3098.....**

**G-66B receiver with 3069-6 power supply and patch cable. Factory wired for 6V DC and 115V AC. #3213-6 .....**

**G-66B receiver with 3069-12 power supply and patch cable. Factory wired for 12V DC and 115V AC. #3213-12 .....**

**G-66B receiver with 3098 "thin pack" power supply. (12V DC only) Less patch cable..#3214.....**

## G-77 A MOBILE TRANSMITTER...

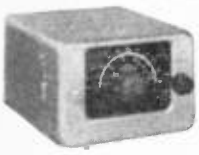


**G-77 A Transmitter with power supply and installation kit.**

**Model #3203 .....**

A new mobile transmitter with every desirable feature. A companion unit to the G-66B, same size and appearance. Covers 80-40-20-15-10 meters, has built-in, stable, calibrated VFO with xtl optional. Power input 50-60 watts, modulated. Pi network output. Full press-to-talk with built-in antenna relay. Power supply and modulator are in separate unit. 6V or 12V DC and 115V AC. Output voltage is 500-600 volts full load. Selenium rectifiers avoid rectifier filament standby drain.

## 6 METER CONVERTER



**Model #3066**

An effective converter which provides excellent 6 meter reception when operated in conjunction with conventional automobile broadcast receivers or with communications or broadcast type home receivers.

Has full-vision calibrated dail. Is compact, simple to install. Has switch for 6 or 12V filaments. Also has Gonset noise clipper built as separate unit for connection to receivers which do not have such provisions.

## 12 VOLT, POLICE-MARINE CONVERTER

Model #3163

For operation on 12V DC only.

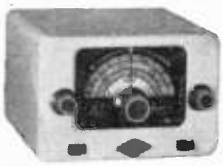
New converter for mobile reception of maritime and police bands within frequency range of 1.6 to 3 mcs. Unit operates in conjunction with existing auto set on any car having 12 volt battery system. Installation is simple, rapid. No alteration of auto set. Converter is supplied with cable and plug which fits antenna receptacle of auto set. Operating voltage (12V) is readily obtained by clipping lead to accessory battery post behind dash. Size 3½" H, 4" W, 4" deep.

## COMMUNICATIONS MONITOR RECEIVERS, FM AND AM TYPES

A new, economically-priced series of FM and AM receivers for communications monitoring and emergency applications in the VHF region. Complete with AC power supply, speaker, "built in" antenna, calibrated slide rule dial. Each has 8 tubes plus rectifier. Oscillator is temperature compensated, has low radiation. Excellent AVC and adjustable squelch.

**30 to 50 mcs, FM.....#3155**
**112 to 132 mcs, AM.....#3156**
**132 to 152 mcs, AM.....#3157**
**152 to 174 mcs, FM.....#3158**

## SUPER 12, SIX BAND CONVERTER



**Model #3261**

New six-band de luxe converter covers 10-11, 15, 20, 40 and 75 meters. Also covers 19 and 49 meter SW broadcast bands. Built-in BC trap. Good sensitivity and band spread. Separate isolated antenna inputs for converter and BC set. Sturdy, drawn aluminum outer case. Operates in any 12 volt car that has negative ground.

For 12 volt DC operation only.

## "3-30" SW CONVERTER

**Model #3002.....**

An excellent general coverage converter where extreme band-spread is not required. Covers 3 to 30 mcs in three ranges. Uses four tubes: 6BH6 RF, 6AV6 mixer, 6C4 oscillator and 6BH6 I.F. stage. Extremely compact and easy to install with any car radio.

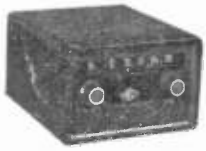
## MOBILE FM TUNERS

Gonset tuners provide an inexpensive yet sensitive and stable receiver when used in conjunction with ordinary auto, home or communication receivers. Tuners include squelch and noise clipper, I.F. and low-level audio. Very compact...mounts on steering post or under dash for mobile applications. 50 ohm input, simple to connect to receiver.

**152-162 mc. FM...#3012-6 152-162 mc. FM...#3012-12**

Specify 6 or 12 volt factory wiring.

## 12 VOLT, 88-108 MC FM CONVERTER



88-108 mc. FM
**Model #3239**

Now...full fidelity FM reception from your car. New converter operates with present auto set and antenna, brings all well-known advantages of FM. Easy to operate, only two controls, no fussy tuning. Merely locate signal on dial. Unique "locking" circuit then positively and correctly tunes FM station to full fidelity.

Installation is simple, non-technical. No alterations or adjustments to auto set. Converter merely connects to 12 volt battery source, plugs into antenna connection of auto radio.

For 12 volt DC operation only.

## 12 VOLT, 30-50 MC FM CONVERTERS

These new converters operate with present 12 volt auto radio to provide excellent mobile FM reception. Exclusive GONSET design permits simple, non-technical installation in minutes. No adjustments or alterations to auto set. Just plug converter into car radio and clip power lead to 12 volt "accessory" post under dash. Converters have adjustable squelch and dial lamp on-off switch. General appearance similar to Model 3239.

**Model #3247 30-40 mc. FM**
**Model #3251 40-50 mc. FM**



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World Radio History

# GONSET

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# GONSET Communications Equipment

ANTENNAS.... ACCESSORIES....

## G-43 ALL BAND RECEIVER

New G-43 all-band receiver utilizes advanced techniques for better performance, greater value. Features modern attractive styling, handsome metallic gray finish with controls and dials clearly set off for quick, easy operation. Speaker is built-in. Provisions for external speaker, earphones.

Improved stability and easy tuning is provided by 6-band coverage: .54-1.6 mcs; 1.8-5.7 mcs; 5.7-13 mcs, 13-20 mcs; 20-25 mcs; 25-30 mcs. Drum dial gives quick identification of band in use. Bandspread dial gives calibrated amateur bands as well as logging scale. Calibration on Band 6 provides for use of VHF converters. Has six, double-tuned Hi-Q transformers at 1650 kcs in I-F section. Selectivity, 6 kcs at 6 db down, 24 kcs at 60 db. Panel controls include main tuning, bandspread tuning, bandswitch, audio volume, sensitivity, antenna trimmer, ANL on-off, Phone-CW, standby-receive, signal strength meter. Provisions for crystal calibrator which is available as optional equipment. Tubes: 6BE6 (conv), 6BA6 (1st I-F), 6BA6 (2nd I-F), 6AU6 (3rd I-F), 6AL5 (det AVC, ANL), 12AX7 (1st audio-BFO) 6CM6 (2nd audio), 6X4 (rect.). Model #3241

## G-33 ALL BAND RECEIVER

G-33 is similar in construction and general appearance to G-43, has simplifications to provide greater economies. Tunes following ranges: Band 1, .54-1.6 mcs; Band 2, 1.8-6 mcs; Band 3, 6-13 mcs; Band 4, 13-34 mcs. Bandspread dial has calibrated scales for amateur bands. 1650 kc I-F results in greatly improved image rejection. 3-double tuned Hi-Q transformers provide excellent I-F selectivity.

Panel controls include: Main tuning, bandspread tuning, bandswitch, audio volume, antenna trimmer, sensitivity, function selector. Tubes: 6BE6 (conv), 6BA6 (1st I-F), 6BA6 (2nd I-F, BFO), 6AV6 (det, AVC, 1st audio), 6CM6 (2nd audio), 6X4 (rectifier).

Model #3222

## GROUND-TO-AIR COMMUNICATOR III

#3139-GA
(6-12V DC, 115V AC)

A highly effective, 2-way VHF station in a convenient, portable package. New "three way" power supply permits operation from 115V AC mains or from 6 or 12V vehicular storage battery. Xtal controlled transmitter supplies full 6-7 watts output power with AC or DC power sources. Superhet receiver has 6BZ8 low noise RF in "cascode" circuit, selective I-F, noise clipper, adjustable "squelch." Receiver is continuously tunable 112 to 132 mcs. Operation is simple, non-technical. Unit is same size and weight as other comparable Communicator III models. Can be used with integral whip or remote antenna and 52 ohm coaxial line.

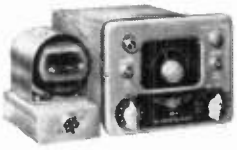
Prices include microphone, one crystal, canvas carrying case

## AIRPORT COMMUNICATORS

A new Communicator, ideally suited for airport use. Identical in size and general appearance to Model 3111. Available for operation on any fixed frequency from 25 to 300 mcs. Price includes microphone and crystals.

**Airport Communicator #3227**

## AR-1 AIRCRAFT TRANSMITTER-RECEIVER



Complete 11 tube VHF transmitter-receiver weighs less than 5#, fits within glove compartment of average small plane.

Sensitive receiver is continuously tunable from 108 to 128 mcs. Has isolating stage for omni, provisions for LF converter. Transmitter has 8 crystal controlled channels with well modulated speech output. Other features include famous Gonset noise limiter, earphone "side tone", switch to shift audio circuits to intercom, edge-lighted dial with on-off switch. Operating voltage 12- 14.5V. Current drain, receiving 4.5A, transmitting, 5A.

AR-1 TRANSMITTER RECEIVER..... Model 3060

DYNAMOTOR POWER SUPPLY AND INSTALLATION KIT.
Includes all connecting cables, mike and phone jacks, two dipole antennas and associated coax cables. Model 3061

## GSB-100, SSB TRANSMITTER

GSB-100 is a complete, self-contained SSB transmitter for operation on 80-40-20-15, 11-10 meter bands. This transmitter is rated at 100 watts PEP input, operates on SSB with selectable sidebands, phase modulation, AM and C.W.

Output circuit utilizes pi network. The new GONSET FILTER-PHASING network gives high sideband rejection, and uses a quartz crystal band-elimination filter for carrier suppression of more than 60 db. This filter avoids critical carrier balancing.

Frequency control is by fixed quartz crystal and built-in VFO. Latter features exceptional stability. Unit gives full 600 kcs within all amateur bands, 80 through 10. Highly effective voice operated control system, (VOX) is provided. Heavy duty 115V AC power supply is built-in.

**Model #3233**

## SSB RF LINEAR AMPLIFIER

New grounded grid linear amplifier is rated at 1000 watts peak input power. It is designed to operate with GSB-100, or similar SSB transmitters supplying 75-100 watts peak power drive. Amplifier is self-contained, includes power supply, pi-network output, antenna changeover relay. Provides bandswitched operation on 80-40-20-15-11 and 10 meters. Attractively styled. Same size cabinet and same general appearance as GSB-100 transmitter.

Model #3262

## 10 METER COMMUNICATOR

G-28 — a complete station "package" for 10 meter operation. Compact housing, 7½" H, 13" W and 12½" D contains receiver, transmitter and AC power supply.
Operation is from 115V AC only.

Receiver is highly sensitive and selective double-conversion superhet—has "S" meter, automatic noise limiter, adjustable "squelch", panel mounted loudspeaker. Transmitter uses 6146 in pi network final at 50 watts input. Frequency control is by crystal or built-in, highly stable VFO. Latter gangs with multiplying stages for single excitation control. Dial is calibrated, 28 to 29.7 mcs. Modulator is 2-6L6GB's.

**Model #3204**

## MONITONE

Model #3022

Monitone is a multi-purpose instrument for use as a code practice oscillator or an effective monitor for phone and C.W. xmtrs. Has audio oscillator controlled by external circuit, provides audible tone on panel speaker or earphones. Separate pitch and volume controls. Uses small RF from xmtr to operate as effective C.W. or phone monitor. Operates from 115V AC with isolating circuitry so that neither keying or earphone leads are "Hot" to ground.

## NOISE CLIPPER

A "must" for every mobile installation operating above 2 or 3 mc to reduce ignition interference. Works with all AM receivers using conventional diode detectors, easy to install. Complete instructions furnished.

**Model #3001**

## 12 VOLT PUSH BUTTON CONVERTER

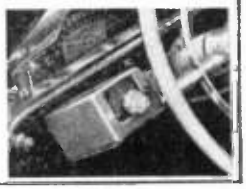
Model #3128

New push-button SW converter patches quickly and simply to any 12 volt, manually-tuned auto radio without internal connections or alterations to latter. Push buttons select 49, 31, 19 or 13 meter international SW bands or return auto set to BC. Tuning is done with auto set dial. Size 2¼" high, 5¼" wide, 4½" deep. All necessary plugs and cables supplied.

## STEERING POST MOUNTING BRACKET

Can be mounted on either right or left hand side of steering post. May be rotated to mount the converter above or below the steering post in the most convenient position in relation to the driver of the automobile. Complete with mounting straps and hardware.

**Model #3006**



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World Radio History

# GONSET

DIVISION OF L. A. YOUNG SPRING & WIRE CORP.

# GONSET Communications Equipment

ANTENNAS.... ACCESSORIES....

## COMMUNICATOR III... FOR EITHER 2 OR 6 METERS

Now....a completely new series of Communicator III models to meet fully the varied requirements of amateur, Civil Defense, CAP, Airport and many other services operating on VHF.

Each model is a complete station, has transmitter, receiver and power supply. Latter is self-contained, operates on 6 and 12V DC and 115V AC (all three). Only one vibrator used. Simple interior strapping speeds DC voltage changes. Silicon diodes eliminate rectifier tubes in power supply, save current drain.

Available models cover amateur 2 and 6 meter bands. Each has a tunable, calibrated receiver, utilizes low-noise 6BZ8 tube in sensitive "cascode" circuit, AVC is applied to avoid possibility of blocking by very strong locals. Special gang-tuned circuits give high image rejection. I-F selectivity is improved. All models have noise limiter, adjustable squelch, earphone provisions. Tuning dial is full-vision, slide-rule type. Switchable panel meter indicates exciter or final output or relative receiver signal level.

2E26 in transmitter delivers 6-8 watts output. New 6L6GB modulator tube gives heavier AM modulation. All tunable circuits have adjustment knobs on panel. Gang tuned circuits reduce spurious responses to negligible values. Transmitter has provisions for 6 crystals selectable by switch. (Also operates with external VFO.)

Cabinets are 10¾" wide, 10" high, 8¼" deep, are finished in Alpine White. Knobs are in Gunmetal Blue.

Optionally available is convenient zipper carrying bag for Communicators. Holds unit, plus mike, antenna, coax, other accessories. Heavy canvas, padded. Blue color.

**2 meter Communicator III (6-12V DC, 115V AC) #3133**
**6 meter Communicator III (6-12V DC, 115V AC) #3136**
**Zipper carrying bag. (Blue color) #3217**

## RF LINEAR AMPLIFIERS TO MATCH COMMUNICATOR III

New Linear RF amplifier to match new Communicator III models. Available for either 2 or 6 meters to increase carrier output of associated Communicator to 50, 60 watts. No alterations required on Communicator. Tune up is easy, foolproof, without danger to tubes. Switching Communicator to transmit automatically activates amplifier including internal antenna relay. Amplifier uses 2-826 VHF triodes with forced air cooling. Heavy duty power supply utilizes 2-5U4GB rectifiers. Cabinet is finished in Alpine white and has knobs finished in contrasting gunmetal blue.

**2 meters....#3211.**
**6 meters....#3212.**

## FIXED FREQUENCY COMMUNICATOR 25-250 MCS

A new Communicator for all VHF-AM applications on fixed frequencies from 25 to 250 mcs. Models certified for C-D applications are available in amateur 6 meter, 2 meter and 1¼ meter bands. Unit is compact, 7" high, 13" wide and 10" deep, includes speaker and dual power supply for 12 volts DC and 115 volts AC operation.

Receiver is fixed, crystal controlled, utilizes double conversion. Excellent noise figure assured by 6BZ8 Cascode RF. Spurious receiver responses are down greater than 60 db. at 230 mcs.

Transmitter is fixed, crystal controlled, uses type 6360 twin tetrode in push-pull, plate modulated by two 6 CM6's. Power output is 7-10 watts carrier with A3 emission. Spurious emissions down more than 60 db. Operation is press-to-talk.

C-D models are finished in bright yellow, have appropriate C-D symbol marking. C-D equipment is certified by manufacturer, meets applicable FCDA specifications for mobile AM receivers and transmitters above 25 mcs.

**COMMERCIAL MODEL #3111 (specify frequency)**
**CIVIL DEFENSE MODELS**

| | |
|---|---|
| **6 meter...#3112-50 C-D** | **(Certification M-48)** |
| **2 meter...#3112-144 C-D** | **(Certification M-50)** |
| **1¼ meter...#3112-220 C-D** | **(Certification M-52)** |

## C-D COMMUNICATOR III FOR EITHER 2 OR 6 METERS

Special Communicator III and Linear Amplifier models which meet applicable FCDA specifications are now available. These new units are similar to their 2 and 6 meter commercial counterparts, are the same size and general appearance but are finished in bright yellow with appropriate C-D markings. The same high performance is obtained when operating power is supplied by 6 or 12v car batteries or from 115V AC mains. These compact, complete VHF station units have high utility as portable, mobile or fixed stations in C-D routine or emergency applications.

Receiver is a sensitive superheterodyne, utilizes 6BZ8 low-noise RF tube in "cascode" circuit. Receivers of both models are tunable, the 2-meter model covering 144-148.3 mcs, the 6-meter model 49-54 mcs. Each model has noise clipper, adjustable squelch, pilot light on-off switch, earphone jack with speaker muting. Transmitter utilizes 2E26 delivering about 6 watts of carrier, AM modulated by a 6L6GB. Includes microphone, canvas carrying bag and one crystal (special frequency).

IMPORTANT FCDA CERTIFICATION INFORMATION:

Each of these C-D models has individual FCDA certification. The 2-meter model is under U-70 Utility Portable. The 6-meter model is under U-68 Utility Portable.

Note that C-D linear amplifiers are not certified individually but rather as a part of a complete "package" which includes the Communicator. In ordering, bear in mind that the C-D Gonset Communicator III has an individual Gonset part number, the Linear Amplifier has an individual part number and the two together as a "package" have a separate Gonset part number.

**2 meter C-D Communicator III. (6-12V DC, 115V AC) #3133-CD .....**

**6 meter C-D Communicator III. (6-12V DC, 115V AC) #3136-CD .....**

**2 meter Communicator III, 2 meter Linear Amplifier. FCDA certified "package". #3230.**

**6 meter Communicator III, 6 meter Linear Amplifier. FCDA certified "package". #3231.**

## RF LINEAR AMPLIFIERS TO MATCH COMMUNICATOR III-C-D.

New Linear RF amplifier to match new Communicator III C-D models. These linears have similar front panel size and are finished in the same bright yellow color as the Communicator. They are similar to commercial version linears, will increase C-D Communicator output to 50 watts. Adjustment is easy, foolproof, non-critical. Push-pull 826 VHF triodes with forced air cooling are used. Refer to "FCDA Certification" comment in Communicator III-CD descriptive copy. Models available for either 2 or 6 meters.

**2 meters..#3211 C-D.** **6 meters..#3212 C-D**

## NEW 2 and 6 METER VFO for Communicator III

New compact, highly stable VFO provides frequency control for either 2 or 6 meter Communicator III models. Both 2 and 6 meter bands are spread across slide-rule-type dial, either band being selectable by panel switch. Unit also has "spotting" switch. VFO is actuated automatically by the associated Communicator. Cabinet is finished in Alpine White enamel. Power supply for 115V AC operation is built in. Tubes, 2-6BJ6, 1-OB2.

**2 and 6 meter VFO. #3226.**

Usable only with Communicator III models.



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World Radio History

# GONSET

DIVISION OF L. A. YOUNG SPRING & WIRE CORP.

# GONSET Communications Equipment

ANTENNAS.... ACCESSORIES....

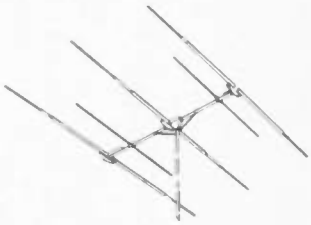
## "3-BANDER" SERIES, 2 and 3 ELEMENT BEAMS for operation on 3-bands

2-element beam, #3219....

Gonset 3-Banders are 2 and 3 element full length beams for high gain and superior performance on 3-bands, 10, 15 and 20 meters. Exclusive, multiple sleeve concentric elements give top 3 band performance, eliminate coils completely.

Beam assembly is simple, rapid. All elements are factory cut to correct length. 20 meters requires no tuning. Tuning for 10 and 15 meter driven elements and 15 meter parasitics is accomplished by simple adjustment of tuning sleeves. 10 meter parasitic elements are factory cut to correct length.

Highest grade silicone rubber "Boots" seal off the open-ended concentric elements from dust and moisture. These "Boots" have very low losses, do not absorb moisture, will not become brittle under exposure to sun and weather.



3-element beam, #3220...

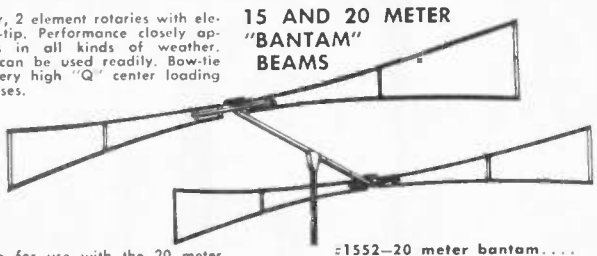
Forward gain. (3-band average)
3-element: More than 8 db.
2-element: 4.9 to 5.3 db.

Typical VSWR: 1.4 to 1. (at heights over 35')
Feed: Single RG8/U cable.
Weights: 3-element 65#, 2-element 35#.

## 15 AND 20 METER "BANTAM" BEAMS

Highly effective 15 and 20 meter, 2 element rotaries with element lengths only 16½' tip-to-tip. Performance closely approaches full length antennas in all kinds of weather, lightweight... TV-type rotator can be used readily. Bow-tie elements for broad banding, very high "Q" center loading inductors for lowest possible losses.

Single 52 ohm coax feed with link coupling and "Magic match" termination assures low VSWR, symmetry, balanced pattern. Antennas are factory tuned, require no field adjustments.



#1552—20 meter bantam....
#1554—15 meter bantam....
#1552-10—Booster element..

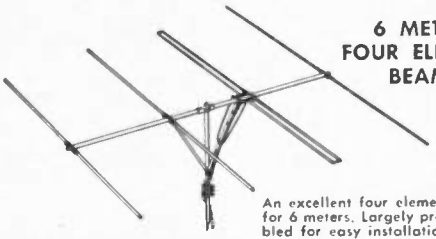
A Booster element is available for use with the 20 meter Bantam for improved performance when this antenna is operated on 10 meters.

## 2 METER ANTENNAS

#1621

DROOPING GROUND PLANE #1621 .....

## 6 METER FOUR ELEMENT BEAM

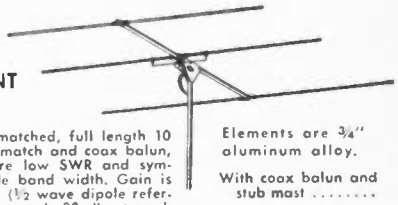


Includes special balun for balance and match of folded dipole driven element to 52 ohm coax.

An excellent four element Yagi for 6 meters. Largely preassembled for easy installation. Features high forward gain, low SWR and symmetrical pattern.

#1523 .....

## 10 METER 3 ELEMENT BEAM



Pre-tuned and matched, full length 10 meter beam. T match and coax balun, (supplied) assure low SWR and symmetry over wide band width. Gain is more than 8 db (½ wave dipole reference) and FBR exceeds 20 db at peak frequency. Boom is 10', 1½" and stub mast 40', 1¼" galvanized steel tubing.

Elements are ¾" aluminum alloy.

With coax balun and stub mast .....

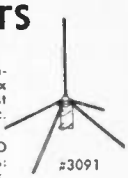
#1587

## C-D ANTENNA KITS

### 2 METER

COMPLETE GROUND PLANE KIT. Includes: 1-ground plane antenna, 50' coax cable and 2-PL259 fittings, 1-8' mast with clamp, base mounting, guys, etc. #3091 .....

BEAM ANTENNA KIT FOR POINT TO POINT COMMUNICATION. Includes: 1-de luxe Twin-six beam, 50' coax, 2-PL259 fittings. (Mast not supplied). #3092 .....

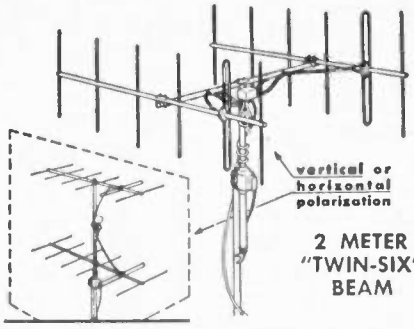


#3091

#3095

### 6 METER

GROUND PLANE ANTENNA. Includes: 50' coax, PL259 fitting, 8' mast with clamp, base mount, guys, etc. #3095



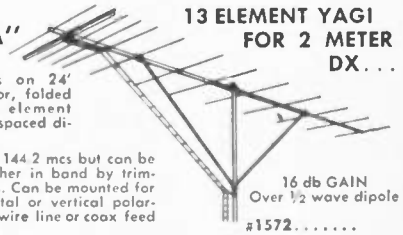

## 2 METER "TWIN-SIX" BEAM

Twin-six, a rugged, quickly assembled dual Yagi, provides well over 10 db gain and FBR throughout the 2 meter band. Special balun and matching networks assure symmetry and low SWR with 52 ohm coax line feed.
Array is largely preassembled and designed for use with standard TV rotator. Antenna may be arranged for horizontal or vertical polarization. De Luxe model includes braced 5' boom and mast section.

DE LUXE TWIN SIX BEAM..... #1560

## "BIG BERTHA"

## 13 ELEMENT YAGI FOR 2 METER DX...



13 elements on 24' boom—reflector, folded dipole driven element and 11 wide spaced directors.

Factory set at 144.2 mcs but can be optimized higher in band by trimming elements. Can be mounted for either horizontal or vertical polarization. Open wire line or coax feed possible.

16 db GAIN Over ½ wave dipole

#1572.....

## ANTENNA FILTER CAVITIES...

Extremely high Q adjustable filter cavity. Useful when more than one transmitter is employed on the same band with antennas close together, or for duplex operation or for repeater installations. Also greatly reduces spurious transmitter emissions and receiver responses, usually as much as 40 db. Adjustable (calibrated) insertion loss and selectivity. Provides from 15 to 30 db rejection at 1 mc off resonance depending upon insertion loss setting. Copper cavity is invar compensated for temperature. Calibrated micrometer adjustment. Type "N" connectors for RG8/U cable.

Filter cavity, 144-148 mcs. #3228

Filter cavity, 220-224 mcs. #3229.....

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World Radio History

# Miller

## Industrial R.F. Chokes and Filters

### Encapsulated R.F. Chokes

The following series of R.F. chokes range in value from 0.1 uh to 50 mh. Basically identical to our standard series of axial lead R.F. chokes bearing the equivalent number, these coils are encapsulated in epoxy resin and conform to MIL-C-15305A.

| Part No. | Inductance ±5% | Resistance ±10% | Current MA | List Price |
|---|---|---|---|---|
| 4580-E | 0.1 uh. | .01 | 300 | $1.65 |
| 4582-E | 0.15 uh. | .012 | 300 | 1.65 |
| 4584-E | 0.22 uh. | .017 | 300 | 1.65 |
| 4586-E | 0.33 uh. | .019 | 300 | 1.65 |
| 4588-E | 0.47 uh. | .022 | 300 | 1.65 |
| 4590-E | 0.68 uh. | .03 | 300 | 1.65 |
| 4592-E | 0.75 uh. | .033 | 300 | 1.65 |
| 4594-E | 0.82 uh. | .035 | 300 | 1.65 |
| 4602-E | 1.0 uh. | .05 | 300 | 1.65 |
| 4604-E | 1.5 uh. | .08 | 300 | 1.65 |
| 4606-E | 2.4 uh. | .16 | 300 | 1.65 |
| 4608-E | 3.9 uh. | .5 | 300 | 1.65 |
| 4609-E | 5.5 uh. | .69 | 300 | 1.70 |
| 4610-E | 6.2 uh. | .75 | 300 | 1.70 |
| 4611-E | 8.2 uh. | 1.12 | 300 | 1.70 |
| 4612-E | 10.0 uh. | 1.5 | 200 | 1.70 |
| 4622-E | 10.0 uh. | .06 | 300 | 1.75 |
| 4624-E | 15.0 uh. | .12 | 300 | 1.75 |
| 4626-E | 24.0 uh. | .28 | 300 | 1.80 |
| 4628-E | 39.0 uh. | .65 | 300 | 1.80 |
| 4629-E | 55.0 uh. | .92 | 300 | 1.80 |
| 4630-E | 62.0 uh. | 1.0 | 300 | 1.80 |
| 4631-E | 82.0 uh. | 1.6 | 300 | 1.80 |
| 4632-E | 100.0 uh. | 2.0 | 200 | 1.80 |
| 4642-E | 0.10 mh. | 4.1 | 125 | 2.00 |
| 4644-E | 0.15 mh. | 5.0 | 125 | 2.00 |
| 4646-E | 0.24 mh. | 6.6 | 125 | 2.00 |
| 4648-E | 0.39 mh. | 8.7 | 125 | 2.10 |
| 4649-E | 0.55 mh. | 10.0 | 125 | 2.10 |
| 4650-E | 0.62 mh. | 11.0 | 125 | 2.10 |
| 4651-E | 0.75 mh. | 13.0 | 125 | 2.10 |
| 4652-E | 1.0 mh. | 15.0 | 125 | 2.10 |
| 4662-E | 1.0 mh. | 7.0 | 125 | 2.15 |
| 4664-E | 1.5 mh. | 9.0 | 125 | 2.20 |
| 4666-E | 2.4 mh. | 12.0 | 125 | 2.30 |
| 4668-E | 3.9 mh. | 17.0 | 125 | 2.40 |
| 4669-E | 5.5 mh. | 22.0 | 125 | 2.55 |
| 4670-E | 6.2 mh. | 33.0 | 100 | 2.55 |
| 4671-E | 8.2 mh. | 45.0 | 100 | 2.80 |
| 4672-E | 10.0 mh. | 47.0 | 50 | 3.10 |
| 6302-E | 2.5 mh. | 8.3 | 200 | 2.40 |
| 6304-E | 5.0 mh. | 13.5 | 200 | 2.65 |
| 6306-E | 10.0 mh. | 28.0 | 125 | 2.90 |
| 6308-E | 25.0 mh. | 70.0 | 75 | 3.15 |
| 6310-E | 50.0 mh. | 110.0 | 75 | 3.40 |

### Video Peaking Coils, Filament Choke

No. 6175 Filament Choke—9/16" dia. x 7/8" long; Video Peaking Coils—3/16" dia. x 1/2" long.

| Cat. No. | Use | —uhy | Resistor | List Price |
|---|---|---|---|---|
| 6175 | Filament | 0.8 | None | $.50 |
| 6152 | Peaking | 20 | None | .50 |
| 6176 | Peaking | 36 | None | .50 |
| 6110 | Peaking | 60 | None | .50 |
| 6172 | Peaking | 73 | None | .60 |
| 6177 | Peaking | 93 | None | .60 |
| 6112 | Peaking | 100 | None | .60 |
| 6178 | Peaking | 120 | 22K | .60 |
| 6153 | Peaking | 120 | None | .60 |
| 6120 | Peaking | 155 | None | .60 |
| 6179 | Peaking | 180 | 39K | .60 |
| 6180 | Peaking | 180 | None | .60 |
| 6154 | Peaking | 200 | None | .60 |
| 6173 | Peaking | 250 | 22K | .60 |
| 6181 | Peaking | 250 | None | .60 |
| 6130 | Peaking | 275 | None | .60 |
| 6155 | Peaking | 300 | None | .60 |
| 6132 | Peaking | 330 | None | .60 |
| 6134 | Peaking | 375 | None | .60 |
| 6136 | Peaking | 420 | None | .60 |
| 6138 | Peaking | 470 | None | .60 |
| 6174 | Peaking | 500 | None | .60 |
| 6144 | Peaking | 550 | None | .60 |
| 6146 | Peaking | 600 | None | .60 |
| 6148 | Peaking | 700 | None | .60 |
| 6156 | Peaking | 800 | None | .60 |
| 6157 | Peaking | 950 | None | .60 |

### Printed Circuit Air Core R.F. Chokes

The following R.F. Chokes have been designed to offer a wide range of inductance values for use in printed circuit applications. Our standard stock of these coils is impregnated with a high grade coil varnish to prevent moisture absorption. On special orders we can supply these items treated with fungus resistant material, or encapsulated in epoxy resin to meet MIL-C-15305-A.

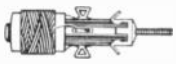
| Part No. | Inductance ±5% @ 1000 CPS | DC Resistance ±10% | Current | List Price |
|---|---|---|---|---|
| 970 | 1.0 mh. | 17.2 ohms | 125 ma. | $ .65 |
| 971 | 1.2 mh. | 19.8 ohms | 125 ma. | .65 |
| 972 | 1.5 mh. | 21.8 ohms | 125 ma. | .65 |
| 973 | 1.8 mh. | 24.7 ohms | 125 ma. | .70 |
| 974 | 2.2 mh. | 27.4 ohms | 125 ma. | .75 |
| 975 | 2.7 mh. | 31.2 ohms | 125 ma. | .75 |
| 976 | 3.3 mh. | 34.8 ohms | 125 ma. | .75 |
| 977 | 3.9 mh. | 38.9 ohms | 125 ma. | .75 |
| 978 | 4.7 mh. | 43.2 ohms | 125 ma. | .75 |
| 979 | 5.6 mh. | 48.0 ohms | 125 ma. | .75 |
| 980 | 6.8 mh. | 53.6 ohms | 125 ma. | .80 |
| 981 | 8.2 mh. | 60.8 ohms | 100 ma. | .80 |
| 982 | 10.0 mh. | 68.0 ohms | 100 ma. | .85 |
| 983 | 12.0 mh. | 77.0 ohms | 100 ma. | .85 |
| 984 | 15.0 mh. | 87.7 ohms | 100 ma. | .90 |
| 985 | 18.0 mh. | 97.9 ohms | 100 ma. | .90 |
| 986 | 22.0 mh. | 108.0 ohms | 75 ma. | 1.00 |
| 987 | 27.0 mh. | 121.0 ohms | 75 ma. | 1.00 |
| 988 | 33.0 mh. | 209 ohms | 75 ma. | 1.10 |
| 989 | 39.0 mh. | 231 ohms | 75 ma. | 1.10 |
| 990 | 47.0 mh. | 263 ohms | 50 ma. | 1.15 |
| 991 | 56.0 mh. | 292 ohms | 50 ma. | 1.20 |
| 992 | 68.0 mh. | 326 ohms | 50 ma. | 1.30 |
| 993 | 82.0 mh. | 368 ohms | 50 ma. | 1.40 |
| 994 | 100.0 mh. | 394 ohms | 50 ma. | 1.50 |

### Heavy Duty Hash Chokes

Through the use of a molded powdered iron form we are able to offer a series of relatively high inductance, high current hash filter chokes in a minimum of size. The chokes are designed to prevent ignition and generator interference noise pick-up from battery wiring systems and from vibrator and motor-generator plate supply systems. The standard stock item is supplied impregnated with a moisture resistant varnish. On special order we will supply the chokes fungus-proofed or encapsulated in Epoxy Resin to meet MIL-C-15305-A. Dimensions: 9/16" diameter x 1 1/4" long.

| Cat. No. | Uh. | Ohms | Amperes | List Price |
|---|---|---|---|---|
| 5218 | 3.35 | .008 | 13 | $1.25 |
| 5219 | 4.9 | .013 | 8 | 1.25 |
| 5220 | 8.8 | .017 | 5 | 1.25 |

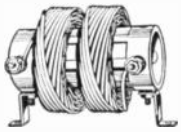
### Linearity & Width Controls



Dimensions: 3/4" x 2 1/2" Max.

| Cat. No. | Inductance Range | List Price |
|---|---|---|
| 6313 | .50- 5.0 Mh | $1.50 |
| 6314 | 2.0 -18. Mh | 1.75 |
| 6315 | 4.0 -30 Mh | 1.80 |
| 6316 | 4.0 -30 Mh with A.G.C. | 2.25 |
| 6317 | 3.2 - 9.0 Mh with A.G.C. | 2.25 |
| 6318 | .20- 3.0 Mh | 1.50 |
| 6319 | 15 -60 Mh | 2.25 |
| 6320 | .20- 3.0 Mh tapped | 1.50 |
| 6321 | 1.0 - 5.0 Mh tapped | 1.50 |
| 6322 | 1.5 -10 Mh | 1.75 |
| 6323 | .50- 5.0 Mh tapped | 1.50 |
| 6324 | 60.-130 Mh tapped | 2.25 |
| 6195 | .185-1 Mh | 1.25 |
| 6196 | .054- .245 Mh | 1.10 |
| 6196-A | .054- .50 Mh tapped | 1.25 |
| 6197 | .55 -2.3 Mh tapped | 1.25 |
| 6198 | .170- .61 Mh | 1.10 |
| 6199-A | 1.3 -4.1 Mh tapped | 1.30 |
| 6199-B | .50 -1.7 Mh | 1.25 |

### Heavy Duty Line Filter Chokes



For installation in noise producing equipment such as flasher signs, farm lighting plants, motor generators, etc. Also used with radio transmitters to prevent R.F. energy feeding back into the power circuits. Typical circuit diagrams are supplied with each choke. Chokes are duo-lateral wound on ceramic forms.

#### Single Line Filter Chokes

For filtering individual and branch circuits. **Can be wound on order to carry 150 amperes.**
Dimensions: 2 1/2" x 4"

| Cat. No. | Amps. | Ohms | Mh | List Price |
|---|---|---|---|---|
| 7826 | 5 | .28 | .57 | $4.85 |
| 7827 | 10 | .15 | .37 | 5.45 |
| 7828 | 20 | .08 | .20 | 6.00 |
| 7829 | 30 | .05 | .13 | 6.60 |

#### Dual Line Filter Chokes

For filtering both sides of single phase circuits.
Dimensions: 4 1/2" x 4"

| Cat. No. | Amps. | Ohms | Mh | List Price |
|---|---|---|---|---|
| D-7826 | 5 | .28 | .57 | $7.25 |
| D-7827 | 10 | .15 | .37 | 8.50 |
| D-7828 | 20 | .08 | .20 | 9.70 |
| D-7829 | 30 | .05 | .13 | 10.80 |

### Light Duty Line Filter Chokes

For use in the same applications as our Heavy Duty Line Filter Chokes where the load is of a lighter nature. Chokes are wound on bakelite forms.

#### Single Line Filter Chokes

For filtering individual and branch circuits.
Dimensions: 1 7/8" x 1 3/4"

| Cat. No. | Amps. | Ohms | Mh | List Price |
|---|---|---|---|---|
| 7825 | 2 | .7 | .600 | $2.00 |
| 7825-3 | 3 | .25 | .250 | 2.00 |
| 7825-5 | 5 | .1 | .100 | 2.00 |
| 7825-8 | 8 | .05 | .050 | 2.00 |

#### Dual Line Filter Chokes

For filtering both sides of single phase circuits.
Dimensions: 3 1/4" x 2 1/8"

| Cat. No. | Amps. | Ohms | Mh | List Price |
|---|---|---|---|---|
| D-7825 | 2 | .7 | .600 | $4.00 |
| D-7825-3 | 3 | .25 | .250 | 4.00 |
| D-7825-5 | 5 | .1 | .100 | 4.00 |
| D-7825-8 | 8 | .05 | .050 | 4.00 |

### Filament Choke

Enclosed solenoid wound chokes for use in the filament and vibrator circuits of battery operated receiver, transmitters, etc.

Dimensions: 3/4" dia.x1 7/8" long, plus 3" leads.

| Cat. No. | uH | Ohms | Amps | List Price |
|---|---|---|---|---|
| 5221 | 4 | .02 | 6 | $ .90 |

### Transmitter Chokes

For use in transmitter circuits of either medium or high power installations. Low distributed capacity. Dimensions: Form 1/2" x 2 1/2" long.

| Cat. No. | MH | Ohms | MA | List Price |
|---|---|---|---|---|
| 4550 | 2.0 | 6.5 | 400 | $2.50 |
| 4551 | 4.0 | 10.0 | 400 | 2.75 |
| Dimensions: (form) 1/2" diameter x 3 1/2" long. | | | | |
| 4534 | 1.0 | 2.5 | 1000 | 2.20 |
| 4535 | 1.5 | 3.6 | 1000 | 2.50 |
| 4533 | 2.5 | 4.5 | 750 | 2.75 |
| 4536 | 4.0 | 5.5 | 750 | 3.05 |
| 2881 | 7.0 | 7.2 | 750 | 4.95 |

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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***
World Radio History

# Miller

## Radio Frequency Chokes

### R.F. Chokes with Axial Leads

These chokes cover an inductance range from .1 microhenry to 10 millihenries in 5 decades with 8 coils per decade. Inductance values increase in steps of approximately 50%. Either single layer or 3-pi universal windings are used to insure low distributed capacity. Chokes are wound on low-loss molded phenolic or powdered iron core forms and are impregnated with a moisture- and fungus resistant varnish. The type of powdered iron used allows the chokes to operate at all frequencies up into the ultra-high frequency region.
Dimensions: Phenolic form 3/16" diameter x 3/4" long. Iron core form 3/16" diameter x 7/8" long. Leads are 1½" long. Inductance tolerance: plus or minus 5%.

#### Phenolic Form
#### Single Layer Windings

| Cat. No. | uh. | Ohms | ma | List Price |
|---|---|---|---|---|
| 4580 | 0.1 | .01 | 300 | $ .55 |
| 4582 | 0.15 | .012 | 300 | .55 |
| 4584 | 0.22 | .017 | 300 | .55 |
| 4586 | 0.33 | .019 | 300 | .55 |
| 4588 | 0.47 | .022 | 300 | .55 |
| 4590 | 0.68 | ,03 | 300 | .55 |
| 4592 | 0.75 | .033 | 300 | .55 |
| 4594 | 0.82 | .035 | 300 | .55 |
| 4602 | 1. | .05 | 300 | .55 |
| 4604 | 1.5 | .08 | 300 | .55 |
| 4606 | 2.4 | .16 | 300 | .55 |
| 4608 | 3.9 | .5 | 300 | .55 |
| 4609 | 5.5 | .69 | 300 | .60 |
| 4610 | 6.2 | .75 | 300 | .60 |
| 4611 | 8.2 | 1.12 | 300 | .60 |
| 4612 | 10 | 1.5 | 200 | .60 |

#### Iron Core Form
#### Single Layer Windings

| Cat. No. | uh. | Ohms | ma | List Price |
|---|---|---|---|---|
| 4622 | 10 | .06 | 300 | $ .65 |
| 4624 | 15 | .12 | 300 | .65 |
| 4626 | 24 | .28 | 300 | .70 |
| 4628 | 39 | .65 | 300 | .70 |
| 4629 | 55 | .92 | 300 | .75 |
| 4630 | 62 | 1.0 | 300 | .75 |
| 4631 | 82 | 1.6 | 300 | .75 |
| 4632 | 100 | 2.0 | 200 | .75 |

#### Phenolic Form
#### 3-Section Windings

| Cat. No. | mh. | Ohms | ma | List Price |
|---|---|---|---|---|
| 4642 | 0.1 | 4.1 | 125 | $ .75 |
| 4644 | 0.15 | 5 | 125 | .75 |
| 4646 | 0.24 | 6.6 | 125 | .75 |
| 4648 | 0.39 | 8.7 | 125 | .80 |
| 4649 | 0.55 | 10 | 125 | .80 |
| 4650 | 0.62 | 11 | 125 | .80 |
| 4651 | 0.75 | 13 | 125 | .80 |
| 4652 | 1.0 | 15 | 125 | .80 |

#### Iron Core Form
#### 3-Section Windings

| Cat. No. | mh. | Ohms | ma | List Price |
|---|---|---|---|---|
| 4662 | 1 | 7 | 125 | $ .85 |
| 4664 | 1.5 | 9 | 125 | .90 |
| 4666 | 2.4 | 12 | 125 | 1.00 |
| 4668 | 3.9 | 17 | 125 | 1.10 |
| 4669 | 5.5 | 22 | 125 | 1.25 |
| 4670 | 6.2 | 33 | 100 | 1.25 |
| 4671 | 8.2 | 45 | 100 | 1.50 |
| 4672 | 10 | 47 | 50 | 1.25 |

### Ferrite Core R.F. Chokes

A new series of R.F. Chokes taking advantage of the high permeability of ferrite cores. These chokes combine high inductance and low D.C. resistance with a small physical size.
Dimensions of core: ¼" diameter x 7/8" long. 1½" long axial leads.

| Cat. No. | mh. | Ohms | ma | List Price |
|---|---|---|---|---|
| 6302 | 2.5 | 8.3 | 200 | $1.00 |
| 6304 | 5 | 13.5 | 200 | 1.25 |
| 6306 | 10 | 28 | 125 | 1.50 |
| 6308 | 25 | 70 | 75 | 1.75 |
| 6310 | 50 | 110 | 75 | 2.00 |

### Adjustable Ceramic Forms and R.F. Coils

Permeability tuned coils wound on silicone impregnated ceramic forms. Hardware necessary for assembly is supplied.

#### Standard Adjustable Ceramic Form and R.F. Coils

Dimensions (form): 3/8" diameter x 1 1/16" long.

| Cat. No. | Microhenries | List Price |
|---|---|---|
| 4400 | Form only | $1.65 |
| 4403 | 0.9- 1.6 | 2.20 |
| 4404 | 1.5- 3.2 | 2.25 |
| 4405 | 3.1- 6.8 | 2.30 |
| 4406 | 6.7- 15 | 2.40 |
| 4407 | 14.8- 31 | 2.50 |
| 4408 | 30 - 69 | 2.55 |
| 4409 | 68 - 130 | 2.65 |
| 4410 | 126 - 250 | 2.65 |
| 4411 | 245 - 475 | 2.70 |
| 4412 | 450 - 800 | 2.70 |
| 4413 | 750 -1400 | 2.75 |
| 4414 | 1300 -2100 | 2.75 |

#4400 comes complete with hardware and core*
#4400 Bulk packed per 100 List Price $140.00

#### Miniature Adjustable R.F. Coils

Dimensions (form): ¼" diameter x 7/8" long.

| Cat No. | Microhenries | List Price |
|---|---|---|
| 4500 | Form only | $1.50 |
| 4501 | .4- .8 | 2.00 |
| 4502 | 1.0- 1.6 | 2.00 |
| 4503 | 1.6- 2.8 | 2.10 |
| 4504 | 2.8- 5 | 2.20 |
| 4505 | 5 - 9 | 2.30 |
| 4506 | 9 - 16 | 2.40 |
| 4507 | 16 - 24 | 2.50 |
| 4508 | 24 - 35 | 2.50 |
| 4509 | 35 - 60 | 2.50 |
| 4511 | 60 -120 | 2.50 |
| 4512 | 110 -200 | 2.60 |
| 4513 | 190 -330 | 2.60 |
| 4514 | 320 -500 | 2.60 |
| 4514-1 | 480 -800 | 2.75 |

#4500 comes complete with hardware and core*
#4500 Bulk packed per 100 List Price $115.00

#### Sub-Miniature Adjustable R.F. Coils

Dimensions (form): 3/16" diameter x 5/8" long.

| Cat No. | Microhenries | List Price |
|---|---|---|
| 4300 | Form only | $1.50 |
| 4301 | 0.17- 0.27 | 2.00 |
| 4302 | 0.27- 0.41 | 2.00 |
| 4303 | 0.40- 0.65 | 2.10 |
| 4304 | 0.64- 0.95 | 2.20 |
| 4305 | 0.94- 1.55 | 2.25 |
| 4306 | 1.5 - 2.57 | 2.30 |
| 4307 | 2.5 - 4.40 | 2.40 |
| 4308 | 4.3 - 7.15 | 2.40 |
| 4309 | 7.1 - 12.5 | 2.50 |
| 4310 | 12.4 - 20.3 | 2.50 |
| 4311 | 20.1 - 32.8 | 2.50 |
| 4312 | 32.5 - 51.5 | 2.50 |
| 4313 | 51. -102. | 2.60 |
| 4314 | 101. -180. | 2.60 |
| 4315 | 178. -300. | 2.60 |

#4300 comes complete with hardware and core*
#4300 Bulk packed per 100 List price $115.00

**Quantity orders can be wound to your specific requirements with extended inductances and Q values other than those shown. Your inquiries invited.**

*When ordering forms alone, the type of core should be specified by the addition of a suffix taken from the following.

| Suffix | Frequency Range of Core Material |
|---|---|
| Y | 50-1000 kc. |
| R | 1- 30 Mc. |
| W | 30- 300 Mc. |

### Multiple Pi Chokes

These Multiple Pi duo-lateral chokes have a low distributed capacity of 1.2-1.3 mmf. The current carrying capacity is comparatively high for this type of choke.
Inductance tol. ±5%.

| Cat. No. | Mh. | Ohms | MA | List Price |
|---|---|---|---|---|
| 4531-0 | .25 | 8 | 200 | $.90 |
| 4531 | .5 | 12 | 200 | .90 |
| 4531-1 | 1 | 17 | 200 | .90 |
| 4532 | 1.5 | 21 | 200 | 1.00 |
| 4537 | 2.5 | 28 | 200 | 1.00 |
| 4538 | 5 | 42 | 125 | 1.25 |
| 4539 | 7.5 | 82 | 125 | 1.40 |
| 4540 | 10 | 95 | 125 | 1.65 |
| 4541 | 25 | 160 | 125 | 1.95 |

#4537 Bulk packed per 100 — List Price $80.00

R.F. Chokes wound to closer tolerances if required in lots of 100 pieces or more at slightly higher prices.

### Unshielded Chokes

These single section R.F. Chokes are ideally suited for general purpose applications in receiver and filter circuit. Solder lug terminals and single hole mounting. Inductance tol. ±5%.

#### Air Core Type

Dimensions: 1⅛" diameter x ⅝".

| Cat. No. | MH | Ohms | MA | List Price |
|---|---|---|---|---|
| 510 | .25 | 8 | 125 | $ .60 |
| 620 | .75 | 17 | 125 | .65 |
| 630 | 1.50 | 21 | 125 | .65 |
| 640 | 2.50 | 28 | 125 | .75 |
| 650 | 5.0 | 41 | 125 | .75 |
| 560 | 7.5 | 53 | 125 | .80 |
| 670 | 10 | 67 | 125 | .85 |
| 670-T | 10 | 67 | 125 | 1.05 |
| 680 | 12.5 | 74 | 125 | .85 |
| 690 | 15.0 | 83 | 125 | .90 |
| 691 | 20 | 100 | 125 | 1.00 |
| 691-T | 20 | 100 | 125 | 1.20 |
| 592 | 30.0 | 120 | 100 | 1.05 |
| 693 | 60 | 200 | 100 | 1.20 |
| 693-T | 60 | 200 | 100 | 1.40 |
| 694 | 80.0 | 230 | 100 | 1.45 |

#### Iron Core Type

These chokes are similar in construction to the No. 600 series except that they are wound on powdered iron cores. Inductance tol. ±5%.

| Cat. No. | MH | Ohms | MA | List Price |
|---|---|---|---|---|
| 951 | .5 | 6.8 | 125 | $1.00 |
| 952 | 1.0 | 10.9 | 125 | 1.10 |
| 953 | 2.5 | 19.5 | 125 | 1.15 |
| 954 | 5.0 | 23.0 | 125 | 1.30 |
| 955 | 7.5 | 37.0 | 125 | 1.40 |
| 956 | 10.0 | 45.0 | 125 | 1.45 |
| 957 | 25.0 | 78.0 | 100 | 1.75 |
| 958 | 50.0 | 130.0 | 100 | 1.95 |
| 959 | 75.0 | 200.0 | 100 | 2.20 |
| 960 | 100.0 | 210.0 | 100 | 2.50 |
| 961 | 150.0 | 268.0 | 100 | 2.75 |

### Shielded Chokes

Single section wound R.F. Chokes assembled in round aluminum shield with two spade bolts for mounting. Solder lug terminals.

#### Iron Core Type

Dimensions: 1¼" dia. x 1" high.

| Cat. No. | MH | Ohms | MA | List Price |
|---|---|---|---|---|
| 851 | .5 | 8.6 | 125 | $1.40 |
| 852 | 1.0 | 11.5 | 125 | 1.50 |
| 853 | 2.5 | 22.0 | 125 | 1.55 |
| 854 | 5.0 | 31.0 | 125 | 1.70 |
| 855 | 7.5 | 42.0 | 125 | 1.75 |
| 856 | 10.0 | 47.0 | 125 | 1.80 |
| 857 | 25.0 | 100.0 | 125 | 2.15 |
| Dimensions: 1⅝" dia. x 1" high. | | | | |
| 858 | 50.0 | 160.0 | 100 | 2.30 |
| 859 | 75.0 | 222.0 | 100 | 2.60 |
| 860 | 100.0 | 348.0 | 100 | 2.85 |
| 861 | 150.0 | 520.0 | 100 | 3.15 |

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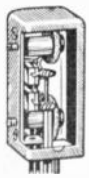
World Radio History

# Miller

## Intermediate Frequency Transformers



### Permeability Tuned Transformers

Miller permeability tuned intermediate frequency transformers are recommended for all applications where a high degree of frequency stability and operation under humid conditions will be encountered.

Dimensions: 1⅜" square x 3¼" high. #6/32 spade bolt mounting.

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 912-H1 | 262 | 250-275 | Input | $4.00 |
| 912-H2 | 262 | 250-275 | Interstage | 4.00 |
| 912-H3 | 262 | 250-275 | Full-Wave | 4.00 |
| 912-H4 | 262 | 250-275 | Half-Wave | 4.00 |
| 912-C1 | 455 | 450-475 | Input | 4.00 |
| 912-C2 | 455 | 450-475 | Interstage | 4.00 |
| 912-C3 | 455 | 450-475 | Full-Wave | 4.00 |
| 912-C4 | 455 | 450-475 | Half-Wave | 4.00 |
| 912-W1 | 1500 | 1400-1600 | Input | 4.00 |
| 912-W2 | 1500 | 1400-1600 | Interstage | 4.00 |
| 912-W3 | 1500 | 1400-1600 | Full-Wave | 4.00 |
| 912-W4 | 1500 | 1400-1600 | Half-Wave | 4.00 |

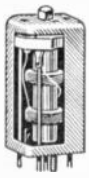
### Perm. Tuned I.F. and Disc. Trans.

For use in communications receivers designed for A.M. or Narrow Band F.M. These transformers feature high gain along with a high degree of frequency stability.

Dimensions: 1⅜" sq. x 2½" high. #6-32 spade bolt mounting.

| Cat No. | Freq. | Kc Range | Use | List Price |
|---|---|---|---|---|
| 913-C1 | 455 | 450-475 | Input or Interstage | $3.00 |
| 913-C4 | 455 | 450-475 | Output | 3.00 |
| 913-CD | 455 | 450-475 | Discriminator | 3.30 |
| 913-W1 | 1500 | 1400-1600 | Input or Interstage | 3.00 |
| 913-W4 | 1500 | 1400-1600 | Output | 3.00 |
| 913-WD | 1500 | 1400-1600 | Discriminator | 3.30 |

### Replacement I.F. Transformers



These transformers are an essential part of the stock of every serviceman and dealer. In many cases they will give better performance than the original transformer. These transformers may be used as replacements in most makes of receivers using transformers of the same physical size. Dimensions: 1⅜" square x 2⅝" high. #6/32 spade bolt mounting.

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 512-H1 | 262 | 250-275 | Input | $2.75 |
| 512-H2 | 262 | 250-275 | Interstage | 2.75 |
| 512-H3 | 262 | 250-275 | Full-Wave | 2.75 |
| 512-H4 | 262 | 250-275 | Half-Wave | 2.75 |
| 512-C1 | 455 | 450-475 | Input | 2.60 |
| 512-C2 | 455 | 450-475 | Interstage | 2.60 |
| 512-C3 | 455 | 450-475 | Full-Wave | 2.60 |
| 512-C4 | 455 | 450-475 | Half-Wave | 2.60 |
| 512-W1 | 1500 | 1400-1600 | Input | 2.60 |
| 512-W2 | 1500 | 1400-1600 | Interstage | 2.60 |
| 512-W3 | 1500 | 1400-1600 | Full-Wave | 2.60 |
| 512-W4 | 1500 | 1400-1600 | Half-Wave | 2.60 |

#### Iron Core Transformers

Dimensions: 1⅜" square x 3¼" high. #6/32 spade bolt mounting.

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 612-K1 | 175 | 165-185 | Input | $3.50 |
| 612-K2 | 175 | 165-185 | Interstage | 3.50 |
| 612-K3 | 175 | 165-185 | Full-Wave | 3.50 |
| 612-K4 | 175 | 165-185 | Half-Wave | 3.50 |
| 612-H1 | 262 | 250-275 | Input | 3.00 |
| 612-H2 | 262 | 250-275 | Interstage | 3.00 |
| 612-H3 | 262 | 250-275 | Full-Wave | 3.00 |
| 612-H4 | 262 | 250-275 | Half-Wave | 3.00 |
| 612-C1 | 455 | 450-475 | Input | 3.00 |
| 612-C2 | 455 | 450-475 | Interstage | 3.00 |
| 612-C3 | 455 | 450-475 | Full-Wave | 3.00 |
| 612-C4 | 455 | 450-475 | Half-Wave | 3.00 |

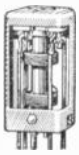
### Sub-Miniature I.F. Transformers

Through the use of a Ferrite shell core material these Sub-Miniature I.F. Transformers offer the gain and bandwidth characteristics previously obtained in only larger I.F. assemblies. (For Battery or AC-DC Radios.)

Dimensions: ½" sq. x 1½" high.

| Cat. No. | Item | List Price |
|---|---|---|
| 10-C1 | 455 KC Input I.F. Trans. | $2.60 |
| 10-C2 | 455 KC Output I.F. Trans. | 2.60 |

### Universal I.F. Transformers



For general replacement purposes in auto receivers and many types of household and portable receivers.

Dimensions: 1¼" square x 2½" high.

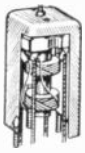
| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 312-H1 | 262 | 250-275 | Input | $2.40 |
| 312-H2 | 262 | 250-275 | Interstage | 2.40 |
| 312-H4 | 262 | 250-275 | Output | 2.40 |
| 312-H6 | 262 | 250-275 | Output & Filter | 2.90 |
| 312-C1 | 455 | 440-470 | Input | 2.40 |
| 312-C2 | 455 | 440-470 | Interstage | 2.40 |
| 312-C4 | 455 | 440-475 | Output | 2.40 |
| 312-C6 | 455 | 440-470 | Output & Filter | 2.90 |

#### Type No. 412 Iron Core Transformers

Dimensions: 1¼" square x 2½" high.

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 412-H1 | 262 | 250-275 | Input | $2.60 |
| 412-H2 | 262 | 250-275 | Interstage | 2.60 |
| 412-H4 | 262 | 250-275 | Output | 2.60 |
| 412-C1 | 455 | 440-470 | Input | 2.60 |
| 412-C2 | 455 | 440-470 | Interstage | 2.60 |
| 412-C4 | 455 | 440-470 | Output | 2.60 |

### Midget I.F. Transformers



Dimensions: 1⅛" square x 2" high. #6/32 spade bolt mounting.

#### Air Core Transformers

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 112-H1 | 262 | 250-275 | Input | 2.60 |
| 112-H2 | 262 | 250-275 | Interstage | 2.60 |
| 112-H3 | 262 | 250-275 | Full-Wave | 2.60 |
| 112-H4 | 262 | 250-275 | Half-Wave | 2.60 |
| 112-H6 | 262 | 250-275 | Output Stage & Filter | 2.80 |
| 112-C1 | 455 | 450-475 | Input | 2.50 |
| 112-C2 | 455 | 450-475 | Interstage | 2.50 |
| 112-C3 | 455 | 450-475 | Full-Wave | 2.50 |
| 112-C4 | 455 | 450-475 | Half-Wave | 2.50 |
| 112-W1 | 1500 | 1400-1600 | Input | 2.50 |
| 112-W2 | 1500 | 1400-1600 | Interstage | 2.50 |
| 112-W3 | 1500 | 1400-1600 | Full-Wave | 2.50 |
| 112-W4 | 1500 | 1400-1600 | Half-Wave | 2.50 |

#### Iron Core Transformers

| Cat. No. | Freq. | KC Range | Use | List Price |
|---|---|---|---|---|
| 012-K1 | 175 | 165-185 | Input | $2.85 |
| 012-K2 | 175 | 165-185 | Interstage | 2.85 |
| 012-K3 | 175 | 165-185 | Full-Wave | 2.85 |
| 012-K4 | 175 | 165-185 | Half-Wave | 2.85 |
| 012-H1 | 262 | 250-275 | Input | 2.75 |
| 012-H2 | 262 | 250-275 | Interstage | 2.75 |
| 012-H3 | 262 | 250-275 | Full-Wave | 2.75 |
| 012-H4 | 262 | 250-275 | Half-Wave | 2.75 |
| 012-C1 | 455 | 450-475 | Input | 2.75 |
| 012-C2 | 455 | 450-475 | Interstage | 2.75 |
| 012-C3 | 455 | 450-475 | Full-Wave | 2.75 |
| 012-C4 | 455 | 450-475 | Half-Wave | 2.75 |

### Miniature I.F. Transformers

Designed for experimental use and for general replacement in "personal" radio receivers, this series of shell core permeability tuned transformers are becoming increasingly popular. Tuning from top and bottom of the shield. Transformers are available for all standard I.F. frequencies.

*(With diode filter capacitors)

Dimensions: ¾" by ¾" by 2" high.

| Cat. No. | Item | List Price |
|---|---|---|
| 12-H1 | 262 KC Output I.F. Trans. | $2.60 |
| 12-H2 | 262 KC Input I.F. Trans. | 2.60 |
| 12-H6 | 262 KC Output I.F. Trans. * | 2.75 |
| 12-C1 | 455 KC Input I.F. Trans. | 2.30 |
| 12-C2 | 455 KC Output I.F. Trans. | 2.30 |
| 12-C6 | 455 KC Output I.F. Trans. * | 2.45 |
| 12-C7 | 455 KC Input I.F. Battery | 2.30 |
| 12-C8 | 455 KC Output I.F. Battery | 2.30 |
| 12-C9 | 455 KC Input I.F. AC-DC | 2.30 |
| 12-C10 | 455 KC Output I.F. AC-DC | 2.30 |
| 13-W1 | 1500 KC Input or Interstage | 2.50 |
| 13-W2 | 1500 KC Output I.F. Trans. | 2.50 |
| 1463 | 10.7 MC Input or Interstage | 2.85 |
| 1464 | 10.7 MC Discriminator | 3.40 |
| 1465 | 10.7 MC Ratio Detector | 3.40 |
| 1464-WB | 10.7 MC Disc. 900 KC. P/P | 3.40 |
| 1465-WB | 10.7 MC Ratio Det. 800 KC. P/P | 3.40 |
| 6203 | 4.5 MC Input or Interstage | 2.85 |
| 6204 | 4.5 MC Discriminator | 3.40 |
| 6205 | 4.5 MC Ratio Detector | 3.40 |
| 6261 | 21.25 MC Discriminator | 3.40 |
| 6262 | 21.25 MC Radio Detector | 3.40 |
| 6230 | TV Converter I.F. | 2.50 |
| 6231 | TV 44 MC First I.F. Trap | 2.50 |
| 6232 | TV 42.5 MC Second I.F. 41.25 MC | 2.10 |
| 6233 | TV 45.5 MC Third I.F. 47.25 MC | 2.50 |
| 6234 | TV 44 MC Fourth I.F. | 1.85 |

### Miniature Printed Circuit I.F. Trans.

This series of miniature I.F. transformers have been specifically designed for printed circuit applications. May be used in new equipment design, or as replacement transformers.

Same as our regular miniature I.F. transformers shown above, except for terminals and mounting. Supplied in all standard I.F. frequen-

*(With diode filter capacitors)

Dimensions: ¾" sq. x 2" high.

| Cat. No. | Item | List Price |
|---|---|---|
| 13-PH1 | 262 KC Input I.F. Trans. | $2.60 |
| 13-PH2 | 262 KC Output I.F. Trans. | 2.60 |
| 13-PH6 | 262 KC Output I.F. Trans. * | 2.75 |
| 13-PC1 | 455 KC Input I.F. Trans. | 2.50 |
| 13-PC2 | 455 KC Output I.F. Trans. | 2.50 |
| 13-PC6 | 455 KC Output I.F. Trans. * | 2.65 |
| 13-PC7 | 455 KC Input I.F. Trans. Battery | 2.50 |
| 13-PC8 | 455 KC Output I.F. Trans. Battery | 2.50 |
| 13-PC9 | 455 KC Input I.F. Trans. AC-DC | 2.50 |
| 13-PC10 | 455 KC Output I.F. Trans. AC-DC | 2.50 |
| 6203-PC | 4-5 MC Input or Interstage | 2.85 |
| 6204-PC | 4.5 MC Discriminator Trans. | 3.40 |
| 6205-PC | 4.5 MC Ratio Detector Trans. | 3.40 |
| 6206-PC | 4.5 MC Ratio Det. (GE-RTD-026) | 4.50 |
| 6207-PC | 4.5 MC Ratio Det. (GE-RTD-025) | 3.75 |
| 6208-PC | 4.5 MC Ratio Det. (GE-RTD-020) | 4.50 |
| 1463-PC | 10.7 MC Input or Interstage | 2.85 |
| 1464-PC | 10.7 MC Discriminator Trans. | 3.40 |
| 1465-PC | 10.7 MC Ratio Detector Trans. | 3.40 |
| 6230-PC | TV 44 MC Converter I.F. Trans. | 2.75 |
| 6231-PC | TV 44 MC First I.F. Trans. Trap | 2.75 |
| 6232-PC | TV 42.5 MC Second I.F. 41.25 MC | 2.40 |
| 6233-PC | TV 45.5 MC Third I.F. 47.25 MC | 2.75 |
| 6234-PC | TV 44 MC Fourth I.F. Trans. | 2.25 |

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World Radio History

# Miller

## Transistor Components & Misc. R.F. Chokes

### Ferrite Antenna Rods

All loops described below have a secondary which is overcoupled for maximum gain stability with a variation in output load. Designed to match an input impedance of approximately 600 ohms.

These loops can be easily removed from their mounting boards if an alternate method of mounting is desired. Care should be exercised when mounting loops to insure that they are not in close proximity to large metal objects. This precaution will greatly increase loop efficiency.

These loops also make excellent antenna coils for conventional vacuum tube receivers. They offer better signal pickup and increased selectivity over ordinary air loops.

### Standard Transistor Antenna Rod

Due to its large pickup area the #2000 is one of our most popular loops. It has a fixed inductance of 240 uh and covers a band of 540-1650 KC when used with a variable condenser having a range of 15-365 mmf.
Dimensions: 3/4" x 9".

| Cat. No. | Q @ 790 KC | Freq. Range | Tuning Cond. Max. Capacity | List Price |
|---|---|---|---|---|
| 2000 | 450 | 540-1650 KC | 365 mmf. | $2.75 |

### Miniature Transistor Antenna Rods

Similar to the #2000 described above but smaller in size for miniature sets. Slightly less signal pickup than the #2000, but extremely high Q. Catalog #2001 has an inductance of 240 uh for use with a standard 365 mmf. condenser (Miller #2112). The #2003 has an inductance of 700 uh for use with a miniature 130 mmf. condenser (Miller #2110).
Dimensions: 3/4" x 3 3/4".

| Cat. No. | Q @ 790 KC | Freq. Range | Tuning Cond. Max. Capacity | List Price |
|---|---|---|---|---|
| 2001 | 550 | 540-1650 KC | 365 mmf. | $2.50 |
| 2003 | 500 | 540-1650 KC | 130 mmf. | 2.50 |

### Ferrite-Strip Transistor Antenna Rods

These coils are wound on flat ferrite strips rather than the normal ferrite rods. Due to this unique physical configuration they are remarkably sensitive for their small size. The #2004 has an inductance of 240 uh. To be used with a condenser of 365 mmf. (Miller #2112). The #2005 has an inductance of 700 uh. To be used with a condenser of 130 mmf. (Miller #2110).
Dimensions: 1/4" x 3/4" x 3 3/4"

| Cat. No. | Q @ 790 KC | Freq. Range | Tuning Cond. Max. Capacity | List Price |
|---|---|---|---|---|
| 2004 | 500 | 540-1650 KC | 365 mmf. | $2.50 |
| 2005 | 450 | 540-1650 KC | 130 mmf. | 2.50 |

### Sub-Miniature Transistor Antenna Rods

Adjustable antenna coils with high Q ferrite cores. Inductance range of part #2002 is 40-300 uh; part #2007 is 150-1000 uh. The inductances ranges shown allow for the use of variable capacitors outside our recommended values. Dimensions: 1/2" x 2 1/2".
Dimensions: 1/2"x2 1/2".

| Cat. No. | Q @ 790 KC | Freq. Range | Tuning Cond. Max. Capacity | List Price |
|---|---|---|---|---|
| 2002 | 250 | 540-1650 KC | 250-450 mmf. | $1.50 |
| 2007 | 220 | 540-1650 KC | 100-250 mmf. | 2.00 |

### Transistor I.F. & Osc. Coils

A large variety of miniature I.F. and oscillator coils which makes possible a high degree of flexibility in new equipment design and also provides the serviceman with ideal replacement coils for existing equipment.

### Sub-Miniature Transistor I.F. Transformers

To our knowledge the smallest I.F. transformers in existence. A high impedance, tapped primary winding coupled to a low impedance secondary provides optimum energy transfer between stages.
Dimensions: 3/8" sq. x 5/8" high.

| Cat. No. | Freq. | Impedance | Use | List Price |
|---|---|---|---|---|
| 9-C1 | 455 KC | 25K— 600 Ohms | Input | $3.75 |
| 9-C2 | 455 KC | 25K—1000 Ohms | Output | 3.75 |

### Miniature Transistor I.F. Transformers

Having a tapped tuned primary and untuned secondary windings. Proper impedance match between primary and secondary insures optimum performance.
Dimensions: 1/2" sq. x 3/4" high.

| Cat. No. | Freq. | Impedance | Use | List Price |
|---|---|---|---|---|
| 2031 | 455 KC | 10K— 600 Ohms | Input | $3.00 |
| 2032 | 455 KC | 10K—1000 Ohms | Output | 3.00 |
| 2041 | 455 KC | 25K— 600 Ohms | Input | 3.00 |
| 2042 | 455 KC | 25K—1000 Ohms | Output | 3.00 |
| 2051 | 455 KC | 100K—1000 Ohms | Input | 3.00 |

### Shielded Sub-Miniature Transistor Oscillator

A shielded oscillator coil designed for use in a converter circuit employing only one transistor for both the oscillator and mixer.
Dimensions: 3/8" sq. x 5/8" high.

| Cat. No. | Tuning Cond. Max. Capacity | I.F. Freq. | Lugs | List Price |
|---|---|---|---|---|
| 2021 | 78 | 455 KC | Osc. | $2.75 |

### Unshielded Miniature Transistor Oscillators

The 2020 oscillator coil (Revised 5-lug) is designed for use in a converter oscillator circuit where only a single transistor is required. The 2023 oscillator coil (6-lug) is for use where a separate transistor is used for the oscillator and another transistor for the mixer. The #2022 is similar to the #2020 except it is for use with a cut section variable (Miller #2110). Dimensions: 3/8" x 1" high.

| Cat. No. | Tuning Cond. Max. Capacity | I.F. Freq. | List Price |
|---|---|---|---|
| 2020 | 365 mmf. | 455 KC | $2.25 |
| 2022 | 78 mmf. | 455 KC | 2.25 |
| 2023 | 365 mmf. | 455 KC | 2.25 |

### Variable Condensers

A miniature 2-gang variable condenser. The antenna section has a range of 10-130 mmf. The oscillator section has a range of 10-78 mmf. Counter clockwise rotation. Shaft is 1/4" dia. x 3/4" long. Catalog #2112 is a standard size 2-gang condenser having a range of 10-365 mmf. for both sections. Shaft is 1/4" dia. x 1 1/8" long.

| Cat. No. | Max. Cap. | Dimensions | List Price |
|---|---|---|---|
| 2110 | 78-130 mmf. | [illegible]" x 1 3/8" x 1 [illegible]" | $3.00 |
| 2112 | 365 mmf. | 2 [illegible]" x 1 [illegible]" x 1 5/8" | 3.50 |

### Miniature Adjustable R.F. Chokes

These chokes have a threaded ferrite iron core confined entirely within a nylon coil form. They are especially suitable as peaking coils in video amplifiers for accurate adjustment of the frequency response. Range is greater than specified.
Dimensions: 3/8" diameter x 1" long.

| Cat. No. | Microhenries | List Price |
|---|---|---|
| 4562 | 35- 70 | $ .85 |
| 4563 | 60-120 | .95 |
| 4564 | 110-200 | 1.05 |
| 4565 | 190-330 | 1.15 |
| 4566 | 320-500 | 1.25 |

### Economy Adjustable R.F. Chokes

Through the use of a recently developed Nylon molding process we are able to offer an inexpensive line of adjustable chokes. They can be adjusted from either the top or bottom. This lends a degree of flexibility to your design. Mounting is achieved by means of a metal clip in a 5/16" hole.
Dimensions: 3/8" x 1 3/8" long.

| Cat. No. | Microhenries | List Price |
|---|---|---|
| 4200 | Form only | $ .75 |
| 4202 | 1- 2.5 | 1.25 |
| 4203 | 2- 5.5 | 1.25 |
| 4204 | 5- 12 | 1.25 |
| 4205 | 10- 25 | 1.25 |
| 4206 | 20- 55 | 1.50 |
| 4207 | 50-140 | 1.50 |
| 4208 | 120-330 | 1.50 |
| 4209 | 310-860 | 1.50 |

#4200 complete with hardware and core

### Ceramic Core R.F. Chokes

Dimensions: (form) 1/4" diameter x 1 1/2" long.

All chokes are impregnated with a moisture- and fungus resistant varnish. Inductance tolerance: ±5%.

#### Single Layer Chokes

The following R.F. chokes are solenoid wound. They have a distributed capacity of 0.7 mmf and may be used in ultra-high-frequency receivers and low-power transmitters.

| Cat. No. | uH. | Ohms | MA | List Price |
|---|---|---|---|---|
| 4528-1 | 1 | .03 | 300 | $ .70 |
| 4528 | 2.5 | .09 | 300 | .70 |
| 4529 | 5 | .25 | 300 | .70 |
| 4529-10 | 10 | .95 | 300 | .70 |

#### Progressive Wound Chokes

These chokes, with a distributed capacity of 1 mmf., fill the gap between layer and pi-wound coils. The distributed capacity is lower than that obtainable in sectional wound coils.

| Cat. No. | uH. | Ohms | MA | List Price |
|---|---|---|---|---|
| 4515 | 25 | 1.6 | 300 | $ .80 |
| 4517 | 50 | 2.1 | 300 | .80 |
| 4519 | 100 | 3 | 300 | .80 |

### FM I.F. Trans. (10.7 MC)

These permeability tuned 10.7 MC intermediate frequency transformers are assembled in aluminum shields 1 1/8" square x 2 1/8" high. Mounting is by two #6-32 spade bolts on 1-1/16" centers. Three interstage transformers Cat. No. 1451 are usually required when followed by a discriminator transformer Cat. No. 1452, while two may be sufficient in conjunction with a ratio detector transformer

| Cat. No. | Item | List Price |
|---|---|---|
| 1451 | 10-7 MC Interstage Trans. | $2.50 |
| 1452 | 10.7 MC Discriminator Trans. | 3.40 |
| 1453 | 10.7 MC Ratio Detector Trans. | 3.40 |

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World Radio History

# Miller

## Radio Frequency Coils

### Miniature Adjustable R.F. Coils

These high Q adjustable iron core coils are for general replacement use.

**Dimensions:**
½" dia. x 1½" long (Nos. 70-A and 70-RF).
½" dia. x 1⅛" long (Nos. 69-OSC and 70-OSC).

| Cat. No. | Use | Freq. Range | List Price |
|---|---|---|---|
| 70-A | Antenna Stage | 540-1600 KC | $1.50 |
| 70-RF | R.F. Stage | 540-1600 KC | 1.50 |
| 70-OSC | Oscillator Stage | 540-1600 KC | 1.50 |
| Has pri. and tapped sec. (I.F. 100-550 KC) | | | |
| 69-OSC | Oscillator Stage | 540-1600 KC | 1.50 |
| Capacity coupled type (100-550 KC) | | | |

### Universal Adjustable Oscillator Coil

These adjustable iron core oscillator coils are for general replacement use.

Dimensions: ⅝" x 1½" high.

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 71-OSC | Oscillator Stage | R.F. 500-1800 KC (I.F. 100-550 KC) | $2.00 |

### High-Q Ferrite Antenna Coil

Supplied with mounting bracket
Dimensions: ⅜" diameter x 2¼" long.

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 6300 | Antenna Stage | 540-1700 KC | $1.25 |

### Adjustable FM R.F. Coils

Dimensions: ½" O.D. x 1⅝" long.

| Cat No. | Item | List Price |
|---|---|---|
| 1474 | 88-108 MC Antenna Coil | $1.50 |
| 1475 | 88-108 MC R.F. Coil | 1.50 |
| 1476 | 88-108 MC Osc. Coil (10.7 MC I.F.) | 1.50 |

### Unshielded High-Q R.F. Coils

A complete line of Unshielded Permeability tuned coils for replacement use or as the front end components in new receiver design.
These #5495 series coils can be shielded in our #S-32 shields (1⅛" sq.) with very little loss in Q. Mounting is by means of a single ¼" hole.
**Dimensions (form): ⅜" x 2".**
**Ranges shown are for use with a 365 mmfd. variable tuning condenser.**

*Long Wave Coils (140-420 KC)*

| Cat. No. | Use | List Price |
|---|---|---|
| X-5495-A | Antenna Stage | $2.10 |
| X-5495-RF | RF Stage | 2.10 |
| X-5495-C | Standard Osc. 455 KC | 2.10 |
| X-5496-C | Tapped Osc. 455 KC | 2.10 |

*Broadcast Band Coils (540-1700 KC)*

| | | |
|---|---|---|
| A-5495-A | Antenna Stage | $2.10 |
| A-5495-RF | RF Stage | 2.10 |
| A-5495-C | Standard Osc. 455 KC | 2.10 |
| A-5496-C | Tapped Osc. 455 KC | 2.10 |

*Medium Wave Coils (1.7-5.5 MC)*

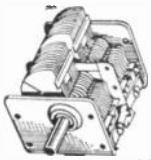
| | | |
|---|---|---|
| B-5495-A | Antenna Stage | $2.10 |
| B-5495-RF | RF Stage | 2.10 |
| B-5495-C | Standard Osc. 455 KC | 2.10 |
| B-5496-C | Tapped Osc. 455 KC | 2.10 |

*Short Wave Broadcast Coils (5-18 MC)*

| | | |
|---|---|---|
| C-5495-A | Antenna Stage | $2.10 |
| C-5495-RF | RF Stage | 2.10 |
| C-5495-C | Standard Osc. 455 KC | 2.10 |
| C-5496-C | Tapped Osc. 455 KC | 2.10 |

*High Frequency Coils (12-36 MC)*

| | | |
|---|---|---|
| D-5495-A | Antenna Stage | $2.10 |
| D-5495-RF | RF Stage | 2.10 |
| D-5495-C | Standard Osc. 455 KC | 2.10 |
| D-5496-C | Tapped Osc. 455 KC | 2.10 |



### Midget Variable Condensers

Split outer plates on the rotors permit accurate alignment. High frequency trimmers are provided on the short side of the condenser. Mounting is provided by tapped holes in the frame of the condenser. Counter-clock rotation for capacity increase. Shaft dia. is ¼"x1" long. Capacity range—10 to 365 mmf.

| Cat. No. | Sections | Dimensions | List Price |
|---|---|---|---|
| 2111 | 1 | 1⅛" x 1 3/16" x 1⅝" | $2.75 |
| 2112 | 2 | 2 3/16" x 1 13/16" x 1⅝" | 3.50 |
| 2113 | 3 | 3 3/16" x 1 13/16" x 1⅝" | 5.00 |

### Adjustable Padder Condensers

Used as adjustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They also find application as the horizontal drive control in television receivers. ¼" single hole mounting.
Dimensions: ⅞" x 1" x ⅜" thick.

| Cat. No. | Capacity Range | List Price |
|---|---|---|
| 160-A | 360-1000 mmfd. | .90 |
| 160-B | 50-400 mmfd. | .75 |
| 160-C | 200-600 mmfd. | .85 |
| 160-D | 10-160 mmfd. | .65 |
| 160-E | 25-280 mmfd. | .70 |

### Adjustable R.F. Coils

Particularly recommended for aircraft, marine and mobile equipment and general custom receiver construction. Coils are designed for use with standard 365 mmfd. tuning condenser.
Dimensions: 1⅛" square x 2" high.

*Broadcast Band 540-1700 KC*

| Cat. No. | Use | I.F. Freq. | List Pr. |
|---|---|---|---|
| A-320-A | Antenna | | $2.20 |
| A-320-RF | Interstage | | 2.20 |
| A-320-M | 2-coil Osc. | 132 KC | 2.20 |
| A 320-C | 2-coil Osc. | 455 KC | 2.20 |
| A-321-M | Tapped Osc. | 132 KC | 2.20 |
| A-321-C | Tapped Osc. | 455 KC | 2.20 |

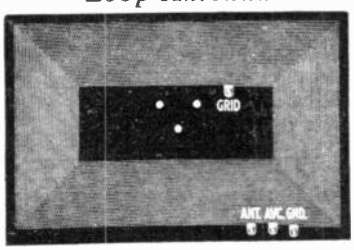
*Marine & Aircraft Band 2100-6300 KC*

| | | | |
|---|---|---|---|
| B-320-A | Antenna | | $2.20 |
| B-320-RF | Interstage | | 2.20 |
| B-320-M | 2-coil Osc. | 132 KC | 2.20 |
| B-320-C | 2-coil Osc. | 455 KC | 2.20 |
| B-321-M | Tapped Osc. | 132 KC | 2.20 |
| B-321-C | Tapped Osc. | 455 KC | 2.20 |

*Short Wave Band 6.0-18 MC*

| | | | |
|---|---|---|---|
| C-320-A | Antenna | | $2.20 |
| C-320-RF | Interstage | | 2.20 |
| C-320-C | 2-coil Osc. | 455 KC | 2.20 |
| C-321-C | Tapped Osc. | 455 KC | 2.20 |

### Loop Antenna




The Miller No. 703A Loop Antenna utilizes the patented "Air Loop" construction which provides high Q and mechanical rigidity. The Q of the loop is 150 at 790 KC and is substantially uniform throughout the standard broadcast band. Secondary inductance 253 microhenries. Inductance may be reduced as necessary by removing turns from the inside terminal.
Dimensions: 8⅛" wide x 5⅜" high x ⅛" thick.

| Cat. No. | Frequency Range | List Price |
|---|---|---|
| 703A | 540-1700 KC | $2.75 |

### Miniature Hi-Q Coils

Cup core construction for high Q. Permeability tuning to adjust inductance. Antenna and oscillator coils have tapped windings, R.F. coil features impedance coupling.
**Dimensions of shield: ¾" sq. x 1⅜" high.**

| Cat. No. | Use | Freq. Range | List Price |
|---|---|---|---|
| A-123-A | Antenna Stage | 535—1700 kc | $2.25 |
| A-123-RF | R.F. Stage | 535—1700 kc | 2.25 |
| A-123-C | Osc. Stage | 455 kc.—.0004 Pad | 2.00 |

### Universal Replacement Coils

*(Permeability Tuned)*

This series of variable inductance iron core coils are well suited for general replacement. Adjusted to cover the standard broadcast band with a tuning condenser having a maximum capacity of between 250 and 450 mmfd. The oscillator coils may be used with any I.F. amplifier operating in the 100 to 550 KC range.

*Unshielded* Dimensions: ⅞" diameter x 2" hi "L" mtg. bracket.

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 72-A | Antenna Stage | 500-1800 KC | $2.30 |
| 72-RF | R.F. Stage | 500-1800 KC | 2.30 |
| 72-OSC | Oscillator Stage (see text above) | | 2.30 |

*Shielded* Dimensions: 1⅜" square x 2½" hi

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 73-A | Antenna Stage | 500-1800 KC | $2.85 |
| 73-RF | R.F. Stage | 500-1800 KC | 2.85 |
| 73-OSC | Oscillator Stage (see text above) | | 2.85 |

### Standard Bank Wound Coils

High gain general purpose coils featuring high impedance coupled antenna and R.F. units with progressive wound litz wire secondaries (except oscillator coils). For use with standard 365 mmfd tuning condenser. All windings are thoroughly impregnated with tropicalized R.F. lacquer.
Dimensions: 1⅜" square x 2½" high.

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 44-A | Antenna Stage | 540-1700 KC | $1.50 |
| 44-RF | R.F. Stage | 540-1700 KC | 1.50 |
| 44-BP | Band-Pass Stage | 540-1700 KC | 1.50 |

| Cat. No. | I.F. Freq. | Series Pad | List Price |
|---|---|---|---|
| 44-H | 262 KC | .0006 " | 1.50 |
| 44-C | 455 KC | .0004 " | 1.50 |

Tapped osc. coils (for 6SA7 and similar tubes)

| Cat. No. | I.F. Freq. | Series Pad | List Price |
|---|---|---|---|
| 41-H | 262 KC | .0006 " | 1.45 |
| 41-C | 455 KC | .0004 " | 1.45 |

*Unshielded*
Dimensions: ⅝" diameter (form) x 2⅛" high.

| Cat. No. | Use | Freq. Range | List Pr. |
|---|---|---|---|
| 43-A | Antenna Stage | 540-1700 KC | $1.25 |
| 43-RF | R.F. Stage | 540-1700 KC | 1.25 |
| 43-BP | Band-Pass Stage | 540-1700 KC | 1.25 |

| Cat. No. | I.F. Freq. | Series Pad | List Price |
|---|---|---|---|
| 43-H | 262 KC | .0006 " | 1.20 |
| 43-C | 455 KC | .0004 " | 1.20 |

Tapped osc. coils (for 6SA7 and similar tubes)

| Cat. No. | I.F. Freq. | Series Pad | List Price |
|---|---|---|---|
| 45-H | 262 KC | .0006 " | 1.20 |
| 45-C | 455 KC | .0004 " | 1.20 |

### Electric Shaver Filter

This filter contains an inductive-capacitive circuit consisting of two duo-lateral wound chokes and a non-inductive condenser, giving complete freedom from radio interference. Most electric shavers act as miniature transmitters and feed interference energy into the house wiring and it is then picked up by the radio receiver. Dimensions: 1⅛" diameter x 3" long.

| Cat. No. | Volts | Watts | Finish | List Price |
|---|---|---|---|---|
| 7817 | 115 | 50 | Black | $3.50 |
| 7817-I | 115 | 50 | Ivory | $3.50 |

**For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.**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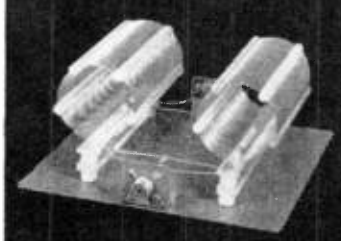
**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***
World Radio History

# air dux

## AIR WOUND COILS

Illumitronic Engineering has developed a complete, versatile series of air core inductors designed especially for the amateur rig, or for prototypes of RF transmission equipment. These coils may be used for pi output circuits, conventional LC output circuits, interstage and oscillator circuits. The series consists of a standard coil type, a variable pitch type, and an indented type, in a range of diameters from ½ inch to 3 inches. All Air Dux® coils are constructed of tinned (silver or formvar) copper wire wound on large low loss polystyrene rods for the highest mechanical strength and lowest electrical losses.

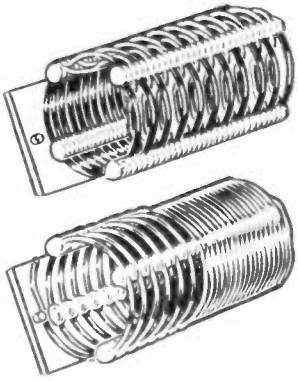


Two coils required.
Coax connector not included.

### air dux® BALUN

Unbalanced coax lines used on most transmitters can be matched to balanced lines of either 75 or 300 ohms impedance by using the B2009 air dux coils. May be used with transmitters and receivers without adjustment over the frequency range of 80 through 10 meters, and will handle power inputs up to 200 watts.

| NO. | DESCRIPTION | NET EA. |
|---|---|---|
| B2009 | Coil with hardware | 3.36 |
| MB2009 | Mounting plate | 1.95 |

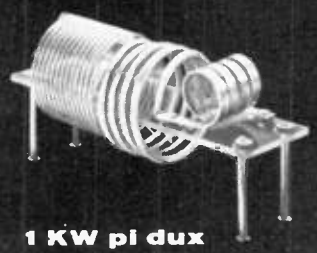


### indented pi dux®

| Cat.No. | Dia | TPI | Wire Size | Length of Coil | L uh. | Net |
|---|---|---|---|---|---|---|
| 816A | 1 | 16 | 18 | 3 3/16 | 18.0 | 1.25 |
| 1014A | 1 1/4 | 14 | 18 | 2 25/32 | 18.3 | 1.50 |
| 1212A | 1 1/2 | 12 | 16 | 2 3/4 | 18.3 | 1.70 |
| 1411A | 1 3/4 | 11 | 14 | 2 5/8 | 18.0 | 1.90 |
| 1609A | 2 | 9 | 14 | 3 | 18.1 | 2.10 |
| 2007A | 2 1/2 | 7 | 12 | 3 1/4 | 18.6 | 2.60 |
| 2406A | 3 | 6 | 10 | 3 5/16 | 18.7 | 3.25 |

### vari-pitch pi dux®

| | | | | | | |
|---|---|---|---|---|---|---|
| 820D10 | 1 | 20 & 10 | 18 | 3 1/4 | 18.0 | 1.25 |
| 1212D6 | 1 1/2 | 12 & 6 | 14 | 3 13/16 | 18.6 | 2.00 |
| 1608D6 | 2 | 8 & 6 | 12 | 4 1/8 | 18.1 | 2.70 |
| 2008D5 | 2 1/2 | 8 & 5 | 12 | 3 3/4 | 18.2 | 3.25 |
| 2408D4 | 3 | 8 & 4 | 10 | 3 3/4 | 18.6 | 3.95 |

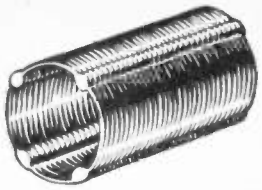


1 KW pi dux

### 2 new pi dux assemblies

The 500 and 1000 watt pi dux assemblies are compact yet conservatively rated. The high frequency coil sections are silver plated for high tank circuit efficiency. A complete technical sheet is included with each assembly.

#195-1 500 watt pi dux Assembly net 5.95
#195-2 1 KW pi dux Assembly net 14.50



### air dux®

| Cat.No. T or S | Dia. | TPI | Wire Size | Length of Coil | Net Price |
|---|---|---|---|---|---|
| 404 | ½ | 4 | 18 | 2 | .40 |
| 406 | | 6 | 18 | | |
| 408 | | 8 | 18 | | |
| 410 | | 10 | 18 | | |
| 416 | | 16 | 20 | | (Silver .80) |
| 432 | | 32 | 24 | | |
| 504 | ⅝ | 4 | 16 | 2 | .45 |
| 506 | | 6 | 18 | | |
| 508 | | 8 | 18 | | |
| 510 | | 10 | 18 | | |
| 516 | | 16 | 20 | | (Silver .85) |
| 532 | | 32 | 24 | | |
| 604 | ¾ | 4 | 16 | 2 | .50 |
| 606 | | 6 | 18 | | |
| 608 | | 8 | 18 | | |
| 610 | | 10 | 18 | | |
| 616 | | 16 | 20 | | (Silver .90) |
| 632 | | 32 | 24 | | |
| 804 | 1 | 4 | 16 | 3 | .65 |
| 806 | | 6 | 18 | | |
| 808 | | 8 | 18 | | |
| 810 | | 10 | 18 | | |
| 816 | | 16 | 20 | | (Silver 1.10) |
| 832 | | 32 | 24 | | |
| 1004 | 1¼ | 4 | 14 | 10 | 1.65 |
| 1006 | | 6 | 14 | | |
| 1008 | | 8 | 16 | | |
| 1010 | | 10 | 18 | | |
| 1016 | | 16 | 20 | | |
| *1032 | | 32 | 24 | | |
| 1204 | 1½ | 4 | 14 | 10 | 1.80 |
| 1206 | | 6 | 14 | | |
| 1208 | | 8 | 16 | | |
| 1210 | | 10 | 18 | | |
| 1216 | | 16 | 20 | | |
| *1232 | | 32 | 24 | | |
| 1404 | 1¾ | 4 | 14 | 10 | 1.90 |
| 1406 | | 6 | 14 | | |
| 1408 | | 8 | 14 | | |
| 1410 | | 10 | 16 | | |
| 1416 | | 16 | 18 | | |
| *1432 | | 32 | 24 | | |
| 1604 | 2 | 4 | 12 | 10 | 1.95 |
| 1606 | | 6 | 14 | | |
| 1608 | | 8 | 14 | | |
| 1610 | | 10 | 16 | | |
| 1616 | | 16 | 18 | | |
| 2004 | 2½ | 4 | 12 | 10 | 2.25 |
| 2006 | | 6 | 12 | | |
| 2008 | | 8 | 14 | | |
| 2010 | | 10 | 16 | | |
| 2404 | 3 | 4 | 10 | 10 | 3.40 |
| 2406 | | 6 | 12 | | |
| 2408 | | 8 | 14 | | |
| 2410 | | 10 | 14 | | |

*New

"T" series air dux are Tinned copper wire. (Add "T" after Cat. No.)

"S" series are SILVER PLATED copper wire. (Add "S" after Cat. No.)

1000 thru 2400 series silver coils are available at double the costs shown.

Complete technical charts and graphs on air dux and pi dux are available on sheets T.H. 6 and 7.
Formvar coils available at higher costs.

products by **illumitronic engineering**

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World Radio History

GLOBE electronics FORMERLY WRL Electronics

# More "WORKABLE WATTS" per dollar!

**Now, increased safety factor through use of the 4-400A Final Tube**

## Globe King 500C

A bandswitching transmitter for 540 watts on fone and CW; 720 watts on SSB (P.E.P.), with 10W external exciter.

Outperforming any rig in its price and wattage range, the King bandswitches 10-160M in a 31x22x14¾" handsome cabinet, especially designed for TVI-suppression. The Transmitter is relay controlled; includes a built-in antenna relay; built-in VFO; and separate power supply for modulator section, allowing better overall voltage regulation. Commercial-type compression circuit keeps modulation at high level. King features grid-block keying for signal clarity. Pi-network matches most antennas, 52-300 ohms. Provisions for crystal operation.

Wired & Tested: $795.00

### Tube Line-Up

**RF Section**

- 4-400A Final
- 6146 Buffer Doubler
- 6AG7 Oscillator
- 5Y3 Screen B+ Rectifier
- 6X5 Bias Rectifier
- 12AU7 Keyer

**Modulator & Power Supply**

- two 811A Modulators
- 6L6 Driver
- 6C5 Speech Amplifier
- 6SJ7 Microphone Amplifier
- 5Y3 Low B+ Rectifier
- two 816 High B+ Rectifiers
- 6AL5 Compression Rectifier

**Power Supply & VFO**

- two 866A High B+ Rectifiers
- 5U4G Low B+ Rectifier
- 6AU6 VFO Oscillator
- 6CB6 VFO Buffer
- OA2 VFO Voltage Regulator

## Globe Champion 300A

A bandswitching, 10-160M, Transmitter for 350 watts CW, 275 watts fone, and 450 watts SSB (P.E.P.), with any 10W external exciter.

The single-switch bandswitching Champion is extensively TVI-suppressed, filtered and bypassed. High level Class "B" modulation is sustained without usual clipping distortion through use of a new commercial type compression circuit. Pi-network output circuit, 48-300 ohms, built-in VFO, push-to-talk, antenna changeover relay, and improved Time Sequence keying are all features. 1000 volt plate capacity of Final tubes offer 33-1/3% safety factor. Only 12x21⅜x17" in size, self-contained.

Wired & Tested: $495.00
Kit Form: $399.00

Kit comes with Wired VFO.

## Globe Scout 680A

**65 watts CW; 50 watts on fone, plate modulated.**

A compact, self-contained bandswitching transmitter for operation of the 6 through 80 meter bands, with built-in power supply. High level modulation is maintained. TVI-suppressed cabinet. Pi-network output on 10-80M; link-coupled on 6M, matching into low impedance beams. New type, shielded meter.
Size: 8x14x8".

Wired & Tested: $119.95 Kit $ 99.95

## Globe Matcher Sr.

**ANTENNA TUNER AT-4**

Wired & Tested $79.50
Kit $69.50

Built-in SWR Bridge constantly in circuit. For any Xmttr. with final RF input up to 600 watts, 80-10M. Fixed link coupling in output circuit. Coax input, 2-wire balanced output. Special calibrated meter for monitoring actual SWR. RF shielding cabinet.

## Globe Chief 90A

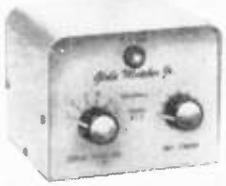
**A completely bandswitching, 90 watt transmitter for 10-160M.**

**Here's a compact, 8x14x8", sturdy rig with well-filtered, built-in power supply. Pi-network matches most antennas from 52-600 ohms. Modified grid-block keying is employed for maximum safety. Has provisions for VFO input and operation. Kit form includes complete manual and all tubes and parts. Meter and cabinet carefully shielded for reduction of unwanted TVI.**

Wired & Tested: $74.50 Kit $59.95

## Globe Matcher Jr.

**ANTENNA TUNER AT-3**



Wired & Tested: $15.95
Kit: $11.95

For any Xmttr. with input of 100 watts CW, 75 watts fone, or less. Provides substantial amount of harmonic attenuation when properly tuned. Aids matching Xmttr. output to various types of antennas. Unbalanced output. Self contained.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World Radio History

GLOBE electronics FORMERLY WRL Electronics

# THE NATION'S FASTEST GROWING LINE OF AMATEUR RADIO PRODUCTS . . .

## Sidebander DSB-100

100w P.E.P. DSB Input, Suppressed Carrier
40w AM Phone; 50w CW, 80-10M bands

Wired and tested: $139.95
In kit form: $119.95

A complete bandswitching suppressed carrier Sideband Rig for 80-10M, with continuous band coverage 3-9mc and 12-30mc, covering the popular MARS, CAP and special emergency services. Designed for DSB, AM or CW, facilities for adapting present AM equipment to sideband; used with standard crystals and regular VFO. Min. 35db carrier suppression on all bands. Will drive any of the popular commercial linears. Three stage RF section allows straight through operation for max. efficiency on all bands. Internal tone generator facilitates tuning. Pi-Net output, 52-300 ohms. Speech clipping and filtering assures powerful communication punch and minimum band width. 600V power supply has ample reserve for external accessories. Socket provided on chassis rear apron. Provisions for antenna relay control.

## Globe's VFO 755A

W/T: $59.95
Kit: $49.95

Brilliant successor to the 755 VFO, the improved 755A covers the 10-160 meter bands with output on 40 and 160M. Improved vernier dial with shock absorption; 13:1 tuning ratio. Complete with self-contained, well-filtered power supply with voltage regulation. Approx. 50V RF output; will drive oscillator stage of any transmitter on the market; simply plug in Xmttr. crystal socket. Temperature compensated for utmost stability for SSB or DSB. Ideal for use with Sidebander . . . Calibrate switch for zero beating. In the new Forward Look cabinet.

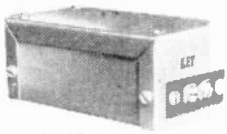
Also available: VFO Model 6-2 for 6 & 2M, w/t: $59.95, kit form: $49.95 and VFO Model 666 for 6M only, w/t only, $49.95.

## GROUNDED-GRID Linear Amplifier LA-1

Wired & Tested: $124.50
Kit: $99.50

Complete with well-filtered power supply, operates Class B or C, with grounded-grid Final. 200 watts input operated AM Class B. 300 watts DC input, or 420 PEP input, Class B linear SSB or DSB. Requires 15 watts RF driving power. 300 watts class C for CW (18 watts driving power). Pi Net output circuit covers 80-10M bands, matches loads 30-150 ohms. 52 ohm Pi Link coupled output on 6M. Extensively bypassed, filtered and shielded for TVI.

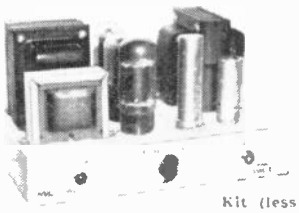
## Code Oscillator Kit



Kit, $4.95

Transistor-type, Code Practice Oscillator with printed circuit for ease in assembly. Pleasant audio tone. Screw terminal input for key; output jacks receive standard phone tips. Complete with 2 pen cell batteries and detailed instructions.

## Universal Modulator UM-1



Wired & Tested $49.95
Kit (less tubes): $37.50

Supplies 10-45 watts audio output, depending on tube types and class operation. Uses: Class A or B modulator (RF inputs 8-100 watts); driver for higher power modulator; PA amplifier. Output matching impedance 500-20,000 ohms. Carbon or crystal mike may be used. Perforated steel cover available as accessory, $3.00 extra. Wired model complete with 6U8, 5U4GB and two 6L6G tubes.

## 6 Meter Converter

Compact, highly stable, crystal converter for receivers tuning output frequencies 10-14mc. Any 4mc. band within range of 7-35mc. available on special order at $10.00 additional. Cascode RF stage, bandpass coupling, shielded input and output and high sensitivity.

Net, $24.95
Kit, $18.95

## Screen Modulator Kit

Kit, $11.95

Designed for use with the Globe Chief, but containing instructions for use with other CW transmitters. Permits radio-telephone operation of CW Xmttr at minimum cost. Self contained. Complete with printed circuit board and all parts.

*Designed for the Ham . . . with both Quality & Economy in Mind!*

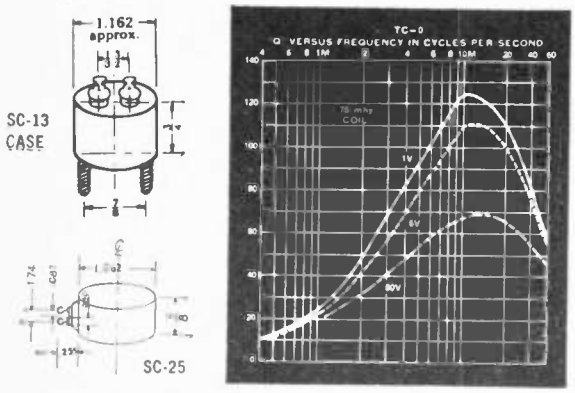


World Radio History

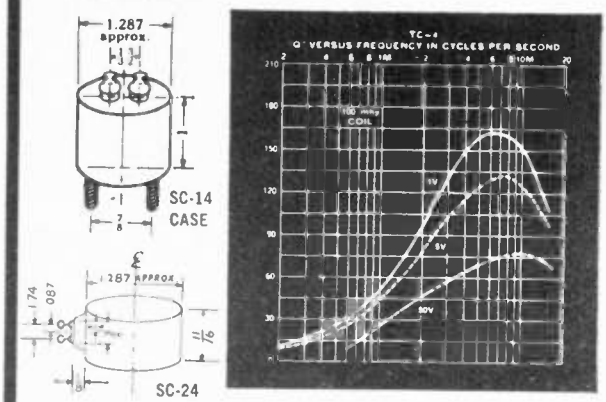
# BURNELL TOROIDAL INDUCTORS

*Write for Catalogue*

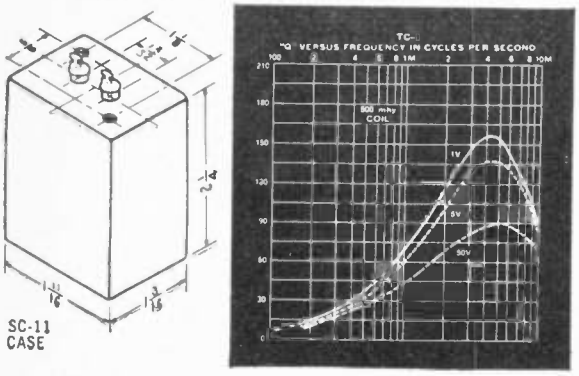
**TC-0**—Frequency Range 1 KC to 20 KC. Inductance Range .001 to 3 HYS. Nominal coil size 3/8 x 15/16.



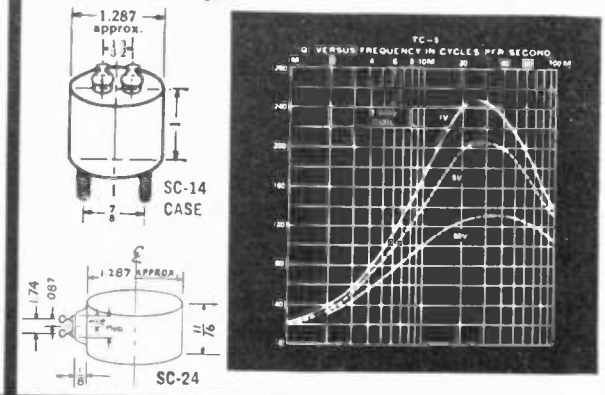

**TC-4**—Frequency Range same as TC-1. Inductance Range .001 to 10 HYS. Nominal coil size 17/32 x 19/32.




**TC-1**—Frequency Range 400 CPS to 10 KC. Inductance Range .001 to 15 HYS. Nominal coil size 1 5/8 x 5/8.




**TC-5**—Frequency Range 1 KC to 100 KC. Inductance Range .001 to 750 MHY. Nominal coil size 17/32 x 19/32.




**PRICE LIST**

| TC-0 IND. MHY | NET PRICE |
|---|---|
| 1 | $ 5.30 |
| 10 | 5.30 |
| 20 | 5.30 |
| 30 | 5.40 |
| 50 | 5.50 |
| 100 | 5.60 |
| 250 | 5.85 |
| 500 | 6.25 |
| 750 | 6.70 |
| 1000 | 6.90 |
| 1500 | 7.15 |
| 2000 | 7.40 |

| TC-1 IND. MHY | NET PRICE |
|---|---|
| 1 | $ 6.25 |
| 10 | 6.25 |
| 20 | 6.25 |
| 30 | 6.25 |
| 50 | 6.25 |
| 100 | 6.45 |
| 250 | 6.85 |
| 500 | 7.15 |
| 750 | 7.40 |
| 1000 | 7.60 |
| 1500 | 8.00 |
| 2000 | 8.45 |
| 3000 | 8.65 |
| 4000 | 9.05 |
| 5000 | 9.30 |
| 6000 | 9.55 |
| 7000 | 9.85 |
| 10 HYS | 10.30 |
| 12.5 HYS | 10.65 |
| 15 HYS | 10.95 |

| TC-4 IND. MHY | NET PRICE |
|---|---|
| 1 | $ 6.25 |
| 10 | 6.25 |
| 20 | 6.25 |
| 30 | 6.25 |
| 50 | 6.25 |
| 100 | 6.45 |
| 250 | 6.85 |
| 500 | 7.15 |
| 750 | 7.40 |
| 1000 | 7.60 |
| 1500 | 8.00 |
| 2000 | 8.45 |
| 3000 | 8.65 |
| 4000 | 9.05 |
| 5000 | 9.30 |
| 6000 | 9.55 |
| 7000 | 9.85 |
| 10 HYS | 10.30 |

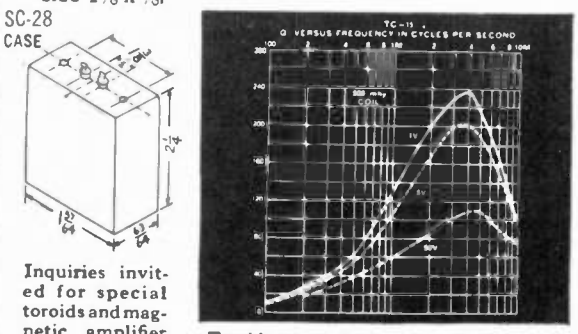
| TC-5 IND. MHY | NET PRICE |
|---|---|
| 1 | $ 6.80 |
| 10 | 6.80 |
| 20 | 6.80 |
| 30 | 6.80 |
| 50 | 6.80 |
| 100 | 7.45 |
| 250 | 8.00 |
| 500 | 8.50 |
| 750 | 9.20 |

| TC-15 IND. MHY | NET PRICE |
|---|---|
| 1 | $ 7.45 |
| 10 | 7.45 |
| 20 | 7.45 |
| 30 | 7.45 |
| 50 | 7.45 |
| 100 | 7.60 |
| 250 | 7.95 |
| 500 | 8.45 |
| 750 | 8.70 |
| 1000 | 9.20 |
| 1500 | 9.70 |
| 2000 | 10.35 |
| 3000 | 11.25 |
| 4000 | 11.85 |
| 5000 | 12.10 |
| 6000 | 12.65 |
| 7000 | 12.90 |
| 10 HYS | 13.60 |
| 12.5 HYS | 14.25 |
| 15 HYS | 14.90 |
| 17.5 HYS | 15.50 |
| 20 HYS | 16.20 |
| 30 HYS | 17.50 |
| 50 HYS | 20.00 |
| 75 HYS | 24.15 |
| 100 HYS | 28.45 |
| 125 HYS | 31.00 |

add $.50 for each tap.

Other values readily available. All prices for hermetically sealed coils. For uncased coils subtract $1.00 each.

**TC-15**—Frequency Range 100 to 5000 CPS. Inductance Range .001 to 125 HYS Nominal coil size 1 7/8 x 7/8.




Inquiries invited for special toroids and magnetic amplifier coils.

Toroids are available in a wide variety of finishes including several molded types.

**BURNELL & CO., INC.**

PELHAM, NEW YORK

PACIFIC DIVISION: South Pasadena, Calif.

***Pioneer in Toroids, Filters and Related Networks***



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World Radio History

# BURNELL FILTERS

All Burnell Filters employ the highest quality toroids and stabilized capacitor components. They have been designed to withstand the rigorous service conditions at communications stations throughout the world...and to comply with the requirements of the MIL-T-27 Government Specifications.

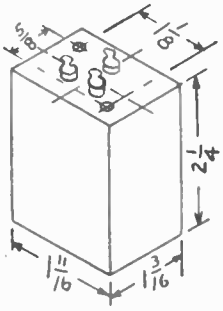
## TC-L LOW PASS FILTERS*

600 ohm impedance
up to 350 cycles—
$36.00 NET PRICE

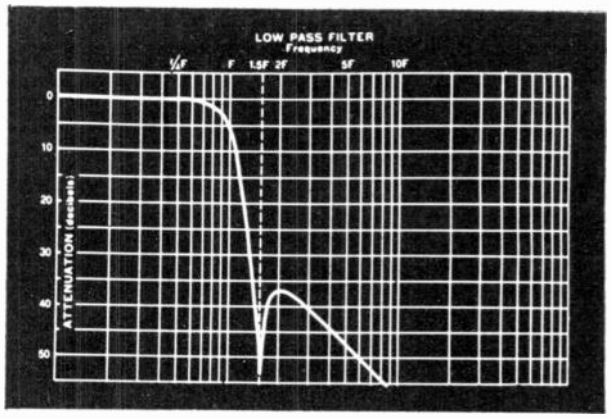
10,000 ohm impedance
up to 350 cycles—
$34.00 NET PRICE

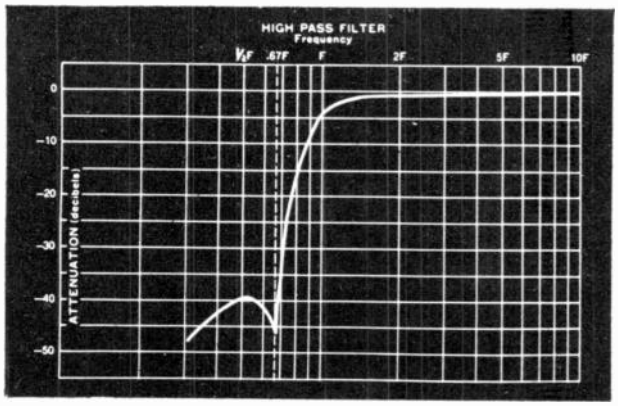
All filters above 400 cycles, either 600 or 10,000 impedance—
$32.00 NET PRICE

*Important:* Specify impedance when ordering.




SC-11



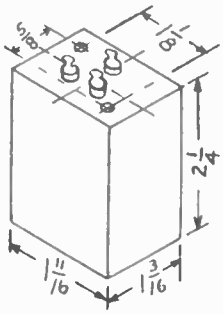

## TC-H HIGH PASS FILTERS*

600 ohm impedance
up to 350 cycles—
$34.00 NET PRICE

10,000 ohm impedance
up to 350 cycles—
$34.00 NET PRICE

All filters above 400 cycles, either 600 or 10,000 impedance—
$32.00 NET PRICE

*Important:* Specify impedance when ordering.




SC-11

*Available on various cut-off frequencies from 60 to 20,000 cycles.

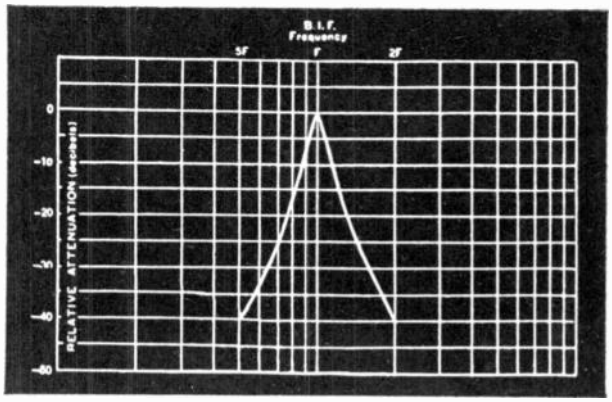
## B.I.F. (Band Pass Interstage Filters)

This series of interstage band pass filters will be of interest to project and design engineers to whom the time required for specially designed filters is prohibitive. A stock supply will be maintained for most commonly used center frequencies** between 60 and 50,000 cycles. The filter is designed to operate between the triode plate and the grid of a tube and provides a voltage gain of approximately 6DB. Filters are hermetically sealed. Small size permits use in compact or even miniaturized equipment. Dimensions are $1\frac{3}{16}$" x $1\frac{11}{16}$" x $2\frac{1}{4}$". When ordering, specify BIF ..... Cycles.

B/W = ±3% — Z IN = 10 K ohms
40 db/octave — Z Out = to grid

BIF Net Price $24.00 Each

Case SC-11




**Frequencies in cycles available from stock: 60, 100, 120, 200, 300, 400, 500, 750, 1000, 1500, 2000, 2500, 3000, 5000, 7500, 10 KC, 20 KC, 25 KC, 30 KC, 40 KC and 50 KC. Special frequencies not listed are available with minimum delay. Catalog on additional Burnell products available upon request.

**BURNELL & CO., INC.**
PELHAM, NEW YORK
PACIFIC DIVISION: South Pasadena, Calif.
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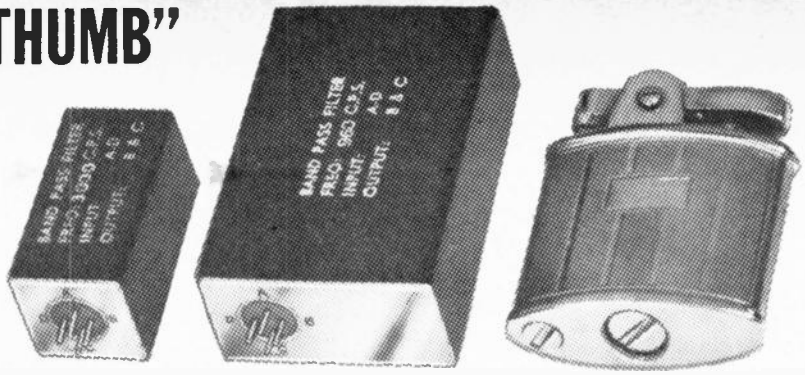
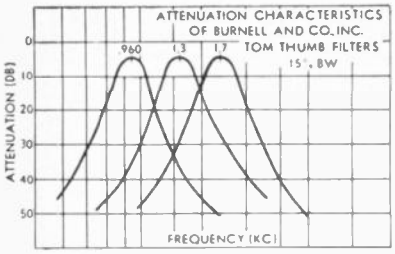
World Radio History

# BURNELL "TOM THUMB"

## BAND PASS FILTERS




**Designed and tested to specification** =MIL-T 26985

Supplied in two principal case sizes:

1. For RDB channels 1 through 6, case size is ¾ x 1½ x 2¼ inches high; weight: 4 ounces.
2. For channels 7 and up, case size is ¾ inches square and 1⅜ inches high; weight: 1¼ ounces.

These cases are generally equipped with a 4-pin plug to match the small Winchester socket.

ATTENUATION CHARACTERISTICS

Impedance: 100 K ohms in and out.
Insertion loss: less than 6 db.
At ± 7.5% band width is less than 3 db.
At ± 25% band width is greater than 15 db.
At 1.75 f attenuation is 40 db or more.
At .57 f attenuation is 40 db or more.

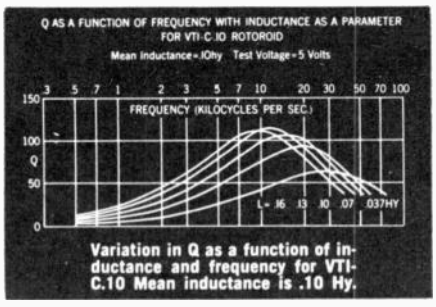
Channels 1-6 ..... **$50.00**
All Other Channels ... **$40.00**

| CHAN. # | FREQ. | IMP. 100K P/N | B. W. | SIZE | WT. |
|---|---|---|---|---|---|
| 1 | 400 cps. | S-60001 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 2 | 560 cps. | S-60002 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 3 | 730 cps | S-60003 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 4 | 960 cps | S-60004 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 5 | 1300 cps. | S-60005 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 6 | 1700 cps. | S-60006 | ±7½% | ¾ x 1½ x 2¼ H | 4 oz. |
| 7 | 2300 cps. | S-60007 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 8 | 3 KC | S-60008 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 9 | 3.9 KC | S-60009 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 10 | 5.4 KC | S-60010 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 11 | 7.35 KC | S-60011 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 12 | 10.5 KC | S-60012 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 13 | 14.5 KC | S-60013 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 14 | 22 KC | S-60014 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 15 | 30 KC | S-60015 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 16 | 40 KC | S-60016 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 17 | 52.5 KC | S-60017 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| 18 | 70 KC | S-60018 | ±7½% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| A | 22 KC | S-60019 | ±15% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| B | 30 KC | S-60020 | ±15% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| C | 40 KC | S-60021 | ±15% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| D | 52.5 KC | S-60022 | ±15% | ¾ x ¾ x 1⅜ H | 1¼ oz. |
| E | 70 KC | S-60023 | ±15% | ¾ x ¾ x 1⅜ H | 1¼ oz. |

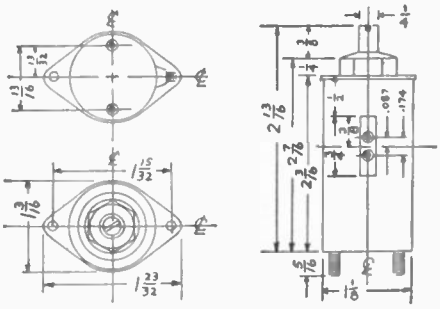
**Miniature Rotoroid, Type VTI-C or VTI-D**

# BURNELL ROTOROIDS

| VTI-C (TC-0 Core) | | | VTI-D (TC-6 Core) | | |
|---|---|---|---|---|---|
| 3.2 | Hys. | $14.50 | .5 | Hys. | $15.50 |
| 1.0 | " | 12.95 | .32 | " | 14.90 |
| .32 | " | 12.00 | .1 | " | 14.25 |
| .1 | " | 11.85 | .032 | " | 12.65 |
| .032 | " | 11.25 | .01 | " | 12.10 |
| .01 | " | 11.25 | .0032 | " | 11.85 |
| .0032 | " | 11.25 | .001 | " | 11.85 |
| .001 | " | 11.25 | .00032 | " | 11.85 |




**Variation in Q as a function of inductance and frequency for VTI-C.10 Mean inductance is .10 Hy.**



Inquiries invited on "ROTOROIDS" with special features such as taps, additional windings, tracking characteristics, etc. Refer to Catalog 103 data for information on characteristics.

**Burnell & Co., Inc.**

PIONEERS IN TOROIDS, FILTERS AND RELATED NETWORKS

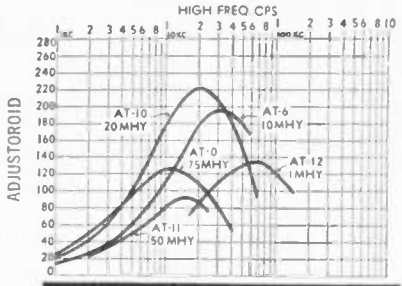
**EASTERN DIVISION**
PELHAM, N. Y.

**PACIFIC DIVISION**
SOUTH PASADENA, CALIF.

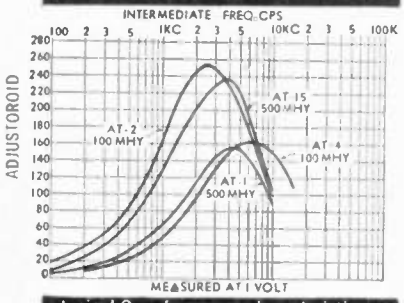


World Radio History

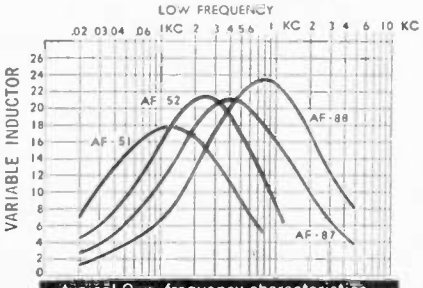
# NEW SUBMINIATURE BURNELL ADJUSTOROIDS* HANDLE BIG JOBS




typical Q vs. frequency characteristics




typical Q vs. frequency characteristics




typical Q vs. frequency characteristics

*PAT. 2,762,020

The new subminiature **Burnell Adjustoroids** utilizing an ingenious patented method of magnetic biasing cover a wide range of frequencies, occupy less space and are available at low cost.

New **Burnell Adjustoroids** possess all the outstanding characteristics of non-adjustable toroids and include:

Precise continuous adjustment of inductance over a 10% range

No need for external control current.

Hermetic sealing to meet Government MIL E # 15305-A specifications.

If your adjustoroid needs can't be met from our stock catalogue, we'll be glad to manufacture to your specifications.

| | Length/ Dia. | Width | Hgt. | Wt. | Useful Freq. Range | Max Q | Max L in hys |
|---|---|---|---|---|---|---|---|
| AT-0 | 1 1/16 | | 1" | 2 oz | 1 kc to 20 kc | 10 kc | 3 hys |
| AT-1 | 1 3/4 | 1 3/4 | 1 1/4" | 7.25 oz | 2 kc to 10 kc | 4 kc | 15 hys |
| AT-2 | 2 3/4 | 2 3/4 | 2 1/4" | 24 oz | Below 2.5 kc | 2.5 kc | 125 hys |
| AT-4 | 1 19/64 | | 1 1/4" | 4 oz | 1 kc to 16 kc | 6 kc | 15 hys |
| AT-6 | 1 1/16 | | 1" | 2 oz | 10 kc to 100 kc | 30 kc | .75 hys |
| AT-10 | 1 19/64 | | 1 1/4" | 4 oz | 3 kc to 50 kc | 20 kc | .75 hys |
| AT-11 | 45/64 | 45/64 | 3/4" | .83 oz | 2 kc to 25 kc | 15 kc | 5 hys |
| AT-12 | 45/64 | 45/64 | 3/4" | .83 oz | 15 kc to 150 kc | 60 kc | .5 hys |
| AT-15 | 1 31/32 | | 1 7/8" | 14 oz | Below 5 kc | 4 kc | 125 hys |
| AF-51 | 1 19/64 | | 2" | 5 oz | 30 cps to 500 cps | 120 cps | 1000 hys |
| AF-52 | 1 19/64 | | 2" | 5 oz | 50 cps to 1 kc | 250 cps | 1000 hys |
| AF-87 | 45/64 | 45/64 | 1 1/4" | 1.7 oz | 90 cps to 2 kc | 400 cps | 80 hys |
| AF-88 | 45/64 | 45/64 | 1 1/4" | 1.7 oz | .16 kc to 4 kc | 800 cps | 42 hys |

**Burnell & Co., Inc.**

PIONEERS IN TOROIDS, FILTERS AND RELATED NETWORKS

**EASTERN DIVISION**
PELHAM, N. Y.

**PACIFIC DIVISION**
SOUTH PASADENA, CALIF.

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World Radio History

# JENNINGS VACUUM

Jennings RADIO — VACUUM ELECTRONIC COMPONENTS

## VACUUM VARIABLE CAPACITORS

| | TYPE | | CAPACITY | PEAK VOLTAGE | RMS AMPERES | | NOMINAL DIMENSIONS | |
|---|---|---|---|---|---|---|---|---|
| | NICKEL | COPPER | MMFD | KILOVOLTS | NICKEL | COPPER | LENGTH | DIAMETER |
| 2 to 5 KV | | UCSL | 4-250 | 3, 5 | | 30 | 4 1/8 | 2 1/4 |
| | | USL | 5-500 | 3, 5 | | 40 | 5 5/8 | 2 3/8 |
| | | USLS | 5-465 shorting | 3, 5 | | 40 | 5 1/8 | 2 3/8 |
| | | USL | 10-1000 | 3, 5 | | 40 | 5 | 3 1/8 |
| | | UCSL | 5-750, 7-1000 | 3, 5 | | 42 | 7 1/8 | 3 1/8 |
| | | UCSL | 20-2000 | 2, 3 | | 42 | 8 1/4 | 3 1/8 |
| 7.5 to 15 KV | | UCSB | 5-100 | 7.5, 10, 15 | | 40 | 4 7/8 | 2 3/8 |
| | | UCSV | 8-110, 125-250 | 7.5, 10, 15 | | 40 | 5 1/4 | 2 7/8 |
| | | ATCS | 10-150, 15-200 | 7.5, 10, 15 | | 40 | 7 | 3 1/8 |
| | | UCS | 5-200, 10-300 | 7.5, 10, 15 | | 42 | 8 1/4 | 2 5/8 |
| | | UCS | 10-400, 25-500 | 7.5, 10, 15 | | 42 | 9 | 3 1/8 |
| | | UCSF | 5-250, 12-500 | 7.5, 10, 15 | | 45 | 7 1/4 | 3 5/8 |
| | | UCSX | 25-700, 25-1000 | 7.5, 10, 15 | | 45 | 9 7/8 | 3 1/4 |
| | | UCSXF | 12-1000, 15-1200 | 7.5, 10, 15 | | 45 | 10 | 4 3/8 |
| | | UCSXF | 20-1500, 50-2000 | 7.5, 10, 12 | | 45 | 10 | 5 1/8 |
| 10 to 20 KV | | ECS | 2-8, 3-10 | 10, 15 | | 20 | 4 | 1 3/8 |
| | T | TC | 5-25 | 20 | 10.5 | 20 | 6 5/8 | 2 1/4 |
| | AT | ATC | 10-50, 15-75 | 20, 30 | 10.5 | 20 | 6 5/8 | 3 1/8 |
| | U | UC | 50-250 | 10, 15, 20 | 21 | 60 | 11 1/2 | 5 |
| | UX | UXC | 25-500 | 10, 15, 20 | 21 | 60 | 14 | 5 |
| | | UXCF | 10-250, 20-500 | 10, 15, 20 | | 60 | 9 3/8 | 4 3/8 |
| | VMM | VMMC | 50-1000, 100-2000 | 10, 15 | 5 | 125 | 15 7/8 | 6 1/8 |
| | | VMMC | 100-5000 | 7.5, 10, 15 | | 125 | 19 | 9 1/4 |
| 35 to 60 KV | | UCSVH | 8-35 | 25, 35 | | 40 | 4 1/4 | 3 |
| | UH | UHC | 10-75, 75-150 | 35, 45, 55, 60 | 21 | 60 | 12 | 5 |
| | UXH | UXHC | 25-150 | 35, 45, 55 | 21 | 60 | 14 3/8 | 5 |
| | | UCSXH | 10-200 | 35, 45 | | 45 | 10 | 4 1/2 |
| | | UCSXHF | 25-450 | 35, 40 | | 60 | 10 1/2 | 5 1/8 |
| | | VMMHC | 10-250, 25-450 | 35, 45, 55 | | 125 | 16 | 8 1/8 |
| | | VMMHCW | 25, 250, 50-400 | 35, 45, 55 | | 100 | 17 | 9 5/8 |
| | | VMMHC | 60-1000 | 35, 40, 45 | | 125 | 19 3/8 | 9 1/4 |
| 120 KV | | VMMHHC | 25-200 | 120 | | 125 | 20 1/4 | 9 1/4 |

Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
Nominal Dimensions are for the largest unit of each type.
NOTE: A series of adjustable capacitors are available to cover the range of 8 to 1000 mmfd at 10 KV.

Vacuum Variable Capacitors combine [illegible] capacitance change with small physical size.

Type UCSL
7-1000 mmfd
5 kv

Type UCSXF
[illegible] mmfd
[illegible] kv

Type ECS
5-100 mmfd
15 kv

## VACUUM FIXED CAPACITORS

| | TYPE | | CAPACITY | PEAK VOLTAGE | RMS AMPERES | | NOMINAL DIMENSIONS | |
|---|---|---|---|---|---|---|---|---|
| | NICKEL | COPPER | MMFD | KILOVOLTS | NICKEL | COPPER | LENGTH | DIAMETER |
| 2 to 5 KV | | JCSL | 100, 250 | 3, 5 | | 35 | 2 5/8 | 1 7/8 |
| | | JSLF | 250, 450 | 3, 5 | | 30 | 1 3/4 | 1 7/8 |
| | | JSLF | 1000, 1500, 2000 | 3, 5 | | 30 | 1 5/8 | 3 1/8 |
| | | JCSL | 500, 750, 1000, 1500, 2000 | 3, 5 | | 42 | 4 | 2 7/8 |
| 7.5 to 15 KV | | JCSF | 25, 40, 80, 120, 150 | 7.5, 10, 15 | | 30 | 1 5/8 | 1 5/8 |
| | | JCS2 | 10, 20, 25, 50, 75, 100, 150 | 7.5, 10, 15 | | 20 | 3 1/8 | 1 7/8 |
| | | JCS1 | 25, 50, 75, 100, 150 | 7.5, 10, 15 | | 40 | 3 3/4 | 2 1/8 |
| | | JCS | 250, 400, 500 | 7.5, 10, 15 | | 42 | 4 | 3 1/8 |
| | | JCS | 900, 1000 | 7.5, 10, 12 | | 42 | 4 5/8 | 3 5/8 |
| | | MC1 | 500, 750, 1000 | 10, 15 | | 75 | 4 1/8 | 4 1/8 |
| | M | MC | 500, 750, 1000 | 10, 15, 20 | 21 | 120 | 8 3/8 | 5 |
| | MM | MMC | 1500, 2000 | 10, 15 | 35 | 125 | 9 1/4 | 6 1/8 |
| | | MMC1 | 2000 | 10, 15 | | 125 | 5 | 6 1/8 |
| | | MMC | 3000, 4000, 5000 | 10, 15 | | 125 | 13 | 9 1/4 |
| 17 to 30 KV | Y | | 1, 2, 3, 4, 5 | 17 | | | 3 1/4 | 3/4 |
| | X | | 5, 10, 15, 20, 25 | 17 | 7 | | 3 1/4 | 1 1/8 |
| | W | | 6, 12, 25, 50, 100 | 20, 25 | 10.5 | | 4 3/8 | 2 1/8 |
| | | VCCA | 6, 12, 25, 50, 75, 100, 150 | 20, 30 | | 60 | 4 1/2 | 2 3/8 |
| | VC | VCCE | 6, 12, 25, 50, 75, 100, 150 | 20, 30, 35 | 14 | 60 | 6 1/2 | 2 5/8 |
| | VC | VCCE | 200, 250 | 20, 30 | 14 | 60 | 6 1/2 | 2 5/8 |
| | | JMF | 50, 75, 100 | 20, 30 | | 40 | 2 3/4 | 2 1/8 |
| | | JC2 | 25, 50, 75, 100 | 20, 30 | | 42 | 4 | 3 1/4 |
| | ML | MLC | 500, 750, 1000 | 25, 30 | 21 | 125 | 6 1/4 | 5 |
| | | JHC | 75 | 50, 60 | | 42 | 4 | 3 1/2 |
| | | JC3 | 20, 40, 50, 60 | 35, 45, 55, 60 | | 140 | 8 1/4 | 3 1/2 |
| | | JC4 | 75, 100, 125 | 35, 45, 55, 60 | | 175 | 9 1/4 | 5 |
| | | JC5 | 200 | 35, 45, 55, 60 | | 225 | 11 1/4 | 7 |
| | MMH | MMHC | 450 | 35, 45, 55 | 21 | 125 | 9 1/4 | 6 1/8 |
| | | MMHC | 1000 | 35, 40, 45 | | 140 | 13 | 9 1/4 |

Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
Nominal Dimensions are for the largest unit of each type.
NOTE: Intermediate capacities, feed-thru capacitors, and glass insulators are available.

The all copper construction of Vacuum Fixed Capacitors give high current ratings, long life and stability of operation.

Type JCSL
1500 mmfd
5 kv

Type MMC
2000 mmfd
15 kv

Type JCSF
150 mmfd
15 kv

## HIGH VOLTAGE MEASURING EQUIPMENT

**MODEL JP 325 HIGH VOLTAGE PROBE**

**VOLTAGE RATINGS:** 40, 50, or 60 KV peak.

**VOLTAGE DIVISION RATIO** 325 to 1 to termination of 3 ft. of RG 58 A/U cable.

**INPUT IMPEDANCE**
Resistance above $10^{12}$ ohms
Capacitance 4 mmfd

**FREQUENCY RESPONSE** High frequency limited by that of measuring instrument. Internal resonances are above 200 mc. Low frequency response is 100 cps if operating into 10 megohm shunt resistance, 1000 cps if operating into 1 megohm shunt resistance.

**MODEL J-1003 HIGH VOLTAGE VACUUM TUBE VOLTMETER** for use in pulse, rf and 60 cycle circuits at voltages up to 100 KV.

**VOLTAGE RANGES** (peak, as full scale)
Simple Ended 2.5, 5, 10, 25, 50 KV
Double Ended 2.5, 5, 10, 25, 50, 100 KV
Excluding Type JCD Series capacitor, these ranges can be more than doubled.

**OSCILLOSCOPE CONNECTION** [illegible] to 1 [illegible] connection.

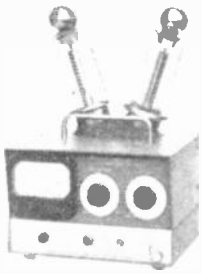
**FREQUENCY RESPONSE** 20 [illegible] to 20 megacycles at full [illegible] voltage and up to 50 [illegible] for lower voltages with [illegible] harmonic content.

**INPUT IMPEDANCE** [illegible] 4 mmfd

**CALIBRATION ACCURACY** [illegible] full scale

**POWER SUPPLY** 117 [illegible]

**DIMENSIONS** 16 1/2" x 11" x 5"

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# CAPACITORS & RELAYS

Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

## VACUUM TRANSFER RELAYS

| JENNINGS TYPE | RA1 | RA2 | RD1 | RD3 | RE1 | RE5 | RB1 | RB2 | RB3 | RB1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Contact arrangement | SPDT | 4PDT | N.O. | N.O. | SPDT | SPDT | SPDT | 2PDT | 2PDT | 4PDT |
| Rated operating voltage | 300 v | 300v | 10kv | 25kv | 20kv | 25kv | 10 kv | 10 kv | 12, 6 kv | 10, 15kv |
| Test voltage between terminals | 2000 | 2000 | 15kv | 30kv | 30kv | 45kv | 18 kv | 18 kv | 15 kv | 15, 20 kv |
| Test voltage pole to pole, pole to ground | 3000 | 3000 | 12kv | 30kv | 30kv | 45kv | 15 kv | 15 kv | 15, 8 kv | 15, 20 kv |
| Continuous RF current—rms amps | 25.50 | 25.50 | 15 | 12 | 12 | 15 | 15 | 15 | 15 | 15 |
| Contact resistance—ohms | .01 | .01 | .01 | .01 | .015 | .015 | .01 | .01 | .01 | .01 |
| Contact capacitance—mmfd | 17 | 17 | .09 | .09 | .25 | .25 | 1 | 1 | 4 | 1 |

**DC ACTUATING COILS**
Standard actuating coils are rated for operation at 26.5 vdc and draw 2 to 10 watts of power. Coils rated for operation at 110 vdc are also available for most types.

## TYPES R & RH VACUUM SWITCHES

### VACUUM SWITCH RATINGS

#### For RF and DC Transfer Switching

| Jennings Type | R5C | R1 | R1K | R2 | R8 | RH6 | RH7 |
|---|---|---|---|---|---|---|---|
| Test Voltage (330 kc dry)—peak kv | 20, 30 | 40, 50 | 30, 40 | 50, 60 | 70, 85, 95 | 85, 100 | 85, 100 |
| Operating Voltage—peak kv | 15 | 30 | 20 | 40 | 30 to 85 | 85 | 85 |
| Continuous Current (rms amp)—dc (1) | 50 | 50, 100 | 100, 200 | 50, 100 | 100, 200 | 50, 200 | 50, 400 |
| —330 kc | 30 | 35 | 100 | 35 | 100 | 150 | 200 |
| —10 mc | 25 | 25 | 50 | 25 | 50 | 60 | 60 |
| —30 mc | | 15 | 25 | 15 | 25 | 25 | 25 |
| RF Interrupting Power—kilowatts | 50 | 250 | 500 | 250 | 1000 | | |

(1) DC continuous currents may be increased as shown by using special connectors.

R6G

#### For DC Switching Under Load or Capacitor Discharging

| Jennings type | R3C | R5C | R1G | R6G | R2G | R8G | R9G | RH1G | RH4G | RH2G | RH7G | RH5G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Test voltage (60 cycles dry)—pk kv | 15, 20 | 20, 30 | 40, 50 | 40, 50 | 50, 60 | 50, 70 | 50, 70 | 35, 45 | 30, 40 | 30, 50 | 85, 100 | 50, 70 |
| Max. operating voltage—pk kv | 5 | 15 | 20 | 20 | 30 | 50 | 60 | 20 | 10 | 20 | 70 | 30 |
| Continuous current (1)—DC amp | 50<br>100 | 50 | 50<br>100 | 50<br>100 | 50<br>100 | 100<br>200 | 100<br>200 | 50<br>400 | 50<br>600 | 50<br>600 | 50<br>400 | 50<br>600 |
| DC interruption (2) power in kw<br>Current in amp | 7.5<br>250<br>28 VDC | 25<br>10 | 50<br>20, 50 | 50<br>50 | 50<br>20 | 50<br>50 | 100<br>100 | 200<br>200 | 250<br>250 | 250<br>250 | 200<br>200 | 250<br>250 |
| Capacitor discharge decaying to 30% in 1 millisec. or less—<br>initial amp<br>peak kv | | | 500<br>30 | 1000<br>25 | 500<br>40 | 1000<br>50 | 1500<br>60 | 5000<br>30 | 10,000<br>20 | 20,000<br>30 | 5000<br>70 | 20,000<br>40 |

(1) DC continuous currents may be increased as shown by using special connectors.
(2) For DC interruption in continuous operation, neither power nor current rating should be exceeded.
DC current interruption may be increased by addition of capacitance across switch contacts.

R9G

#### For 60 Cycle Power Switching

| Jennings type | R6G | R8G | R9G | RH1G | RH4G | RH2G | RH5G | RH7G | RL7G | RL10G |
|---|---|---|---|---|---|---|---|---|---|---|
| Recommended max. load voltage for max. operating recovery voltage @ 50 amps rms kv | 27 | 31 | 35 | 13.5 | 5 | 13.5 | 31 | 38 | 35 | 40 |
| Load break 70% PF to 600 amps (grounded wye)—rms kv | 15.5 | 18 | 24.5 | 8.5 | 3.2 | 8.5 | 18 | 33 | 29.5 | 37 |
| Grounded Y capacitor switching at 50 amps rms kv | 13.5 | 15.5 | 17.5 | 6.75 | 2.5 | 6.75 | 15.5 | 19 | 17.5 | 20 |
| Grounded Y capacitor switching at rated thermal current—rms kv | 12.5 | 12 | 14.75 | 4.75 | 1.6 | 4.25 | 9 | 15 | 12 | 17 |
| Thermal current (for 30° C. rise) rms amps | 100 | 200 | 250 | 400 | 600 | 600 | 600 | 400 | 600 | 600 |
| Max. recovery voltage at rated thermal current load—rms kv | 25 | 24.5 | 29.5 | 9.5 | 3.2 | 8.5 | 18 | 30.5 | 24.5 | 34 |
| Overload or fault interrupter circuit breaker 3 phase simultaneous break line to line (present recommended duty) rms kv | | | 15.5 | 5 | 0.6 | 5 | 12 | 21.5 | 15.5 | 34.5 |
| Max. interrupting current (10 times) rms amps | 1500 @ 9kv | 1500 @ 14kv | 2000 @ 17.5kv | 2000 @ 6kv | 4000 @ 2.5kv | 4000 @ 5kv | 4000 @ 12kv | 2000 @ 21.5kv | 4000 @ 15.5kv | 4000 @ 18kv |
| Withstand voltage (60 cycle 1 min. dry) rms kv | 36 | 36 | 50 | 19 | 19 | 36 | 50 | 60<br>80 | 50 | 60<br>80 |
| Impulse voltage (1½ x 40 micro sec. NEMA) pk kv | 95 | 95 | 110 | 60 | 60 | 95 | 110 | 150 | 110 | 150<br>180 |
| Short time surge currents<br>NEMA—4 sec. rms amps<br>NEMA—½ cy + 10 cy. @ 70% rms amps | 2500<br>5000 | 2000<br>4000 | 2500<br>5000 | 2500<br>5000 | 5000<br>10000 | 5000<br>20000 | 5000<br>20000 | 2500<br>5000 | 5000<br>20000 | 5000<br>20000 |

RH7G

**RELAYS USING VACUUM SWITCHES**
Type R and RH Vacuum Switches are available from Jennings mounted as relays for indoor use. They may be mounted with contacts normally open or normally closed or two switches may be mounted in a single pole double throw arrangement. Either ac or dc solenoids may be used. Insulation between the switch and its actuating solenoid is provided by a 2 to 12 inch puller rod providing 40 to 140 kv insulation. CE grade phenolic laminate is recommended for dc or 60 cycle use. Grade G7 silicone glass laminate is recommended for radio frequency applications.

**JENNINGS RADIO MANUFACTURING CORPORATION • SAN JOSE 8, CALIF.**

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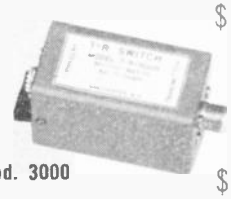
# NEW! precision built, low cost ham radio accessories

Mod. 2000 $ 8.75*

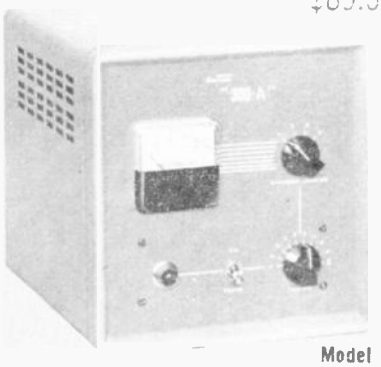


Mod. 3000 $13.50*

## vantron T/R switches

TRANSMIT-RECEIVE Switches, 1 KW max. power, 3 to 30 MC, no tuning adjustments, no RF relays; low VSWR; insertion loss less than 1 S-unit; Model 3000 has integral receiver muting relay. Low cost, high efficiency. Widely used in communications and amateur equipment.

$89.50*



Model 300-A

$10.95*

## vantron Q-probe

3-35 MC Circuit Probe. Low-cost oscilloscope attachment for RF scope displays 3 to 35 MC, continuously variable, high sensitivity; sync. output locks scope sweep. Views RF signals; checks two-tone patterns, SSB carrier nulls, filters, RF squegging, parasitics, overall transmitter modulation characteristics.

## vantron Linear Amplifier

Negligible harmonic output. Power input ratings: C.W. — 240 watts; S.S.B. — 150 watts P.E.P.; A.M. — 100 watts. Frequency range: 3-35 M.C. continuous (no plug in coils). Matches 50-75 ohm antennas. Driving power only 15 watts max. Will easily drive a grounded grid amplifier with 1000 watts P.E.P. input. Tube complement — two EL-34/6CA7; rectifier GZ-34. Simple tuning. Size: 8¼" H x 8¼" W x 10½" D. Weight: 16 lbs.

# NEW! hi-fi accessories YOU have been waiting for

$21.95*

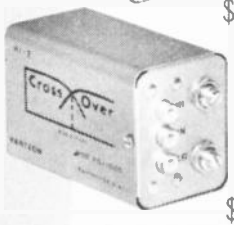
## vantron Phono-Booster

A hi-fi, fully transistorized phone pre-amplifier and equalizer. For use with high quality amplifiers with low output cartridges.

$9.95*

## vantron Phono-Power

A hi-fi pre-amplifier power supply for monaural and stereophonic use. Provides hum-free power when used in conjunction with the phono-booster.



$8.95*

## vantron Cross-Over

A tubeless trouble-free precision cross-over divider network. Divides up the frequency spectrum when separate bass and treble power amplifiers are used.

$15.95*

## vantron Pow-R-Check

A precision watt and db hi-fi power meter for monaural and binaural installations. Provides an accurate indication of power from the amplifier. Permits frequency response tests.

* Users Net

See your distributor

ELECTRONICS DIVISION

MANCHESTER, NEW HAMPSHIRE

VAN NORMAN INDUSTRIES INC.



World Radio History

# STANWYCK COILS

**Mfrd. by STANWYCK WINDING CO.**

**TELEVISION - I.F. - ANT. - R.F. - F.M. - OSCILLATOR COILS**

S-949

## TELEVISION REPLACEMENT COMPONENTS FOR MOTOROLA, TELEKING, MAGNAVOX, EMERSON, HALLICRAFTER, AND OTHER TELEVISION RECEIVERS

### NEW ABOVE CHASSIS TYPE TUNED 455 K.C. I.F. COILS

The latest in IF coils featuring the complete above chassis type tuned IF coils that are permeability tuned resulting in high Q, no drift for stable long life operation, supplied with snap spring clip for mounting through suitable holes in chassis.

S-1601 Miniature size IF high Q high gain for battery filament type tubes Size ¾ x 2" Shielded — List Price, $1.90

S-1617 Miniature size IF high Q high gain for AC DC Filament type tubes. Size ¾ x 2" Shielded — List Price, $1.65

S-1607 Miniature size IF with exceptionally high Q and gain in many cases this IF will outperform standard IF transformers. Size ¾ x 2" Shielded — List Price, $1.90

### 4.5 mc IF COMPONENTS

Featuring the latest all above chassis type tuning using internal type hex wrenching eliminating core breakage. They are of the permeability tuned type using fixed silver mica condensers insuring high Q no drift long life operation supplied with snap spring clip for mounting through suitable holes in chassis.

S-985 4.5 mc Sound ratio detector Size ¾ x 2" Shielded — List Price, $2.90
S-986 4.5 mc Sound discriminator transformer ¾ x 2" Shielded — List Price, 2.90
S-989 4.5 mc Sound take off coil Size ¾ x 2" Shielded — List Price, 2.40
S-974 4.5 mc Sound trap ⅞ chassis hole mount. Unshielded — List Price, 1.10

### TELEVISION REPLACEMENT COMPONENTS FOR RCA REPLACEMENT

| RCA | Stanwyck | | List Price | RCA | Stanwyck | | List Price |
|---|---|---|---|---|---|---|---|
| 203-L1 | S-943 | Video peaking 180 uh-39K | $0.50 | 203-K1 | S-954 | Sound discriminator | $2.55 |
| 203-L2 | S-944 | Video peaking 250 uh-10 meg. | .50 | 202-K1 | S-955 | Converter Trans. | 2.65 |
| 203-L3 | S-945 | Video peaking 120 uh-22K | .50 | 204-L1 | S-956 | Fil. Choke | .70 |
| 203-L4 | S-946 | Video peaking 93 uh-10 meg. | .50 | 201-R1 | S-957 | Hor. width control | .95 |
| 202-K2 | S-949 | 1st Pix IF | 3.00 | 201-R3 | S-958 | Linearity control | .95 |
| 202-K3 | S-950 | 2nd Pix IF | 2.10 | 208-T8 | S-959 | Syncrolock | 2.75 |
| 202-L1 | S-951 | 3rd & 4th Pix IF | .75 | 203-R1 | S-966 | Syncroguide | 2.00 |
| 202-K4 | S-952 | Cathode trap | 2.55 | 205-R1 | S-977 | Hor. Freq. & Phase coil | 2.25 |
| 201-K1 | S-953 | Sound IF | 2.10 | | | | |

S-930

### HIGH VOLTAGE COILS

S-999 High voltage flyback. This transformer is similar to the GE No. 77J1 and delivers approximately 14KV for ample width and picture brilliancy up to 21" picture tubes. — List Price, $11.00

S-980 GE type linearity coil 5 to 36 mh — List Price, $1.55

S-981 GE type width coil with AGC winding — List Price, $1.75

S-930 10 KV R. F. power transformer designed for corona-less performance at full rated output. — List Price, $11.55

S-918 R.F. Filament transformer will deliver 30 KV when used with one S-930 and two S-918 in a voltage tripler circuit. — List Price, $2.20

### NEW ABOVE CHASSIS 10.7 PERMEABILITY TYPE TUNED MIDGET FM COILS

S-626 Midget ratio detector to meet the critical demands for a sensitive and unusually stable FM detector. A peak to peak band width of 325 Kc with linearity exceeding plus or minus 125 Kc results in a high quality audio reproduction. Permeability tuned plus silver mica condensers offers long life low drift for the ultimate in fine FM reproduction. — List Price, $3.30

S-625 Midget FM IF High performance in gain and band width with symmetrical wave shape is a result of correct L/C ratio. High Q iron cores and low drift silver mica capicators make this a much desired IF for net set or replacement. — List Price, $2.50

S-627 Midget FM Discriminator. The electrically centered secondary results in perect symmetry between negative and positive peaks. High output and excellent discrimination are obtained. — List Prce, $3.30

S-609 FM Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. MF Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. — List Price, $0.45

### CUSTOM HIGH PERFORMANCE FERRITE LOOPSTICKS

S-537 Adjustable design for small midget sets will outperform standard loop. — List Price, $0.90

S-538 Adjustable design for average table size set has exceptionally high gain and low drift, has outside ant. connection. — List Price, $1.25

S-540 This antenna coil has twice the gain of the S-538 with a Q of over 300 over the entire broadcast and eliminating an outside antenna. — List Price, $1.50

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World Radio History

# PR Crystals

Since 1934

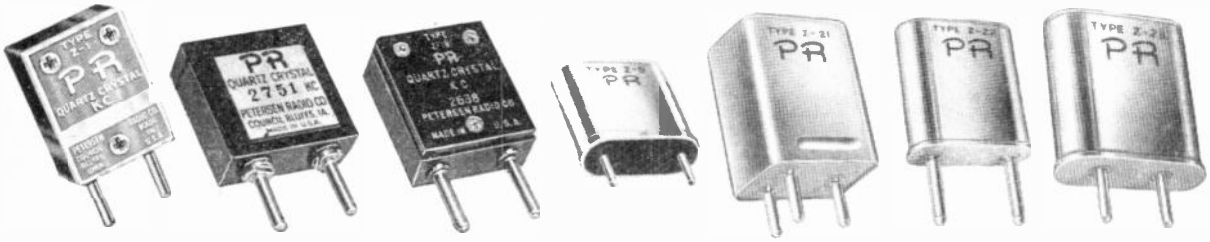
USE PR AND KNOW WHERE YOU ARE

## COMMERCIAL TYPES—SPECIFICATIONS

| | Type | Frequency Range | Pin Spacing | Pin Diameter | Height Above Pins | Width | Depth |
|---|---|---|---|---|---|---|---|
| Z-1 | Fundamental | 900 Kc. to 12000 Kc. | .486" | .093" | 1-3/16" | 13/16" | 7/16" |
| Z-1 | Harmonic | 12001 Kc. to 30000 Kc. | .486" | .093" | 1-3/16" | 13/16" | 7/16" |
| *Z-1A | Fundamental | 500 Kc. to 2000 Kc. | 3/4" | .125" | 1 3/8" | 1 3/8" | 1/2" |
| Z-1B | Fundamental | 1000 Kc. to 12000 Kc. | 3/4" | .125" | 1 3/8" | 1-3/16" | 1/2" |
| Z-1B | Harmonic | 12001 Kc. to 30000 Kc. | 3/4" | .125" | 1 3/8" | 1-3/16" | 1/2" |
| Z-1D | Same as Z-1 | Same as Z-1 | 1/2" | .125" | 1-3/16" | 13/16" | 7/16" |
| Z-1E | Same as Z-1 | Same as Z-1 | 1/2" | .125" | 1 1/4" | 1 1/8" | 7/16" |
| Z-1H | Single or dual unit Fundamental | 500 Kc. to 12000 Kc. | 3 Pin W.E. | .157" | 2-1/16" | 1-19/32" | 1-3/16" |
| Z-1K | Same as Z-1A except has .157" dia. pins | 500 Kc. to 12000 Kc. | 3/4" | .157" | 1 3/8" | 1 3/8" | 1/2" |
| Z-1M | Fundamental | 1000 Kc. to 10000 Kc. | 7/8" | Std. Banana | 2-3/32" | 1-19/32" | 3/4" |
| Z-1R | Fundamental | 150 Kc. to 900 Kc. | 1/2" | .093" | 1 1/4" | 1-3/32" | 7/16" |
| Z-4 | Fundamental | 1601 Kc. to 12000 Kc. | 3/4" | .125" | .650" | Diameter | .995" |
| Z-4 | Harmonic | 12001 Kc. to 30000 Kc. | 3/4" | .125" | .650" | Diameter | .995" |
| Z-7 | Fundamental | Same as Z-1 Fundamental | 3/4" | Std. Banana | 1.660" | 1.192" | .518" |
| Z-8 | Fundamental | 500 Kc. to 1600 Kc. | 3/4" | 1/8" | 1 3/4" | 1-9/16" | 1-11/16" |
| Z-9T | Fundamental | 100 Kc. to 174 Kc. | 1/2" | .050" | 1.526" | .720" | .309" |
| Z-9 | Fundamental | 175 Kc. to 15000 Kc. | 1/2" | .050" | .758" | .720" | .309" |
| Z-9R | Harmonic | 15001 Kc. to 70000 Kc. | 1/2" | .050" | .758" | .720" | .309" |
| E-1 | Fundamental | 100 Kc. to 7000 Kc. | Interchangeable with FT-164 and AC-95 | | | | |
| Z-21 | Fundamental | 150 Kc. to 500 Kc. | 3-Pin W.E. | .157" | 2" | 1-19/32" | 1-3/16" |
| Z-22 | Fundamental | 150 Kc. to 15000 Kc. | 3/4" | .125" | 1 1/4" | 1-3/16" | 7/16" |
| Z-22 | Harmonic | 15001 Kc. to 50000 Kc. | 3/4" | .125" | 1 1/4" | 1-3/16" | 7/16" |
| Z-23 | Same as Z-22 | Same as Z-22 | .486" | .093" | 1 1/4" | 1-3/16" | 7/16" |
| Z-24 | Same as Z-22 | Same as Z-22 | 1/2" | .125" | 1 1/4" | 1-3/16" | 7/16" |

* Can be Supplied with Standard Banana Pins.

EVERY PR CRYSTAL IS UNCONDITIONALLY GUARANTEED



Z-1 Z-1A Z-1B Z-9 Z-21 Z-22 Z-23

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World Radio History

# PR Crystals

Since 1934

USE PR AND KNOW WHERE YOU ARE

## PRICE LIST

Effective March 1, 1958
Subject to Change Without Notice

## FOR AMATEUR SERVICE

Z-2 and Z-3 Crystals are supplied *only* in the following bands and calibrated *integral kilocycles* only, *no fractions.*

| TYPE | FREQUENCY RANGE | | PRICE |
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|---|---|---|---|
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| E6 | SR5 | Radiotelephone 2-3.5 mc | ±.02% | 7.50 |
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| E22 | MC9 | 3-12 mc experimental frequencies | ±.03% | 6.50 |
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| E11A | MC9 | Marker frequency 1000 kc. | ±.05% | 8.00 |
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For precision calibration of signal generators or other test instrumentation.

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| E24 | BH6A | 1000 kc. Crystal | ±.0002% | 12.50 |
| E25 | BH9A | 100 kc. Crystal | ±.0005% | 11.00 |

Crystal units described are calibrated in recommended oscillator circuit-adjustable to zero beat (at 75°C.) in this circuit.

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SPECIFY CODE E24 FOR BH6A 1000 KC. CRYSTAL ONLY
SPECIFY CODE E25 FOR BH9A 100 KC. CRYSTAL ONLY
SPECIFY CODE E26 FOR OVEN WITH BH6A AND BH9A CRYSTALS

TYPE **KV3** CODE E10

CASE LENGTH: 1 9/32"
DIAMETER: 1 3/16"
PIN SIZE: .093"
PIN SPACE: .486"

TYPE **MS433** CODE E11

CASE LENGTH: 1 31/32"
DIAMETER: 1 25/64"
PIN SIZE: .093"
PIN SPACE: OCTAL

TYPE **MC9** CODE E3, E8, E9, E11A, E13, E22

CASE LENGTH: 1 11/64"
WIDTH: 13/16"
THICKNESS: 7/16"
PIN SIZE: 093"
PIN SPACE: .486"

TYPE **SR10** CODE E13A, E22A

CASE LENGTH: 5/64"
WIDTH: 3/4"
THICKNESS: 11/32"
PIN SIZE: .093"
PIN SPACE: .486"

TYPE **CF3** CODE E14

CASE LENGTH: 1 11/32"
WIDTH: 1 3/16"
THICKNESS: 3/4"
PIN SIZE: .125"
PIN SPACE: .750"

TYPE **CF6** CODE E15

CASE LENGTH: 1 7/32"
WIDTH: 1 3/16"
THICKNESS: .695"

TYPE **AX2** CODE E17, E18, E19, E20

CASE LENGTH: 1 5/16"
WIDTH: 1 1/16"
THICKNESS: 7/16"
PIN SIZE: .093"
PIN SPACE: .486"

TYPE **MC7** CODE E5

CASE LENGTH: 1 39/64"
WIDTH: 1 1/8"
THICKNESS: 21/32"
PIN SIZE: .125"
PIN SPACE: .500"

TYPE **SR5** CODE E6

CASE LENGTH: 1 1/4"
WIDTH: 1 9/64"
THICKNESS: 7/16"
PIN SIZE: .125"
PIN SPACE: .500"

TYPE **SR8** CODE E7

CASE LENGTH: 1 1/4"
WIDTH: 1 1/8"
THICKNESS: 7/16"
PIN SIZE: .093"
PIN SPACE: .486"

TYPE **TCO-2L** CODE E23

CASE LENGTH: 2 3/16"
DIAMETER: 1 1/4"
OCTAL BASE

TYPE **BH6A** CODE E24

CASE LENGTH: 1 1/32"
WIDTH: 3/4"
THICKNESS: 11/32"
PIN SIZE: .050"
PIN SPACE: .486"

TYPE **BH9A** CODE E25

CASE LENGTH: 1 25/32"
WIDTH: 3/4"
THICKNESS: 11/32"
PIN SIZE: .050"
PIN SPACE: .486"

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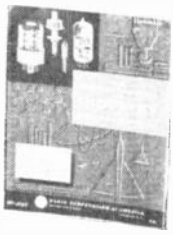

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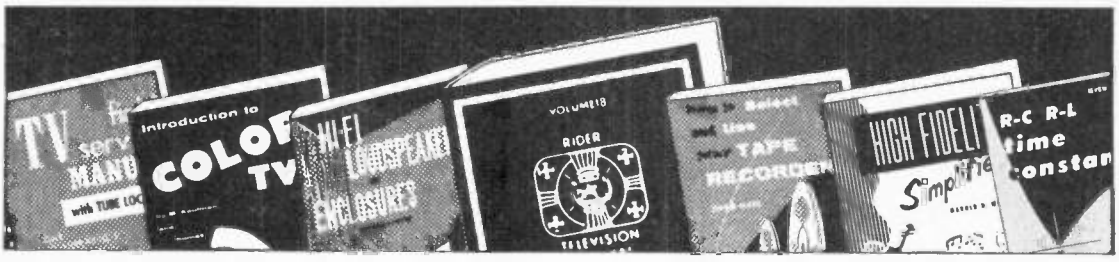


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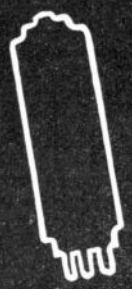

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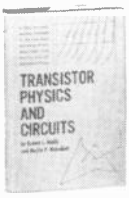


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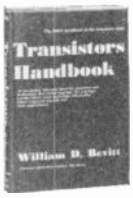


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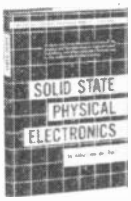


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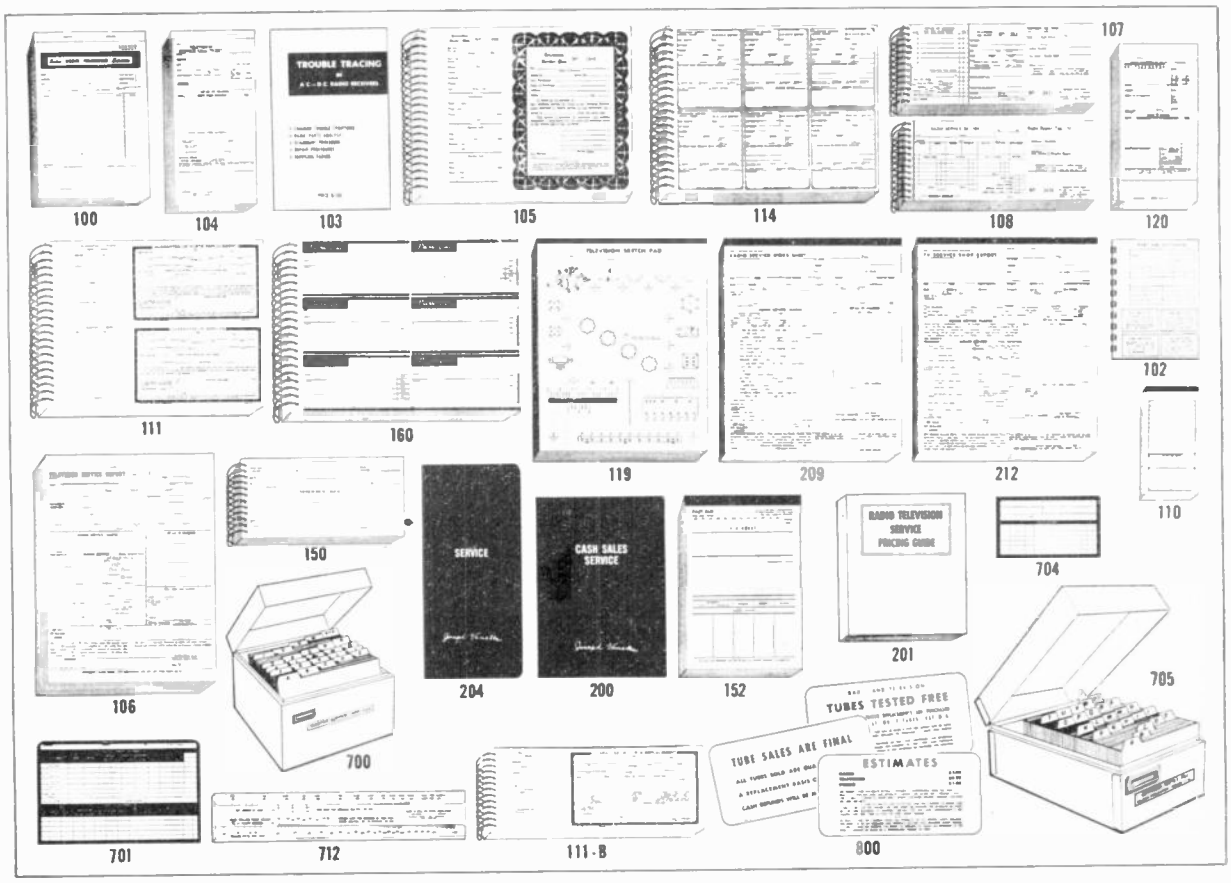


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**No. 152 Statement Book**—50 duplicate sets with past due reminder feature, 5½"x7½" ..... Ea. $ .75

**No. 160 Message Minder Book**—Spiral bound book of 450 duplicate phone message blanks ..... Ea. $1.95

**No. 200 Plastic Book Holder** for No. 100 Cash Sales Book. Ea. $1.00

**No. 201 Radio-TV Service Pricing Guide**—Loose leaf book showing charges for radio-TV service ..... Ea. $2.95

**No. 204 Plastic Book Holder** for No 104 TV Service Call Book Ea. $1.00

**No. 209 Radio Service Work Sheet**—Book of 50 duplicate sets with blanks for all details ..... Ea. $ .95

**No. 212 TV Service Shop Report**—Book of 50 duplicate sets with blanks for all details ..... Ea. $ .95

**No. 700 Master Service Card File**—Metal Case, 500 5"x8" cards and index ..... Ea. $14.95

**No. 701 Master Service Card**—5"x8" service card for all customer details ..... Box of 100 $2.00

**No. 704 Customer Service Card**—3"x5" account card showing record of service ..... Box of 500 $2.50

**No. 705 Customer Service Card File**—Metal Case. 500 3"x5" Cards and index ..... Ea $6.95

**No. 712 Cost and Selling Price Indicater**—Plastic slide rule for figuring selling prices and costs ..... Ea $1.00

**No. 800 Business Sign Kit**—25-5"x10" signs printed on heavy wood grain stock for Radio-TV ..... Kits ea $2.50

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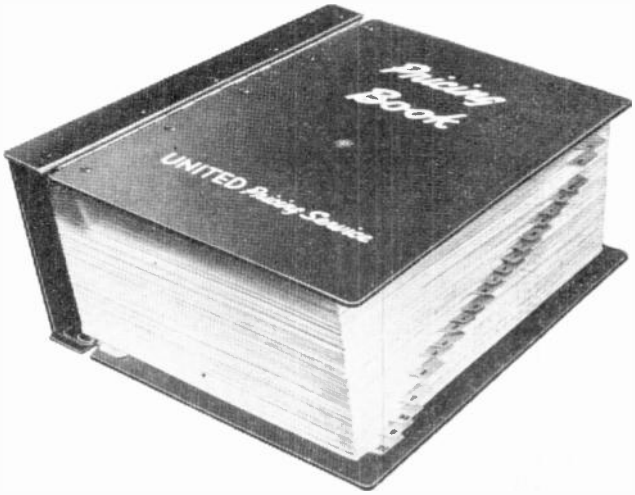


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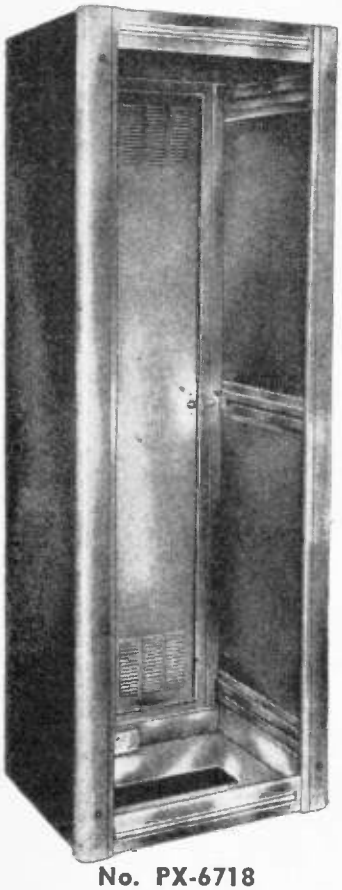
# TYPE "C" UNIVERSAL CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

## SERIES "PX" & "FX" RACKS WITH SOLID SIDE WALLS FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP

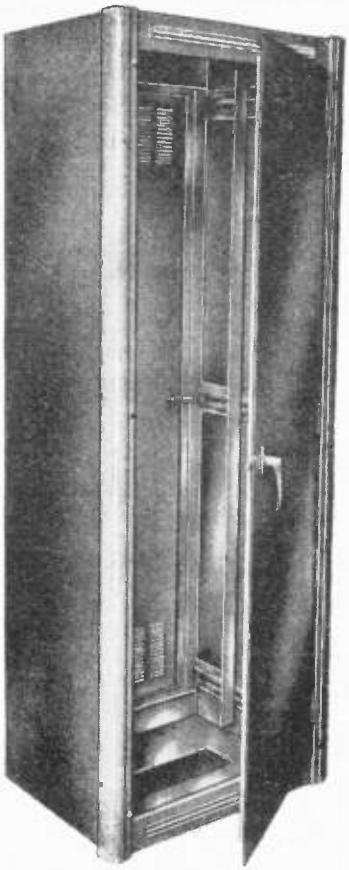
### FOR SINGLE OR MULTIPLE UNIT ASSEMBLY

**WITH REAR DOOR ONLY**



**No. PX-6718**

**WITH FRONT & REAR DOOR**



**No. FX-6718**

For over two decades, we have made various types of enclosed relay racks, differing in styling, specifications, and sizes. In presenting our **UNIVERSAL CABINET RACKS**, we offer a line with a complete range of sizes; one which combines all the advantages of racks previously listed; and which introduces new features of design providing greater flexibility and economy in assembly.

The advantages of **UNIVERSAL CABINET RACKS** may be summarized as follows:

**DIMENSIONS:** Racks are available for 19", 24", or 30" wide panels. Cabinet heights are 42⅞", 48⅛", 67⅜", 76⅛", and 83⅛"; depths available are 18" or 24".

**DESIGN:** Racks described on pages K-484 and K-485 are of conventional solid side wall construction. A description of racks with open side walls and detachable side panels is given on Pages K-486 and K-487.

**DOORS:** All sizes may be ordered with rear doors only; or with matching front and rear doors.

**GROUPING:** All racks of the same height may be set up in "gangs" or rows; racks with 19", 24" or 30" wide panels may be intermixed; racks with or without front doors may also be intermixed.

In this group are shown our standard "PX" type racks, 24" deep. The racks at the end positions are for 24" wide panels, and 19" wide panels are used on the two center racks. Regular width vertical trim strips covering the panel mounting screws are used in this arrangement.

Similar groupings could be made using "PX" racks of the same height in 18" or 24" deep racks, using 19" or 24" wide panels. All of the racks in this group have solid sides.

**MID-RAIL MOUNTING OF PANELS:** The panel mounting angles or "strips" are fully adjustable on all racks, and may be positioned at any location from front to back. Additional panel mounting angles may be easily inserted where needed for mounting terminal boards, etc.

**VERTICAL SIDE SUPPORTS:** These supports provide a new method for supporting chassis and other equipment in the racks. Installing brackets or shelves is now a simple procedure; the means of attaching such brackets is fully adjustable so that chassis may be accurately lined up with the front panels. No drilling or other fabrication is required. The chassis may then be installed or removed with a minimum of effort. The vertical slide supports also facilitate the installation of special sliding devices obtainable from slide manufacturers.

**SLIDING SHELVES AND DRAWERS:** Several models are listed on page K-489. These are constructed for mounting on the front of the racks the same as regular panels.

**FINISHES:** All racks may be obtained in any of the following standard finishes: **GREY RIPPLE ENAMEL, BLACK RIPPLE ENAMEL, GREY HAMMERTONE ENAMEL, GREY METALLIC ENAMEL,** and **PRIMER COAT ONLY.** It is essential that the finish required be specified on your order to avoid subsequent inquiry and delay.



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# TYPE "C" UNIVERSAL CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

## SERIES "PX" & "FX" RACKS WITH SOLID SIDE WALLS
## FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP
### FOR SINGLE OR MULTIPLE UNIT ASSEMBLY

## CONSTRUCTIONAL SPECIFICATIONS FOR "PX" and "FX" SERIES RACKS

**CABINET:** Entire cabinet is welded together into one integral unit. Body of cabinet is made from 3/16" thick cold rolled sheet steel; top of cabinet is made from 5/64" thick steel; bottom of cabinet is made from 7/64" thick steel.

**PANEL MOUNTING:** Angle irons are 3/16" thick structural steel. Holes are accurately drilled and tapped 12/24 thread on standard 1¼"-½" spacings. They may be positioned at any location from front to back. Additional pairs of panel mounting angles may be purchased separately. See page K-488 for listings.

**DOORS:** Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

**"FULL VENTILATING"** type louvres provide adequate ventilation in the rear doors.

**HARDWARE:** Doors are equipped with die cast "automobile" type sturdy handles. Hinges are of the "slip joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated mouldings at top and bottom.

**OUTLETS:** A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc. "Knock-out" holes are provided at sides for wiring between racks.

**LOCKS:** Locking type handles are regularly supplied on front and rear of **"FX"** Series Racks only. They are available on rear doors of **"PX"** Series Racks at an extra charge of $1.00.

**MODIFICATIONS:** Modified doors are available with louvres at **TOP or BOTTOM** only as required. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or baffles. Adjustable baffles to limit or increase ventilation in top openings are available. If air filters are required on doors, provision can be made for this purpose. Solid doors may be substituted for louvered doors.

### TYPE "PX" SERIES RACKS — WITH REAR DOORS ONLY

| Catalog No. | Dimensions Height Width Depth | Panel Space | Clear Inside Depth | **Clear Inside Width (Front) | Clear Inside Width (Rear) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| | | | **FOR 19" WIDE PANELS — 18" DEEP** | | | | |
| PX-3718 | 42⅞x22x18" | 36⅞x19" | 16⅞" | 17¾" | 19⅛" | 105 | $69.00 |
| PX-4818 | 48⅛x22x18" | 42 x19" | 16⅞" | 17¾" | 19⅛" | 120 | $ 76.80 |
| PX-6718 | 67⅜x22x18" | 61¼x19" | 16⅞" | 17¾" | 19⅛" | 155 | 87.80 |
| PX-7718 | 76⅛x22x18" | 70 x19" | 16⅞" | 17¾" | 19⅛" | 170 | 98.80 |
| PX-8418 | 83⅛x22x18" | 77 x19" | 16⅞" | 17¾" | 19⅛" | 185 | 109.75 |
| | | | **FOR 19" PANELS — 24" DEEP** | | | | |
| PX-4824 | 48⅛x22x24" | 42 x19" | 22⅞" | 17¾" | 19⅛" | 140 | 93.05 |
| PX-6724 | 67⅜x22x24" | 61¼x19" | 22⅞" | 17¾" | 19⅛" | 180 | 106.65 |
| PX-7724 | 76⅛x22x24" | 70 x19" | 22⅞" | 17¾" | 19⅛" | 195 | 117.60 |
| PX-8424 | 83⅛x22x24" | 77 x19" | 22⅞" | 17¾" | 19⅛" | 210 | 131.70 |
| | | | **FOR 24" WIDE PANELS — 24" DEEP** | | | | |
| PX-4827 | 48⅛x27x24" | 42 x24" | 22⅞" | 22¾" | 24⅛" | 155 | 120.20 |
| PX-6727 | 67⅜x27x24" | 61¼x24" | 22⅞" | 22¾" | 24⅛" | 200 | 136.95 |
| PX-7727 | 76⅛x27x24" | 70 x24" | 22⅞" | 22¾" | 24⅛" | 225 | 147.90 |
| PX-8427 | 83⅛x27x24" | 77 x24" | 22⅞" | 22¾" | 24⅛" | 240 | 164.10 |
| | | | **FOR 30" WIDE PANELS — 24" DEEP** | | | | |
| PX-6733 | 67⅜x33x24" | 61¼x30" | 22⅞" | 28¾" | 30⅛" | 260 | 165.00 |
| PX-7733 | 76⅛x33x24" | 70 x30" | 22⅞" | 28¾" | 30⅛" | 280 | 180.00 |
| PX-8433 | 83⅛x33x24" | 77 x30" | 22⅞" | 28¾" | 30⅛" | 300 | 197.50 |

### TYPE "FX" SERIES RACKS — WITH FRONT AND REAR DOORS

| Catalog No. | Dimensions Height Width Depth | Panel Space | *Clear Inside Depth | **Clear Inside Width (Front) | Clear Inside Width (Rear) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| | | | **FOR 19" WIDE PANELS — 18" DEEP** | | | | |
| FX-4818 | 48⅛x22x18" | 42 x19" | 16¼" | 17¾" | 19⅛" | 135 | $ 93.05 |
| FX-6718 | 67⅜x22x18" | 61¼x19" | 16¼" | 17¾" | 19⅛" | 175 | 109.75 |
| FX-7718 | 76⅛x22x18" | 70 x19" | 16¼" | 17¾" | 19⅛" | 190 | 125.95 |
| FX-8418 | 83⅛x22x18" | 77 x19" | 16¼" | 17¾" | 19⅛" | 205 | 136.95 |
| | | | **FOR 19" WIDE PANELS — 24" DEEP** | | | | |
| FX-4824 | 48⅛x22x24" | 42 x19" | 22¼" | 17¾" | 19⅛" | 160 | 112.35 |
| FX-6724 | 67⅜x22x24" | 61¼x19" | 22¼" | 17¾" | 19⅛" | 205 | 128.50 |
| FX-7724 | 76⅛x22x24" | 70 x19" | 22¼" | 17¾" | 19⅛" | 225 | 145.30 |
| FX-8424 | 83⅛x22x24" | 77 x19" | 22¼" | 17¾" | 19⅛" | 235 | 158.90 |
| | | | **FOR 24" WIDE PANELS — 24" DEEP** | | | | |
| FX-4827 | 48⅛x27x24" | 42 x24" | 22¼" | 22¾" | 24⅛" | 175 | 139.55 |
| FX-6727 | 67⅜x27x24" | 61¼x24" | 22¼" | 22¾" | 24⅛" | 235 | 164.65 |
| FX-7727 | 76⅛x27x24" | 70 x24" | 22¼" | 22¾" | 24⅛" | 265 | 175.10 |
| FX-8427 | 83⅛x27x24" | 77 x24" | 22¼" | 22¾" | 24⅛" | 270 | 197.55 |
| | | | **FOR 30" WIDE PANELS — 24" DEEP** | | | | |
| FX-6733 | 67⅜x33x24" | 61¼x30" | 22¼" | 28¾" | 30⅛" | 295 | 205.00 |
| FX-7733 | 76⅛x33x24" | 70 x30" | 22¼" | 28¾" | 30⅛" | 320 | 225.00 |
| FX-8433 | 83⅛x33x24" | 77 x30" | 22¼" | 28¾" | 30⅛" | 315 | 245.00 |

* clearance between front and rear doors. ** indicates clearance for chassis between panel mounting strips.

## BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

**CORNER TRIMS ("PX" Series Racks):** Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used, "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price.
**Specify if required, otherwise standard corner trims will be supplied with each rack.**

**CORNER TRIMS ("FX" Series Racks):** "Narrow Type" vertical trim strips are standard. Where Series "PX" and "FX" racks are intermixed in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. **Specify if required.**

**FINISH:** Black Ripple Enamel is standard. Grey ripple or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 10%) are Grey Hammertone enamel or Grey Metallic Enamel. **SPECIFY FINISH REQUIRED.**

**HOW TO ORDER:** Specify CATALOG NUMBER and FINISH. On "PX" Series Racks, standard vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified.

**PANELS:** Panels to fit these racks in 19", 24", and 30" widths are listed on Pages K-496 and K-497. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.

**ROLLER TRUCKS:** Roller trucks to fit these racks are listed on Page K-495.

**SHELVES:** Vertical side supports, brackets, and shelves are listed on Pages K-488 and K-489.

**ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK**

**PAR-METAL PRODUCTS CORP. • Long Island City 3, N. Y.**

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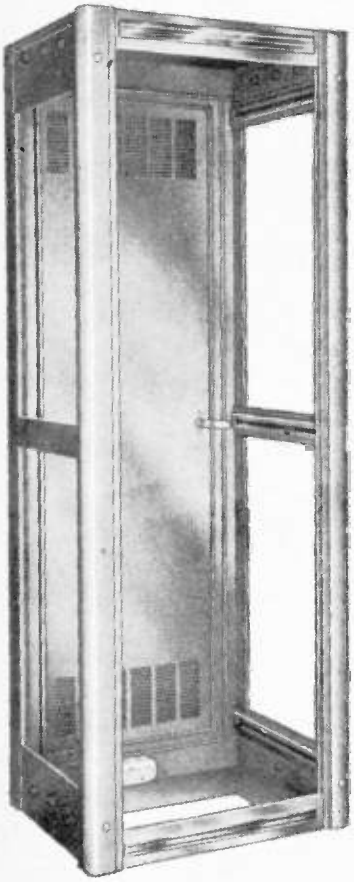
# TYPE "C" UNIVERSAL CABINET RACKS

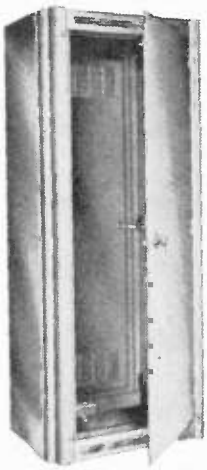
PAR-METAL "ELECTRONIC HOUSING"

## SERIES "PR" & "FR" RACKS WITH OPEN SIDE WALLS
## FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP
### FOR SINGLE OR MULTIPLE UNIT ASSEMBLY

**WITH REAR DOOR ONLY**



**No. PR-6718**



This Cabinet has Detachable Side Panels mounted.

Series **"FR"** cabinet shown above is equipped with detachable side panels. **Universal Cabinet Racks** illustrated on this page are similar to those on the preceding pages except for construction with OPEN SIDES and DETACHABLE SIDE PANELS. Illustrations at left and right show these racks with side panels removed.

In the price list on the opposite right-hand page, you will note the last two columns list the matching detachable side panels; prices are **per pair.** The illustrations below are typical assemblies of multiple installations; many others are possible.

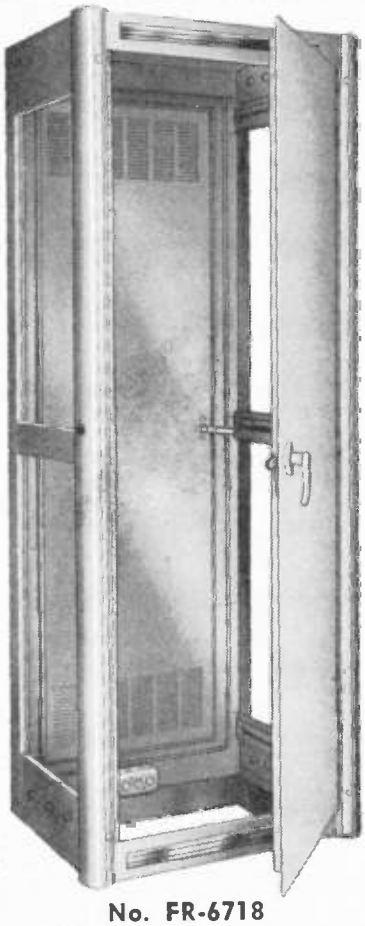
UNIVERSAL CABINET RACKS facilitate the location and mounting of chassis supports, shelves, sliding shelves, and standard sliding devices. Panel mounting angles may be positioned at the sides of the racks at any location from front to back.

Advantages of **"UNIVERSAL"** Type Racks may be summarized as follows:

1. A complete line of racks to provide unit row type assembly, or for use as single racks.
2. Racks with or without front doors, for either 19", 24" or 30" wide panels may be used singly, in rows, or intermixed.
3. The panel mounting angles on ALL racks are fully adjustable, and may be set at any position from front to back.
4. Vertical Side Supports (see Page K-488) for attaching chassis brackets, shelves, slides, etc., may be installed without drilling or fitting.
5. Either regular or "Narrow Type" vertical corner trims are available without additional cost.
6. A simplified method is provided for installing standard or custom-built slides.
7. Available finishes are black or grey ripple enamel, primer coat only, grey hammertone or grey metallic enamel.

**PLEASE SPECIFY FINISH DESIRED WITH YOUR ORDER. THANK YOU.**

**WITH FRONT & REAR DOORS**



**No. FR-6718**

In this group, types "PR" and "FR" racks are intermixed.

Racks for 24" wide panels are used on the ends, whereas the three center racks are for 19" wide panels. Three of the racks have front as well as rear doors. The position of the racks can be interchanged as desired.

Similar groupings can be made with our Solid Sides Cabinets illustrated on Page K-484.

This typical group consists of racks with open sides, using types "PR" and "FR" racks intermixed. Narrow trim strips are used throughout, because racks with front doors are in the assembly.

If "PR" racks (with rear doors only( were in the group exclusively, either regular width or "narrow" type trims could be installed at your option. Detachable side panels are installed on the end racks.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# TYPE "C" UNIVERSAL CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

## SERIES "PR" & "FR" RACKS WITH OPEN SIDE WALLS
## FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP
### FOR SINGLE OR MULTIPLE UNIT ASSEMBLY

## CONSTRUCTIONAL SPECIFICATIONS FOR "PR" and "FR" SERIES RACKS

CABINET: Entire cabinet is welded together into one integral unit. Door of cabinet is made from 1/16" thick cold rolled sheet steel; top of cabinet is made from 3/64" thick steel; corner posts and bottom of cabinet is made from 7/64" thick steel.

DETACHABLE SIDE PANELS are formed and welded construction. They are supported by brackets and are fastened by two "cowl-type" fasteners.

SIDE SHIELDS for use between open walls are available for insertion when needed. See listing and description on page K-490.

PANEL MOUNTING: Angle irons are 3/16" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard 1¾"-½" spacings. They may be positioned at any location from front to back. Additional pairs of panel mounting angles may be purchased separately. See Page K-488 for listings.

DOORS: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement. "FULL VENTILATING" type louvres provide adequate ventilation in the rear doors.

HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated mouldings at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

KNOCKOUT HOLES for interconnections AND BOLTS for assembling racks in rows are supplied.

LOCKS. Locking type handles are regularly supplied on front and rear of "FR" Series Racks only. They are available on rear doors of "PR" Series Racks at an extra charge of $1.00.

MODIFICATIONS: Modified doors are available with louvres at TOP or BOTTOM only as required.

Detachable side panels may be ordered with louvres to your specifications. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or baffles. Adjustable baffles to limit or increase ventilation in top openings are available. If air filters are required on doors, provision can be made for this purpose.

### TYPE "PR" SERIES RACKS — WITH REAR DOORS ONLY

| Catalog No. | Dimensions Height Width Depth | Panel Space | Clear Inside Depth | **Clear Inside Width (Front) | Clear Inside Width (Rear) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| | | | FOR 19" WIDE PANELS — 18" DEEP | | | | |
| PR-4818 | 48¼x22x18" | 42 x19" | 16⅞" | 17¾" | 19⅛" | 110 | $ 76.80 |
| PR-6718 | 67⅝x22x18" | 61¼x19" | 16⅞" | 17¾" | 19⅛" | 150 | 87.80 |
| PR-7718 | 76¼x22x18" | 70 x19" | 16⅞" | 17¾" | 19⅛" | 160 | 98.80 |
| PR-8418 | 83⅛x22x18" | 77 x19" | 16⅞" | 17¾" | 19⅛" | 180 | 109.75 |
| | | | FOR 19" WIDE PANELS — 24" DEEP | | | | |
| PR-4824 | 48¼x22x24" | 42 x19" | 22⅝" | 17¾" | 19⅛" | 125 | 93.05 |
| PR-6724 | 67⅝x22x24" | 61¼x19" | 22⅝" | 17¾" | 19⅛" | 165 | 106.65 |
| PR-7724 | 76¼x22x24" | 70 x19" | 22⅝" | 17¾" | 19⅛" | 175 | 117.60 |
| PR-8424 | 83⅛x22x24" | 77 x19" | 22⅝" | 17¾" | 19⅛" | 190 | 131.70 |
| | | | FOR 24" WIDE PANELS — 24" DEEP | | | | |
| PR-4827 | 48¼x27x24" | 42 x24" | 22⅝" | 22¾" | 24⅛" | 150 | 120.20 |
| PR-6727 | 67⅝x27x24" | 61¼x24" | 22⅝" | 22¾" | 24⅛" | 185 | 136.95 |
| PR-7727 | 76¼x27x24" | 70 x24" | 22⅝" | 22¾" | 24⅛" | 200 | 147.90 |
| PR-8427 | 83⅛x27x24" | 77 x24" | 22⅝" | 22¾" | 24⅛" | 215 | 164.10 |
| | | | FOR 30" WIDE PANELS — 24" DEEP | | | | |
| PR-6733 | 67⅝x33x24" | 61¼x30" | 22⅝" | 28¾" | 30⅛" | 245 | 165.00 |
| PR-7733 | 76¼x33x24" | 70 x30" | 22⅝" | 28¾" | 30⅛" | 270 | 180.00 |
| PR-8433 | 83⅛x33x24" | 77 x30" | 22⅝" | 28¾" | 30⅛" | 285 | 197.50 |

**DETACHABLE SIDE PANELS**

| Catalog No. (Per Pair) | Sh. Wt. Lbs. (Per Pair) | Net Price (Per Pair) |
|---|---|---|
| RS-418 | 40 | $32.90 |
| RS-618 | 55 | 39.45 |
| RS-718 | 60 | 42.60 |
| RS-818 | 65 | 46.00 |
| RS-424 | 50 | 39.70 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |
| RS-424 | 50 | 39.70 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |

### TYPE "FR" SERIES RACKS — WITH FRONT AND REAR DOORS

| Catalog No. | Dimensions Height Width Depth | Panel Space | *Clear Inside Depth | **Clear Inside Width (Front) | Clear Inside Width (Rear) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| | | | FOR 19" WIDE PANELS — 18" DEEP | | | | |
| FR-4818 | 48¼x22x18" | 42 x19" | 16⅛" | 17¾" | 19⅛" | 125 | $ 93.05 |
| FR-6718 | 67⅝x22x18" | 61¼x19" | 16⅛" | 17¾" | 19⅛" | 170 | 109.75 |
| FR-7718 | 76¼x22x18" | 70 x19" | 16⅛" | 17¾" | 19⅛" | 180 | 125.95 |
| FR-8418 | 83⅛x22x18" | 77 x19" | 16⅛" | 17¾" | 19⅛" | 200 | 136.95 |
| | | | FOR 19" WIDE PANELS — 24" DEEP | | | | |
| FR-4824 | 48¼x22x24" | 42 x19" | 22¼" | 17¾" | 19⅛" | 145 | 112.35 |
| FR-6724 | 67⅝x22x24" | 61¼x19" | 22¼" | 17¾" | 19⅛" | 190 | 128.50 |
| FR-7724 | 76¼x22x24" | 70 x19" | 22¼" | 17¾" | 19⅛" | 205 | 145.30 |
| FR-8424 | 83⅛x22x24" | 77 x19" | 22¼" | 17¾" | 19⅛" | 215 | 158.90 |
| | | | FOR 24" WIDE PANELS — 24" DEEP | | | | |
| FR-4827 | 48¼x27x24" | 42 x24" | 22¼" | 22¾" | 24⅛" | 170 | 139.55 |
| FR-6727 | 67⅝x27x24" | 61¼x24" | 22¼" | 22¾" | 24⅛" | 220 | 164.65 |
| FR-7727 | 76¼x27x24" | 70 x24" | 22¼" | 22¾" | 24⅛" | 240 | 175.10 |
| FR-8427 | 83⅛x27x24" | 77 x24" | 22¼" | 22¾" | 24⅛" | 245 | 197.55 |
| | | | FOR 30" WIDE PANELS — 24" DEEP | | | | |
| FR-6733 | 67⅝x33x24" | 61¼x30" | 22¼" | 28¾" | 30⅛" | 280 | 205.00 |
| FR-7733 | 76¼x33x24" | 70 x30" | 22¼" | 28¾" | 30⅛" | 310 | 225.00 |
| FR-8433 | 83⅛x33x24" | 77 x30" | 22¼" | 28¾" | 30⅛" | 325 | 245.00 |

**DETACHABLE SIDE PANELS**

| Catalog No. (Per Pair) | Sh. Wt. Lbs. (Per Pair) | Net Price (Per Pair) |
|---|---|---|
| RS-418 | 40 | $32.90 |
| RS-618 | 55 | 39.45 |
| RS-718 | 60 | 42.60 |
| RS-818 | 65 | 46.00 |
| RS-424 | 50 | 39.70 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |
| RS-424 | 50 | 39.70 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |
| RS-624 | 60 | 46.00 |
| RS-724 | 65 | 49.40 |
| RS-824 | 70 | 52.50 |

* clearance between front and rear doors. ** indicates clearance for chassis between panel mounting strips.

## BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

CORNER TRIMS ("PR" Series Racks): Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used, "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price.
**Specify if required, otherwise standard corner trims will be supplied with each rack.**

CORNER TRIMS ("FR" Series Racks): "Narrow Type" vertical trim strips are standard. Where Series "PR" and "FR" racks are intermixed in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. **Specify if required.**

FINISH: Black Ripple Enamel is standard. Grey ripple or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 10%) are Grey Hammertone enamel or Grey Metallic enamel. SPECIFY FINISH REQUIRED.

HOW TO ORDER: Specify CATALOG NUMBER and FINISH. On "PR" Series Racks, standard vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified. Order Detachable Side Panels if Required.

PANELS: Panels to fit these racks in 19", 24", and 30" widths are listed on Pages K-496 and K-497. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.

ROLLER TRUCKS: Roller trucks to fit these racks are listed on Page K-495.

SHELVES: Vertical side supports, brackets, and shelves are listed on Pages K-488 and K-489.

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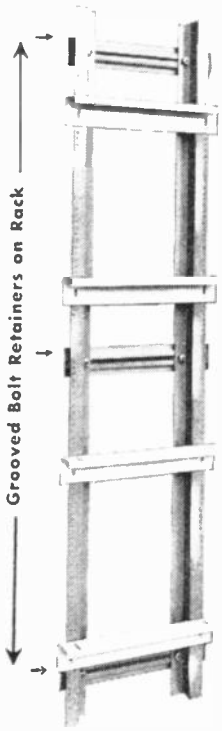
# UNIVERSAL CABINET RACK ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

## VERTICAL SIDE SUPPORTS




These vertical side supports are supplied in sets of four uprights to fit type "PX," "PR," "FX" and "FR" racks listed on Pages K-484 thru K-487. (Cut shows side mounting brackets in place which are sold separately — see listing below).

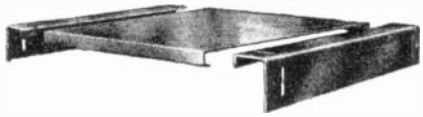
Uprights are fastened to grooved bolt retainers which hold panel mounting angles in place, and are adjustably mounted from front to back of rack. Holes are **drilled** and **tapped vertically** on **"universal centers"** to provide adequate vertical adjustment for mounting brackets, shelves, and various sliding devices made for electronic equipment.

When installed in racks for 19" wide panels, the clearance between uprights (from right to left) is 17¾". On 24" wide panel racks, the clearance is 22¾"; on 30" wide panel racks, the clearance is 28¾". Uprights are 2⅝" wide and 1½" deep.

Uprights are made from ⅛" steel, finished in aluminum enamel. Each set is supplied with necessary bolts for rack mounting.

| Cat. No. | Height | To Fit Racks | Sh. Wt. Lbs. | Net Price Set of 4 |
|---|---|---|---|---|
| VS-36 | 41¾" | PX [illegible] | 22 | $13.50 |
| VS-42 | 47½" | PX PR FX, FR 4818, 4824, 4827 | 25 | 14.95 |
| VS-61 | 67½" | PX PR, FX, FR 6718, 6724, 6727, 6733 | 35 | 19.85 |
| VS-70 | 74½" | PX PR, FX, FR 7718, 7724, 7727, 7733 | 39 | 23.10 |
| VS-77 | 81½" | PX PR, FX, FR 8418, 8424, 8427, 8433 | 45 | 25.85 |

## SIDE MOUNTING BRACKETS



**Brackets BR-118 and Shelf SS-1918**

These brackets will fit on Vertical Side Supports as listed above. They are sold in pairs, and slotted to provide vertical adjustment at any height required. Brackets are 2" wide and 1-13/16" high. The vertical face of the bracket is also slotted to match holes in equipment shelves listed below. Where desirable, the horizontal face of the bracket may be bolted to the vertical side supports. They are made from ⅛" steel, with zinc plated finish. Necessary bolts are supplied.

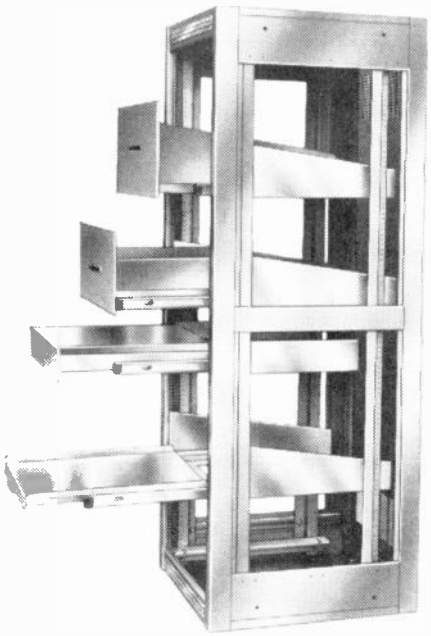
| Cat. No. | Length | To Fit Racks | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| BR-118 | 14" | All 18" deep racks | 4 | $3.00 per pr. |
| BR-124 | 20" | All 24" deep racks | 6 | 3.99 per pr. |

## EQUIPMENT SHELVES

These shelves will assemble with the side mounting brackets listed above, to make a complete shelf between Vertical Side Supports. Made from 1/16" steel, zinc plated. Necessary bolts for assembly are included. All shelves are ⅞" high.

| Cat. No. | Width | Depth | To Fit Racks | Net Price |
|---|---|---|---|---|
| SS-1918 | 17¾" | 14¼" | 19" panels - 18" deep | $3.15 |
| SS-1924 | 17¾" | 20¼" | 19" panels - 24" deep | 3.78 |
| SS-2724 | 23¾" | 20¼" | 24" panels - 24" deep | 4.47 |
| SS-3324 | 29¾" | 20¼" | 30" panels - 24" deep | 6.15 |

## RACK TYPE SLIDE ASSEMBLIES



All the sliding shelf units listed on the following page are a new improved design, and supersede all previously listed units. The slide carriers on all models are in a vertical position to permit the full load capacity of the slide mechanism. Additional models with higher load capacities are now available.

**All** sliding shelf units and phono drawer assemblies are now made to accommodate chassis **up to 17" wide,** eliminating the need for two types of assemblies previously listed. The forward movement of the shelves has been greatly increased, and the full depth of the shelf may now be extended from the rack.

All models are screw mounted to the front panel mounting angles of relay racks, the same as regular panels. Additional holes are provided in the side brackets of the shelf assembly for mounting to our standard vertical side supports. Either method will provide a rigid support; both may be used together where desirable.

**CATALOG LISTINGS ARE ON OPPOSITE PAGE.**

## PANEL MOUNTING ANGLES

These panel mounting angles (or strips) are the same as used in all Universal type racks, and will fit in either PX, FX, PR or FR series racks (see Pages K-484 thru K-487). They are supplied with necessary bolts to fit into the grooved retainers which hold the pair of panel mounting angles regularly supplied with each rack.

It is often desirable to use an additional pair of panel mounting angles for mounting chassis, terminal strips, etc. They may be adjusted to any depth within the rack from front to back.

| Angle No. | To Fit Racks | Net Price Per Pair |
|---|---|---|
| PA-36 | PX-3718 | $ 9.50 |
| PA-42 | PX, FX, PR, FR-4818, 4824, 4827 | 11.05 |
| PA-61 | PX, FX, PR, FR-6718, 6724, 6727, 6733 | 15.20 |
| PA-70 | PX, FX, PR, FR-7718, 7724, 7727, 7733 | 17.30 |
| PA-77 | PX, FX, PR, FR-8418, 8424, 8427, 8433 | 18.90 |

**Additional universal cabinet rack accessories are listed on Page K-490**

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# UNIVERSAL CABINET RACK FITTINGS

PAR-METAL ELECTRONIC HOUSINGS

## RACK TYPE SLIDE ASSEMBLIES

**(For complete description — see opposite page)**

### BASIC SLIDE ASSEMBLIES

The basic slide assembly illustrated is sold as a complete unit, ready for installation in all 18" or 24" deep racks. Panels may be attached to chassis by using standard brackets or any other convenient method. The panel and chassis assembly is then bolted directly to the slide pan. Formed panels with a minimum height of 7" are recommended.

Four models are listed to fit racks using panels either 19" or 24" wide. The BS-1940 and BS-2419 are identical in size, but have different load capacities. All load capacities are conservatively rated. All parts are zinc plated.

| Catalog No. | Usable Space Width | Usable Space Depth | Panel Width | Rack Depth | Bracket Height | Shelf Height | Load Capacity | Net Price | Shipping Weight | Replaces Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| BS-1980 | 17⅛" | 14" | 19" | 18" | 6½" | 1¾" | 50 lbs. | 17.50 | 24 lbs. | SD-1916, 1920 |
| BS-1940 | 17⅛" | 20" | 19" | 24" | 6½" | 1¾" | 36 lbs. | 24.00 | 32 lbs. | SD-2016, 2020 |
| BS-2419 | 17⅛" | 20" | 19" | 24" | 6½" | 1¾" | 60 lbs. | 29.00 | 32 lbs. | NEW |
| BS-2424 | 22⅛" | 20" | 24" | 24" | 6½" | 1¾" | 55 lbs. | 31.00 | 35 lbs. | SD-2416, 2420 |

### PHONO DRAWER ASSEMBLIES

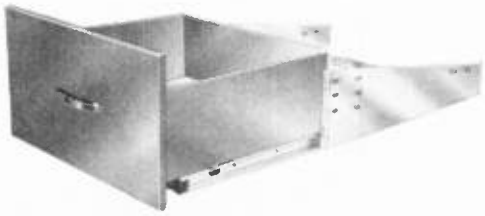
Consists of basic sliding shelf assembly with a drawer front and handle as illustrated. Drawer front is same size as standard formed panel 10½" high. (12¼" high drawer fronts are also available.) The 17" width will accommodate almost all standard changers and turntables.

Where metal base pans are available with changers, it is recommended that such pans be used and bolted directly to the shelf. For Garrard changers, we have available a metal base. For other changers and turntables, we can supply open top metal bases in 4" and 5" depths.

| Catalog No. | Usable Space Width | Usable Space Depth | Height | Panel Height | Panel Width | Rack Depth | Load Capacity | Net Price | Shipping Weight | Replaces Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| PH-1980 | 17" | 14" | 8¾" | 10½" | 19" | 18" | 45 lbs. | 23.50 | 33 lbs. | PH-1916 |
| PH-1940 | 17" | 20" | 8¾" | 10½" | 19" | 24" | 30 lbs. | 30.00 | 40 lbs. | PH-2020 |
| PH-2419 | 17" | 20" | 8¾" | 10½" | 19" | 24" | 50 lbs. | 35.50 | 40 lbs. | NEW |
| PH-2424 | 22" | 20" | 10½" | 12¼" | 24" | 24" | 45 lbs. | 39.00 | 44 lbs. | PH-2416 |

NOTE: Please specify finish of panel front on your order — Available finishes are listed below.

### STORAGE DRAWER ASSEMBLIES



This drawer is similar to our phono drawer except that the sides of the slide are completely enclosed to form a drawer. They are available either 7" or 10½" high to match standard rack panels of the same height. Three models are listed for racks with 19" panels, and one for 24" wide panels.

| Catalog No. | Usable Space Width | Usable Space Length | Depth | Panel Height | Panel Width | Rack Depth | Load Capacity | Net Price | Shipping Weight | Replaces Catalog No. |
|---|---|---|---|---|---|---|---|---|---|---|
| DD-1980 | 17" | 14" | 5" | 7" | 19" | 18" | 40 lbs. | 24.00 | 33 lbs. | DD-1925 |
| DD-1940 | 17" | 20" | 5" | 7" | 19" | 24" | 25 lbs. | 33.00 | 42 lbs. | NEW |
| DD-2419 | 17" | 20" | 8" | 10½" | 19" | 24" | 45 lbs. | 39.50 | 50 lbs. | NEW |
| DD-2424 | 22" | 20" | 8" | 10½" | 24" | 24" | 45 lbs. | 44.00 | 50 lbs. | NEW |

NOTE: Please specify finish of panel front on your order — Available finishes are listed below.

### DESK SHELF ASSEMBLIES

This assembly effectively provides a retractable writing desk, or may be used for supporting test instruments or other devices. When not in use, it saves valuable aisle space. The writing surface is charcoal grey micarta. The front requires only 3½" of panel space, and is provided with a drawer pull. It is made for racks using panels either 19" or 24" wide. No. SK-1970 and SK-2419 are identical except for load capacity.

| Catalog No. | Shelf Size Width | Shelf Size Depth | Writing Surface | Pulls Out | Panel Width | Rack Depth | Load Capacity | Net Price | Shipping Weight |
|---|---|---|---|---|---|---|---|---|---|
| SK-1970 | 17" | 17" | Micarta | 16⅜" | 19" | 18-24" | 36 lbs. | 34.00 | 32 lbs. |
| SK-2419 | 17" | 17" | Micarta | 16⅜" | 19" | 18-24" | 60 lbs. | 39.00 | 32 lbs. |
| SK-2424 | 22" | 17" | Micarta | 16⅜" | 24" | 24" | 60 lbs. | 46.00 | 35 lbs. |

NOTE: Please specify finish of panel front on your order — Available finishes are listed below.

**IMPORTANT NOTE: Panel fronts of assemblies on this page may be obtained in black or grey wrinkle, or grey hammertone. Please specify finish.**

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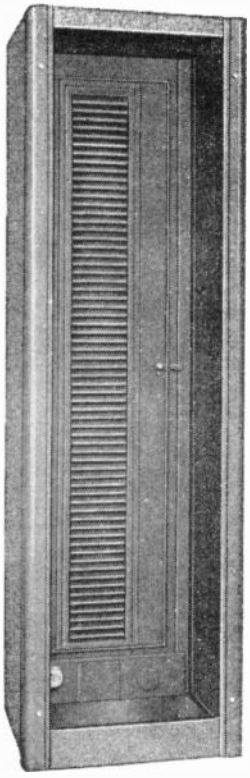
# TYPE "C" STANDARD CABINET RACKS

PAR-METAL ELECTRONIC HOUSINGS

## FOR 19" and 30" WIDE PANELS



No. G-2218

These racks have been a standard unit in the electronic industry for many years, and have been adapted to a broad field of requirements. The construction is essentially the same as our Racks on Pages K-484 and K-485, and similar specifications would apply as to CABINET, PANEL MOUNTING, DOOR, HARDWARE and OUTLET.

Models **G-2218, G-2219** and **G-3024** have additional reinforcement at the rear corners, and are suitable for transmitter equipment. The louvres on the rear door are covered with mesh screening in the inside, and **additional** knockouts are provided for conduit and 4" square duct.

**CORNER TRIMS:** All racks have **quick, detachable,** new corner trims, which are fastened to front of rack with two **finger type "captive screws."** This permits quick, simple removal without the use of screw-drivers, etc.

**TO SET UP IN GANGS OR ROWS:** The racks may be joined together by means of a flat trim fastened to the front of the adjacent support angles, overlapping both racks. Knockout holes 1⅛" in diameter are provided at the sides of the racks to permit connections between them.

Racks are regularly shipped with corner trim as illustrated; where specified, the front joining trim is furnished without additional charge in place of the corner trim.

**PANELS:** Panels 19" and 30" wide to fit these racks are described on Pages K-496 and K-497.

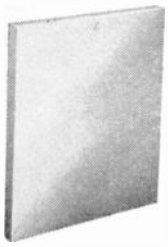
**ROLLER TRUCKS:** Truck RT-412 fits 18" deep racks. Roller truck HD-434 will fit rack No. G-3024. Roller trucks are listed on Page K-495.

**RACK SHELVES:** Shelves are listed on Page K-495.

**FINISH:** Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. Prime coat only is optional in place of ripple enamel finish at no extra charge, if so specified in your order. Grey hammertone enamel is available at an additional charge of 10%.

## 18" AND 24" DEEP TRANSMITTER RACKS

| Catalog No. | Finish | Overall Dimensions | Panel Space | Clear Inside Depth | Clear Inside Width (Front) | Clear Inside Width (Rear) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|---|
| **G-2218** | • Black Ripple | 76⅛x22x18" | 70 x19" | 16⅞" | 17½" | 19⅛" | 185 | **$110.25** |
| **G-2219** | • Black Ripple | 83⅛x22x18" | 77 x19" | 16⅞" | 17½" | 19⅛" | 200 | **122.85** |
| **G-3024** | • Black Ripple | 76⅛x33x24" | 70 x30" | 22⅞" | 28½" | 29¼" | 250 | **182.70** |



## SIDE SHIELDS FOR PR & FR RACKS

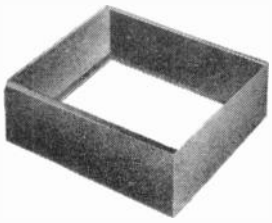
**(Racks are Listed on Pages K-486 & K-487)**

Where our PR, FR, Series Racks are used in groups, it is often desirable to use a shield between racks. Shield fits into upper and lower opening of the rack, each one shielding one half of the side. They are attached with 2 latch screws— no drilling is necessary. One shield per side ONLY is required for Racks 48⅛" in height

| Shield No. | To Fit Rack No. | Size Height | Size Depth | Net Price Per Shield |
|---|---|---|---|---|
| P-418 | PR-4818 | 36" | 13½" | $6.50 |
| P-618 | PR-6718 | 26¼" | 13½" | 5.25 |
| P-718 | PR-7718 | 30½" | 13½" | 5.75 |
| P-818 | PR-8418 | 34 " | 13½" | 6.25 |
| P-424 | PR-4824 | 36" | 19½" | 8.00 |
| P-624 | PR-6724 | 26¼" | 19½" | 6.25 |
| P-724 | PR-7724 | 30½" | 19½" | 7.00 |
| P-824 | PR-8424 | 34 " | 19½" | 7.75 |
| P-424 | PR-4827 | 36" | 19½" | 8.00 |
| P-624 | PR-6727, PR-6733 | 26¼" | 19½" | 6.25 |
| P-724 | PR-7727, PR-7733 | 30½" | 19½" | 7.00 |
| P-824 | PR-8427, PR-8433 | 34 " | 19½" | 7.75 |

## METAL BASE PANS

MB-88



MB-154, 155

Pans are made from $\frac{1}{16}$" steel with open tops. No. MB-88 has brackets for attaching Garrard changers; MB-154 and MB-155 have mounting flanges on top. Finish is grey wrinkle enamel.

| Cat No. | Size | To Fit | Net Price |
|---|---|---|---|
| MB-88 | 15"x12½"x3½" to 4" | RC-88 or RC-98 | $4.74 |
| MB-154 | 15⅝"x14⅛"x4⅛" | general use | 4.41 |
| MB-155 | 15⅝"x14⅛"x5⅛" | general use | 4.41 |

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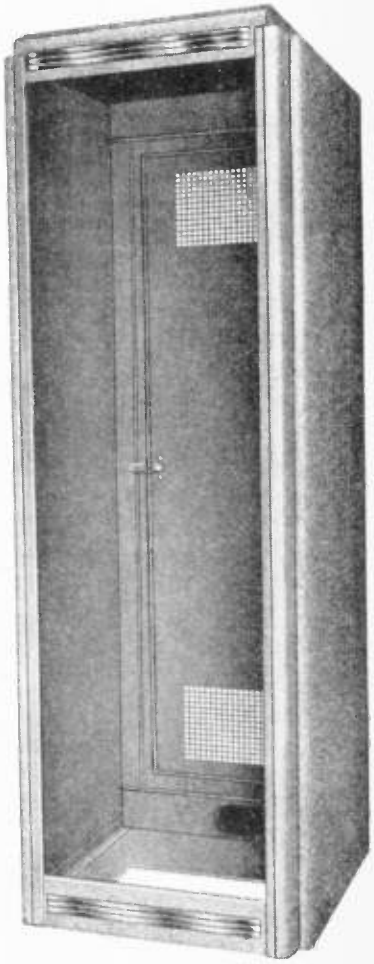
# TYPE "C" DELUXE CABINET RACKS

PAR METAL ELECTRONIC HOUSINGS

## FOR 19" WIDE PANELS - 24" DEEP

**THESE RACKS** will appeal to those who desire to combine rugged construction with modern styling and improved design. Combining furniture steel with dependable workmanship and careful attention to mechanical detail, they have been adapted to a wide range of requirements in the electronic industry.

The design of the vertical posts permits these racks to be installed in rows or "gangs," without the use of front joining strips between the racks. This provides a greater flexibility in their installation, particularly in broadcast stations.



No. P-6918

### SPECIFICATIONS FOR THESE DELUXE TYPE RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from $\frac{1}{16}$" thick cold rolled sheet steel; top of cabinet is made from 5/64" thick steel; bottom is made from 7/64" thick steel.

PANEL MOUNTING: Angle irons are $\frac{3}{16}$" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard $1\frac{1}{4}$"-$\frac{1}{2}$" spacings.

DOOR: Doors are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip-joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated mouldings at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

CORNER TRIMS: All racks have quick detachable corner trims, which are fastened to the rack by means of two "Cowl Type" fasteners on each trim.

PANELS: Panels 19" wide to fit these racks are described on Pages K-496 and K-497.

FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. The letter **"P"** before Catalog No. indicates black ripple enamel; the letter **"PG"** before Catalog No. indicates slate grey ripple enamel.

OTHER OPTIONAL FINISHES: Primer coat only is available at same price. Other obtainable finishes (at an additional cost of 10%) are grey hammertone enamel, or grey metallic enamel. Use prefix **"P"** when specifying optional finishes on your order.

ROLLER TRUCKS: Truck RT-420 or HD-420 will fit all racks listed below. See page K-495.

RACK SHELF: Shelf R-2224 fits all racks. See page K-495.

### 24" DEEP RACKS

| Catalog No. | Finish | Overall Dimensions | Panel Space | Clear Inside Width (Front) | Clear Inside Width (Rear) | Clear Inside Depth | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|---|
| **P-6924** | • Black Ripple | 69⅝x23⅝x24" | 61¼x19" | 17¾" | 19⅛" | 22" | 175 | **$116.55** |
| **P-7824** | • Black Ripple | 78⅜x23⅝x24" | 70 x19" | 17¾" | 19⅛" | 22" | 190 | **126.00** |
| **P-8524** | • Black Ripple | 85⅜x23⅝x24" | 77 x19" | 17¾" | 19⅛" | 22" | 200 | **141.75** |

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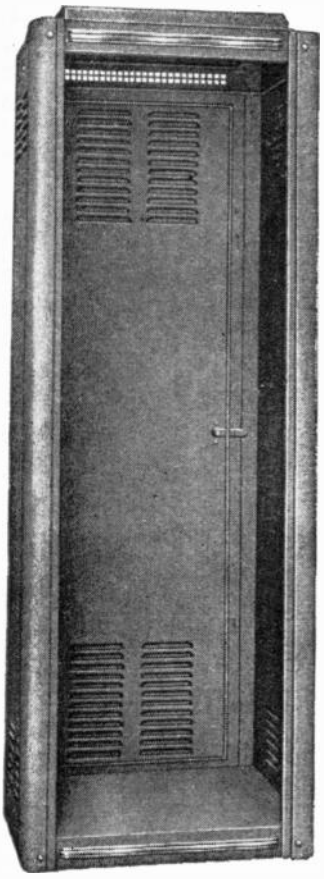
# TYPE "A" ENCLOSED RELAY RACKS

PAR-METAL ELECTRONIC HOUSINGS

## DELUXE TYPE—FOR 19" WIDE PANELS

**WITH REAR DOOR ONLY**



**No. ER-225**

**THESE DELUXE TYPE "A" RACKS** are fully in keeping with modern streamlined styling. Vertical corner trims cover the panel mounting screws, similar to our Type "C" racks. Panels fit into a recess, so that the edges of panels are not exposed when corner trims are removed. Trimmed at top and bottom with chrome finished mouldings.

**CABINET:** Entire cabinet is constructed of 1/16" thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly.

**PANEL MOUNTING:** Angle irons are of 7/64" thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

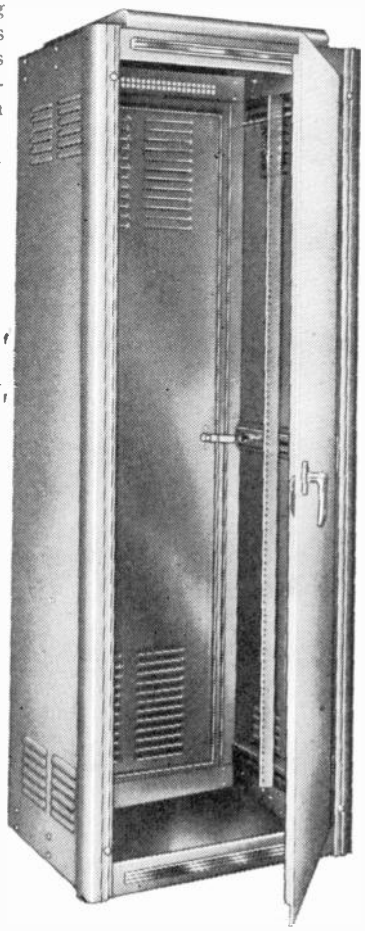
**CORNER TRIMS:** All racks have quick detachable, new corner trims which are fastened to front with two studs. This provides for rapid, finger-tip removal without the use of screwdrivers, etc.

**HARDWARE:** Doors are of new design same as our Type "C" commercial racks. **"Series ER-225"** racks are equipped with "automobile" type non-locking handles on rear doors. On **"Series FD-225"** racks, similar handles with key locks are used on both front and rear doors. Hinges are the "slip-joint" type so that doors may be easily removed. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

**FINISH:** Slate grey ripple finish is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

**PANELS:** Panels 19" wide to fit these racks are listed on Pages K-496 and K-497.

**WITH FRONT AND REAR DOORS**



**No. FD-225**

**SERIES ER-225 RACKS:** These units may be ganged in double or "multi-rack" units. When so ordered, racks are supplied with common intermediate sides which are joined to adjacent tops and bottoms. Solid intermediate sides are supplied. In multiple units, center joining trims are supplied.

**SERIES FD-225 RACKS:** This series with front and rear doors have adjustable panel mounting angles, which may be located at any distance from front to rear of rack. VERTICAL SIDE SUPPORTS listed on Page K-488 will fit into these racks.

## SPECIFICATIONS

| Catalog No. | Doors | Overall Dimensions | Panel Space | Clear Inside Width (Front) | Clear Inside Width (Rear) | Clear Inside Depth | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|---|
| ER-223 | Rear only | 43¼ x22x18" | 36¾ x19" | 17⅝" | 19" | 16¾" | 90 | $48.15 |
| ER-225 | Rear only | 67¾ x22x18" | 61¼ x19" | 17⅝" | 19" | 16¾" | 120 | 59.25 |
| ER-227 | Rear only | 83½ x22x18" | 77 x19" | 17⅝" | 19" | 16¾" | 140 | 71.70 |
| FD-223 | Front & Rear | 43¼ x22x18" | 36¾ x19" | 19⅛" | 19" | *16" | 110 | 60.80 |
| FD-225 | Front & Rear | 67¾ x22x18" | 61¼ x19" | 19⅛" | 19" | *16" | 150 | 75.60 |
| FD-227 | Front & Rear | 83½ x22x18" | 77 x19" | 19⅛" | 19" | *16" | 175 | 94.50 |

* clearance between front and rear doors.

**ROLLER TRUCK:** Roller truck No. RT-412 for Series ER-225 racks; use RT-418 for Series FD-225; both are listed on Page K-495.

**SHELVES:** For Series ER-225 Racks, use shelf No. ER-2212 listed on Pg. K-495. To install shelves in Series FD-225, it is recommended that Vertical Side Supports, Brackets and Shelves listed on Page K-488 be used.

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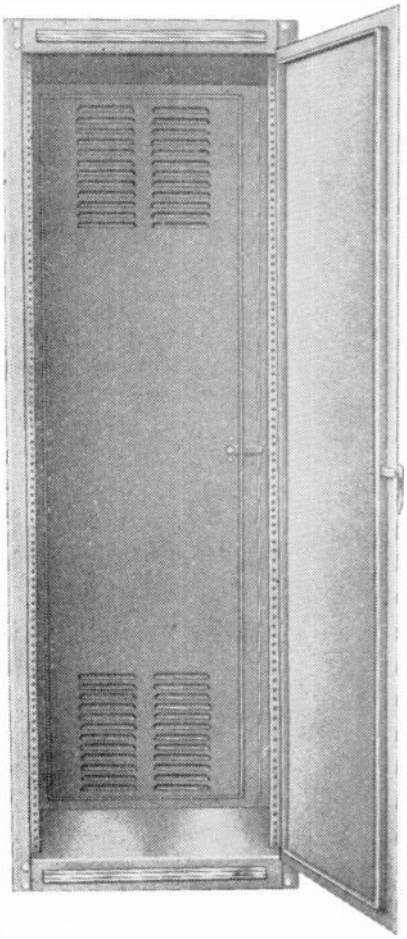
# TYPE "A" ENCLOSED RELAY RACKS

PAR-METAL ELECTRONIC HOUSINGS

## ROUNDED CORNER TYPE — FOR 19″ WIDE PANELS

### WITH FRONT AND REAR DOORS



No. FD-215

THESE RACKS ARE SIMILAR in construction to our Series ER-225 Racks. They provide a combination of standard functional design and superior construction at a modest price. The vertical front corners are nicely rounded, and the top and bottom are trimmed with red-striped chrome finished mouldings. The panels fit into a recess, so that the edges are not exposed.

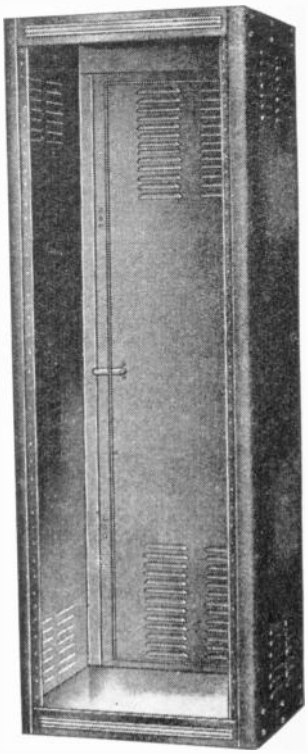
CABINET: Entire cabinet is constructed of 1/16″ thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly. Screws for mounting panels are supplied.

PANEL MOUNTING: Angle irons are 7/64″ thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

HARDWARE: Doors are of new design same as our Type "C" commercial racks. **"Series ER-215"** racks are equipped with "automobile" type non-locking handles on rear doors. On **"Series FD-215"** racks, similar handles with key locks are used on both front and rear doors. Hinges are the "slip-joint" type so that doors may be easily removed. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

FRONT DOOR RACKS: On Series FD-215 racks, the front panel mounting angles are recessed 2″ deep to allow clearance for dials, etc. The clear inside depth behind the panel is 13½″.

### WITH REAR DOOR ONLY



No. ER-215

## SPECIFICATIONS

| Catalog No. | Doors | Overall Dimensions | Panel Space | Clear Inside Depth | Clear Inside Width (Rear) | Clear Inside Width (Front) | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|---|
| ER-213 | Rear only | 42 x22x16½″ | 36¾x19″ | 15¼″ | 19″ | 17⅝″ | 85 | $34.35 |
| ER-215 | Rear only | 66½x22x16½″ | 61¼x19″ | 15¼″ | 19″ | 17⅝″ | 110 | 50.85 |
| ER-217 | Rear only | 82¼x22x16½″ | 77 x19″ | 15¼″ | 19″ | 17⅝″ | 130 | 61.20 |
| FD-215 | Front & Rear | 66½x22x16½″ | 61¼x19″ | *13½″ | 19″ | 19⅛″ | 130 | 67.20 |
| FD-217 | Front & Rear | 82¼x22x16½″ | 77 x19″ | *13½″ | 19″ | 19⅛″ | 155 | 81.90 |

* clearance behind panel.

FINISH: SLATE GREY RIPPLE enamel is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

PANELS: Panels 19″ wide to fit these racks are listed on Pages K-496 and K-497.

RACK SHELVES: For Series ER-215 racks, use shelf No. ER-2112. For Series FD-215 racks, use shelf No. R-2215. Both shelves are listed on Page K-495.

ROLLER TRUCK: No. RT-411 will fit all racks listed on this page. Roller trucks are listed on Page K-495.

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World Radio History

# TYPE "A" RELAY RACKS

PAR-METAL ELECTRONIC HOUSINGS

## DESK PANEL CABINET RACKS

**For Standard 19" Rack Panels**

No. DL-1713

In keeping with our other Deluxe racks, the **vertical front corners are rounded** and the **top** and **bottom** are trimmed with red-striped chrome finished mouldings.

- Panels fit into a recess, so that the edges are not exposed.
- Panel mounting holes are accurately drilled on universal centers, for either type "A" or type "C" panels.
- Holes are tapped for 10-32 machine schews. They may be used with any chassis up to **13"x17"** in size. All cabinets are rigidly constructed of $\frac{1}{16}$" thick cold rolled sheet steel, with all joints **electrically welded.**
- Louvres provide ample ventilation through sides and back. Piano type hinges are used on the top doors. Panel mounting screws and washers are furnished.

**(With door in top only) *(not illustrated)***

| Catalog No. | Cabinet Size | Available Panel Space | Ship. Wt. | Net Price |
|---|---|---|---|---|
| DL-128 | 10½"x21½"x15" deep | 8¾"x19" | 25 lbs. | $12.90 |
| DL-1210 | 12¼"x21½"x15" deep | 10½"x19" | 26 lbs. | 14.55 |
| DL-1225 | 14" x21½"x15" deep | 12¼"x19" | 29 lbs. | 15.69 |
| DL-1413 | 15¾"x21½"x15" deep | 14" x19" | 30 lbs. | 17.28 |

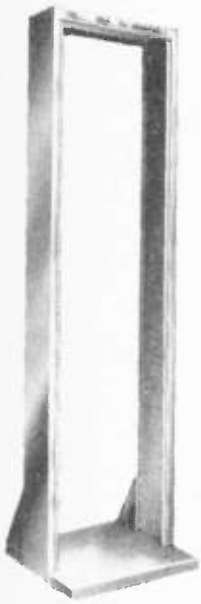
**(With door in top and door on rear panel)**

| Catalog No. | Cabinet Size | Available Panel Space | Ship. Wt. | Net Price |
|---|---|---|---|---|
| DL-1713 | 19¼"x21½"x15" deep | 17½"x19" | 35 lbs. | $20.10 |
| DL-2613 | 28" x21½"x15" deep | 26¼"x19" | 45 lbs. | 23.40 |
| DL-3513 | 36¾"x21½"x15" deep | 35" x19" | 53 lbs. | 25.80 |

**FINISH:** BLACK RIPPLE ENAMEL is standard. Slate grey ripple enamel will be supplied without extra charge if so specified in your order. **PANELS:** Type "C" panels to fit these racks are listed on Pages K-496 and K-497.

**RACK SHELF:** Rack Shelf No. R-2128 listed on Page K-495 will fit these racks.
**ROLLER TRUCK:** Roller truck No. RT-410 listed on Page K-495 will fit these racks.

## DE LUXE TYPE CHANNEL RELAY RACKS



No. RR-197

**OUR NEW DELUXE CHANNEL TYPE RELAY RACK** extends the utility and applicability of the standard channel relay rack.

The panel space has been changed to 77"x19", to match a standard height used on enclosed cabinet racks.

The upright channels have been modified to an 8" overall depth, which when combined with a formed recess for the panels, greatly increases the rigidity of the rack. Edges of panels are not exposed.

The rack is drilled and tapped for 10-32 screws at **both front and back** permitting the optional use of either panels, or dish type chassis mounted to the racks at both front and back. The **full** space of 77"x19" is available on the back, the same as the front.

The clear distance between panel mounting flanges (from front to back) is 6¾". It is practicable to use this 6" depth as an enclosure for dish type chassis listed on Page K-503. When such chassis are mounted at back, the addition of standard or hinged type panels (see Page K-497) will make a rack enclosure with a clear depth of 6¾". Top cross-brace is provided with a grille for ventilation where needed.

Top brace and vertical channel members are securely welded together. Base and rear braces are shipped knocked down, with all necessary bolts for assemply. Panel mounting screws are also supplied.

**CATALOG No. RR-197: (for 19"Wide Panels)**
Overall Dimensions: 80⅛" high, 21⅛" wide, 20" deep
Available Panel Space: 77"x19" (at front and rear)
Clearance between Uprights: 17⅝"
Clear Depth in Channel: 6¾" inside
Shipping Weight: 100 lbs. **Net Price: $38.50**

**CATALOG No. RR-1924: (for 24" Wide Panels)**
Overall Dimensions: 80⅛" high, 26⅛" wide, 26" deep
Available Panel Space: 77"x24"
Clearance between Uprights: 22⅝"
Clear Depth in Channel: 6¾" inside
Shipping Weight: 115 lbs. **Net Price $52.00**

**FINISH:** Standard finish is black ripple enamel. For grey ripple enamel, add 5%.

**PANELS:** Panels to fit these racks are listed on Pages K-496 and K-497.

## STANDARD TYPE CHANNEL RELAY RACKS

THESE RACKS are sturdily constructed from 7/64" pressed steel, and are braced at the back as illustrated. They have been improved by a formed recess for the panels; the edges of the panels are no longer exposed, and the rigidity of the rack has been greatly increased. The two vertical members and the top crossbrace are securely WELDED TOGETHER.

Panel mounting holes are accurately drilled on universal centers for either Type "A" or Type "C" panels, tapped for 10-32 machine screws at the front only. An ample supply of panel mounting screws and finishing washers are supplied.

Upright channels are 3" deep with flanges 1⅛" wide. Clearance between uprights is 17¾". Base is 20⅞" deep and extends both front and rear.

**FINISH.** BLACK RIPPLE ENAMEL.

| Cat. No. | Overall Size | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| RX-195 | 74 7/16x21x20⅞" | 71¾x19" | 55 | $21.20 |
| RX-193 | 39 7/16x21x20⅞" | 36¾x19" | 45 | 19.80 |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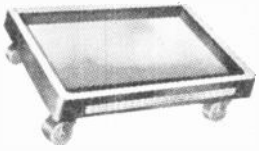
# MISCELLANEOUS ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

## HEAVY DUTY TYPE ROLLER TRUCKS FOR RACKS



No. HD-412

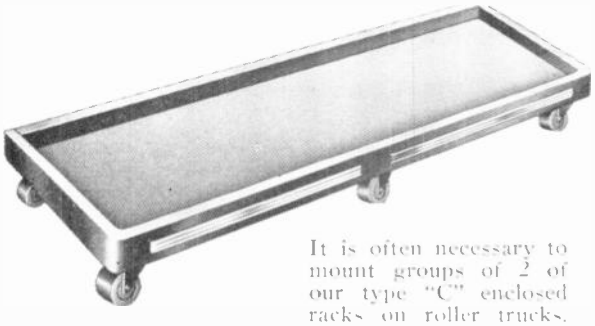
Our heavy duty roller trucks are similar in size and design to the standard units, except that they have **reinforced bottoms**, and are equipped with **heavy-duty swivel type casters**, with 3" diameter wheels. They are **recommended** for use on all **24" deep racks**, and on other racks where necessary.

Standard finish is grey ripple enamel; black ripple is optional. Also available in grey hammertone or grey metallic enamel at an additional cost of 10%. Shipping weight is 35 lbs.

| Catalog No. | Will Fit Rack No. | Rack Page No. | Net Price |
|---|---|---|---|
| HD-412 | ER-223, ER-225, ER-227 | K-492 | $19.80 |
| | G-2218, 2219 | K-490 | |
| HD-418 | FD-223, FD-225, FD-227 | K-492 | 21.60 |
| | PX, FX-3718, 4818, 6718, | K-485 | |
| | PX-FX-7718, 8418 | K-485 | |
| HD-420 | PX, FX-4824, 6724, 7724, 8424 | K-485 | 22.95 |
| | P, PG-6924, 7824, 8524 | K-491 | |
| *HD-425 | PR, FR-4818, 6718, 7718, 8418 | K-487 | 23.00 |
| *HD-426 | PR, FR-4824, 6724, 7724, 8424 | K-487 | 25.50 |
| HD-427 | PX, FX-4827, 6727, 7727, 8427 | K-485 | 25.80 |
| *HD-432 | PR, FR-4827, 6727, 7727, 8427 | K-487 | 28.00 |
| HD-434 | PX, FX-6733, 7733, 8433 | K-485 | 32.00 |
| | G-3024 | K-490 | |
| *HD-438 | PR, FR-6733, 7733, 8433 | K-487 | 35.00 |

*For racks with detachable side panels attached to racks.

## HEAVY DUTY TYPE DOUBLE WIDTH ROLLER TRUCKS



It is often necessary to mount groups of 2 of our type "C" enclosed racks on roller trucks. The truck illustrated above is used for that purpose. They are similar to our heavy duty trucks illustrated above except that they have been reinforced with heavier steel because of their greater length.

They are supplied with 6 - 3" diameter wheels with heavy duty type casters. **They are available at double the cost of roller trucks for single racks listed above.** Please advise **finish** required. They may be obtained in black or grey ripple, grey hammertone, grey metallic enamel, or primer coat only.

## STANDARD TYPE ROLLER TRUCKS FOR RACKS

No. RT-412

These trucks are especially designed for use on our Deluxe streamlined racks, and have rounded corners at the front with chrome trim. Overall size is about 2" wider than the racks for better distribution of weight. Castors are ball-bearing swivel-type with 2" rubber composition wheels. **Finished in slate grey ripple enamel.** Also available in grey hammertone or grey metallic enamel at an additional cost of 10%. Shipping weight is 22 lbs.

| Catalog No. | Will Fit Rack No. | Rack Page No. | Net Price |
|---|---|---|---|
| RT-410 | DL-1713, 2613, 3513 | K-494 | $ 9.60 |
| RT-411 | ER-213, ER, FD-215, 217 | K-493 | 10.08 |
| RT-412 | ER-223, ER-225, ER-227 | K-492 | 11.04 |
| | G-2218, 2219 | K-490 | |
| RT-418 | FD-223, 225, 227 | K-492 | 12.90 |
| | PX, FX-3718, 4818, 6718 | K-485 | |
| | PX, FX-7718, 8418 | K-485 | |
| RT-420 | PX, FX-4824, 6724, 8424 | K-485 | 14.10 |
| | P, PG-6924, 7824, 8524 | K-491 | |

## TABLE TYPE RELAY RACKS

No. TR-2520

THESE RACKS are intended for table mounting and are useful where a regular floor type heavy duty rack is not required.

The base is constructed of one piece, similar to a chassis. Mounting holes are acurately drilled on universal centers, tapped for 10-32 screws.

They are finished in black ripple enamel and shipped "knocked down" with all necessary screws.

| Cat. No. | Overall Size | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| TR-2520 | 24x21x12" | 21x19" | 17 | $7.35 |
| TR-3220 | 31x21x12" | 28x19" | 20 | 9.00 |

## SHELVES FOR CABINET RACKS

No. R-2015

These shelves are designed to fit into the various enclosed racks listed in this catalog. They are constructed to be mounted **inside the rack** with side bolt mounting. All shelves are 1" high, and **finished in black ripple enamel.** Shipping weight of all shelves is 10 lbs.

| Catalog No. | Will Fit Rack No. | Rack Page No. | Shelf Size | Net Price |
|---|---|---|---|---|
| ER-2112 | ER-213, ER-215, ER-217 | K-493 | 13"x21 1/16" | $3.30 |
| R-2215 | FD-215, FD-217 | K-493 | 10 5/8"x21 1/16" | 3.30 |
| ER-2212 | ER-223, ER-225, ER-227 | K-492 | 15"x21 1/16" | 3.30 |
| R-2128 | DL-1713, 2613, 3513 | K-494 | 12"x21 3/16" | 2.67 |
| R-2219 | G-2218, G-2219 | K-490 | 16"x21 3/16" | 4.71 |
| R-2224 | P, PG-6924, 7824, 8524 | K-491 | 22"x23 1/16" | 5.34 |

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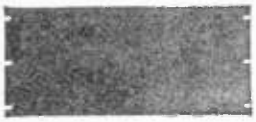
# TYPE "C" RACK PANELS 19"-24"-30"-WIDE

PAR-METAL ELECTRONIC HOUSINGS

Unless otherwise indicated, all panels on this page are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1¾"-½" spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in grey hammertone, grey metallic enamel, or aluminum grey lacquer at extra charge.

**Medium grey enamel to match Utility Desk Assemblies listed on Pages K-498 thru K-501 is also available for all panels listed on this page.**

## STANDARD BLANK PANELS
### 1/8" STEEL



Standard flat panels made from 1/8" thick steel, either 19", 24", or 30" wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

#### 19" WIDE PANELS — 1/8" STEEL

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6600 | G-6600 | 1¾" | 2 | $ .72 |
| 6601 | G-6601 | 3½" | 3 | .84 |
| 6602 | G-6602 | 5¼" | 4 | 1.08 |
| 6603 | G-6603 | 7" | 5 | 1.26 |
| 6604 | G-6604 | 8¾" | 7 | 1.50 |
| 6605 | G-6605 | 10½" | 8 | 1.74 |
| 6606 | G-6606 | 12¼" | 9 | 2.07 |
| 6607 | G-6607 | 14" | 10 | 2.37 |
| 6608 | G-6608 | 15¾" | 12 | 2.64 |
| 6609 | G-6609 | 17½" | 13 | 2.97 |
| 6610 | G-6610 | 19¼" | 14 | 3.30 |
| 6611 | G-6611 | 21" | 15 | 3.63 |

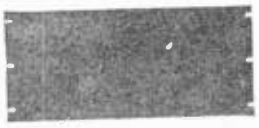
#### 24" WIDE PANELS — 1/8" STEEL

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6201 | G-6201 | 3½" | 4 | $1.26 |
| 6202 | G-6202 | 5¼" | 6 | 1.56 |
| 6203 | G-6203 | 7" | 7 | 1.83 |
| 6204 | G-6204 | 8¾" | 9 | 2.22 |
| 6205 | G-6205 | 10½" | 10 | 2.64 |
| 6206 | G-6206 | 12¼" | 12 | 2.94 |
| 6207 | G-6207 | 14" | 14 | 3.63 |
| 6208 | G-6208 | 15¾" | 15 | 4.14 |
| 6209 | G-6209 | 17½" | 17 | 4.53 |
| 6210 | G-6210 | 19¼" | 18 | 5.04 |
| 6211 | G-6211 | 21" | 20 | 5.55 |

#### 30" WIDE PANELS — 1/8" STEEL

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6301 | G-6301 | 3½" | 4 | $1.71 |
| 6302 | G-6302 | 5¼" | 6 | 2.10 |
| 6303 | G-6303 | 7" | 8 | 2.49 |
| 6304 | G-6304 | 8¾" | 10 | 2.97 |
| 6305 | G-6305 | 10½" | 12 | 3.63 |
| 6306 | G-6306 | 12¼" | 14 | 4.29 |
| 6307 | G-6307 | 14" | 16 | 4.89 |
| 6308 | G-6308 | 15¾" | 18 | 5.46 |
| 6309 | G-6309 | 17½" | 20 | 6.12 |
| 6310 | G-6310 | 19¼" | 22 | 6.78 |
| 6311 | G-6311 | 21" | 24 | 7.44 |

## STANDARD BLANK PANELS
### 1/8" ALUMINUM



Standard flat panels made from 1/8" thick aluminum, either 19", 24", or 30" wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

#### 19" WIDE PANELS — 1/8" ALUMINUM

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6675 | G-6675 | 1¾" | 1 | $ .87 |
| 6676 | G-6676 | 3½" | 1 | 1.20 |
| 6677 | G-6677 | 5¼" | 2 | 1.65 |
| 6678 | G-6678 | 7" | 2 | 2.07 |
| 6679 | G-6679 | 8¾" | 3 | 2.46 |
| 6680 | G-6680 | 10½" | 3 | 3.09 |
| 6681 | G-6681 | 12¼" | 4 | 3.60 |
| 6682 | G-6682 | 14" | 4 | 4.14 |
| 6683 | G-6683 | 15¾" | 5 | 4.59 |
| 6684 | G-6684 | 17½" | 5 | 5.10 |
| 6685 | G-6685 | 19¼" | 6 | 5.58 |
| 6686 | G-6686 | 21" | 7 | 6.06 |

#### 24" WIDE PANELS—1/8" ALUMINUM

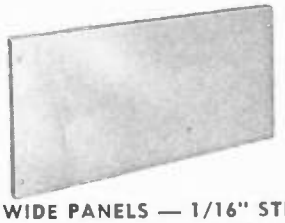
| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6275 | G-6275 | 1¾" | 1 | $1.58 |
| 6276 | G-6276 | 3½" | 1 | 2.18 |
| 6277 | G-6277 | 5¼" | 2 | 2.87 |
| 6278 | G-6278 | 7" | 3 | 3.63 |
| 6279 | G-6279 | 8¾" | 4 | 4.52 |
| 6280 | G-6280 | 10½" | 4 | 5.45 |
| 6281 | G-6281 | 12¼" | 5 | 6.34 |
| 6282 | G-6282 | 14" | 5 | 7.26 |
| 6283 | G-6283 | 15¾" | 6 | 8.15 |
| 6284 | G-6284 | 17½" | 6 | 9.08 |
| 6285 | G-6285 | 19¼" | 8 | 9.97 |
| 6286 | G-6286 | 21" | 9 | 10.89 |

#### 30" WIDE PANELS—1/8" ALUMINUM

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 6376 | G-6376 | 3½" | 2 | $2.70 |
| 6377 | G-6377 | 5¼" | 3 | 3.75 |
| 6378 | G-6378 | 7" | 3 | 4.80 |
| 6379 | G-6379 | 8¾" | 4 | 5.85 |
| 6380 | G-6380 | 10½" | 5 | 7.20 |
| 6381 | G-6381 | 12¼" | 5 | 8.25 |
| 6382 | G-6382 | 14" | 6 | 9.60 |
| 6383 | G-6383 | 15¾" | 7 | 10.65 |
| 6384 | G-6384 | 17½" | 7 | 11.85 |
| 6385 | G-6385 | 19¼" | 8 | 13.05 |
| 6386 | G-6386 | 21" | 9 | 14.25 |

## FORMED BLANK PANELS

These panels are made from 1/16" thick steel, with formed edges to make an overall thickness of 7/16". They are made 19" and 24" wide, with mounting holes on standard centers to fit relay racks. Finishes are black or grey ripple enamel. Other available finishes are mentioned in page heading, also primer coat only.



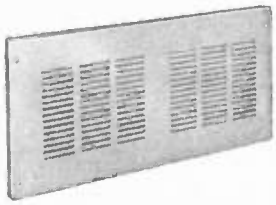
#### 19" WIDE PANELS — 1/16" STEEL

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| P-601 | G-601 | 3½" | 2 | $1.14 |
| P-602 | G-602 | 5¼" | 2 | 1.32 |
| P-603 | G-603 | 7" | 3 | 1.50 |
| P-604 | G-604 | 8¾" | 4 | 1.83 |
| P-605 | G-605 | 10½" | 5 | 2.25 |
| P-606 | G-606 | 12¼" | 6 | 2.61 |
| P-607 | G-607 | 14" | 6 | 2.94 |
| P-608 | G-608 | 15¾" | 7 | 3.39 |
| P-609 | G-609 | 17½" | 7 | 3.75 |
| P-610 | G-610 | 19¼" | 8 | 4.11 |
| P-611 | G-611 | 21" | 9 | 4.50 |

#### 24" WIDE PANELS — 1/16" STEEL

| Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| P-641 | G-641 | 3½" | 2 | $1.59 |
| P-642 | G-642 | 5¼" | 3 | 1.86 |
| P-643 | G-643 | 7" | 4 | 2.10 |
| P-644 | G-644 | 8¾" | 5 | 2.64 |
| P-645 | G-645 | 10½" | 6 | 3.21 |
| P-646 | G-646 | 12¼" | 7 | 3.75 |
| P-647 | G-647 | 14" | 8 | 4.20 |
| P-648 | G-648 | 15¾" | 9 | 4.74 |
| P-649 | G-649 | 17½" | 9 | 5.28 |
| P-650 | G-650 | 19¼" | 10 | 5.85 |
| P-651 | G-651 | 21" | 10 | 6.39 |

## FORMED BLANK PANELS
### 19" WIDE PANELS — 1/16" STEEL



Formed panels same as above with louvres to match those used in Utility Desk Assemblies. Finished in black or grey ripple enamel. 24" wide panels are also available.

| Cat. No. Black | Cat. No. Grey | Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| PV-603 | GV-603 | 7" | 3 | $3.15 |
| PV-604 | GV-604 | 8¾" | 4 | 3.54 |
| PV-605 | GV-605 | 10½" | 5 | 3.90 |
| PV-606 | GV-606 | 12¼" | 6 | 4.41 |
| PV-611 | GV-611 | 21" | 9 | 6.90 |

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# TYPE "C" RACK PANELS—19" WIDE

PAR-METAL ELECTRONIC HOUSINGS

Unless otherwise indicated, these panels are made from 1/8" thick steel and are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1¼"-½" spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in aluminum grey lacquer, grey hammertone, or grey metallic enamel at extra charge.

## SIDE HINGED BLANK PANELS

These door panels are made from 1/8" steel, hinged at the sides, with a cowl type fastener to hold the door closed.

Finishes are black or slate grey ripple enamel; other finishes available are mentioned in page heading; also primer coat only. May be mounted on racks with hinges on right or left side.

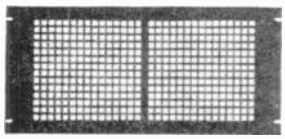
### 1/8" STEEL

| *Cat. Nos. | Panel Size | Clear Opening (Width) | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| HP, GP-350 | 3½x19" | 15⅝" | 3 | $2.85 |
| HP, GP-525 | 5¼x19" | 15⅝" | 4 | 2.97 |
| HP, GP-700 | 7 x19" | 15⅝" | 5 | 3.24 |
| HP, GP-875 | 8¾x19" | 15⅝" | 7 | 3.48 |
| HP, GP-1050 | 10½x19" | 15⅝" | 8 | 3.75 |
| HP, GP-1225 | 12¼x19" | 15⅝" | 9 | 4.02 |
| HP, GP-1400 | 14 x19" | 15⅝" | 10 | 4.35 |
| HP, GP-2100 | 21 x19" | 17⅛" | 15 | 6.90 |

*FINISHES: HP denotes black ripple enamel. GP denotes slate grey ripple enamel.

## GRILLE PANELS

### 19" WIDE — 1/8" STEEL



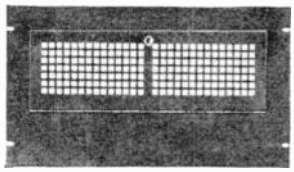
This modern type ventilating grille panel is stamped into the panel itself; it is not a pieced assembly.

| Cat. No. Black | Cat. No. Grey | Panel Size | Grille Size | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| P-661 | G-661 | 5¼" | 3⅜x14⅜" | 4 | $2.79 |
| P-662 | G-662 | 7" | 4⅞x14⅜" | 5 | 3.06 |
| P-663 | G-663 | 8¾" | 6⅞x14⅜" | 6 | 3.66 |
| P-664 | G-664 | 8¾" | *3⅞x14⅜" | 6 | 3.36 |
| P-665 | G-665 | 10½" | 8⅜x14⅜" | 7 | 4.05 |
| P-666 | G-666 | 10½" | *5⅞x14⅜" | 7 | 3.78 |
| P-667 | G-667 | 12¼" | *7⅜x14⅜" | 8 | 4.11 |

* Allows 3½" space at bottom for chassis mounting.

## HINGED DOOR PANELS

### 19" WIDE — 1/8" STEEL



These panels have flush hinged doors with full length piano hinges; they are equipped with a chrome knob and concealed snap catch. All doors are located 1" from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

Available with grilled or solid doors as listed below.

### SOLID DOOR PANELS

| Cat. No. Black | Cat. No. Grey | Panel Size | Door Size | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| P-670 | G-670 | 8¾" | 4⅜x15" | 7 | $ 4.41 |
| P-671 | G-671 | 10½" | 5⅞x15" | 8 | 4.71 |
| P-672 | G-672 | 12¼" | 7⅜x15" | 9 | 5.19 |

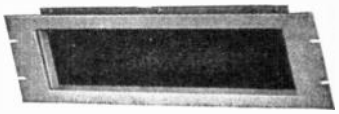
### GRILLE DOOR PANELS

| Cat. No. Black | Cat. No. Grey | Panel Size | Door Size | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| P-680 | G-680 | 8¾" | 4⅜x15" | 7 | $ 5.70 |
| P-681 | G-681 | 10½" | 5⅞x15" | 8 | 6.15 |
| P-682 | G-682 | 12¼" | 7⅜x15" | 9 | 6.75 |

## RECESSED METER PANELS

### 1/8" STEEL

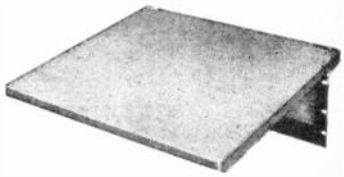
These panels are made so that the meters may be recessed from the front of the panel.



Meters are protected by a plate glass insert, allowing ¾" clearance in back of panel. A blank bakelite sub-panel is provided. The clear sub-panel space is 4⅛"x 15" on the 19" wide panel which is sufficient for 4-3" meters. On the 24" and 30" wide panel the clear sub-panel space is 5¾"x20" and 5¾"x26" respectively.

| Cat. No. Black | Cat. No. Grey | Size | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|---|
| P-690 | G-690 | 5¼x19" | 6 | $ 6.30 |
| P-691 | G-691 | 7 x24" | 7 | 11.25 |
| P-692 | G-692 | 7 x30" | 10 | 15.60 |

## STANDARD DESK PANELS



These standard tables are rigidly made of 1/16" thick furniture steel. The rounded front corners are of seamless construction and the flanges of the shelf are folded in to provide smooth edges underneath. They are securely mounted to regular 1/8" steel panels, size 10½"x19". They may be obtained in two sizes and finishes as listed below. The tables are 22" wide to give full working space across the front of the racks when mounted in place. Shipping weight is 25 lbs.

| Cat. No. | Width | Depth | Finish | Net Price |
|---|---|---|---|---|
| BT-2220 | 22" | 20" | Black enamel | $15.48 |
| BT-2216 | 22" | 16" | Black enamel | 14.16 |
| GT-2220 | 22" | 20" | Grey enamel | 16.80 |
| GT-2216 | 22" | 16" | Grey enamel | 15.12 |

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# UTILITY DESK ASSEMBLIES

PAR-METAL ELECTRONIC HOUSINGS

*Standardized Units Adaptable to Individual Requirements*

## General Description

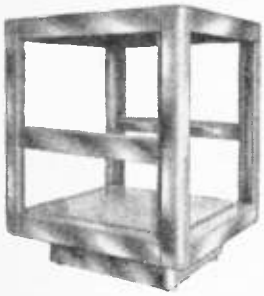
SINGLE UNIT ASSEMBLY

The combination of a control cabinet mounted on a table, desk or similar support has been in general use in the electronics industry for some time. Due to the various functions for which it may be employed, such equipment has assumed various forms, arrangements and sizes, requiring costly, custom-built construction to achieve their purpose.

While it is obvious that no particular fixed design can serve every demand, we have devised a group of ***standardized units,*** the combination of which is readily adaptable for control stations, testing apparatus, sound distribution systems, and similar applications.

The ***line drawing on the opposite page*** is a composite view of a complete equipment in which have been grouped various available components. Essentially, it consists of a desk cabinet or turret, a 71" long table top, and two pedestals. Other arrangements include a 51" long table top, a pedestal and end table support, and a smaller desk cabinet; where a single pedestal only is needed, a 25" wide table top and suitable desk cabinet is listed.

The sizes and specifications of the various units are catalogued on the following pages. There are several new features which warrant your consideration, ***particularly the pedestal.*** The pedestal is, in reality, a cabinet type relay rack. The panel mounting angles, or "strips" are adjustable, and can be located at the ***front or back*** for any standard ***19" wide panels,*** or located at any position from front to back for "mid-rail" panel mounting.

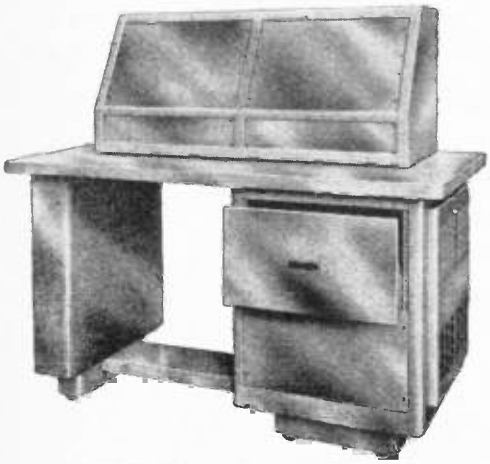


The above illustrates how brackets are mounted. They are used for mounting chassis, standard shelves, or drawers. With all sides open, easy access saves considerable time in assembly.

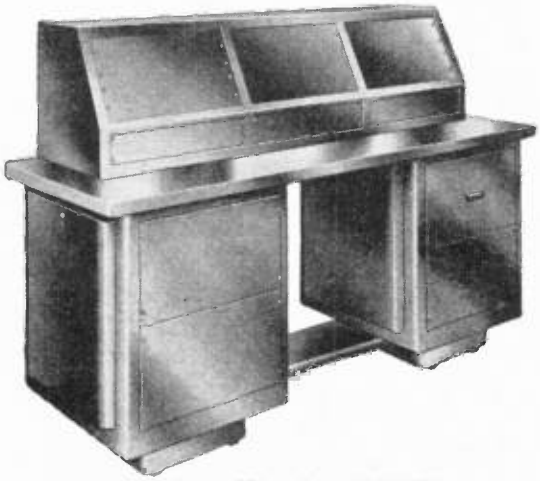
The pedestal doors may be mounted at the front or back of the pedestal, in addition to the panels. Where knobs, dials, etc. protrude from the front of the panel, clearance from the door is accomplished by recessing the panels to allow for the knobs, etc.

The left and right sides of the pedestal are also open, allowing complete access to the interior on all four sides. The left and right sides of the corner posts have holes drilled and tapped on "universal" centers for mounting standard relay rack panels; these holes may also be used for attaching mounting brackets CB-20 (see page K-501) and shelves CD-12 for supporting equipment on the interior of the pedestal. The standard pedestal doors may be used on these sides instead of rack panels.

No drilling or fitting is necessary for the assembly of pedestals, table tops, brackets, shelves, or panels. The desk cabinets have mounting holes on the bottom, but no holes have been provided in the table tops to accommodate them, to permit the desk cabinets to be located wherever desired.



DOUBLE UNIT ASSEMBLY



TRIPLE UNIT ASSEMBLY

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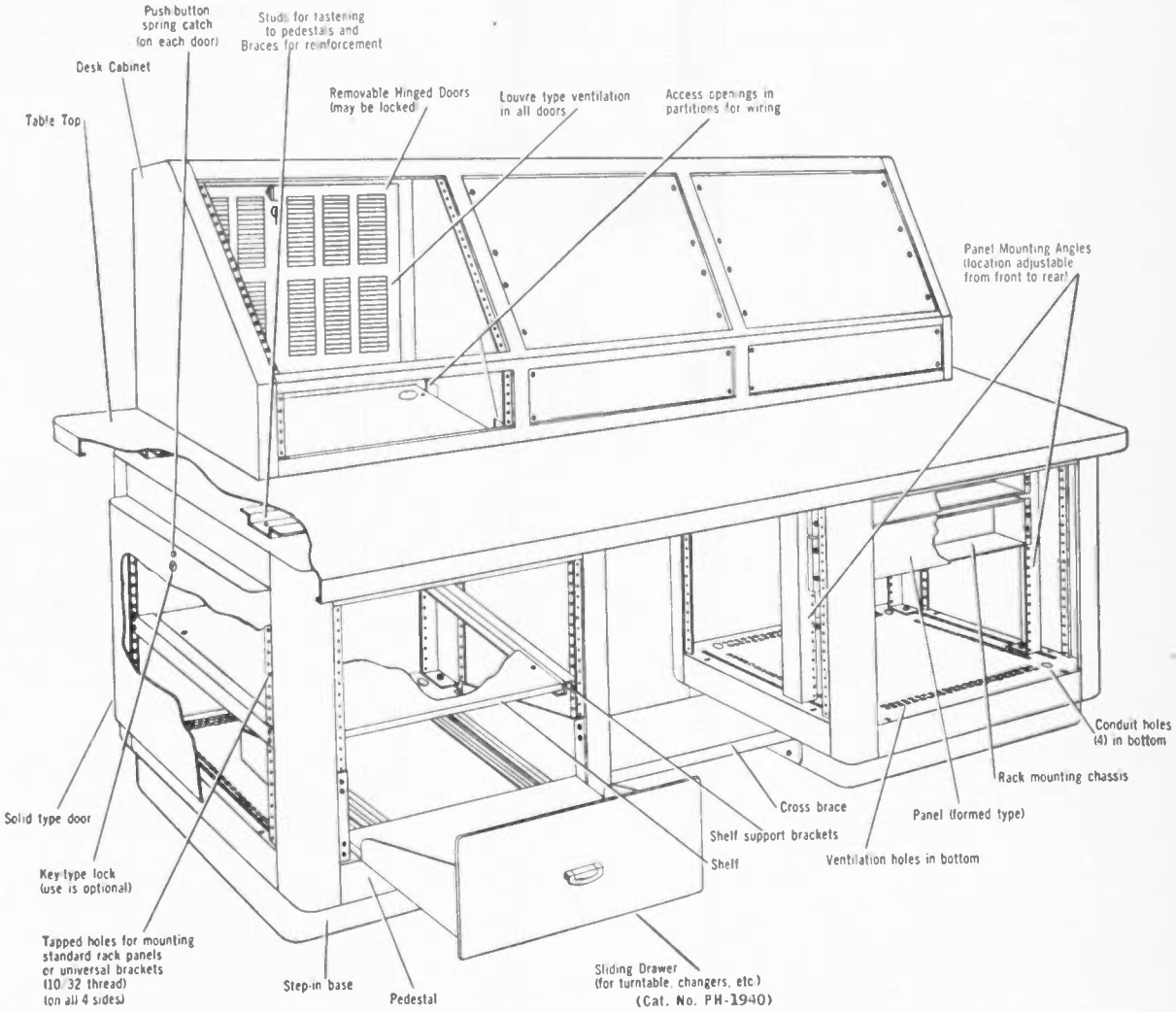
# UTILITY DESK ASSEMBLIES

PAR-METAL ELECTRONIC HOUSINGS

## DETAILS OF COMPLETE ASSEMBLY




**NOTE:** **ON DOUBLE UNIT ASSEMBLIES (shown on opposite page) where it is desirable to have the end pedestal on the right side, the entire assembly is revolved 180°; the front and back of both pedestals are identical, and all panels, doors, drawers, etc., may be inserted as illustrated above.**

**FINISHES AVAILABLE: Unless otherwise specified, the standard finish for all items on Pages K-498 thru K-501 are medium grey enamel. Black wrinkle, slate grey wrinkle, grey hammertone, or prime coat only is available at same price. Samples of above finishes will be mailed upon request.**

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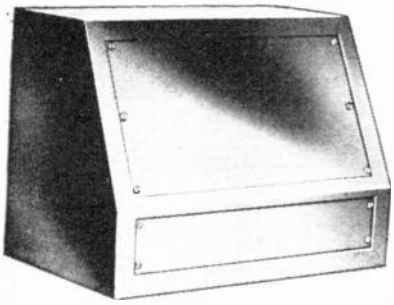
# UTILITY DESK ASSEMBLY ACCESSORIES

PAR-METAL ELECTRONIC HOUSINGS

## DESK PANEL CABINETS



These cabinets are available in single, double and triple units, as listed below. Double and triple assemblies are shown on Page K-498.

**DOORS:** Hinged door at back is removable; adequately louvered for ventilation. Equipped with combined "push-button" catch and lock. Individual doors on each section of multiple unit cabinets.

**MOUNTING:** Holes for securing cabinet to table top are drilled in the bottom. Two "knockout" holes 1⅛" diameter, adjacent to the back, are also included. Felt bumpers are also supplied.

**PARTITIONS:** A solid partition separates each section in double and triple units. Partitions have access holes for wiring.

**PANELS:** Upper and lower panels are recessed for any panel up to 7/16" thick. The upper panel is 12¼" x 19" and mounted at an angle of 30°. The lower panel is 3½" x 19". Mounting holes are standard rack panel spacings.

| Catalog No. | Description | Height | Length | Depth | Sh. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| CC-101 | Single Unit | 18¼" | 21⅝" | 16" | 40 | $50.00 |
| CC-102 | Double Unit | 18¼" | 42 " | 16" | 75 | 75.00 |
| CC-103 | Triple Unit | 18¼" | 62¼" | 16" | 110 | 100.00 |

The above prices include formed panels as illustrated.

## TABLE TOPS

Table tops are made in three sizes, for use with single, double, or triple unit desk cabinets.

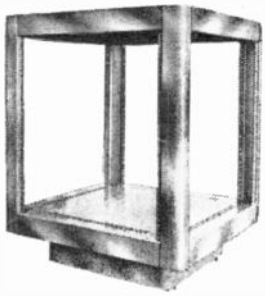
They are substantially constructed from 1/16" thick furniture steel, suitably braced on the underside, with all edges flanged in underneath to provide smooth surfaces. Screw studs are securely fastened in place, for insertion into matching holes in pedestals. Necessary lock-washers and nuts are included.

No holes have been drilled for desk cabinets, so that cabinets already in use or other control units may be mounted wherever desired.

| Cat. No. | Description | Width | Length | Depth | Sh. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| TX-301 | Single Unit | 30" | 25" | 1½" | 24 | $22.50 |
| TX-302 | Double Unit | 30" | 55" | 1½" | 50 | 27.00 |
| TX-303 | Triple Unit | 30" | 71" | 1½" | 63 | 33.00 |

The above table tops are available with lineoleum covering. Prices on request

## PEDESTAL UNIT



**PEDESTAL (less doors and panels).**
**Overall size: 22" long x 24" deep x 26" high.**
**Panel space: 21" x 19" on all four sides.**
**Clearance between corner posts: 17¾".**
**Clearance inside (front to back): 23".**
**Clearance inside (left and right side): 21".**
**Overall height: 31" (with table top installed).**

**MATERIAL:** All parts are made from 1/16" thick furniture steel, with a reinforced base. Entire pedestal is rigidly welded together into one integral unit.

**PANEL MOUNTING:** There is a panel space of 21" x 19" available at front and back. The panel mounting angles or "strips" have holes tapped 10/32 with spacings for standard racks panels listed on pages K-496 and K-497. These angles are fully adjustable and may be located at any position from front to back of the pedestal.

When the angles are moved to the interior of the pedestal for "mid-rail" mounting, the clearance between the corner posts at the front and back is increased to 19⅛".

By recessing the angles to allow for knobs, dials, etc., the pedestal doors listed on page K-501 may be mounted in front on the panels.

**OPEN SIDES:** The left and right sides of the pedestal are also open, allowing complete access to the interior on all four sides. The left and right sides of the corner posts have holes drilled and tapped on "universal" centers for mounting standard relay rack panels; these holes may also be used for attaching mounting brackets CB-20 (see page K-501) and shelves CD-12 for supporting equipment on the interior of the pedestal. The standard pedestal doors may be used on these sides instead of rack panels.

**HOLES:** Holes are drilled in top to match screw studs in table tops. Ventilation holes are provided around edges of bottom as shown.

**BASE:** The base is 4" high, and is set inward for toe space; it is equipped with four steel "glider type" casters, which are adjustable for height and uneven floors.

**Catalog No. PX-200 (Pedestal less doors and panels)**
**PRICE $52.00. Shipping Wt. 75 lbs.**

**STANDARD FINISH on all above units is MEDIUM GREY ENAMEL.**
**For optional finishes, see opposite page.**

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# UTILITY DESK ASSEMBLY ACCESSORIES

PAR METAL ELECTRONIC HOUSINGS

## END PEDESTAL AND FLOOR BRACE

When a 55" table top is used with a single pedestal, we can supply an end pedestal and floor brace as shown. This size table is suitable for use with a double unit cabinet.

The end pedestal is 6" wide and 24" from front to back.

The floor brace is 25½" long. Both units are drilled with all necessary holes and are shipped with hardware for assembly.

Catalog No. PD-210 ..... Net Price $33.00

FLOOR BRACE ONLY — This is similar to floor brace illustrated above, and is required on TRIPLE UNIT ASSEMBLY.

Catalog No. PB-211 ..... Net Price $8.00

(Standard Floor Braces to fit other pedestal assemblies are also available.)

## PEDESTAL DOORS

Doors are "slip-in" type and held in position by studs and "push-button" spring catches. Locks and keys are provided. Doors are interchangeable; and available with or without louvred ventilation.

These doors may be used over standard rack panels, sliding shelves, or phono drawers, at both front and back of the pedestal. On the right and left hand sides of the pedestal either door or panel may be used (not both).

Cat. No. PD-201 — Plain (without louvres). Ship. Wt. 12 Lbs. ..... Net Price $11.80

Cat. No. PD-202 — Ventilated (with louvres). Ship. Wt. 12 Lbs. ..... Net Price $12.60

## SLIDING DRAWER ASSEMBLIES

SLIDING PHONO DRAWER

SLIDING STORAGE DRAWER

The sliding drawers illustrated above are listed and described on page K-489. All slide assemblies shown on that page (for 19" wide panel racks) are suitable for installation in our PX-200 pedestals.

## MOUNTING BRACKETS

These brackets are 19" Long, 2" High, 2¾" Deep, and are slotted for vertical adjustment and drilled for assembly with CD-12 shelf illustrated below.

Catalog No. CB-20 ..... Net Price $3.60 per pair

## SHELF

These shelves are drilled for assembly with CB-20 Brackets shown above.

Overall size: 17½" Wide, 22" Deep, ¾" High.

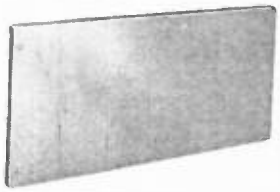
Catalog No. CD-12 ..... Net Price $4.05

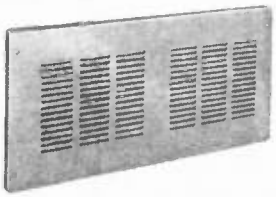
## FORMED RACK PANELS — 7/16" THICK

These panels are made from 1/16" furniture steel with formed edges to make an overall thickness of 7/16". Holes are on standard 1¾"-½" centers, and they are suitable for use on pedestals or any relay rack. These panels may be installed at the front, back, or sides of No. PX-200 pedestals.

BLANK TYPE

| Cat. No. | Length | Width | Net Price |
|---|---|---|---|
| 601 | 3½" | 19" | $1.14 |
| 602 | 5¼" | 19" | 1.32 |
| 603 | 7 " | 19" | 1.50 |
| 604 | 8¾" | 19" | 1.83 |
| 605 | 10½" | 19" | 2.25 |
| 606 | 12¼" | 19" | 2.61 |
| 607 | 14 " | 19" | 2.94 |
| 608 | 15¾" | 19" | 3.39 |
| 609 | 17½" | 19" | 3.75 |
| 610 | 19¼" | 19" | 4.11 |
| 611 | 21 " | 19" | 4.50 |





VENTILATED TYPE

Ventilated type panels have louvre type ventilation, exactly the same way as on pedestal doors, shown above.

| Cat. No. | Length | Width | Net Price |
|---|---|---|---|
| V-603 | 7 " | 19" | $3.15 |
| V-604 | 8¾" | 19" | 3.54 |
| V1605 | 10½" | 19" | 3.90 |
| V-606 | 12¼" | 19" | 4.41 |
| V-611 | 21 " | 19" | 6.90 |

**FINISH ON ALL ITEMS: (except for Special Notes)**

Standard finish is medium grey enamel. Optional finishes are grey hammertone enamel, black or blue grey wrinkle or primer coat only.

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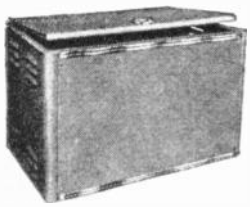
World Radio History

# UTILITY DESK CABINETS

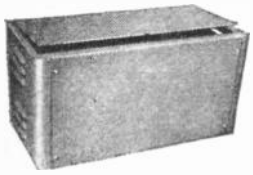
## DELUXE TYPE CABINETS



These cabinets make attractive housings for commercial and amateur use. The formed type door, with modern handle, is hinged at the back for full access to the interior. Chrome finished mouldings are mounted on the front at top and bottom. Cabinet has ventilating louvres on each side, and full width opening at back for leads, etc. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on Page K-503.

| Catalog No. | Overall Dimensions | Panel Size | For Chassis | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| CA-300 | 9x12½x8" | 8½x10 | 7x 9x2" | 6 | $ 5.82 |
| CA-301 | 9x16½x8" | 8½x14 | 7x13x2" | 7 | 6.60 |
| CA-302 | 10x17½x11 | 9½x15 | 10x14x3" | 8 | 10.35 |
| CA-303 | 10x20½x9 | 9½x18 | 8x17x3" | 11 | 10.35 |
| CA-304 | 13x20½x12 | 12½x18 | 10x17x3" | 15 | 11.64 |

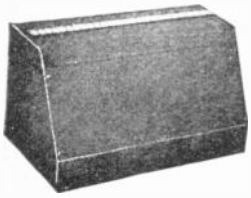
## ROUNDED CORNER TYPE CABINETS



Standard type cabinets are similar in design to those listed above. They have flat type doors, hinged at back to permit full access to the interior. The vertical front corners are rounded; ventilating louvres are stamped in both sides, and full width opening is provided at the back for leads. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on Page K-503.

| Catalog No. | Overall Dimensions | Panel Size | For Chassis | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| CA-200 | 8½x10½x8" | 8½x8 | 7x 7x2" | 6 | $ 4.26 |
| CA-201 | 8½x12½x8" | 8½x10 | 7x 9x2" | 7 | 4.56 |
| CA-202 | 8½x16½x8" | 8½x14 | 7x13x2" | 8 | 5.49 |
| CA-203 | 9½x17½x11" | 9½x15 | 10x14x3" | 11 | 8.64 |
| CA-204 | 12½x20"x12 | 12½x18 | 10x17x3" | 15 | 10.26 |

## SLOPING FRONT CABINETS



May be readily adapted as instrument cases for use in studies, laboratories, etc.

- Top corner is rounded and trimmed with a chrome moulding, and with the slate grey ripple finish makes a very attractive case.
- A chassis may be mounted to a front panel and removed as a unit.
- Rear of case is [illegible], with an opening for connections.
- Prices do not include chassis, which are listed on Page K-503.

| Catalog No. | Overall Dimensions | For Chassis | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| SF-500 | 8x8x8 | 7x 7x2" | 6 | $4.17 |
| SF-501 | 8x10x8 | 7x 9x2" | 7 | 4.62 |
| SF-502 | 8x14x8" | 7x13x2" | 8 | 4.98 |
| SF-503 | 9x18x8 | 7x17x3" | 10 | 7.56 |
| SF-504 | 12x18x12 | 10x17x3" | 14 | 9.45 |

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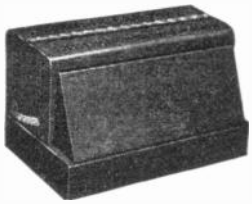
# AMPLIFIER FOUNDATION CHASSIS

## SLOPING FRONT TYPE



These new foundations follow the latest trend in amplifier design. The combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts are finished in slate grey ripple enamel, trimmed with red-striped chrome finished mouldings and handles.

The front panel is removable and protrudes 3" from the face of the screen cover. Chassis are supplied complete WITH bottom plates.

| Cat. No. | Chassis Size | Screen Cover | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| F-10120 | 10x12x3" | 6½" high | 11 | $7.26 |
| F-10170 | 10x17x3" | 6½" high | 13 | 8.19 |
| F-13170 | 13x17x3" | 6½" high | 15 | 9.30 |

## ROUNDED CORNER TYPE

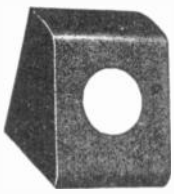
Rounded corners effectively streamline the screen covers of these chassis. Ventilation is obtained through rectangular screen openings. The moulding and handles, finished in chrome with red striping, gives the units a distinctive, modern design.

The screen cover is finished in slate grey ripple enamel to contrast with the black chassis. Chassis are drilled for bottom plates, which are listed on Page K-503.

| Cat. No. | Chassis Size | Depth of Cover | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| DF-510 | 5x10x3" | 6" | 7 | $ 4.44 |
| DF-615 | 6x14x3" | 6" | 8 | 4.80 |
| DF-717 | 7x17x3" | 6" | 9 | 5.70 |
| DF-1012 | 10x12x3" | 6" | 9 | 5.70 |
| DF-1017 | 10x17x3" | 6" | 10 | 6.45 |
| DF-1317 | 13x17x3" | 6" | 12 | 7.71 |

# UTILITY CASES & CANS

## STEEL METER CASES

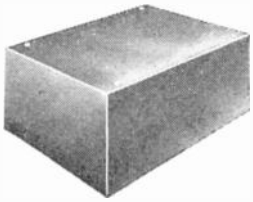


These meter cases may be obtained for 2" and 3" meters, in both single and triple units.

They are substantially made of steel, with welded joints, and black ripple enamel finish. Top front corner is rounded.

| Cat. No | Meters | Meter Hole | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| SM-12 | Single 2" | 2¼" | 1 | $ .99 |
| SM-32 | Three 2" | 2¼" | 2 | 2.76 |
| SM-13 | Single 3" | 2¾" | 1 | .99 |
| SM-33 | Three 3" | 2¾" | 2 | 2.76 |

## STEEL UTILITY CASES



These cases have flat tops and bottoms, which are removable.

Made from 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in black ripple enamel.

| Cat. No. | Overall Size | Shp. Wt. Lbs. | Net Price | Cat. No. | Overall Size | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| MC-442 | 4x 4x 2" | 1 | $ .84 | MC-8101 | 8x10x10" | 7 | $3.06 |
| MC-453 | 4x 5x 3" | 2 | .93 | MC-8107 | 8x10x 7" | 6 | 2.64 |
| MC-596 | 5x 9x 6" | 4 | 1.86 | MC-1128 | 11x12x 8" | 9 | 3.60 |
| MC-654 | 6x 5x 4" | 3 | 1.20 | MC-1597 | 15x 9x 7" | 8 | 4.08 |
| MC-666 | 6x 6x 6" | 3 | 1.44 | | | | |

## STEEL UTILITY CANS

Can be used for monitors, shield cans, etc. Made of sheet steel with spot welded reinforced corners. Tops and bottoms removable with self-tapping screws. Black ripple enamel finish.

| Cat. No. | Overall Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| UC-565 | 5½x 6x 5½" | 3 | $1.44 |
| UC-596 | 5 x 9x 6" | 5 | 1.86 |
| UC-8107 | 8 x10x 7" | 6 | 2.64 |
| UC-8101 | 8 x10x10" | 7 | 3.06 |
| UC-1128 | 11 x12x 8" | 9 | 3.60 |

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World Radio History

# BLANK CHASSIS BASES

PAR METAL ELECTRONIC HOUSINGS

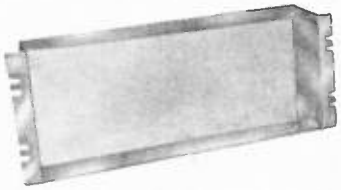
## VERTICAL RACK MOUNTING CHASSIS

### TO FIT 19" STANDARD RACKS

These chassis are suitable for installation in all Universal enclosed relay racks listed on Pages K-484 thru K-487 and any other racks which have provision for "mid-rail" mounting. They may also be used on Deluxe channel racks listed on Page K-494. Material used is 1/16" aluminum, with corners welded for added rigidity. Etched finish on inside and outside. All chassis are 5¼" deep; overall width is 19"; chassis width inside is 16⅞".

| Catalog No. | Height | Shipping Wt. Lbs. | Net Price |
|---|---|---|---|
| AC-430 | 1¾" | 2 | $ 2.37 |
| AC-431 | 3½" | 3 | 2.67 |
| AC-432 | 5¼" | 3 | 3.06 |
| AC-433 | 7" | 4 | 3.36 |
| AC-434 | 8¾" | 5 | 3.69 |
| AC-435 | 10½" | 5 | 4.05 |
| AC-436 | 12¼" | 6 | 4.47 |
| AC-437 | 14" | 7 | 4.95 |

## RACK MOUNTING CHASSIS



### TO FIT 19" STANDARD RACKS

These chassis are fabricated from 1/16" thick aluminum with etched finish, or 1/16" thick steel, zinc plated. Overall length including mounting flanges is 18¾". They are designed to mount under 19" wide formed panels listed on Page K-496. The 4 13/16" height is for use with 5¼" high panels, 6-11/16" for 7" high panels, etc. Additional slots are provided in chassis side flanges to clear panel attachment screws. Although chassis are 18¾" overall width, they will fit on any relay rack.

| ALUMINUM Cat. No. | Net Price | Chassis Dimensions | STEEL Cat. No. | Net Price |
|---|---|---|---|---|
| AC-402 | $3.78 | 4-15/16"x17"x3" | SC-402 | $2.76 |
| AC-403 | 4.32 | 6-11/16"x17"x3" | SC-403 | 3.12 |
| AC-404 | 4.86 | 8- 7/16"x17"x3" | SC-404 | 3.48 |
| AC-405 | 5.37 | 10- 3/16"x17"x3" | SC-405 | 3.84 |
| AC-406 | 6.00 | 11-15/16"x17"x3" | SC-406 | 4.17 |

## HEAVY DUTY TYPE STEEL CHASSIS

These heavy duty bases are similar to the standard type chassis bases listed above.

However, they are substantially constructed for "heavy duty" uses since they are formed from one piece of 1/16" sheet steel.

Bottom plates and mounting screws are supplied with each of these chassis.

Ends are drilled to fit standard chassis mounting brackets listed at the right.

| Cat. No. Black Ripple | Cat. No. Zinc Plated | Dimensions | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| 15280 | 15208 | 8x17x2" | 8 | $2.91 |
| 15281 | 15209 | 8x17x3" | 9 | 3.18 |
| 15282 | 15218 | 11x17x2" | 9 | 3.39 |
| 15210 | 15219 | 11x17x3" | 11 | 3.69 |
| 15212 | 15214 | 13x17x2" | 11 | 3.90 |
| 15213 | 15215 | 13x17x3" | 12 | 4.35 |
| 15216 | 15217 | 13x17x4" | 13 | 4.74 |
| 15283 | 15284 | 17x17x4" | 15 | 5.70 |

## CHASSIS MOUNTING BRACKETS

### No. SB-78

These brackets are made for assembly with our standard or heavy duty type chassis listed on this page. Panels must be at least 7" high. Finished in black enamel. Made from 1/16" thick steel.

| Cat. No. | Dimensions | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|
| SB- 78 | For 8" Base | 2 | $ .87 |
| SB-710 | For 10" Base | 2 | 1.11 |
| SB-711 | For 11" Base | 2 | 1.20 |
| SB-713 | For 13" Base | 3 | 1.38 |
| SB-717 | For 17" Base & Larger | 4 | 2.10 |

## STEEL BLANK CHASSIS

Stamped from one piece of cold rolled steel, and have four solid sides with welded corners. Bottom edges are flanged in on four sides to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from #20 gauge steel, except those marked (*) which are stamped from 1/16" steel exactly like our heavy-duty type.

| Cat. No. Black Ripple | Cat. No. Zinc Plated | Size | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| B-4500 | C-4500 | 5½x9½x1½" | 2 | $0.81 |
| B-4507 | C-4507 | 5x 7x2" | 2 | .90 |
| B-4508 | C-4508 | 5x10x3" | 3 | 1.08 |
| B-4509 | C-4509 | 6x14x3" | 4 | 1.35 |
| B-4510 | C-4510 | 7x 7x2" | 2 | .96 |
| B-4511 | C-4511 | 7x 9x2" | 2 | 1.08 |
| B-4512 | C-4512 | 7x11x2" | 3 | 1.17 |
| B-4513 | C-4513 | 7x13x2" | 3 | 1.26 |
| B-4514 | C-4514 | 7x15x3" | 4 | 1.53 |
| B-4518 | C-4518 | 4x17x3" | 4 | 1.32 |
| B-4515 | C-4515 | 7x17x3" | 4 | 1.65 |
| B-4502 | C-4502 | 8x12x3" | 5 | 1.50 |
| B-4531 | C-4531 | 8x17x2" | 4 | 1.53 |
| B-4532 | C-4532 | 8x17x3" | 5 | 1.65 |
| B-4525 | C-4525 | 10x12x3" | 4 | 1.56 |
| B-4524 | C-4524 | 10x14x3" | 5 | 1.65 |
| B-4528 | C-4528 | 10x17x2" | 5 | 1.65 |
| B-4529 | C-4529 | 10x17x4" | 7 | 2.04 |
| B-4526 | C-4526 | 10x17x3" | 7 | 1.77 |
| B-4533* | C-4533* | 11x17x2" | 7 | 2.40 |
| B-4534* | C-4534* | 11x17x3" | 9 | 2.70 |
| B-4516 | C-4516 | 12x17x2" | 5 | 1.92 |
| B-4517 | C-4517 | 12x17x3" | 6 | 2.13 |
| B-4530 | C-4530 | 12x17x4" | 6 | 2.55 |
| B-4535* | C-4535* | 13x17x2" | 8 | 2.70 |
| B-4536* | C-4536* | 13x17x3" | 9 | 3.15 |
| B-4537* | C-4537* | 13x17x4" | 10 | 3.54 |
| B-4540* | C-4540* | 17x17x4" | 13 | 4.05 |

## STEEL BOTTOM PLATES

Bottom plates have holes to match our standard or heavy duty type chassis listed on this page, and have pressed "bumpers" at the corners. Made from #20 gauge steel.

| Cat. No. Black Ripple | Cat. No. Zinc Plated | Size | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| BP-4507 | CP-4507 | 5x 7" | 1 | $0.39 |
| BP-4502 | CP-4502 | 8x12" | 1 | .84 |
| BP-4500 | CP-4500 | 5½x9½" | 1 | .48 |
| BP-4508 | CP-4508 | 5x10" | 1 | .48 |
| BP-4509 | CP-4509 | 6x14" | 1 | .63 |
| BP-4510 | CP-4510 | 7x 7" | 1 | .57 |
| BP-4511 | CP-4511 | 7x 9" | 1 | .66 |
| BP-4512 | CP-4512 | 7x11" | 1 | .69 |
| BP-4513 | CP-4513 | 7x13" | 2 | .75 |
| BP-4514 | CP-4514 | 7x15" | 2 | .78 |
| BP-4518 | CP-4518 | 4x17" | 2 | .60 |
| BP-4515 | CP-4515 | 7x17" | 2 | .87 |
| BP-4531 | CP-4531 | 8x17" | 2 | .90 |
| BP-4525 | CP-4525 | 10x12" | 2 | .87 |
| BP-4524 | CP-4524 | 10x14" | 2 | .90 |
| BP-4528 | CP-4528 | 10x17" | 2 | 1.08 |
| BP-4533 | CP-4533 | 11x17" | 2 | 1.05 |
| BP-4516 | CP-4516 | 12x17" | 3 | 1.20 |
| BP-4535 | CP-4535 | 13x17" | 3 | 1.26 |
| BP-4540 | CP-4540 | 17x17" | 4 | 1.71 |

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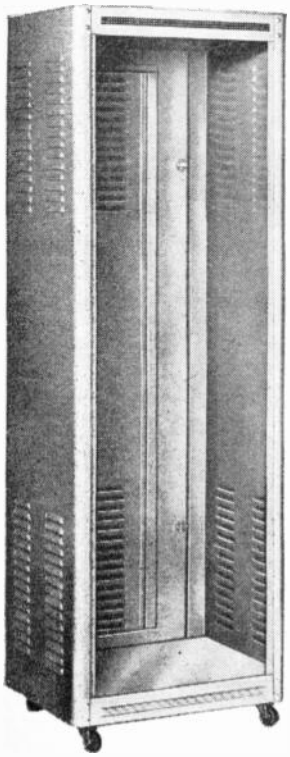
World Radio History

# RELAY RACKS



## DELUXE RELAY RACKS

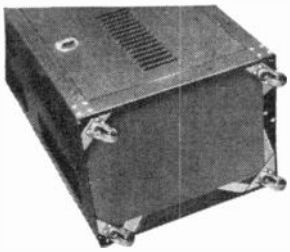
These relay racks are made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.

The two sides and the door are well louvered to provide adequate ventilation. The door is hung on sturdy, loose joint hinges; it is held closed by two attractive aluminum die cast plunger type snap action catches. A streamlined appearance is achieved by the use of rounded corners and red lined chrome trim. This relay rack is shipped knocked down and complete with all necessary hardware for assembly. All standard 19" panels will fit these racks. Overall width is 22". Depth 17⅛". Inside clearance depth in back of panels 16⅛". Clearance thru rear door 17⅜". Clearance across panel mounting rails 17¾". Panel rails tapped 10/32 with W. E. spacing.

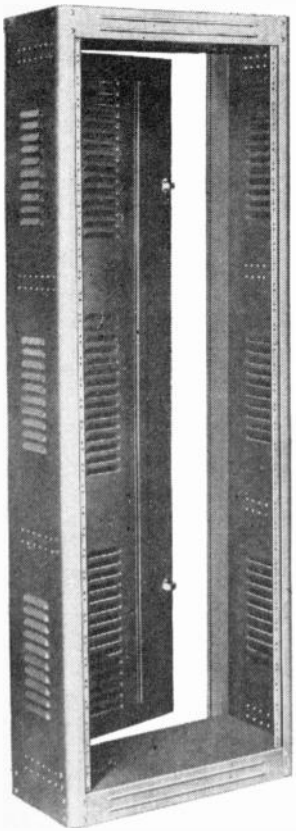
A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPORTS IN THE BOTTOM, SO THAT CASTERS CAN BE FASTENED DIRECTLY TO THE BASE, THEREBY ACHIEVING READY MOBILITY.

Bud RC-7756 casters will fit this unit. The casters are not included in the price of the cabinet. CR-2072, CR-2073, CR-2071 and CR-2074 are the same as the racks described above except that the clear inside depth is 21". CR-2072, CR-2073, CR-2071 and CR-2074 units are available in grey hammertone finish only. Black or grey wrinkle finish 10% extra cost.

On the CR-1771, CR-1772, CR-1773, and CR-1774 the units are available in the three standard finishes. Specify by suffix letter "B" for black wrinkle finish; by suffix "G" for grey wrinkle finish and by suffix "HG" for light grey hammertone finish.



| Catalog No. | Overall Height | Panel Space | Shipping Weight | Net |
|---|---|---|---|---|
| CR-1774 | 42-1/16" | 36¾" | 90 lbs. | $ 45.17 |
| CR-1771 | 47-5/16" | 42" | 95 lbs. | 51.10 |
| CR-1772 | 66-9/16" | 61¼" | 116 lbs. | 63.96 |
| CR-1773 | 82-5/16" | 77" | 137 lbs. | 76.57 |
| CR-2071 | 47-5/16" | 42" | 98 lbs. | 71.40 |
| CR-2072 | 66-9/16" | 61¼" | 150 lbs. | 89.35 |
| CR-2073 | 82-5/16" | 77" | 175 lbs. | 106.13 |
| CR-2074 | 42-1/16" | 36¾" | 91 lbs. | 63.10 |



## Space Saver RELAY RACKS

These relay racks are made of 16 gauge steel with 7/64" adjustable panel mounting supports. The recessed panel mounting supports are adjustable (front to rear) at one inch intervals. A sturdy removable rear door is provided.

Sides and door are well louvered to provide adequate ventilation.

THE NEW FEATURE OF THIS RELAY RACK IS THE SHALLOW DEPTH WHICH PROVIDES SPACE SAVING AT INSTALLATION POINT WHILE STILL PROVIDING NECESSARY PANEL HEIGHT AND WIDTH.

This unit is particularly adaptable for use with BUD Panel Mounting Chassis. These relay racks are shipped knocked-down with all necessary hardware for assembly. Standard 19" relay rack panels will fit these units. The relay racks in this series are furnished in Grey Hammertone Enamel only. If Black or Grey Wrinkle finish is desired, an additional charge of 10% must be assessed.

Listed in the table below are Add-A-Racks for use with this series. These Add-A-Racks are made the same as the series used with our DeLuxe Relay Racks except that the depth coincides with the SPACE-SAVER RELAY RACK depth.

Overall Depth is 10" Clear Inside Depth is 9" Overall Width is 22"

| Catalog No. | Overall Height | Panel Space | Used to Add-A-Rack to | Shipping Weight | Net |
|---|---|---|---|---|---|
| RR-1271 | 47-5/16" | 42" | | 64 lbs. | $36.60 |
| RR-1272 | 66-9/16" | 61¼" | | 84 lbs. | $45.85 |
| RR-1273 | 75-5/16" | 70" | | 93 lbs. | $53.75 |
| AR-1275 | | | RR-1271 | 54 lbs. | $34.90 |
| AR-1276 | | | RR-1272 | 69 lbs. | $43.75 |
| AR-1277 | | | RR-1273 | 76 lbs. | $51.25 |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**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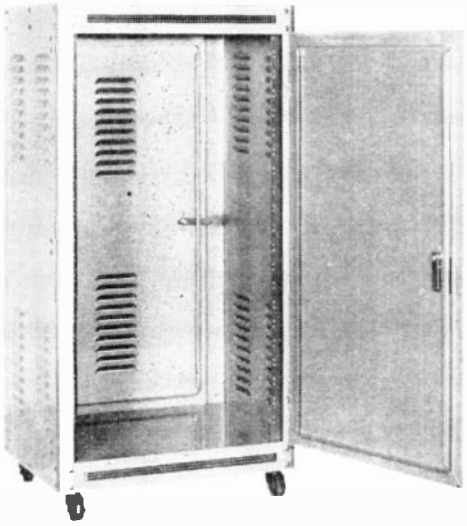
World Radio History

# RACKS

## SUPER DELUXE 2 DOOR RACKS



This relay rack is an entirely new model that consists of a relay rack made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed. IN ADDITION, THEY ARE ADJUSTABLE FROM FRONT TO BACK IN VARIOUS STOPPING POINTS. THIS ENABLES YOU TO USE THE SPACE IN FRONT AND BEHIND THE PANEL TO ANY DEGREE THAT YOU MAY FIND NECESSARY. Overall width is 22". Depth 17⅛". Inside clearance depth in back of panels 16⅛". Clearance thru rear door 17⅜". Clearance across panel mounting rails 17¾". Panel rails tapped 10/32 with W. E. spacing. Clearance behind panels is 15" to 9" in increments of 1 inch.

These racks are fitted with both front and rear doors. The louvred rear door is to cover any of the equipment behind the panel and at the same time provide easy accessibility to it. The front door, flush with front of rack, is to provide a means of concealing dials, knobs, etc., that may be in front of the panel.

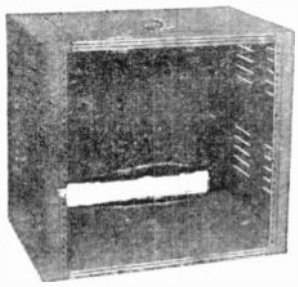
The exclusive Bud feature of supports on the bottom so the casters may be fixed directly to the base, eliminating the need and expense of dollies, is also present in this series of racks.

Bud RC-7756 casters will fit these units. The casters are not included in the price of the cabinet.

If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix letter "G." If light grey hammered finish is desired, use suffix "HG."

| Catalog No. | Overall Height | Panel Space | Shipping Weight | Net |
|---|---|---|---|---|
| CR-2174 | 42-1/16" | 36¾" x 19" | 102 lbs. | $ 64.13 |
| CR-2171 | 47-5/16" | 42" x 19" | 117 lbs. | 72.65 |
| CR-2172 | 66-9/16" | 61¼" x 19" | 151 lbs. | 93.77 |
| CR-2173 | 82-5/16" | 77" x 19" | 183 lbs. | 112.56 |

## DELUXE CABINET RACKS



| Catalog No. | Overall Height | Panel Space | Shipping Weight | Net |
|---|---|---|---|---|
| CR-1726 | 8-25 32" | 7" | 25 lbs. | $15.28 |
| CR-1741 | 10-9/16" | 8¾" | 28 lbs. | 16.70 |
| CR-1740 | 12-5 16" | 10½" | 30 lbs. | 19.12 |
| CR-1742 | 14-1/16" | 12¼" | 32 lbs. | 20.12 |
| CR-1739 | 15-13 16" | 14" | 34 lbs. | 21.96 |
| CR-1743* | 19-5 16" | 17½ | 38 lbs. | 26.22 |
| CR-1727* | 22-13 16" | 21" | 39½ lbs. | 28.06 |
| CR-1744* | 28-1/16" | 26¼" | 47½ lbs. | 30.11 |
| CR-1728* | 33-5/16" | 31½ | 52 lbs. | 31.98 |
| CR-1745* | 36-13 16" | 35" | 60 lbs. | 33.65 |

* These sizes have top and rear doors.

Specify a suffix "B" when black wrinkle is desired, the suffix "G" when grey wrinkle is desired, or the suffix "HG" when light grey hammered is desired.

These cabinet racks are so made that a professional appearance is given. They are ideal for commercial broadcasters, for sound equipment or test equipment.

The five larger sizes have a hinged rear door, while the smaller sizes have the welded panel in the rear.

No other manufacturer has the wide variety of sizes that are included in the Bud line of deluxe cabinet racks.

Adequate ventilation is assured by means of louvered sides and a 2½" opening in the bottom of the back, which extends the entire width of the cabinet. "No scratch" extended metal feet are embossed on the bottom to minimize marring of the table top or any other equipment that this is placed on.

| | |
|---|---|
| Overall Depth | 14¾" |
| Overall Width | 22" |
| Clear Inside Depth | 14" |
| Top Door Opening | 10½" x 15-⅜" |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**

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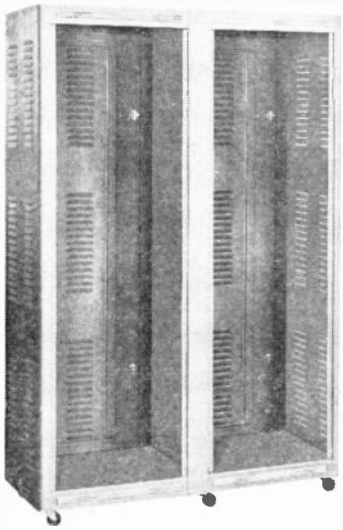
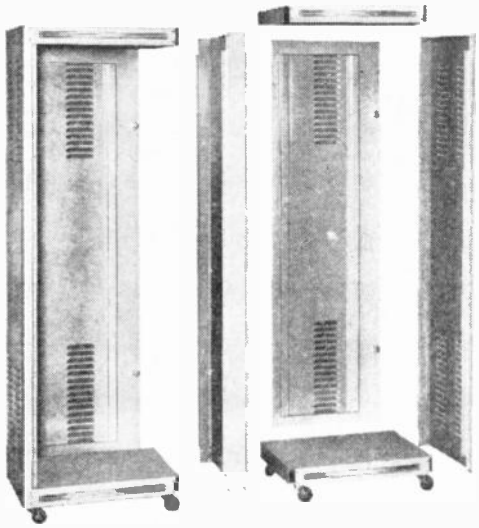
World Radio History

# RELAY RACKS

## ADD-A-RACK SERIES



A



B

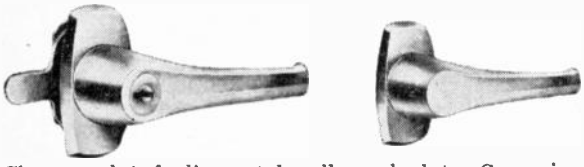
It always has been necessary to buy special racks without louvres on one side to obtain maximum interior space with a minimum of floor space. Now, you no longer need to buy an entire new cabinet when you want additional space. When multiple rack units are required, we not only offer additional racks at a lower cost, but provide a sturdier, better looking assembly. Only Add-A-Rack series can accomplish this savings.

Illustration A shows the two Add-A-Rack cabinets assembled together. Illustration B shows the unique and ingenious method of adding a unit to your present equipment. Instead of buying an entirely new outfit, you purchase, as a unit, four parts: 1. The door, 2. the top, 3. the bottom, 4. an Add-A-Rack Coupling Unit. The right or left side of your present relay rack is removed and replaced by the Add-A-Rack Coupling Unit. Next, the top and bottom are fastened into place. The side taken from the first rack is then fastened onto the second rack. Place the additional door into position and you now have two racks, properly and efficiently coupled together. In the same simple way, more racks can be added at any time. Every one will be in a continuous one piece assembly.

| Catalog No. | Used to Add-A-Rack to | Shipping Weight | Net |
|---|---|---|---|
| AR-1778 | CR-1774 | 75 lbs. | $ 44.34 |
| AR-1775 | CR-1771 | 77 lbs. | 49.01 |
| AR-1776 | CR-1772 | 100 lbs. | 60.96 |
| AR-1777 | CR-1773 | 127 lbs. | 74.90 |
| AR-2276 | CR-2072 | 140 lbs. | 85.17 |
| AR-2277 | CR-2073 | 160 lbs. | 103.75 |
| AR-2278 | CR-2074 | 77 lbs. | 60.15 |
| AR-2279 | CR-2071 | 83 lbs. | 68.06 |

If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix "G." If light grey hammered finish is desired, use suffix "HG."

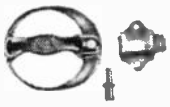
## LEVER TYPE DOOR HANDLES



Chrome plated, die cast handle and plate. Corrosion resistant steel spindle and cam. Easily and quickly attached to the Bud Super Deluxe Relay Rack. Two models available. Catalog No. 9196 is non-locking. Catalog No. 9223 has a lock and two keys.

| Catalog No. | | Net |
|---|---|---|
| 9196 | Non-locking | $2.66 |
| 9223 | With lock | $5.00 |

## HANDLE-CATCH SET (Plunger Type)



CL-7777 is an attractive handle and catch set now featured on all Bud Cabinet Racks and Relay Racks. Handle is cast aluminum with chrome plated finish. Snap catch is spring type. IMPORTANT FEATURE IS THE PLUNGER WHICH ASSURES EFFICIENCY AND EASY OPERATION. Supplied complete with mounting hardware. Actual weight ¼ lb.

| Catalog No. | Net |
|---|---|
| CL-7777 | $1.09 |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**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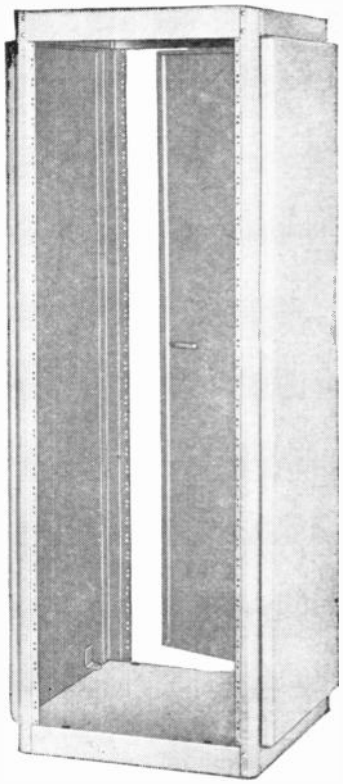
World Radio History

# PRESTIGE RELAY RACKS

## Beautiful and practical housings for permanent or mobile instrumentation



A standard Prestige Relay Rack consists of the framework, top, bottom, two ball cornered sides and a ball cornered door. Shipped knocked-down with necessary assembly hardware.

Interior servicing is easily accomplished without tearing down rack since sides are attached to frame by means of tongue and slot arrangement at bottom and two screws at top, thus sides are quickly removed.

Drilled and tapped panel mounting rails on all four vertical members of the frame. Standard 19" panels can, if desired, be mounted on all four sides of the rack.

Doors may be mounted to open either from left or right side. Extra doors may be purchased so that doors may be placed on any of four sides.

Panel rails will support 200 lbs. suspended between rails at any vertical position.

Bottom will support 500 lbs.

The base is slotted to accept ball cornered side panels on any of the four sides of the rack.

Clearance of ball cornered door and side panels is sufficient to permit their installation over panels without damage to knobs or instrument controls.

Casters may be attached to base to achieve mobility if desired. Base is so designed that casters are recessed and do not detract from appearance of rack.

Knockout holes are provided in the sides of the rack so that two or more may be joined together in series.

Racks will accommodate Bud SD-1717 Sliding Drawer Assembly (shown on page K-519), Bud Console Drawer CD-2210 (shown on page K-522) or "Prestige" Supporting Angles (shown on page K-512).

Finished in grey hammertone.

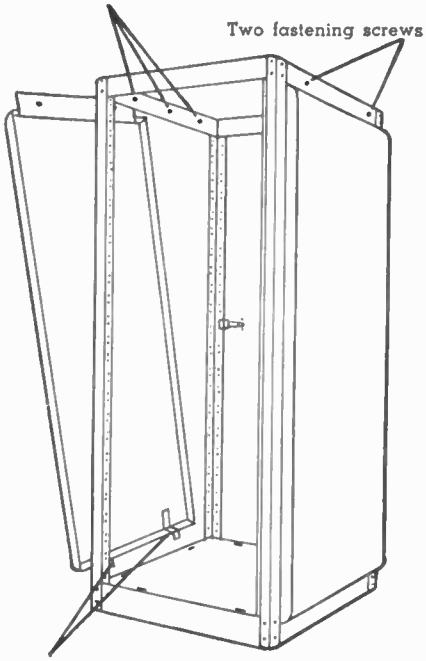
## PRESTIGE CABINET RACKS

| Cat. No. | Panel Space | Height | Weight | Net |
|---|---|---|---|---|
| CR-2280 | 61-1/4" | 66-9/16" | 104 lbs. | $108.35 |
| CR-2281 | 66-1/2" | 71-13/16" | 115 lbs. | 115.55 |
| CR-2282 | 77" | 82-3/16" | 132 lbs. | 129.75 |

| | |
|---|---|
| Inside clearance | 21-1/8" x 21-1/8" |
| Overall depth without door | 22" |
| Overall depth with door | 23-1/16" |
| Overall width without side panels | 22" |
| Overall width with side panels | 24-1/8" |

## BALL CORNER DOORS

| Cat. No. | Weight | Net |
|---|---|---|
| DR-2290 for CR-2280 Rack | 22 lbs. | $13.50 |
| DR-2291 for CR-2281 Rack | 25 lbs. | 14.40 |
| DR-2292 for CR-2282 Rack | 30 lbs. | 16.20 |

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**Only a few of many BUD Products are shown. Write for complete catalog.**

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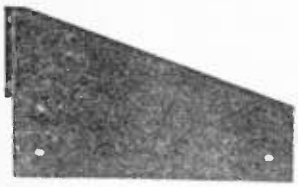
World Radio History

# CABINET RACKS — RELAY RACKS

## CHASSIS MOUNTING BRACKETS



Mounting brackets are essential to insure proper support of chassis. Mounting flange is 1" wide with 2 mounting holes. These brackets are formed of heavy gauge steel cut away at the bottom to provide chassis clearance so that the chassis can be mounted flush against the panel. Finished in black enamel only. Chassis mounting bracket Nos. MB-450 and MB-451 are designed for a chassis height of 4". These units are sold in pairs only.

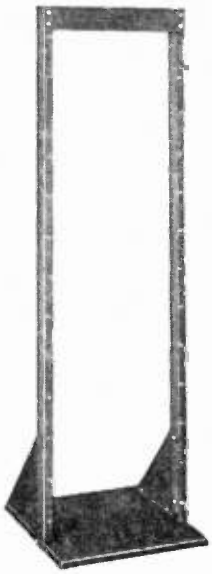
| Catalog No. | Height | Depth | Actual Weight | Net |
|---|---|---|---|---|
| MB-458 | 6½" | 8" | 1¼ lbs. | $1.09 pr. |
| MB-448 | 6½" | 10" | 1¾ lbs. | 1.35 pr. |
| MB-459 | 6½" | 11" | 2 lbs. | 1.50 pr. |
| MB-449 | 6½" | 12" | 2 lbs. | 1.75 pr. |
| MB-460 | 6½" | 13" | 2½ lbs. | 1.69 pr. |
| MB-450 | 8½" | 10" | 2¼ lbs. | 1.97 pr. |
| MB-451 | 8½" | 13" | 3 lbs. | 2.09 pr. |

## DESK TYPE RELAY RACKS

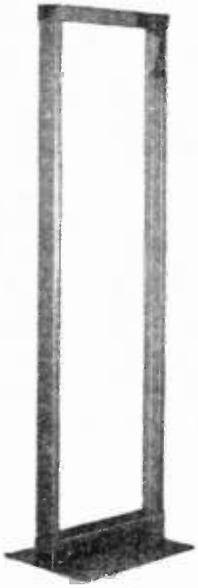
These racks are perfect for table mounting of low and medium powered transmitters, public address systems and other electronic instruments. The rack has strong chassis for mounting heavy components. These units are shipped knocked down with necessary hardware and are easy to assemble. Depth 12". Panel holes tapped 10/32 with W. E. spacing. Standard 19" wide panels can be used and the panels are set in recess so that no edges are exposed. Black wrinkle or light grey hammertone finish.

| Catalog No. | Panel Space | Height | Actual Wt. Lbs. | Net |
|---|---|---|---|---|
| RR-1248 | 21" x 19" | 24" | 15 | $ 9.10 |
| RR-1249 | 28" x 19" | 31" | 17 | 11.19 |

## TELEPHONE TYPE RELAY RACKS



RR-1263 RR-1363
RR-1264 RR-1364
RR-1366



RR-1265

Catalog Nos. RR-1263, RR-1264, RR-1363, RR-1364 & RR-1366 are made of 7/64" steel channels, three inches deep, with cross bars of the same thickness. The design of the base has been improved to incorporate a chassis type bottom, together with the usual side angles, making this rack exceptionally strong and stable.

Holes are provided in the base to accommodate Bud RC-7756 casters. Base is 20" x 22". Clearance between uprights 17⅞". Panel mounting rails tapped 10/32 with W. E. spacing. Finish black wrinkle or light grey hammertone.

The RR-1265 is a heavy duty rack, suitable for broadcast stations and other commercial installations, where it is desired that exceptionally sturdy construction be utilized. The usual manner of installation is to bolt this unit to the floor.

To emphasize the heavy duty construction, it is necessary to realize that the base is made of two angles 3½" x 5" x ¼", 20⅜" long. The channels are 72" long and made of 3" x 1⅜" x 3/16" steel plate. The two supporting cross bars are made of ⅛" x 2-3/32" steel angles. Base is 13" x 20⅜". Panel holes are tapped 12-24 with W.E. spacing. Finish black wrinkle only.

Any of the panel chassis or the standard relay rack panels shown on page K-513 can be used with these racks.

| Catalog No. | Height | Panel Space | Shipping Weight lbs. | Net |
|---|---|---|---|---|
| RR-1263 | 35-39/64" | 31½" | 35 | $21.71 |
| RR-1363 | 40-55/64" | 36¾" | 37 | 21.96 |
| RR-1264 | 70-39/64" | 66½" | 46 | 24.80 |
| RR-1364 | 75-55"64" | 71¾" | 47 | 25.13 |
| RR-1366 | 81-7/64" | 77" | 48 | 29.98 |
| RR-1265 | 72-1/4" | 66½" | 94 | 54.78 |

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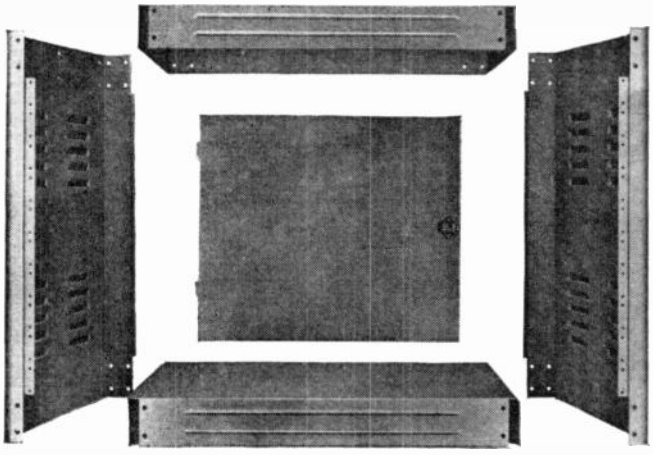
**Only a few of many BUD Products are shown. Write for complete catalog.**

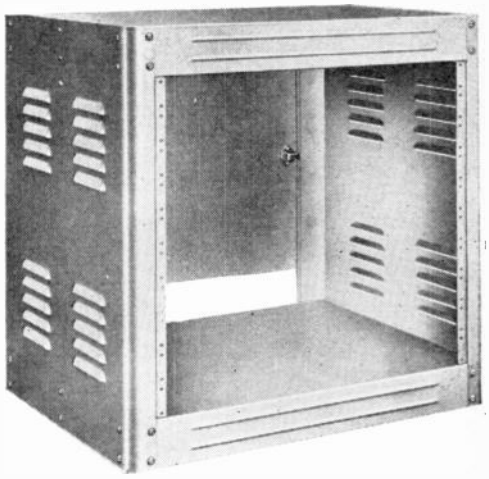


World Radio History

# CABINET RACKS

## HEAVY DUTY CABINET RACKS





These Cabinet Racks are designed for installation where increased depth of cabinet is required. The cabinet racks are shipped knocked down with all necessary hardware for quick assembly.

All units have a hinged removable rear door. Adequate ventilation is assured by louvered sides and 2½" x 17½" opening in the bottom of the back. The top and bottom are similar to those furnished with our DeLuxe Relay Rack to provide additional sturdiness when the rack is assembled. Made from 16 gauge steel throughout.

The panel mounting rails are an integral part of the sides thereby facilitating the assembly of the cabinet since less parts are required.

These Heavy Duty Cabinet Racks are furnished in Grey Hammertone only. An additional charge of 10% will be made if Black or Grey Wrinkle Finish is ordered.

For the first time BUD RADIO, INC. is providing Add-A-Rack type mounting for a Cabinet Rack model. Listed in the table shown below are Add-A-Cabs for use with our Heavy Duty Cabinet Rack series. The construction is the same as our Add-A-Rack series except that the panel mounting rails are an integral part of the sides.

Overall Depth is 17⅛".

Clear Inside Depth is 16¼".

Overall Width is 22".

| Catalog No. | Overall Height | Panel Space | Used to Add-A-Cab to | Shipping Weight | Net |
|---|---|---|---|---|---|
| CR-1736 | 24½" | 19¼" | | 48 lbs. | $26.65 |
| CR-1737 | 31½" | 26¼" | | 55 lbs. | $28.75 |
| CR-1738 | 40¼" | 35" | | 64 lbs. | $34.15 |
| ACR-1936 | 24½" | 19¼" | CR-1736 | 41 lbs. | $25.40 |
| ACR-1937 | 31½" | 26¼" | CR-1737 | 48 lbs. | $27.40 |
| ACR-1938 | 40¼" | 35" | CR-1738 | 55 lbs. | $32.55 |

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World Radio History

# "PRESTIGE" VERSA-CABINETS

## MODERN STYLING . . . VERSATILE USAGE . . . QUICK ACCESSIBILITY

A standard Prestige Versa-Cabinet consists of the framework, two ball cornered sides, perforated metal back, solid bottom plate and two supporting channels.

The front, back, top, bottom may be quickly removed for access to interior for easy servicing.

Standard 19″ panels may be attached to the top, bottom, front or back of cabinet to provide complete closure.

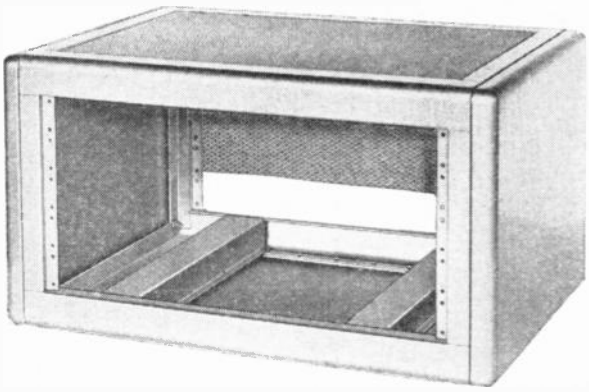
An opening is provided across bottom of back for cable leads, controls or knobs. Size of opening is 1-3/4″ x 19″. Bud Steel Panel PS-1250 (shown on page K-513) or Aluminum Panel PA-1101 (shown on page K-513) may be used to close opening if desired. Perforated back may be removed and a standard steel or aluminum panel may be used to close back opening entirely.

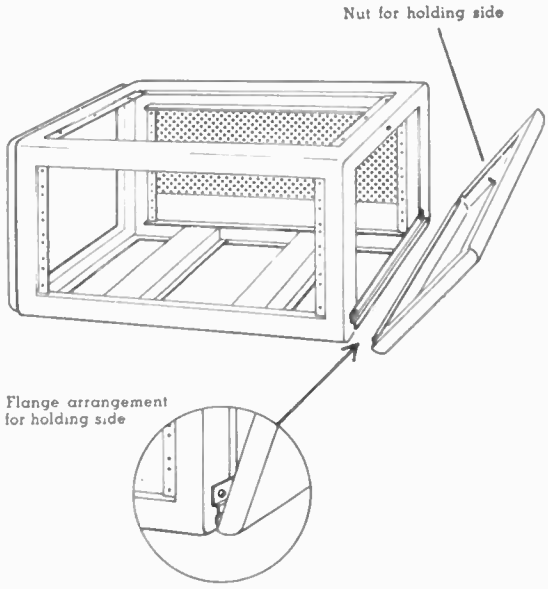
Sides are attached by means of holding flanges on the bottom of the frame and nut at top.

Handles may be fastened to sides. When the unit is carried by handles, the design of the flange mounting distributes the weight properly for safe carrying. Flange design eliminates possibility of sides becoming accidently detached while equipment is being carried. Cabinets may be fastened side-to-side in batteries of two or more or may be stacked one on another. Proper provision is made for fastening cabinets together either vertically or horizontally by means of four holes on each side and four holes in top and bottom of frame.

Four rubber feet are regularly supplied to prevent marring of the surface upon which cabinet may be placed.

Finished in grey hammertone.






### "PRESTIGE" VERSA-CABINETS

| Cat. No. | Panel Space | Height | Weight | Net |
|---|---|---|---|---|
| PC-1700 | 5¼″ | 8¾″ | 24 lbs. | $27.25 |
| PC-1701 | 7″ | 10½″ | 27 lbs. | 28.92 |
| PC-1702 | 8¾″ | 12¼″ | 30 lbs. | 30.75 |
| PC-1703 | 10½″ | 14″ | 33 lbs. | 33.50 |
| PC-1704 | 12¼″ | 15¾″ | 36 lbs. | 35.25 |

| | |
|---|---|
| Clear inside width | 22-1/4″ |
| Overall width | 23-3/16″ |
| Clear inside depth | 15″ |
| Overall depth | 15-25/32″ |

### PERFORATED STEEL TOP PANEL

| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| PC-1710 | 12-1/4″ x 19″ | 2-1/2 lbs. | $2.70 |

### ACCESSORIES

| | | |
|---|---|---|
| Solid Steel Top Panel | PS-1256HG | page K-513 |
| Solid Aluminum Top Panel | PA-1107HG | page K-513 |
| Top Panel with Solid Door | PS-616HG | page K-513 |
| Top Panel with Ventilated | PS-815HG | page K-513 |

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**Only a few of many BUD Products are shown. Write for complete catalog.**


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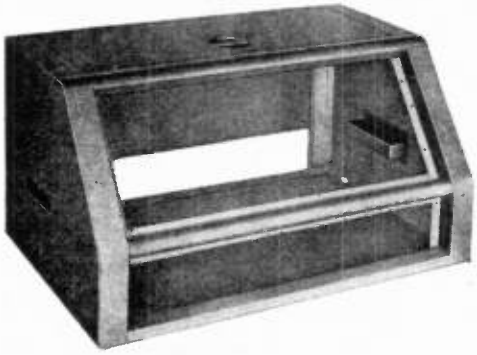
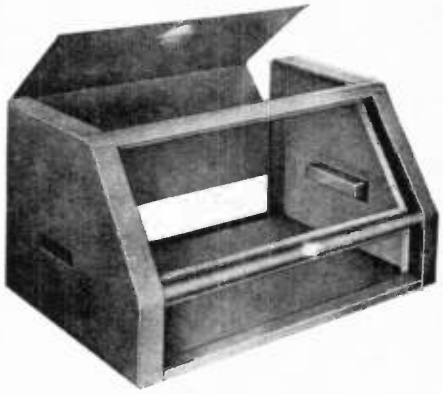
World Radio History

# "PRESTIGE" CABINETS

## SLOPING PANEL "PRESTIGE" CABINETS





Ventilated top.

Full top opening — With recessed Handle for easy lift.

Shielded handles in sides.

Uses standard 19" relay rack panels.

Top panel swept-back for easy viewing.

Rear opening for easy cable or control access.

Panel trim bar removable permitting installation or removal of panels that have chassis attached.

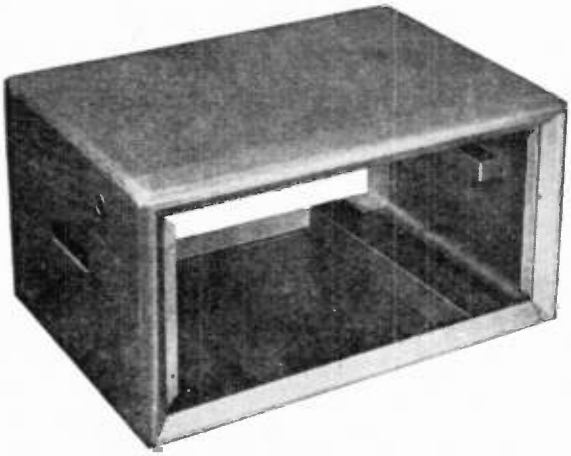
Cover can be screw fastened into position to minimize tampering with contents of cabinet.

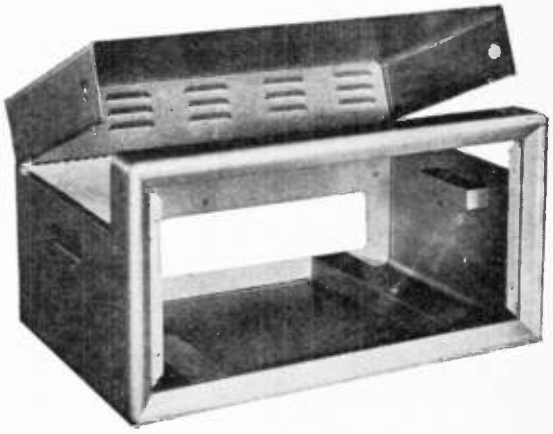
Grey hammertone finish.

Rear Opening is 2½" x 18"  Panel recess is 1¼"
Top depth is 9"  Overall width is 22"

| Catalog No. | Overall Height | Panel Space | Overall Depth | Ship. Wgt. | Net |
|---|---|---|---|---|---|
| C-1555 | 11⅞" | 3½" Vertical plus 7" Sloping | 14⅜" | 22 lbs. | $36.00 |
| C-1556 | 13¼" | 3½" Vertical plus 8¾" Sloping | 15⅛" | 25 lbs. | $38.65 |
| C-1557 | 14¾" | 3½" Vertical plus 10½" Sloping | 16⅛" | 28 lbs. | $41.45 |

## STANDARD "PRESTIGE" CABINETS





Solid or perforated hinged cover.

Finger holes assure easy cover lifting. Cover closes tightly by means of pressure fasteners.

Two supporting rails furnished. Can be moved laterally to accommodate any width chassis or mounting platform.

Ventilation is obtained through rear cabinet opening and louvres in rear of cover.

Carrying is accomplished by means of two recessed, safety shielded handle slots.

Rear opening for easy cable or control access.

Bottom has embossed feet to prevent scratching of surface upon which cabinet may rest.

Uses standard 19" panels.

Made of 16 gauge steel. Grey hammertone finish only.

Overall width: 21-9/16"; overall depth: 14-7/8"; clear inside depth: 13-7/8"; rear opening: 18" x 3"; cover opening: 21-9/16" x 12-3/4".

| Cat. No. | Cover | Over-All Height | Panel Space | Ship. Wgt. | Net |
|---|---|---|---|---|---|
| C-1440 | Solid | 9½" | 7" | 21 lbs. | $28.22 |
| C-1441 | Solid | 11¼" | 8¾" | 23 lbs. | 30.06 |
| C-1442 | Solid | 13" | 10½" | 25 lbs. | 32.82 |
| C-1550 | Perforated | 9½" | 7" | 20 lbs. | 30.56 |
| C-1551 | Perforated | 11¼" | 8¾" | 22 lbs. | 32.73 |
| C-1552 | Perforated | 13" | 10½" | 24 lbs. | 35.57 |

**Prices subject to change without notice.**
**Only a few of many BUD Products are shown. Write for complete catalog.**

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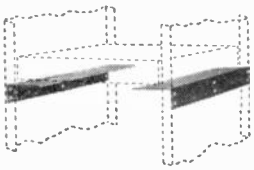
World Radio History

# ANGLE — SHELVES — PANELS

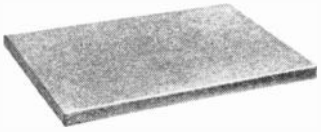
## CHASSIS SUPPORTING ANGLES



Where heavy weights are encountered in chassis construction, the Bud Chassis Supporting Angles will distribute the weight on the sides of the racks to relieve the panel. The angles are made in two sizes from 7/64" steel. Width 3", height 1⅜"; mounting hardware furnished. Finished in black enamel only. The drawing shown around the chassis supporting angles in the illustration is intended to show the manner in which the chassis will be supported by these angles. Sold in pairs only.

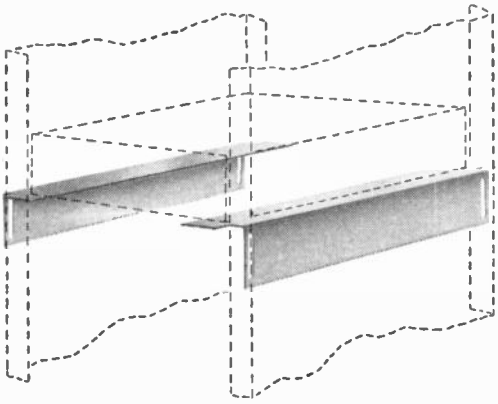
| Catalog No. | Length | Actual Weight lbs. | Net |
|---|---|---|---|
| SA-1349 | 14½" | 4 | $2.25 pr. |
| SA-1350 | 12" | 3 | 2.17 pr. |

## RACK SHELVES



Heavy power supplies, modulator units, etc., can be mounted on these rack shelves, which are supported in the cabinet by the chassis supporting angles which are shown to the left. Shelves are 19" wide x 1" high. The shelves are made of heavy gauge steel and are finished in black enamel only.

| Catalog No. | Depth | Actual Weight | Net |
|---|---|---|---|
| CB-1976 | 15" | 6½ lbs. | $3.47 |
| CB-1977 | 12" | 5½ lbs. | 2.64 |

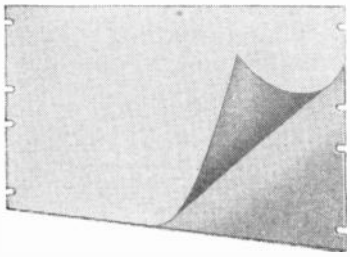


## "PRESTIGE" SUPPORTING ANGLES

Designed for attaching to rails of Console Pedestal or Prestige Relay Racks. No drilling is required. Slotted to provide infinite vertical adjustment or leveling. Extend entirely from front to rear to accept full size chassis. Strong enough to support the heaviest power supplies. Finish is black enamel. Drawing illustrates the manner in which the chassis will be supported by the angles. Sold in pairs only.

| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| CS-2219 | 21" x 3" x 3" | 7-1/2 lbs. | $3.00 per pair |

## "SURFACE-SHIELD" ALUMINUM PANELS



Now . . . naturally bright aluminum panels with blemish-free mill finish.

Each panel is covered on both sides with sturdy self-stick paper to protect against damage. The paper provides an excellent surface for indicating size and position of drilling or milling. These operations may then be done while the paper is still in place thus minimizing the possibility of surface damage and elimination or surface soil. Paper is not removed until the panel is ready for installation.

Panels available in both 1/8" and 3/16" thicknesses, have standard notching and are 19" wide. Individually wrapped in heavy Kraft-backed cellulose wadding for protection in shipment or storage.

### 1/8" PANELS

| Cat. No. | Ht. | Wt. | Net |
|---|---|---|---|
| SFA-1831 | 1¾" | ¼ lb. | $ 1.13 |
| SFA-1832 | 3½" | ¾ lb. | 1.49 |
| SFA-1833 | 5¼" | 1 lb. | 2.00 |
| SFA-1834 | 7" | 1¾ lbs. | 2.46 |
| SFA-1835 | 8¾" | 2 lbs. | 2.95 |
| SFA-1836 | 10½" | 2½ lbs. | 3.71 |
| SFA-1837 | 12¼" | 2¾ lbs. | 4.28 |
| SFA-1838 | 14" | 3 lbs. | 4.94 |
| SFA-1839 | 15¾" | 3½ lbs. | 5.52 |
| SFA-1840 | 17½" | 4 lbs. | 6.08 |
| SFA-1841 | 19¼" | 4¼ lbs. | 6.66 |
| SFA-1842 | 21" | 5 lbs. | 7.22 |

### 3/16" PANELS

| Cat. No. | Ht. | Wt. | Net |
|---|---|---|---|
| SFA-3161 | 1¾" | ¼ lb. | $ 1.79 |
| SFA-3162 | 3½" | ¾ lb. | 2.36 |
| SFA-3163 | 5¼" | 1 lb. | 3.17 |
| SFA-3164 | 7" | 1¾ lbs. | 3.91 |
| SFA-3165 | 8¾" | 2 lbs. | 4.68 |
| SFA-3166 | 10½" | 2½ lbs. | 5.90 |
| SFA-3167 | 12¼" | 2¾ lbs. | 6.80 |
| SFA-3168 | 14" | 3 lbs. | 7.85 |
| SFA-3169 | 15¾" | 3½ lbs. | 8.76 |
| SFA-3170 | 17½" | 4 lbs. | 9.67 |
| SFA-3171 | 19¼" | 4¼ lbs. | 10.57 |
| SFA-3172 | 21" | 5 lbs. | 11.48 |

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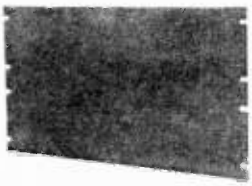
**Only a few of many BUD Products are shown. Write for complete catalog.**



World Radio History

# PANELS

## STANDARD RELAY RACK PANELS



These panels are available in either steel or aluminum. The steel panels are made of high grade steel ⅛" thick. Aluminum panels are standard at ⅛" thick aluminum. All panels are 19" wide. Aluminum panels 3/16" thick are available at a 60% increase in cost over the standard ⅛" panel.

For the first time, we are offering light grey hammered finish panels at no extra charge. Be sure to specify by use of suffix "B" for black wrinkle finish, suffix "G" for grey wrinkle finish or suffix "HG" for light grey hammered finish.

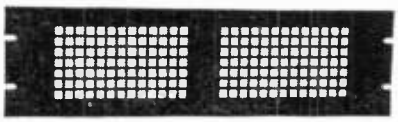
**STEEL**

| Catalog No. | Height | Actual Weight lbs. | Net | Catalog No. | Height | Actual Weight lbs. | Net |
|---|---|---|---|---|---|---|---|
| PS-1250 | 1¾" | 1¼ | $ .84 | PS-1256 | 12¼" | 8¼ | $2.42 |
| PS-1251 | 3½" | 2¼ | 1.00 | PS-1257 | 14" | 9½ | 2.84 |
| PS-1252 | 5¼" | 3¼ | 1.25 | PS-1258 | 15¾" | 10¾ | 3.09 |
| PS-1253 | 7" | 4½ | 1.42 | PS-1259 | 17½" | 11¾ | 3.51 |
| PS-1254 | 8¾" | 6 | 1.75 | PS-1260 | 19¼" | 13 | 3.84 |
| PS-1255 | 10½" | 7 | 2.09 | PS-1261 | 21" | 14¼ | 4.26 |

**ALUMINUM**

| Catalog No. | Height | Actual Weight lbs. | Dealer Cost | Catalog No. | Height | Actual Weight lbs. | Dealer Cost |
|---|---|---|---|---|---|---|---|
| PA-1101 | 1¾" | ¼ | $1.09 | PA-1107 | 12¼" | 2¾ | $4.09 |
| PA-1102 | 3½" | ¾ | 1.42 | PA-1108 | 14" | 3 | 4.76 |
| PA-1103 | 5¼" | 1 | 1.92 | PA-1109 | 15¾" | 3½ | 5.34 |
| PA-1104 | 7" | 1¾ | 2.42 | PA-1110 | 17½" | 4 | 5.85 |
| PA-1105 | 8¾" | 2 | 2.84 | PA-1111 | 19¼" | 4¼ | 6.43 |
| PA-1106 | 10½" | 2½ | 3.59 | PA-1112 | 21" | 5 | 7.01 |

## VENTILATING GRILL PANELS

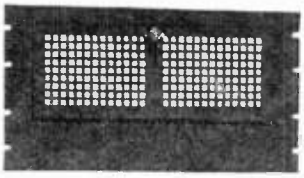


These panels are made of ⅛" thick steel. The grill is stamped into the panel itself and is recommended for use where additional ventilation is desirable. All panels are 19" long and are furnished in black or grey wrinkle finish or light grey hammered finish. Please specify by proper suffix the color desired.

| Catalog No. | Height | Grill Size | Actual Weight | Net |
|---|---|---|---|---|
| PS-808 | 5¼" | 3⅜" x 13 13/32" | 2½ lbs. | $3.26 |
| PS-809 | 7" | 4⅞" x 13 13/32" | 3½ lbs. | 3.54 |
| PS-810 | 8¾" | 3⅞" x 13 13/32"* | 5 lbs. | 4.26 |
| PS-811 | 10½" | 5⅞" x 13 13/32"* | 5¾ lbs. | 4.51 |
| PS-812 | 12¼" | 7⅜" x 13 13/32"* | 6¼ lbs. | 4.84 |

* Allows 3½" space for chassis mounting

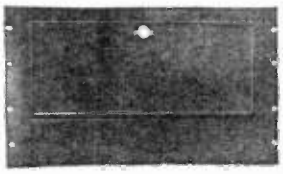
## VENTILATED DOOR RACK PANELS



The Bud Ventilated Door Rack Panel has a generous perforated area in the door providing adequate ventilation for adjacent units. Distance from hinged side of opening to bottom 3½". Distance from lock side of opening to top 1". The panels are 19" long and are available in either black or grey wrinkle finish or light grey hammered finish. OF SPECIAL INTEREST TO THE USER IS THE NEWLY DESIGNED IMPROVED LOCK ON THIS PANEL. THE LOCK IS A PLUNGER TYPE THAT MAKES CERTAIN IT IS EASY TO OPEN THE DOOR.

| Catalog No. | Height | Door Opening | Actual Weight | Net |
|---|---|---|---|---|
| PS-814 | 10½" | 15⅜" x 6" | 6 lbs. | $7.52 |
| PS-815 | 12¼" | 15⅜" x 7½" | 7 lbs. | 8.27 |

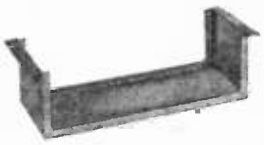
## METAL DOOR RACK PANELS



When accessibility to component parts on the chassis is a vital point, this panel is extremely useful. The panels are available in either grey or black wrinkle finish or light grey hammered finish. Please be certain that you specify, by use of the proper suffix, for color when ordering. Panels are made of ⅛" sheet steel. Distance from hinged side of opening to bottom 3½". Distance from lock side of opening to top 1".

| Catalog No. | Height | Door Opening | Actual Weight | Net |
|---|---|---|---|---|
| PS-615 | 10½" | 15⅜" x 6" | 7¼ lbs. | $6.08 |
| PS-616 | 12¼" | 15⅜" x 7½" | 8¼ lbs. | 7.52 |

## NEW PANEL CHASSIS



This new series of panel mounting chassis is for professional type installations primarily. Made of .062" aluminum. The front flange has standard notching suitable for mounting to a rack.

| Catalog No. | Width | Depth | Height | Net |
|---|---|---|---|---|
| CB-1370 | 19" | 5 9/32" | 1¾" | $2.30 |
| CB-1371 | 19" | 5 9/32" | 3½" | 2.59 |
| CB-1372 | 19" | 5 9/32" | 5¼" | 2.84 |
| CB-1373 | 19" | 5 9/32" | 7" | 3.26 |
| CB-1374 | 19" | 5 9/32" | 8¾" | 3.76 |
| CB-1375 | 19" | 5 9/32" | 10½" | 4.43 |
| CB-1376 | 19" | 5 9/32" | 12¼" | 4.84 |
| CB-1377 | 19" | 5 9/32" | 14" | 5.34 |

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**Only a few of many BUD Products are shown. Write for complete catalog.**



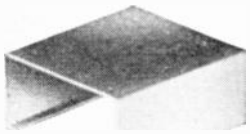
World Radio History

# CHASSIS — BOXES

## OPEN END CHASSIS

These are primarily intended to be used with the various styles and sizes of Bud Metal Cabinets. These chassis are ideal for any type of small built-up units such as record amplifier, code oscillator, etc. From this you can see that there is a wide variety of applications. The U-shaped construction is used with ends folded over ⅜" for additional strength. Made from aluminum (.040) natural finsh.

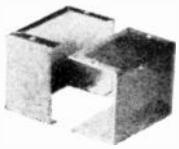
| Cat. No. | Depth | Width | Height | Fits Cab No. | Net |
|---|---|---|---|---|---|
| CB-38 | 7" | 6" | 2" | C-1584 | $1.00 |
| CB-30 | 5" | 7" | 1½" | | .97 |
| CB-41 | 7" | 7" | 1½" | C-973 | 1.24 |
| CB-39 | 7" | 8" | 2" | C-1585 | 1.17 |
| CB-996 | 5½" | 9" | 1½" | C-993 | 1.09 |
| CB-976 | 7½" | 9" | 1½" | C-999, C-1746 | 1.10 |
| CB-40 | 7" | 10" | 2" | C-1586 | 1.37 |
| CB-997 | 7" | 11" | 1½" | C-994, C-1747 | 1.30 |
| CB-998 | 7" | 13" | 1½" | C-995, C-1748 | 1.59 |



## MINIATURE ALUMINUM CHASSIS

These small, open end aluminum chassis are the answer for miniature tube applications or sub-assemblies. They are made of hard aluminum with ¼" flanges on the bottom allowing the chassis to be fastened down, or allowing a bottom plate to be attached. They are extremely useful for a wide variety of applications such as small receivers, narrow band FM adapters or any place where the space is limited.

| Cat No. | Depth | Width | Height | Fits Cabinet No. | Net |
|---|---|---|---|---|---|
| CB-1623 | 2⅝" | 2¾" | 1¼" | C-1784 | $ .38 |
| CB-1624 | 1¾" | 3⅛" | 1" | CU-883 | .42 |
| CB-1625 | 3¼" | 4½" | 2" | C-1788 | .48 |
| CB-1626 | 2¾" | 4⅛" | 1" | CU-728 | .45 |
| CB-1627 | 3¾" | 4⅛" | 1½" | CU-729 | .45 |
| CB-1628 | 3" | 6⅛" | 1¼" | C-1785 | .53 |
| CB-1629 | 5¾" | 4⅞" | 1½" | CU-1098 | .57 |
| CB-1617 | 4" | 3⅛" | 1" | C-1602 | .41 |
| CB-1618 | 4" | 4⅛" | 1" | C-1603 | .50 |
| CB-1619 | 4" | 5⅛" | 1" | C-1604 | .53 |
| CB-1620 | 4" | 6⅛" | 1" | C-1605 | .55 |

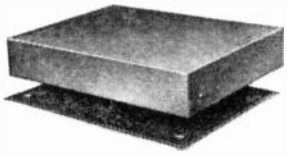


## HANDY BOXES

The design of the Handy Box permits a large number of small components to be easily wired or serviced. The cover is held by four self tapping screws. Made from 22 gauge steel and is furnished in black wrinkle finish only.

| Catalog No. | Height | Length | Width | Actual Weight lbs. | Net |
|---|---|---|---|---|---|
| HB-1621 | 2¼" | 4¼" | 1½" | ½ | $1.15 |
| HB-1622 | 2" | 4" | 2¾" | ½ | 1.17 |

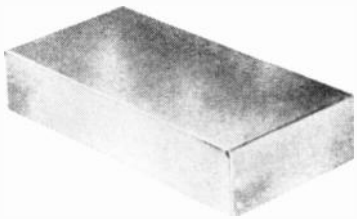
## HEAVY DUTY CHASSIS



*(Furnished with Bottom Plate)*

These chassis, made of 16 gauge steel, are designed for applications requiring unusual sturdiness and where large weights are involved. The bottom plates for these chassis are furnished at no extra charge. Available in either black wrinkle finish or electro-zinc plate. All chassis are 17" wide.

| Black Wrinkle Cat. No. | Zinc Plated Cat. No. | Depth | Height | Net Black Wrinkle | Net Zinc Plated |
|---|---|---|---|---|---|
| CB-1758 | CB-1765 | 8" | 3" | $4.26 | $4.76 |
| CB-1760 | CB-1767 | 11" | 3" | 4.34 | 4.84 |
| CB-1761 | CB-1768 | 13" | 2" | 4.84 | 5.34 |
| CB-1762 | CB-1769 | 13" | 3" | 4.93 | 5.43 |
| CB-1763 | CB-1770 | 13" | 4" | 5.26 | 5.85 |



## ALUMINUM CHASSIS

The construction and design of these chassis are exactly the same as that of our steel chassis bases. The aluminum chassis are welded on Government approved spot welders that are the same as those used in the welding of aluminum aircraft parts. As a result, you can depend on Bud Aluminum Chassis to do a perfect job and to stand up under all conditions.

Please note that the gauges shown in the table are aluminum gauges.

| Catalog Number | Depth | Width | Height | Gauge | Net |
|---|---|---|---|---|---|
| AC-430 | 4" | 6" | 3" | 18 | $1.34 |
| AC-431 | 4" | 6" | 2" | 18 | 1.10 |
| AC-432 | 4" | 17" | 3" | 16 | 2.33 |
| AC-402 | 5" | 7" | 2" | 18 | 1.17 |
| AC-429 | 5" | 7" | 3" | 16 | 1.42 |
| AC-403 | 5" | 9½" | 2" | 18 | 1.24 |
| AC-421 | 5" | 9½" | 3" | 18 | 1.60 |
| AC-404 | 5" | 10" | 3" | 18 | 1.63 |
| AC-422 | 5" | 13" | 3" | 18 | 1.84 |
| AC-433 | 6" | 17" | 3" | 16 | 2.67 |
| AC-405 | 7" | 7" | 2" | 18 | 1.35 |
| AC-406 | 7" | 9" | 2" | 18 | 1.46 |
| AC-407 | 7" | 11" | 2" | 18 | 1.58 |
| AC-408 | 7" | 12" | 3" | 18 | 2.00 |
| AC-409 | 7" | 13" | 2" | 18 | 1.67 |
| AC-411 | 7" | 15" | 3" | 16 | 2.67 |
| AC-423 | 7" | 17" | 3" | 16 | 2.75 |
| AC-424 | 8" | 12" | 3" | 16 | 2.42 |
| AC-425 | 8" | 17" | 2" | 16 | 2.51 |
| AC-412 | 8" | 17" | 3" | 16 | 2.84 |
| AC-413 | 10" | 12" | 3" | 16 | 2.67 |
| AC-414 | 10" | 14" | 3" | 16 | 2.84 |
| AC-415* | 10" | 17" | 2" | 16 | 2.68 |
| AC-416* | 10" | 17" | 3" | 16 | 3.17 |
| AC-426* | 11" | 17" | 2" | 14 | 3.42 |
| AC-417* | 11" | 17" | 3" | 14 | 3.97 |
| AC-418* | 12" | 17" | 3" | 14 | 4.08 |
| AC-419* | 13" | 17" | 2" | 14 | 3.51 |
| AC-420* | 13" | 17" | 3" | 14 | 4.26 |
| AC-427* | 10" | 17" | 4" | 14 | 4.51 |
| AC-428* | 13" | 17" | 4" | 14 | 5.26 |

* Indicates chassis punched to accommodate Chassis Mounting Brackets.

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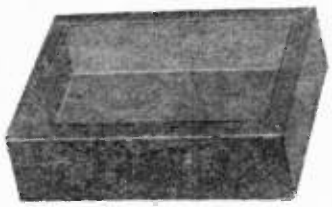
World Radio History

# CHASSIS - PLATES - BRACKETS



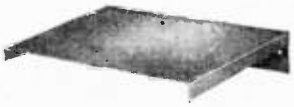
## STEEL CHASSIS

These Chassis are made from one piece of steel. All corners are reinforced and spot welded. The four sides are folded at the bottom for additional strength. This also permits a bottom plate to be attached if desired. As shown in table below, chassis are available in either black wrinkle finish or electro-zinc plated.

**STEEL**

| Black Wrinkle Cat. No. | Zinc Plated Cat. No. | Depth | Width | Height | Gauge | Net Black Wrinkle | Net Zinc Plated |
|---|---|---|---|---|---|---|---|
| CB-628 | CB-629 | 5" | 7" | 2" | 22 | $1.07 | $1.30 |
| CB-644 | CB-645 | 5" | 9½" | 2½" | 22 | 1.37 | 1.67 |
| CB-788 | CB-776 | 5" | 9½" | 1½" | 22 | 1.20 | 1.69 |
| CB-604 | CB-605 | 5" | 10" | 3" | 22 | 1.27 | 1.84 |
| CB-755 | CB-756 | 6" | 14" | 3" | 20 | 1.75 | 2.05 |
| CB-789 | CB-1191 | 7" | 7" | 2" | 20 | 1.20 | 1.50 |
| CB-790 | CB-1192 | 7" | 9" | 2" | 20 | 1.40 | 1.59 |
| CB-791 | CB-1193 | 7" | 11" | 2" | 20 | 1.45 | 1.67 |
| CB-792 | CB-793 | 7" | 12" | 3" | 20 | 1.57 | 2.05 |
| CB-646 | CB-1194 | 7" | 13" | 2" | 20 | 1.54 | 1.92 |
| CB-647 | CB-1198 | 5" | 13½" | 2½" | 20 | 1.77 | 2.17 |
| CB-649 | CB-1189 | 7" | 15" | 3" | 20 | 2.00 | 2.40 |
| CB-665 | CB-666 | 8½" | 15" | 3" | 20 | 2.24 | 2.71 |
| CB-1068 | CB-1066 | 4" | 17" | 3" | 20 | 1.80 | 2.14 |
| CB-648 | CB-1199 | 7" | 17" | 2½" | 20 | 1.99 | 2.37 |
| CB-757 | CB-758 | 7" | 17" | 3" | 20 | 2.15 | 2.59 |
| CB-701 | CB-702 | 8" | 10" | 2½" | 20 | 1.72 | 2.02 |
| CB-703 | CB-704 | 8" | 12" | 2½" | 20 | 1.75 | 2.24 |
| CB-759 | CB-760 | 8" | 12" | 3" | 20 | 1.85 | 2.34 |
| CB-650 | CB-774 | 8" | 17" | 2" | 20 | 1.70 | 2.34 |
| CB-651* | CB-775 | 8" | 17" | 3" | 20 | 2.05 | 2.62 |
| CB-652 | CB-1195 | 10" | 12" | 3" | 20 | 1.89 | 2.25 |
| CB-653 | CB-779 | 10" | 14" | 3" | 20 | 2.04 | 2.44 |
| CB-654* | CB-769 | 10" | 17" | 2" | 20 | 2.00 | 2.39 |
| CB-636* | CB-637 | 10" | 17" | 3" | 20 | 2.00 | 2.84 |
| CB-655* | CB-1196 | 10" | 17" | 3" | 18 | 2.54 | 3.05 |
| CB-656 | CB-1197 | 10" | 23" | 3" | 18 | 2.86 | 3.42 |
| CB-657* | CB-770 | 11" | 17" | 2" | 18 | 2.35 | 2.81 |
| CB-658* | CB-771 | 11" | 17" | 3" | 18 | 2.77 | 3.49 |
| CB-663* | CB-661 | 12" | 17" | 2" | 18 | 2.44 | 3.09 |
| CB-664* | CB-662 | 12" | 17" | 3" | 18 | 2.91 | 3.67 |
| CB-659* | CB-772 | 13" | 17" | 2" | 18 | 2.91 | 3.72 |
| CB-660* | CB-773 | 13" | 17" | 3" | 18 | 3.41 | 4.07 |
| CB-640* | CB-641 | 10" | 17" | 4" | 18 | 2.92 | 3.51 |
| CB-642* | CB-643 | 13" | 17" | 4" | 18 | 3.92 | 4.68 |
| CB-625 | CB-626 | 13" | 17" | 5" | 18 | 4.93 | 5.93 |
| CB-623 | CB-624 | 10" | 17" | 5" | 18 | 4.51 | 5.34 |

* Indicates chassis punched to accommodate Chassis Mounting Brackets.



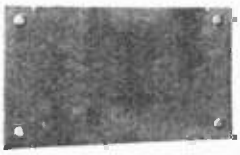
## CHASSIS DECKS

These chassis decks are suitable for use in carrying cases, utility cabinets, etc. Each unit is folded over 1½" on the front, ½" on the side and is made from steel which has black palladin finish. They are also useful for interstage shielding and supports in regular panel and chassis layouts.

| Cat No. | Width | Depth | Fits Cab. No. | Net |
|---|---|---|---|---|
| CB-522 | 4¾" | 5½" | CU-1095 | $ .68 |
| CB-523 | 4¾" | 4½" | CU-1099 | .65 |
| CB-525 | 5¾" | 5½" | CU-1124, CC-1096 | .78 |

## CHASSIS BOTTOM PLATES

**Steel and Aluminum**



These bottom plates make excellent dust covers and protect all wiring and component parts of the chassis. Each plate has four formed bosses to prevent sharp edges from scratching a table top or other surface. Those numbers prefaced by "BP" are steel bottom plates, supplied in black wrinkle finish or electro-zinc plated finish. Those bottom plates prefaced by "BPA" are made of aluminum and have an etched finish.

**STEEL**

| Black Wrinkle Cat. No. | Zinc Plated Cat. No. | Fits Chassis | Net Black Wrinkle | Net Zinc Plated |
|---|---|---|---|---|
| BP-705 | BP-706 | 5" x 7" | $ .57 | $ .69 |
| BP-680 | BP-667 | 5" x 9½" | .62 | .75 |
| BP-536 | BP-538 | 5" x 10" | .67 | .73 |
| BP-681 | BP-668 | 7" x 7" | .92 | .97 |
| BP-682 | BP-669 | 7" x 8" | .94 | .99 |
| BP-683 | BP-670 | 7" x 11" | .95 | 1.07 |
| BP-537 | BP-539 | 7" x 12" | .99 | 1.12 |
| BP-684 | BP-671 | 7" x 13" | 1.02 | 1.20 |
| BP-685 | BP-672 | 5" x 13½" | .84 | 1.00 |
| BP-1069 | BP-1067 | 4" x 17" | .84 | 1.07 |
| BP-686 | BP-673 | 7" x 17" | .90 | 1.37 |
| BP-707 | BP-708 | 8" x 10" | .92 | 1.05 |
| BP-709 | BP-710 | 8" x 12" | 1.06 | 1.34 |
| BP-687 | BP-674 | 8" x 17" | .95 | 1.54 |
| BP-688 | BP-675 | 10" x 12" | .95 | 1.57 |
| BP-517 | BP-514 | 10" x 14" | 1.25 | 1.33 |
| BP-689 | BP-676 | 10" x 17" | 1.20 | 1.60 |
| BP-690 | BP-677 | 11" x 17" | 1.20 | 1.60 |
| BP-691 | BP-678 | 12" x 17" | 1.27 | 1.87 |
| BP-692 | BP-679 | 13" x 17" | 1.47 | 2.24 |

**ALUMINUM**

| | | |
|---|---|---|
| BPA-1589 | 5" x 7" | $ .74 |
| BPA-1590 | 5" x 9½" | .75 |
| BPA-1591 | 5" x 10" | .75 |
| BPA-1592 | 7" x 7" | .77 |
| BPA-1593 | 7" x 9" | .80 |
| BPA-1594 | 7" x 11" | .90 |
| BPA-1595 | 7" x 12" | .97 |
| BPA-1596 | 7" x 13" | 1.14 |
| BPA-1597 | 10" x 17" | 1.52 |
| BPA-1598 | 13" x 17" | 2.07 |

## TRIANGULAR MOUNTING BRACKETS

For panel and chassis assemblies where large weights are involved, these triangular mounting brackets, with ¾" flange, make extremely convenient supports. They are constructed of heavy gauge steel and are furnished in black enamel finish only. These are sold in pairs.

| Catalog No. | Height | Depth | Actual Weight lbs. | Net |
|---|---|---|---|---|
| MB-1266 | 5" | 5" | 1 | $1.00 |
| MB-1267 | 7" | 7" | 1 | 1.17 |
| MB-1268 | 9" | 9" | 1½ | 1.42 |

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**Only a few of many BUD Products are shown. Write for complete catalog.**

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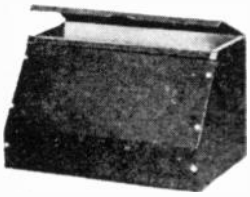
World Radio History

# CABINETS — CASES

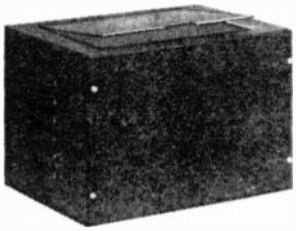
## SLOPING PANEL CABINETS



This entire front panel of this cabinet is removable if so desired. THIS CABINET IS ALSO PROVIDED WITH A HINGED TOP FOR EASY ACCESSIBILITY TO TUBES AND OTHER PARTS THAT ARE MOUNTED ON THE CHASSIS, WITHOUT NECESSITATING REMOVAL OF THE FRONT PANEL. These cabinets are finished in black wrinkle enamel or light grey hammertone. Specify with suffix B for black, HG for grey hammertone.

| Catalog Number | Height | Width | Depth | Fits Chassis | Net |
|---|---|---|---|---|---|
| C-1584 | 6½" | 7-1/16" | 7 5/16" | 7" x 6" x 2" | $3.30 |
| C-1585 | 6½" | 9-1/16" | 7 5/16" | 7" x 8" x 2" | 3.75 |
| C-1586 | 6½" | 11-1 16" | 7 5/16" | 7" x 10" x 2" | 4.34 |
| C-1587 | 8" | 8-1/16" | 8" | 7" x 7" x 2" | 4.51 |
| C-1588 | 8" | 10-1/16" | 8" | 7" x 9" x 2" | 5.01 |
| C-1892 | 8" | 13-1/16" | 8½" | 8" x 12" x 2½" | 5.59 |
| C-1893 | 10" | 18-1/16" | 10½" | 10" x 17" x 3" | 7.85 |
| C-1894 | 8" | 14-1/16" | 8" | 7" x 13" x 2" | 5.34 |
| C-1896 | 9" | 18-1/16" | 8⅛" | 7" x 17" x 3" | 7.68 |

## INSTRUMENT & RECEIVER CABINETS



Each cabinet has an evenly recessed hinge cover with convenient finger lift. The panel in the front of the cabinet is readily attached with self tapping screws. No opening in rear. Louvers provide satisfactory ventilation. For chassis to fit these cabinets, see the open end chassis listed on page K-514. Finished in black wrinkle enamel only.

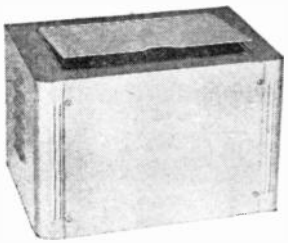
| Cat. No. | Height | Width | Depth | Net |
|---|---|---|---|---|
| C-973 | 7" | 8" | 8" | $4.18 |
| C-993 | 7" | 10" | 8" | 4.84 |
| C-994 | 7" | 12" | 8" | 5.01 |
| C-995 | 7" | 14" | 8" | 5.26 |
| C-1190 | 8" | 16" | 8" | 7.60 |
| C-975 | 9" | 15" | 11" | 9.19 |
| C-999 | 12" | 18" | 12" | 9.92 |

## UTILITY HANDLES

These handles are designed to provide sufficient strength and comfortable hand grip. They are made from aluminum tubing and are given an etched aluminum finish.

| Catalog No. | Overall Length | Mounting Hole Center | Actual Weight | Net |
|---|---|---|---|---|
| UH-70A | 5⅛" | 4⅝" | 2 oz. | $ .36 |
| UH-71A | 3¾" | 3¼" | 1 oz. | .30 |

## STREAMLINED CABINETS



Ideal cabinets for electrical or electronic devices not requiring excessive depth. They have recessed hinged cover with convenient finger lift. Panels fit flush with the embossed, rounded corner fronts. All components built into these cabinets are easily accessible.

Bud Open End Chassis are recommended for use in these cabinets.

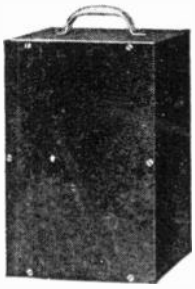
Overall height is 8" and overall depth is 8¼". 3½" high opening is provided across the back for cables or rear controls. Louvred sides provide ample ventilation.

Available in black wrinkle, gray wrinkle or gray hammertone finish. Please specify when ordering. The sizes shown in the table below replace BUD NUMBERS: C-1730, C-1731, C-1746, C-1747, C-1748, C-1781, C-1782, C-1783, C-1789, C-1790, C-1791, C-1792.

| Cat. No. | Width | Panel Sp. | Top Opening | Wt. | Net |
|---|---|---|---|---|---|
| CD-1480 | 10½" | 8" x 8" | 5⅝" x 7⅞" | 5¾ lbs. | $ 5.90 |
| CD-1481 | 12½" | 8" x 10" | 5⅝" x 9⅛" | 6 lbs. | 6.01 |
| CD-1482 | 14½" | 8" x 12" | 5⅝" x 11⅛" | 6½ lbs. | 6.31 |
| CD-1483 | 16½" | 8" x 14" | 5⅝" x 13⅛" | 7 lbs. | 6.77 |
| CD-1484 | 18½" | 8" x 16" | 5⅝" x 15⅞" | 7¾ lbs. | 7.36 |
| CD-1485* | 20⅝" | 12" x 18" | 10½" x 15½" | 15 lbs. | 14.95 |

*Has ½" vertical chrome strip fastened to corners and is available in grey wrinkle finish only. Note that panel space is 12" x 18" and depth is 12".

## CARRYING CASES



These carrying cases have many uses. An easy grip handle is fastened to the top. Front and back panels are removable. Welded construction assures maximum strength where needed, and this unit is also available in aluminum to provide minimum weight where required. For chassis to fit these cabinets, see the chassis decks on page K-515. Prefix "CC" represents steel. Available in black wrinkle or light grey hammertone finish. Prefix "ACC" represents aluminum. Available with natural finish or light grey hammertone.

**STEEL (Black Wrinkle or Grey Hammertone)**

| Cat. No. | Depth | Width | Height | Net |
|---|---|---|---|---|
| CC-1095 | 5" | 6" | 9" | $3.01 |
| CC-1091 | 5" | 9" | 6" | 3.01 |
| CC-1096 | 6" | 7" | 12" | 4.18 |
| CC-1092 | 6" | 12" | 7" | 4.18 |
| CC-1097 | 7" | 7¾" | 15" | 4.68 |
| CC-1100 | 8" | 10" | 10" | 4.84 |
| CC-1093 | 7" | 15" | 9" | 5.85 |

**ALUMINUM (Natural Finish or Grey Hammertone)**

| Cat. No. | Depth | Width | Height | Net Natural | Net Grey |
|---|---|---|---|---|---|
| ACC-2095 | 5" | 6" | 9" | $3.09 | $3.51 |
| ACC-2091 | 5" | 9" | 6" | 3.09 | 3.51 |
| ACC-2096 | 6" | 7" | 12" | 4.50 | 5.09 |
| ACC-2092 | 6" | 12" | 7" | 4.50 | 5.09 |

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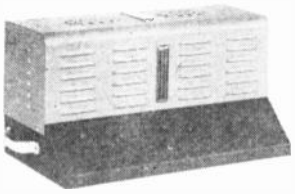
World Radio History

# FOUNDATIONS-BOXES-CASES

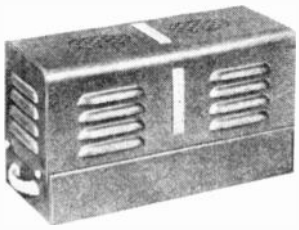
## SLOPING PANEL AMPLIFIER FOUNDATIONS



Each foundation consists of a 3½" sloping front chassis on which is mounted a removable top cover. The top cover, 6" high, contains grill cutouts and louvers for adequate ventilation. All have handles mounted on the chassis. The cover is finished in grey wrinkle with chrome trim, and the chassis is finished in black wrinkle to give a unique and attractive appearance.

| Catalog No. | Top Depth | Chassis Width | Chassis Depth | Net |
|---|---|---|---|---|
| CA-1980 | 5" | 10" | 8" | $ 8.68 |
| CA-1981 | 7" | 12" | 10" | 9.35 |
| CA-1982 | 7" | 17" | 10" | 10.69 |
| CA-1983 | 10" | 17" | 13" | 11.19 |

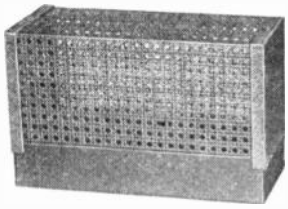
## STREAMLINED AMPLIFIER FOUNDATIONS



This unit is most often used to obtain beauty in an amplifier and similar apparatus. Each foundation consists of a standard chassis 3" high, on which is mounted a removable top cover. Chrome trim is used to give additional attractiveness to the equipment. Sturdy, easy grip handles are attached to the chassis. Specify with the suffix "B" for black wrinkle finish or the suffix "G" for grey wrinkle.

| Catalog No. | Height | Width | Depth | Net |
|---|---|---|---|---|
| CA-1750 | 9" | 10-1/16" | 5" | $6.76 |
| CA-1751 | 9" | 12-1/16" | 7" | 8.02 |
| CA-1752 | 9" | 17-1/16" | 7" | 8.52 |
| CA-1753 | 9" | 17-1/16" | 10" | 9.27 |

## AMPLIFIER FOUNDATIONS



This standard Bud Amplifier Foundation consists of a regular chassis on which is attached a perforated metal cover providing all that you require in ventilation. Easy grip handles attached to the chassis. These units are furnished in black wrinkle finish only.

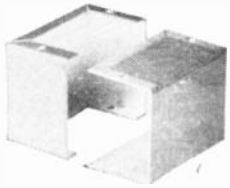
| Cat. No. | Height | Width | Depth | Chassis Height | Net |
|---|---|---|---|---|---|
| CA-699 | 8-5/16" | 9⅝" | 5¼" | 2½" | $5.61 |
| CA-1125 | 8-5/16" | 13⅝" | 5¼" | 2½" | 6.43 |
| CA-1126 | 8-5/16" | 17⅛" | 7⅛" | 2½" | 7.26 |
| CA-1128 | 8-13/16" | 12⅛" | 10⅛" | 3" | 7.52 |

## MINIATURE AMPLIFIER FOUNDATION

Designed expressly for use with miniature tubes. Chassis is 5" x 7" x 2". Height is 6". The cover is made of perforated metal. Has streamlined handle. Black wrinkle finish only.

| Cat. No. | Weight | Net |
|---|---|---|
| CA-1754 | 1½ lbs. | 1.00 |

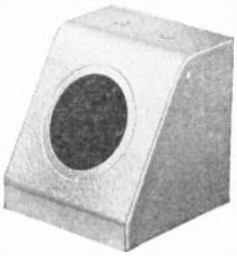
## MINIBOXES



There are thousands of uses in the field of radio and electronics for these boxes. They are made of high quality aluminum. The design of the box permits installation of more components than would be possible in the more conventionally designed box of the same size. Construction is of the two piece type, each half forming three sides. The flange type construction assures adequate shielding. These units are available in either natural aluminum finish or grey hammertone finish.

| Gray Cat No. | Natural Cat. No. | Length | Height | Width | Net Natural | Net Grey |
|---|---|---|---|---|---|---|
| CU-2100 | CU-3000 | 2¾" | 2⅛" | 1⅝" | $ .62 | $ .85 |
| CU-2101 | CU-3001 | 3¼" | 2⅛" | 1⅝" | .62 | .92 |
| CU-2102 | CU-3002 | 4" | 2⅛" | 1⅝" | .62 | .92 |
| CU-2103 | CU-3003 | 4" | 2¼" | 2¼" | .75 | 1.00 |
| CU-2104 | CU-3004 | 5" | 2¼" | 2¼" | .78 | 1.09 |
| CU-2105 | CU-3005 | 5" | 4" | 3" | .94 | 1.25 |
| CU-2106 | CU-3006 | 5¼" | 3" | 2⅛" | .82 | 1.09 |
| CU-2107 | CU-3007 | 6" | 5" | 4" | 1.47 | 1.90 |
| CU-2108 | CU-3008 | 7" | 5" | 3" | 1.40 | 1.82 |
| CU-2109 | CU-3009 | 8" | 6" | 3½" | 1.72 | 2.23 |
| CU-2110 | CU-3010 | 10" | 6" | 3½" | 2.02 | 2.59 |
| CU-2111 | CU-3011 | 12" | 7" | 4" | 2.71 | 3.27 |
| CU-2112 | CU-3012 | 17" | 5" | 4" | 2.92 | 3.51 |
| CU-2113 | CU-3013 | 10" | 2" | 1⅝" | 1.15 | 1.38 |
| CU-2114 | CU-3014 | 12" | 2½" | 2¼" | 1.37 | 1.70 |
| CU-2115 | CU-3015 | 4" | 2" | 2¾" | .75 | 1.09 |
| CU-2116 | CU-3016 | 4¼" | 2¼" | 1½" | .72 | 1.00 |
| CU-2117 | CU-3017 | 3¼" | 2⅛" | 1¼" | .62 | .84 |

## UNIVERSAL METER CASE



A new meter case that can accommodate either a 2" or 3" meter.

Center hole is punched for 2" meter and has an easily removed knock-out ring which increases size of hole to fit 3" meter.

One piece, detachable bottom and back fastened to body of case with 2 self tapping screws permits easy installation and servicing of meter. Meter installation is reduced to fraction of former time required.

Two 3/8" knock-out holes in top for installation of feed-through insulators if required. They may also be used for mounting of switches, volume controls, etc.

Size: 4¼" high x 4" wide x 4" deep.

Available in steel or aluminum. Gray hammertone finish only.

| Catalog Number | Replaces Numbers | Meter Size | Wt. | Net |
|---|---|---|---|---|
| CM 1935 Steel | CM 1241, CM 1242 | 2" or 3" | 1 lb. | $1.50 |
| | CM 1965, CM 1966 | | | |
| CMA 1936 Aluminum | CMA 2065, CMA 2066 | 2" or 3" | ¾ lb. | 1.75 |

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World Radio History

# CABINETS

## MINIATURE UTILITY CABINETS
**(With Attached Chassis)**

A long sought for item has been a small cabinet with a chassis attached to the front panel. This is indispensable for building electronic devices using miniature tubes or transistors. Front and rear panels are removable and fastened with self tapping screws that permit easy accessibility. Finished in black wrinkle enamel.

| Cat. No. | Height | Width | Depth | CHASSIS SIZE | | | Net |
|---|---|---|---|---|---|---|---|
| C-1793 | 4″ | 4″ | 2″ | 1″ | 3⅛″ | 1⅞″ | $1.34 |
| C-1794 | 4″ | 5″ | 3″ | 1″ | 4⅛″ | 2⅞″ | 1.48 |
| C-1795 | 5″ | 4″ | 3″ | 1¼″ | 3⅛″ | 2⅞″ | 1.62 |
| C-1796 | 6″ | 5″ | 4″ | 1¾″ | 4⅛″ | 3⅞″ | 1.70 |
| C-1797 | 5″ | 6″ | 4″ | 1¼″ | 5⅛″ | 3⅞″ | 1.92 |
| C-1798 | 6″ | 6″ | 6″ | 1¾″ | 4⅞″ | 5⅞″ | 2.17 |

## UTILITY CABINETS

A large number of sizes available makes this line useful for all types of electronic equipment. These cabinets have two removable panels for easy accessibility. Units prefixed by CU are made from cold rolled steel and are finished in black wrinkle or light grey hammertone. Those prefixed by AU are made from high grade sheet aluminum and have natural finish or light grey hammertone.

**STEEL (Black Wrinkle or Grey Hammertone)**

| Cat. No. | Depth | Width | Height | Net |
|---|---|---|---|---|
| CU-883 | 2″ | 4″ | 4″ | $1.09 |
| CU-728 | 3″ | 5″ | 4″ | 1.22 |
| CU-729 | 4″ | 5″ | 6″ | 1.38 |
| CU-1098 | 6″ | 6″ | 6″ | 2.09 |
| CU-1099 | 5″ | 6″ | 9″ | 2.34 |
| CU-879 | 7″ | 8″ | 10″ | 3.34 |
| CU-1124 | 6″ | 7″ | 12″ | 3.29 |
| CU-880 | 8″ | 10″ | 10″ | 4.01 |
| CU-881 | 8″ | 11″ | 12″ | 4.34 |
| CU-882 | 7″ | 9″ | 15″ | 4.51 |

**ALUMINUM (Natural or Grey Hammertone)**

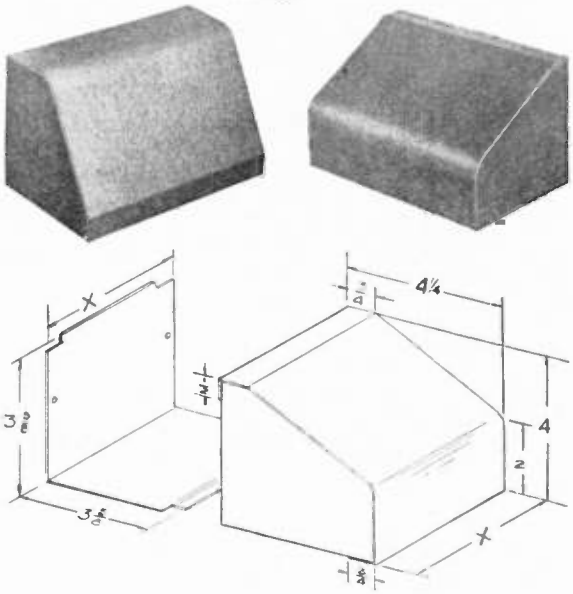
| Cat. No. | Depth | Width | Height | Net Natural | Net Grey |
|---|---|---|---|---|---|
| AU 1083 | 2″ | 4″ | 4″ | $1.29 | $1.50 |
| AU-1028 | 3″ | 5″ | 4″ | 1.37 | 1.67 |
| AU-1029 | 4″ | 5″ | 6″ | 1.50 | 1.84 |
| AU-1039 | 6″ | 6″ | 6″ | 2.17 | 2.42 |
| AU-1040 | 5″ | 6″ | 9″ | 2.51 | 2.84 |

## STREAMLINED MULTIPURPOSE CABINET

A handsome streamlined metal cabinet, finished in grey wrinkle enamel only. The back of the cabinet is completely open for ventilation purposes.

| Cat. No. | Height | Width | Depth | Use Chassis No. | Net |
|---|---|---|---|---|---|
| C-1787 | 4½″ | 5½″ | 3½″ | CB-1625 | 1.70 |
| C-1788 | 6½″ | 5½″ | 3½″ | CB-1625 | 1.75 |

## UNIVERSAL SLOPING PANEL CABINETS




**Versatile, streamlined housings with two viewing angles.**

### FEATURES

One piece, detachable back and bottom fastened to body with two self tapping screws permits easy access for mounting and servicing components.

Fully enclosed and shielded. The opportunity for dust, dirt and moisture entering cabinet is minimized. No danger from exposed wiring.

Components may be mounted on back, bottom, sides or front and still be easily accessible for service or replacement.

Will accommodate a Bud Miniature Aluminum Chassis shown on page K-514.

Available in steel or aluminum. Gray hammertone finish only.

### STEEL

| Cat. No. | Width (X) | Weight | Net |
|---|---|---|---|
| C 1606 | 4″ | ¾ lb. | $1.45 |
| C 1607 | 5″ | ¾ lb. | 1.55 |
| C 1608 | 6″ | 1⅛ lb. | 1.65 |
| C 1609 | 7″ | 1⅓ lb. | 1.90 |

### ALUMINUM

| Cat. No. | Width (X) | Weight | Net |
|---|---|---|---|
| AC 1610 | 4″ | ½ lb. | $1.68 |
| AC 1611 | 5″ | ½ lb. | 1.75 |
| AC 1612 | 6″ | ¾ lb. | 1.90 |
| AC 1613 | 7″ | ¾ lb. | 2.10 |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**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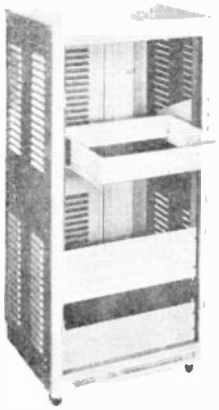
World Radio History

# DRAWERS-SHELVES

## SLIDING DRAWER ASSEMBLY



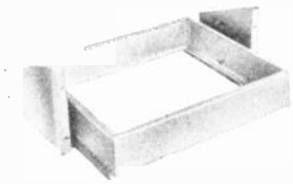
The new Bud S.D. 1717 Sliding Drawer Assembly is easily and quickly assembled and installed in any standard rack. Can't fall out, can't tilt . . . perfectly safe mounting for any object placed on it. Slides easily in and out on ball bearing suspension in the same manner as the drawers in the most expensive steel filing cabinets.

Here are some of the many uses of the Bud Sliding Drawer Assembly:

1. Mounting for record player
2. Base for portable typewriter
3. Mounting for apparatus or instruments
4. Base for writing table
5. Handy drawer space

In addition, there are many other handy uses for this practical drawer.

LOOK AT THESE CONSTRUCTION FEATURES



Chassis formed from one piece of 14 gauge aluminum. Electrowelded. Chassis size 16¾" x 14" x 3" with ½" flange top and bottom.

Support brackets formed from one piece ⅛" aluminum.

Accurately punched to conform with standard panel mounting holes.

Slide rail fastens securely to chassis, slides easily in and out on ball bearings in channel.

Stop screw on slide rail prevents drawer from falling out of channel.

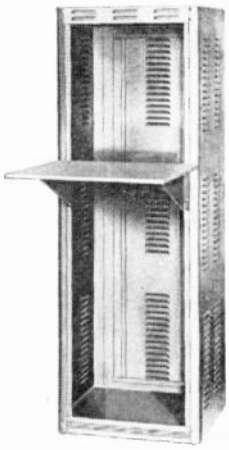
Support brackets and channel finished in etched aluminum.

Chassis finished in light grey hammertone. Will support up to 50 pounds.

Also available, aluminum plate which may be fastened to top of chassis as shelf, desk top or support; or attached to bottom of chassis to form drawer. Size 16¾" x 14". Made of 14 gauge aluminum. Light grey hammertone finish. Punched with four mounting holes. Catalog No. T.P.-1718.

| Catalog No. | Weight | Net |
|---|---|---|
| SD-1717 | 5 lbs. | $11.13 |
| TP-1718 | 1½ lbs. | 2.56 |

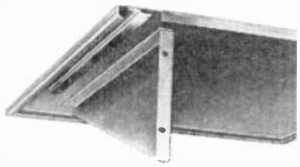
## SHELF ASSEMBLY



The BUD SHELF ASSEMBLY immediately adds extra utility to a standard rack and at very little cost. Its practical design and attractive appearance immediately indicate its value and long lasting qualities. This sturdy shelf assembly is useful as a desk, as work space and for numerous other purposes. It is finished in black or grey wrinkle or grey hammertone at no extra cost. Thus it will match the finish on all BUD racks.

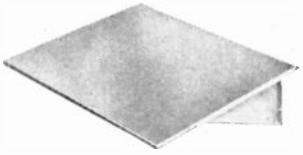
Can't fall off . . . can't tilt . . . the shelf assembly is perfectly safe and will support any reasonable load placed upon it. The shelf portion is supported by two sturdy brackets. These brackets are punched to fit standard panel mounting strips. Besides being low in cost, an outstanding feature is that no panel is needed for support. However, the shelf assembly may be attached over a panel if so desired.

This BUD SHELF ASSEMBLY really provides extra convenience, extra quality and extra value. It should be a part of every rack installation.



Note construction and assembly features. Slides are welded to bottom of shelf to add additional strength and rigidity. Mounting brackets slip in to slides and are fastened with two screws. All necessary hardware is furnished.

The shelf portion of the assembly is 20" x 22" x ⅝", or 16" x 22" x ⅝", formed from 16 gauge steel. There is a ½" flange around the four sides which adds to the sturdiness. Supporting brackets 7" high, are made from ⅛" steel. Overall height of assembly is 7".



Specify black or grey wrinkle or grey hammertone when ordering.

| Catalog No. | Size | Weight | Net |
|---|---|---|---|
| SA-1719 | 16" x 22" | 12 lbs. | $10.40 |
| SA-1720 | 20" x 22" | 15 lbs. | 10.55 |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**

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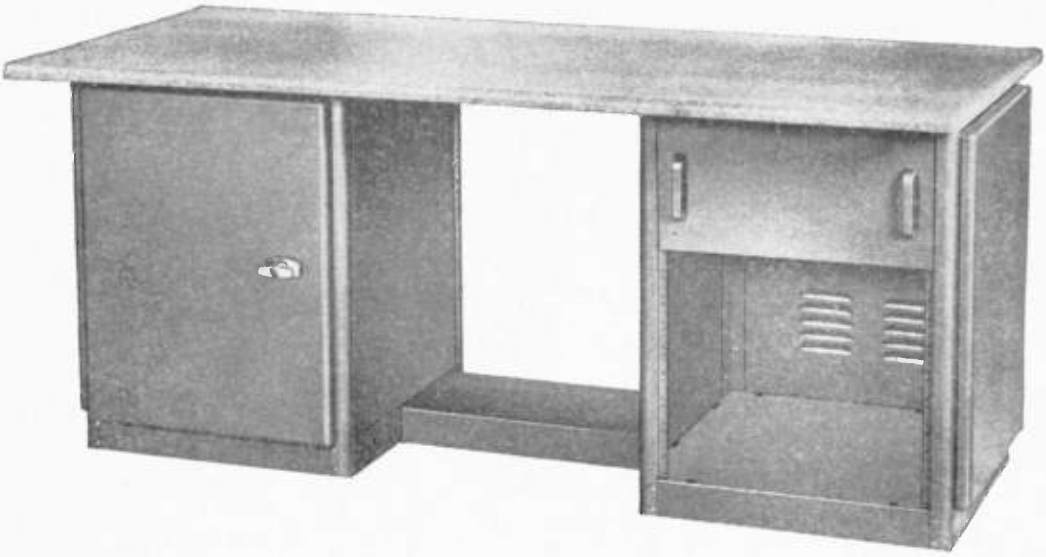
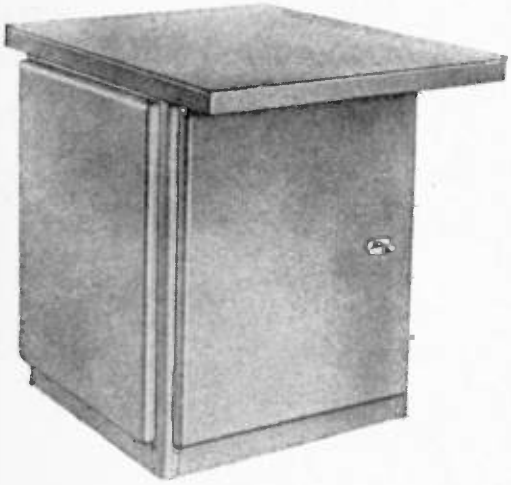
World Radio History

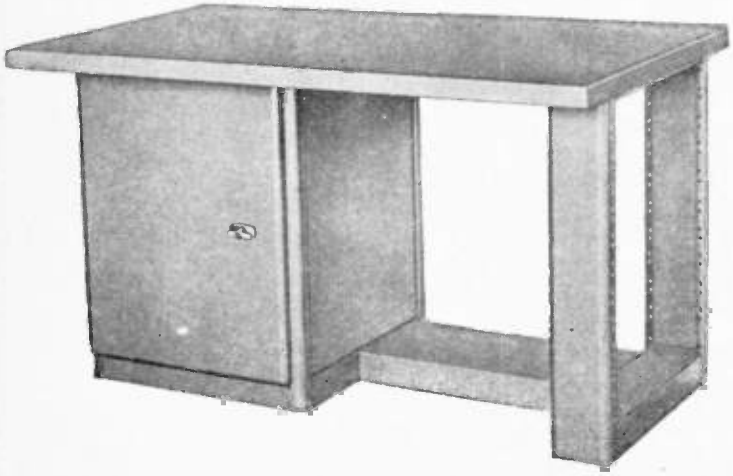
# CONSOLE ASSEMBLY





A new concept in versatility and utility whereby a number of individual units may be combined to provide housings for electrical or electronic components or instruments. They are also highly adaptable for control and testing centers.

The following pages illustrate and describe the various components which are assembled to create the complete consoles shown on this page.

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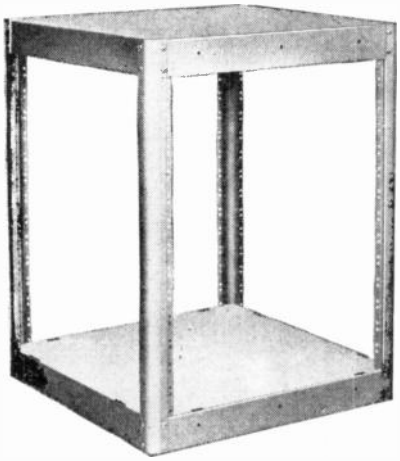
World Radio History

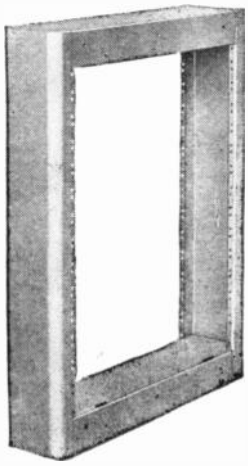
# CONSOLE ASSEMBLY



## PEDESTAL

Consists of top, bottom and 4 panel mounting channels drilled and tapped to accept standard 19″ panels on each of four sides. The bottom is slotted on four sides so that ball cornered sides may be installed on any of four sides. Three knock-out holes are provided on each of two sides for use in assembling pedestals in series, attaching foot rest or mounting top. Bottoms have recessed mounting brackets for hidden caster attachment. Channels will support 200 pounds suspended between them while bottom will support 500 pounds. Shipped knock-down with necessary hardware.

| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CP-2200** | 22″ x 22″ x 29 13/16″ | 35 lbs. | **$36.00** |

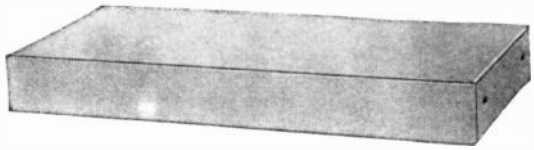


## END PEDESTAL

May be used as a housing or as a support. Panel mounting rails are drilled and tapped for mounting panels on each of two sides. Full size solid or louvered panels, ball cornered doors or sides may be easily installed. Bases have hidden caster mounting supports. Used when CT-2206 Table Top is required. This eliminates the need for a second CP-2200 Pedestal.

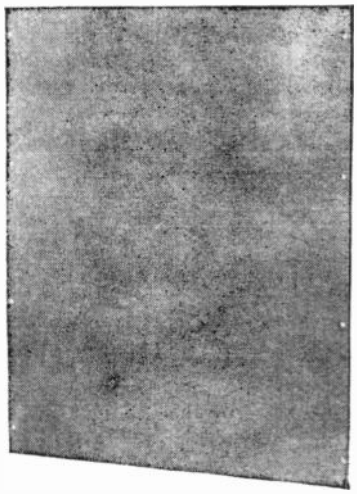
| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CF-2202** | 22″ x 5″ x 29 13/16″ | 18 lbs. | **$18.95** |

## FOOT REST

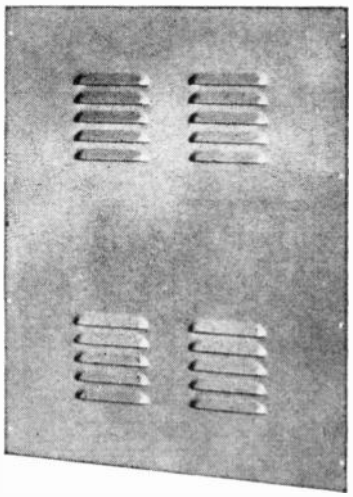


Joins two pedestals or one pedestal and one end pedestal depending on the size top used. Can be adjusted in two positions front to back.

| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CF-2201** | 22″ x 10″ x 2 5/8″ | 7 lbs. | **$3.85** |



CP-2215



CP-2216

## PANELS

Full Sized panels may be used to enclose the openings on any side of either pedestal. They are available either solid or louvered. The louvered panels can be positioned with the louvers pointed down or up, inside or outside the pedestal.

| Cat. No. CP-2215 | Cat. No. CP-2216 |
|---|---|
| Type Plain | Type Louvered |
| Size 24-15/32″ x 19″ | Size 25-15/32″ x 19″ |
| Weight 9 lbs. | Weight 9 lbs. |
| Net $5.26 | Net $6.00 |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**

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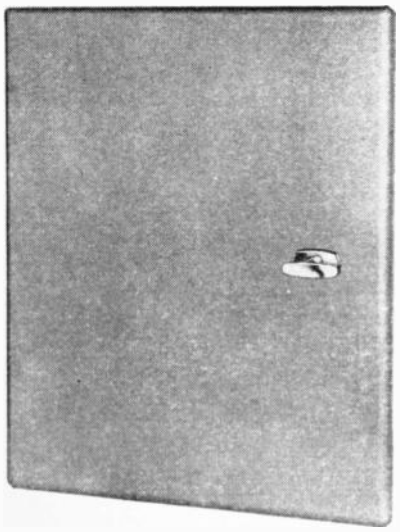
World Radio History

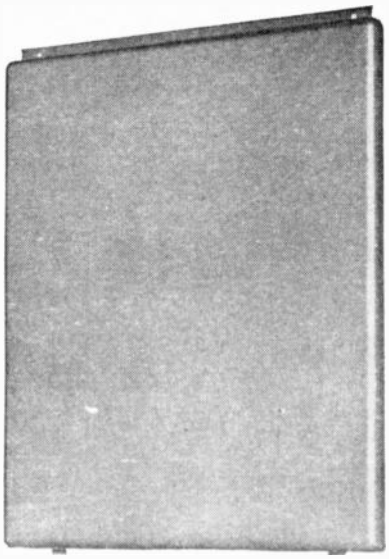
# CONSOLE ASSEMBLY



BALL CORNERED DOOR

Hinge and locking arrangement is such that door may be installed to open from the right or left side of either pedestal and have sufficient clearance for knobs and dials.

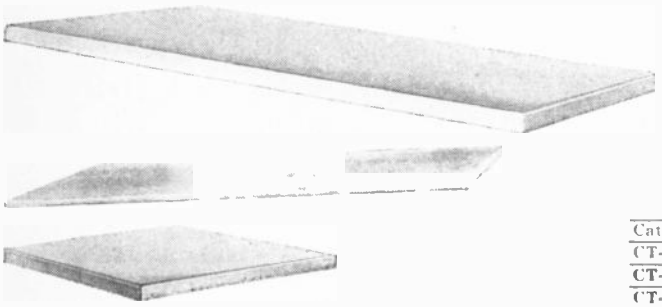
| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CD-2220** | 25 1/16" x 20¼" x 1 1/16" | 12 lbs. | **$10.95** |



BALL CORNERED SIDE

Can be used to enclose any side of either pedestal and greatly enhance the appearance. They are attached by means of a tongue and slot arrangement at the bottom and two screws at the top; thus they are quickly removable from the exterior of pedestal for service or inspection of the interior of the pedestal. They provide sufficient clearance to be installed over knobs and dials.

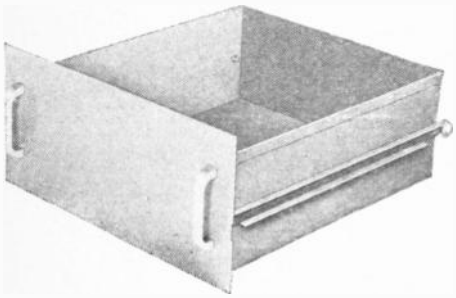
| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CK-2217** | 25 1/16" x 20¼" x 1 1/16" | 11 lbs. | **$8.95** |



## TABLE TOPS

Made of 16 gauge steel available in 3 sizes. Have scratch resistant finish. The tops are adjustable front-to-back in three positions to allow for required overhang in front or rear. They are attached to the pedestals by means of brackets welded to underside of top.

| Cat. No. | Size | Weight | Net |
|---|---|---|---|
| **CT-2205** | 25" x 30" x 1 1/16" | 15 lbs. | **$22.00** |
| **CT-2206** | 47" x 30" x 1 1/16" | 29 lbs. | **26.00** |
| **CT-2207** | 69" x 30" x 1 1/16" | 38 lbs. | **32.10** |



## CONSOLE DRAWER

Fits into pedestal in any position from top to bottom. Slides easily on nylon rollers. Capable of supporting heavy loads. Drawer extends to full depth. Easily removable slides fasten to mounting channels in pedestal. Stops prevent drawer from falling out.

| Cat. No. | Size (inside) | Weight | Net |
|---|---|---|---|
| CD-2210 | 16¾" x 6-7/16" x 19¾" | 23 lbs. | **$32.00** |

**Prices subject to change without notice.**

**Only a few of many BUD Products are shown. Write for complete catalog.**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World Radio History

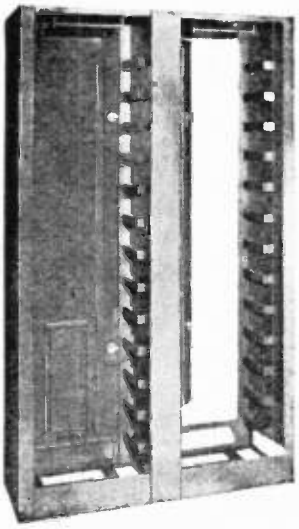
# SPECIAL SHEET METAL FABRICATION

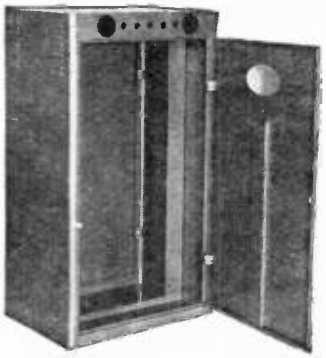
Bud Radio, through its Metal Products Division, offers greatly increased facilities for the production of special sheet metal items. New machinery has been added, departments have been modernized and streamlined, and new methods have been developed.

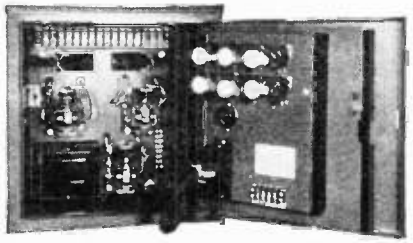
We make over four hundred different sheet metal products as stock items, which are illustrated elsewhere in this section. Often a slight change in one of our standard items will eliminate the necessity of special tools and dies, thereby reducing costs greatly. Since we produce thousands of sheet metal products, every month, for ourselves and for leading firms throughout the country, we are able to effect economies in production which mean lower prices and faster delivery. Our expanded facilities, expert workmanship, years of experience and manufacturing "know how" assure high quality products. In addition, our Engineering Staff is always available for consultation and advice. We suggest that you send us your blueprints for estimate or consult your nearest Bud Distributor.

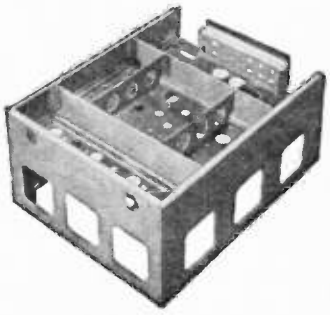
Whether the quantity be one, ten, one hundred, one thousand or many thousands, we are interested in the opportunity to be of service to you.

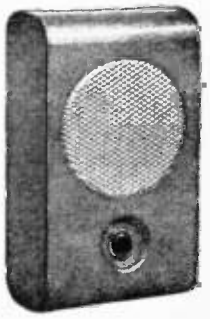
Illustrated on this page are a few examples of specially fabricated sheet metal products.











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**Only a few of many BUD Products are shown. Write for complete catalog.**

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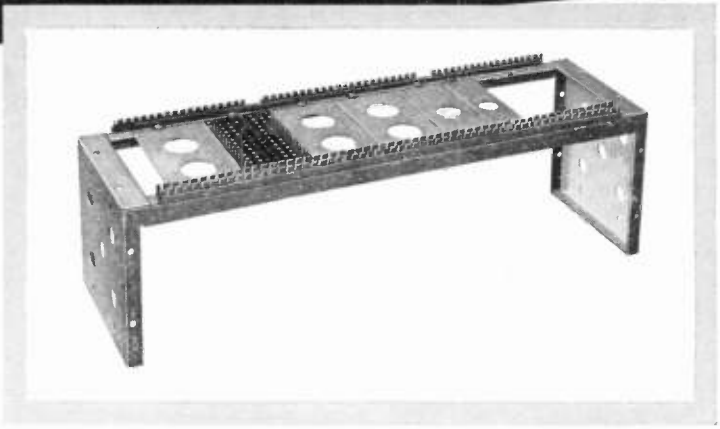
World Radio History

# SPEED-CHASSIS

SPECIFIC PRODUCTS



**CHASSIS:**

Chassis only 5" wide, 5¼" deep, 16⅞" long; 20 ga. steel heavily cad. plated: 4 insulated tie-point strips, 1 grounded. Ea. C-100 $ 4.95

Chassis Kit plus assortment of plates. Ea. Kit..... CK-200 9.95

Chassis Super-Kit: One chassis kit CK-200 plus rack panel and dust cover. Ea. Kit..... CK-300 18.95

**INDIVIDUAL PLATES FOR:**

| | | |
|---|---|---|
| Single, 7-pin miniature, 1⅛" wide, ea..... | P-17S | $ .20 |
| Double, 7-pin miniature, 1⅛" wide, ea..... | P-17D | .25 |
| Single, 7-pin Vector turret lug, 1⅛" wide, ea... | P-17ST | .35 |
| Double, 7-pin Vector turret lug, 1⅝" wide, ea... | P-17DT | .40 |
| Triple, 7-pin Vector turret lug, 1⅝" wide, ea.... | P-17TT | .45 |
| Single, 9-pin miniature, 1⅝" wide, ea..... | P-19S | .23 |
| Double, 9-pin miniature, 1⅝" wide, ea..... | P-19D | .28 |
| Single, 9-pin Vector turret lug, 1⅝" wide, ea... | P-19ST | .35 |
| Double, 9-pin Vector turret lug, 1⅝" wide, ea... | P-19DT | .40 |
| Triple, 9-pin Vector turret lug, 1⅝" wide, ea.... | P-19TT | .45 |
| Single, octal, 1½" centers, 2⅛" wide, ea..... | P-28AS | .26 |
| Dual of preceding item, ea..... | P-28AD | .31 |
| Single, octal, 1 5/16" centers, 2⅛" wide, ea..... | P-28BS | .26 |
| Dual of preceding item, ea..... | P-28BD | .31 |
| Volume control, ea..... | P-11V | .35 |
| Universal transformer (2 req'd), 1⅛" wide, pr... | P-11T | .55 |
| Blank, 1⅛" wide, ea..... | P-11B | .15 |
| Blank, 1⅝" wide, ea..... | P-21B | .15 |
| Blank, 2⅛" wide, ea..... | P-31B | .15 |
| (All plates heavily cad. plated 20 ga. steel) | | |
| 11 forklet lugs, ea. side, bakelite, 2⅛" wide, ea.. | BP-31LA | .95 |

**PANELS:**

5¼" x 19", .024 steel with formed edges, drilled to match tapped holes in rack brackets, gray prime coat finish, ea..... PA-150 1.85

**RACK BRACKETS:**

For mounting chassis in st'd rack (2 req'd), pr.... RB-200 1.20

Same as above except for mounting two chassis together. Pr..... RB-400 1.75

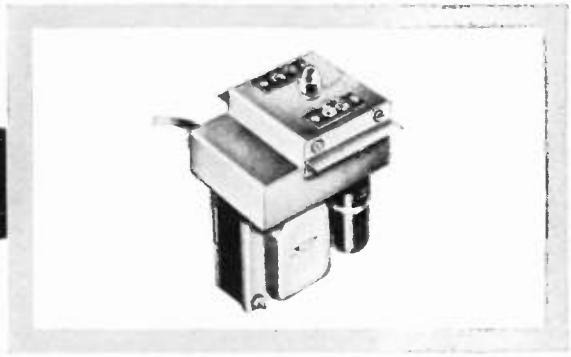
**DUST COVERS:**

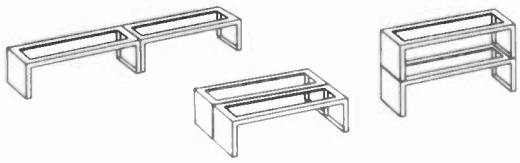
Gray hammertone finish, with suitable bracket for mounting over chassis, ea..... DC-10 6.25

**TRANSISTOR KIT:**

2⅛" x 4⅛" phenolic board, sockets, clamps and terminals, ea. ..... BP-31TR 3.90

# adjustable POWER SUPPLY





Stacking and place arrangements of the SPEED-CHASSIS are extremely varied; units in combination may be placed side-to-side, end-to-end or one on top another on bench or on panel to serve practically any need. Mounting holes for these arrangements are already punched. The SPEED-CHASSIS are preassembled; controls may be mounted on either end.

**POWER SUPPLY:**

OUTPUT: Continuously variable 60-425 volts, 6.3 volts AC at 3 amp.; CURRENT: 50 Ma maximum at 275 volts; RIPPLE: 0.5 volts at 50 Ma 275 volts; INPUT VOLTAGE: 105-155 volts AC 50-60 cycle; CONTROLS: Voltage adjustable screw driver slot.

The Model APS-275A Adjustable Voltage Power Supply is designed to operate in the SPEED-CHASSIS, and is easily mounted or removed as required. This compact little unit will supply the average B power and filament power requirements for experimental work with the SPEED-CHASSIS. ea. APS-275A 39.95

*All prices and specifications subject to change. All prices net F.O.B. Los Angeles*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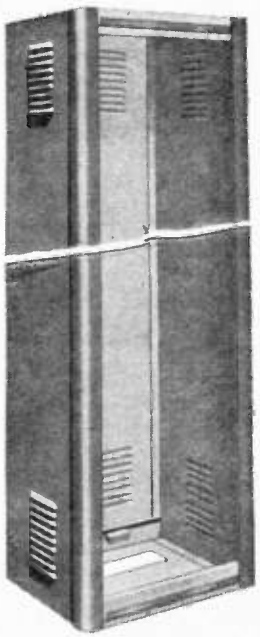
# PREMIER PRECISION BUILT METAL HOUSINGS

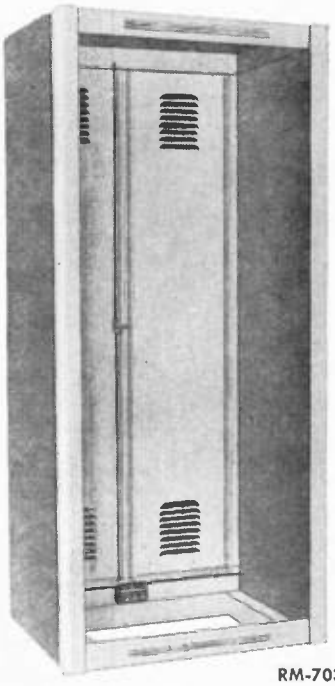
## HEAVY DUTY TRANSMITTER RACKS

### FOR 19", 24" AND 30" RACK PANELS — 18" AND 24" DEEP WITH AND WITHOUT FRONT DOORS



RM MODEL

- Rigidly constructed of #16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Panel mounting angles are $\frac{3}{16}$ thick and are tapped 12-24 on Universal spacings.
- Rear doors are hung on sturdy loose-jointed hinges and closed by a chrome handle.
- Racks are supplied with or without louvres.
- A rectangular cut-out is made in the bottom for leads, etc.
- RM-7030 Rack supplied with double rear doors and with a 3-point locking device.
- Vertical rounded corner moldings are supplied on **RM** and **RMA** racks.
- Tops and bottoms are trimmed with red striped **chrome** moulding.
- **FD** units supplied with locking handle on front door.
- Panel mounting angles are adjustable to any distance from the front by means of channel slides on FD and RMA Racks.
- A Duplex Receptacle and Outlet Box are Furnished in the Back Under the Door.
- Racks finished in either black or gray wrinkle, Gray or Brown Hammertone. Black wrinkle furnished if color is not specified.

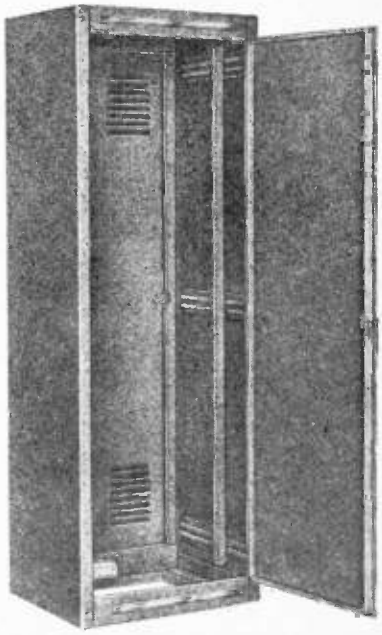


RM-7030 Model

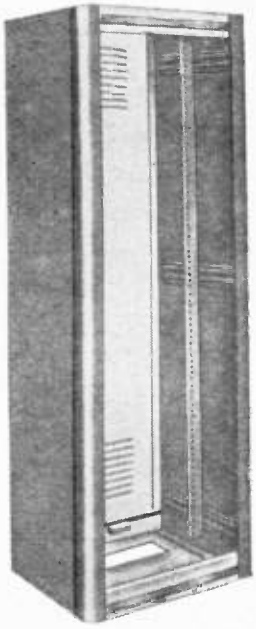
**NOTES:**

All RM Racks can be furnished with adjustable panel mounting angles at no additional cost. Specify RMA.

All racks are supplied without louvres on sides unless specfied.



FD Model



RMA Model

**18" DEEP RACKS**

| Cat. No. | H x W | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| RM-3619 | 42⅞x22" | 36¾x19" | 100 | $ 66.15 |
| RM-4219 | 48⅛x23⅝" | 42 x19" | 130 | 93.05 |
| RM-6119 | 67⅜x22" | 61¼x19" | 150 | 86.01 |
| RM-7618 | 76⅛x22" | 70 x19" | 170 | 105.84 |
| RM-7719 | 83⅛x22" | 77 x19" | 190 | 109.20 |

**18" DEEP RACKS WITH DOORS**

| Cat. No. | H x W | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| FD-3619 | 42⅞x22" | 36¾x19" | 115 | $102.39 |
| FD-4219 | 48⅛x22" | 42 x19" | 120 | 108.00 |
| FD-6119 | 67⅜x22" | 61¼x19" | 175 | 115.77 |
| FD-7019 | 76⅛x22" | 70 x19" | 200 | 132.30 |
| FD-7719 | 83⅛x22" | 77 x19" | 220 | 142.23 |

**24" DEEP RACKS**

| Cat. No. | H x W | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| RM-3624 | 42⅞x23⅝" | 36¾x19" | 110 | 84.00 |
| RM-4224 | 48⅛x23⅝" | 42 x19" | 130 | 93.05 |
| RM-6124 | 67⅜x23⅝" | 61¼x19" | 175 | $122.40 |
| RM-7019 | 76⅛x23⅝" | 70 x19" | 200 | 132.30 |
| RM-7724 | 83⅛x23⅝" | 77 x19" | 225 | 148.86 |
| RM-7030 | 76⅛x33" | 70 x30" | 240 | 191.85 |
| RMA-2742 | 48⅛x27" | 42x24" | 170 | $120.78 |
| RMA-2761 | 67⅜x27" | 61¼x24" | 210 | 137.58 |
| RMA-2770 | 76⅛x27" | 70x24" | 240 | 148.59 |
| RMA-2777 | 83⅛x27" | 77x24" | 270 | 165.39 |

**24" DEEP RACKS WITH DOORS**

| Cat. No. | H x W | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| FD-3624 | 42⅞x23⅝" | 36¾x19" | 125 | 100.80 |
| FD-4224 | 48⅛x23⅝" | 42x19" | 150 | 111.00 |
| FD-6124 | 67⅜x23⅝" | 61¼x19" | 200 | 152.16 |
| FD-7024 | 76⅛x23⅝" | 70x19" | 255 | 158.76 |
| FD-7724 | 83⅛x23⅝" | 77x19" | 270 | 181.89 |
| FD-2742 | 48⅛x27" | 42x24" | 180 | $140.19 |
| FD-2761 | 67⅜x27" | 61¼x24" | 230 | 165.39 |
| FD-2770 | 76⅛x27" | 70x24" | 260 | 176.22 |
| FD-2777 | 83⅛x27" | 77x24" | 290 | 198.45 |

All prices F.O.B. N. Y. 59, N. Y.

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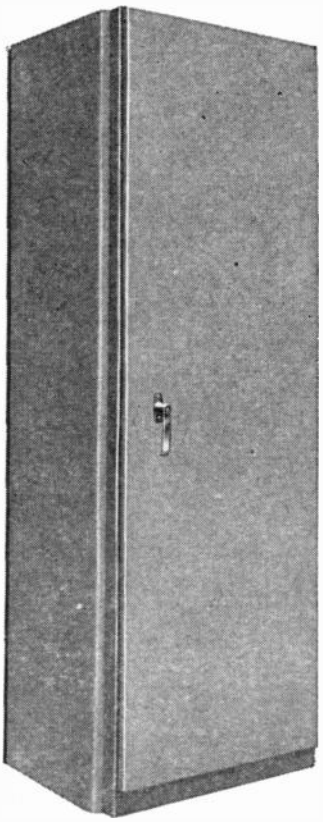
# PREMIER PRECISION BUILT METAL HOUSINGS

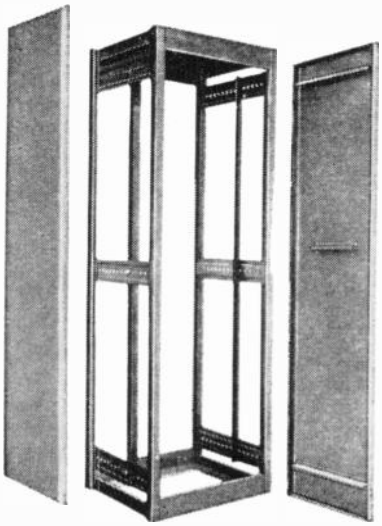
## HEAVY DUTY TRANSMITTER RACKS FOR MULTIPLE INSTALLATIONS

### For 19", 24" and 30" Wide Panels — 18" and 24" Deep

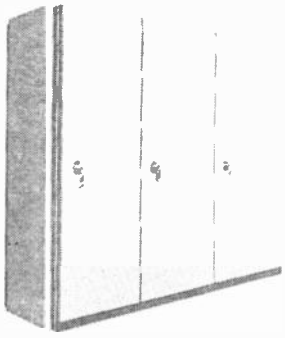
- Rigidly constructed of heavy gauge steel and welded throughout.
- Panel mounting angles 3/16" thick and tapped 12-24 on universal spacings; adjustable to any desired position.
- Front and rear doors hung on loose jointed hinges and are equipped with locking handle.
- Doors for 19" and 24" cabinets may be hinged for right or left hand opening by rotating door 180°.
- Racks are shipped with blank doors. Louvres are furnished at no additional cost.
- Side panels are furnished blank. Louvres furnished at no additional cost.
- A rectangular cut-out is provided in the bottom for leads, etc.
- Sides are detachable permitting multiple assembly of cabinets in double, triple, or large units by bolting together. Sides clip on to horizontal sections of frame.
- Tops supplied either solid or with cut-out at no additional cost.
- Racks for 30" panel spaces are supplied with double doors and 3-point locking device.
- Finished in Black or Gray Wrinkle, Gray or Brown Hammertone.
- Black wrinkle furnished unless color is specified.



**Model PR-77 with SP-77 panels attached**



**SHOWN WITHOUT FRONT AND REAR DOORS**



**3 UNITS IN ASSEMBLY**

**NOTE:**
1. These units can be supplied as a frame only or as a frame and one door only.

### FRAMES AND DOORS

Each unit consists of 1 frame and 2 doors.

| 18" DEEP | | | 22" WIDE | | | 24" DEEP | | |
|---|---|---|---|---|---|---|---|---|
| Catalog No. | Ship. Wt. Lbs. | Net Price | Height | Panel Space | Door Size | Catalog No. | Ship. Wt. Lbs. | Net Price |
| PR-42 | 130 | $ 99.60 | 48 1/8 | 42 x 19 | 45 5/16 x 21 1/2 x 13/16 | PR-42-24 | 150 | $123.60 |
| PR-61 | 140 | 138.93 | 67 3/8 | 61 1/4 x 19 | 64 13/16 x 21 1/2 x 13/16 | PR-61-24 | 168 | 166.71 |
| PR-70 | 150 | 158.76 | 76 1/8 | 70 x 19 | 73 5/16 x 21 1/2 x 13/16 | PR-70-24 | 180 | 190.56 |
| PR-77 | 165 | 165.39 | 83 1/8 | 77 x 19 | 80 5/16 x 21 1/2 x 13/16 | PR-77-24 | 198 | 202.80 |
| | | | 27" WIDE | | | | | |
| PR-2761 | 168 | 159.77 | 67 3/8 | 61 1/4 x 24 | 64 13/16 x 26 1/2 x 13/16 | PR-2761-24 | 202 | 181.58 |
| PR-2770 | 180 | 182.58 | 76 1/8 | 70 x 24 | 73 5/16 x 26 1/2 x 13/16 | PR-2770-24 | 216 | 209.96 |
| PR-2777 | 198 | 190.20 | 83 1/8 | 77 x 24 | 80 5/16 x 26 1/2 x 13/16 | PR-2777-24 | 238 | 218.73 |
| | | | 33" WIDE* | | | | | |
| PR-3361 | 202 | 181.58 | 67 3/8 | 61 1/4 x 30 | 64 13/16 x 32 1/2 x 13/16 | PR-3361-24 | 242 | 208.82 |
| PR-3370 | 216 | 209.96 | 76 1/8 | 70 x 30 | 73 5/16 x 32 1/2 x 13/16 | PR-3370-24 | 259 | 241.46 |
| PR-3377 | 238 | 218.73 | 83 1/8 | 77 x 30 | 80 5/16 x 32 1/2 x 13/16 | PR-3377-24 | 286 | 251.54 |

* Both front and rear supplied with double doors.

### SIDE PANELS

(Sold individually—NOT as pairs)

| 18" DEEP | | | | 24" DEEP | | | |
|---|---|---|---|---|---|---|---|
| Catalog No. | Size | Ship. Wt. Lbs. | Net Price | Catalog No. | Size | Ship. Wt. Lbs. | Net Price |
| SP-42 | 48 x 15 x 1 1/2 | 20 | $16.56 ea. | SP-42-24 | 48 x 21 x 1 1/2 | 22 | $21.36 ea. |
| SP-61 | 67 1/4 x 15 x 1 1/2 | 23 | 21.54 ea. | SP-61-24 | 67 1/4 x 21 x 1 1/2 | 28 | 25.83 ea. |
| SP-70 | 76 x 15 x 1 1/2 | 26 | 23.16 ea | SP-70-24 | 76 x 21 x 1 1/2 | 31 | 27.78 ea. |
| SP-77 | 83 x 15 x 1 1/2 | 28 | 24.90 ea. | SP-77-24 | 83 x 21 x 1 1/2 | 34 | 30.00 ea. |



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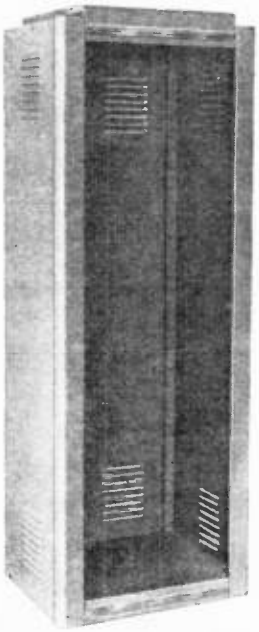
# PREMIER PRECISION BUILT METAL HOUSINGS

## ENCLOSED RELAY RACKS FOR STANDARD 19" RACK PANELS

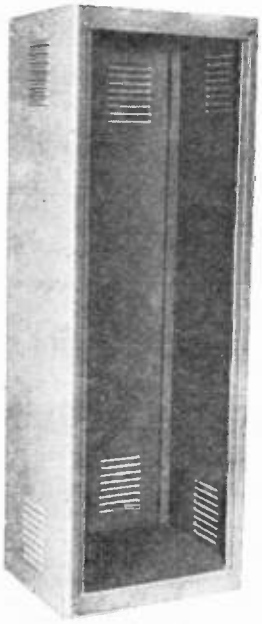
- Rigidly constructed of # 16 gauge cold rolled sheet steel.
- The panel mounting angles are of # 12 gauge steel and are tapped for 10-32 machine screws on Universal spacings.
- Panels fit into a recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Rear doors are hung on sturdy loose-jointed hinges, and closed by a chrome handle.
- ROUNDED TYPE have front vertical rounded corners.
- STANDARD TYPE have square front vertical corners.
- DELUXE TYPE — The removable vertical corner mouldings are rounded and cover the mounting screws.
- DELUXE TYPE — Top and bottom are trimmed with red stripped chrome finished moulding.
- Cabinets finished in either Black or Gray wrinkle, Gray or Brown Hammertone. If color is not specified, Black Wrinkle will be furnished.

**DELUXE TYPE**



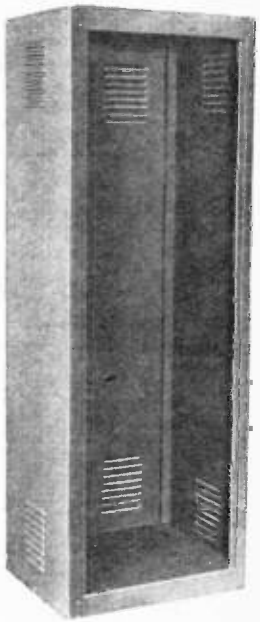
DR Model

**STANDARD TYPE**



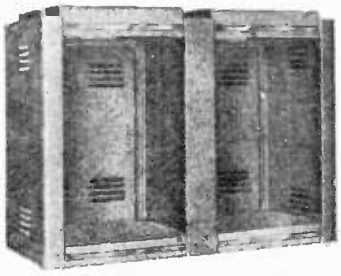
R Model

**ROUNDED TYPE**



RS Model

### MULTIPLE RACK UNITS



One Double DR-3619 Unit in Assembly

The above racks can be joined together to make multiple units by means of a solid center partition which is bolted to the top and bottom. Each multiple section comprises a top, bottom, rear door and center partition. Vertical trim mouldings are supplied on the DR models. When ordering multiple units specify number of units, such as double, triple, quad, etc.

**Racks are 22" wide x 18" deep**

| | Cat. No. | Overall Height | Panel Space | Ship. Wt.—Lbs. | Net Price |
|---|---|---|---|---|---|
| **DELUXE** | DR-3619 | 43 1/8" | 36 3/4" | 85 | $51.30 |
| | DR-6119 | 67 5/8" | 61 1/4" | 135 | 62.85 |
| | DR-7719 | 83 3/8" | 77" | 160 | 76.08 |
| **STANDARD** | RS-3619 | 41 7/8" | 36 3/4" | 80 | 36.09 |
| | RS-6119 | 66 3/8" | 61 1/4" | 120 | 53.73 |
| | RS-7719 | 82 1/8" | 77" | 140 | 64.53 |
| **ROUNDED** | R-3619 | 41 7/8" | 36 3/4" | 80 | 36.09 |
| | R-4219 | 47 1/8" | 42" | 90 | 41.31 |
| | R-6119 | 66 3/8" | 61 1/4" | 120 | 53.73 |
| | R-7719 | 82 1/8" | 77" | 140 | 64.53 |

**Example:**

One Double R-3619 consists of one R-3619 and one MR-3619

One Triple RS-3619 consists of one RS-3619 and two MR-3619

One Quad DR-3619 consists of one DR-3619 and three DMR-3619

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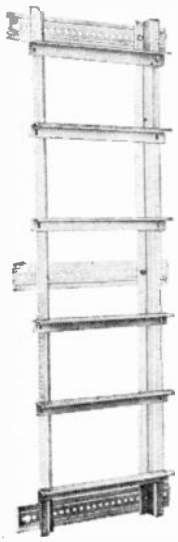
# PREMIER PRECISION BUILT METAL HOUSINGS

## VERTICAL SIDE SUPPORTS and PANEL MOUNTING ANGLES

### To Fit Premier Heavy Duty Transmitter Racks



Vertical Side Supports are made of No. 12 gauge steel and punched 10-32 on Universal spacings. Finished in Aluminum Enamel.

Panel Mounting Angles are made of 3/16" thick steel and punched 12-24 on Universal spacings. Finished in Black or Gray Wrinkle, Gray or Brown Hammertone.

**VERTICAL SIDE SUPPORTS**

| Cat. No. | H. | D. | Net Price Set of 4 | TO FIT RACKS |
|---|---|---|---|---|
| PVS-421 | 42" | 1½" | $15.00 | FD & RMA-2742, FD & RMA-4219 |
| PVS-422 | 42" | 1¼" | 15.00 | PR-42, PR-4224, PR-2742, PR-2742-24 |
| PVS-423 | 42" | 2" | 15.00 | FD & RMA-4224 |
| PVS-611 | 61¼" | 1½" | 19.85 | FD & RMA 2761, FD & RMA 6119 |
| PVS-612 | 61¼" | 1¼" | 19.85 | PR-61, 61-24, 2761, 2761-24, 3361, 3361-24 |
| PVS-613 | 61¼" | 2" | 19.85 | FD & RMA-6124 |
| PVS-701 | 70" | 1½" | 23.10 | RMA-7618, 7030, FD-7019, FD & RMA-2770 |
| PVS-702 | 70" | 1¼" | 23.10 | PR-70, 70-24, 2770, 2770-24, 3370, 3370-24 |
| PVS-703 | 70" | 2" | 23.10 | RMA-7019, FD 7024 |
| PVS-771 | 77" | 1½" | 25.85 | FD & RMA-7719 FD & RMA-2777 |
| PVS-772 | 77" | 1¼" | 25.85 | PR-77, 77-24, 2777, 2777-24, 3377, 3377-24 |
| PVS-773 | 77" | 2" | 25.85 | FD & RMA-7724 |

SIDE SUPPORTS ARE 2⅝" WIDE

**PANEL MOUNTING ANGLES**

| Cat. No. | H. | Angle Size | Net Price Pair |
|---|---|---|---|
| PMA-421 | 42" | 1½x1½" | $12.00 |
| PMA-422 | 42" | 1¼x1¼" | 12.00 |
| PMA-423 | 42" | 2" x1½" | 12.00 |
| PMA-611 | 61¼" | 1½x1½" | 15.00 |
| PMA-612 | 61¼" | 1¼x1¼" | 15.00 |
| PMA-613 | 61¼" | 2" x1½" | 15.00 |
| PMA-701 | 70" | 1½x1½" | 16.80 |
| PMA-702 | 70" | 1¼x1¼" | 16.80 |
| PMA-703 | 70" | 2" x1½" | 16.80 |
| PMA-771 | 77" | 1½x1½" | 18.00 |
| PMA-772 | 77" | 1¼x1¼" | 18.00 |
| PMA-773 | 77" | 2" x1½" | 18.00 |

**Inside view of PR Rack showing vertical side supports and side mounting brackets assembled.**

**NOTE:**
RMA Cabinets are constructed exactly the same as RM units except panel mounting angles are adjustable, and are furnished at no additional cost.

## SIDE MOUNTING BRACKETS

| Cat. No. | Length | To Fit Racks | Net Price (Pair) |
|---|---|---|---|
| SMB-18 | 14" | All 18" PR, FD & RMA Deep Racks | $3.00 |
| SMB-24 | 20" | All 24" PR, FD & RMA Deep Racks | 3.90 |

**Made of No. 12 Gauge Steel — Finished in Aluminum Enamel**

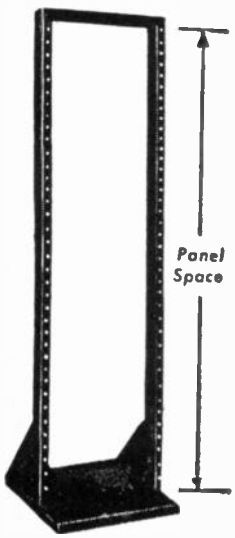
## SHELVES

**Made of No. 16 Gauge Steel — Finished in Aluminum Enamel**

| Shelves | Depth | Width | To Fit Racks | Net Price |
|---|---|---|---|---|
| S-1819 | 14¼" | 17½" | 19" panels—18" deep | $3.15 |
| S-2419 | 20¼" | 17½" | 19" panels—24" deep | 3.78 |
| S-2424 | 20¼" | 22½" | 24" panels—24" deep | 4.47 |
| S-2430 | 20¼" | 28½" | 30" panels—24" deep | 5.40 |

**SHELF AND BRACKETS IN POSITION**

## CHANNEL RELAY RACKS

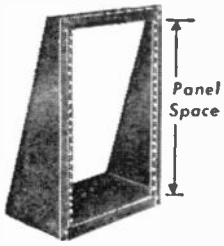



- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Vertical members and top cross-brace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Base punched to accommodate CA-4 casters.

| Cat. No. | H. | W. | D. | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| RR-800 | 39¼" | 20" | 18⅜" | 36¾" x 19" | 40 | $19.20 |
| RR-801 | 74¼" | 20" | 20⅞" | 71¾" x 19" | 55 | 22.86 |
| RR-802 | 79½" | 20" | 20⅞" | 77" x 19" | 60 | 26.46 |

All prices F.O.B. N. Y. 59, N. Y.

## TABLE TYPE RELAY RACKS




- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.

| Cat. No. | H. | W. | D. | Panel Space | Shp. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| TR-2119 | 25" | 21" | 12" | 21 x 19" | 17 | $ 7.29 |
| TR-2819 | 32" | 21" | 12" | 28 x 19" | 20 | 9.12 |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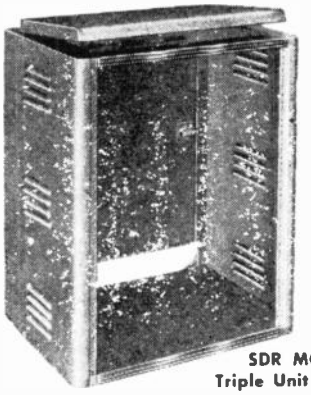
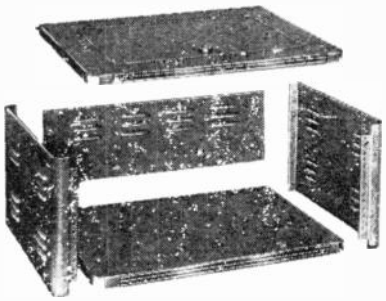
# PREMIER PRECISION BUILT METAL HOUSINGS

## DESK CABINET RACKS FOR STANDARD 19" RACK PANELS IN STANDARD, SUPER DELUXE AND KNOCKED DOWN MODELS—BOTH 15¼" AND 18" DEEP

**DCR MODEL**
**Double Unit**



**SDR MODEL**
**Triple Unit**



**DRK MODEL**
**Single Unit**

- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome finished moulding.
- Rigidly constructed of No. 16 Ga. cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on Universal Spacings.
- Piano type hinges are used on the top doors, which are provided with snap catches.
- Top door on Models SDR and SDRK open to 90° and have a rounded front corner.
- Models SDRK and DRK are supplied knocked down with all necessary bolts for easy assembly. On these models the bolts are not visible from the outside and have the same appearance as the welded models.
- Gussets welded at bottom of rear on Models 170-350 for additional strength.
- Cabinets finished in either Black or Gray Wrinkle, Gray or Brown Hammertone. Black wrinkle furnished if color is not specified.

### *ALL CABINETS ARE 21¾" WIDE*

| *15¼" Deep* | Catalog No. | Net Price | Catalog No. | Net Price | Catalog No. | Net Price | Catalog No. | Net Price | Overall Height | Panel Space | Ship. Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SINGLE UNIT (with door on top only) | DCR-70 | $12.57 | SDR-70 | $17.22 | DRK-70 | $11.91 | SDRK-70 | $16.56 | 8¾" | 7" | 22 |
| | DCR-80 | 13.23 | SDR-80 | 17.88 | DRK-80 | 12.57 | SDRK-80 | 17.22 | 10½" | 8¾" | 24 |
| | DCR-100 | 14.91 | SDR-100 | 19.53 | DRK-100 | 14.25 | SDRK-100 | 18.90 | 12¼" | 10½" | 26 |
| | DCR-120 | 16.11 | SDR-120 | 20.70 | DRK-120 | 15.42 | SDRK-120 | 20.04 | 14" | 12¼" | 28 |
| | DCR-140 | 17.88 | SDR-140 | 22.50 | DRK-140 | 17.22 | SDRK-140 | 21.84 | 15¾" | 14" | 32 |
| DOUBLE UNIT* | DCR-170 | 21.18 | SDR-170 | 25.80 | DRK-170 | 20.52 | SDRK-170 | 25.14 | 19¼" | 17½" | 40 |
| | DCR-190 | 22.20 | SDR-190 | 26.85 | DRK-190 | 21.54 | SDRK-190 | 26.16 | 21" | 19¼" | 42 |
| | DCR-210 | 23.01 | SDR-210 | 27.63 | DRK-210 | 22.35 | SDRK-210 | 26.94 | 22¾" | 21" | 44 |
| TRIPLE UNIT* | DCR-260 | 24.84 | SDR-260 | 29.49 | DRK-260 | 24.18 | SDRK-260 | 28.80 | 28" | 26¼" | 45 |
| | DCR-310 | 26.16 | SDR-310 | 30.78 | DRK-310 | 25.50 | SDRK-310 | 30.12 | 33¼" | 31½" | 50 |
| QUAD UNIT* | DCR-350 | 27.48 | SDR-350 | 32.10 | DRK-350 | 26.82 | SDRK-350 | 31.44 | 36¾" | 35" | 55 |

* With door on top and rear.

| *18" Deep* | Catalog No. | Net Price | Catalog No. | Net Price | Overall Height | Panel Space | Ship. Wt. Lbs. |
|---|---|---|---|---|---|---|---|
| SINGLE UNIT (with door on top only) | DCR-1880 | $16.08 | SDR-1880 | $20.52 | 10½" | 8¾" | 26 |
| | DCR-18100 | 17.88 | SDR-18100 | 22.50 | 12¼" | 10½" | 29 |
| | DCR-18120 | 19.26 | SDR-18120 | 23.91 | 14" | 12¼" | 31 |
| | DCR-18140 | 21.45 | SDR-18140 | 26.10 | 15¾" | 14" | 35 |
| DOUBLE UNIT* | DCR-18170 | 25.41 | SDR-18170 | 30.06 | 19¼" | 17½" | 44 |
| | DCR-18190 | 26 64 | SDR-18190 | 31.26 | 21" | 19¼" | 46 |
| | DCR-18210 | 27.60 | SDR-18210 | 32.25 | 22¾" | 21" | 48 |
| TRIPLE UNIT* | DCR-18260 | 29.79 | SDR-18260 | 34.41 | 28" | 26¼" | 49 |
| | DCR-18310 | 31.38 | SDR-18310 | 36.00 | 33¼" | 31½" | 55 |
| QUAD UNIT* | DCR-18350 | 33.00 | SDR-18350 | 37.59 | 36¾" | 35" | 60 |

* With door on top and rear. All Prices F.O.B. N. Y. 59, N. Y.

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World Radio History

# PREMIER PRECISION BUILT METAL HOUSINGS

POR Series

## The ARISTOCRAT of DESK CABINET RACKS

# PREM-O-RAK®

**AVAILABLE IN 20 DIFFERENT SIZES — FROM 7" to 35" PANEL SPACES.**

**BOTH 15¼" and 18" DEEP FOR STANDARD 19" PANELS.**

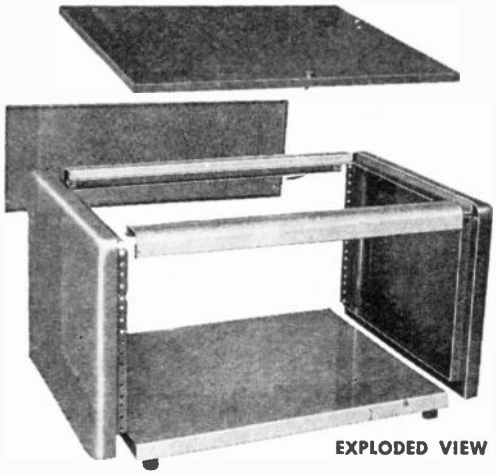
**BOTH FRONT AND REAR OF TOP HAVE ATTRACTIVE BALL CORNERS.**

SHIPPED KNOCKED-DOWN WITH ALL THE NECESSARY HARDWARE FOR EASY ASSEMBLY.

- All screws for assembling PREM-O-RAK are not visible from the outside.
- Both front and rear verticals are tapped for 10/32 machine screws on universal spacings so that panels may be mounted on both front and rear if desired.
- Interlocking removable top made of perforated metal and held in place by only one captive screw.
- Interlocking removable rear panel made of perforated metal and held in place by two captive screws.
- Rigidly constructed of #16 gauge steel.
- Rear panel has 3½" opening on bottom for leads, etc.
- Panels fit into ½" recess.
- Base supplied with four rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.
- HANDSOMELY FINISHED IN TWO-TONE HAMMERTONE

  Top cross braces and base are Gray Hammertone.

  Top and rear panel and side panels are Brown Hammertone.



EXPLODED VIEW

**ALL CABINETS ARE 21¾" WIDE**

### 15¼" DEEP

| Catalog No. | Overall Height | Panel Space | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| POR-7 | 9⅜" | 7" | 22 | $24.00 |
| POR-8 | 11⅛" | 8¾" | 24 | 25.20 |
| POR-10 | 12⅞" | 10½" | 26 | 28.80 |
| POR-12 | 14⅝" | 12¼" | 28 | 31.20 |
| POR-14 | 16⅜" | 14" | 32 | 34.80 |
| POR-17 | 19⅞" | 17½" | 40 | 41.40 |
| POR-21 | 23⅜" | 21" | 44 | 45.00 |
| POR-26 | 28⅝" | 26¼" | 45 | 48.60 |
| POR-31 | 33⅞" | 31½" | 50 | 51.00 |
| POR-35 | 37⅜" | 35" | 55 | 54.00 |

### 18" DEEP

| Catalog No. | Overall Height | Panel Space | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| POR-718 | 9⅜" | 7" | 24 | $26.55 |
| POR-818 | 11⅛" | 8¾" | 26 | 27.90 |
| POR-1018 | 12⅞" | 10½" | 29 | 31.80 |
| POR-1218 | 14⅝" | 12¼" | 31 | 34.35 |
| POR-1418 | 16⅜" | 14" | 35 | 38.40 |
| POR-1718 | 19⅞" | 17½" | 44 | 45.60 |
| POR-2118 | 23⅜" | 21" | 48 | 49.80 |
| POR-2618 | 28⅝" | 26¼" | 49 | 53.55 |
| POR-3118 | 33⅞" | 31½" | 55 | 56.85 |
| POR-3518 | 37⅜" | 35" | 60 | 59.55 |



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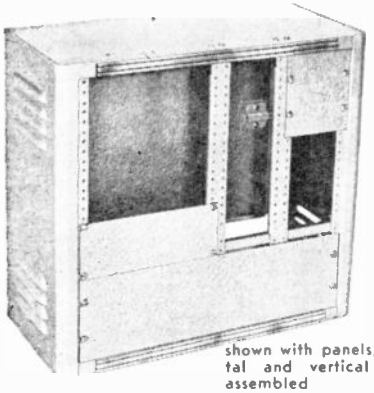
# PREMIER PRECISION BUILT METAL HOUSINGS



MDK Series

shown with panels, horizontal and vertical dividers assembled

## MODU-RAK®

## 12" DEEP MINIATURE DESK RACKS

**for modular construction of test equipment**

***FOR STANDARD 19", 9½" AND 4¾" RACK PANELS***

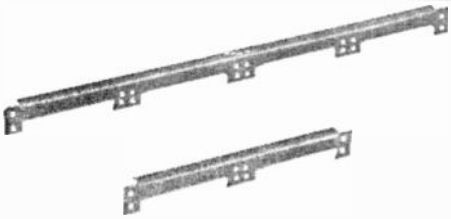
- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome moulding.
- Rigidly constructed of No. 16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.

| | Catalog No. | Overall Height | Available Panel-Space | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| **21¾" WIDE x 12" DEEP** | | | | | |
| WITH REMOVABLE REAR PANEL | MDK-50 | 7" | 5¼ x 19" | 16 | 10.20 |
| | MDK-70 | 8¾" | 7 x 19" | 20 | 10.53 |
| | MDK-80 | 10½" | 8¾ x 19" | 21 | 11.19 |
| | MDK-100 | 12¼" | 10½ x 19" | 23 | 12.87 |
| | MDK-120 | 14" | 12¼ x 19" | 25 | 14.04 |
| | MDK-140 | 15¾" | 14 x 19" | 29 | 15.84 |
| WITH REAR DOOR | MDK-170 | 19¼" | 17½ x 19" | 36 | 19.20 |
| | MDK-210 | 22¾" | 21 x 19" | 39 | 21.00 |
| | MDK-260 | 28" | 26¼ x 19" | 40 | 22.95 |
| | MDK-280 | 29¾" | 28 x 19" | 41 | 24.75 |
| **12¼" WIDE x 12" DEEP** | | | | | |
| WITH REMOVABLE REAR PANEL | MDK-50-95 | 7" | 5¼ x 9½" | 14 | 9.75 |
| | MDK-70-95 | 8¾" | 7 x 9½" | 15 | 10.20 |
| | MDK-80-95 | 10½" | 8¾ x 9½" | 16 | 10.86 |
| | MDK-100-95 | 12¼" | 10½ x 9½" | 17 | 12.60 |
| | MDK-120-95 | 14" | 12¼ x 9½" | 18 | 13.68 |
| | MDK-140-95 | 15¾" | 14 x 9½" | 20 | 15.06 |

- Panel mounting holes are tapped for 10-32 machine screws on Universal Spacings.
- 6 knock-out holes are provided on top and bottom of MDK-70 through MDK 280 series to accommodate angle brackets (Cat. No. AB-2).

  Two knock-out holes are provided on top and bottom of MDK-50-95 through MDK-140-95 series.
- Rear panel on Models MDK-70 through MDK-140 and MDK-70-95 through MDK-140-95 can be removed from back of cabinet for service.
- Rear doors have snap catches.
- Bolts are not visible from the outside and these units have the same appearance as the welded models.
- FINISHED IN GRAY HAMMERTONE
- SHIPPED KNOCKED-DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY

## VERTICAL AND HORIZONTAL DIVIDERS and ANGLE BRACKETS for subdividing MODU-RAK® into modular units



### HORIZONTAL DIVIDERS

- Holes punched to accommodate vertical dividers (DV Series) which subsdivide MODU-RAK into 9½" and 4¾" widths.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

| Catalog No. | Dimensions | Net Price | Catalog No. | Dimensions | Net Price |
|---|---|---|---|---|---|
| DH-19 | 19" x 1⅛" | $2.70 | DH-95 | 9½" x 1⅛" | 2.22 |

### VERTICAL DIVIDERS

- Two rows of 10-32 tapped holes punched on Universal spacings.
- Made of No. 16 gauge steel.
- Finished in gray Hammertone.

| Cat. No. | "A" Available Panel Mtg. Space | Net Price |
|---|---|---|
| DV-5 | 5¼" | $ .75 |
| DV-7 | 7" | .99 |
| DV-8 | 8¾" | 1.23 |
| DV-10 | 10½" | 1.53 |
| DV-12 | 12¼" | 1.62 |
| DV-14 | 14" | 1.77 |
| DV-17 | 17½" | 2.31 |
| DV-21 | 21" | 2.82 |
| DV-26 | 26¼" | 3.51 |
| DV-28 | 28" | 3.69 |

### ANGLE BRACKETS

- Punched to accommodate vertical dividers.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

| Cat. No. | Net Price | sold in |
|---|---|---|
| AB-2 | $.90 pr. | pairs only |

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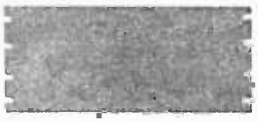
World Radio History

# PREMIER PRECISION BUILT METAL HOUSINGS



HT.

All 24" and 30" wide blank panels are finished in Black or Gray Wrinkle, Gray or Brown Hammertone. If color is not specified, Black Wrinkle is furnished.

ALL 19" WIDE PANELS ARE FINISHED IN REVERSIBLE COLORS

**REVERSIBLE**

When ordering just specify Reversible Colors —

**Example:** Aluminum Panel 8¾ x 19" — Black Wrinkle on one side — Gray Wrinkle on other side — order as follows:

**ARP-819 Reversible Black and Gray.**

**Example:** Steel Panel 7" x 19" — Gray Hammertone one side — Brown Hammertone other side — order as follows:

**RP-719 Reversible Gray and Brown.**

## BLANK RACK PANELS

## 4¾" - 9½" - 19" - 24" - 30" WIDTHS

### ALUMINUM

Made of ⅛" Thick Aluminum and finished in Gray Hammertone only.

**4¾" Wide**

| Cat. No. | Ship. Wt. | Height | Net Price |
|---|---|---|---|
| ARP-147 | ⅛ | 1¾" | $0.48 |
| ARP-347 | ¼ | 3½" | .66 |
| ARP-547 | ⅜ | 5¼" | .99 |
| ARP-747 | ½ | 7" | 1.20 |

**9½" Wide**

| Cat. No. | Ship. Wt. | Height | Net Price |
|---|---|---|---|
| ARP-195 | ¼ | 1¾" | $0.78 |
| ARP-395 | ½ | 3½" | 1.08 |
| ARP-595 | ¾ | 5¼" | 1.56 |
| ARP-795 | 1 | 7" | 1.89 |
| ARP-895 | 1¼ | 8¾" | 2.25 |
| ARP-1095 | 1½ | 10½" | 2.85 |
| ARP-1295 | 1¾ | 12¼" | 3.30 |
| ARP-1495 | 2 | 14" | 3.75 |

### 19" WIDE

| Height | Aluminum — 1/8" Thick Cat. No. | Ship. Wt. Lbs. | Net Price | Aluminum — 3/16" Thick Cat. No. | Ship. Wt. Lbs. | Net Price | Steel — No. 12 Gauge Cat. No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| 1¾" | ARP-119 | ½ | $0.96 | ARP-119-36 | ¾ | $1.54 | RP-119 | 1 | $0.73 |
| 3½" | ARP-319 | 1 | 1.29 | ARP-319-36 | 1½ | 2.06 | RP-319 | 2 | .84 |
| 5¼" | ARP-519 | 1½ | 1.77 | ARP-519-36 | 2½ | 2.83 | RP-519 | 3 | 1.03 |
| 7" | ARP-719 | 2 | 2.13 | ARP-719-36 | 3 | 3.41 | RP-719 | 4 | 1.20 |
| 8¾" | ARP-819 | 2½ | 2.55 | ARP-819-36 | 3¾ | 4.08 | RP-819 | 5¼ | 1.47 |
| 10½" | ARP-1019 | 3 | 3.21 | ARP-1019-36 | 4½ | 5.14 | RP-1019 | 6¼ | 1.77 |
| 12¼" | ARP-1219 | 3½ | 3.75 | ARP-1219-36 | 5 | 6.00 | RP-1219 | 7¼ | 2.10 |
| 14" | ARP-1419 | 4 | 4.29 | ARP-1419-36 | 6 | 6.86 | RP-1419 | 8¼ | 2.43 |
| 15¾" | ARP-1519 | 4 | 4.80 | ARP-1519-36 | 6 | 7.68 | RP-1519 | 9 | 2.73 |
| 17½" | ARP-1719 | 4¾ | 5.28 | ARP-1719-36 | 7 | 8.45 | RP-1719 | 10½ | 3.00 |
| 19¼" | ARP-1919 | 5 | 5.79 | ARP-1919-36 | 7½ | 9.26 | RP-1919 | 12 | 3.33 |
| 21" | ARP-2119 | 6 | 6.30 | ARP-2119-36 | 9 | 10.08 | RP-2119 | 12½ | 3.66 |

### 24" WIDE

| Aluminum — 1/8" Thick Cat. No. | Ship. Wt. Lbs. | Net Price | Height | Steel — No. 12 Gauge Cat. No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| ARP-324 | 1¼ | $ 1.98 | 3½" | RP-324 | 2¼ | $1.26 |
| ARP-524 | 2 | 2.94 | 5¼" | RP-524 | 3½ | 1.56 |
| ARP-724 | 2½ | 3.54 | 7" | RP-724 | 4½ | 1.80 |
| ARP-824 | 3 | 4.23 | 8¾" | RP-824 | 6 | 2.22 |
| ARP-1024 | 3½ | 5.31 | 10½" | RP-1024 | 7 | 2.67 |
| ARP-1224 | 4 | 6.21 | 12¼" | RP-1224 | 8 | 3.15 |
| ARP-1424 | 4½ | 7.11 | 14" | RP-1424 | 9 | 3.63 |
| ARP-1524 | 5 | 7.92 | 15¾" | RP-1524 | 10 | 4.11 |
| ARP-1724 | 5½ | 8.73 | 17½" | RP-1724 | 11 | 4.50 |
| ARP-1924 | 6 | 9.57 | 19¼" | RP-1924 | 12 | 4.98 |
| ARP-2124 | 6½ | 10.41 | 21" | RP-2124 | 13 | 5.49 |

### 30" WIDE

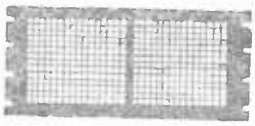
| Aluminum — 1/8" Thick Cat. No. | Ship. Wt. Lbs. | Net Price | Height | Steel — No. 12 Gauge Cat. No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| ARP-330 | 1½ | $ 2.64 | 3½" | RP-330 | 3 | $1.68 |
| ARP-530 | 2¼ | 3.90 | 5¼" | RP-530 | 4½ | 2.07 |
| ARP-730 | 3 | 4.71 | 7" | RP-730 | 6 | 2.40 |
| ARP-830 | 3¾ | 5.61 | 8¾" | RP-830 | 8 | 2.94 |
| ARP-1030 | 4½ | 7.08 | 10½" | RP-1030 | 9¼ | 3.54 |
| ARP-1230 | 5 | 8.25 | 12¼" | RP-1230 | 10¼ | 4.20 |
| ARP-1430 | 6 | 9.45 | 14" | RP-1430 | 12 | 4.83 |
| ARP-1530 | 6½ | 10.56 | 15¾" | RP-1530 | 13½ | 5.46 |
| ARP-1730 | 7 | 11.64 | 17½" | RP-1730 | 15 | 6.00 |
| ARP-1930 | 7½ | 12.75 | 19¼" | RP-1930 | 18 | 6.63 |
| ARP-2130 | 9 | 13.86 | 21" | RP-2130 | 19 | 7.32 |

## PANELS — 19" WIDE

FINISHED IN EITHER BLACK OR GRAY WRINKLE, GRAY OR BROWN HAMMERTONE

Made of No. 12 Gauge Steel

If color is not specified, Black Wrinkle is furnished



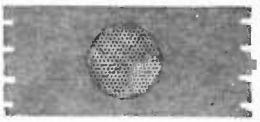
### GRILLE PANELS

| Cat. No. | Grill Size | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| GRP-601 | 3⅞"x13⅜" | 5¼" | 2 | $2.94 |
| GRP-602 | 3⅞"x13⅜" | 7" | 2 | 3.15 |
| GRP-603 | 5⅞"x13⅜" | 8¾" | 2½ | 3.81 |
| GRP-604 | *3⅞"x13⅜" | 8¾" | 2½ | 3.51 |
| GRP-605 | 7⅞"x13⅜" | 10½" | 2½ | 4.17 |
| GRP-606 | *5⅞"x13⅜" | 10½" | 2½ | 3.81 |
| GRP-607 | *7⅞"x13⅜" | 12¼" | 3 | 4.32 |

* Allows 3½" space at bottom for chassis mounting.

### METER PANELS — 5¼"

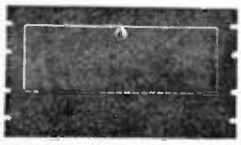
| Cat. No. | No. of Holes | Meter Size | Hole Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| MRP-900 | 3 | 2" | 2¼" | 7 | $1.47 |
| MRP-901 | 5 | 2" | 2¼" | 7 | 1.99 |
| MRP-902 | 3 | 3" | 2 13/16" | 7 | 1.47 |
| MRP-903 | 5 | 3" | 2 13/16" | 7 | 1.99 |



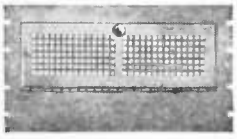
### SPEAKER PANELS

A piece of perforated metal is spot-welded behind the opening.

| Cat. No. | Height | Spkr. Size | Hole Size | Sh. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| SRP-819 | 8¾" | 6" | 4⅝" | 6 | $2.73 |
| SRP-1019 | 10½" | 8" | 6½" | 8 | 3.48 |
| SRP-1219 | 12¼" | 10" | 8½" | 9 | 4.17 |
| SRP-1419 | 14" | 12" | 11" | 10 | 4.80 |



STANDARD TYPE



GRILLE TYPE

## DOOR PANELS

Panels have flush hinged doors with piano hinges, and are supplied with a quick turn fastener. Doors are located 1" from top to allow space for chassis at bottom.

| STANDARD TYPE Cat. No. | Net Price | Height | Door Size | Ship. Wt. Lbs. | GRILLE TYPE Cat. No. | Net Price |
|---|---|---|---|---|---|---|
| DRP-700 | $4.65 | 8¾" | 4½"x15⅜" | 9 | GDRP-700 | $5.97 |
| DRP-701 | 4.98 | 10½" | 6" x15⅜" | 10 | GDRP-701 | 6.48 |
| DRP-702 | 5.49 | 12¼" | 7½"x15⅜" | 12 | GDRP-702 | 7.14 |

### SIDE HINGED DOOR PANELS

Used for left or right hand opening. Supplied with a quick turn fastener.

| Cat. No. | Height | Net Price |
|---|---|---|
| SHP-319 | 3½" | $2.85 |
| SHP-519 | 5¼" | 2.97 |
| SHP-719 | 7" | 3.24 |
| SHP-819 | 8¾" | 3.48 |
| SHP-1019 | 10½" | 3.75 |
| SHP-1219 | 12¼" | 4.02 |
| SHP-1419 | 14" | 4.35 |
| SHP-2119 | 21" | 6.90 |



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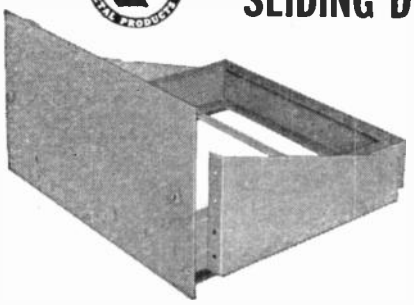
World Radio History

# PREMIER PRECISION BUILT METAL HOUSINGS

## RACK ACCESSORIES

### SLIDING DRAWER TO FIT STANDARD 19" RACKS 15" AND 18" DEEP



Panel made of #12 gauge steel; chassis of #16 steel and has a 1" flange on top and bottom to accommodate plywood for the record changer. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in black or gray wrinkle, and Gray or Brown Hammertone. Black Wrinkle furnished if color is not specified.

| Catalog No. | Will Fit Rack No. | Panel Size | Chassis Size W. D. H. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| RD-10 | R RS DCR-18 and SDR-18 Models | 10⅜" x 18⅞" | 17" x 16½" x 3" | 15 | $14.91 |
| RD-12 | | 12⅛" x 18⅞" | 17" x 16½" x 4" | 18 | 16.56 |
| RD-10-14 | DCR, SDR, DRK | 10⅜" x 18⅞" | 17" x 14" x 3" | 14½ | 14.79 |
| RD-12-14 | SDRK R, RS DCR-18, SDR-18 Models | 12⅛" x 18⅞" | 17" x 14" x 4" | 17 | 16.41 |

### FRONT DOORS TO FIT STANDARD 19" DESK RACK CABINETS AND ENCLOSED RACKS

FD-310-313 MODELS

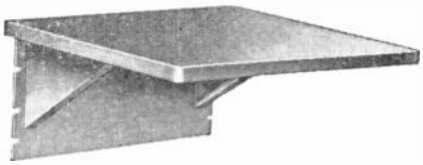
Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate universal spacings and are made to fit on top of the panels. Supplied with cylinder lock and angle bracket to hold door in position on FD-300-306. All necessary bolts furnished for easy assembly. Finished in Black or Gray Wrinkle, Gray or Brown Hammertone. Black Wrinkle furnished if color is not specified. All doors are 20½" wide x 1¼" deep.

Chrome handle supplied on FD-310-313 models.

| Cat. No. | Will Fit Rack No. | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| FD-300 | DCR DRK SDR SDRK 260 18260 | 26¼" | 10 | $12.12 |
| FD-301 | DCR DRK SDR, SDRK 310 18310 | 31½" | 11 | 14.10 |
| FD-302 | DCR DRK SDR, SDRK-350, 18350 | 35" | 12 | 15.72 |
| FD-303 | DCR, DRK, SDR, SDRK-120, 18120 | 12¼" | 6 | 9.12 |
| FD-304 | DCR, DRK SDR SDRK 140 18140 | 14" | 7 | 9.93 |
| FD-305 | DCR, DRK SDR SDRK 170 18170 | 17½" | 8 | 10.80 |
| FD-306 | DCR, DRK SDR, SDRK-210 18210 | 21" | 9 | 11.61 |
| FD-310 | R or RS 3619 | 36⅞" | 13 | 17.40 |
| FD-311 | R-4219 | 42⅛" | 15 | 19.86 |
| FD-312 | R or RS-6119 | 61⅜" | 20 | 23.16 |
| FD-313 | R or RS-7719 | 77⅛" | 24 | 26.46 |

FD-300-306 MODELS

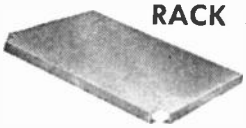
### DESK PANELS



- Made of No. 16 gauge steel and bolted to a standard steel panel 10½" x 19".
- Front corners are rounded.
- Finished in Black or Gray Enamel, Gray or Brown Hammertone.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

| Cat. No. | Width | Depth | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| DP-1016 | 22" | 16" | 20 | $14.91 |
| DP-1020 | 22" | 20" | 22 | 15.24 |

### RACK SHELF



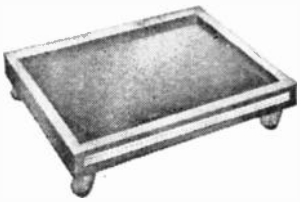
Made of one piece of #16 Ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Black or Gray Wrinkle, Gray or Brown Hammertone. Black Wrinkle furnished if color is not specified.

| Cat. No. | Will Fit Rack No. | Shelf Size | Ship Wt. Lbs. | Net Price |
|---|---|---|---|---|
| RS-1106 | All 15¼" SDR and DCR Racks | 12x21 9/16 | 7 | $2.82 |
| RS-1107 | R, RS, DR, 18" deep RM, DCR and SDR Racks | 15x21 13/16 | 7 | 3.48 |
| RS-1108 | 18" deep FD Racks | 13x21 13/16 | 7 | 3.15 |
| RS-1109 | 24" deep RM and FD Racks | 22x23 7/16 | 7 | 5.64 |
| RS-1110 | RMA-27 and FD-27 Series | 22x26⅞ | 8 | 6.60 |
| RS-1111 | MDK Series | 10x21 9/16 | 6 | 2.70 |

### CHASSIS SUPPORTS

Made of #12 gauge steel. Finished in black enamel. Sold in pairs only.

| Cat. No. | Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| CS-12 | 12 x 3 x 3 | 4 | $1.83 |
| CS-14 | 14½ x 3 x 3 | 5¼ | 1.99 |



### ROLLER TRUCKS FOR RACKS

Made from 1 piece of #16 Ga. Cold Rolled Steel. Supplied with 2" Dia. Composition Wheels and bolts for easy assembly. Finished in either Black or Gray Wrinkle, Gray or Brown Hammertone and has a red striped Chrome moulding.

| Cat. No. | Will Fit Rack No. | Inside Dimensions | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| RT-1100 | All 15¼" Racks | 15¾x22¼ | 22 | $ 9.93 |
| RT-1101 | R, RS, DR, 18" deep RM, FD, PR, DCR and SDR Racks | 18¾x22¾ | 22 | 12.57 |
| RT-1102 | RR-601 and RR-802 | 20½x21½ | 22 | 13.89 |
| RT-1105 | 24" deep RM, FD and PR Racks | 24½x24½ | 23 | 15.60 |
| RT-1110 | RMA-27 and FD-27 Series | 27½x24½ | 25 | 23.33 |
| RT-1111 | RM-7030 | 33½x24½ | 30 | 30.00 |

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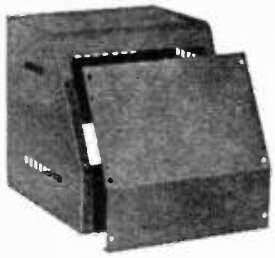
World Radio History

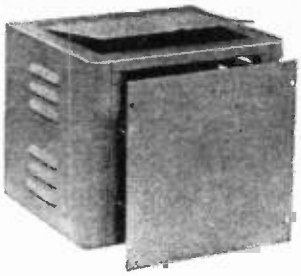
# PREMIER PRECISION BUILT METAL HOUSINGS



### SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Grey Wrinkle.

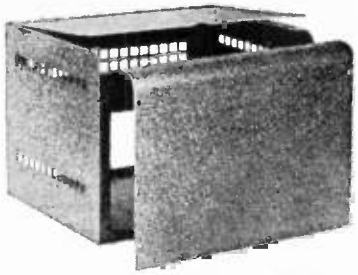
| Catalog No. | H. W. D. | Use Chassis No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| SFC-500 | 8 x 8 x 8" | CH-403 | 6 | $ 4.26 |
| SFC-501 | 8 x 10 x 8" | CH-404 | 7 | 4.74 |
| SFC-502 | 8 x 14 x 8" | CH-406 | 8 | 5.07 |
| SFC-503 | 9 x 18 x 8" | CH-409 | 10 | 7.29 |
| SFC-504 | 12 x 18 x 12" | CH-415 | 14 | 9.30 |



### HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of #20 gauge steel. Finished in Grey Wrinkle.

| Catalog No. | H. W. D. | Panel Size | Use Chassis No. | Ship Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| HTC-200 | 8x10x 8" | 8x 8" | CH-403 | 6 | $3.99 |
| HTC-201 | 8x12x 8" | 8x10" | CH-404 | 6½ | 4.32 |
| HTC-202 | 8x16x 8" | 8x14" | CH-406 | 11 | 5.61 |
| HTC-203 | 9x17x11" | 9x15" | CH-413 | 6½ | 8.70 |
| HTC-204 | 12x20x12" | 12x18" | CH-415 | 13½ | 10.29 |
| HTC-205 | 8x14x 8" | 8x12" | CH-405 | 7¼ | 4.98 |

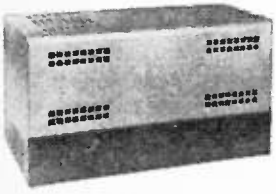


### HINGED TOP STANDARD TYPE

Front Panel has a rounded corner on top and is removable. Top door has a piano hinge. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Black Wrinkle.

| Catalog No. | H. W. D. | Use Chassis No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| HTC-100 | 7¼x10½x 6 | CH-400 | 4 | $3.18 |
| HTC-101 | 7¼x 8 x 8 | CH-403 | 4½ | 3.18 |
| HTC-102 | 7¼x10 x 8 | CH-404 | 4¾ | 3.66 |
| HTC-103 | 7¼x14 x 8 | CH-406 | 5¾ | 4.17 |
| HTC-104 | 9 x15 x10¾ | CH-413 | 8¼ | 6.81 |
| HTC-105 | 12 x18 x12 | CH-415 | 12¼ | 7.95 |
| HTC-106 | 7¼x12 x 8 | CH-405 | 5¼ | 3.99 |

## AMPLIFIER FOUNDATIONS



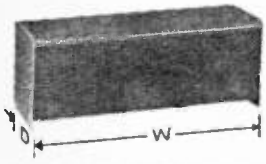
STANDARD TYPE

**STANDARD TYPE**

TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Wrinkle.

CHASSIS constructed of one piece with corners spot-welded. Finished in Black Wrinkle.

| Cat. No. | Chassis Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| AF-510 | 5" x 10" x 3" | 9 | $4.17 |
| AF-615 | 6" x 14" x 3" | 10 | 4.83 |
| AF-712 | 7" x 12" x 3" | 10 | 5.10 |
| AF-717 | 7" x 17" x 3" | 11 | 5.49 |
| AF-812 | 8" x 12" x 3" | 10 | 5.10 |
| AF-1012 | 10" x 12" x 3" | 11 | 5.49 |
| AF-1017 | 10" x 17" x 3' | 12 | 6.48 |
| AF-1317 | 13" x 17" x 3" | 15 | 7.80 |




PERFORATED TYPE COVERS

**PERFORATED TYPE COVERS**

TOP COVER made of perforated steel and has rounded corners with solid ends. 6" high except PC-57*. Finished in Gray Wrinkle. Supplied without chassis.

| Cat. No. | W. | D. | Use Chassis No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| *PC-57 | 7" | 5" | ACH or CH-426 | 1 | 2.91 |
| PC-615 | 10" | 5" | ACH or CH-401 | 1¾ | $2.97 |
| PC-510 | 14" | 6" | ACH or CH-402 | 2⅜ | 3.42 |
| PC-717 | 17" | 7" | ACH or CH-409 | 3 | 3.75 |
| PC-1012 | 12" | 10" | ACH or CH-412 | 3 | 3 81 |
| PC-1017 | 17" | 10" | ACH or CH-415 | 3¼ | 4.71 |

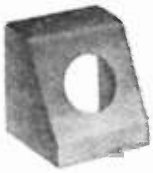
* 4" high.

## STEEL and ALUMINUM Sloping Panel Cabinets

ROUND TOP CORNERS WITH SLOPING FRONT

No. 20 gauge Steel—Black Wrinkle Finish. No. 18 gauge (.040) Aluminum—Natural Aluminum finish.

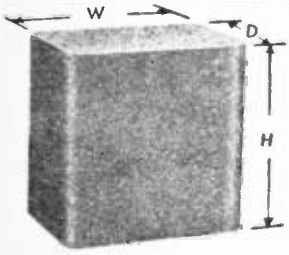
| Steel Cat. No. | W. H. D. | Ship. Wt. Lbs. | Net Price | Alum. Cat. No. | Net Price |
|---|---|---|---|---|---|
| SPC-1200 | 4³⁄₁₆x4½x4¼ | ¾ | $1.14 | ASPC-1200 | $1.37 |
| SPC-1201 | 5³⁄₁₆x4½x4¼ | 1 | 1.29 | ASPC-1201 | 1.55 |
| SPC-1202 | 6³⁄₁₆x4½x4¼ | 1 | 1.47 | ASPC-1202 | 1.76 |
| SPC-1203 | 7³⁄₁₆x4½x4¼ | 1½ | 1.77 | ASPC-1203 | 2.12 |



## STEEL & ALUMINUM METER CASES

Size: 4³⁄₁₆" x 4½" x 4¼". Supplied with two ½" dia. knockouts. #20 gauge steel—Black Wrinkle Finish, #18 gauge (.040) Aluminum—Natural Aluminum Finish.

| Steel Cat. No. | Net Price | Meter Size | Hole Dia. | Sh. Wt. | Alum. Cat. No. | Net Price |
|---|---|---|---|---|---|---|
| SPC-1208 | 1.26 | 2" | 2³⁄₁₆" | ¾ | ASPC-1208 | 1.51 |
| SPC-1209 | 1.26 | 3" | 2¹³⁄₁₆" | ¾ | ASPC-1209 | 1.51 |

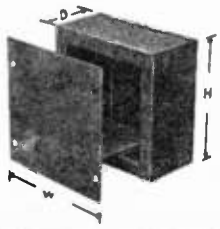



## ROUNDED CORNER UTILITY CASES

- Made of No. 20 gauge steel.
- Front vertical corners are rounded.
- Back of cabinet is completely open.
- Finished in Gray Wrinkle.

| Cat. No. | Height | Width | Depth | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| RC-343 | 4½" | 3⅝" | 3⅛" | ¾ | $1.83 |
| RC-543 | 4½" | 5½" | 3½" | 1¼ | 1.89 |
| RC-563 | 6½" | 5½" | 3½" | 1¼ | 1.96 |
| RC-743 | 4½" | 7⅛" | 3⅛" | 1 | 2.16 |

## STEEL UTILITY CASES WITH CHASSIS ATTACHED




Made of #20 gauge steel with a chassis spot welded to front panel. Front and rear panels are removable. Finished in black wrinkle.

| Catalog No. | Height | Width | Depth | Chassis Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|
| CA-1400 | 4" | 4" | 2" | 1 x 2⅞ x 1⅞" | 1 | $1.16 |
| CA-1401 | 4" | 5" | 3" | 1 x 3⅞ x 2⅞" | 1¼ | 1.29 |
| CA-1402 | 5" | 4" | 3" | 1¼ x 2⅞ x 2⅞" | 1¼ | 1.29 |
| CA-1403 | 6" | 5" | 4" | 1¾ x 3⅞ x 3⅞" | 2 | 1.62 |
| CA-1404 | 5" | 6" | 4" | 1¼ x 4⅞ x 3⅞" | 2 | 1.62 |
| CA-1405 | 6" | 6" | 6" | 1¾ x 4⅞ x 5⅞" | 3 | 1.68 |



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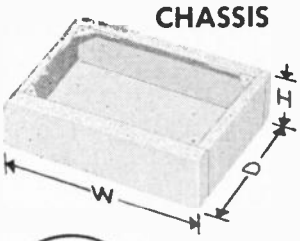
World Radio History

# PREMIER PRECISION BUILT METAL HOUSINGS

## CHASSIS



View of Chassis Showing Gusset Spot-Welded in Corner

### STEEL and ALUMINUM BLANK

Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides and punched for bottom plates.
Steel chassis are made of No. 20 gauge cold rolled steel, except those marked * which are of No. 16 gauge. Steel chassis are finished in either Black Wrinkle or Zinc Plated. Zinc plated furnished if finish is not specified.
Aluminum chassis are made of No. 18 gauge (.040) aluminum, except those marked * which are of No. 14 gauge (.064) and have an etched finish.

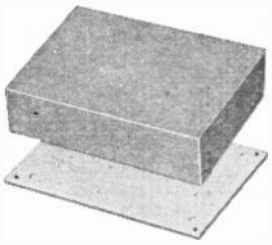
| ALUMINUM Cat. No. | Ship. Wt. Lbs. | Net Price | Size D. | W. | H. |
|---|---|---|---|---|---|
| ACH-400 | 1/2 | $1.26 | 5 1/2" | 9 1/2" | 1 1/2" |
| ACH-401 | 3/4 | 1.45 | 5" | 10" | 3" |
| ACH-402 | 1 | 2.45 | 6" | 14" | 3" |
| ACH-403 | 1/2 | 1.26 | 7" | 7" | 2" |
| ACH-404 | 1/2 | 1.32 | 7" | 9" | 2" |
| ACH-405 | 3/4 | 1.45 | 7" | 11" | 2" |
| ACH-406 | 3/4 | 1.56 | 7" | 13" | 2" |
| ACH-407 | 1 | 2.75 | 7" | 15" | 3" |
| ACH-408 | 1 | 2.25 | 4" | 17" | 3" |
| ACH-409 | 1 1/2 | 2.71 | 7" | 17" | 3" |
| ACH-410 | 1 1/8 | 2.75 | 8" | 17" | 2" |
| ACH-411 | 1 1/2 | 2.88 | 8" | 17" | 3" |
| ACH-412 | 1 1/4 | 2.55 | 10" | 12" | 3" |
| ACH-413 | 1 1/4 | 3.24 | 10" | 14" | 3" |
| ACH-414 | 1 1/4 | 3.11 | 10" | 17" | 2" |
| ACH-415* | 1 7/8 | 3.48 | 10" | 17" | 3" |
| ACH-416* | 2 | 4.00 | 10" | 17" | 4" |
| ACH-417* | 1 3/4 | 3.31 | 11" | 17" | 2" |
| ACH-418* | 2 | 4.07 | 11" | 17" | 3" |
| ACH-419* | 1 7/8 | 3.63 | 12" | 17" | 2" |
| ACH-420 | 2 1/8 | 4.29 | 12" | 17" | 3" |
| ACH-421* | 2 7/8 | 4.74 | 12" | 17" | 4" |
| ACH-422* | 1 7/8 | 3.83 | 13" | 17" | 2" |
| ACH-423* | 2 1/8 | 4.56 | 13" | 17" | 3" |
| ACH-424* | 2 1/2 | 5.22 | 13" | 17" | 4" |
| ACH-425 | 7/8 | 1.56 | 7" | 11" | 3" |
| ACH-426 | 1/4 | 1.03 | 5" | 7" | 2" |
| ACH-427 | 1 1/4 | 2.77 | 8 1/2" | 15" | 3" |
| ACH-428 | 1/4 | 1.43 | 5" | 7" | 3" |
| ACH-429 | 3/4 | 1.72 | 5" | 13" | 3" |
| ACH-430 | 1 | 2.09 | 8" | 12" | 3" |
| ACH-431 | 1/4 | 1.23 | 4" | 6" | 2" |
| ACH-432 | 1/4 | 1.26 | 4" | 6" | 3" |
| ACH-433 | 7/8 | 1.74 | 7" | 12" | 3" |
| ACH-434 | 1 | 2.55 | 6" | 17" | 3" |
| ACH-435* | 2 1/2 | 5.10 | 10" | 23" | 3" |
| ACH-436 | 1/4 | 1.03 | 4" | 6" | 1 1/2" |
| ACH-437 | 3/8 | 1.08 | 4" | 8" | 2" |
| ACH-438* | 3 | 10.20 | 17" | 17" | 4" |
| | | | 10" | 17" | 5" |
| | | | 13" | 17" | 5" |
| | | | 8" | 10" | 2 1/2" |

*Made from No. 14 gauge (.064) aluminum.

| STEEL Cat. No. | Ship. Wt. Lbs. | Net Price |
|---|---|---|
| CH-400 | 1 | $0.87 |
| CH-401 | 1 1/2 | 1.20 |
| CH-402 | 2 1/2 | 1.41 |
| CH-403 | 1 1/4 | 1.02 |
| CH-404 | 1 1/2 | 1.20 |
| CH-405 | 1 7/8 | 1.23 |
| CH-406 | 2 | 1.33 |
| CH-407 | 2 3/4 | 1.59 |
| CH-408 | 2 1/4 | 1.43 |
| CH-409 | 3 1/8 | 1.74 |
| CH-410 | 2 3/4 | 1.59 |
| CH-411 | 5 1/4 | 1.74 |
| CH-412 | 2 3/4 | 1.68 |
| CH-413 | 3 1/4 | 1.77 |
| CH-414 | 3 1/4 | 1.83 |
| CH-415* | 6 | 1.83 |
| CH-416* | 7 1/2 | 2.28 |
| CH-417* | 5 1/4 | 2.49 |
| CH-418* | 6 1/4 | 2.73 |
| CH-419* | 5 | 1.89 |
| CH-420* | 7 | 2.28 |
| CH-421 | 8 1/2 | 2.49 |
| CH-422* | 6 | 2.73 |
| CH-423* | 7 | 3.15 |
| CH-424* | 10 | 3.60 |
| CH-425 | 2 1/4 | 1.33 |
| CH-426 | 1 | .99 |
| CH-427 | 3 | 1.83 |
| CH-428 | 1 1/4 | 1.01 |
| CH-429 | 2 | 1.49 |
| CH-430 | 2 1/2 | 1.59 |
| CH-431 | 1 | .96 |
| CH-432 | 1 | .99 |
| CH-433 | 2 1/2 | 1.39 |
| CH-434 | 4 | 1.68 |
| CH-435* | 10 | 2.61 |
| CH-436 | 3/4 | .99 |
| CH-437 | 1 | 1.02 |
| CH-438* | 13 | 5.17 |
| CH-439* | 8 1/2 | 2.73 |
| CH-440* | 11 | 4.05 |
| CH-441 | 2 1/2 | 1.35 |

*Made from No. 16 gauge steel.

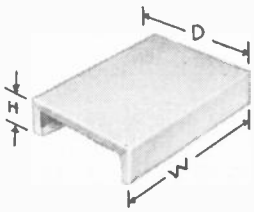
## HEAVY DUTY BLANK



Construction same as Blank Chassis above. Bottom plates are supplied with each Heavy Duty Chassis. Made of No. 16 gauge steel and finished in either Black Wrinkle or Zinc Plated. Zinc plated furnished if finish is not specified.

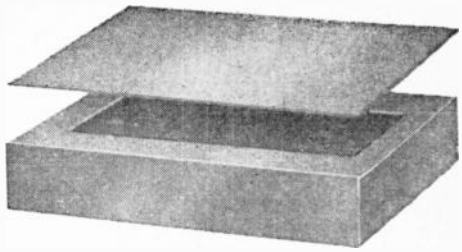
| Cat. No. | Dimensions | Sh. Wt. Lbs. | Net Price |
|---|---|---|---|
| HC-910 | 8"x17"x2" | 8 | $3.06 |
| HC-911 | 8"x17"x3" | 9 | 3.33 |
| HC-912 | 11"x17"x2" | 10 | 3.51 |
| HC-913 | 11"x17"x3" | 11 | 3.69 |
| HC-914 | 13"x17"x2" | 11 | $3.87 |
| HC-915 | 13"x17"x3" | 13 | 4.23 |
| HC-916 | 13"x17"x4" | 14 | 4.70 |
| HC-917 | 17"x17"x4" | 17 | 6.30 |

## STEEL OPEN END




Made of #20 gauge steel and zinc plated.

| Cat. No. | D. | W. | H. | Sh. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| CH-1300 | 7" | 6" | 2" | 1 | $0.73 |
| CH-1301 | 5" | 7" | 1 1/2" | 3/4 | .66 |
| CH-1302 | 7" | 7" | 1 1/2" | 1 | 1.06 |
| CH-1303 | 7" | 8" | 2" | 1 | .93 |
| CH-1304 | 5 1/2" | 9" | 1 1/2" | 1 | .79 |
| CH-1305 | 7 1/2" | 9" | 1 1/2" | 1 | 1.06 |
| CH-1306 | 7" | 10" | 2" | 1 1/4 | 1.01 |
| CH-1307 | 7" | 11" | 1 1/2" | 1 1/4 | 1.14 |
| CH-1308 | 7" | 13" | 1 1/2" | 1 1/2 | 1.33 |
| CH-1309 | 10 3/4" | 14" | 2" | 2 1/2 | 1.59 |
| CH-1310 | 7 3/4" | 15" | 2" | 2 | 1.52 |



## REMOVABLE TOP

Made of #16 Ga. Cold Rolled Steel. Top and Bottom edges flanged in on four sides. Top plate is removable. Finished in either Black Wrinkle or Zinc Plated. Zinc plated furnished if finish is not specified.

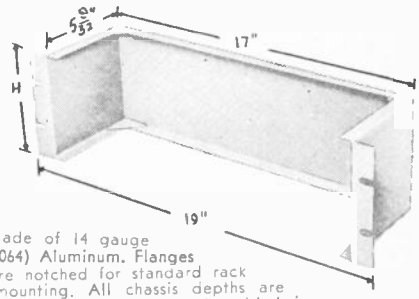
| Cat. No. | Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| RCH-415 | 10 x 17 x 3 | 5 | $3.65 |
| RCH-416 | 10 x 17 x 4 | 5 | 4.05 |
| RCH-423 | 13 x 17 x 3 | 9 | 3.81 |
| RCH-424 | 13 x 17 x 4 | 10 | 4.71 |

## REPLACEMENT TOPS

| Cat. No. | Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| RTC-415 | 10 x 17 | 2 | $1.41 |
| RTC-423 | 13 x 17 | 3 | 1.74 |

## ALUMINUM VERTICAL PANEL

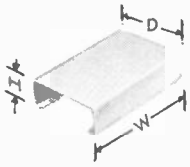
TO FIT 19" STANDARD RACKS




Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5-9/32". Gussets are spot welded in each corner for greater strength. Etched finish.

| Catalog No. | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| ACH-1200 | 1 3/4" | 3/4 | $2.55 |
| ACH-1201 | 3 1/2" | 1 3/4 | 2.79 |
| ACH-1202 | 5 1/4" | 1 1/2 | 3.04 |
| ACH-1203 | 7" | 2 | 3.51 |
| ACH-1204 | 8 3/4" | 2 1/4 | 4.14 |
| ACH-1205 | 10 1/2" | 2 3/4 | 4.44 |
| ACH-1206 | 12 1/4" | 3 | 4.95 |
| ACH-1207 | 14" | 3 1/4 | 5.35 |

## ALUMINUM OPEN END




Made of 18 ga. (.040) Aluminum. Etched Finish.

| Catalog No. | Depth | Width | Height | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| ACH-1350 | 2 5/8" | 2 3/4" | 1 1/4" | 1/4 | $ .37 |
| ACH-1351 | 1 3/4" | 3 1/8" | 1" | 1/4 | .41 |
| ACH-1352 | 3 1/4" | 4 1/2" | 2" | 1/4 | .44 |
| ACH-1353 | 2 3/4" | 4 1/8" | 1" | 1/4 | .44 |
| ACH-1354 | 3 3/4" | 4 1/8" | 1 1/2" | 1/4 | .44 |
| ACH-1355 | 3" | 6 1/8" | 1 1/4" | 1/4 | .52 |
| ACH-1356 | 5 3/4" | 4 7/8" | 1 1/2" | 1/4 | .55 |
| ACH-1357 | 4" | 3 1/8" | 1" | 1/2 | .44 |
| ACH-1358 | 4" | 4 1/8" | 1" | 1/2 | .48 |
| ACH-1359 | 4" | 5 1/8" | 1" | 1/2 | .51 |
| ACH-1360 | 4" | 6 1/8" | 1" | 1/2 | .55 |

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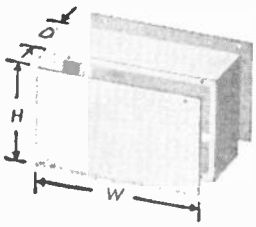
World Radio History

# PREMIER PRECISION BUILT METAL HOUSINGS

## UTILITY CASES




### ALUMINUM

Constructed of #16 ga. (.051) aluminum with flanged edges, spotwelded corners and two removable flat covers. Natural Aluminum finish or Gray Hammertone.

| Natural Aluminum Cat. No. | Net Price | Size H. W. D. | Ship. Wt. Lbs. | Gray Hammertone Cat. No. | Net Price |
|---|---|---|---|---|---|
| AC-442 | $1.26 | 4 4 2 | 1/2 | PAC-442 | $1.39 |
| AC-453 | 1.39 | 4 5 3 | 3/4 | PAC-453 | 1.62 |
| AC-564 | 1.65 | 5 6 4 | 1 | PAC-564 | 2.02 |
| AC-596 | 2.71 | 5 9 6 | 1 1/2 | PAC-596 | 3.07 |
| AC-666 | 1.89 | 6 6 6 | 1 1/2 | PAC-666 | 2.11 |
| AC-1276 | 3.73 | 12 7 6 | 2 1/4 | PAC-1276 | 4.14 |
| AC-1597 | 5.10 | 15 9 7 | 3 1/2 | PAC-1597 | 5.65 |
| AC-695 | 2.71 | 6 9 5 | 1 1/2 | PAC-695 | 3.07 |

### STEEL

Constructed of #20 ga. sheet steel with flanged edges, spot-welded corners, and two removable flat covers. Finished in Black Wrinkle.

| Catalog No. | H. | W. | D. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| C-442 | 4 | 4 | 2" | 7/8 | $ .84 |
| C-453 | 4 | 5 | 3" | 1 1/4 | .98 |
| C-564 | 5 | 6 | 4" | 1 3/4 | 1.16 |
| C-596 | 5 | 9 | 6" | 3 | 1.83 |
| C-666 | 6 | 6 | 6" | 2 1/4 | 1.33 |
| C-695 | 6 | 9 | 5" | 3 | 1.83 |
| C-754 | 7 | 5 | 4" | 2 | 1.26 |
| C-8101 | 10 | 10 | 8" | 6 | 3.00 |
| C-8107 | 8 | 10 | 7" | 4 3/4 | 2.46 |
| C-1128 | 11 | 12 | 8" | 7 1/4 | 3.31 |
| C-1576 | 15 | 7 3/4 | 6 1/2" | 6 | 3.00 |
| C-1597 | 15 | 9 | 7" | 7 | 3.42 |
| C-1276 | 12 | 7 | 6" | 4 1/2 | 2.49 |

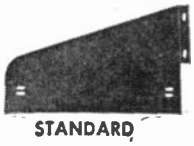
## CHASSIS MOUNTING BRACKETS

TRIANGULAR

- Constructed of No. 16 gauge steel.
- Finished in Black enamel.
- Sold in pairs only.

### TRIANGULAR TYPE

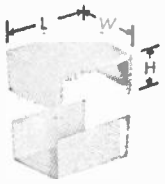
| Cat. No. | Height | Depth | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| TCB-55 | 5 | 5 | 1 | $ .90 |
| TCB-77 | 7 | 7 | 1 | 1.02 |
| TCB-99 | 9 | 9 | 1 1/2 | 1.23 |



STANDARD

### STANDARD TYPE

| | Cat. No. | H. | D. | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|
| Notched for 3" Chassis | CB- 78 | 6 1/2" | 8" | 1 1/2 | $ .87 |
| | CB-710 | 6 1/2" | 10" | 1 3/4 | 1.17 |
| | CB-711 | 6 1/2" | 11" | 2 | 1.26 |
| | CB-712 | 6 1/2" | 12" | 2 1/8 | 1.37 |
| | CB-713 | 6 1/2" | 13" | 2 1/4 | 1.47 |
| | CB-717 | 6 1/2" | 17" | 3 | 2.28 |
| Notched for 4" Chassis | CB-810 | 8 1/2" | 10" | 2 3/8 | 1.74 |
| | CB-813 | 8 1/2" | 13" | 3 | 1.83 |




## ALUMINUM MINIATURE CASES

A two piece case made of #16 Ga. (.051) aluminum. Natural Aluminum Finish or Gray Hammertone.

| Natural Aluminum Cat. No. | Net Price | L W H | Ship. Wt. Lbs. | Gray Hammertone Cat. No. | Net Price |
|---|---|---|---|---|---|
| AMC-1000 | $ .70 | 2 3/4 x 2 1/8 x 1 5/8 | 1/4 | PMC-1000 | $ .79 |
| AMC-1001 | .70 | 3 1/4 x 2 1/8 x 1 5/8 | 1/4 | PMC-1001 | .79 |
| AMC-1002 | .73 | 4 x 2 1/8 x 1 5/8 | 1/4 | PMC-1002 | .83 |
| AMC-1003 | .96 | 4 x 2 1/4 x 2 1/4 | 3/8 | PMC-1003 | 1.06 |
| AMC-1004 | .99 | 5 x 2 1/4 x 2 1/4 | 3/8 | PMC-1004 | 1.09 |
| AMC-1005 | 1.17 | 5 x 4 x 3 | 1/2 | PMC-1005 | 1.23 |
| AMC-1006 | 1.09 | 5 1/4 x 3 x 2 1/2 | 1/2 | PMC-1006 | 1.19 |
| AMC-1007 | 1.39 | 6 x 5 x 4 | 1 | PMC-1007 | 1.53 |
| AMC-1008 | 1.56 | 7 x 5 x 3 | 3/4 | PMC-1008 | 1.69 |
| AMC-1009 | 2.31 | 8 x 6 x 3 1/2 | 1 1/8 | PMC-1009 | 2.45 |
| AMC-1010 | 2.88 | 10 x 6 x 3 1/2 | 1 1/2 | PMC-1010 | 3.04 |
| AMC-1011 | 3.24 | 12 x 7 x 4 | 1 3/4 | PMC-1011 | 3.57 |
| AMC-1012 | 3.84 | 17 x 5 x 4 | 2 | PMC-1012 | 4.20 |
| AMC-1013 | 1.17 | 10 x 2 x 1 5/8 | 1/2 | PMC-1013 | 1.23 |
| AMC-1014 | 1.53 | 12 x 2 1/2 x 2 1/4 | 1/4 | PMC-1014 | 1.65 |
| AMC-1015 | .93 | 4 x 2 x 2 3/4 | 1/4 | PMC-1015 | 1.20 |
| AMC-1016 | .96 | 4 1/4 x 2 x 1 1/2 | 1/4 | PMC-1016 | 1.06 |

## WALL MOUNTING BRACKETS

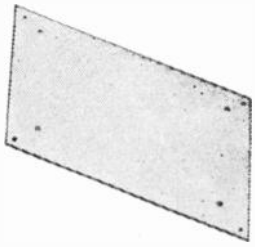
FOR MOUNTING DESK CABINET RACKS ON WALL — REMOVE REAR DOOR AND USE WALL MOUNTING BRACKETS.

Sold in sets only. Finished in Gray Enamel.

Shipping Weight 2 1/2 lbs.

**Catalog No. WB-19..... $2.70 Net Price**

## ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates made of No. 20 gauge steel, finished in either Black Wrinkle or Zinc Plated. Aluminum plates made of No. 18 gauge (.040). Natural aluminum finish.

| ALUMINUM Cat. No. | Net Price | Size | STEEL Cat. No. | Net Price | Ship. Wt. Lbs. |
|---|---|---|---|---|---|
| ABP-400 | $0.87 | 5 1/2" x 9 1/2" | BP-400 | $0.40 | 1 |
| ABP-401 | .87 | 5" x 10" | BP-401 | .43 | 1 |
| ABP-402 | 1.32 | 6" x 14" | BP-402 | .60 | 1 |
| ABP-403 | .90 | 7" x 7" | BP-403 | .43 | 1 |
| ABP-404 | .96 | 7" x 9" | BP-404 | .47 | 1 |
| ABP-405 | 1.06 | 7" x 11" | BP-405 | .57 | 1 |
| ABP-406 | 1.32 | 7" x 13" | BP-406 | .63 | 2 |
| ABP-407 | 1.32 | 7" x 15" | BP-407 | .70 | 2 |
| ABP-408 | 1.32 | 4" x 17" | BP-408 | .57 | 2 |
| ABP-409 | 1.36 | 7" x 17" | BP-409 | .73 | 2 |
| ABP-410 | 1.53 | 8" x 17" | BP-410 | .73 | 2 |
| ABP-412 | 1.50 | 10" x 12" | BP-412 | .73 | 2 |
| ABP-413 | 1.37 | 10" x 14" | BP-413 | .77 | 2 |

| ALUMINUM Cat. No. | Net Price | Size | STEEL Cat. No. | Net Price | Ship. Wt. Lbs. |
|---|---|---|---|---|---|
| ABP-414 | $1.72 | 10" x 17" | BP-414 | $0.98 | 2 |
| ABP-418 | 2.16 | 11" x 17" | BP-418 | 1.01 | 3 |
| ABP-419 | 2.28 | 12" x 17" | BP-419 | 1.06 | 3 |
| ABP-422 | 2.41 | 13" x 17" | BP-422 | 1.13 | 3 |
| ABP-423 | .87 | 5" x 7" | BP-423 | .40 | 1 |
| ABP-424 | .99 | 5" x 13" | BP-424 | .63 | 1 |
| ABP-425 | 1.32 | 8" x 12" | BP-425 | .88 | 2 |
| ABP-426 | .87 | 4" x 6" | BP-426 | .40 | 1 |
| ABP-427 | 1.14 | 7" x 12" | BP-427 | .76 | 2 |
| ABP-428 | 1.36 | 6" x 17" | BP-428 | .73 | 2 |
| ABP-429 | 2.55 | 10" x 23" | BP-429 | 1.58 | 2 |
| ABP-430 | .87 | 4" x 8" | BP-430 | .40 | 1 |
| ABP-431 | 2.57 | 17" x 17" | BP-431 | 1.59 | 4 |
| ABP-432 | 2.41 | 8 1/2" x 15" | BP-432 | 1.13 | 1 1/2 |
| ABP-433 | 1.14 | 8" x 10" | BP-433 | .76 | 1 |



NEW YORK 59, N. Y.

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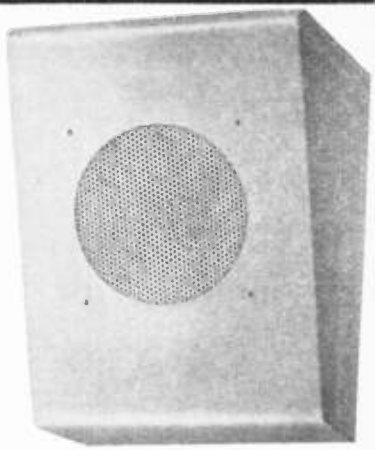
World Radio History

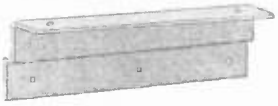
# PREMIER PRECISION BUILT METAL HOUSINGS

## METAL WALL SPEAKER BAFFLE

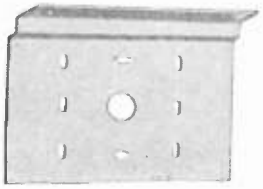
Sturdily constructed of #18 gauge cold rolled steel to eliminate splitting, warping, or cracking. Perforated grille is spot-welded behind speaker opening. Baffle interior has special undercoating to eliminate metallic sound. Supplied with mounting bracket for simple hanging on wall. Finished in brown hammertone, buff enamel or primer coat only.



Supplied with MOUNTING BRACKET for simple hanging on wall



| Catalog No. | Height | Width | Depth | Speaker Size | Net Price |
|---|---|---|---|---|---|
| WSB-8 | 11½" | 9½" | 7" | 8" | $ 5.04 |
| WSB-12 | 15½" | 13½" | 9¾" | 12" | 6.30 |



## WALL SPEAKER MOUNTING PLATE

**For Use with WSB-8 and WSB-12 Wall Speaker Baffles**

DESIGNED FOR SIMPLE MOUNTING OF SPEAKER BAFFLE TO STANDARD 2" x 4" AND 4" x 4" ELECTRICAL OUTLET BOXES

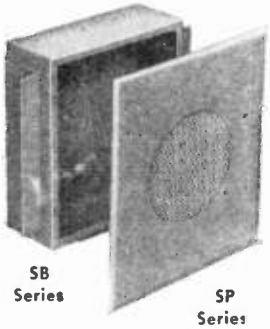
Bracket has two threaded holes for easy mounting to baffle. Made of No. 16 gauge cold rolled steel and finished in gray primer.

Catalog No. SMP-812 ..... .90 Net Price

## SPEAKER CABINETS

- Constructed of No. 18 gauge steel with perforated grille spot welded behind the opening.
- Front vertical corners are rounded.
- Supplied with handle.
- Removable back plate has key hole slots for hanging.
- Finished in Black Wrinkle.

| Cat. No. | H. | W. | D. | Hole Size | Speaker Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|---|---|---|
| SC-1006 | 10" | 10" | 6" | 4⅝" | 6" | 7⅜ | $3.81 |
| SC-1227 | 12" | 12" | 7" | 6½" | 8" | 10 | 4.80 |
| SC-1448 | 14" | 14" | 8" | 8½" | 10" | 13½ | 6.15 |
| SC-1668 | 16" | 16" | 8" | 11" | 12" | 16 | 8.13 |



SB Series

SP Series

## RECESSED SPEAKER BOXES

Designed with adjustable mounting brackets for easy installation in walls or acoustical tile ceilings. Speaker plate has beveled edges to give the same appearance as an acoustical tile, and is easily fastened to the speaker box by means of Tinnerman nuts. Box made of #20 gauge steel; plate of #16 gauge steel with perforated grille spot-welded behind the opening. Interior sprayed with special undercoating to eliminate metallic sound. Finished in gray primer or gray hammertone.

SPEAKER BOX SIZE

| Catalog No. | W H D | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|
| SB-1010 | 10 x 10 x 4" | 4 | $4.71 |
| SB-1012 | 10 x 12 x 4" | 5 | 4.98 |
| SB-1417 | 14 x 17 x 7½" | 10 | 7.47 |

SPEAKER PLATE SIZE

| Catalog No. | W. H. | Speaker Size | Ship. Wt. Lbs. | Net Price |
|---|---|---|---|---|
| SP-1212 | 12" 12" | 8" | 2½ | $2.34 |
| SP-1214 | 12" 14" | 8" | 3 | 2.49 |
| SP-1619 | 16" 19" | 12" | 5½ | 4.17 |

## Self-Spraying LACQUER Available in 3 Colors

| Catalog No. | To Match |
|---|---|
| SGL-101 | Premier Gray Wrinkle |
| GHL-102 | Premier Gray Hammertone |
| BHL-103 | Premier Brown Hammertone |

NET PRICE $1.95 EACH 12 oz. CAN

## CASTERS FOR RACKS AND CABINETS

Made of Plaskite non-marking composition wheel with Ball Bearing Swivel Plate. Packed one set of 4 in box with screws for assembly.

| Catalog No. | Wheel Dia. | Net Price |
|---|---|---|
| CA-4 | 2" | $3.60 set of 4 |
| CA-5 | 3" | 7.20 set of 4 |

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World Radio History

# LMB® Box Chassis

## *The Engineered Precision Line with Interlocking and Flangelocking Construction*

**"SAL-MET" NON-CORROSIVE FLUX**
**SOLDERS COPPER TO ALUMINUM ALUMINUM TO ALUMINUM, ETC.**

No special preparation on material to be soldered. Use conventional solder, applied with quick heating, regular soldering iron, torch or pot. Used by aircraft, government agencies and leading industrials.

Aluminum used in all LMB products is aircraft quality specifications type 3003-H 14.

Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following L. M. B. Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

**All prices quoted are dealer net. Manufacturers Special Discounts on Application.**

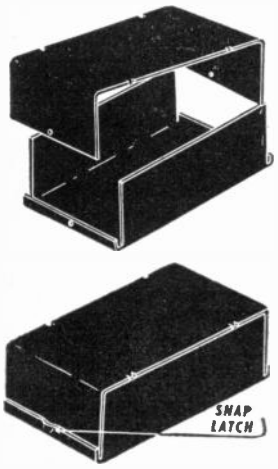
### INTERLOCKING (SCREW-FASTENED)

| Model | Size | Price | Model | Size | Price |
|---|---|---|---|---|---|
| M00 | 2¼" x 1½" x 1⅜" | .53 | 138 | 6¼" x 3½" x 2⅛" | 1.23 |
| 00Z | 2 5/16" x 2⅛" x 1¾" | .59 | 139 | 5½" x 3" x 1¼" | .93 |
| 000 | 3¼" x 2⅛" x 1⅝" | .63 | *140 | 3" x 4" x 5" | 1.20 |
| 00 | 4" x 2⅛" x 1⅝" | .66 | 140 | 3" x 4" x 5" | 1.50 |
| 100 | 2¾" x 2⅛" x 2⅝" | .83 | *141 | 6" x 4" x 3" | 1.33 |
| 101 | 4" x 2¼" x 1¼" | .81 | 141 | 6" x 4" x 3" | 1.68 |
| 102 | 4" x 2" x 2¾" | .95 | *142 | 6" x 4" x 5" | 1.55 |
| 107 | 4" x 2¼" x 2¼" | .89 | 142 | 6" x 4" x 5" | 1.95 |
| 108 | 5" x 2¼" x 2¼" | .96 | 143 | 4" x 4" x 2" | 1.23 |
| 135 | 3¾" x 3" x 2⅛" | .90 | 144 | 10" x 4" x 2½" | 2.02 |
| 136 | 5¼" x 3" x 2⅛" | 1.01 | 145 | 7" x 5" x 3" | 1.95 |
| 650 | 6½" x 2⅛" x 1⅝" | .98 | 146 | 8" x 6" x 4½" | 2.76 |
| 137 | 8" x 3" x 2¾" | 1.50 | 15 | 12" x 2" x 1¾" | 1.50 |
| 850 | 8½" x 2⅛" x 1⅝" | 1.26 | | | |

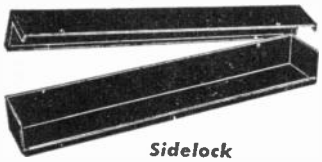
### SNAP LATCH

| No. | L W H | Price | No. | L W H | Price |
|---|---|---|---|---|---|
| SL-M00 | 2¼" x 1½" x 1⅜" | .53 | SL-135 | 3¾" x 3" x 2⅛" | .90 |
| SL-00Z | 2 5/16" x 2⅛" x 1¾" | .59 | SL-136 | 5¼" x 3" x 2⅛" | 1.01 |
| SL-000 | 3¼" x 2⅛" x 1⅝" | .63 | SL-137 | 8" x 3" x 2¾" | 1.50 |
| SL-00 | 4" x 2⅛" x 1⅝" | .66 | SL-138 | 6¼" x 3½" x 2⅛" | 1.23 |
| SL-100 | 2¾" x 2⅛" x 2⅝" | .83 | SL-139 | 5½" x 3" x 1¼" | .93 |
| SL-101 | 4¼" x 2¼" x 1¼" | .81 | SL-143 | 4" x 4" x 2" | 1.23 |
| SL-102 | 4" x 2" x 2¾" | .95 | SL-144 | 10" x 4" x 2½" | 2.02 |
| SL-107 | 4" x 2¼" x 2¼" | .89 | SL-145 | 7" x 5" x 3" | 1.95 |
| SL-108 | 5" x 2¼" x 2¼" | .96 | SL-15 | 12" x 2" x 1¾" | 1.50 |

*Interlocking*




*Flangelocking*



*Sidelock*

*Endlock*

### SIDELOCK and ENDLOCK CONSTRUCTION

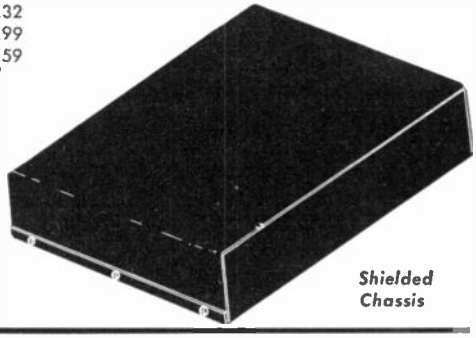
L. M. B. aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

| Model | Size | Price | Model | Size | Price |
|---|---|---|---|---|---|
| 221 | 2¾" x 3⅛" x 1⅝" | 1.05 | 753 | 7" x 5" x 3" | 2.39 |
| 321 | 3¼" x 2⅛" x 1⅝" | 1.05 | 754 | 7" x 5" x 4" | 2.58 |
| 421 | 4" x 2⅛" x 1⅝" | 1.05 | 858 | 8" x 5" x 8" | 4.44 |
| 422 | 4" x 2¼" x 2¼" | 1.20 | 863 | 8" x 6" x 3½" | 2.67 |
| 424 | 4" x 2" x 4" | 1.85 | 865 | 8" x 6" x 5" | 3.33 |
| 435 | 4" x 3" x 5" | 2.02 | 868 | 8" x 6" x 8" | 4.92 |
| 444 | 4" x 4" x 4" | 1.75 | 888 | 8" x 8" x 8" | 5.50 |
| 531 | 5¼" x 3" x 1½" | 1.20 | 1063 | 10" x 6" x 3½" | 3.33 |
| 532 | 5¼" x 3" x 2⅛" | 1.37 | 1085 | 10" x 8" x 5" | 4.13 |
| 534 | 5⅝" x 3" x 4" | 1.91 | 1221 | 12" x 2" x 1¾" | 1.74 |
| 543 | 5" x 4" x 3" | 1.74 | 1274 | 12" x 7" x 4" | 4.34 |
| 546 | 5" x 4" x 6" | 2.56 | 1754 | 17" x 5" x 4" | 4.92 |
| 645 | 6" x 4" x 5" | 2.43 | 7108 | 7" x 10" x 8" | 5.73 |
| 654 | 6" x 5" x 4" | 2.34 | 10108 | 10" x 10" x 8" | 6.75 |
| 666 | 6" x 6" x 6" | 3.16 | | | |
| 668 | 6" x 6" x 8" | 4.32 | | | |
| 686 | 6" x 8" x 6" | 3.99 | | | |
| 695 | 6" x 9" x 5" | 3.59 | | | |

### SHIELDED CHASSIS

| | L W H | Ea. | | L W H | Ea. |
|---|---|---|---|---|---|
| No. 20 Plain | 7½" x 7" x 2" | $1.56 | No. 21 Anodized | 13" x 10" x 3" | $5.43 |
| No. 20 Anodized | 7½" x 7" x 2" | 1.92 | No. 22 Plain | 17" x 10" x 3" | 4.73 |
| No. 21 Plain | 13" x 10" x 3" | 4.05 | No. 22 Anodized | 17" x 10" x 3" | 6.23 |

**PRICES SUBJECT TO CHANGE**



*Shielded Chassis*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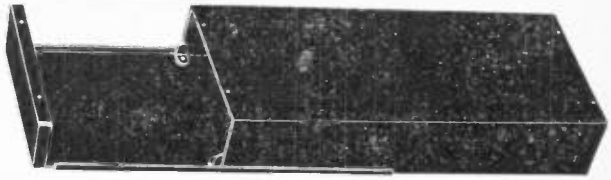
World Radio History

## SLIDE COVER (or dust cover) BOXES

**Designed by BROADCAST ENGINEERS**

These boxes lend themselves readily to Broadcast Application, Television Strips, Mobile Equipment, Terminal Block Boxes, Public Address Construction, Custom Built Equipment, Amateur Experimentation, and many other uses. They are also adaptable to telephone type of construction. Steel Plated or Aluminum Natural or Painted Finish.



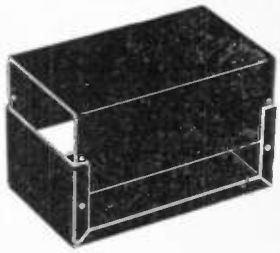
| | L W H | Ea. | | L W H | Ea. | | L W H | Ea. |
|---|---|---|---|---|---|---|---|---|
| No. 17—Natural Aluminum | 13" x 4⅛" x 2⅝" | $3.18 | No. 18—Natural Aluminum | 13" x 5¼" x 2⅝" | $3.51 | No. 19—Natural Aluminum | 17" x 3⅛" x 2⅝" | $3.36 |
| No. 17—Gray, Black, Brown | 13" x 4⅛" x 2⅝" | 3.95 | No. 18—Gray, Black, Brown | 13" x 5¼" x 2⅝" | 4.36 | No. 19—Gray, Black, Brown | 17" x 3⅛" x 2⅝" | 4.20 |

## TITE-FIT BOX CHASSIS

| | Each | DEALER NET Plain | Gray, Black, Brown |
|---|---|---|---|
| T-F 770 | 2¾x2⅛x1⅝ | $ .63 | $ .75 |
| T-F 771 | 2¾x2⅛x2¾ | .68 | .88 |
| T-F 772 | 3¼x2⅛x1⅛ | .66 | .78 |
| T-F 773 | 3½x2⅛x1⅝ | .66 | .78 |
| T-F 774 | 4 x2⅛x1⅝ | .68 | .88 |
| T-F 775 | 4 x2¼x2¼ | .71 | .90 |
| T-F 776 | 4 x2 x2¾ | .74 | .93 |
| T-F 777 | 4¼x2¼x1½ | .74 | .93 |
| T-F 778 | 5 x2¼x2¼ | .75 | .96 |
| T-F 779 | 5 x4 x3 | .93 | 1.23 |

| | Each | DEALER NET Plain | Gray, Black, Brown |
|---|---|---|---|
| T-F 780 | 5¼x3 x2⅛ | .83 | $1.04 |
| T-F 781 | 6 x5 x4 | 1.34 | 1.71 |
| T-F 782 | 7 x5 x3 | 1.28 | 1.73 |
| T-F 783 | 8 x6 x3½ | 1.53 | 2.10 |
| T-F 784 | 10 x6 x3½ | 1.79 | 2.37 |
| T-F 785 | 10 x2 x1⅝ | 1.01 | 1.46 |
| T-F 786 | 12 x2½x2¼ | 1.26 | 1.56 |
| T-F 787 | 12 x7 x4 | 2.33 | 3.21 |
| T-F 788 | 17 x5 x4 | 2.45 | 3.22 |

## JIFFY BOX CHASSIS



Just push together to close and the Catches snap into place—just a slight pressure of the fingers to open.

| | Each | PRICES Plain | Gray, Black, Brown |
|---|---|---|---|
| J-870 | 2¾x2⅛x1⅝ | $ .67 | $ .79 |
| J-871 | 2¾x2⅛x2¾ | .73 | .93 |
| J-872 | 3¼x2⅛x1⅛ | .70 | .82 |
| J-873 | 3½x2⅛x1⅝ | .71 | .83 |
| J-874 | 4 x2⅛x1⅝ | .73 | .93 |
| J-875 | 4 x2¼x2¼ | .77 | .96 |
| J-876 | 4 x2 x2¾ | .80 | .99 |
| J-877 | 4¼x2¼x1½ | .80 | .99 |
| J-878 | 5 x2¼x2¼ | .82 | 1.03 |
| J-879 | 5 x4 x3 | 1.04 | 1.34 |

| | Each | PRICES Plain | Gray, Black, Brown |
|---|---|---|---|
| J-880 | 5¼x3 x2⅛ | $ .91 | $1.12 |
| J-881 | 6 x5 x4 | 1.51 | 1.88 |
| J-882 | 7 x5 x3 | 1.45 | 1.80 |
| J-883 | 8 x6 x3½ | 1.70 | 2.27 |
| J-884 | 10 x6 x3½ | 2.07 | 2.65 |
| J-885 | 10 x2 x1⅝ | 1.11 | 1.66 |
| J-886 | 12 x2½x2¼ | 1.41 | 1.71 |
| J-887 | 12 x7 x4 | 2.77 | 3.65 |
| J-888 | 17 x5 x4 | 2.92 | 3.69 |

## UTILITY BOXES

Give approximately 25% more usable spaces for building.

| | | ALUM. GAUGE Each | PRICES Plain | Gray, Black, or Brown |
|---|---|---|---|---|
| U-C 970 | 4x 4x2 | .040 | $1.46 | $1.70 |
| U-C 971 | 5x 4x3 | .040 | 1.58 | 1.85 |
| U-C 972 | 6x 5x4 | .040 | 2.03 | 2.35 |
| U-C 973 | 6x 6x6 | .040 | 2.38 | 2.82 |
| U-C 974 | 7x 5x3 | .040 | 2.78 | 3.25 |
| U-C 975 | 9x 6x5 | .051 | 3.15 | 3.63 |

| | | ALUM. GAUGE Each | PRICES Plain | Gray, Black, or Brown |
|---|---|---|---|---|
| U-C 976 | 10x 8x7 | .051 | $4.32 | $5.00 |
| U-C 977 | 12x 7x6 | .051 | 4.20 | 4.95 |
| U-C 978 | 10x10x8 | .051 | 5.51 | 6.40 |
| U-C 979 | 12x11x8 | .051 | 6.59 | 7.49 |
| U-C 980 | 15x 9x7 | .051 | 6.68 | 7.58 |

## MINIATURE BOX CHASSIS

Precision made in steel only, cadmium plated. Made with or without mounting ears. Covers solder in when used in assembly.

**SIZES**

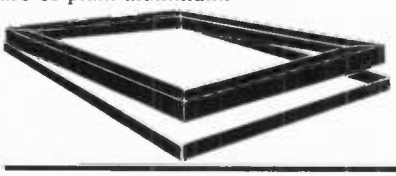
| No. | L | W | H |
|---|---|---|---|
| M-01 | 1⅛" | 1" | ½" |
| 02 | 1⅛" | 1" | ⅝" |
| 03 | 1⅛" | 1½" | ¾" |
| 04 | 1¼" | 1¼" | ⅞" |
| 05 | 1½" | 1⅛" | ¾" |
| 06 | 1½" | 1⅛" | ½" |
| 07 | 1¾" | 1" | ¾" |
| 08 | 2¼" | 1" | 5/16" |
| 09 | 2⅝" | 1" | 5/16" |
| 010 | 1¾" | 1¼" | ⅞" |
| 011 | 2" | 1¼" | ¾" |
| 012 | 2" | 1¼" | 1" |
| 013 | 1¾" | 1¼" | 1" |
| 014 | 1½" | 1½" | ¾" |
| 015 | 2" | 1¾" | ½" |
| 016 | 2" | 1¾" | ¾" |
| 017 | 2" | 1¾" | 1" |
| 018 | 2" | 2" | 1¼" |
| 019 | 2½" | 1¾" | 9/16" |
| 020 | 1½" | 1½" | 1" |
| 021 | 2½" | 1¾" | ¾" |
| 022 | 3" | 1¾" | ½" |

**PRICES**

| | Plain | Plated |
|---|---|---|
| With Mounting Ears in Lots of 100 to 999 ea. | .45 | .60 |
| Without Mounting Ears 100 to 999 ea. | .38 | .53 |
| Covers for LMB Miniature Boxes 100 to 999 ea. | 15 | |

## PRINTED CIRCUIT CHASSIS

Printed circuit chassis are made with a shallow base with a cap cover on the bottom so that it can be removed to work on the assembly without removing the printed circuit from the chassis. All printed circuit chassis are of plain aluminum.



**STANDARD SIZES**

| Model No. | L x W x D | Mounting Lip | |
|---|---|---|---|
| PC 325 | 3 x 2 x ½ | 3/16" | ea. .51 |
| PC 635 | 6 x 3 x ½ | 3/16" | ea. .60 |
| PC 645 | 6 x 4 x ½ | ⅛" | ea. .71 |
| PC 855 | 8 x 5 x ½ | ⅛" | ea. .83 |
| PC 10875 | 10 x 8 x ¾ | ½" | ea. 1.28 |
| PC 12975 | 12 x 9 x ¾ | ⅝" | ea. 1.50 |

| Model No. | Size | Mounting Lip |
|---|---|---|
| D 7131 | 7 x 13 x 1 | ½" |

for use in building with the Danco model No. 14 printed amplifier circuit....ea. $1.09

| Model No. | Size | Mounting Lip |
|---|---|---|
| D 541 | 5 x 4 x 1 | ½" |

for use in building with the Danco models No. 21, 31, 41 printed preamplifier circuit ..... ea. $ .59

**PRICES SUBJECT TO CHANGE**

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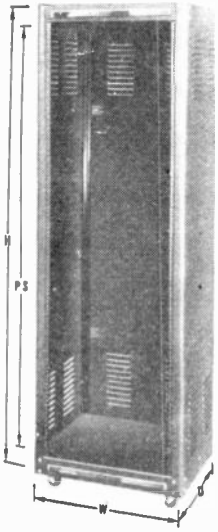
World Radio History

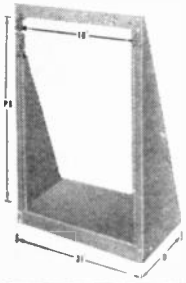
# CALIFORNIA *Chassis* COMPANY

### CABINET RACKS

These racks are made entirely of 16 gauge steel except for the heavy steel panel supports. They have universal spacing, the holes being tapped for 10/32" screws. Panels fit into a recess so that the edges do not show. Mounting plate on bottom of rack permits casters to be fastened directly to base for easy mobility. Casters are not included in price of rack but may be ordered separately. No. TC-10.
All standard 19" panels RETMA, Western Electric or Amateur will fit these racks.
Double rows of louvres side and rear give ample ventilation.
Finish is black wrinkle, gray wrinkle or silver hammertone. Black will be furnished unless specified otherwise.



| CAT. NO. | PANEL SPACE | HEIGHT | WIDTH | DEPTH | DEPTH INSIDE CLEAR. | SHIP. WT. LBS. |
|---|---|---|---|---|---|---|
| CR-36 | 36¾ | 42 | 22 | 17 | 15½ | 90 |
| CR-42 | 42 | 47¼ | 22 | 17 | 15½ | 96 |
| CR-61 | 61¼ | 66½ | 22 | 17 | 15½ | 120 |
| CR-77 | 77 | 82¼ | 22 | 17 | 15½ | 145 |
| CRD-36 | 36¾ | 42 | 22 | 24 | 22½ | 99 |
| CRD-42 | 42 | 47¼ | 22 | 24 | 22½ | 105 |
| CRD-61 | 61¼ | 66½ | 22 | 24 | 22½ | 133 |
| CRD-77 | 77 | 82¼ | 22 | 24 | 22½ | 160 |



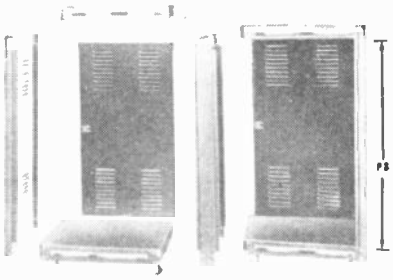
### DOR SERIES

This open rack is made of 16 gauge steel. It is useful where the larger, heavier floor model is not necessary.

Mounting holes are on universal centers tapped 10/32".

| Cat. No. | Panel Space | Overall Height | Width | Depth | Ship. Wt. |
|---|---|---|---|---|---|
| DOR-21 | 21 x 19 | 25 | 21 | 12 | 18 |
| DOR-28 | 28 x 19 | 32 | 21 | 12 | 19 |

### MULTI RACK SERIES

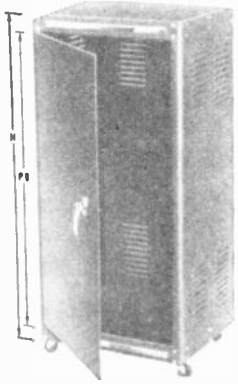


With this unit and a standard rack of the same size one can make a multiple rack or a series of connected racks. Each unit consists of a door, top, bottom, and a multi-rack connecting unit. This must have the same panel space as the unit it is to be used with. All hardware except casters is furnished. Colors are black rwinkle, gray wrinkle or gray hammertone.

| CATALOG NO. | PANEL SPACE | FITS RACK | SHPG. WT. |
|---|---|---|---|
| MR-36 | 36¾ | CR-36 | 75 |
| MR-42 | 42 | CR-42 | 80 |
| MR-61 | 61¼ | CR-61 | 100 |
| MR-77 | 77 | CR-77 | 118 |

### FRONT DOOR RACKS

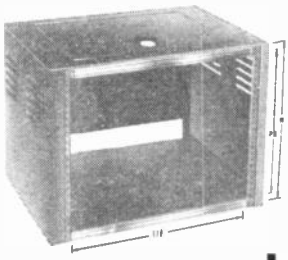
This deluxe rack series has, in addition to the rear door, a front door which completely encloses the panels. Rack strips may be moved towards the rear of the rack to allow space for meters, switches, etc. Rack strips are punched with universal spacing, and tapped 10/32". Casters, TC-10, fit to base of rack, but are not included in price. Finish is black wrinkle (B), Graw wrinkle (G), or gray hammertone (GH). Black wrinkle shipped if no color is specified.



| CATALOG NO. | HEIGHT | PANEL SPACE | SHPG. WT. |
|---|---|---|---|
| FDR-36 | 42 | 36¾ | 102 |
| FDR-42 | 47¼ | 42 | 118 |
| FDR-61 | 66½ | 61¼ | 152 |

### DESK CABINET RACKS

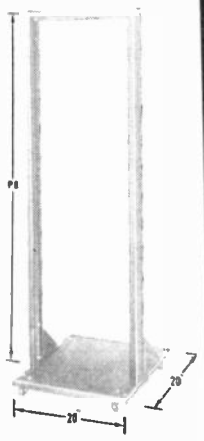
This solid welded, rounded front, deluxe desk cabinet has a professional look as well as being a sturdy utility unit. Embossed feet are on all sizes to reduce marring.
Cabinets have universal punching, accommodating W. E.; RETMA; or Amateur notched panels. Unit is made from 16 ga. steel, hav niga 2" opening on bottom rear for ventilation in addition to side louvers.
The five smaller models have solid welded backs. The five larger models have a removable hinged rear door.
All models clear 14½" inside depth — Outside width is 21½". Black wrinkle is standard. If gray wrinkle or gray hammertone is desired please specify. No additional charge.



| CATALOG NO. | PANEL SPACE | HEIGHT | SHPG. WT. |
|---|---|---|---|
| DCR-7 | 7 | 8 15/16 | 25 |
| DCR-8 | 8¾ | 10 11/16 | 27 |
| DCR-10 | 10½ | 12 7/16 | 29 |
| DCR-12 | 12¼ | 14 3/16 | 31 |
| DCR-14 | 14 | 15 13/16 | 33 |
| DCR-17 | 17½ | 19 7/16 | 37 |
| DCR-21 | 21 | 22 13/16 | 39 |
| DCR-26 | 26¼ | 28 3/16 | 47 |
| DCR-31 | 31½ | 33 7/16 | 51 |
| DCR-35 | 35 | 36 13/16 | 58 |

### OR SERIES

These open racks are constructed so the uppermost panel mounts at the top of the ⅛" steel upright. There is no loss of space at the top. Rack uprights are punched with universal spacing and tapped 10/32". Two brackets of ⅛" steel bind the uprights and a chassis like base into one solid unit.



| CATALOG NO. | PANEL SPACE | OVERALL HEIGHT | SHPG. WT. |
|---|---|---|---|
| OR-31 | 31½ | 32¾ | 27 |
| OR-36 | 36¾ | 38 | 28 |
| OR-42 | 42 | 43¼ | 30 |
| OR-61 | 61¼ | 62½ | 37 |
| OR-66 | 66½ | 67¾ | 39 |
| OR-71 | 71¾ | 73 | 41 |
| OR-77 | 77 | 78¼ | 42 |

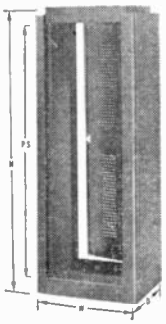
### SOLID WELDED RACKS

These neat all welded solid racks are constructed entirely of 16 gauge steel.

Panel mounting strips are ⅛" steel punched to accept all standard panels and tapped for 10-32 screws.

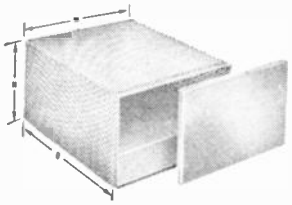
Panel mounting screws are concealed by swinging rounded corner trims. These can be removed but normally are pulled forward and swung out to give access to the panel mounting screws. This eliminates usual assembly and disassembly problems encountered. Entire bottom of the unit is flush with the floor.

Below rear door are three ⅞" diameter knockouts to accept ½" conduit.



| Cat. No. | Panel Space | H | W | D | Depth Inside Clear. | Open. Rear Clear. | Wt |
|---|---|---|---|---|---|---|---|
| WSR-42 | 42 | 50⅜ | 23 13/16 | 18 11/16 | 17⅛ | 19⅝ | 138 |
| WSR-61 | 61¼ | 69⅝ | 23 13/16 | 18 11/16 | 17⅛ | 19⅝ | 150 |

### LOW TEMPERATURE CABINETS



This cabinet made of perforated metal with 3/32 holes on 3/16 centers, solves most thermal problems. It is a real space saver, the chassis being almost the size of the cabinet.

Chassis is .063 aluminum and bolts to the rear panel which is welded to the perforated screen. Rear steel panel has rectangular hole in it to allow access to connectors in chassis. Front panel has no screws but is held on by control knobs mounted in chassis.

Chassis and front are one piece when unit is complete and can be easily removed yet cabinet chassis and front panel are solidly held together.

| Catalog Number | Cabinet Size H | W | D | Front Panel | Chassis Size | Hole in Rear Panel |
|---|---|---|---|---|---|---|
| LTC-463 | 4½ x | 7 3/16 x | 9 5/16 | 4½ x 7¼ | 6 13/16 x 8 13/16 x 1½ | ⅞ x 4 |
| LTC-464 | 4½ x | 9 5/16 x | 7 5/16 | 4½ x 9 5/16 | 8 13/16 x 6 13/16 x 1½ | ⅞ x 5 |
| LTC-469 | 5 11/16 x | 8¾ x | 11 13/16 | 5⅝ x 8¾ | 8 7/16 x 10 13/16 x 2 | 1½ x 5 |
| LTC-470 | 5 11/16 x | 11 13/16 x | 8 11/16 | 5⅝ x 11 13/16 | 10 15/16 x 8 7/16 x 2 | 1½ x 6 |

## CALIFORNIA CHASSIS CO. — Lynwood, California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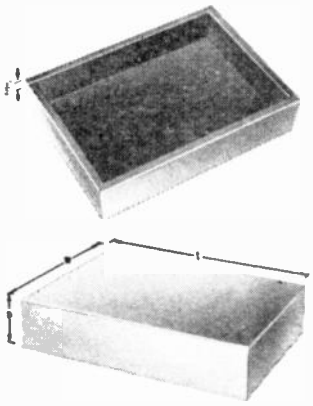
# CALIFORNIA *Chassis* COMPANY



**STANDARD ALUMINUM CHASSIS—All chassis are stamped and formed from one piece of material. All four corners welded and sides flanged to accommodate bottom plates.**

| Aluminum | W | L | D | Gauge | App. Wt. |
|---|---|---|---|---|---|
| A-134 | 2½ | 4½ | 1 | 18 | ¼ |
| A-135 | 3½ | 4½ | 1 | 18 | ¼ |
| A-136 | 3½ | 5½ | 1 | 18 | ¼ |
| A-137 | 4 | 6 | 1½ | 18 | ¼ |
| A-154 | 4 | 6 | 2 | 18 | ¼ |
| A-149 | 4 | 6 | 3 | 18 | ¼ |
| A-138 | 4 | 5 | 2 | 18 | ⅜ |
| A-121 | 5½ | 5½ | 1 | 18 | ¼ |
| A-101 | 5 | 7 | 2 | 18 | ⅜ |
| A-150 | 5 | 7 | 3 | 18 | ⅜ |
| A-147 | 4 | 8 | 2 | 18 | ⅜ |
| A-119 | 4½ | 8 | 1½ | 18 | ⅜ |
| A-122 | 5 | 9 | 1½ | 18 | ⅜ |
| A-102 | 5 | 9½ | 2½ | 18 | ⅜ |
| A-120 | 6 | 8 | 2 | 18 | ¾ |
| A-103 | 5 | 10 | 3 | 18 | ½ |
| A-104 | 7 | 7 | 2 | 18 | ½ |
| A-105 | 7 | 9 | 2 | 18 | ¾ |
| A-113 | 7 | 11 | 2 | 18 | ¾ |
| A-106 | 8 | 10 | 2½ | 18 | 1 |

| Aluminum | W | L | D | Gauge | App. Wt. |
|---|---|---|---|---|---|
| A-106 | 6 | 14 | 3 | 18 | 1 |
| A-114 | 7 | 13 | 2 | 18 | ¾ |
| A-139 | 5 | 13 | 3 | 18 | ¾ |
| A-107 | 8 | 12 | 2½ | 18 | 1 |
| A-117 | 7 | 12 | 3 | 18 | 1 |
| A-124 | 8 | 12 | 3 | 18 | 1 |
| A-124 | 10 | 12 | 3 | 18 | 1¼ |
| A-129 | 12 | 12 | 3 | 18 | 1½ |
| A-115 | 10 | 14 | 3 | 18 | 1¼ |
| A-130 | 7 | 15 | 3 | 18 | 1¼ |
| A-125 | 9 | 15 | 3 | 18 | 1½ |
| A-118 | 4 | 17 | 3 | 18 | 1 |
| A-145 | 6 | 17 | 3 | 18 | 1¼ |
| A-144 | 7 | 17 | 2 | 18 | 1 |
| A-152 | 7 | 17 | 3 | 18 | 1½ |
| A-109 | 8 | 17 | 2 | 18 | 1½ |
| A-116 | 8 | 17 | 3 | 16 | 1½ |
| A-140 | 10 | 17 | 2 | 16 | 2¼ |
| A-110 | 10 | 17 | 3 | 16 | 2½ |
| A-153 | 10 | 17 | 4 | 16 | 3 |

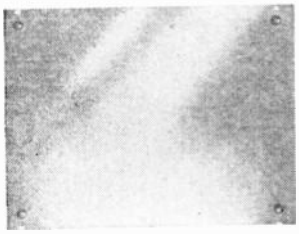
| Aluminum | W | L | D | Gauge | App. Wt. |
|---|---|---|---|---|---|
| A-141 | 10 | 17 | 5 | 14 | 3¼ |
| A-146 | 11 | 17 | 2 | 16 | 1½ |
| A-128 | 11 | 17 | 3 | 14 | 2½ |
| A-127 | 12 | 17 | 2 | 14 | 2¼ |
| A-123 | 12 | 17 | 3 | 14 | 2½ |
| A-126 | 13 | 17 | 2 | 14 | 2½ |
| A-111 | 13 | 17 | 3 | 14 | 2¾ |
| A-112 | 13 | 17 | 4 | 14 | 3¼ |
| A-142 | 13 | 17 | 5 | 14 | 3½ |
| A-133 | 14 | 17 | 3 | 14 | 3¼ |
| A-131 | 15 | 17 | 4 | 14 | 3¾ |
| A-148 | 15 | 17 | 6 | 14 | 4 |
| A-132 | 10 | 23 | 3 | 16 | 2½ |
| A-155 | 17 | 17 | 3 | 16 | 2½ |
| A-143 | 17 | 17 | 4 | 14 | 4¼ |

**ENTIRE LINE OF CHASSIS DUPLICATED IN STEEL.**

**USE PREFACE "C" INSTEAD OF "A" FOR PLATED STEEL CHASSIS.**

**Special chassis made regardless of quantity using a set up charge of $3.60 plus cost of next larger chassis. Unless specified, all aluminum chassis are etched finish.**

## CHASSIS BOTTOM PLATES



| CATALOG NO. | SIZE | ALUM. WEIGHT | STEEL WEIGHT |
|---|---|---|---|
| BP-134 | 2½x 4½ | 1 oz. | 2 oz. |
| BP-135 | 3½x 4½ | 2 oz. | ¼ lb. |
| BP-136 | 3½x 5½ | 2 oz. | ¼ lb. |
| BP-137 | 4 x 6 | 2 oz. | ¼ lb. |
| BP-138 | 4 x 5 | 2 oz. | ¼ lb. |
| BP-147 | 4 x 8 | ¼ lb. | ½ lb. |
| BP-121 | 5½x 5½ | 2 oz. | ½ lb. |
| BP-101 | 5 x 7 | 2 oz. | ¼ lb. |
| BP-119 | 4½x 8 | ¼ lb. | ½ lb. |
| BP-122 | 5 x 9 | ¼ lb. | ½ lb. |
| BP-102 | 5 x 9½ | ¼ lb. | ½ lb. |
| BP-120 | 6 x 8 | ¼ lb. | ½ lb. |
| BP-151 | 6 x14 | ½ lb. | 1¼ lb. |
| BP-103 | 5 x10 | ¼ lb. | ½ lb. |
| BP-104 | 7 x 7 | ¼ lb. | ½ lb. |

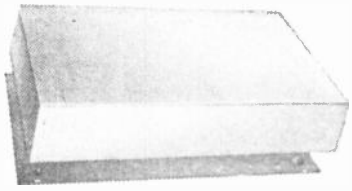
| CATALOG NO. | SIZE | ALUM. WEIGHT | STEEL WEIGHT |
|---|---|---|---|
| BP-105 | 7 x 9 | ¼ lb. | ¾ lb. |
| BP-113 | 7 x11 | ½ lb. | 1 lb. |
| BP-106 | 8 x10 | ¼ lb. | ¾ lb. |
| BP-139 | 5 x13 | ¼ lb. | ½ lb. |
| BP-114 | 7 x13 | ½ lb. | 1 lb. |
| BP-107 | 8 x12 | ¾ lb. | 1¼ lb. |
| BP-117 | 7 x12 | ½ lb. | 1 lb. |
| BP-108 | 10 x12 | ¾ lb. | 1½ lb. |
| BP-129 | 12 x12 | ¾ lb. | 1½ lb. |
| BP-115 | 10 x14 | ¾ lb. | 2 lb. |
| BP-130 | 7 x15 | ½ lb. | 1 lb. |
| BP-125 | 9 x15 | ¾ lb. | 1½ lb. |
| BP-118 | 4 x17 | ½ lb. | 1 lb. |
| BP-145 | 6 x17 | ½ lb. | 1 lb. |
| BP-144 | 7 x17 | ½ lb. | 1 lb. |
| BP-109 | 8 x17 | ½ lb. | 1¾ lb. |
| BP-110 | 10 x17 | ¾ lb. | 2½ lb. |
| BP-128 | 11 x17 | 1 lb. | 2 lb. |
| BP-123 | 12 x17 | 1¼ l.b | 3 lb. |
| BP-111 | 13 x17 | 1½ lb. | 3¼ lb. |
| BP-133 | 14 x17 | 1½ lb. | 3½ lb. |
| BP-131 | 15 x17 | 1½ lb. | 3½ lb. |
| BP-143 | 17 x17 | 2 lb. | 5 lb. |
| BP-132 | 10 x23 | 1½ lb. | 3¼ lb. |

Steel bottom plates may be supplied in either zinc plate or black enamel — aluminum is caustic etched.
Actual size of BP is ⅛" under chassis size which is shown. This allows 1/16" of set back when attached to bottom of chassis.

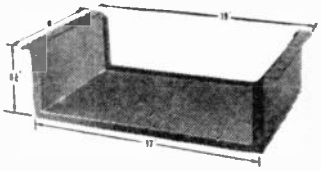
## HEAVY DUTY CHASSIS 16 GAUGE STEEL

| | | |
|---|---|---|
| HD-109 | 6¾# | 8x17x2 |
| HD-116 | 7½ | 8x17x3 |
| HD-110 | 8½ | 10x17x3 |
| HD-146 | 8 | 11x17x2 |
| HD-128 | 10 | 11x17x3 |
| HD-126 | 9½ | 13x17x2 |
| HD-111 | 11½ | 13x17x3 |
| HD-112 | 12 | 13x17x4 |

Bottom Plates Included



## PANEL CHASSIS



| CAT. NO. | HEIGHT | WEIGHT |
|---|---|---|
| PC-110 | 1¾ | 2 # |
| PC-111 | 3½ | 2¾ |
| PC-112 | 5¼ | 4 |
| PC-113 | 7 | 4½ |
| PC-114 | 8¾ | 5¾ |
| PC-115 | 10½ | 6¾ |
| PC-116 | 12¼ | 7½ |
| PC-117 | 14 | 8½ |

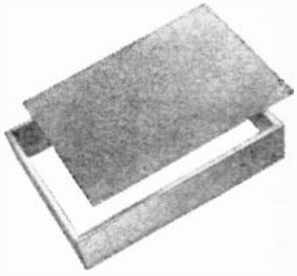
Larger Sizes On Request

These are constructed so the sharp rib corner is cut to a 45° angle protecting the user's wrist. 16 gauge zinc steel is standard. 14 gauge etched aluminum on request at no added cost.

## REMOVABLE TOP CHASSIS

| Cat. No. | Weight | Dimensions |
|---|---|---|
| RT-1 | 5¼# | 10x17x3 |
| RT-2 | 7 | 13x17x3 |
| RT-3 | 6½ | 10x17x4 |
| RT-4 | 9 | 13x17x4 |

Experimenters and the radio amateur when designing, will find it economical to use this type chassis, as the tops and bottoms may be easily replaced or discarded. Steel-Electro Zinc Only.



### TOPS ONLY FOR REMOVABLE TOP CHASSIS

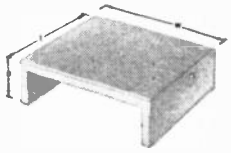
| Cat. No. | Weight | Dimensions |
|---|---|---|
| T-1 | 3# | 10x17 |
| T-2 | 4 | 13x17 |

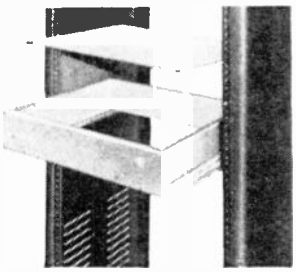
Made From 16 Gauge Steel — Electro Zinc Finish

## OPEN END CHASSIS

| Cat. No. | Weight | W L D |
|---|---|---|
| EC-1 | 1 # | 7 x 6x2 |
| EC-2 | ¾ | 5 x 7x1½ |
| EC-3 | 1 | 5½x 9x1½ |
| EC-4 | 1¼ | 7½x 9x1½ |
| EC-5 | 1½ | 7 x13x1½ |
| EC-6 | 2¼ | 7¾x15x2 |
| EC-7 | 1 | 7 x 8x2 |
| EC-8 | 1¼ | 7 x10x2 |

These chassis are ideal for any type of unit which is built-up, such as a record changer. Steel — Electro Zinc Only



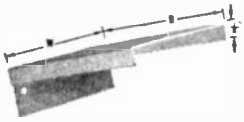


## SLIDING DRAWER CHASSIS

The drawer chassis is used where there is a need to pull out the chassis without disconnecting it from the rack. Chassis rolls in and out on ball bearings in a formed channel. When assembled it forms a rigid unit which will fit any 19" rack. Brackets are ⅛" Aluminum. Chassis and top plate are 1 gauge aluminum. Finish, except for slide rail assembly, is gray hammertone.

| Cat. No. | Chassis Size | Brk. | H | Wt. |
|---|---|---|---|---|
| SD-399 | 16¾x14x3 | 6½" | 6½" | 2 |

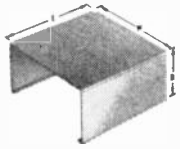
## PLATFORM CHASSIS



These steel platforms are useful as variable level chassis simply by fastening to any side of a carrying case, utility box, etc. They may also be used as shields. Black enamel finish.

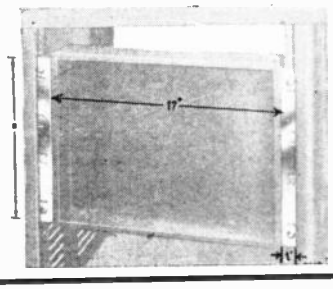
| | | | | |
|---|---|---|---|---|
| CD-260 | 4¾ | 5½ | CAB-4 | 1# |
| CD-261 | 4¾ | 4½ | CAB-5 | ¾ |
| CD-262 | 5¾ | 5½ | CAB-7 & CC-282 | 1 |

## MINIATURE ALUMINUM CHASSIS



These are small open end chassis for use where space is limited.

| Catalog No. | Width | Length | Depth | Approx. Shpg. Wt. |
|---|---|---|---|---|
| MA-210 | 2⅝ | 2¾ | 1¼ | ¼ # |
| MA-211 | 1¾ | 3⅛ | 1 | ¼ |
| MA-212 | 3¼ | 4½ | 2 | ¼ |
| MA-213 | 2¾ | 4⅛ | 1 | ¼ |
| MA-214 | 3¾ | 4⅛ | 1½ | ¼ |
| MA-215 | 3 | 6⅛ | 1¼ | ¼ |



## CHASSIS FLANGES

These 1" chassis flanges will convert any 17" chassis to a 19" panel rack chassis. Made of 16 gauge Zinc plated steel.

| Catalog No. | Height | Shpg. Wt. |
|---|---|---|
| CF-12 | 5¼ | ½ # |
| CF-13 | 7 | ½ |
| CF-14 | 8¾ | 1 |
| CF-15 | 10½ | 1 |
| CF-16 | 12¼ | 1 |
| CF-17 | 14 | 1 |

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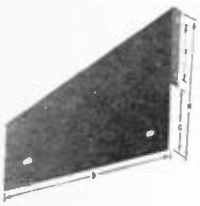
World Radio History

# CALIFORNIA *Chassis* COMPANY



### CHASSIS MOUNTING BRACKETS

To assure the proper support for a chassis a sturdy mounting bracket it uted. Flange is 5/8" inside dimension. Elongated hole 3/16" x 1 1/2" is centered in flange. "X" shows the distance between flange holes. Finished in Zinc plated "C" or Wrinkle "W" may be had at additional cost of 15%.

| Black Enamel | Height | x | Depth | Clearance | Wt. |
|---|---|---|---|---|---|
| E-58B | 6 1/2 | 2 1/2 | 8 | 3 1/16 | 1 1/4 |
| E-57B | 6 1/2 | 2 1/2 | 9 | 3 1/16 | 1 1/2 |
| E-46B | 6 1/2 | 2 1/2 | 10 | 3 1/16 | 1 3/4 |
| E-59B | 6 1/2 | 2 1/2 | 11 | 3 1/16 | 1 3/4 |
| E-49B | 6 1/2 | 2 1/2 | 12 | 3 1/16 | 1 3/4 |
| E-60B | 6 1/2 | 2 1/2 | 13 | 3 1/16 | 2 |
| E-50B | 8 1/2 | 3 1/2 | 10 | 4 1/16 | 2 1/2 |
| E-51B | 8 1/2 | 3 1/2 | 13 | 4 1/16 | 3 |
| E-52B | 12 | 7 | 15 | 4 1/16 | 4 1/2 |
| E-53B | 14 | 8 | 17 | 5 1/16 | 5 3/4 |

### TRIANGULAR MOUNTING BRACKETS

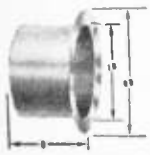
| Cat. No. | Height | Dimensions |
|---|---|---|
| MB-55 | 1/2 | 5x5 |
| MB-77 | 1 1/2 | 7x7 |
| MB-99 | 1 3/4 | 9x9 |

Steel — Black Enamel Only

### CHASSIS SUPPORT ANGLES

These angles when bolted to the sides of a cabinet will support a heavy chassis unit. They are made of 1/8" thick steel and are finished in black enamel only.

| Cat. No. | Length | Width | Shpg. Lbs. Wt. |
|---|---|---|---|
| CA-12 | 12 | 3 | 3 |
| CA-14 | 14 1/2 | 3 | 4 |



### METER SHIELD

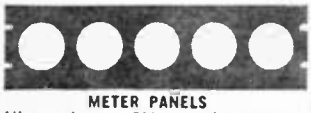
This shield is made of spun aluminum. It will fit over the meter and effectively stops most interference. Furnished with no holes and in natural finish only.

| Catalog Number | L | I.D. | O.D. | Meter Size |
|---|---|---|---|---|
| MSA-2 | 2-3/16 | 2-1/32 | 2 7/8 | 2 |
| MSA-3 | 2 | 2-25/32 | 3 3/4 | 3 |

### RELAY RACK PANELS

Regular panels are made from 1/8" steel or aluminum material. Aluminum is 1100 H 14. Notching is either Western Electric (WE) or Amateur (A). Finish Black or Gray Wrinkle or Silver Gray Hammertone. Aluminum is standard and will be sent unless steel is specified. Panels in any material will be furnished 24" wide instead of 19" wide at twice the cost.

| Notching Western Electric | Amateur | Height | Width | Wt. Alum. | Wt. Steel |
|---|---|---|---|---|---|
| PW-10 | PA-10 | 1 3/4 | 19 | 1/2 | 1 1/4 |
| PW-11 | PA-11 | 3 1/2 | 19 | 3/4 | 2 1/4 |
| PW-12 | PA-12 | 5 1/4 | 19 | 1 1/4 | 4 |
| PW-13 | PA-13 | 7 | 19 | 1 1/2 | 4 3/4 |
| PW-14 | PA-14 | 8 3/4 | 19 | 2 | 6 |
| PW-15 | PA-15 | 10 1/2 | 19 | 2 1/2 | 6 3/4 |
| PW-16 | PA-16 | 12 1/4 | 19 | 3 | 8 3/4 |
| PW-17 | PA-17 | 14 | 19 | 3 1/2 | 9 3/4 |
| PW-18 | PA-18 | 15 3/4 | 19 | 4 | 10 3/4 |
| PW-19 | PA-19 | 17 1/2 | 19 | 4 1/2 | 12 |
| PW-20 | PA-20 | 19 1/4 | 19 | 5 | 13 |
| PW-21 | PA-21 | 21 | 19 | 5 1/2 | 15 3/4 |
| PW-22 | PA-22 | 24 1/2 | 19 | 6 | 18 1/2 |
| PW-23 | | 26 1/4 | 19 | 7 | 20 1/4 |



### METER PANELS

All panels are 5 1/4" x 19" x 1/8" steel or aluminum, black or grey wrinkle — designed to handle either 2" or 3" meters. All units Western Electric notch.

**ALUMINUM**

| Cat. No. | Wt. | No. Holes | Dia. |
|---|---|---|---|
| MPA-52 | 1 1/4 | 5 | 2 3/16 |
| MPA-52 | 1 1/4 | 5 | 2 3/16 |
| MPA-33 | 1 1/8 | 3 | 2 13/16 |
| MPA-53 | 1 | 5 | 2 13/16 |

**STEEL**

| Cat. No. | Wt. | No. Holes | Dia. |
|---|---|---|---|
| MPS-32 | 3 | 3 | 2 3/16 |
| MPS-52 | 2 3/4 | 5 | 2 3/16 |
| MPS-33 | 3 1/2 | 3 | 2 13/16 |
| MPS-53 | 3 | 5 | 2 13/16 |

Small holes are for 2" meters, larger holes are for 3" meters.

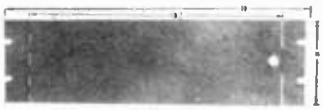
### HARD ALUMINUM PANELS

| Cat. No. | Height | Width | Wt. |
|---|---|---|---|
| PWHA-10 | 1 3/4 | 19 | 1/2 |
| PWHA-11 | 3 1/2 | 19 | 3/4 |
| PWHA-12 | 5 1/4 | 19 | 1 1/4 |
| PWHA-13 | 7 | 19 | 1 1/2 |
| PWHA-14 | 8 3/4 | 19 | 2 1/2 |
| PWHA-15 | 10 1/2 | 19 | 2 1/2 |
| PWHA-16 | 12 1/4 | 19 | 3 |
| PWHA-17 | 14 | 19 | 3 1/2 |
| PWHA-18 | 15 3/4 | 19 | 4 |
| PWHA-19 | 17 1/2 | 19 | 4 1/2 |
| PWHA-20 | 19 1/4 | 19 | 5 |
| PWHA-21 | 21 | 19 | 5 1/2 |
| PWHA-22 | 24 1/2 | 19 | 6 |
| PWHA-23 | 26 1/4 | 19 | 7 |

These 1/8" panels are recommended for high quality work. They are 2024T3 aluminum. Notching is Western Electric, but Amateur on request at no added cost. We also carry a complete line of 3/16" or .188 panels. These are all 2024T3.

### SIDE HINGED PANELS

| Cat. No. | Height | Wt. |
|---|---|---|
| SH-12 | 5 1/4 | 4 1/4 |
| SH-13 | 7 | 5 1/2 |
| SH-14 | 8 3/4 | 6 3/4 |
| SH-15 | 10 1/2 | 7 1/4 |
| SH-16 | 12 1/4 | 8 3/4 |



### FRONT HINGED DOOR PANEL

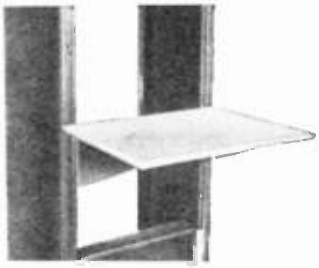
This door gives access to the chassis top. It is free moving and has a substantial catch. Made of 1/8" steel. Please specify finish.

| Cat. No. | Height | Door |
|---|---|---|
| FH-430 | 10 1/2 | 6 x15 3/8 |
| FH-432 | 12 1/4 | 7 1/2x15 3/8 |

### EXTERIOR RACK SHELVES

The exterior shelf replaces a panel when a shelf is needed. Unit is composed of a 16 gauge steel shelf with seam welded front corners and two supporting 1/8" steel brackets. All hardware included.

| Cat No. | Shelf Size | Wt. |
|---|---|---|
| ER-416 | 16x22 | 12 |
| ER-420 | 20x22 | 15 |



### INTERIOR RACK SHELVES

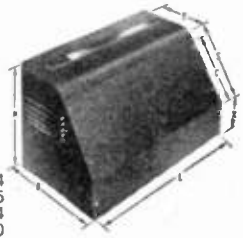
These 16 gauge steel shelves may be supported in the rack by chassis support angles CA-12 or CA-14. They are used to form a strong shelf for modulator units, power supplies etc. Finish black enamel.

| Cat. No. | Size | Shpg. Wt. |
|---|---|---|
| RS-512 | 12x19 | 5 1/2 |
| RS-515 | 15x19 | 6 1/2 |

### SLOPING FRONT CABINETS

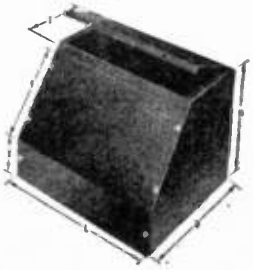
These deluxe all purpose steel cabinets are designed for wide use in the electronic field. Front and top corners are rounded, sides have stainless steel ventilators. Embossed feet to prevent scratching. Gray wrinkle finish.

| Catalog No. | D | H | L | T | X | S | Use This Chassis C |
|---|---|---|---|---|---|---|---|
| SFC-42 | 8 | 8 | 8 | 4 1/4 | 2 3/4 | 6 | 5 1/4 C-104 |
| SFC-44 | 8 | 8 | 10 | 4 1/4 | 2 3/4 | 6 | 5 1/4 C-105 |
| SFC-46 | 8 | 8 | 14 | 4 1/4 | 2 3/4 | 6 | 5 1/4 C-114 |
| SFC-48 | 12 | 12 | 18 | 6 | 3 1/8 | 10 3/8 | 9 1/2 C-110 |



### HINGED TOP SLOPING CABINET

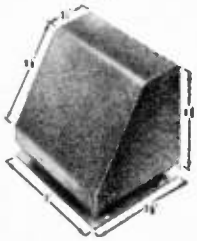
This cabinet provides for a complete opening of top and front. Bottom has embossed feet. Rear has opening for connectors. Black wrinkle or Gray hammertone finishes.



### ENCLOSED METER CABINET

Enclosed Meter Cabinet bottom is open. Bottom plate with embossed feet and four sheet metal screws included. Gray wrinkle unless other color specified. Available in black wrinkle, silver gray hammertone at no additional cost. Steel or Aluminum.

Catalog No. EMC-2



## CALIFORNIA CHASSIS CO. — Lynwood, California



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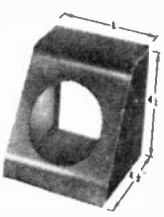
World Radio History

# CALIFORNIA *Chassis* COMPANY

## METER CABINETS

| Meter Size | | Aluminum Cat. No. | | | Wt. Lbs. |
|---|---|---|---|---|---|
| 2" | 4 " | MC-2 | ½ | SMC-2 | 1½ |
| 3" | 4 " | MC-3 | ½ | SMC-3 | 1½ |
| No Holes | 4 " | MC-4 | ½ | SMC-4 | 1½ |
| 2" | 4 " | MC-6* | ½ | SMC-6* | 1½ |
| 3" | 4 " | MC-7* | ½ | SMC-7* | 1½ |
| No Holes | 7½" | MC-8 | ¾ | SMC-8 | 2¼ |
| 3" | 6 " | HAC-MC-7* | ¾ | SMC-8 | 2¼ |

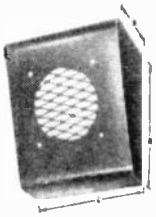
* Indicates it has two ½" holes on ¾" centers at top of cabinet for insulators. 2" meter hole is 2 3/16". 3" meter hole is 2 13/16".



## WALL SPEAKER CASES

These all metal cases have keyslotted holes on the rear for easy mounting. They are also provided with embossed feet on one side. Finish is gray hammertone for ease of cleaning.

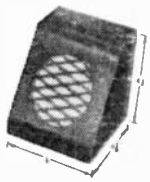
| Catalog No. | Speaker Size | Hole Size | H | L | D | Wt. |
|---|---|---|---|---|---|---|
| WS-304 | 4 | 3½ | 7½ | 6½ | 4¼ | 1¾ |
| WS-305 | 5 | 4 | ½7 | 6½ | 4¼ | 1¾ |
| WS-306 | 6 | 4¾ | 9½ | 8 | 5⅝ | 3 |
| WS-308 | 8 | 6½ | 11½ | 9½ | 7 | 4 |
| WS-310 | 10 | 8½ | 13½ | 11½ | 8¼ | 5 |
| WS-312 | 12 | 10½ | 15½ | 13½ | 9¾ | 6 |



## MINIATURE SPEAKER CABINETS

These small meter cabinets are like the MC series except the meter hole is covered by an expanded metal shield. Furnished in steel only. Black wrinkle standard.

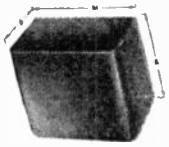
| Catalog No. | Length | Meter Size | Wt. Lbs. |
|---|---|---|---|
| MS-261 | 4" | 2" | ¾ |
| MS-262 | 4" | 3" | ¾ |

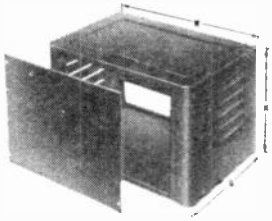


## STREAMLINED MINIATURE CABINETS

This miniature steel cabinet has a radiussed face. The base has four embossed feet. There rear is open except for a ¼" flange down two sides. This gives rigidity as well as a place to attach a back cover. Gray wrinkle standard.

| Catalog No. | H | W | D | Wt. |
|---|---|---|---|---|
| SM-271 | 4½ | 5½ | 3½ | 1 |
| SM-272 | 6½ | 5½ | 3½ | 1½ |





## STREAMLINED INSTRUMENT CABINET

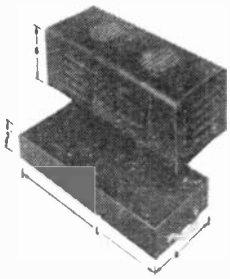
Miniature aluminum chassis MA series are usually used with this cabinet. Black wrinkle is standard.

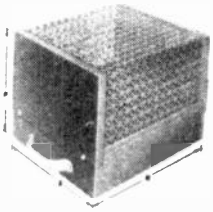
| Catalog No. | Panel Space | Height | Width | Depth | Wt. |
|---|---|---|---|---|---|
| SC-31 | 8x 8 | 8 | 10½ | 8¼ | 5¾ |
| SC-32 | 8x10 | 8 | 12½ | 8¼ | 6 |
| SC-33 | 8x12 | 8 | 14½ | 8¼ | 6½ |
| SC-34 | 8x14 | 8 | 16½ | 8¼ | 7 |
| SC-35 | 8x16 | 8 | 18½ | 8¼ | 7¾ |
| SC-36 | 12x18 | 12 | 20½ | 12 | 15 |

## DELUXE AMPLIFIER FOUNDATION

This foundation is used where the chassis must be covered and appearance is important. Material is steel, finish is black wrinkle. Gray hammertone at no extra cost. Use suffix B or GH.

| Cat. No. | Length | Depth | Wt. |
|---|---|---|---|
| DA-420 | 10 | 5 | 4½ |
| DA-421 | 12 | 7 | 5 |
| DA-422 | 17 | 7 | 8 |
| DA-423 | 17 | 10 | 9 |





## AMPLIFIER FOUNDATIONS

These consist of a chassis and perforated metal cover. They have ample ventilation. Handles are included in each package. Black wrinkle standard.

| Catalog No. | Height | Width | Depth | Chassis Height | Shpg. Wt. |
|---|---|---|---|---|---|
| AF-240* | 6 | 7⅜ | 5⅛ | 2 | 2 |
| AF-241 | 8 3/16 | 9⅝ | 5⅛ | 2½ | 3 |
| AF-242 | 8 3/16 | 13⅝ | 5⅛ | 2½ | 4⅜ |
| AF-243 | 8 3/16 | 17⅛ | 7⅛ | 2½ | 6 |
| AF-244 | 8 13/16 | 17⅛ | 10⅛ | 3 | 8 |

* Has one handle only — at top.

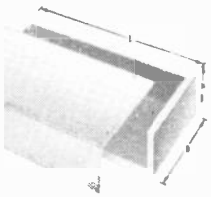
## UTILITY BOX — REMOVABLE COVER

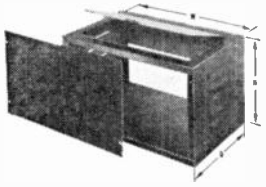
This model allows complete accessibility to the interior of the unit. All work may be completed before cover is installed.

| Cat. No. | D | L | H | Covers Only |
|---|---|---|---|---|
| HA-10 | 3x | 4 | x1½ | HAC-10 |
| HA-11 | 4x | 5 | x2 | HAC-11 |
| HA-12 | 4x | 8 | x2 | HAC-12 |
| HA-13 | 5x | 9½ | x2½ | HAC-13 |
| HA-14 | 6x | 12 | x2½ | HAC-14 |
| HA 15 | 7x | 15 | x2½ | HAC-15 |

## INSTRUMENT CABINETS

This cabinet has a hinged access door on top and removable front cover. The elimination of the rounded corners gives more inside room. The rear has a 3½" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Black wrinkle only.



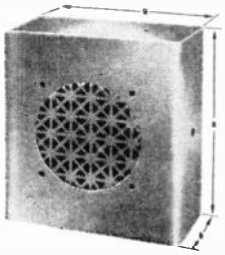


| Cat. No. | H | W | D | Ship. Wt. |
|---|---|---|---|---|
| HTC-342 | 7 | 8 | 8 | 5 |
| HTC-343 | 7 | 10 | 8 | 5½ |
| HTC-344 | 7 | 12 | 8 | 5¾ |
| HTC-345 | 7 | 14 | 8 | 6 |
| HTC-346 | 8 | 16 | 8 | 7 |
| HTC-347 | 9 | 15 | 11 | 8 |
| HTC-348 | 12 | 18 | 12 | 14½ |

**UNIVERSAL SPEAKER HOUSING**—This versatile unit can be screwed to the wall or mounted directly to an outlet box. If greater adjustability is desired a yoke or "U" shaped speaker bracket, one of the USHB series, can be used.

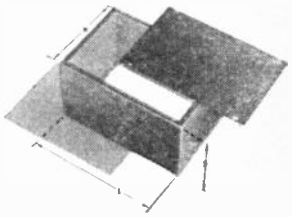
Speaker openings face front and back for bilateral sound projection. This makes them very adaptable for use in halls or auditoriums. Being of steel they do not weather and are easy to clean. Interior is coated with a sound deadening material. Finish is silver gray hammertone.

| Cat. No. | Speak. Size | H | L | D | Wt. |
|---|---|---|---|---|---|
| USH-534 | 4 or 5 | 7¼ | 6¾ | 3½ | 2½ |
| USH-535 | 5 or 6 | 8¼ | 7½ | 4 | 2¾ |
| USH-536 | 6 or 8 | 10 9/16 | 9½ | 5 | 4½ |
| USH-540 | 10 or 12 | 15 | 13½ | 7 7/32 | 9 |



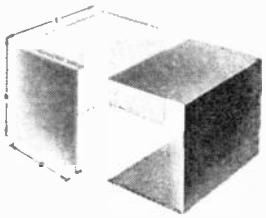
## METAL UTILITY CABINETS

| Catalog No. | Wt. Stl. | D | W | L | Wt. Alm. |
|---|---|---|---|---|---|
| CAB-1 | ¾ | 2" | 4" | 4" | ⅜ |
| CAB-2 | 1 | 3" | 5" | 4" | ½ |
| CAB-3 | 1½ | 4" | 5" | 6" | ¾ |
| CAB-4 | 2½ | 6" | 6" | 6" | 1 |
| CAB-5 | 3¼ | 5" | 6" | 9" | 1¼ |
| CAB-6 | 4¾ | 7" | 8" | 10" | 2 |
| CAB-7 | 5 | 6" | 7" | 12" | 2 |
| CAB-8 | 6 | 8" | 10" | 10" | 2½ |
| CAB-9 | 7 | 8" | 11" | 12" | 2¾ |
| CAB-10 | 7 | 7" | 9" | 15" | 2¾ |



## MINIATURE CABINETS

| Aluminum Gray Hammertone Cat. No. | Etched Aluminum Cat. No. | L | H | W |
|---|---|---|---|---|
| M-51 | M-81 | 2¾ | x2⅛ | x1⅝ |
| M-52 | M-82 | 2¾ | x2⅛ | x2¾ |
| M-53 | M-83 | 3¼ | x2⅛ | x1⅛ |
| M-54 | M 84 | 3¼ | x2⅛ | x1⅝ |
| M-55 | M-85 | 4 | x2⅛ | x1⅝ |
| M-56 | M-86 | 4 | x2¼ | x2¼ |
| M-57 | M-87 | 4 | x2 | x2¾ |
| M-58 | M-88 | 4¼ | x2¼ | x1½ |
| M-59 | M-89 | 5 | x2¼ | x2¼ |
| M-60 | M-90 | 5 | x4 | x3 |
| M-61 | M-91 | 5¼ | x3 | x2⅛ |
| M-62 | M-92 | 6 | x5 | x4 |
| M-63 | M-93 | 7 | x5 | x3 |
| M-64 | M-94 | 8 | x6 | x3½ |
| M-65 | M-95 | 10 | x2 | x1⅝ |
| M-66 | M-96 | 10 | x6 | x3½ |
| M-67 | M-97 | 12 | x2½ | x2¼ |
| M-68 | M-98 | 12 | x7 | x4 |
| M-69 | M-99 | 17 | x5 | x4 |



## CHROME VENTILATING LIUVERS

These are made of stainless steel with a high polish finish. They fit our sloping face cabinets but can be adopted to any unit. They fit behind a 2x4⅜ rectangular hole and mount on 4-27/32 centers. Sold pair with screws.

**Catalog No. TRM-40**

## CALIFORNIA CHASSIS CO. — Lynwood, California

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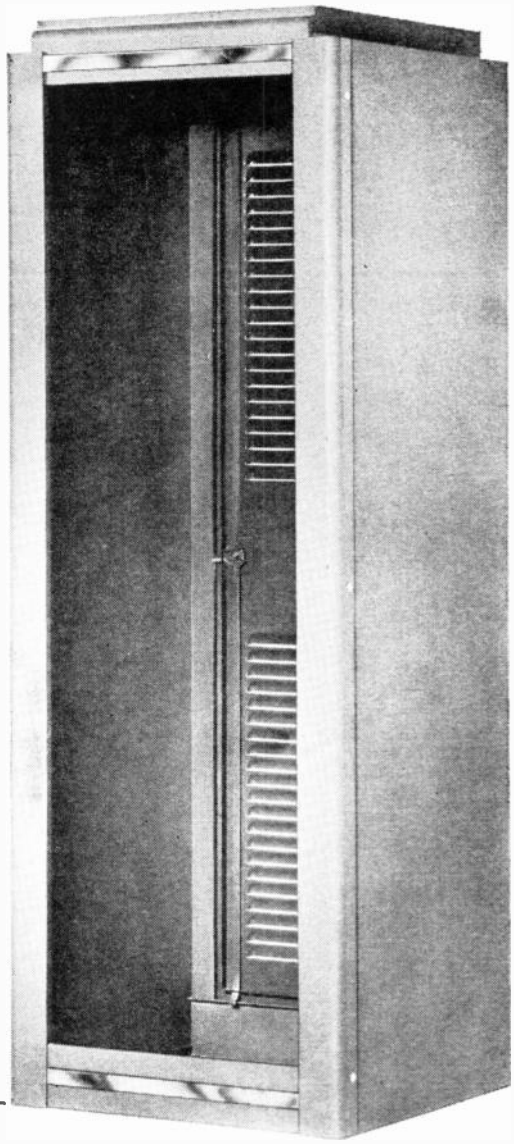
World Radio History

# WYCO METAL PRODUCTS ALL-WELDED DELUXE CABINET RACKS

## DELUXE "D" SERIES

### AN ALL-WELDED UNIT FOR 19" RACK PANELS



**SPECIFICATIONS:**

A. Rack is constructed throughout from 16 gauge high-quality steel and is completely welded together.

B. Panel mounting angles constructed of 1½ x 1½ x 3/16" angle iron.

C. Mounting holes are tapped 10/32 thread.

D. Mounting holes are at 1¼"-½" spacings. (WESTERN ELECTRIC SPACING.)

E. Double row of louvres in rear door provide ventilation.

F. Door is hung on loose-pin hinges; it may be easily removed.

G. Door is securely locked by means of an "automotive" type highly-polished handle and linkage rods.

H. Highly polished metal trim is on front of rack at top and bottom.

I. Panel mounting screws are concealed by detachable corner vertical trim.

J. Finished in black or grey wrinkle enamel and silver grey hammertone.

K. When it is desired to "gang" two or more of these cabinets together, order connecting trim, using the prefix "AD" plus the last two numbers of the catalog number of the cabinet.

**RACKS — 18½" DEEP**

| Catalog Number | Overall Dimensions | Panel Space | Clear Inside Width (Front) | Clear Inside width (Rear) | Clear Inside Depth | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|---|---|---|---|
| D 1869 | 69⅝ x 23⅝ x 18½ | 61¼ x 19 | 17¾ | 19⅝ | 16¾ | 155 lbs. | $ 99.25 |
| D 1878 | 78⅜ x 23⅝ x 18½ | 70 x 19 | 17¾ | 19⅝ | 16¾ | 167 lbs. | 108.20 |
| D 1885 | 85⅜ x 23⅝ x 18½ | 77 x 19 | 17¾ | 19⅝ | 16¾ | 180 lbs. | 122.85 |

**RACKS — 24" DEEP**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D 2469 | 69⅝ x 23⅝ x 24 | 61¼ x 19 | 17¾ | 19⅝ | 22¼ | 176 lbs. | $116.55 |
| D 2478 | 78⅜ x 23⅝ x 24 | 70 x 19 | 17¾ | 19⅝ | 22¼ | 192 lbs. | 126.00 |
| D 2485 | 85⅜ x 23⅝ x 24 | 77 x 19 | 17¾ | 19⅝ | 22¼ | 205 lbs. | 141.75 |

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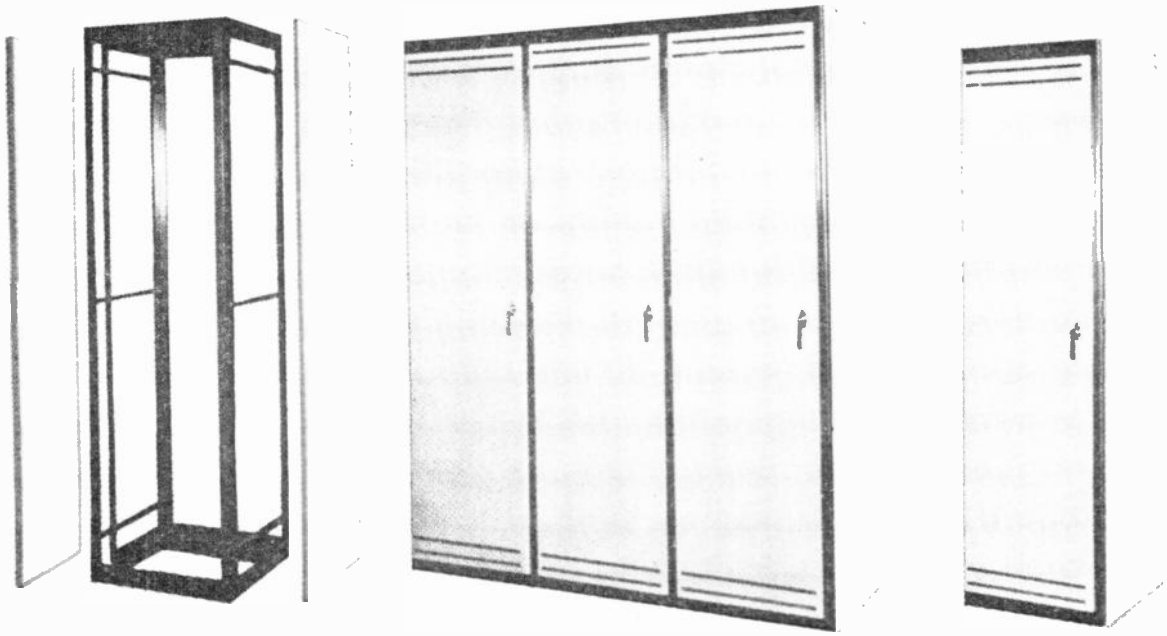
World Radio History

WYCO
METAL PRODUCTS

# MULTIPLE RACK INSTALLATIONS

## ALL-WELDED FRAME—FOR 19" MODELS
## REMOVABLE SIDES—ADJUSTABLE MOUNTING ANGLES

# 18" DEEP AND 24" DEEP



### SPECIFICATIONS:

A. Sides are removable for MULTIPLE RACK installations of two or more units.
B. This series consists of one frame and rear door, or one frame, rear and front door.
C. Removable sides sold separately, in pairs only.
D. Fabricated of high-quality, heavy gauge steel and electronically welded together.
E. Panel mounting angles are 3/16" structural steel with mounting holes tapped 10-32 thread on 1¼"-½" spacing.
F. Panel mounting angles are adjustable from front to back.
G. Highly-polished trim on doors.
H. "Automotive" type, highly-polished handles on doors.
I. Doors hung on loose-pin hinges, easily removable.
J. Bottom has cut-out for cables, leads, etc.
K. Louvres in doors, sides and cabinet top can be added at no additional cost.
L. A rectangular or round opening can be put into cabinet top at no additional cost.
M. Available in primer coat, two-tone grey enamel (frame in dark grey; doors and ends in silver-grey hammertone), black or grey wrinkle.

### 18" DEEP RACK

| REAR DOOR ONLY | | | | | FRONT AND REAR DOOR | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Cat. No. | Height | Panel Space | Approx. Shp. Wt. | Dealer Cost | Cat. No. | Height | Panel Space | Approx. Shp. Wt. | Dealer Cost |
| RW861 | 67⅜" | 61¼" | 123 | $117.40 | FW618 | 67⅜" | 61¼" | 143 | $138.93 |
| RW870 | 76⅛" | 70" | 129 | 135.59 | FW708 | 76⅛" | 70" | 152 | 158.76 |
| RW877 | 83⅛" | 77" | 143 | 140.48 | FW778 | 83⅛" | 77" | 168 | 165.39 |

### 24" DEEP RACK

| REAR DOOR ONLY | | | | | FRONT AND REAR DOOR | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Cat. No. | Height | Panel Space | Approx. Shp. Wt. | Dealer Cost | Cat. No. | Height | Panel Space | Approx. Shp. Wt. | Dealer Cost |
| RW461 | 67⅜" | 61¼" | 144 | $140.88 | FW614 | 67⅜" | 61¼" | 169 | $166.71 |
| RW470 | 76⅛" | 70" | 153 | 162.78 | FW704 | 76⅛" | 70" | 183 | 190.56 |
| RW477 | 83⅛" | 77" | 169 | 172.80 | FW774 | 83⅛" | 77" | 202 | 202.80 |

### 18" DEEP REMOVABLE SIDES

| Catalog No. | Approx. Shp. Wt. Pairs | Dealer Cost |
|---|---|---|
| RS 1861 | 45 lbs. | $43.08 pr. |
| RS 1870 | 50 lbs. | 46.32 pr. |
| RS 1877 | 55 lbs. | 49.80 pr. |

### 24" DEEP REMOVABLE SIDES

| Catalog No. | Approx. Shp. Wt. Pairs | Dealer Cost |
|---|---|---|
| RS 2461 | 56 lbs. | $51.66 pr. |
| RS 2470 | 64 lbs. | 55.56 pr. |
| RS 2477 | 70 lbs. | 60.00 pr. |

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World Radio History

# WYCO METAL PRODUCTS — ALL-WELDED CABINET RACKS

## DELUXE SERIES "G" AND "DF" — STANDARD SERIES "SL" AND "S"

### DESCRIPTION:

A. 16 ga. high quality steel.
B. Welded together.
C. Panel mounting angles 1/8" steel.
D. Western Electric spacing.
E. Tapped 10/32.
F. Louvres rear door.
G. Rear door hung on loose-pin hinges.
H. Rear door has flush-type latch.
I. Highly-polished trim at front, top and bottom.
J. Front corners rounded.
K. Available grey or black wrinkle and silver grey hammertone.
L. "SL" and "S" series have detachable vertical trim.
M. "G" and "DF" series panel mounting angles adjustable front to back.
N. "DF" series has front door with automotive type handle and three point catch.
O. "SL" series has louvres at sides.

### SPECIFICATIONS:

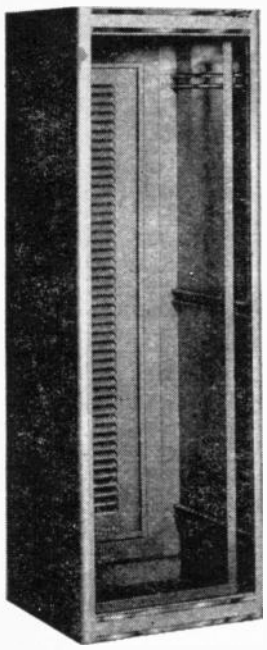
| Cat. No. | Overall Dim. | Panel Space | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|
| G 6119 | 67 3/8" x 22" x 18" | 61 1/4" x 19" | 165 | $ 87.80 |
| G 7019 | 76 1/8" x 22" x 18" | 70" x 19" | 185 | 98.80 |
| G 7719 | 83 1/8" x 22" x 18" | 77" x 19" | 195 | 109.75 |
| DF 1961 | 67 3/8" x 22" x 18" | 61 1/4" x 19" | 185 | 109.75 |
| DF 1970 | 76 1/8" x 22" x 18" | 70" x 19" | 200 | 125.75 |
| DF 1977 | 83 1/8" x 22" x 18" | 77" x 19" | 210 | 136.75 |
| SL 1842 | 42 7/8" x 21 1/8" x 18" | 36 3/4" x 19" | 107 | 63.00 |
| SL 1867 | 67 3/8" x 21 1/8" x 18" | 61 1/4" x 19" | 145 | 81.55 |
| SL 1883 | 83 1/8" x 21 1/8" x 18" | 77" x 19" | 177 | 103.50 |

### STANDARD "S" SERIES

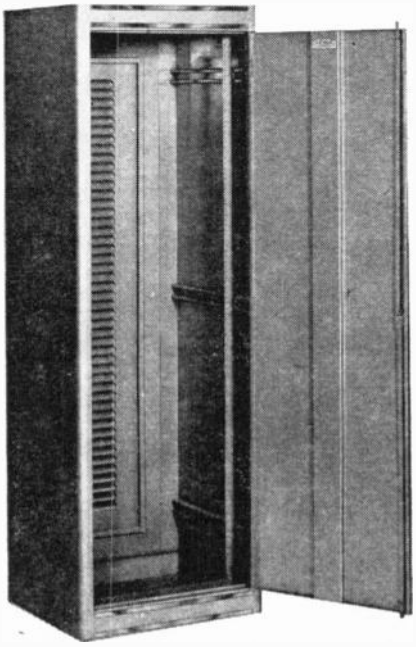
FOR 19" RACK PANELS

SPECIFICATIONS:

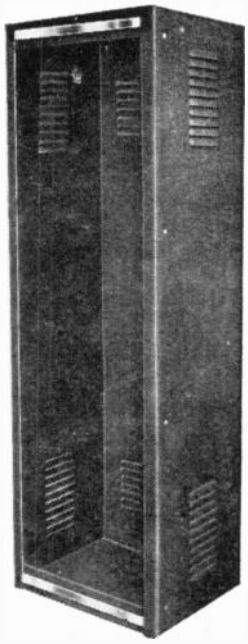
A. ALL SPECIFICATIONS AND DIMENSIONS OF "SL" SERIES APPLY, EXCEPT FOR FOLLOWING:
(1) LOUVRES AT SIDE ARE OMITTED to facilitate use of racks in rows or "gangs."
(2) When it is desirable to set up these cabinets in rows or "gangs," we can supply a connecting trim for a small additional charge. Order connecting trim, using prefix "AS" plus the last two numbers of the catalog number of the cabinet.
(3) Catalog Numbers are prefaced with "S" instead of "SL."



"G" SERIES
ADJUSTABLE MOUNTING ANGLE



"DF" SERIES
ADJUSTABLE MOUNTING ANGLE



"SL" SERIES
DETACHABLE VERTICAL TRIM AT FRONT CORNERS

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World Radio History

WYCO
METAL PRODUCTS

# CABINET RACKS - RELAY RACKS
# EXPAND-A-RACKS

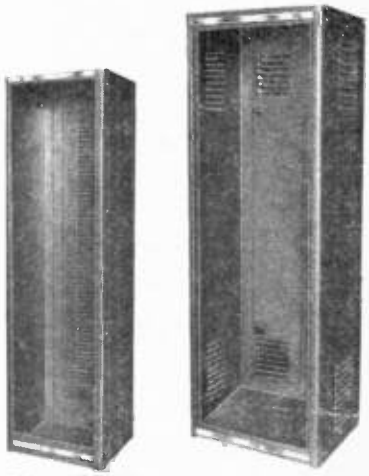
## MODEL "W" AND BANNER "B" SERIES

### DESCRIPTION: "W" SERIES

A. 16 gauge high-quality steel.
B. Front corners are rounded.
C. Panel mounting angles 1/8" steel.
D. Mounting holes tapped 10/32 thread.
E. Mounting holes are UNIVERSAL CENTERS.
F. Louvres in rear door and sides.
G. Door hung on loose pin hinges.
H. Door closed by two flush-type latches.
I. Highly-polished trim on front.
J. RACK IS SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.
K. Finished in black or grey wrinkle and silver grey hammertone.
L. There are four brackets spot welded to the bottom of the cabinet. Our casters (catalog No. RC100) can be attached to these brackets. This offers instant mobility, if required.

### DESCRIPTION: "B" SERIES

A. 16 gauge high-quality steel and is welded together.
B. Panel mounting angles 1 1/2x1 1/2x1/8" angle iron.
C. Mounting holes are 10/32 thread.
D. (WESTERN ELECTRIC SPACING.)
E. Louvres in rear doors.
F. Rear corners re-inforced.
G. Door hung on loose pin hinges.
H. Door closed by two flush-type latches.
I. Highly-polished trim on front.
J. Panel mounting screws concealed by vertical trim.
K. Finished in black or grey wrinkle enamel and silver grey hammertone.
L. When it is desirable to set up racks in rows or "gangs," order connecting trim, using the prefix "AB" plus the last two numbers of the catalog number of the cabinet.



"B" SERIES

### SPECIFICATIONS:

| Catalog Number | Overall Dimensions | Panel Space | Clear Inside Width (Front) | Clear Inside Width (Rear) | Clear Inside Depth | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|---|---|---|---|
| W 1036 | 42 x22x17 1/4 | 36 3/4x19 | 17 3/4 | 17 1/4 | 15 7/8 | 88 lbs. | $40.25 |
| W 1042 | 47 1/4x22x17 1/4 | 42 x19 | 17 3/4 | 17 1/4 | 15 7/8 | 95 lbs. | 45.50 |
| W 1061 | 66 1/2x22x17 1/4 | 61 1/4x19 | 17 3/4 | 17 1/4 | 15 7/8 | 122 lbs. | 57.00 |
| W 1077 | 82 1/4x22x17 1/4 | 77 x19 | 17 3/4 | 17 1/4 | 15 7/8 | 148 lbs. | 68.25 |
| B 1876 | 76 1/8x21 1/8x18 | 70 x19 | 17 1/2 | 17 1/4 | 16 1/2 | 178 lbs. | 110.25 |

"W" SERIES

## CASTERS

### DESCRIPTION:

A. Can be used with our "W" series and Expand-A-Rack series.
B. Load capacity of a set of four is 520 lbs.
C. The swivel bearing wheels are made of a hard fibrous compound.

CATALOG NO. RC-100 APPROX. SHIP. WT. EACH 8 oz.
DEALER COST $1.10 ea.

## EXPAND-A-RACK SERIES

### DESCRIPTION:

A. When it is necessary to join two or more racks together, WYCO METAL PRODUCTS offers the "EXPAND-A-RACK" series.
B. Figure "A" shows two Expand-A-Racks joined together.
C. Figure "B" illustrates the method of expanding your present rack space. In place of purchasing an additional rack, a unit, consisting of the following items, would be bought: (a) the door; (b) the top; (c) the bottom; (d) an Expand-A-Rack joining unit. The right or left side of your existing relay cabinet rack is dis-assembled and replaced with an Expand-A-Rack joining unit. Following this step, the top and bottom are assembled. The cabinet side removed from the original rack is then fastened onto the second rack. Upon hanging the additional door, two complete racks are now joined together.
D. Wyco's Expand-A-Rack series may be purchased by one of two methods. One method consists of buying one complete rack (the "W" series) plus one Expand-A-Rack unit. If you already have one of our basic "W" series cabinets, then order an Expand-A-Rack unit.
E. Supports are electronically welded to the bottom to receive our casters (#RC-100).
F. There is an ample amount of compound knockouts in the Expand-A-Rack joining unit center partition. This allows cables and leads to be taken from one cabinet to the other.
G. Available in Grey or Black Wrinkle and Silver Grey Hammertone.

### SPECIFICATIONS:

| Cat. No. | Used to Expand-A-Rack With | Approx. Ship Wt. Lbs. | Dealer Cost |
|---|---|---|---|
| E-400 | W-1036 | 74 | $39.50 |
| E-401 | W-1042 | 78 | 43.68 |
| E-402 | W-1061 | 99 | 54.33 |
| E-403 | W-1077 | 126 | 66.55 |

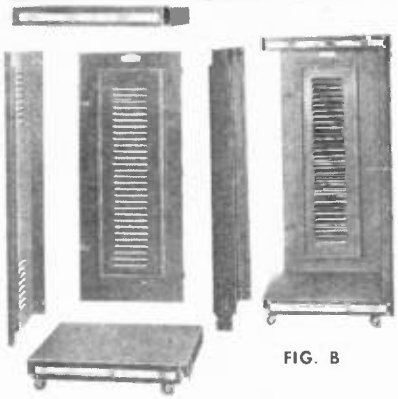


FIG. B

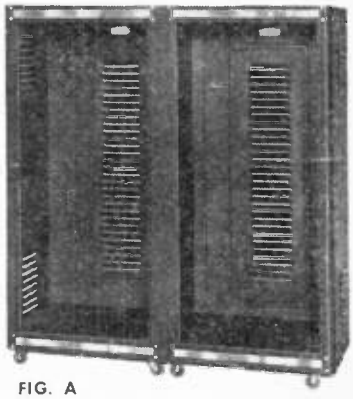


FIG. A

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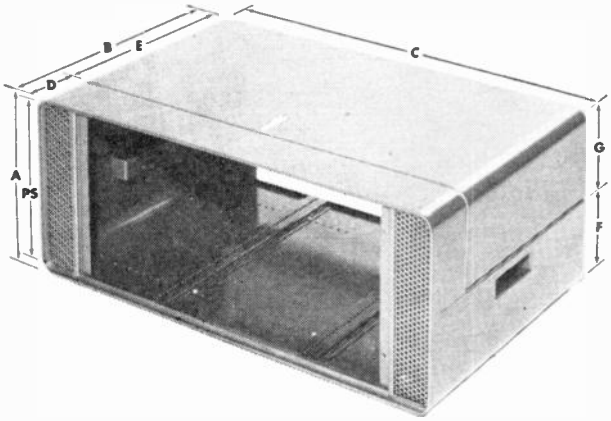
World Radio History

WYCO
METAL PRODUCTS

# THE "SUPREME LINE" CABINET SERIES




FRONT VIEW

## DESCRIPTION:

A. Fabricated of 16 ga. steel.

B. Mounting holes tapped 10-32.

C. Mounting holes: Universal spacing.

D. Ventilated by perforated metal front and back and rear opening.

E. Top door has continuous piano hinge.

F. Top door has flush-type latch.

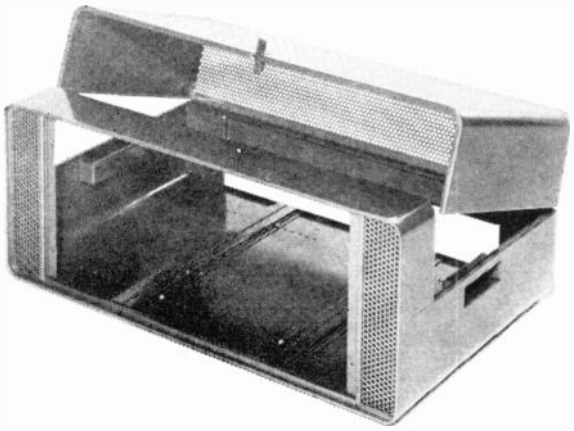
G. Embossed feet with rubber bumpers at bottom.

H. Adjustable Hat-section type rails, furnished to support chassis, have holes for bolting to cabinet bottom and chassis.

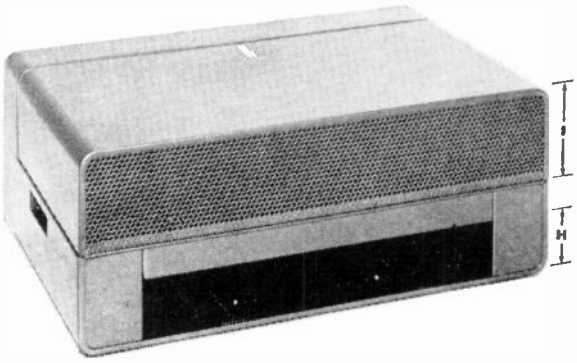
I. Recessed carrying handles are in sides of cabinet.

J. Finished in gun-metal, metallic-grey enamel.

K. Utilization of our standard aluminum or steel panels in silver grey hammertone finish with this series creates an attractive contrast.



FRONT VIEW — TOP DOOR OPEN




REAR VIEW

## SPECIFICATIONS

| CAT # | PANEL SPACE | A | B | C | D | E | F | G | H | I | APPROX. SHIP. WT. LBS. | DEALER COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SL 7760 | 7 x 19 | 7¾ | 15 | 24 | 3 | 12 | 3⅞ | 3⅞ | 3⅛ | 3⅞ | 23 | 21.45 |
| SL 7761 | 8¾ x 19 | 9½ | 15 | 24 | 3 | 12 | 4¾ | 4¾ | 3⅛ | 4¾ | 25 | 22.88 |
| SL 7762 | 10½ x 19 | 11¼ | 15 | 24 | 3 | 12 | 5⅝ | 5⅝ | 3⅛ | 5⅝ | 27 | 24.31 |
| SL 7763 | 12¼ x 19 | 13 | 15 | 24 | 3 | 12 | 6½ | 6½ | 3⅛ | 6½ | 29 | 27.53 |
| SL 7764 | 14 x 19 | 14¾ | 15 | 24 | 3 | 12 | 7⅜ | 7⅜ | 3⅛ | 7⅜ | 31 | 30.60 |

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World Radio History

WYCO
METAL PRODUCTS

# CABINET RACKS - RELAY RACKS CHASSIS - CASES

## MODEL "C" SERIES

### DESCRIPTION:

A. Constructed of heavy gauge high-quality steel and is completely welded together.
B. Front vertical corners rounded.
C. Mounting holes tapped 10/32 thread.
D. Mounting holes spaced on UNIVERSAL CENTERS.
E. Louvres in side provide ample ventilation.
F. Highly-polished trim at top and bottom of front.
G. Top door has piano hinge and flush-type latch.
H. Finished in black or grey wrinkle and silver grey hammertone.
I. Embossed feet on bottom minimize marring of table tops.

### SPECIFICATIONS:

(DOOR IN TOP ONLY)

| Catalog Number | Dimensions | Panel Space | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|---|
| C7 9 | 8¾x22x15 Deep | 7 x19 | 25 lbs. | $13.67 |
| C8 9 | 10½x22x15 Deep | 8¾x19 | 27 lbs. | 14.90 |
| C10 9 | 12¼x22x15 Deep | 10½x19 | 28 lbs. | 17.00 |
| C12 9 | 14 x22x15 Deep | 12¼x19 | 30 lbs. | 17.97 |
| C14 9 | 15¾x22x15 Deep | 14 x19 | 32 lbs. | 19.58 |
| (DOOR IN TOP AND REAR) | | | | |
| C 7 9 | 19¼x22x15 Deep | 17½x19 | 36 lbs. | $23.33 |
| C21 9 | 22¾x22x15 Deep | 21 x19 | 40 lbs. | 25.00 |
| C26 9 | 28 x22x15 Deep | 26¼x19 | 43 lbs. | 26.83 |
| C31 9 | 33¼x22x15 Deep | 31½x19 | 47 lbs. | 28.50 |
| C35 9 | 36¾x22x15 Deep | 35 x19 | 50 lbs. | 30.00 |

## "RC" SERIES

A. Rack constructed of ⅛" high-quality steel.
B. Mounting holes are tapped 10/32 thread.
C. Mounting holes are spaced on UNIVERSAL CENTERS.
D. Base is 20" x 20".
E. Finished in black wrinkle only.
F. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.

## "RT" SERIES

A. Rack constructed of heavy gauge high-quality steel.
B. Mounting holes are tapped 10/32 thread.
C. Mounting holes are spaced on UNIVERSAL CENTERS.
D. Finished in black wrinkle only.
E. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for assembly.

### SPECIFICATIONS:

| Catalog Number | Panel Space | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|
| RC36 | 36¾x19 | 28 lbs. | $21.34 |
| RC71 | 71¾x19 | 41 lbs. | 22.41 |

| Catalog Number | Panel Space | Height | Width | Depth | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|---|---|---|
| RT21 | 21x19 | 25" | 21" | 12" | 16 lbs. | $ 8.25 |
| RT28 | 28x19 | 32" | 21" | 12" | 18 lbs. | 10.20 |

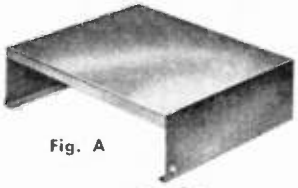


Fig. A

## OPEN END CHASSIS

### DESCRIPTION: Fig. A

A. Can be utilized on all types of small built-up units such as record amplifier, code oscillator, etc.
B. Electro-Zinc plated.

Fig. B

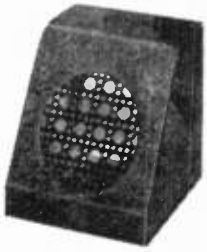
| Catalog Number | Depth | Width | Height | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| E-570 | 7" | 6" | 2" | 1 | $.92 |
| E-571 | 5" | 7" | 1½" | ¾ | .87 |
| E-572 | 7" | 7" | 1½" | ¾ | 1.10 |
| E-573 | 7" | 8" | 2" | 1 | 1.04 |
| E-574 | 5½" | 9" | 1½" | ¾ | 1.00 |
| E-575 | 7½" | 9" | 1½" | 1 | 1.25 |
| E-576 | 7" | 10" | 2" | 1¼ | 1.25 |
| E-577 | 7" | 11" | 1½" | 1¼ | 1.17 |
| E-578 | 7" | 13" | 1½" | 1½ | 1.42 |
| E-579 | 10¾" | 14" | 2" | 2½ | 1.65 |
| E-580 | 7¾" | 15" | 2" | 2 | 1.58 |

## MINIATURE ALUMINUM CHASSIS

### DESCRIPTION: Fig. B

A. Ideal for miniature tube applications, sub-assemblies, small receivers, narrow band FM adaptors.
B. Has ¼" flanges on bottom.
C. Etched aluminum finish.

| Catalog Number | Depth | Width | Height | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| MA-700 | 2⅝" | 2¾" | 1¼" | ¼ | $.35 |
| MA-701 | 1¾" | 3⅛" | 1" | ¼ | .38 |
| MA-702 | 3¼" | 4½" | 2" | ¼ | .45 |
| MA-703 | 2¾" | 4⅛" | 1" | ¼ | .41 |
| MA-704 | 3¾" | 4⅛" | 1½" | ¼ | .41 |
| MA-705 | 3" | 6⅛" | 1¼" | ¼ | .50 |
| MA-706 | 5¾" | 4⅞" | 1½" | ¼ | .54 |
| MA-707 | 4" | 3⅛" | 1" | ½ | .41 |
| MA-708 | 4" | 4⅛" | 1" | ½ | .50 |
| MA-709 | 4" | 5⅛" | 1" | ½ | .50 |
| MA-710 | 4" | 6⅛" | 1" | ½ | .54 |



## MINIATURE SPEAKER CASE

### DESCRIPTION:

A. Houses midget 2" or 3" speaker.
B. Silver Grey Hammertone Finish.

### SPECIFICATIONS:

| Catalog Number | Hole Diameter | Fits Speaker Size | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|
| MS-80 | 2¼" | 2" | ¾ | $1.58 |
| MS-81 | 2 13/16" | 3" | ¾ | 1.58 |

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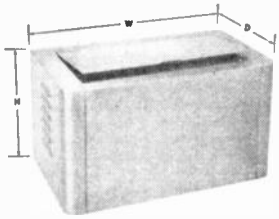
World Radio History

# WYCO METAL PRODUCTS

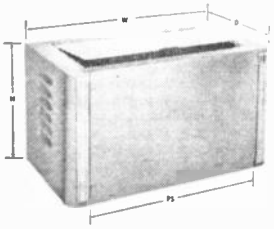
# RECEIVER CABINETS - SLOPING PANEL/TOP OPENING - MULTI-USE CABINETS - CHASSIS DECK




## MODEL "CS" RECEIVER CABINET (Description)

(A.) Front vertical corners are rounded. (B.) Has recessed, hinged, top door. (C.) Top door opened by finger lift. (D.) Removable front panel, included, is attached with self-tapping screws. (E.) Louvers in side provide ventilation. (F.) Silver grey hammertone only.

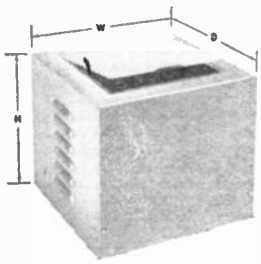
| Cat. # | H | W | D | Panel Size | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|
| CS 7727 | 8" | 10½" | 8¼" | 8"x 8" | 6¼ | $3.92 |
| CS 7728 | 8" | 12½" | 8¼" | 8"x10" | 6½ | 4.83 |
| CS 7729 | 8" | 14½" | 8¼" | 8"x12" | 7 | 5.25 |
| CS 7730 | 8" | 16½" | 8¼" | 8"x14" | 7½ | 5.50 |
| CS 7731 | 8" | 18½" | 8¼" | 8"x16" | 8¼ | 6.04 |
| CS 7732 | 12" | 20⅝" | 12" | 12"x18" | 15½ | 10.95 |




## MODEL "DC" RECEIVER CABINET (Description)

(A.) Description of Model "DC" Receiver Cabinet is same as Model "CS" Cabinet except for following: There are two vertical, highly-polished trim strips on face of cabinet.

| Cat. # | H | W | D | Panel Size | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|
| DC 7733 | 8" | 10½" | 8¼" | 8"x 8" | 6¼ | $5.85 |
| DC 7734 | 8" | 12½" | 8¼" | 8"x10" | 6½ | 5.92 |
| DC 7735 | 8" | 14½" | 8¼" | 8"x12" | 7 | 6.25 |
| DC 7736 | 8" | 16½" | 8¼" | 8"x14" | 7½ | 6.67 |
| DC 7737 | 8" | 18½" | 8¼" | 8"x16" | 8¼ | 7.33 |
| DC 7738 | 12" | 20⅝" | 12" | 12"x18" | 15½ | 13.33 |



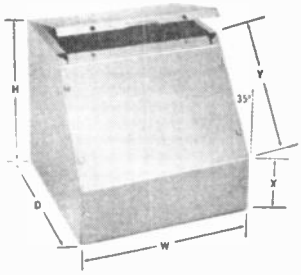

## MODEL "CR" RECEIVER CABINET (Description)

(A.) Front vertical corners are square. (B.) Top door is recessed and hinged. (C.) Top door has finger lift. (D.) Removable front panel, included, is attached with self-tapping screws. (E.) Ventilation is supplied by louvers. (F.) Finished in silver grey hammertone only.

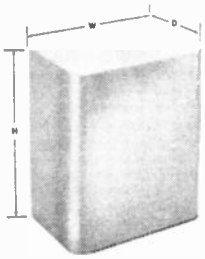
| Cat. # | H | W | D | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| CR 7720 | 7" | 8" | 8" | 5½ | $3.36 |
| CR 7721 | 7" | 10" | 8" | 6 | 4.33 |
| CR 7722 | 7" | 12" | 8" | 6¼ | 4.58 |
| CR 7723 | 7" | 14" | 8" | 6½ | 4.92 |
| CR 7724 | 8" | 16" | 8" | 7½ | 6.76 |
| CR 7725 | 9" | 15" | 11" | 8½ | 6.92 |
| CR 7726 | 12" | 18" | 12" | 15½ | 9.92 |

## SLOPING PANEL/TOP OPENING CABINET (Description)

(A.) Sloping front panel, included, is attached with self-tapping screws. (B.) Hinged, top door has finger lift. (C.) Opening at back for leads and ventilation. (D.) Silver grey hammertone only.




| Cat. # | H | W | D | X | Y | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|---|
| SC 7739 | 6½" | 7 1/16" | 7 5/16" | 2¼" | 5 1/16" | 3 | $3.30 |
| SC 7740 | 8" | 8 1/16" | 8" | 2¼" | 6 7/16" | 3¼ | 3.99 |
| SC 7741 | 6½" | 9 1/16" | 7 5/16" | 2¼" | 5 1/16" | 3½ | 3.75 |
| SC 7742 | 8" | 10 1/16" | 8" | 2¼" | 6⅞" | 3¾ | 4.41 |
| SC 7743 | 6½" | 11 1/16" | 7 5/16" | 2¼" | 5 1/16" | 4 | 4.15 |
| SC 7744 | 8" | 14 1/16" | 8" | 2¼" | 6⅞" | 4½ | 4.79 |
| SC 7745 | 8" | 13 1/16" | 8½" | 2¾" | 6 5/16" | 4¾ | 4.99 |
| SC 7746 | 9" | 18 1/16" | 8⅛" | 2¼" | 6 15/16" | 7½ | 6.84 |
| SC 7747 | 10" | 18 1/16" | 10½" | 3¼" | 8⅛" | 8¾ | 6.99 |




## MULTI-USE CABINET (Description)

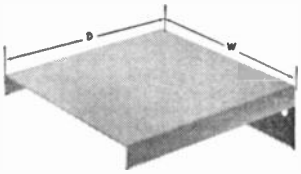
(A.) Ventilated by open back. (B.) Streamlined by rounded corners. (C.) Silver grey hammertone only.

| Cat. # | H | W | D | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| MC 7748 | 4½" | 5½" | 3½" | 1¼ | $1.70 |
| MC 7749 | 6½" | 5½" | 3½" | 1¾ | 1.75 |

## CHASSIS DECK (Description)

(A.) Can be used for interstage shielding. (B.) Made of steel. (C.) Painted black enamel.

| Cat. # | W | D | Approx. Ship. Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|
| CD 7754 | 4¾" | 5½" | 1 | $.63 |
| CD 7755 | 4¾" | 4½" | 1½ | .53 |
| CD 7756 | 5¾" | 5½" | 1 | .74 |

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World Radio History

# WYCO
METAL PRODUCTS

# CHASSIS

| Black Wrinkle Cat. No. | Zinc Plated Cat. No. | STEEL Depth | Width | Ht. | Ga. | Approx. Ship. Wt.-Lbs. | Dealer Cost Black | Zinc |
|---|---|---|---|---|---|---|---|---|
| BC-940 | CP-1300 | 5" | 7" | 2" | 22 | 1 | $ .95 | $1.17 |
| BC-941 | CP-1301 | 5" | 9½" | 2½" | 22 | 1¼ | 1.22 | 1.48 |
| BC-942 | CP-1302 | 5" | 9½" | 1½" | 22 | 1 | 1.07 | 1.50 |
| BC-943 | CP-1303 | 5" | 10" | 3" | 22 | 1¼ | 1.14 | 1.60 |
| BC-944 | CP-1304 | 6" | 14" | 3" | 20 | 1¾ | 1.57 | 1.84 |
| BC-945 | CP-1305 | 7" | 7" | 2" | 22 | 1½ | 1.07 | 1.34 |
| BC-946 | CP-1306 | 7" | 9" | 2" | 22 | 1½ | 1.25 | 1.42 |
| BC-947 | CP-1307 | 7" | 11" | 2" | 20 | 1½ | 1.30 | 1.50 |
| BC-948 | CP-1308 | 7" | 12" | 3" | 20 | 1¾ | 1.40 | 1.84 |
| BC-949 | CP-1309 | 7" | 13" | 2" | 20 | 2 | 1.36 | 1.75 |
| BC-950 | CP-1310 | 5" | 13½" | 2½" | 20 | 1¾ | 1.58 | 1.90 |
| BC-951 | CP-1311 | 7" | 15" | 3" | 20 | 2 | 1.79 | 2.15 |
| BC-952 | CP-1312 | 8½" | 15" | 3" | 20 | 2½ | 2.00 | 2.42 |
| BC-953 | CP-1313 | 4" | 17" | 3" | 20 | 2¼ | 1.60 | 1.92 |
| BC-954 | CP-1314 | 7" | 17" | 2½" | 20 | 2½ | 1.77 | 2.12 |
| BC-955 | CP-1315 | 7" | 17" | 3" | 20 | 1¾ | 1.92 | 2.30 |
| BC-956 | CP-1316 | 8" | 10" | 2½" | 20 | 2 | 1.54 | 1.80 |
| BC-957 | CP-1317 | 8" | 12" | 2½" | 20 | 2½ | 1.57 | 2.00 |
| BC-958 | CP-1318 | 8" | 12" | 3" | 20 | 1¾ | 1.65 | 2.08 |
| BC-959 | CP-1319 | 8" | 17" | 2" | 20 | 2½ | 1.52 | 2.08 |
| BC-960 | CP-1320 | 8" | 17" | 3" | 20 | 3¼ | 1.84 | 2.34 |
| BC-961 | CP-1321 | 10" | 12" | 3" | 20 | 3 | 1.69 | 2.00 |
| BC-962 | CP-1322 | 10" | 14" | 3" | 20 | 4 | 1.81 | 2.17 |
| BC-963* | CP-1323 | 10" | 17" | 2" | 20 | 3¼ | 1.78 | 2.14 |
| BC-964* | CP-1324 | 10" | 17" | 3" | 20 | 4 | 1.82 | 2.34 |
| BC-965* | CP-1325 | 10" | 17" | 3" | 18 | 5 | 2.26 | 2.72 |
| BC-966 | CP-1326 | 10" | 23" | 3" | 18 | 5½ | 2.55 | 3.06 |
| BC-967* | CP-1327 | 11" | 17" | 2" | 18 | 4½ | 2.10 | 2.50 |
| BC-968* | CP-1328 | 11" | 17" | 3" | 18 | 4½ | 2.46 | 3.12 |
| BC-969* | CP-1329 | 12" | 17" | 2" | 18 | 4½ | 2.16 | 2.60 |
| BC-970* | CP-1330 | 12" | 17" | 3" | 18 | 5¼ | 2.58 | 3.16 |
| BC-971* | CP-1331 | 13" | 17" | 2" | 18 | 5 | 2.58 | 3.32 |
| BC-972* | CP-1332 | 13" | 17" | 3" | 18 | 5½ | 3.04 | 3.63 |
| BC-973* | CP-1333 | 10" | 17" | 4" | 18 | 6½ | 2.56 | 3.08 |
| BC-974* | CP-1334 | 13" | 17" | 4" | 18 | 7½ | 3.50 | 4.20 |
| BC-975 | CP-1335 | 10" | 17" | 5" | 18 | 7½ | 4.00 | 4.80 |
| BC-976 | CP-1336 | 13" | 17" | 5" | 18 | 8 | 4.40 | 5.30 |

| Cat. No. | ALUMINUM Depth | Width | Ht. | Gauge | Approx. Shipping Wt.-Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|
| CA-2001 | 4" | 6" | 3" | 18 | ½ | $1.17 |
| CA-2002 | 4" | 6" | 2" | 18 | ½ | 1.10 |
| CA-2003 | 4" | 17" | 3" | 16 | 1¼ | 2.33 |
| CA-2004 | 5" | 7" | 2" | 18 | ½ | 1.10 |
| CA-2005 | 5" | 7" | 3" | 16 | ¾ | 1.25 |
| CA-2006 | 5" | 9½" | 2" | 18 | ½ | 1.15 |
| CA-2007 | 5" | 9½" | 3" | 18 | ¾ | 1.47 |
| CA-2008 | 5" | 10" | 3" | 18 | ¾ | 1.63 |
| CA-2009 | 5" | 13" | 3" | 18 | ¾ | 1.65 |
| CA-2010 | 6" | 17" | 3" | 16 | 1¼ | 2.56 |
| CA-2011 | 7" | 7" | 2" | 18 | ½ | 1.22 |
| CA-2012 | 7" | 9" | 2" | 18 | ½ | 1.46 |
| CA-2013 | 7" | 11" | 2" | 18 | ¾ | 1.58 |
| CA-2014 | 7" | 12" | 3" | 18 | 1 | 1.75 |
| CA-2015 | 7" | 13" | 2" | 18 | ¾ | 1.67 |
| CA-2016 | 7" | 15" | 3" | 16 | 1½ | 2.34 |
| CA-2017 | 7" | 17" | 3" | 16 | 1¾ | 2.75 |
| CA-2018 | 8" | 12" | 3" | 16 | 1½ | 2.09 |
| CA-2019 | 8" | 17" | 2" | 16 | 1½ | 2.34 |
| CA-2020 | 8" | 17" | 3" | 16 | 1¾ | 2.56 |
| CA-2021 | 10" | 12" | 3" | 16 | 1½ | 2.42 |
| CA-2022 | 10" | 14" | 3" | 16 | 1¾ | 2.84 |
| CA-2023 | 10" | 17" | 2" | 16 | 1¼ | 2.68 |
| CA-2024 | 10" | 17" | 3" | 16 | 2 | 3.00 |
| CA-2025 | 11" | 17" | 2" | 14 | 2¼ | 3.31 |
| CA-2026 | 11" | 17" | 3" | 14 | 2¾ | 3.97 |
| CA-2027 | 12" | 17" | 3" | 14 | 2¾ | 4.08 |
| CA-2028 | 13" | 17" | 2" | 14 | 2½ | 3.34 |
| CA-2029 | 13" | 17" | 3" | 14 | 2¾ | 4.15 |
| CA-2030 | 10" | 17" | 4" | 14 | 3½ | 4.34 |
| CA-2031 | 13" | 17" | 4" | 14 | 3¾ | 4.59 |

## STEEL CHASSIS

DESCRIPTION:

A. Fabricated from one piece of steel.
B. All corners electronically spot welded.
C. Flanges on bottom formed and punched to allow bottom plate to be attached, if desired.
D. Finished in Black Wrinkle or Zinc plated.
E. Asterisk indicates holes punched to receive chassis mounting brackets.

## ALUMINUM CHASSIS

DESCRIPTION:

A. Fabricated of one piece of aluminum.
B. All corners are electronically spot welded.
C. Flanges on bottom formed and punched to allow bottom plate to be attached, if desired.
D. Etched aluminum finish.
E. Gauges indicated are aluminum gauges.

## HEAVY DUTY AND PANEL CHASSIS

DESCRIPTION:

A. Made of 16 gauge cold rolled steel.
B. Bottom plate included at no additional charge.
C. Available in Black Wrinkle finish or Electro Zinc Plate.

| Black Wrinkle Cat. No. | Zinc Plated Cat No. | Depth | Width | Height | Approx. Shipping Wt. - Lbs. | Dealer Cost Black Wrinkle | Zinc Plated |
|---|---|---|---|---|---|---|---|
| C-620 | C-627 | 8" | 17" | 2" | 6 | $3.51 | $3.50 |
| C-621 | C-628 | 8" | 17" | 3" | 7½ | 4.00 | 4.60 |
| C-622 | C-629 | 11" | 17" | 2" | 8½ | 3.64 | 3.99 |
| C-623 | C-630 | 11" | 17" | 3" | 9 | 4.04 | 5.17 |
| C-624 | C-631 | 13" | 17" | 2" | 9½ | 4.33 | 5.50 |
| C-625 | C-632 | 13" | 17" | 3" | 10 | 4.75 | 5.83 |
| C-626 | C-633 | 13" | 17" | 4" | 11 | 5.08 | 6.65 |

## PANEL CHASSIS

DESCRIPTION:

A. Fabricated of .062 aluminum.
B. Etched finish.
C. Flange notched for mounting to rack mounting angles.

| Catalog No. | Width | Height | Depth | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| PC-505 | 19" | 1¾" | 5 9/32" | ¾ | $2.03 |
| PC-506 | 19" | 3½" | 5 9/32" | 1¼ | 2.35 |
| PC-507 | 19" | 5¼" | 5 9/32" | 1½ | 2.62 |
| PC-508 | 19" | 7" | 5 9/32" | 2 | 3.00 |
| PC-509 | 19" | 8¾" | 5 9/32" | 2¼ | 3.41 |
| PC-510 | 19" | 10½" | 5 9/32" | 2¾ | 3.84 |
| PC-511 | 19" | 12¼" | 5 9/32" | 3 | 4.20 |
| PC-512 | 19" | 14" | 5 9/32" | 3¼ | 4.52 |

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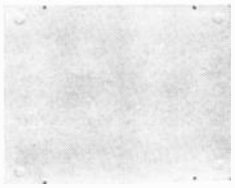
World Radio History

WYCO METAL PRODUCTS

# ROLLER TRUCKS - BOTTOM PLATES - SHELVES SUPPORTING ANGLES - MOUNTING BRACKETS

## CHASSIS BOTTOM PLATES

### STEEL AND ALUMINUM



**DESCRIPTION:**

A. Protects component parts and wiring from dust.

B. Four embossed feet protect table top or other surfaces from being marred.

C. Catalog numbers R6000 to R6022 are Black Wrinkle steel.

D. Catalog number R6023 to R6045 are Zinc plated steel.

E. Catalog numbers R6046 to R6055 are Aluminum etched finish.

| Black Wrinkle Cat. No. | Zinc Plated Cat. No. | Aluminum Etched Cat. No. | W. | L. | Steel Ship. Wt. | Alum. Ship. Wt. | Dealer Cost Blk. | Zinc | Alum. |
|---|---|---|---|---|---|---|---|---|---|
| R-6000 | R-6023 | R-6046 | 5" | 7" | 1/2 | 1/8 | $.50 | $.69 | $.74 |
| R-6001 | R-6024 | R-6047 | 5" | 9 1/2" | 3/4 | 1/4 | .56 | .68 | .75 |
| R-6002 | R-6025 | R-6048 | 5" | 10" | 3/4 | 1/4 | .53 | .62 | .75 |
| R-6003 | R-6026 | R-6049 | 7" | 7" | 1 | 1/3 | .92 | .80 | .77 |
| R-6004 | R-6027 | R-6050 | 7" | 9" | 1 | 1/3 | .83 | .80 | .80 |
| R-6005 | R-6028 | R-6051 | 7" | 11" | 1 | 1/3 | .87 | 1.07 | .90 |
| R-6006 | R-6029 | R-6052 | 7" | 12" | 1 1/4 | 1/2 | .80 | .95 | .97 |
| R-6007 | R-6030 | R-6053 | 7" | 13" | 1 1/4 | 1/2 | .92 | 1.20 | 1.14 |
| R-6008 | R-6031 | | 5" | 13 1/2" | 1 | | .76 | 1.00 | — |
| R-6009 | R-6032 | | 7" | 15" | 1 1/4 | | .89 | 1.12 | — |
| R-6010 | R-6033 | | 8 1/2" | 15" | 1 1/2 | | .90 | 1.19 | — |
| R-6011 | R-6034 | | 4" | 17" | 1 1/2 | | .84 | 1.18 | — |
| R-6012 | R-6035 | | 6" | 17" | 1 1/2 | | .90 | 1.22 | — |
| R-6013 | R-6036 | | 8" | 10" | 1 1/4 | | .92 | 1.05 | — |
| R-6014 | R-6037 | | 8" | 12" | 1 1/2 | | 1.06 | 1.34 | — |
| R-6015 | R-6038 | | 8" | 17" | 1 3/4 | | 1.67 | 1.37 | — |
| R-6016 | R-6039 | | 10" | 12" | 1 1/2 | | .95 | 1.40 | — |
| R-6017 | R-6040 | | 10" | 14" | 1 1/2 | | 1.25 | 1.33 | — |
| R-6018 | R-6041 | R-6054 | 10" | 17" | 1 3/4 | 3/4 | 1.20 | 1.44 | 1.52 |
| R-6019 | R-6042 | | 11" | 17" | 1 1/2 | | 1.20 | 1.44 | — |
| R-6020 | R-6043 | | 12" | 17" | 2 | | 1.27 | 1.67 | — |
| R-6021 | R-6044 | R-6055 | 13" | 17" | 2 1/2 | 3/4 | 1.47 | 2.00 | 2.07 |
| R-6022 | R-6045 | | 10" | 23" | 2 1/4 | | 1.82 | 1.98 | — |

## RACK SHELVES

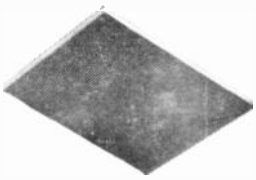
**DESCRIPTION:**

A. Used to mount heavy power supplies, modulator units, etc.

B. Supported by chassis supporting angles which are described on this page.

C. Made of heavy gauge steel.

D. Finished in black enamel only.



| Cat. No. | Size | Wt. Lbs. | Dealer Cost |
|---|---|---|---|
| S195 | 19"x15" | 6 1/2 | $3.10 |
| S196 | 19"x12" | 5 1/2 | 2.35 |

## ROLLER TRUCKS

**SPECIFICATIONS:**

A. Roller Truck constructed from heavy gauge high-quality steel.

B. Casters have 2" rubber wheels and are ball-bearing swivel type.

C. Finished in black or grey wrinkle.

## CHASSIS SUPPORTING ANGLES

**DESCRIPTION:**

A. Used when heavy weights are encountered in chassis construction.

B. Distributes weight on sides of rack to relieve panel.

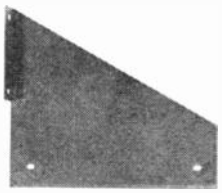
C. Made of 1/8" steel.

D. Finished in black enamel only.

E. Sold in pairs only.

| Cat. No. | Length | Wt. Lbs. | Dealer Cost |
|---|---|---|---|
| A143 | 14 1/2" | 4 | $2.00 pr. |
| A144 | 12" | 3 | 1.92 pr. |

## CHASSIS MOUNTING BRACKETS



**DESCRIPTION:**

A. Used to insure proper support of chassis.

B. Made of heavy gauge steel.

C. Cut away at bottom to provide clearance so that chassis can mount flush against panel.

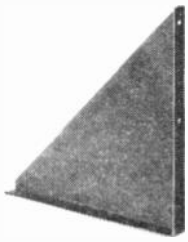
D. Finished in black enamel only.

E. Cat. # CB-565 and CB-566 designed for 4" chassis height.

F. Sold in pairs only.

| Cat. No. | H. | D. | Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|
| CB-560 | 6 1/2" | 8" | 1 1/4 | $ .97 pr. |
| CB-561 | 6 1/2" | 10" | 1 3/4 | 1.20 pr. |
| CB-562 | 6 1/2" | 11" | 2 | 1.33 pr. |
| CB-563 | 6 1/2" | 12" | 2 | 1.57 pr. |
| CB-564 | 6 1/2" | 13" | 2 1/2 | 1.50 pr. |
| CB-565 | 8 1/2" | 10" | 2 1/4 | 1.75 pr. |
| CB-566 | 8 1/2" | 13" | 3 | 1.87 pr. |

## TRIANGULAR MOUNTING BRACKETS



**DESCRIPTION:**

A. When large weights are involved in panel and chassis assemblies, triangular mounting brackets are used as supports.

B. Fabricated of heavy gauge steel; finished in Black enamel only.

C. Sold only in pairs.

| Cat. No. | Size | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|
| TB-410 | 5"x5" | 1 | $ .92 pr. |
| TB-411 | 7"x7" | 1 | 1.07 pr. |
| TB-412 | 9"x9" | 1 1/2 | 1.27 pr. |

| Catalog No. | Constr. for Rack Series | Description of Rack | Inside Clearance | Approx. Ship. Weight | Dealer Cost |
|---|---|---|---|---|---|
| T 18 | SL | Page J-125 | 21 1/2x18 1/2 | 16 lbs. | $14.66 |
| | S | Page J-125 | | | |
| | B | Page J-126 | | | |
| T 19 | D (18 1/2" Deep) | Page J-123 | 23 7/8x18 3/4 | 18 lbs. | 15.58 |
| | W | Page J-126 | | | |
| T 24 | D (24" Deep) | Page J-123 | 23 7/8x24 1/4 | 22 lbs. | 16.86 |

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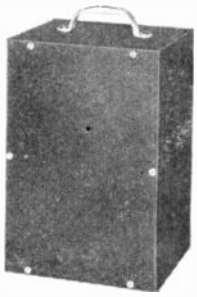
World Radio History

# WYCO METAL PRODUCTS — BOXES-CASES-CABINETS-DESK PANELS

## CARRYING CASE

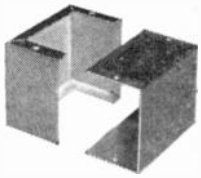


| Steel Cat. No. | Alum. Cat. No. | Depth | Width | Height | Steel Approx. Ship. Wt. | Alum. Approx. Ship. Wt. | Dealer Cost Steel | Dealer Cost Alum. |
|---|---|---|---|---|---|---|---|---|
| D-850 | DA-857 | 5" | 6" | 9" | 3¼ | 1⅛ | $2.66 | $3.17 |
| D-851 | DA-858 | 5" | 9" | 6" | 3¼ | 1⅛ | 2.66 | 3.17 |
| D-852 | DA-859 | 6" | 7" | 12" | 4 | 1⅓ | 3.77 | 4.50 |
| D-853 | DA-860 | 6" | 12" | 7" | 4 | 1⅓ | 3.75 | 4.50 |
| D-854 | — | 7" | 7¾" | 15" | 5 | | 4.17 | — |
| D-855 | — | 8" | 10" | 10" | 5 | | 4.34 | — |
| D-856 | — | 7" | 15" | 9" | 5 | | 5.25 | — |

**DESCRIPTION:**

A. Front and rear panels are removable.
B. Includes handle.
C. Prefix "D" designates steel finished in Grey Hammertone.
D. Prefix "DA" designates aluminum etched finish.

## MINITBOXES



**DESCRIPTION:**

A. Fabricated of aluminum.
B. Design assures necessary shielding.
C. Available in etched finish or Silver Grey Hammertone.

| Silver Grey Cat. No. | Etched Cat. No. | Length | Width | Height | Approx. Shipping Wt.-Lbs. | Dealer Cost Grey | Dealer Cost Etched |
|---|---|---|---|---|---|---|---|
| E-900 | E-918 | 2¾" | 2⅛" | 1⅝" | ¼ | $ .82 | $ .60 |
| E-901 | E-919 | 3¼" | 2⅛" | 1⅝" | ¼ | .87 | .60 |
| E-902 | E-920 | 4" | 2⅛" | 1⅝" | ¼ | .90 | .63 |
| E-903 | E-921 | 4" | 2¼" | 2¼" | ¼ | .98 | .82 |
| E-904 | E-922 | 5" | 2¼" | 2¼" | ¼ | 1.18 | .88 |
| E-905 | E-923 | 5" | 4" | 3" | ½ | 1.27 | .97 |
| E-906 | E-924 | 5¼ | 3" | 2⅛" | ¼ | 1.12 | .95 |
| E-907 | E-925 | 6" | 5" | 4" | ¾ | 1.82 | 1.20 |
| E-908 | E-926 | 7" | 5" | 3" | ¾ | 1.85 | 1.32 |
| E-909 | E-927 | 8" | 6" | 3½" | 1 | 2.23 | 1.98 |
| E-910 | E-928 | 10 | 6" | 3½" | 1¼ | 2.74 | 2.17 |
| E-911 | E-929 | 12" | 7" | 4" | 1¾ | 3.23 | 2.77 |
| E-912 | E-930 | 17" | 5" | 4" | 2¼ | 3.80 | 3.21 |
| E-913 | E-931 | 10" | 2" | 1⅝" | ½ | 1.38 | 1.25 |
| E-914 | E-932 | 12" | 2½" | 2¼" | ¾ | 1.59 | 1.22 |
| E-915 | E-938 | 4" | 2" | 2¾" | ¼ | 1.13 | .82 |
| E-916 | E-934 | 4¼" | 2¼" | 1½" | ¼ | 1.17 | .85 |
| E-917 | E-935 | 3¼ | 2⅛" | 1⅛" | ¼ | 1.02 | .65 |

## EASY BOXES (SAME DESIGN AS MINITBOX)

**DESCRIPTION:**

A. Design allows a number of small components to be easily wired or serviced.
B. Fabricated of 22 gauge steel.
C. Black Wrinkle finish only.

| Catalog No. | Height | Width | Depth | Approx. Shipping Wt.-Lbs. | Dealer Cost |
|---|---|---|---|---|---|
| H-105 | 2¼" | 4¼" | 1½" | ½ | $1.02 |
| H-106 | 2" | 4" | 2¾" | ½ | 1.07 |

## DESK PANELS

**DESCRIPTION:**

A. Table is constructed of heavy gauge high-quality steel and measures 21" x 16".
B. Panel, constructed of ⅛" steel, is 10½" x 19".
C. Front corners of table are rounded.
D. SHIPPED "KNOCKED-DOWN"; all necessary bolts supplied for easy assembly.
E. Finished in black or grey enamel and silver grey hammertone.

| Catalog No. | Width | Depth | Approx. Shipping Weight | Dealer Cost |
|---|---|---|---|---|
| DP 16 | 21" | 16" | 14 lbs. | $15.71 |

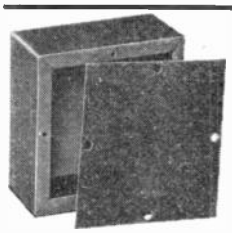
## METER CASES

**DESCRIPTION:**

A. Sloping front with top corner rounded.
B. Prefix "MC" designates steel Grey Hammertone finish.
C. Prefix "AC" designates aluminum etched finish.

| Catalog No. | Hole Diameter | Approx. Ship. Wt. - Lbs. | Dealer Cost |
|---|---|---|---|
| MC-73 | 2¼" | 1 | $1.00 |
| MC-74 | 2 13/16" | 1 | 1.00 |
| AC-86 | 2¼" | ⅓ | 1.29 |
| AC-87 | 2 13/16" | ⅓ | 1.29 |

## METAL UTILITY CABINETS

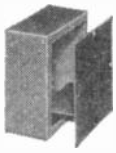


**DESCRIPTION:**

A. Cabinet has two removable covers.
B. Prefix MU designates steel finished in Silver Grey Hammertone only.
C. Prefix LU designates aluminum in an etched finish.
D. Used for amplifiers, monitors, input stages, meters, tranceivers, etc.

| Steel Cat. No. | Alum. Cat. No. | Depth | Width | Ht. | Steel Approx. Ship. Wt. Lbs. | Alum. Approx. Ship. Wt. Lbs. | Dealer Cost Steel | Dealer Cost Alum. |
|---|---|---|---|---|---|---|---|---|
| MU-750 | LU-760 | 2" | 4" | 4" | ¾ | ¼ | $1.04 | $1.29 |
| MU-751 | LU-761 | 3" | 5" | 4" | 1 | ¼ | 1.14 | 1.37 |
| MU-752 | LU-762 | 4" | 5" | 6" | 1¼ | ½ | 1.38 | 1.67 |
| MU-753 | LU-763 | 6" | 6" | 6" | 2½ | ¾ | 1.87 | 1.90 |
| MU-754 | LU-764 | 5" | 6" | 9" | 3 | 1 | 2.08 | 2.35 |
| MU-755 | — | 7" | 8" | 10" | 5 | | 3.00 | — |
| MU-756 | — | 6" | 7" | 12" | 4 | | 2.94 | — |
| MU-757 | — | 8" | 10" | 10" | 5½ | | 3.60 | — |
| MU-758 | — | 8" | 11" | 12" | 6 | | 4.13 | — |
| MU-759 | — | 7" | 9" | 15" | 7½ | | 4.31 | — |

## MINIATURE UTILITY CABINETS



**DESCRIPTION:**

A. Front and rear panels are removable.
B. Chassis attached to front panel.
C. Fabricated in steel; Silver Grey Hammertone only.

| Cat. No. | Ht. | Width | Depth | Chassis Size | Approx. Shipping Wt.-Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|
| A-780 | 4" | 4" | 2" | 1" x3⅛"x1⅞" | ¾ | $1.34 |
| A-781 | 4" | 5" | 3" | 1" x4⅛"x2⅞" | 1 | 1.48 |
| A-782 | 5" | 4" | 3" | 1¼"x3⅛"x2⅞" | 1 | 1.62 |
| A-783 | 6" | 5" | 4" | 1¾"x4⅛"x3⅞" | 1¾ | 1.70 |
| A-784 | 5" | 6" | 4" | 1¼"x5⅛"x3⅞" | 1¾ | 1.92 |
| A-785 | 6" | 6" | 6" | 1¾"x4⅞"x5⅞" | 2¾ | 2.17 |

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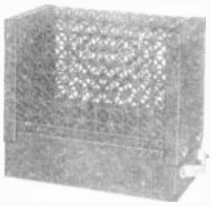
# AMPLIFIER FOUNDATIONS - RACK PANELS SLOPING PANEL SUPPORTS - CABINETS

## AMPLIFIER FOUNDATIONS



DESCRIPTION:

A. Consists of standard chassis and perforated metal cover.

B. Includes handles.

C. Available in Black Wrinkle only.

| Cat. No. | Height | Width | Depth | Height Chassis | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|---|---|---|
| AF-680 | 8 5/16" | 9 5/8" | 5 1/8" | 2 1/2" | 3 | $5.50 |
| AF-681 | 8 5/16" | 13 5/8" | 5 1/8" | 2 1/2" | 4 3/4 | 5.75 |
| AF-682 | 8 5/16" | 17 1/8" | 7 1/8" | 2 1/2" | 6 | 6.50 |
| AF-683 | 8 13/16" | 17 1/8" | 10 1/8" | 3" | 8 | 8.94 |
| AF-684 | 8 13/16" | 12 1/8" | 10 1/8" | 3" | 7 | 6.75 |

## STANDARD RELAY RACK PANELS

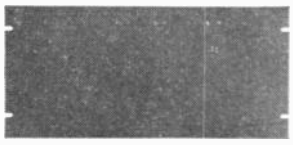
DESCRIPTION:

A. 1/8" STEEL or ALUMINUM.

B. 19" wide.

C. Western Electric notching.

D. Available in black or grey wrinkle, silver grey hammertone and unpainted finish.



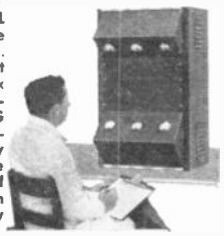
| STEEL | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cat. No. | Height | Wt. Lbs. | Dealer Cost | Cat. No. | Height | Wt. Lbs. | Dealer Cost |
| SP-210 | 1 3/4" | 1 1/4 | $ .76 | SP-216 | 12 1/4" | 8 1/4 | $2.13 |
| SP-211 | 3 1/2" | 2 1/4 | .86 | SP-217 | 14" | 9 1/2 | 2.50 |
| SP-212 | 5 1/4" | 3 1/4 | 1.13 | SP-218 | 15 3/4" | 10 3/4 | 2.76 |
| SP-213 | 7" | 4 1/2 | 1.27 | SP-219 | 17 1/2" | 11 3/4 | 3.10 |
| SP-214 | 8 3/4" | 6 | 1.58 | SP-220 | 19 1/4" | 13 | 3.46 |
| SP-215 | 10 1/2" | 7 | 1.84 | SP-221 | 21" | 14 1/4 | 3.81 |

| ALUMINUM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cat. No. | Height | Wt. Lbs. | Dealer Cost | Cat. No. | Height | Wt. Lbs. | Dealer Cost |
| AP-320 | 1 3/4" | 1/4 | $ .99 | AP-326 | 12 1/4" | 2 3/4 | $3.75 |
| AP-321 | 3 1/2" | 3/4 | 1.30 | AP-327 | 14" | 3 | 4.33 |
| AP-322 | 5 1/4" | 1 | 1.75 | AP-328 | 15 3/4" | 3 1/2 | 4.83 |
| AP-323 | 7" | 1 3/4 | 2.16 | AP-329 | 17 1/2" | 4 | 5.33 |
| AP-324 | 8 3/4" | 2 | 2.58 | AP-330 | 19 1/4" | 4 1/4 | 5.83 |
| AP-325 | 10 1/2" | 2 1/2 | 3.20 | AP-331 | 21" | 5 | 6.33 |

## SLOPING PANEL SUPPORT

In answer to many requests from engineers within the industry, WYCO METAL PRODUCTS presents the all-new SLOPING PANEL SUPPORT, The SLOPING PANEL SUPPORT allows for mounting of the standard 19" panel in sloping position. This enables the engineer or equipment user to more easily view the rack mounted instrument panel. From this illustration, it is easy to see that the SLOPING PANEL SUPPORT offers a variety of positions in which a standard 19" panel may be supported in sloping position. The SLOPING PANEL SUPPORT is fabricated of heavy gauge steel and is finished in Black and Grey Wrinkle or Silver Grey Hammertone.

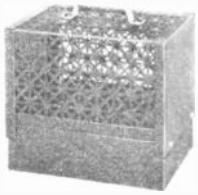
Supports Panel Size — Requires Panel Space



IMPORTANT! When ordering SLOPING PANEL SUPPORTS FOR CABINET RACKS THAT HAVE FRONT CORNER VERTICAL TRIM, use catalog Prefix "B". In all other cases use catalog Prefix "G."

| Prefix "B" Cat. No. | Prefix "G" Cat. No. | Supports Panel Size | Requires Panel Space | Prefix "B" Ship. Wt. | Prefix "G" Ship. Wt. | Dealer Cost "B" | Dealer Cost "G" |
|---|---|---|---|---|---|---|---|
| B-335 | G-350 | 5 1/4"x19" | 7" | 4 | 2 | $6.50 | $3.60 |
| B-336 | G-351 | 7" x19" | 10 1/2" | 6 | 4 | 7.50 | 4.20 |
| B-337 | G-352 | 8 3/4"x19" | 12 1/4" | 6 1/2 | 4 1/2 | 8.10 | 4.67 |
| B-338 | G-353 | 10 1/2"x19" | 15 3/4" | 9 | 6 1/2 | 9.42 | 5.90 |
| B-339 | G-354 | 12 1/4"x19" | 17 1/2" | 10 | 7 | 10.32 | 6.80 |
| B-340 | G-355 | 14" x19" | 21" | 12 | 9 | 11.52 | 7.97 |

## MINIATURE AMPLIFIER FOUNDATION



DESCRIPTION:

A. Chassis size 5" x 7" x 2".

B. Perforated metal cover.

C. Includes handle.

D. Black Wrinkle finish only.

| Catalog No. | Approx. Shipping Weight - Lbs. | Dealer Cost |
|---|---|---|
| MA-1000 | 2 | $4.00 |

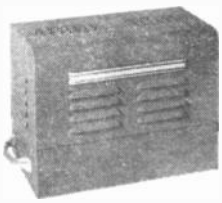
## STREAMLINED AMPLIFIER FOUNDATIONS

DESCRIPTION:

A. Consists of standard chassis and streamlined removable top cover.

B. Includes attractive stainless steel trim and handles.

C. Available in Silver Grey Hammertone only.



| Catalog No. | Width | Depth | Approx. Shipping Wt. - Lbs. | Dealer Cost |
|---|---|---|---|---|
| SA-670 | 10 1/16" | 5" | 4 3/4 | $6.08 |
| SA-671 | 12 1/16" | 7" | 5 | 7.17 |
| SA-672 | 17 1/16" | 7" | 8 | 7.58 |
| SA-673 | 17 1/16" | 10" | 9 | 8.25 |

## METAL DOOR RACK PANELS

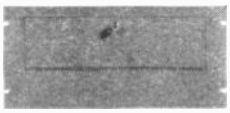
DESCRIPTION:

A. Used when accessability to component parts on chassis is necessary.

B. Made of 1/8" steel.

C. Available in black or grey wrinkle and silver grey hammertone.

D. 19" wide.



| Cat. No. | Height | Door Opening | Wt. Lbs. | Dealer Cost |
|---|---|---|---|---|
| RP-310 | 10 1/2" | 15 3/8" x 6" | 7 1/4 | $5.42 |
| RP-311 | 12 1/4" | 15 3/8" x 7 1/2" | 8 1/4 | 6.67 |

## SLOPING FRONT CABINET

DESCRIPTION:

A. Top corner rounded.

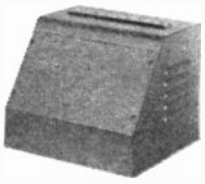
B. Attractive high-polish moulding at top.

C. Front panel is removable.

D. Chassis may be mounted to front panel and removed as unit.

E. Louvres at both sides; vented at rear.

F. Available in silver grey hammertone only.



| Cat. No. | Height | Width | Depth | Dealer Cost |
|---|---|---|---|---|
| K810 | 8" | 8" | 8" | $4.66 |
| K811 | 8" | 10" | 8" | 6.41 |
| K812 | 8" | 14" | 8" | 7.75 |
| K813 | 12" | 18" | 12" | 10.41 |

NOTE: If desired, an attractive handle can be used with above "K" series cabinet. Holes to mount moulding are spaced for handle, also. Catalog # for handle is HK70. Dealer Cost: $.92

**Wyco Metal Products** • NORTH HOLLYWOOD, CALIFORNIA

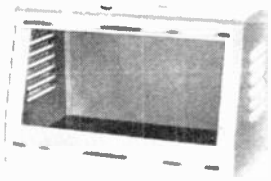


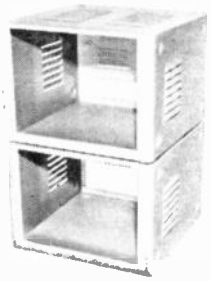
World Radio History

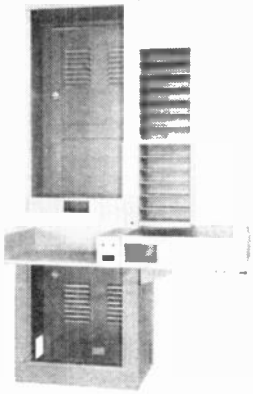
# Wyco for Profitable Production

# Contract Manufacturing Facilities

METAL ENCLOSURES • CHASSIS • PANELS



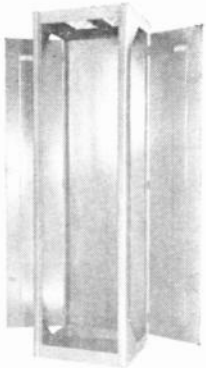




Experience and facilities acquired in manufacturing a standard line of metal cabinets for electronic equipment and contract work can serve you to advantage. The typical products shown represent a wide range of practical experience in the manufacturing of specially designed cabinets, chassis and panels.

In every category, from top management down, Wyco's work force is trained in low cost manufacturing. A capable design staff will work with your engineers in product development and also works continually on product and process improvement for lower costs

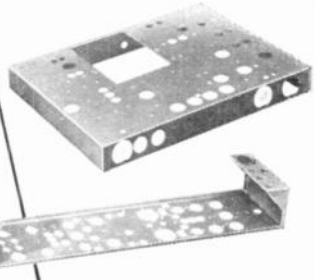
Plant facilities—the Wyco plant, 25,000 square feet of manufacturing space is located in the center of Southern California's industrial area. Situated as it is in the West Coast's industrial heart, the plant is within 500 miles of a score of manufacturing centers, permitting overnight delivery.

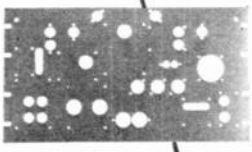


## *Manufacturing "Know-How" Assures High Quality Products*

Quite often it is possible to modify one of our standard units. This can eliminate the necessity of special dies, consequently reducing costs. A high degree of quality is guaranteed, due to our excellent facilities, expert workmanship, years of experience and manufacturing "know-how". Our staff is always at your service for consultation and advice.

*Specialists in Quantity Contract Manufacturing*





**For a quotation, send details and prints of your parts. Wyco metal products will gladly discuss PERSONALLY your metal fabricating problems.**

# Wyco Metal Products

**NORTH HOLLYWOOD, CALIFORNIA**

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# *Vari-Flex*® CHASSIS and POWER SUPPLIES

## *For Design and Research Circuitry*

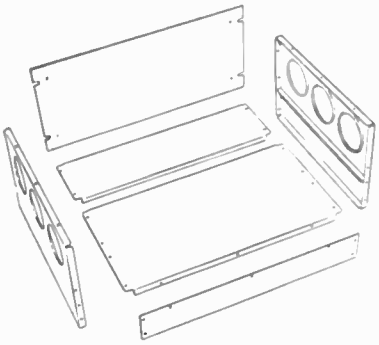
**Easy to change when requirements change**

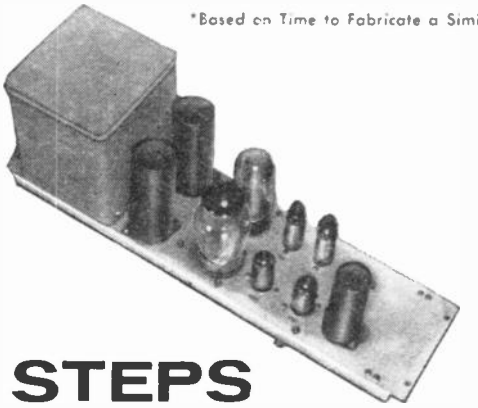
- Combines ready-to-assemble chassis with high quality regulated power supplies — Saves time — Construction starts where it should with the circuits proper.
- Instantly demountable construction for circuit salvage or substitution.

**SAVE VITAL TIME**

***Basic Chassis and Power Supply ready for your circuitry in 15 Minutes instead of 12 Hours* and reusable indefinitely!!***

*Based on Time to Fabricate a Similar Unit From Standard Components





**MATERIALS**
**ALL HARDWARE INCLUDED**

FP: Aluminum
CP1 & CP2: Aluminum or steel
SP1 & SP2: 18 Gauge mild steel
BP: 20 Gauge mild steel
OTHER PARTS: Cadmium plated steel not less than .0005. Bright Lusteron Finish to double life of cadmium plating.

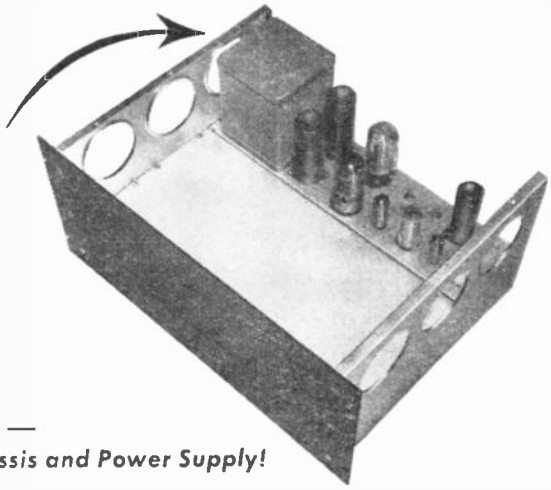
# 2 QUICK STEPS

1. **Assemble Breadboard Chassis From Standard Vari-Flex Panels**
2. **Choose required Standard Vari-Flex Power Supply From This Group**

**SPECIFICATIONS AND LIST PRICES FOR POWER SUPPLIES**

| MODEL and PRICE | REGULATION (UPPER LIMITS) | VOLTAGE RANGE | NOMINAL CURRENT MA |
|---|---|---|---|
| H105† $99.00 | 0.2% | 150-350 | 100 |
| H106* $162.00 | 0.03% | 200-350 | 250 |
| H107† $173.00 | 0.03%<br>ca 1%<br>0.03% | 150-350<br>—150<br>—105 | 100<br>20<br>2 |
| H108* $226.00 | 0.02% | 150-300 and —150 | 150<br>150 |
| | | — or — | |
| | 0.02% | +150 and +300-450 | 150 Total |

†6.3 volts @ 5 amp. Fil. *6.3 volts @ 6 amp. Fil.



***Then — demount YOUR experimental circuitry only — and re-use basic Vari-Flex Chassis and Power Supply!***

**COMPLETE CHASSIS LIST PRICES**

| Unit Price 9 in. | Unit Price 13½ in. | Unit Price 9" with Shields | Unit Price 13½" with Shields |
|---|---|---|---|
| $15.95 | $19.55 | $23.57 | $28.05 |

**LIST PRICES FOR INDIVIDUAL CHASSIS PARTS**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FP | $2.50 | CP-1 steel | $1.98 | CP-3 steel | $2.36 | TPS-1 | 4.60 |
| BP | 1.75 | CP-1 alum. | 2.70 | CP-3 alum. | 3.13 | TPS-2 | $5.25 |
| SP-1 | 8.90 | CP-2 steel | 2.75 | | | BPS-1 | 3.02 |
| SP-2 | 10.50 | CP-2 alum. | 3.55 | | | BPS-2 | 3.34 |

**Hamner**

***Hamner Electronics Co., Inc.***
**PRINCETON, NEW JERSEY**



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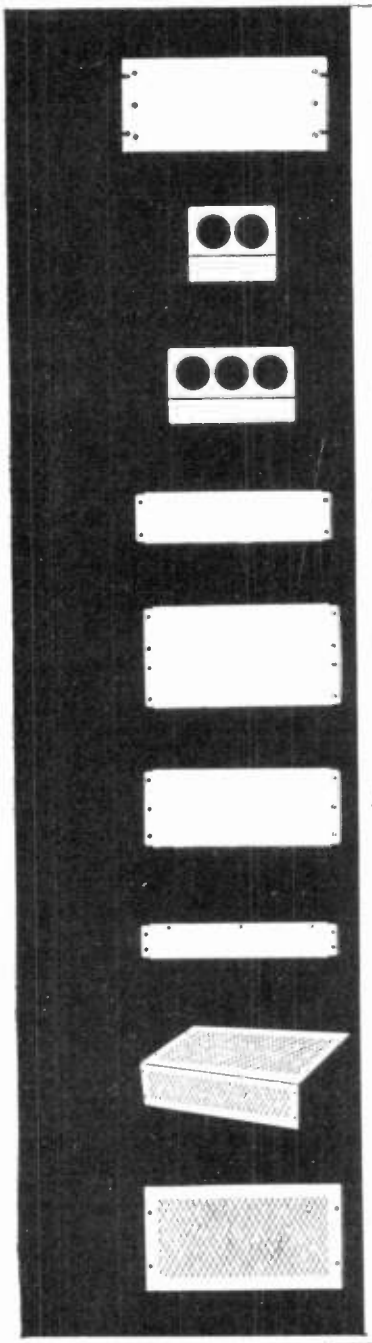
# *Vari-Flex*® CHASSIS and POWER SUPPLIES

→ ASK ABOUT OUR NEW ***Mini-Flex*** READY-TO-ASSEMBLE CHASSIS FOR MINIATURE CIRCUITRY

## STANDARD VARI-FLEX PANELS



| PANEL | TITLE | CODE | SIZE |
|---|---|---|---|
| | FRONT PANEL | FP | 8¾" x 19" |
| | SIDE PANEL | SP-1 | 8½" x 9" |
| | SIDE PANEL | SP-2 | 8½" x 13½" |
| | CHASSIS PLATE | CP-1 | 4½" x 17" |
| | CHASSIS PLATE | CP-2 | 9" x 17" |
| | CHASSIS PLATE | CP-3 | 6¾" x 17" |
| | BACK PANEL | BP | 3" x 17" |
| | TOP SHIELD | TPS-1<br>TPS-2 | Use with SP-1<br>Use with SP-2 |
| | BOTTOM SHIELD | BPS-1<br>BPS-2 | Use with SP-1<br>Use with SP-2 |

## A FEW OF THE MANY POSSIBLE COMBINATIONS

**9" Vari-Flex Chassis Assembly — using**

1 FP
1 BP
2 SP-1

1 CP-2
or
2 CP-1

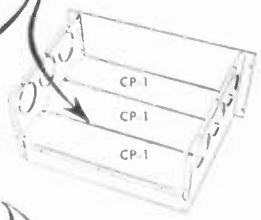
**13½" Vari-Flex Chassis Assembly — using**

1 FP
1 BP
2 SP-2

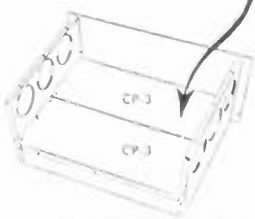
1 CP-1
1 CP-2

*or*

3 CP-1

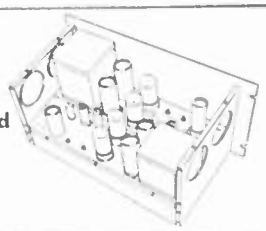


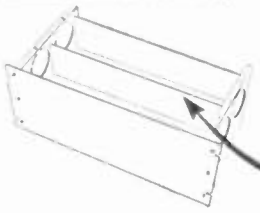

*or*




2 CP-3

**9" Vari-Flex Chassis Mounting Two Low Voltage Regulated Power Supply Strips H-105 and H-106**





**9" Vari-Flex Chassis Assembly — using Additional BP as internal shield**

**Hamner Electronics Co., Inc.**
PRINCETON, NEW JERSEY

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# CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

# CASES PANELS

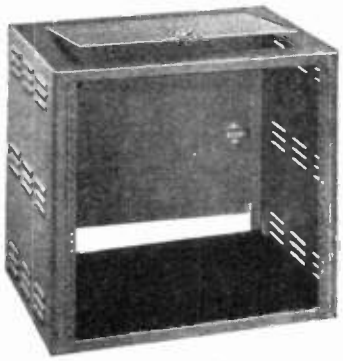
MIDDLETOWN IN CONNECTICUT

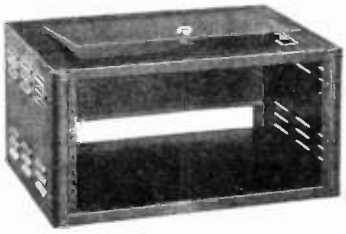
## D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

### FEATURES

- ★ Constructed of heavy gauge 1/16" steel, electrically welded.
- ★ Adequate ventilation is provided by sufficient louvres in sides, and ventilation in back.
- ★ Front Vertical posts rounded.
- ★ Flush panel mounting (recessed).
- ★ Drilled and tapped for 10 32" screws on universal centers.
- ★ Flush door in top fitted with flush snap-lock and piano hinges.
- ★ Black Wrinkle finish. *Grey Wrinkle if desired.*





| Cat. No. | | Dealer Cost |
|---|---|---|
| D.C. 108 | Panel Size 8¾" x 19". Size of Cabinet 10½" x 21½" x 15". Single Unit | $11.64 |
| D.C. 1412 | Panel Size 12¼" x 19". Size of Cabinet 14" x 21½" x 15". Single Unit | 14.19 |
| D.C. 1514 | Panel Size 14" x 19". Size of Cabinet 15¾" x 21½" x 15". Single Unit | 15.84 |
| D.C. 1917 | Panel Size 17½" x 19". Size of Cabinet 19¼" x 21½" x 15". Double Unit—Door Top and Back | $18.84 |
| D.C. 2826 | Panel Size 26¼" x 19". Size of Cabinet 28" x 21½" x 15". Triple Unit—Door Top and Back | 22.14 |
| D.C. 3635 | Panel Size 35" x 19". Size of Cabinet 36¾" x 21½" x 15". Quad. Unit—Door Top and Back | 24.54 |

## BLANK STEEL CHASSIS
### Heavy Duty

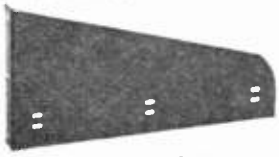
Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and rilled to match bottom plates. Ends are drilled to fit standard Middletown brackets. Bottom plates are supplied with these Chassis.

**Stock Sizes**
Black Wrinkle

| Cat. No. | | Dealer Cost |
|---|---|---|
| H.D. 8172 | 8 x 17 x 2" | $2.90 |
| H.D. 8173 | 8 x 17 x 3" | 3.15 |
| H.D. 11172 | 11 x 17 x 2" | 3.30 |
| H.D. 11173 | 11 x 17 x 3" | 3.65 |
| H.D. 13172 | 13 x 17 x 2" | 4.00 |
| H.D. 13173 | 13 x 17 x 3" | 4.40 |
| H.D. 13174 | 13 x 17 x 4" | 4.84 |

## CHASSIS BRACKETS
### Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.



| Cat. No. | Size | Shipping Weight | Dealer Cost |
|---|---|---|---|
| C.B. 8 | For 8" Base | 2 lbs. | $0.87 |
| C.B. 11 | For 11" Base | 3 lbs. | 1.26 |
| C.B. 13 | For 13" Base | 3 lbs. | 1.47 |

## RACK PANELS — 19" LONG
### (Steel and Aluminum)

Middletown Rack Panels are offered in either ⅛" steel or ⅛" aluminum. They are 19" wide and are slotted for conventional W. E. mounting. Fourteen standard sizes. Furnished in black or grey wrinkle finish.

*Note: When ordering grey wrinkle, add prefix "G" to catalog number.*

*Available on special order.

| Cat. No. Steel (Blk. Wrinkle) | Dealer Cost | Height | Cat. No. Aluminum (Black Wrinkle) | Dealer Cost |
|---|---|---|---|---|
| R.P. 1 | $0.77 | 1¾" | A.R.P. 1 | $0.87 |
| R.P. 3 | .84 | 5½" | A.R.P. 3 | 1.20 |
| R.P. 5 | 1.05 | 8¼" | A.R.P. 5 | 1.80 |
| R.P. 7 | 1.20 | 7" | A.R.P. 7 | 2.16 |
| R.P. 8 | 1.50 | 8¾" | A.R.P. 8 | 2.58 |
| R.P. 10 | 1.68 | 10½" | A.R.P. 10 | 3.24 |
| R.P. 12 | 2.10 | 12¼" | A.R.P. 12 | 3.78 |
| R.P. 14 | 2.40 | 14" | A.R.P. 14 | 4.35 |
| R.P. 15 | 2.70 | 15¾" | A.R.P. 15 | 4.80 |
| R.P. 17 | 2.97 | 17½" | A.R.P. 17 | 5.34 |
| R.P. 19 | 3.30 | 19¼" | A.R.P. 19 | 5.85 |
| R.P. 21 | 3.66 | 21" | A.R.P. 21 | 6.30 |
| R.P. 26* | — | 26¼" | A.R.P. 26* | — |
| R.P. 35* | — | 35" | A.R.P. 35* | — |



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World Radio History

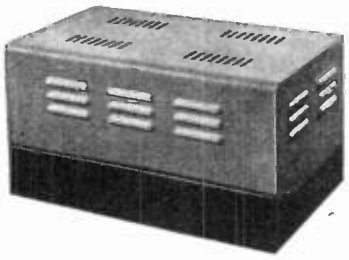
# CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

# CASES PANELS

MIDDLETOWN IN CONNECTICUT

## AMPLIFIER FOUNDATIONS—DeLuxe Models



This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrinkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately. Covers all have a depth of 6"

| Cat. No. | Size | Dealer Cost |
|---|---|---|
| A.F.-5109 | 5 x 10 x 9" | $2.80 |
| A.F.-6149 | 6 x 14 x 9" | 3.00 |
| A.F.-7179 | 7 x 17 x 9" | 3.75 |
| A.F.-10129 | 10 x 12 x 9" | 3.75 |
| A.F.-10179 | 10 x 17 x 9" | 4.50 |
| A.F.-13179 | 13 x 17 x 9" | 5.40 |

## SLOPING FRONT PANEL CABINETS

Sloping front panel cabinets have a wide application in the electronic field since they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

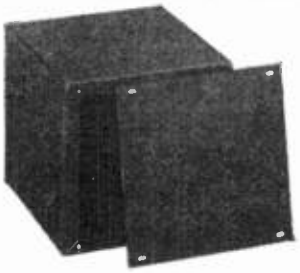
| Cat. No. | H.W.D. | Chassis Size | Dealer Cost |
|---|---|---|---|
| S.F.-888 | 8 x 8 x 8" | 7 x 7 x 2" | $3.84 |
| S.F.-8108 | 8 x 10 x 8" | 7 x 9 x 2" | 4.26 |
| S.F.-8128 | 8 x 12 x 8" | 7 x 11 x 2" | 4.44 |
| S.F.-8148 | 8 x 14 x 8" | 7 x 13 x 2" | 4.59 |
| S.F.-121812 | 12 x 18 x 12" | 10 x 17 x 3" | 8.40 |

## STEEL UTILITY CANS

These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

| Cat. No. | Size | Weight | Dealer Cost |
|---|---|---|---|
| U.C. 565 | 5½ x 6 x 5½" | 3 lbs. | $1.38 |
| U.C. 596 | 5 x 9 x 6" | 5 lbs. | 1.86 |
| U.C. 8107 | 8 x 10 x 7" | 6 lbs. | 2.70 |
| U.C. 81010 | 8 x 10 x 10" | 7 lbs. | 3.45 |
| U.C. 11128 | 11 x 12 x 8" | 9 lbs. | 4.35 |

## STEEL AND ALUMINUM CASES



These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

**STEEL**

| Catalog Number | Size W | Size D | Size H | Dealers Cost |
|---|---|---|---|---|
| SC 442 | 4" | 4" | 2" | .96 |
| SC 453 | 4" | 5" | 3" | 1.08 |
| SC 465 | 4" | 6" | 5" | 1.26 |
| SC 666 | 6" | 6" | 6" | 1.44 |
| SC 596 | 5" | 9" | 6" | 1.80 |
| SC 1276 | 12" | 7" | 6" | 2.64 |
| SC 1597 | 15" | 9" | 7" | 3.57 |
| SC 1576 | 15" | 7¾" | 6½" | 3.15 |

**ALUMINUM**

| Catalog Number | Dealers Cost |
|---|---|
| AC 442 | $1.26 |
| AC 453 | 1.38 |
| AC 465 | 1.60 |
| AC 666 | 1.85 |
| AC 596 | 2.50 |
| AC 1276 | 3.75 |

## STEEL CASES WITH BUILT IN CHASSIS

| Catalog Number | H | W | D | Chassis Size | Dealers Cost |
|---|---|---|---|---|---|
| SCWC 442 | 4 | 4 | 2 | 1 x2⅞x1⅞ | $1.15 |
| 453 | 4 | 5 | 3 | 1 x3⅞x2⅞ | 1.25 |
| 543 | 5 | 4 | 3 | 1¼x2⅞x2⅞ | 1.25 |
| 654 | 6 | 5 | 4 | 1¾x3⅞x3⅞ | 1.55 |
| 645 | 5 | 6 | 4 | 1¼x4⅞x3⅞ | 1.55 |
| 666 | 6 | 6 | 6 | 1¾x4⅞x5⅞ | 1.65 |

## CASTERS

| Catalog Number | Dealers Cost |
|---|---|
| CA 234 | .99 ea. |

## CHASSIS SUPPORTING BRACKETS

| Catalog Number | Size | Dealers Cost |
|---|---|---|
| CSB 12 | 12 x 3 x 3 | $1.85 |
| CSB 14 | 14 x 3 x 3 | 1.95 |

## METER PANELS

Middletown Meter Panels are made 5¼" high and are made to the same specifications as our Rack Panels—are available to fit 3" meters.

| Cat. No. | Holes | Hole Size | Dealer Cost |
|---|---|---|---|
| R.P.M. 33 | 3 | 2 3/16" | $1.30 |
| R.P.M. 35 | 5 | 2 3/16" | 1.85 |

## METER CASES

These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

| Cat. No. | Meter | Hole Size | H.W.D. | Dealer Cost |
|---|---|---|---|---|
| M.C. 13 | Single 3" | 2 13/16" | 4½ x 4 x 4 | $1.14 |
| M.C. 33 | 3-3" Meters | 2 13/16" | 4½ x 11¼ x 4 | 3.06 |

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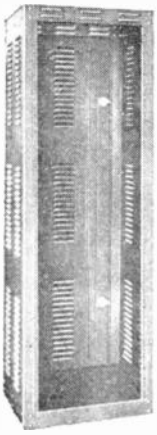
World Radio History

# CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

MIDDLETOWN IN CONNECTICUT

# CASES PANELS



## DE LUXE RELAY RACKS

Middletown De Luxe Relay Racks are made of 16-gauge steel with 1/8" panel supports which are recessed so that edges of panels set flush. Standard 19" panels fit these racks. (See page J-113 for panel sizes.)

Adequate ventilation is provided by louvres in the two sides, the door and in the top at front and back. Door is hung on sturdy hinges and has snap catches. Racks come with rigid, built-in caster supports. (Casters not included in price of rack.) Furnished in either black or grey wrinkle finish. Shipped knocked down with all necessary hardware.

Rack shelves and supporting angles to fit these Relay Racks are available. Information and prices on request.

| Cat. No. (Black Wrinkle) | Overall Size H | W | D | Panel Size H | W | Dealer Cost |
|---|---|---|---|---|---|---|
| DRR 4236 | 42 1/2 | 22 | 17 1/4 | 36 3/4 | 19 | $32.70 |
| DRR 4742 | 47 5/8 | 22 | 17 1/4 | 42 | 19 | 37.45 |
| DRR 6661 | 66 3/8 | 22 | 17 1/4 | 61 1/4 | 19 | 48.60 |
| DRR 8277 | 82 5/8 | 22 | 17 1/4 | 77 | 19 | 58.50 |

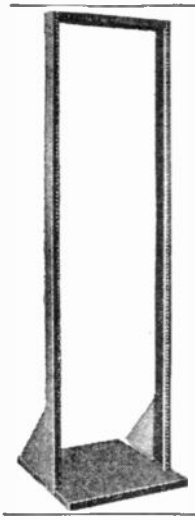
Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.

## OPEN-TYPE TABLE RELAY RACKS

For table mounting of power transmitters, P. A. systems and other radio and electronic apparatus. Rack is ruggedly constructed with strong base to accommodate heavy components. Drilled and tapped for conventional 19" wide panels which set in recess so that no edges are exposed. (See page J-113 for panel sizes.)

Shipped knocked down with necessary hardware. Black wrinkle finish.

| Catalog Number | Overall Size H | W | D | Panel Space H | W | Dealer Cost |
|---|---|---|---|---|---|---|
| TRR 24 | 24 | 21 | 12 | 21 | 19 | $6.60 |
| TRR 31 | 31 | 21 | 12 | 28 | 19 | 8.25 |

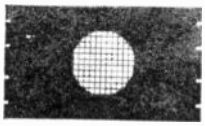


## OPEN-TYPE CHANNEL RELAY RACKS

Sturdy construction with rigid supporting members and side angle braces make these racks perfectly suited to all heavy-duty assignments. Made of 1/8" steel channels, 3" deep, welded together with angle cross pieces of the same material. Chassis type base. Drilled and tapped to accommodate conventional 19" panels. (See page J-113 for panel sizes.) Black wrinkle finish. Shipped knocked down with necessary hardware.

| Cat. No. | Overall Size H | W | D | Panel Size H | W | Dealer Cost |
|---|---|---|---|---|---|---|
| OCR 35 | 35 1/2 | 21 | 22 | 31 1/2 | 19 | $17.40 |
| OCR 70 | 70 1/2 | 21 | 22 | 66 1/2 | 19 | 20.70 |

Dimensions in Inches.



## SPEAKER PANELS

Made from 1/8" steel, panels fit either 6", 8", 10" or 12" speakers. They are 19" wide, slotted for standard W.E. mounting. Furnished in black or grey wrinkle finish. Opening covered with an attractive clover leaf design steel grille.

| Catalog Number (Black Wrinkle) | Panel Space H | W | Hole Diameter | Speaker Size | Dealer Cost |
|---|---|---|---|---|---|
| SP 8 | 8 3/4 | 19 | 4 3/4 | 6 | $2.46 |
| SP 10 | 10 1/2 | 19 | 6 1/2 | 8 | 3.15 |
| SP 12 | 12 1/4 | 19 | 9 | 10 | 3.75 |
| SP 14 | 14 | 19 | 11 | 12 | 4.35 |

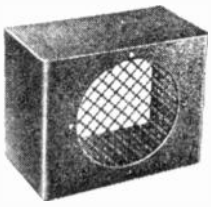
Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.

## ROUNDED CORNER CABINETS

These are de luxe streamlined cabinets with front vertical corners rounded. Flush panel door, hung on full-length piano hinge, provided in top for convenient access. Ventilating louvres on sides. Opening at bottom of rear panel permits easy accessibility for leads, cables, etc. Front panel held in position with self-tapping screws. Grey wrinkle finish. Sturdily built of sheet steel.

| Catalog No. | Size H | W | D | Panel Space H | W | D | Chassis Size W | H | Dealer Cost |
|---|---|---|---|---|---|---|---|---|---|
| RC 8108 | 8 | 10 | 8 | 8 | 8 | 7 | 7 | 2 | $3.60 |
| RC 8128 | 8 | 12 | 8 | 8 | 10 | 7 | 9 | 2 | 3.90 |
| RC 8168 | 8 | 16 | 8 | 8 | 14 | 7 | 13 | 2 | 5.07 |
| RC 91711 | 9 | 17 | 11 | 9 | 15 | 10 | 14 | 3 | 7.89 |
| RC 122012 | 12 | 20 | 12 | 12 | 18 | 10 | 17 | 3 | 9.30 |

Chassis are not included unless ordered. See J-112 for chassis listings. Dimensions in Inches.



## STANDARD SPEAKER CABINETS

These cabinets are designed especially for permanent or portable public address systems. Made from heavy sheet steel with front vertical corners rounded for neat, streamlined appearance. Attractive clover-leaf grille. Removable back cover. Black or grey wrinkle finish.

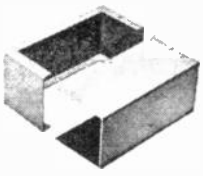
| Catalog Number (Black Wrinkle) | Cabinet Size H | W | D | Hole Diam. | Speaker Size | Dealer Cost |
|---|---|---|---|---|---|---|
| SS 10106 | 10 | 10 | 6 | 4 3/4 | 6" | $3.45 |
| SS 12127 | 12 | 12 | 7 | 6 1/2 | 8" | 4.65 |
| SS 14148 | 14 | 14 | 8 | 9 | 10" | 5.55 |
| SS 16168 | 16 | 16 | 8 | 11 | 12" | 7.35 |

Note: When ordering grey wrinkle, add prefix "G" to catalog number.

## ALUMINUM MIDGET CHASSIS

These small, open end aluminum chassis are ideal for miniature tube assemblies and all applications where space is limited. Made of prime sheet aluminum with 1/4" flange on bottom for fastening down, or attaching bottom plate. Finish is etched aluminum.

| Cat. No. AMC | Size D | W | H | Dealer Cost | Cat. No. AMC | Size D | W | H | Dealer Cost |
|---|---|---|---|---|---|---|---|---|---|
| 221 | 2 5/8 | 2 3/4 | 1 1/4 | $0.30 | 541 | 5 3/4 | 4 7/8 | 1 1/2 | $0.45 |
| 131 | 1 3/4 | 3 1/8 | 1 | .33 | 431 | 4 | 3 1/8 | 1 | .36 |
| 342 | 3 1/4 | 4 1/2 | 2 | .36 | 441 | 4 | 4 1/8 | 1 | .39 |
| 241 | 2 3/4 | 4 1/8 | 1 | .36 | 451 | 4 | 5 1/8 | 1 | .42 |
| 341 | 3 3/4 | 4 1/8 | 1 1/2 | .36 | 461 | 4 | 6 1/8 | 1 | .45 |
| 361 | 3 | 6 1/8 | 1 1/4 | .42 | | | | | |



## MULTI-MOUNTS

These are all-purpose boxes with an unlimited field of application in radio and electronics. Made from prime sheet aluminum. Two piece telescoping construction, each half forming three sides. Finish is etched aluminum or grey hammer-tone.

| Cat. No. MM | Size D | W | H | Dealer Cost | Cat. No. MM | Size H | W | D | Dealer Cost |
|---|---|---|---|---|---|---|---|---|---|
| | (Etched Aluminum) | | | | | (Etched Aluminum) | | | |
| 122 | 1 5/8 | 2 3/4 | 2 1/8 | $0.63 | 386 | 3 1/2 | 8 | 6 | $2.01 |
| 132 | 1 5/8 | 3 1/4 | 2 1/8 | .63 | 3106 | 3 1/2 | 10 | 6 | 2.49 |
| 142 | 1 5/8 | 4 | 2 1/8 | .66 | 4127 | 4 | 12 | 7 | 2.94 |
| 242 | 2 1/4 | 4 | 2 1/4 | .87 | 4175 | 4 | 17 | 5 | 3.45 |
| 252 | 2 1/4 | 5 | 2 1/4 | .90 | 1102 | 1 5/8 | 10 | 2 | .99 |
| 354 | 3 | 5 | 4 | .99 | 2122 | 2 1/4 | 12 | 2 1/2 | 1.35 |
| 253 | 2 1/8 | 5 1/4 | 3 | .96 | 2420 | 2 3/4 | 4 | 2 | .84 |
| 465 | 4 | 6 | 5 | 1.23 | 1420 | 1 1/2 | 4 1/4 | 2 1/4 | .87 |
| 375 | 3 | 7 | 5 | 1.38 | | | | | |

Note: When ordering grey hammer-tone, add prefix "GH" to catalog number. Dimensions in Inches.



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World Radio History

# CABINETS CHASSIS

MIDDLETOWN MANUFACTURING CO.

# CASES PANELS

MIDDLETOWN IN CONNECTICUT

## BLANK CHASSIS — Standard Type

Middletown Rack Panels are offered in either 1/8" steel or 1/8" aluminum. They are 19" wide and are slotted for conventional W. E. mounting. Fourteen standard sizes. Furnished in black or grey wrinkle finish. **Note: When ordering grey wrinkle, add prefix "G" to catalog number.** *Available on special order.

## CHASSIS — STEEL AND ALUMINUM

| CATALOG NUMBERS STEEL STANDARD | GAUGE | ALUMINUM | GAUGE | SIZE D | W | H | DEALERS COST STEEL | ALUMINUM |
|---|---|---|---|---|---|---|---|---|
| *BS 442 | 22 | ABC 442 | 18 | 4 | 4 | 2 | $ .84 | $1.05 |
| BS 462 | 22 | ABC 462 | 18 | 4 | 6 | 2 | .95 | 1.28 |
| BS 463 | 20 | ABC 463 | 18 | 4 | 6 | 3 | .99 | 1.24 |
| BS 4173 | 20 | ABC 4173 | 16 | 4 | 17 | 3 | 1.38 | 2.31 |
| BS 572 | 22 | ABC 572 | 18 | 5 | 7 | 2 | .95 | 1.05 |
| BS 573 | 22 | ABC 573 | 18 | 5 | 7 | 3 | 1.02 | 1.35 |
| BS 591 | 22 | ABC 591 | 18 | 5½ | 9½ | 1½ | .90 | 1.41 |
| BS 592 | 22 | ABC 592 | 18 | 5 | 9½ | 2 | .95 | 1.45 |
| BS 5103 | 22 | ABC 5103 | 18 | 5 | 10 | 3 | 1.14 | 1.62 |
| BS 5133 | 20 | ABC 5133 | 18 | 5 | 13 | 3 | 1.45 | 1.70 |
| BS 6143 | 20 | ABC 6143 | 16 | 6 | 14 | 3 | 1.38 | 2.34 |
| BS 6173 | 20 | ABC 6173 | 16 | 6 | 17 | 3 | 1.65 | 2.55 |
| BS 772 | 22 | ABC 772 | 18 | 7 | 7 | 2 | .99 | 1.23 |
| BS 792 | 22 | ABC 792 | 18 | 7 | 9 | 2 | 1.14 | 1.44 |
| BS 7112 | 20 | ABC 7112 | 18 | 7 | 11 | 2 | 1.20 | 1.56 |
| BS 7123 | 20 | ABC 7123 | 18 | 7 | 12 | 3 | 1.24 | 1.75 |
| BS 7132 | 20 | ABC 7132 | 18 | 7 | 13 | 2 | 1.29 | 1.68 |
| BS 7153 | 20 | ABC 7153 | 16 | 7 | 15 | 3 | 1.59 | 2.46 |
| BS 7173 | 20 | ABC 7173 | 18 | 7 | 17 | 3 | 1.65 | 2.55 |
| BS 8123 | 20 | ABC 8123 | 16 | 8 | 12 | 3 | 1.60 | 2.10 |
| BS 8172 | 20 | ABC 8172 | 16 | 8 | 17 | 2 | 1.59 | 2.34 |
| BS 8173 | 20 | ABC 8173 | 16 | 8 | 17 | 3 | 1.68 | 2.64 |
| BS 10123 | 20 | ABC 10123 | 16 | 10 | 12 | 3 | 1.59 | 2.37 |
| BS 10143 | 20 | ABC 10143 | 16 | 10 | 14 | 3 | 1.68 | 2.88 |
| BS 10172 | 20 | ABC 10172 | 16 | 10 | 17 | 2 | 1.71 | 2.82 |
| BS 10173 | 20 | ABC 10173 | 16 | 10 | 17 | 3 | 1.77 | 3.18 |
| BS 10174 | 20 | ABC 10174 | 16 | 10 | 17 | 4 | 2.80 | 3.90 |
| BS 11172 | 18 | ABC 11172 | 16 | 11 | 17 | 2 | 2.16 | 3.15 |
| BS 11173 | 18 | ABC 11173 | 16 | 11 | 17 | 3 | 2.46 | 3.75 |
| BS 12172 | 20 | ABC 12172 | 16 | 12 | 17 | 2 | 1.86 | 3.39 |
| BS 12173 | 20 | ABC 12173 | 16 | 12 | 17 | 3 | 2.19 | 3.96 |
| BS 12174 | 20 | ABC 12174 | 16 | 12 | 17 | 4 | 4.15 | 7.90 |
| BS 13172 | 18 | ABC 13172 | 16 | 13 | 17 | 2 | 2.58 | 3.54 |
| BS 13173 | 18 | ABC 13173 | 16 | 13 | 17 | 3 | 3.00 | 4.14 |
| BS 13174 | 18 | ABC 13174 | 16 | 13 | 17 | 4 | 3.45 | 4.74 |

*Steel Chassis available in zinc plate at 10% additional cost*
**No flange on 4 x 4 x 2 Chassis*

## STEEL AND ALUMINUM BOTTOM PLATES

| CATALOG NUMBER STEEL | SIZE | CATALOG NUMBER ALUMINUM | DEALERS COST STEEL | ALUMINUM |
|---|---|---|---|---|
| BP 46 | 4 x 6 | ABP 46 | .40 | .88 |
| BP 417 | 4 x 17 | ABP 417 | .60 | 1.35 |
| BP 57 | 5 x 7 | ABP 57 | .42 | .82 |
| BP 598 | 5 x 9 | ABP 598 | .42 | .82 |
| BP 59 | 5½ x 9½ | ABP 59 | .42 | .84 |
| BP 510 | 5 x 10 | ABP 510 | .48 | .88 |
| BP 513 | 5 x 13 | ABP 513 | .70 | 1.00 |
| BP 614 | 6 x 14 | ABP 614 | .66 | 1.34 |
| BP 617 | 6 x 17 | ABP 617 | .74 | 1.38 |
| BP 77 | 7 x 7 | ABP 77 | .48 | .88 |
| BP 79 | 7 x 9 | ABP 79 | .51 | .92 |
| BP 711 | 7 x 11 | ABP 711 | .60 | .98 |
| BP 712 | 7 x 12 | ABP 712 | .60 | 1.06 |
| BP 713 | 7 x 13 | ABP 713 | .66 | 1.20 |
| BP 715 | 7 x 15 | ABP 715 | .72 | 1.24 |
| BP 717 | 7 x 17 | ABP 717 | .78 | 1.30 |
| BP 812 | 8 x 12 | ABP 812 | .80 | 1.20 |
| BP 817 | 8 x 17 | ABP 817 | .81 | 1.40 |
| BP 1012 | 10 x 12 | ABP 1012 | .81 | 1.40 |
| BP 1014 | 10 x 14 | ABP 1014 | .84 | 1.54 |
| BP 1017 | 10 x 17 | ABP 1017 | 1.02 | 1.62 |
| BP 1117 | 11 x 17 | ABP 1117 | 1.05 | 2.00 |
| BP 1217 | 12 x 17 | ABP 1217 | 1.11 | 2.20 |
| BP 1317 | 13 x 17 | ABP 1317 | 1.20 | 2.30 |

*Steel Bottom Plates available in zinc plate at 10% additional cost*

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World Radio History

# Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

**The** *Radio-Electronic* **MASTER**

World Radio History

# SWITCHES

## SUB-MINIATURE ROTARY SWITCHES

The PS series ceramic sub-miniature rotary switches are of highest quality, "packaging" the most complex circuit switching in the smallest space for present day military and commercial electronic equipment. Grade L-5A steatite insulation per Mil-S-3786. All metal parts except clips and contacts meet 25 hour salt-spray tests. 1 1/8" diam. 1/4" long bushing—shaft 1/8" diam. x 1 1/4" long from mtg. surface. 30° indexing with fixed stop. Rated at 0.5 amps at 6 V.D.C.; 100 milliamp at 110 V.A.C.

| Total Poles | No. of Positions | Poles per Section | No. of Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 11 | 1 | 1 | PS-100 | PS-101 | $ 8.00 |
| 2 | 11 | 1 | 2 | PS-102 | PS-103 | 10.00 |
| 2 | 5 | 2 | 1 | PS-104 | PS-105 | 8.00 |
| 3 | 11 | 1 | 3 | PS-106 | PS-107 | 12.00 |
| 3 | 3 | 3 | 1 | PS-108 | PS-109 | 8.00 |
| 4 | 5 | 2 | 2 | PS-110 | PS-111 | 10.00 |
| 4 | 2 | 4 | 1 | PS-112 | PS-113 | 8.00 |
| 6 | 5 | 2 | 3 | PS-114 | PS-115 | 12.00 |
| 6 | 3 | 3 | 2 | PS-116 | PS-117 | 10.00 |
| 8 | 2 | 4 | 2 | PS-118 | PS-119 | 10.00 |
| 9 | 3 | 3 | 3 | PS-120 | PS-121 | 12.00 |
| 12 | 2 | 4 | 3 | PS-122 | PS-123 | 12.00 |

## SEPARATE SUB-MINIATURE STEATITE SECTIONS

Use with index assemblies P-501 thru P-511 listed below for fixed stop indexing, and switching not supplied in the above completed PS series switches.

| No. Poles | No. Positions | Catalog No. Shorting | Catalog No. Non-Shorting |
|---|---|---|---|
| 1 | 2-11 | PS-20 | PS-21 |
| 2 | 2-5 | PS-22 | PS-23 |
| 3 | 2-3 | PS-24 | PS-25 |
| 4 | 2 | PS-26 | PS-27 |

**List Price $4.50**

## SEPARATE SUB-MINIATURE INDEX ASSEMBLIES

All index assemblies listed below are designed for a maximum 3 sections and contain the following: (1) index and shaft assembly, (1) KC-6 pointer knob, (6) 3/32" spacers, (2) 1/16" spacers (2) 1/8" spacers, (2) 3/16" spacers, (2) 1 1/8" tie bolts, nuts, lockwashers, washers, and (16) plastic spacer washers.

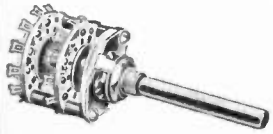
| No. Positions | Catalog No. | No. Positions | Catalog No. |
|---|---|---|---|
| 2 | P-501 | 7 | P-506 |
| 3 | P-502 | 8 | P-507 |
| 4 | P-503 | 9 | P-508 |
| 5 | P-504 | 10 | P-509 |
| 6 | P-505 | 11 | P-510 |
| | | continuous rotation | P-511 |

**List Price $4.50**

## MINIATURE PHENOLIC ROTARY SWITCHES

**PA-1000 SWITCHES** **PHENOLIC INSULATION**

A complete line superior to the 1400 Series in switching, and equal to the PA-2000 Series in physical size. Index assemblies and hardware are identical to PA-2000 Series accessories. High-strength, high-resin, laminated phenolic insulation per MIL-P-3115. One-piece shaft construction permits accurate indexing. Adjustable stop permits selection of positions or continuous rotation (11 active positions, 1 off-position). All metal parts, except clips and contacts, are treated to pass 25 hour salt-spray test. Rating 150 milliamperes at 110 volts AC. 2 amperes at 15 volts DC. Excellent r.f. characteristics. Shaft 1 7/8" from bushing.



## MINIATURE SWITCHES WITH 30° INDEXING

| Total Number Poles | Total Positions | Poles Per Section | Number Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2-11 | 1 | 1 | PA-1000 | PA-1001 | $2.50 |
| 2 | 2-5 | 2 | 1 | PA-1002 | PA-1003 | 2.50 |
| 2 | 2-11 | 1 | 2 | PA-1004 | PA-1005 | 3.60 |
| 3 | 2-3 | 3 | 1 | PA-1006 | PA-1007 | 2.50 |
| 3 | 2-11 | 1 | 3 | PA-1008 | PA-1009 | 4.50 |
| 4 | 2 | 4 | 1 | PA-1010 | PA-1011 | 2.50 |
| 4 | 2-5 | 2 | 2 | PA-1012 | PA-1013 | 3.60 |
| 4 | 2-11 | 1 | 4 | PA-1014 | PA-1015 | 5.30 |
| 5 | 2-11 | 1 | 5 | PA-1016 | PA-1017 | 6.20 |
| 6 | 2-3 | 3 | 2 | PA-1018 | PA-1019 | 3.60 |
| 6 | 2-5 | 2 | 3 | PA-1020 | PA-1021 | 4.50 |
| 6 | 2-11 | 1 | 6 | PA-1022 | PA-1023 | 7.00 |
| 8 | 2 | 4 | 2 | PA-1024 | PA-1025 | 3.60 |
| 8 | 2-5 | 2 | 4 | PA-1026 | PA-1027 | 5.30 |
| 10 | 2-5 | 2 | 5 | PA-1030 | PA-1031 | 6.20 |
| 12 | 2 | 4 | 3 | PA-1028 | PA-1029 | 4.50 |
| 12 | 2-5 | 2 | 6 | PA-1032 | PA-1033 | 7.00 |

## SPECIAL CIRCUITS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2-10 | 1 | 1 | PA-1034 | ..... | $2.50 |

*(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation).*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2-10 | 1 | 1 | PA-1040 | ..... | 2.50 |

*(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation).*

## 60° INDEXING SWITCHES (1 1/2" SPACING BETWEEN SECTIONS)

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2-6 | 1 | 1 | ..... | PA-1035 | 2.90 |
| 2 | 2-6 | 1 | 2 | ..... | PA-1037 | 3.60 |

## SEPARATE MINIATURE PHENOLIC SECTIONS

Use with index asemblies No. PA-300, PA-301, PA-302, (except as noted) for assembly of special switches to meet your requirements.

| Poles | Positions | Indexing | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|
| 1 | 2-11 | 30° | PA-30 | PA-31 | $1.20 |
| 2 | 2-5 | 30° | PA-32 | PA-33 | 1.20 |
| 3 | 2-3 | 30° | PA-34 | PA-35 | 1.20 |
| 4 | 2 | 30° | PA-36 | PA-37 | 1.20 |
| 1 | 2-5 | 30° | PA-38 | PA-39 | 1.20 |

*(All unused contacts one side rotor contact connected and shorted out)*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2-11 | 30° | PA-40 | PA-41 | $1.20 |

*(All unused contacts connected and shorted out).*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2-10 | 30° | PA-43 | ..... | 1.20 |

*(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation).*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2-10 | 30° | PA-49 | ..... | 1.20 |

*(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation).*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2-6 | 60° | ..... | PA-45 | 1.20 |

*(Use with 60° Index Assemblies PA-304 or PA-305).*

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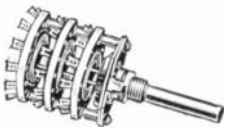
# SWITCHES *(Cont'd)*

## MINIATURE CERAMIC ROTARY SWITCHES
## PA-2000 SWITCHES — STEATITE INSULATION

The assemblies are identical to those of the PA-1000. New Small Size! 1 3/16" diam. gives saving of 5/16" over standard switches. One piece shaft construction for accurate indexing; adjustable stop allows selection of positions or continuous rotation; meet 25 hour salt spray tests. Available as complete switches or separate assemblies. Same ratings as the larger 2500 series switches plus excellent r.f. characteristics. Shaft 1 7/8" from bushing.



### MINIATURE SWITCHES WITH 30° INDEXING

| Total Number Poles | Total Positions | Poles Per Section | Number Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2–12 | 1 | 1 | PA-2000 | PA-2001 | $3.30 |
| 2 | 2–6 | 2 | 1 | PA-2002 | PA-2003 | 3.30 |
| 2 | 2–12 | 1 | 2 | PA-2004 | PA-2005 | 4.70 |
| 3 | 2–5 | 3 | 1 | PA-2006 | PA-2007 | 3.30 |
| 3 | 2–12 | 1 | 3 | PA-2008 | PA-2009 | 6.00 |
| 4 | 2–6 | 2 | 2 | PA-2010 | PA-2011 | 4.70 |
| 4 | 2–12 | 1 | 4 | PA-2012 | PA-2013 | 7.20 |
| 5 | 2–3 | 5 | 1 | PA-2014 | PA-2015 | 3.30 |
| 5 | 2–12 | 1 | 5 | PA-2016 | PA-2017 | 8.60 |
| 6 | 2 | 6 | 1 | PA-2018 | PA-2019 | 3.30 |
| 6 | 2–5 | 3 | 2 | PA-2020 | PA-2021 | 4.70 |
| 6 | 2–6 | 2 | 3 | PA-2022 | PA-2023 | 6.00 |
| 6 | 2–12 | 1 | 6 | PA-2024 | PA-2025 | 10.00 |
| 8 | 2-6 | 2 | 4 | PA-2026 | PA-2027 | 7.20 |
| 9 | 2–5 | 3 | 3 | PA-2028 | PA-2029 | 6.00 |
| 10 | 2–3 | 5 | 2 | PA-2030 | PA-2031 | 4.70 |
| 10 | 2–6 | 2 | 5 | PA-2032 | PA-2033 | 8.60 |
| 12 | 2 | 6 | 2 | PA-2034 | PA-2035 | 4.70 |
| 12 | 2–6 | 2 | 6 | PA-2036 | PA-2037 | 10.00 |
| 15 | 2–3 | 5 | 3 | PA-2038 | PA-2039 | 6.50 |
| 18 | 2 | 6 | 3 | PA-2040 | PA-2041 | 6.50 |

### SPECIAL CIRCUITS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2–10 | 1 | 1 | PA-2052 | ..... | 3.00 |

*(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation).*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2–10 | 1 | 1 | PA-2042 | ..... | 3.00 |

*(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation).*

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | 2–12 | 1 | 2 | PA-2048 | PA-2049 | 6.50 |

*(Coin silver clips and contacts)*

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | 4 | 1 | 2 | PA-2050 | ..... | 3.90 |

*(For Switching dual lines)*

### MINIATURE SWITCHES WITH 60° INDEXING

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2–6 | 1 | 1 | ..... | PA-2043 | 3.00 |
| 2 | 2–6 | 1 | 2 | ..... | PA-2045 | 4.20 |

(1 1/2" spacing between sections)

### SEPARATE INDEX ASSEMBLIES

| Indexing | Rear Shaft Length | Suggested No. Sections | Catalog Number | List Price |
|---|---|---|---|---|
| 30° | 2" | 1 to 3 | PA-300 | $1.90 |
| 30° | 4" | 4 to 6 | PA-301 | 2.50 |
| 30° | 6" | 7 to 9 | PA-302 | 3.30 |
| 60° | 2" | 1 to 3 | PA-304 | 2.00 |
| 60° | 4" | 4 to 6 | PA-305 | 2.60 |

Same for PA-2000 and PA-1000 Series.

### SEPARATE STEATITE SECTIONS

Use with Index Asemblies No. PA-300, PA-301, PA-302 (except as noted) for assembly of special switches to meet your requirements.

| No. Poles | No. Positions | Indexing | Catalog No. Shorting | Catalog No. Non-Shorting | List Price |
|---|---|---|---|---|---|
| 1 | 2–12 | 30° | PA-0 | PA-1 | $1.65 |
| 2 | 2–6 | 30° | PA-2 | PA-3 | 1.65 |
| 3 | 2–5 | 30° | PA-4 | PA-5 | 1.65 |
| 5 | 2–3 | 30° | PA-6 | PA-7 | 1.65 |
| 6 | 2 | 30° | PA-8 | PA-9 | 1.65 |
| 1 | 2–5 | 30 | PA-10 | PA-19 | 1.65 |

*(Unused contacts one side of common connected and shorted out).*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–11 | 30 | PA-11 | PA-18 | 1.65 |

*(All unused contacts connected and shorted out.)*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–10 | 30 | PA-12 | ..... | 1.65 |

*(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation).*

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–10 | 30 | PA-13 | ..... | 1.65 |

*(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation).*

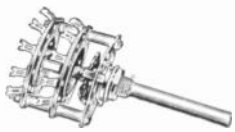
| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–6 | 60° | ..... | PA-17 | 1.65 |

*(Use with 60° index assemblies PA-304 or PA 305).*

### COIN SILVER CLIPS AND CONTACTS

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–12 | 30° | PA-16 | *PA-21 | $1.65 |
| 2 | 2–5 | 30° | PA-14 | *PA-23 | 1.65 |
| 4 | 2 | 30° | PA-15 | *PA-24 | 1.65 |

## ROTARY SELECTOR SWITCHES
## 1400 SERIES PHENOLIC INSULATION



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting Bushings 3/8" x 32 thd. x 3/8" long. Shafts 1 7/8" from end of bushing. Positive 30° index with adjustable stop. Rating and applications same as 2500 series.

### 1400 SERIES PHENOLIC SWITCHES

| Total No. Poles | No. Positions | Poles Per Section | No. Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2–6 | 1 | 1 | 1400 | 1401 | $2.90 |
| 1 | 2–11 | 1 | 1 | 1402 | 1403 | 2.90 |
| 2 | 2–5 | 2 | 1 | 1404 | 1405 | 2.90 |
| 2 | 2–6 | 1 | 2 | 1410 | 1411 | 3.60 |
| 2 | 2–11 | 1 | 2 | 1412 | 1413 | 3.60 |
| 3 | 2–3 | 3 | 1 | 1406 | 1407 | 2.90 |
| 3 | 2–6 | 1 | 3 | 1420 | 1421 | 4.50 |
| 3 | 2–11 | 1 | 3 | 1422 | 1423 | 4.50 |
| 4 | 2 | 4 | 1 | 1408 | 1409 | 2.90 |
| 4 | 2–5 | 2 | 2 | 1414 | 1415 | 3.60 |
| 4 | 2–6 | 1 | 4 | 1426 | 1427 | 5.30 |
| 4 | 2–11 | 1 | 4 | 1428 | 1429 | 5.30 |
| 6 | 2–3 | 3 | 2 | 1416 | 1417 | 3.60 |
| 6 | 2–5 | 2 | 3 | 1424 | 1425 | 4.50 |
| 8 | 2 | 4 | 2 | 1418 | 1419 | 3.60 |
| 8 | 2–5 | 2 | 4 | 1430 | 1431 | 5.30 |

### SEPARATE PHENOLIC SECTIONS

**STANDARD SECTIONS** — .064" rotor slot for use with P-121, P-122, P-123 Indexes.

**DELUXE SECTIONS** — .187" rotor slot for use with P-270, P-271, P-272 Indexes. This is strongest, most reliable construction.

(Continued on next page)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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# SWITCHES (Cont'd)

(Continued from previous page)

| No. Poles | No. Positions | Standard Shorting | Deluxe Shorting | Standard Non-Shorting | Deluxe Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2–6 | A | AD | H | HD | $1.20 |
| 1 | 2–11 | B | BD | J | JD | 1.20 |
| 2 | 2–5 | C | CD | K | KD | 1.20 |
| 3 | 2–3 | D | DD | L | LD | 1.20 |
| 4 | 2 | E | ED | M | MD | 1.20 |
| 4 | 2–3 | EE | EED | .. | BBD | 1.65 |
| 1 | 2–5 | F | FD | .. | AAD | 1.20 |
| *(Unused contacts one side of common connected and shorted out.)* | | | | | | |
| 1 | 2–10 | G | GD | .. | CCD | 1.20 |
| *(All unused contacts connected and shorted out.)* | | | | | | |
| 1 | 2–10 | PI | PID | .. | .... | 1.20 |
| *Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)* | | | | | | |
| Combine for | | N | ND | .. | .... | 1.20 |
| resistance decade | | P | PD | .. | .... | 1.20 |
| Capacitance decade | | Q | QD | .. | .... | 1.20 |

**SEPARATE INDEX ASSEMBLIES — *same as 2500 series***

CAT. NO. 1443: "23 CLIPPER" Single Section Single Pole, 23 active positions; Shorting contacts; 15° positive indexing requiring only 1" overall behind panel.
**List Price $2.75**

CAT. NO. 1444: Same as 1443 except 2 sections, 2 poles.
**List Price $4.00**

CAT. NO. 1448: 6 Pole, 3 Position, Non-Shorting Contacts, Spring Return Index, both sides to center. This switch will replace any unit from 2 pole, 2 position to 6 pole, 3 position. Requires only 1" overall depth behind panel. Ideal for PA and intercom applications.
**List Price $2.75**

CAT. NO. 1449: 6 Pole 3 Position, Non-Shorting Contacts, Spring Return Index one side to center, Positive Index, opposite side to center. Otherwise same as 1448 above.
**List Price $2.75**

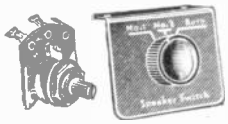
CAT. NO. 1450: "ECONO-SWITCH" — 4 Pole, 2 Position, Non-Shorting, Positive leaf-type spring index. Staked spacer to front plate construction requires only 7/8" depth behind the panel. Can be used as SPST and up to 4 pole, 2 position.
**List Price $1.40**

CAT. NO. 1451: "PERMA-SWITCH" 4 Pole, 2 Position, Non-Shorting Contacts, Spring Return Index. Has the same long life coil spring index as 1448 and 1449. Designed particularly for long, hard use in industrial test equipment and simple "press to talk" intercom systems. **List Price $2.00**

**SECTIONS ONLY FOR 1443 — 1444**

CAT. NO. W: For replacement on old type 1443 switches having standard flat shaft and .064" wide rotor slot. List Price.....$1.65

CAT. NO. WD: For replacement in above 1443 and 1444 switches having deluxe shaft and .187" wide rotor slot (DD type).
List Price.....$1.65



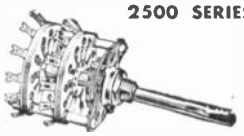
**DUAL SPEAKER SWITCH MOUNTING KIT**

Kit No. PK-300 — Contains complete assembly for switching between dual speakers such as auto rear seat and front seat speakers including etched dial-mounting plate and complete installation instructions.

*Contents:* 1 Cat. No. 1484 Dual speaker switch
1 Cat. No. P-216 Mounting bracket and dial
1 Cat. No. P-401 Split knurl knob, black.
2 Self tapping sheet metal mounting screws

KIT NO. PK-300.....List Price $1.50

**ROTARY SELECTOR SWITCHES**
**2500 SERIES — STEATITE INSULATION**



The 2500 ceramic insulation series are primarily used for band change and general tap switch application where miniaturization is not a necessity. Grade L5 Steatite insulation. Rated 2 amps at 15 V.D.C., 150 milliamps at 110 V.A.C. Bushing 3/8"—32 thd., 3/8" long, shaft 1 7/8" long from end of bushing. 30° indexing-adjustable stop. See "Ham Switches" for 60° and 90° indexing. Indexes and hardware interchangeable with 1400 phenolic series.

| Total No. Poles | No. Positions | Poles Per Section | No. Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2–6 | 1 | 1 | 2500 | 2501 | $3.30 |
| 1 | 2–11 | 1 | 1 | 2502 | 2503 | 3.30 |
| 2 | 2–5 | 2 | 1 | 2504 | 2505 | 3.30 |
| 2 | 2–6 | 1 | 2 | 2510 | 2511 | 4.70 |
| 2 | 2–11 | 1 | 2 | 2512 | 2513 | 4.70 |
| 3 | 2–3 | 3 | 1 | 2506 | 2507 | 3.30 |
| 3 | 2–6 | 1 | 3 | 2520 | 2521 | 6.00 |
| 3 | 2–11 | 1 | 3 | 2522 | 2523 | 6.00 |
| 4 | 2–5 | 2 | 2 | 2514 | 2515 | 4.70 |
| 6 | 2–3 | 3 | 2 | 2516 | 2517 | 4.70 |
| 6 | 2–5 | 2 | 3 | 2524 | 2525 | 6.00 |

**SEPARATE CERAMIC SECTIONS**

STANDARD SECTIONS — .064" rotor slot for use with P-121, P-122, P-123 Indexes.

DELUXE SECTIONS — .187" rotor slot for use with P-270, P-271, P-272 Indexes. This is strongest, most reliable construction.

| No. Poles | No. Positions | Standard Shorting | Deluxe Shorting | Standard Non-Shorting | Deluxe Non-Shorting | List Price |
|---|---|---|---|---|---|---|
| 1 | 2–6 | T | TD | X | XD | $1.65 |
| 1 | 2–11 | U | UD | Y | YD | 1.65 |
| 2 | 2–5 | R | RD | RR | RRD | 1.65 |
| 3 | 2–3 | S | SD | SS | SSD | 1.65 |
| 4 | 2 | V | VD | Z | ZD | 1.65 |
| 1 | 2–10 | GG | GGD | ... | FFD | 1.65 |
| *(All unused contacts connected and shorted out)* | | | | | | |
| 1 | 2–10 | PIS | PISD | ... | ..... | 1.65 |
| *(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)* | | | | | | |
| Combine for | .. | | NSD | ... | ..... | 1.65 |
| resistance decade | .. | | PSD | ... | ..... | 1.65 |
| Capacitance decade | .. | | QSD | ... | ..... | 1.65 |

**SEPARATE INDEX ASSEMBLIES**

STANDARD — 2 piece shaft, 0.64" thick flat shaft through sections, for use with "standard" 2500 series steatite or 1400 series phenolic sections. Individually cartoned. 30° positive index.

| Catalog Number | Rear Shaft | Suggested No. Sections | List Price |
|---|---|---|---|
| P-121 | 2" | 1 to 3 | $1.90 |
| P-122 | 4¼" | 3 to 4 | 2.50 |
| P-123 | 7" | 5 to 8 | 3.30 |

*(One 1435W index; one P-120 pointer knob; and sufficient hardware to assemble complete switches are included in each index assembly.)*

DELUXE — 1 piece shaft, .187" thick flat shaft (DD type) through sections, for use with Deluxe 2500 series steatite or 1400 series phenolic sections (with .187" rotor slot). Individually cartoned. 30° positive index. This is strongest, most reliable construction.

| | | | |
|---|---|---|---|
| P-270 | 2" | 1 to 3 | 1.90 |
| P-271 | 4" | 3 to 5 | 2.50 |
| P-272 | 8" | 5 to 10 | 3.30 |

*(One index, one P-120 pointer knob; and sufficient hardware to complete switch are included in each index assembly.)*

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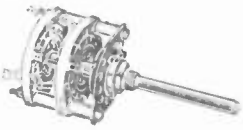
# SWITCHES (Cont'd)

## HAM SWITCHES



Heavy duty deluxe ceramic construction needed for "Ham" application is available in both 60° and 90° indexing for 6, 5, and 4 band application with an adjustable stop. Size and hardware same as 2500 series. Breakdown voltage, 2000 volts, AC-RMS. Rating 150 milliamp at 150 V.A.C.; 4 milliamp at 1500 V.A.C.; 2 amps at 15 V.D.C. For use with tubes operating at voltages up to 1 KV and inputs up to 150 watts.

### 60° HAM TYPE SWITCHES

| Total No. Poles | No. Positions | Poles per Section | No. Sections | Catalog No. | List Price |
|---|---|---|---|---|---|
| 1 | 2 to 6 | 1 | 1 | 2550 | $3.00 |
| 2 | 2 to 6 | 1 | 2 | 2551 | 4.25 |
| 3 | 2 to 6 | 1 | 3 | 2552 | 5.50 |
| 4 | 2 to 6 | 1 | 4 | 2553 | 6.75 |
| 5 | 2 to 6 | 1 | 5 | 2554 | 8.00 |

### 60° SEPARATE SECTION

| | | | | |
|---|---|---|---|---|
| 1 pole | 2-6 position | Non-Shorting | Deluxe Cat. No. ZZD | $1.65 |

### 60° SEPARATE INDEX ASSEMBLIES

Ham Type — 60° indexing. Two piece shaft construction, phenolic rear, metal front. Use with "ZZD" Ham Type sections.

*(One index, knob; and sufficient hardware to complete switch are included in each index assembly.)*

| Catalog No. | Rear Shaft | Suggested No. Sections | List Price |
|---|---|---|---|
| P-273 | 2" | 1 to 2 | $1.90 |
| P-274 | 4¼" | 3 to 4 | 2.40 |
| P-275 | 7" | 5 to 8 | 3.00 |

### 90° HAM TYPE SWITCHES

| Total No. Poles | No. Positions | Poles per Section | No. Sections | Catalog No. | List Price |
|---|---|---|---|---|---|
| 1 | 2 to 4 | 1 | 1 | 2542 | $3.00 |
| 2 | 2 to 4 | 1 | 2 | 2543 | 4.25 |
| 3 | 2 to 4 | 1 | 3 | 2544 | 5.50 |
| 4 | 2 to 4 | 1 | 4 | 2545 | 6.75 |
| 5 | 2 to 4 | 1 | 5 | 2546 | 8.00 |

### 90° SEPARATE SECTIONS

1 pole, 2 to 4 position, Non-shorting, Standard, Cat. No. XX.
1 pole, 2 to 4 position, Non-shorting, Deluxe, Cat. No. XXD.

### 90° SEPARATE INDEX ASSEMBLIES

Ham Type—90° indexing. Two piece metal shaft construction. Use with "XX" Ham Type sections. For intermediate voltage operation. *(One Index, knob; and sufficient hardware to assemble complete switches are included in each index assembly).*

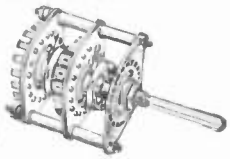
| Catalog No. | Rear Shaft | Suggested No. Sections | List Price |
|---|---|---|---|
| P-170 | 2" | 1 to 2 | $1.90 |
| P-171 | 4¼" | 3 to 4 | 2.40 |
| P-172 | 7" | 5 to 8 | 3.00 |

*Use with "XXD" Deluxe Ham type section. For high voltage operation. Switches using this index will pass 2000 volts AC breakdown to ground test.*

| | | | |
|---|---|---|---|
| P-278 | 2" | 1 to 2 | 1.90 |
| P-279 | 4¼" | 3 to 4 | 2.40 |
| P-280 | 7" | 5 to 8 | 3.00 |

## HEAVY DUTY ROTARY POWER SWITCHES

### STEATITE—7½ Amps at 115 Volts A.C.



An accurate, long-life unit for transmitter power supply, and specialized application. Has positive, non-stall 20° indexing, double wiping solid silver contacts. Mounting bushing ⅜"—32 thd.; ⅜" long; 2 13/16" diam. with adjustable stop and dial plate.

| Total Poles | Number Positions | Number Sections | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|
| 1 | 2–17 | 1 | JV-9000 | JV-9001 | $16.00 |
| 2 | 2–8 | 1 | JV-9032 | JV-9033 | 16.00 |
| 2 | 2–17 | 2 | JV-9004 | JV-9005 | 26.50 |
| 3 | 2–5 | 1 | JV-9002 | JV-9003 | 16.00 |
| 3 | 2–17 | 3 | JV-9008 | JV-9009 | 37.00 |
| 4 | 2–8 | 2 | JV-9034 | JV-9035 | 26.50 |
| 4 | 2–17 | 4 | JV-9012 | JV-9013 | 47.50 |
| 5 | 2–17 | 5 | JV-9016 | JV-9017 | 58.00 |
| 6 | 2–5 | 2 | JV-9006 | JV-9007 | 26.50 |
| 6 | 2–8 | 3 | JV-9036 | JV-9037 | 57.00 |
| 6 | 2–17 | 6 | JV-9020 | JV-9021 | 68.50 |
| 8 | 2–8 | 4 | JV-9038 | JV-9039 | 47.50 |
| 9 | 2–5 | 3 | JV-9010 | JV-9011 | 37.00 |
| 12 | 2–5 | 4 | JV-9014 | JV-9015 | 47.50 |
| 15 | 2–5 | 5 | JV-9018 | JV-9019 | 58.00 |

### SEPARATE SECTIONS FOR JV-9000 SERIES

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2–17 | ... | KV-8 | KVN-8 | 10.50 |
| 2 | 2–8 | ... | KV-10 | KVN-10 | 10.50 |
| 3 | 2–5 | ... | KV-9 | KVN-9 | 10.50 |

### SEPARATE MULTIPLE FINGER SECTION

| Poles | Positions | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|
| 1 | 2–18 | KV-18 | KVN-18 | $11.50 |

*(Rotor has 17 fingers, making contact with 17 contacts on stator leaving one contact open). By cutting off unwanted fingers, this section can be adapted for many special circuits. For example, can be adapted to a one off, nine progressively shorting positions, pick up and hold each progressive position.)*

### INDEX ASSEMBLY FOR JV-9000 SERIES

Includes shaft, tie rods, spacers, nuts and lockwashers, adjustable stop pin, 2" black bar knob, and dial plate.
CAT. NO. KV-7 ..... List Price $7.00

### DIAL PLATES — 2¾" DIAMETER — 20° MARKINGS

| | | |
|---|---|---|
| P-230 | Marked 1 to 5 | List Price |
| P-232 | Marked 1 to 8 | Package, 5 of 1 |
| P-231 | Marked 1 to 17 | $1.75 |

### *PK-400 ANTENNA SWITCH KIT

The Centralab PK-400 Switch Kit primarily designed for UHF-VHF antenna switching. This ceramic section rotary switch is rated at 2 amps 150 V.D.C. or 150 milliamperes at 110 V.A.C. (make-break resistive load).

**CONTAINS:**

1 PA-2050 rotary ceramic switch, with ⅜" split knurl shaft.
1 P-218 etched mounting bracket-dial plate.
1 P-401 split knurl knob, black with chrome center.
2 self-tapping wood screws.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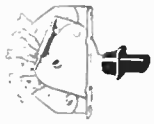
# SWITCHES *(cont'd)*

### LEVER ACTION SWITCHES



Space saving lever action phenolic switches can be mounted singly or in groups for intercoms, PA systems, test instruments and industrial applications. All metal parts except clips and contacts cadmium plated. Rated 2 amps at 15 V.D.C.; 150 milliamps at 110 V.A.C. Mtg-two 6-32 thrd. mtg. holes on 1⅝" centers. 30° indexing. Furnished with mtg. screws and knob

| Number Poles | Number Positions | Type Indexing | Cat. No. Shorting | Cat. No. Non-Shorting | List Price |
|---|---|---|---|---|---|
| 2 | 3 | Positive | 1452 | 1454 | $1.75 |
| 2 | 3 | Spring Return | 1453 | 1455 | 1.75 |
| 2 | 3 | Positive Spring Return | 1466 | 1467 | 1.75 |
| 4 | 2 | Spring Return | 1456 | 1457 | 2.00 |
| 4 | 2 | Positive | 1459 | 1458 | 2.00 |
| 2 | 3 | Positive | 2815 | .... | 1.75 |
| (Special model-railroad reversing or turnout and signal switch) | | | | | |
| 1 | 3 | Positive | .... | 1475 | 1.75 |

*(Primarily a replacement part for the ganged switches found in tube testers and other testing equipment.)*

### MOUNTING PLATES FOR LEVER SWITCHES

TYPE A—Made of .035" die cut steel, black crackle finish. Eliminate alignment problems, provide ¾" spacing between switches. Available for 1 to 5 switch mounting. Height of all plates is 2⅝".

TYPE B — Specially furnished for mounting lever switches in electrical outlet boxes. Chrome plated wall plates will fit all standard boxes with mounting holes 3 5/16" between centers. Ideal for P.A. or Intercom installations.

**MOUNTING PLATE — TYPE A**

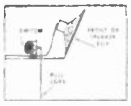
| No. Switches | Length | Cat. No. | List Price |
|---|---|---|---|
| 1 | ¾" | P-1755 | $0.50 |
| 2 | 1½" | P-1756 | .50 |
| 3 | 2¼" | P-1757 | .55 |
| 4 | 3" | P-1758 | .70 |
| 5 | 3¾" | P-1759 | .85 |

**WALL PLATE — TYPE B**

| No. Switches | Cat. No. | List Price |
|---|---|---|
| 2 | P-221 | $0.85 |
| 1 | P-222 | .70 |

Size: 2¾" x 4½" overall.
¾' spacing between switches.

### INTERCOM SYSTEM "TALK-BACK" SWITCH KIT ELIMINATES expensive conduit extensions



KIT No. PK-500—Switch is mounted inside wall-mounted speaker-housing in multiple PA systems with "talk-back" feature. Cord extends below speaker—just pull to talk back. Replaces conduit wiring and outlet box mounting of switch. Only three holes required for mounting. Includes switch and bracket, cord, and mounting screws. **List Price $2.70**

### SMALL GENERAL PURPOSE SWITCHES

Rating 2 amperes at 15 volts DC. 150 milliamperes at 110-volts AC. Resistive load.

**TYPE 1460** — Single pole, 2 position, shorting contacts, positive index. Can be used as SPST or SPDT. For phono-radio, tone or sensitivity control. **List Price $0.85**

**TYPE 1461** — Single pole, 3 position, shorting contacts, positive index. Useful in miniature band change, step type tone or sensitivity control, and P.A. channel selector switch.
**List Price $1.50**

**TYPE 1462** — Double pole, 2 position, shorting contacts, positive index. Can be used as SPST, SPDT, DPST, DPDT — for meter reversing, P.A. channel, or switching both lines on phono-radio.
**List Price $1.50**

**TYPE 1463** — Single pole, 2 position, non-shorting contacts, spring return index. Useful for meter reversing or momentary intercom talk switch. Non-shorting.
**List Price $1.50**

**TYPE 1464** — Double pole, 2 position, non-shorting contacts, spring return index. Used as meter switch and momentary line or remote speaker return on intercoms.
**List Price $1.50**

**TYPE 1472** — 2 pole, 3 position, non-shorting contacts, positive index. An economical change switch for AM, FM, phone selector to amplifier in custom installations.
**List Price $1.50**

**TYPE 1473** — Same as 1472 except shorting contacts.
**List Price $1.50**

**TYPE 1483** — Single pole, 3 position, shorting contacts, positive index. For use with dual or auxiliary rear seat auto radio speakers. Permits operation of either speaker separately or both simultaneously. **List Price $0.90**

**TYPE 1484** — Single pole, 3 position remote speaker switch. Same as Cat. No. 1483 except with ¼" bushing and ⅜" split knurl shaft. 15/16" black split knurl knob with chrome center, Cat. No. P-401, is furnished.
**List Price $0.90**

### TV ANTENNA ATTENUATOR PCH-4 SWITCH

Eliminates "tearing" of image due to high power through use of "H" pads. Proper attenuation also eliminates "ghosting" by reducing signal strength — reduces the weaker signal in a single channel. Useful in matching impedance between antennas and receivers.

Unit has six switching positions: 1 — Regular antenna. 2 — a 10 db signal loss inserted between the antenna and receiver. 3 — a 20 db loss. 4 — a 30 db loss. 5 — a 40 db loss. 6 — a 60 db loss — disconnects antenna for areas of immediate proximity to high power transmitter.

**CAT. NO. PCH-4**.....List Price $10.00

### SEPARATE H-PADS FOR TV ATTENUATOR

"H" Pads are a combination of 5 resistors on a steatite ceramic plate — Centralab's Packaged Electronic Circuits. Solder lug terminals, phenolic coated and triple wax impregnated. Each unit clearly marked.

*Packaged individually, 5 packages per carton.*

| Atten. | Catalog Number | Atten. | Catalog Number | List Price |
|---|---|---|---|---|
| 10 db | PCH-10 | 30 db | PCH-30 | $1.50 |
| 20 db | PCH-20 | 40 db | PCH-40 | 1.50 |

**CAT. NO. PCH-100** — set of 4. 1 of each value of above "H" Pads (in clear plastic box).....**List Price $6.00**

**List Price $6.00**

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# SWITCH KITS

These Centralab Switch Kits afford a convenient, readily available source of stock sections, indexes, and hardware for assembling any standard or practically any special swtiching arrangement desired. Both the PA-410 and PA-420 Kits are packed in an attractive, strong steel cabinet designed to fit any standard steel shelving—or two or more cabinets can be placed together to form a single unit. Cabinet size: 17" wide, 11 15/16" deep, and 12 3/4" high. Crated shipping weight of each kit is 52 lbs. approx. The PA-410 and PA-420 Centralab Switch Kits are similar to the 414D and 419D Switch Kits except that all parts are PA-Series Miniature Switch Type.

## KIT NO. PA-410
## MINIATURE PHENOLIC SWITCH PARTS
### SECTIONS — 30° INDEXING — List Price $221.00

| Quantity | Cat. No. Shorting | Quantity | Cat. No. Non-Short. | Poles per Section | No. Positions |
|---|---|---|---|---|---|
| 8 | PA-30 | 10 | PA-31 | 1 | 2–11 |
| 8 | PA-32 | 10 | PA-33 | 2 | 2–5 |
| 4 | PA-34 | 6 | PA-35 | 3 | 2–3 |
| 4 | PA-36 | 6 | PA-37 | 4 | 2 |
| 6 | PA-38 | 8 | PA-39 | 1 | 2–5 |
| *(All unused contacts one side of common connected and shorted out.)* | | | | | |
| 4 | PA-40 | 4 | PA-41 | 1 | 2–11 |
| *(All unused contacts connected and shorted out.)* | | | | | |
| 4 | PA-49 | .. | ..... | 1 | 2–10 |
| *(One off position — 9 progressively shorting positions pick up and hold each progressive position with clockwise rotation.)* | | | | | |
| 2 | PA-43 | .. | ..... | 1 | 2–10 |
| *(One off position — 9 progressively shorting positions, each position progressively dropped and opened with clockwise rotation.)* | | | | | |

### SECTIONS — 60° INDEXING

| | | | | | |
|---|---|---|---|---|---|
| | | 4 | PA-45 | 1 | 2-6 |

### INDEX ASSEMBLIES

*(Individually cartoned — All hardware and shaft included.)*

#### 30° INDEXING

| Quantity | Catalog No. | Description | Shaft Length |
|---|---|---|---|
| 15 | PA-300 | For 1 to 3 Sections | 2" |
| 8 | PA-301 | For 4 to 6 sections | 4" |
| 4 | PA-302 | For 7 to 9 sections | 6" |

#### 60° INDEXING

| | | | |
|---|---|---|---|
| 2 | PA-304 | For 1 to 3 sections | 2" |
| 2 | PA-305 | For 4 to 6 sections | 4" |

### HARDWARE

| Ceramic Spacers | | | Screws (Tie-rods) | | |
|---|---|---|---|---|---|
| Quantity | Cat. No. | Length | Quantity | Cat. No. | Length |
| 1 doz. | P-325 | 1/8" | 1 doz. | P-362 | 1" |
| 1 doz. | P-326 | 3/16" | 1 doz. | P-370 | 2" |
| 1 doz. | P-328 | 1/4" | 1 doz. | P-382 | 4" |
| 1 doz. | P-329 | 9/32" | 1 doz. | P-386 | 6" |
| 1 doz. | P-330 | 5/16" | | | |
| 1 doz. | P-332 | 3/8" | | Dial Plates | |
| 1 doz. | P-334 | 7/16" | 5 | P-178 | 1–3 |
| 1 doz. | P-336 | 1/2" | 5 | P-115 | 1–5 |
| 1 doz. | P-338 | 9/16" | 5 | P-116 | 1–6 |
| 1 doz. | P-340 | 5/8" | 5 | P-117 | 1–10 |
| 1 doz. | P-342 | 11/16" | 5 | P-118 | 1–11 |
| 1 doz. | P-344 | 3/4" | 5 | P-112 | 1–12 |
| 1 doz. | P-346 | 13/16" | 5 | P-402 | 1–5 60° |
| 1 doz. | P-348 | 7/8" | 10 | P-320 | Intersection |
| 1 doz. | P-350 | 15/16" | | | shield |
| 1 doz. | P-352 | 1" | 2 doz. | P-394 | Fibre |
| 1 doz. | P-354 | 1 1/2" | | | washers |

## KIT NO. PA-420
## MINIATURE CERAMIC SWITCH PARTS
### SECTIONS — 30° INDEXING — List Price $258.95

| Quantity | Cat. No. Shorting | Quantity | Cat. No. Non-Short. | Poles per Section | No. Positions |
|---|---|---|---|---|---|
| 8 | PA-0 | 10 | PA-1 | 1 | 2–12 |
| 8 | PA-2 | 10 | PA-3 | 2 | 2–6 |
| 3 | PA-6 | 6 | PA-7 | 5 | 2–3 |
| 3 | PA-8 | 6 | PA-9 | 6 | 2 |
| 4 | PA-4 | 8 | PA-5 | 3 | 2–5 |
| 3 | PA-10 | 3 | PA-19 | 1 | 2–5 |
| *(All unused contacts one side of common connected and shorted out.)* | | | | | |
| 3 | PA-11 | 3 | PA-18 | 1 | 2–11 |
| *(All unused contacts connected and shorted out.)* | | | | | |
| 3 | PA-12 | .. | ..... | 1 | 2–10 |
| *(One off position — 9 progressively shorting positions, pick up and hold each progressive position with clockwise rotation.)* | | | | | |
| 2 | PA-13 | .. | ..... | 1 | 2–10 |
| *(One off position — 9 progressively shorting positions, each position progressively dropped and opened with clockwise rotation.)* | | | | | |

### SECTIONS — 60° INDEXING

| | | | | | |
|---|---|---|---|---|---|
| | | 4 | PA-17 | 1 | 2–6 |

### INDEX ASSEMBLIES

*(Individually cartoned — All hardware and shaft included.)*

#### 30° INDEXING

| Quantity | Catalog No. | Description | Shaft Length |
|---|---|---|---|
| 15 | PA-300 | For 1 to 3 sections | 2" |
| 8 | PA-301 | For 4 to 6 sections | 4" |
| 4 | PA-302 | For 7 to 9 sections | 6" |

#### 60° INDEXING

| | | | |
|---|---|---|---|
| 2 | PA-304 | For 1 to 3 sections | 2" |
| 2 | PA-305 | For 4 to 6 sections | 4" |

### HARDWARE

| Ceramic Spacers | | | Screws (Tie-rods) | | |
|---|---|---|---|---|---|
| Quantity | Cat. No. | Length | Quantity | Cat. No. | Length |
| 1 doz. | P-325 | 1/8" | 1 doz. | P-362 | 1" |
| 1 doz. | P-326 | 3/16" | 1 doz. | P-370 | 2" |
| 1 doz. | P-328 | 1/4" | 1 doz. | P-382 | 4" |
| 1 doz. | P-329 | 9/32" | 1 doz. | P-386 | 6" |
| 1 doz. | P-330 | 5/16" | | | |
| 1 doz. | P-332 | 3/8" | | Dial Plates | |
| 1 doz. | P-334 | 7/16" | 5 | P-178 | 1–3 |
| 1 doz. | P-336 | 1/2" | 5 | P-115 | 1–5 |
| 1 doz. | P-338 | 9/16" | 5 | P-116 | 1–6 |
| 1 doz. | P-340 | 5/8" | 5 | P-117 | 1–10 |
| 1 doz. | P-342 | 11/16" | 5 | P-118 | 1–11 |
| 1 doz. | P-344 | 3/4" | 5 | P-112 | 1–12 |
| 1 doz. | P-346 | 13/16" | 5 | P-402 | 1–5 60° |
| 1 doz. | P-348 | 7/8" | 10 | P-320 | Intersection |
| 1 doz. | P-350 | 15/16" | | | shield |
| 1 doz. | P-352 | 1" | 2 doz. | P-394 | Fibre |
| 1 doz. | P-354 | 1 1/2" | | | washers |


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# SWITCHES *(cont'd)*

These Centralab Switch Kits afford a convenient, readily available source of stock sections, indexes, and hardware for assembling any standard or practically any special switching arrangement desired. Both the 414D and 419D Kits are packed in an attractive, strong steel cabinet designed to fit any standard steel shelving—or two or more cabinets can be placed together to form a separate unit. Cabinet size: 17" wide, 11 15/16" deep, and 12 3/4" high. Crated shipping weight of each kit is 52 lbs. The 414D and 419D Centralab Switch Kits contain the "Deluxe" or "DD" Index and Section construction.

### KIT NO. 414D — List Price $251.70
### STANDARD PHENOLIC DELUXE PARTS
### SECTIONS — 30° INDEXING

| Quantity | Cat. No. Shorting | Quantity | Cat. No. Non-Short. | Poles per Section | No. Positions |
|---|---|---|---|---|---|
| 4 | AD | 8 | HD | 1 | 2-6 |
| 10 | BD | 12 | ID | 1 | 2-11 |
| 10 | CD | 12 | KD | 2 | 2-5 |
| 8 | DD | 8 | LD | 3 | 2-3 |
| 4 | ED | 8 | MD | 4 | 2 |
| 4 | EED | 2 | BBD | 4 | 2-3 |
| 3 | FD | 2 | AAD | 1 | 2-5 |
| *(Unused contacts on side of common connected and shorted out.)* | | | | | |
| 8 | GD | 2 | CCD | 1 | 2-10 |
| *(All unused contacts connected and shorted out.)* | | | | | |
| 2 | PID | .. | .. | 1 | 2-10 |
| *(One off, nine progressively shorting positions, pick up and hold each progressive position with clockwise rotation.)* | | | | | |
| 2 | ND | Combine for resistance decade switch. | | | |
| 2 | PD | | | | |
| 2 | QD | Special for capacitance decade switch. | | | |

### INDEX ASSEMBLIES — 30° INDEXING

*(Individually cartoned — All hardware and shaft included.)*

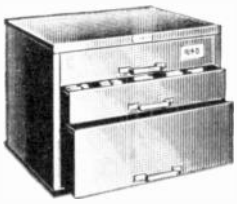
| Quantity | Catalog No. | Description | Shaft Length |
|---|---|---|---|
| 15 | P-270 | For 1 or 2 sections | 2" |
| 8 | P-271 | For 3 or 4 sections | 4" |
| 8 | P-272 | For 5 to 10 sections | 8" |

### HARDWARE

| Metal Spacers Quantity | Cat. No. | Length | Screws (Tie-rods) Quantity | Cat. No. | Length |
|---|---|---|---|---|---|
| 1 doz. | P-124 | 1/4 | 1 doz. | P-136 | 1" |
| 1 doz. | P-125 | 3/8 | 1 doz. | P-140 | 3" |
| 1 doz. | P-126 | 1/2" | 1 doz. | P-142 | 4" |
| 1 doz. | P-127 | 3/4" | 1 doz. | P-143 | 5" |
| 1 doz. | P-128 | 1" | 1 doz. | P-145 | 7" |
| 1 doz. | P-150 | 1 1/8" | | Dial Plates | |
| 1 doz. | P-151 | 5/4" | Quantity | Cat. No. | Positions |
| 1 doz. | P-152 | 7/8 | 5 | P-115 | 1-5 |
| 1 doz. | P-153 | 1 1/4" | 5 | P-116 | 1-6 |
| 1 doz. | P-154 | 1 1/2" | 5 | P-117 | 1-10 |
| 1 doz. | P-155 | 2 | 5 | P-118 | 1-11 |

### MISCELLANEOUS

| Quantity | Catalog No. | Description |
|---|---|---|
| 10 | P-200 | Intersection shield |
| 5 | P-210 | Mounting bracket — 1 1/4" |
| 5 | P-212 | Mounting bracket — 2 1/4" |
| 5 | P-214 | Mounting bracket — 3 1/4" |
| 2 doz. | P-147 | Tie rod nuts |
| 2 doz. | P-148 | Tie rod lockwashers |
| 5 doz. | P-177 | Fibre washers |



### KIT NO. 419D
### 2500 SERIES STANDARD CERAMIC DELUXE PARTS
### SECTIONS — 30° INDEXING — List Price $251.55

| Quantity | Cat. No. Shorting | Quantity | Cat. No. Non-Short. | Poles per Section | No. Positions |
|---|---|---|---|---|---|
| 4 | TD | 6 | XD | 1 | 2-6 |
| 6 | UD | 10 | YD | 1 | 2-11 |
| 6 | RD | 10 | RRD | 2 | 2-5 |
| 4 | SD | 6 | SSD | 3 | 2-3 |
| 4 | VD | 6 | ZD | 4 | 2 |
| 4 | GGD | 2 | FFD | 1 | 2-10 |
| *(All unused contacts connected and shorted out.)* | | | | | |
| 3 | PISD | .. | .. | 1 | 2-10 |
| *(One off, nine progressively shorting positions, pick up and hold each progressive position with clockwise rotation.)* | | | | | |
| 2 | NSD | Combine for resistance decade switch. | | | |
| 2 | PSD | | | | |
| 2 | QSD | Special for capacitance decade switch. | | | |

**List Price $251.55**

### SECTIONS — 60° INDEXING

| | | | | | |
|---|---|---|---|---|---|
| | | 10 | ZZD | 1 | 2-6 |

### INDEX ASSEMBLIES

*(Individually cartoned — All hardware and shaft included.)*

| Quantity | Catalog No. | Description | Shaft Length |
|---|---|---|---|
| **30° INDEXING** | | | |
| 10 | P-270 | For 1 or 2 sections | 2" |
| 7 | P-271 | For 3 or 4 sections | 4" |
| 6 | P-272 | For 5 to 10 sections | 8" |
| **60° INDEXING** | | | |
| 2 | P-273 | For 1 or 2 sections | 2" |
| 1 | P-274 | For 3 or 4 sections | 4 1/2" |
| 1 | P-275 | For 5 to 8 sections | 7" |

### HARDWARE

| Steatite Spacers Quantity | Cat. No. | Length | Screws (Tie rods) Quantity | Cat. No. | Length |
|---|---|---|---|---|---|
| 1 doz. | P-181 | 1/8" | 1 doz. | P-136 | 1" |
| 1 doz. | P-182 | 7/8" | 1 doz. | P-140 | 3" |
| 1 doz. | P-183 | 1 1/4" | 1 doz. | P-142 | 4" |
| 1 doz. | P-184 | 1 1/2" | 1 doz. | P-143 | 5" |
| 1 doz. | P-185 | 2" | 1 doz. | P-145 | 7" |
| 1 doz. | P-186 | 3" | | Dial Plates | |
| 1 doz. | P-187 | 1/4" | Quantity | Cat. No. | Positions |
| 1 doz. | P-188 | 1/8" | 5 | P-115 | 1-5 |
| 1 doz. | P-189 | 1/2" | 5 | P-116 | 1-6 |
| 1 doz. | P-190 | 5/8" | 5 | P-117 | 1-10 |
| 1 doz. | P-191 | 3/4" | 5 | P-118 | 1-11 |
| 1 doz. | P-192 | 1" | 5 | P-402 (60 ) | 1-5 |
| | | | 5 | P-404 (60 ) | (10-15-20 40-80) |

### MISCELLANEOUS

| Quantity | Catalog No. | Description |
|---|---|---|
| 10 | P-200 | Intersection shield |
| 5 | P-210 | Mounting bracket — 1 1/4" |
| 5 | P-212 | Mounting bracket — 2 1/4" |
| 5 | P-214 | Mounting bracket — 3 1/4" |
| 2 doz. | P-147 | Tie rod nuts |
| 2 doz. | P-148 | Tie rod lockwashers |
| 5 doz. | P-177 | Fibre washers |

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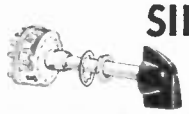
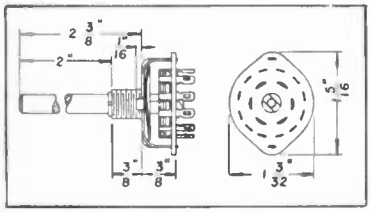
World Radio History

# SINGLE SECTION ROTARY SWITCHES



3612-01 to 3612-10

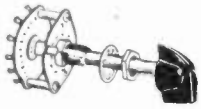


These single section rotary switches were designed to keep pace with the demand for smaller components. They are the smallest switches available to handle multi-circuit switching and are ruggedly built with heavy silver plated contacts, high grade phenolic insulators, best spring brass and steel. These switches are ideal for radio-phono, wave band, tone control, meter and antennae switching applications, as well as many other uses in electronic equipments. All switches are supplied with one knob, mounting nut and lock washer.

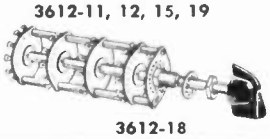
### *Order by Part Number from Table Below*

| Erie No. Shorting Type | Erie No. Non-Shorting Type | No. of Circuits Per Switch | No. of Positions | Erie No. Shorting Type | Erie No. Non-Shorting Type | No. of Circuits Per Switch | No. of Positions |
|---|---|---|---|---|---|---|---|
| 3612-01 | 3612-02 | 1 | 12 | 3612-07 | 3612-08 | 3 | 4 |
| 3612-03 | 3612-04 | 2 | 6 | 3612-09 | 3612-10 | 2 | 3 |
| 3612-05 | 3612-06 | 1 | 5 | | | | |

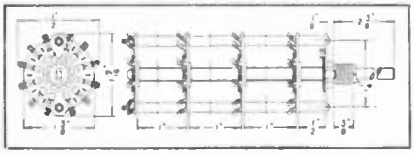
# MULTI-SECTION ROTARY SWITCHES



3612-11, 12, 15, 19



3612-18

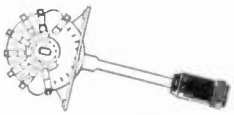


The flat rivet "Wedgelock" which fastens the contact to the stator is an unique feature of these switches. The small cross sectional area permits the use of sturdily designed contacts without sacrificing over-all stator size. The outstanding feature of this flat rivet is a contact assembly that will not loosen or rotate due to soldering heat. A free floating rotor assembly results in this rugged construction as the rotor blades do not support the assembly and only required rotor blades are used.
One, two and four section switches in both shorting and non-shorting types are stocked to meet applications such as meter switching, test equipment and various electronic instruments.
All switches are supplied with one knob, mounting nut and lock washer.

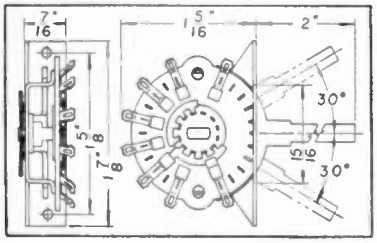
### *Order by Part Number from Table Below*

| Erie No. Shorting Type | Erie No. Non-Shorting Type | No. of Circuits Per Section | No. of Sections Per Switch | Total No. of Circuits Per Switch | Number of Positions |
|---|---|---|---|---|---|
| 3612-11 | 3612-12 | 1 | 1 | 1 | 11 |
| 3612-13 | 3612-14 | 1 | 2 | 2 | 11 |
| ..... | 3612-15 | 2 | 1 | 2 | 5 |
| ..... | 3612-16 | 3 | 2 | 6 | 3 |
| ..... | 3612-17 | 2 | 2 | 4 | 4 |
| ..... | 3612-18 | 1 | 4 | 4 | 11 |
| ..... | 3612-19 | 3 | 1 | 3 | 3 |

# LEVER ACTION SWITCHES



3612-20, 21, 22



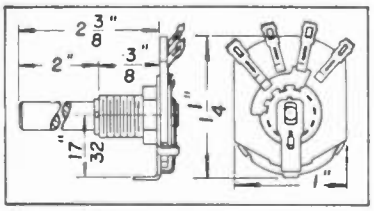
Erie Lever Action Switches employ the same type stator and construction as the Multi-Section Switches assuring a high quality assembly for inter-communication and test equipment applications. Smooth, positive action and indexing, high quality phenolic insulation, heavy silver-plated contacts and best spring brass are features which make the switch ideal for replacement or new uses.
Each switch is supplied with mounting screws and knob.
Packaged individually in a durable sealed plastic bag in the familiar Erie display box for maximum protection against corrosion.

### *Order by Part Number from Table Below*

| Erie No. Shorting Type | Erie No. Non-Shorting Type | Type Indexing | Number of Circuits | Number of Positions |
|---|---|---|---|---|
| 3612-20 | 3612-21 | Positive | 2 | 3 |
| .... | 3612-22 | Positive | 4 | 2 |

# GENERAL PURPOSE SWITCHES

3612-23, 24, 25



Extreme care was taken in the design of these very small compact switches to insure a very rugged and accurate construction. Again, the flat rivet is used to firmly secure the contacts against rotation in a very strong phenolic insulator. The stator assembly is attached directly to the detent plate insuring positive indexing. Heavy silver-plated contacts provide dependable and efficient operation. They may be used for simple circuit switching and wherever space is at a premium.
Each switch is supplied with one knob, mounting nut and lock washer.
Packaged in individual durable sealed plastic bags and the familiar Erie display box.

### *Order by Part Number from Table Below*

| Erie No. Shorting Type | Type Indexing | Number of Circuits | Number of Positions |
|---|---|---|---|
| 3612-23 | Positive | 1 | 3 |
| *3612-24 | Positive | 1 | 3 |
| 3612-25 | Positive | 2 | 3 |

*For Two Speaker operation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World Radio History

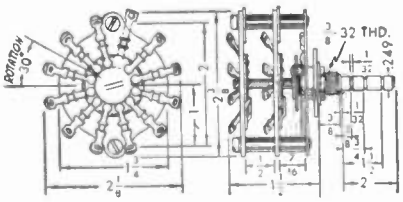
## Multi-Section Rotary Switches

High grade, phenolic-insulated, rotary switches for radio and electronic equipment in circuits not exceeding 500 volts DC. These switches have self-wiping, silver-plated, copper alloy contacts which assure long, useful life. All models feature an adjustable stop. A 2½" mounting area is required. Mounting depth is dependent on number of sections. Switches have ¼" round shafts, 2" long, and ⅜"-32 bushings. Each switch supplied with pointer knob and mounting hardware. All switches have ½" spacing between sections, except the 3 and 4 section which have 1" spacing.

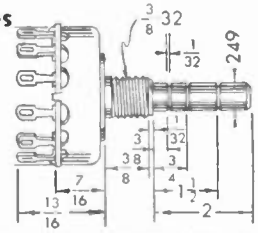
| Shorting Type Catalog Number | Non-Shorting Type Cat. No. | No. of Circuits per Section or Gang | Total No. of Circuits per Switch | No. of Positions | List Price |
|---|---|---|---|---|---|
| 1211L | 1311L | 1 | 1 | 2 to 11 | $2.90 |
| 1215L* | 1315L* | 2 | 2 | 2 to 5 | 2.90 |
| 1213L* | 1313L* | 3 | 3 | 2 to 3 | 2.90 |
| 1212L* | 1312L* | 4 | 4 | 2 to 2 | 2.90 |
| 1221L | 1321L | 1 | 2 | 2 to 11 | 3.60 |
| 1225L* | 1325L* | 2 | 4 | 2 to 5 | 3.60 |
| 1223L* | 1323L* | 3 | 6 | 2 to 3 | 3.60 |
| 1222L* | 1322L* | 4 | 8 | 2 to 2 | 3.60 |
| 1231L | 1331L | 1 | 3 | 2 to 11 | 4.50 |
| 1235L* | 1335L* | 2 | 6 | 2 to 5 | 4.50 |
| 1241L | 1341L | 1 | 4 | 2 to 11 | 5.30 |
| 1245L* | 1345L* | 2 | 8 | 2 to 5 | 5.30 |
| 1251L | 1351L | 1 | 5 | 2 to 11 | 5.70 |
| 1256L | 1356L | 2 | 10 | 2 to 6 | 6.30 |
| 1261L | 1361L | 1 | 6 | 2 to 11 | 6.70 |
| 1266L | 1366L | 2 | 12 | 2 to 6 | 7.65 |

* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

Typical Dimensions of 1200L, 1300L Rotary Switch




## Single-Section Rotary Switches




Small, compact, phenolic-insulated switches equipped with ⅜"-32 bushings, and easy-to-cut grooved shafts, ¼" diameter x 2" long. The 1¼" base styles have 30° indexing. The 1 11/16" base styles have 20° indexing and are equipped with adjustable stops.

| Shorting Type Catalog Number | Non-Shorting Type Cat. No. | Number of Circuits | Number of Positions | Diameter of Base | List Price |
|---|---|---|---|---|---|
| 3115J | 3215J | 1 | 5 | 1¼ | $1.40 |
| 31112J | 32112J | 1 | 12 | 1¼ | 1.40 |
| 3122J | 3222J | 2 | 2 | 1¼ | 1.40 |
| 3123J | 3223J | 2 | 3 | 1¼ | 1.40 |
| 3126J | 3226J | 2 | 6 | 1¼ | 1.40 |
| 3134J | 3234J | 3 | 4 | 1¼ | 1.45 |
| 3142J | 3242J | 4 | 2 | 1¼ | 1.45 |
| 3143J | 3243J | 4 | 3 | 1¼ | 1.45 |
| 31117J | 32117J | 1 | 2 to 17 | 1 11/16 | 2.15 |
| 3129J | 3229J | 2 | 2 to 9 | 1 11/16 | 2.15 |
| 3136J | 3236J | 3 | 2 to 6 | 1 11/16 | 2.30 |
| 3163J | 3263J | 6 | 2 to 3 | 1 11/16 | 2.30 |

## Ceramic Section Selector Switches

High grade, ceramic-insulated, rotary switches for use in transmitters, test and high frequency radio equipment. Supplied with silicone treated, ceramic sections and double, self-wiping, silver-plated, copper alloy contacts. All models have adjustable stops. A 2" mounting area is required. Two-section models have ½" spacing; 3-section models have 1" spacing. Equipped with ¼" round shafts, 2" long, and ⅜"-32 bushings. Pointer knob and mounting hardware included.

| Catalog Number | Number of Gangs or Sections | Number of Circuits per Gang or Section | Number of Positions | List Price |
|---|---|---|---|---|
| 172C | 1 | 1 | 2 to 11 | $3.30 |
| 173C* | 1 | 2 | 2 to 5 | 3.30 |
| 174C* | 1 | 3 | 2 to 3 | 3.30 |
| 176C | 2 | 1 | 2 to 11 | 3.30 |
| 177C* | 2 | 2 | 2 to 5 | 4.70 |
| 178C* | 2 | 3 | 2 to 3 | 4.70 |
| 180C | 3 | 1 | 2 to 11 | 6.00 |
| 181C* | 3 | 2 | 2 to 5 | 6.00 |

* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

## Lever Action Switches

Bat-handle design. For circuit selection in intercommunication, PA and similar equipment. 2" mounting depth behind panel required for all models. Switches of the 5000 Series have No. 8 by ¼" elongated mounting holes with 2¼" mounting centers. Switches of the 6000 and 7000 Series have No. 6 mounting holes with 1⅝" mounting centers. Provided with knob and hardware.

**Positive Indexing**

| Shorting Type Catalog No. | Non-Shorting Type Catalog No. | Number of Poles or Circuits | Number of Positions or Contacts | List Price |
|---|---|---|---|---|
| 5124 | 5224 | 2 | 4 | $1.90 |
| 6142 | 6242 | 4 | 2 | 1.65 |
| 6143 | 6243 | 4 | 3 | 1.65 |

## 24-Position Tap Switch

For test equipment. Switches have 1 circuit and 24 positions. Phenolic insulation. Furnished with ⅜"-32 brass bushing and ¼" x 2" notched shaft. Dial plate 394, knob and mounting hardware supplied.

Catalog No. 13124L List Price $3.85

## Circuit-Opening Switch

For meter and circuit switching in test equipment and small transmitters. Switches have 4 sections and 2 to 12 positions with adjustable stop. Phenolic-insulated for 500 volt DC operation. Mounting depth behind panel is 2⅛". Supplied with ¼" x 2" notched shaft and ⅜"-32 brass bushing. Pointer knob, dial plate 382, and mounting hardware included.

Catalog No. 1400L List Price $6.50



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## Jacks

Metal parts on all jacks have protective plating. Fine contact surfaces provide excellent electrical conductivity. Suitable mounting hardware supplied with all jacks. LA Jacks are economy jacks similar to the SC Series (see listing this page).

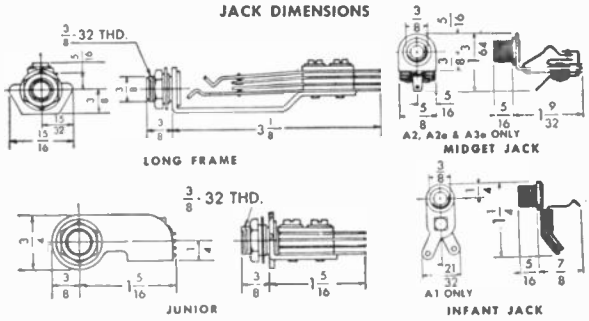
| Long Frame Cat. No. | List Price | Junior Jacks Cat. No. | List Price | Infant and Midget Jacks Cat. No. | List Price |
|---|---|---|---|---|---|
| 1 | $0.75 | 701 | $0.75 | A-1 | $0.65 |
| 2 | .95 | 702 | .85 | A-2 | .80 |
| 2A | .95 | 702A | .95 | A-2A | .95 |
| 2B | .95 | 702B | .95 | | |
| 3 | 1.00 | 703 | 1.00 | | |
| | | 703A | 1.00 | A-3A | 1.10 |
| 3B | 1.00 | 703B | 1.00 | | |
| | | 703C | 1.00 | | |
| | | 704 | 1.15 | | |
| | | 704A | 1.15 | | |
| 4B | 1.25 | 704B | 1.15 | | |
| 5 | 1.50 | 705 | 1.25 | | |
| 6 | 1.75 | | | | |

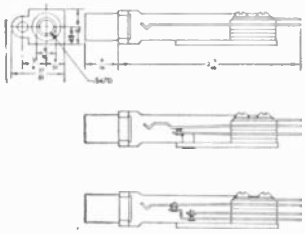
| LA Series | |
|---|---|
| LA-1 | $0.45 |
| LA-2 | .50 |
| LA-2A | .55 |

These Jacks equivalent electrically to A-1, A-2 and A-2A listed above

**GJ-1 Airplane Grounding Jack**—Similar to A-1 Jack except for insulation. List Price $0.50

JACK DIMENSIONS



| Cat. No. | Type |
|---|---|
| XP1 | (Open Circuit) |
| XP2B | (Three-Circuit Microphone) |
| XP3B | (Single Circuit, Make before Break) |

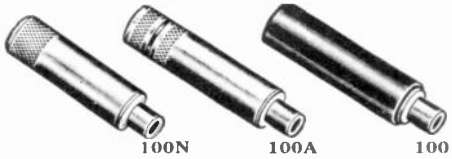
## SC Jacks and LA Jacks

SC-1A SC-2B LA-1 LA-2 LA-2A

Both SC Type Jacks have standard brass 3/8"-32 bushings. Mounting depth behind panel 1 1/16". LA Jacks are similar in basic design and size, but have commercial construction. Use with No. 75, 75N, 75A or 85 phone plugs.

| Cat. No. | Description | List Price |
|---|---|---|
| SC-1A Phone Jack | Commercial equivalent of military jack No. JJ-034. Same spring arrangement as No. 1 long-frame jack. Designed to receive the following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B. Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155, PL-125 and JAN plugs PJ-055, PJ-155, PJ-634, PJ-636, PJ-047 | $0.60 |
| SCA-2B | Commercial equivalent of military jack No. JJ-033. Same spring arrangement as No. 2B Long frame jack. Designed to receive the following plugs: Western Electric No. 109 and Signal Corps Nos. PL-68, PL-168, and JAN plugs PJ-068, PJ-168, and PJ-309 | .70 |
| LA-1 | Open Circuit | .45 |
| LA-2 | Circuit closing | .50 |
| LA-2A | Two circuits | .55 |

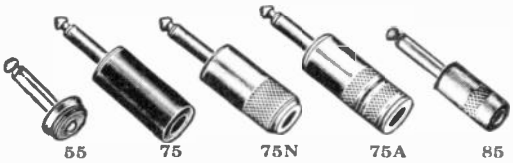
## Extension Jacks



100N 100A 100

| Cat. No. | Description | List Price |
|---|---|---|
| 100 | Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug. Overall length 3¼". | $1.40 |
| 100N | Two-Way Extension Jack (Shielded One-Piece Nickel Shell) for No. 75N Phone Plug. Overall length 3 5/16". | 1.80 |
| 100A | Two-Way Extension Jack (Shielded Two-Piece Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp). Overall length 3 1/16". | 2.50 |

## Plugs



55 75 75N 75A 85

| Cat. No. | Description | List Price |
|---|---|---|
| 55 | Adapts standard microphone connector for use with conventional Jack. | $0.50 |
| 75 | Two-Way Phone Plug with Tie-Cord Anchor (Phenolic Shell) | .75 |
| 75N | Two-Way Phone Plug with Tie-Cord Anchor (Shielded One-Piece Nickel Shell) | 1.10 |
| 75A | Two-Way Phone Plug with Tie-Cord Anchor (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp) | 1.75 |
| 76 | Three-Way Microphone Plug (Phenolic Shell) | 1.10 |
| 76A | Three-Way Microphone Plug (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp) | 1.95 |
| 85 | Two way miniature phone plug, shielded. | .60 |

**"X" Type Jacks** Plain bushing type for telephone switchboard service. Furnished with 1 mounting nut and washer.

| Cat. No. | Type | List Price |
|---|---|---|
| XP1 | Open Circuit | $1.05 |
| XP2B | 3-Circuit Microphone | 1.25 |
| XP3B | Single Circuit—Make before Break | 1.50 |



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## Knobs

367 366 365

| Catalog No. | Description | List Price |
|---|---|---|
| 364 | 1 1/16" Dia. Similar to 368, but with pointer at base. Black | $0.15 |
| 365-1 | 2¼" Bar Type Knob, Black | .35 |
| 366-1 | 1¼" Bar Type Knob, Black | .25 |
| 366-R-1 | 1¼" Bar Type Knob, Red | .25 |
| 367-1 | 1½" Dia. Round Knob, Black | .35 |
| 368-1 | 1⅛" Dia. Round Knob, Black | .30 |

## Mounting Nuts For Switches and Controls

A11260-2 A11260-12 232 255

| Catalog Number | Description | Thread | Dimension | List Price |
|---|---|---|---|---|
| 232 | Flat Hex Mounting Nut | ⅜-32 | ½ x 3/32 | $0.35* |
| 255 | Hex Mounting Nut | ⅜-32 | ½ x 7/64 x 7/64 shoulder nut | .20 |
| A-11260-2 | Hex Mounting Nut | ⅜-32 | ½ x 7/64 x 15/32 shoulder nut | .30 |
| A-11260-12 | Hex Mounting Nut | ⅜-32 | ½ x 7/64 x 7/32 shoulder nut | .25 |

* Per 10 pieces.

## Washers—For Switches and Controls

226 227 225 203 212

| Catalog Number | Description and Dimensions | List Price |
|---|---|---|
| 203 | Extruded Washer—Fiber—¾" O.D. x ⅜" I.D. x 1/16"; Extruded ½" x 1/32". For Set See No. 212 Flat Washer | $0.30* |
| 212 | Flat Washer—¾" O.D. x ⅜" I.D. x 1/32"; Phenolic | .20* |
| 225 | Metal Washer—Nickel Finish—⅝" O.D. x ⅜" I.D. .040 Brass | .20* |
| 226 | Metal Washer—Nickel Finish—⅝" O.D. x 7/16" I.D. .040 Brass | .20* |
| 227 | Lock Washer—Cadmium Plated Steel—1 1/16" O.D. x 25/64" I.D. | .20* |

* Per 10 pieces.

## Soldering Iron Tips

No. 311—Replacement tip for soldering irons that are turned on for short periods only. Heats quicker than No. 312, but is not as long wearing. Made of a special Mallory copper alloy long in use as a welding tip material. Nickel plated to resist corrosion. Size—⅜" diameter, 4" length. Plunger style with "screw driver" point.

List Price $0.85

## Dial Plates

**For Mallory Circuit Selector, Tap and All-Wave Switches.**

List Price $0.20 each (all types)

Neat-appearing Dial plates with easy-to-read aluminum figures clearly etched on solid black background. Dimensions are 1 13/16" in diameter with 7/16" hole, with figures 7/64" high. .020" aluminum stock.

| For all types 3100J, 3200J Switches, with 1 11/16" base. 20 degree spacing between numerals. Catalog Number | For all Switch types 1200L, 1300L and ¼" base 3100J, 3200J. 30 degree spacing between numerals. Catalog Number | Marking |
|---|---|---|
| | 372 | 1 to 2 |
| 453 | 373 | 1 to 3 |
| 454 | 374 | 1 to 4 |
| 455 | 375 | 1 to 5 |
| 456 | 376 | 1 to 6 |
| 457 | 377 | 1 to 7 |
| 458 | 378 | 1 to 8 |
| 459 | 379 | 1 to 9 |
| 460 | 380 | 1 to 10 |
| 461 | 381 | 1 to 11 |
| 462 | 382 | 1 to 12 |
| 463 | | 1 to 13 |
| 464 | | 1 to 14 |
| 465 | | 1 to 15 |
| 466 | | 1 to 16 |
| 467 | | 1 to 17 |
| 468 | | 1 to 18 |
| 472 | | Off 1 to 2 |
| 473 | 383 | Off 1 to 3 |
| 474 | 384 | Off 1 to 4 |
| 475 | 385 | Off 1 to 5 |
| 476 | 386 | Off 1 to 6 |
| 477 | 387 | Off 1 to 7 |
| 478 | 388 | Off 1 to 8 |
| 479 | 389 | Off 1 to 9 |
| 480 | 390 | Off 1 to 10 |
| 481 | | Off 1 to 11 |
| 482 | | Off 1 to 12 |
| 483 | | Off 1 to 13 |
| 484 | | Off 1 to 14 |
| 485 | | Off 1 to 15 |
| 486 | | Off 1 to 16 |
| | *394 Special | 1 to 24 |
| | †487 Special | 1 to 5 |
| | ‡488 Special | 1 to 4 |

* 15° Spacing Between Numerals ‡ 90° Spacing Between Numerals
† 60° Spacing Between Numerals

No. 312—Replacement tip for soldering irons that are used continuously for long periods of time. Made of a special Mallory copper alloy of great hardness and high electrical conductivity. Nickel plated to resist corrosion. Size—⅜" diameter, 4" length. Plunger style, with "screw driver" point.

List Price $0.95

*For Greater Dependability, Improved Shelf and Operating Life . . .*

**In Portable Radios and Communications Equipment**

**Buy Mallory Mercury or Zinc Carbon Batteries**

See Mallory Batteries on Mallory Pages 4 and 5 in Section M



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# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

# OHMITE ALL-PURPOSE RELAYS

## MODEL DO RELAY

**AC or DC OPERATION**

Ideal for mobile equipment applications where severe shock and vibration are encountered. Coil drain: 3-watts DC, 6 watts 60 cycle AC. Contact ratings: 10 amps. at 115 v. AC; 32 volt DC non-inductive load. Insulation tested at 1500 v. AC. Size, (4 pole) 2¼ x 2 1/16 x 1 1/16"; (3 pole) 2¼ x 1⅝ x 1 1/16".

| Stock No | Type | Coil Data †V A C | Coil Data Amps | Net Price | Stock No | Type | Coil Data V D C | Coil Data Amps | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| **DOX-50T** | 3PDT | 6 | 2 10 | $8 65 | **DOX-145T** | 3PDT | 6 | 487 | $7 47 |
| **DOX-183T** | 4PDT | 6 | 2 10 | 9 85 | **DOX-186T** | 4PDT | 6 | 487 | 8 65 |
| **DOX-49T** | 3PDT | 12 | 1 13 | 8 65 | **DOX-51T** | 3PDT | 12 | 231 | 7 47 |
| **DOX-184T** | 4PDT | 12 | 1 13 | 9 85 | **DOX-102T** | 4PDT | 12 | 231 | 8 65 |
| **DOX-181T** | 3PDT | 24 | 57 | 8 65 | **DOX-141T** | 3PDT | 24 | 105 | 7 47 |
| **DOX-185T** | 4PDT | 24 | 57 | 9 85 | **DOX-137T** | 4PDT | 24 | 105 | 8 65 |
| **DOX-226T** | ‡DPST* | 115 | 110 | 8 60 | **DOX-93T** | 3PDT | 110 | 022 | 7 47 |
| **DOX-227T** | ‡3PST | 115 | 110 | 7 84 | **DOX-187T** | 4PDT | 110 | 022 | 8 65 |
| **DOX-46T** | 3PDT | 115 | 110 | 8 65 | **DOX-182T** | 3PDT | 220 | 014 | 8 15 |
| **DOX-228T** | ‡4PST | 115 | 110 | 8 80 | **DOX-188T** | 4PDT | 220 | 014 | 9 33 |
| **DOX-53T** | 4PDT | 115 | 110 | 9 85 | | | | | |
| **DOX-61T** | 3PDT | 230 | 060 | 8 65 | | | | | |
| **DOX-130T** | 4PDT | 230 | 060 | 9 85 | | | | | |

‡ Normally open
† AC Voltage is 60 cycle
* Double Break Contacts

## MODEL DOSY RELAY

**FOR PLATE CIRCUIT OPERATION**

The high operating sensitivity makes the DOSY relay adaptable to a wide range of electronic control circuits, such as plate circuit controls, etc. Other industrial applications may be as an overload or underload control where the relay would be used in a DC circuit in which it is desirable to obtain a signal indication when the control current increases above a predetermined maximum or drops below a predetermined minimum.

The insulation is of high grade, molded phenolic material. At 115 v. AC or 32 v. DC, non-inductive load, Model DOSY relay has a contact rating of 15 amperes.

There are two DPDT types, one having 10,000 ohms coil resistance (maximum pull-in current of 8 ma. DC); the other having 5,000 ohms coil resistance.

| Stock No. | Type | Coil Data D C Ohms | Coil Data Max. Pull in Current | Net Price |
|---|---|---|---|---|
| **DOSYX-67T** | DPDT | 10,000 | 8 MA | $6 09 |
| **DOSYX-68T** | DPDT | 5,000 | 11 MA | 6 09 |
| **DOSYX-69T** | SPDT | 10,000 | 5 MA | 5 62 |
| **DOSYX-70T** | SPDT | 5,000 | 7 MA | 5 62 |

## ADDITIONAL RELAYS AVAILABLE

In addition to the listings of the Ohmite stock relays shown on this page, Ohmite has eight additional standard types of relays available. These can be promptly made to order. Therefore, if none of the relays shown on this page exactly suits your needs, we suggest you write to us and allow Ohmite engineers to make a recommendation designed to meet your requirements. All Ohmite relays — both standard and made-to-order — are exceptionally high quality, rugged relays designed to give the maximum in precision performance, dependability, and long life. Metal parts are plated where necessary for corrosion resistance. Springs are made of nickel-silver or phosphor-bronze and the contacts are fine silver. Special contact materials can be supplied when desired.

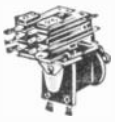
## MODEL DOS RELAY

**AC or DC OPERATION**

Quality, general-purpose relays originally designed to meet rigorous aircraft specs. Extremely compact yet rugged. Coil drain: 2.5 watts DC, 3 watts at 60 cycles AC. Contact ratings: DP, 15 amps. at 115 v. AC or 32v. DC non-inductive load; SP, 25 amps. Molded phenolic insulation; tested at 1500 v. AC. 1⅞ x 1⅝ x 1 13/32".

| Stock No | Type | Coil Data †V A C | Coil Data Amps | Net Price | Stock No | Type | Coil Data V D C | Coil Data Amps | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| **DOSX-229T** | ‡SPST* | 6 | 650 | $4 84 | **DOSX-158T** | DPDT | 6 | 550 | $4 96 |
| **DOSX-230T** | ‡DPST | 6 | 650 | 4 94 | **DOSX-66T** | DPDT | 12 | 210 | 4 96 |
| **DOSX-30T** | DPDT | 6 | 650 | 5 46 | **DOSX-9T** | DPDT | 24 | 105 | 4 96 |
| **DOSX-16T** | DPDT | 12 | .380 | 5 46 | **DOSX-237T** | ‡SPST* | 110 | 022 | 4 39 |
| **DOSX-231T** | ‡SPST* | 24 | .166 | 4 84 | **DOSX-238T** | ‡DPST | 110 | 022 | 4 49 |
| **DOSX-232T** | ‡DPST | 24 | .166 | 4 94 | **DOSX-59T** | DPDT | 110 | 022 | 4 96 |
| **DOSX-162T** | DPDT | 24 | .166 | 5 46 | **DOSX-177T** | DPDT | 220 | 013 | 5 54 |
| **DOSX-233T** | ‡SPST* | 115 | 043 | 4 84 | | | | | |
| **DOSX-234T** | ‡DPST | 115 | 043 | 4 94 | | | | | |
| **DOSX-7T** | DPDT | 115 | 043 | 5 46 | | | | | |
| **DOSX-235T** | ‡SPST* | 230 | 030 | 4 84 | | | | | |
| **DOSX-236T** | ‡DPST | 230 | 030 | 4 94 | | | | | |
| **DOSX-12T** | DPDT | 230 | 030 | 5 46 | | | | | |

‡ Normally open
† AC Voltage is 60 cycle
* Double Break Contacts



## MODEL CRU RELAY

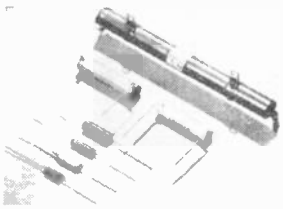
**AC or DC OPERATION**

Precision-engineered, general-application relays. Used in recorders, vending machines, etc. Features small size and extremely rugged construction. Designed for long life performance. Has nickel-silver springs and pure silver contacts. Coil drain: 2.75 watts DC, 5.6 watts 60 cycle AC. Contact ratings: 5 amps. at 115 v. AC; 32 v. DC non-inductive load. Insulation tested at 750 v. AC between all insulated metal parts and between insulated metal parts and ground. 2 7/16 x 2 x 1 [illegible]".

| Stock No | Type | Coil Data †V A C | Coil Data Amps | Net Price | Stock No | Type | Coil Data V D C | Coil Data Amps | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| **CRUX-192T** | SPDT | 6 | 1 70 | $3 02 | **CRUX-198T** | SPDT | 6 | 40 | $2 82 |
| **CRUX-193T** | DPDT | 6 | 1 20 | 3 55 | **CRUX-199T** | DPDT | 6 | 40 | 3 33 |
| **CRUX-171T** | 4PDT | 6 | 1 70 | 4 62 | **CRUX-133T** | 4PDT | 6 | 40 | 4 34 |
| **CRUX-194T** | SPDT | 24 | 38 | 3 02 | **CRUX-200T** | SPDT | 24 | 10 | 2 82 |
| **CRUX-195T** | DPDT | 24 | 38 | 3 55 | **CRUX-201T** | DPDT | 24 | 10 | 3 33 |
| **CRUX-196T** | 4PDT | 24 | 38 | 4 62 | **CRUX-165T** | 4PDT | 24 | 10 | 4 34 |
| **CRUX-197T** | SPDT | 115 | 075 | 3 02 | **CRUX-202T** | SPDT | 110 | 022 | 3 66 |
| **CRUX-175T** | DPDT | 115 | 075 | 3 55 | **CRUX-145T** | DPDT | 110 | 022 | 4 17 |
| **CRUX-163T** | 4PDT | 115 | 075 | 4 62 | **CRUX-137T** | 4PDT | 110 | 022 | 5 18 |

†AC Voltage is 60 cycle

## OHMITE R.F. PLATE CHOKES



This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while the other three units are wound on steatite tubes. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

| Stock Number | Operating Range Megacycles | Micro-henries | Core Dimensions | Net Price |
|---|---|---|---|---|
| Z-7 | 3 to 20 Mc. | 84.0 | 6" x 1/16" | **$1.23** |
| Z-14 | 7 to 35 Mc. | 14.0 | 2" x 7/16" | **.54** |
| Z-28 | 20 to 60 Mc. | 21.0 | 1¾" x 5/16" | **.48** |
| Z-50 | 35 to 110 Mc. | 7.0 | ⅞" x 7/32" | **.30** |
| Z-144 | 80 to 200 Mc. | 1.8 | ¾" x 3/16" | **.30** |
| Z-235 | 160 to 350 Mc. | 0.84 | ¾" x 3/16" | **.30** |
| Z-160 | 320 to 520 Mc. | 0.20 | ½" x 3/32" | **.30** |

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma. All others 1000 ma.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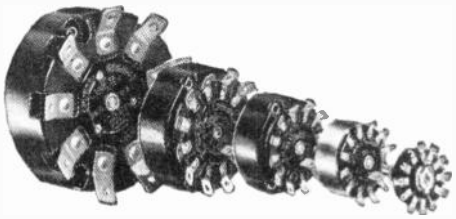
World Radio History

# POWER TAP SWITCHES NON-SHORTING TYPE



Each switch is a non-shorting, single pole, rotary, multi-position unit, but switches can be ordered assembled 2 or 3 in tandem (2 maximum, for Model 111) to form multipole assemblies. All ceramic insulation, large, solid silver-to-silver contacts, and "slow-break" action especially designed for alternating current use establish new standards of dependability and performance. Switch shafts are electrically "dead"—insulated by strong ceramic hubs. Contacts and mechanism are entirely enclosed and protected (except for the Model 111).

## MODEL 111 TAP SWITCH

Alternating Current Rating *10 Amps. 150 Volts* — Diameter 1¾" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut.

| Depth Behind Panel | | Single Unit | | 2 in Tandem | |
|---|---|---|---|---|---|
| | | 1⅛" | | 2¾" | |
| No. of Taps | Total Rotation | Stock Number | Net *Price | Stock Number | Net *Price |
| 11 | 300° | 111-11 | $3.09 | 111-11-T2 | $11.85 |
| 10 | 270° | 111-10 | 3.00 | 111-10-T2 | 11.58 |
| 9 | 240° | 111- 9 | 3.00 | 111- 9-T2 | 11.58 |
| 8 | 210° | 111- 8 | 2.88 | 111- 8-T2 | 11.16 |
| 7 | 180° | 111- 7 | 2.88 | 111- 7-T2 | 11.16 |
| 6 | 150° | 111- 6 | 2.76 | 111- 6-T2 | 10.71 |
| 5 | 120° | 111- 5 | 2.76 | 111- 5-T2 | 10.71 |
| 4 | 90° | 111- 4 | 2.70 | 111- 4-T2 | 10.50 |
| 3 | 60° | 111- 3 | 2.70 | 111- 3-T2 | 10.50 |
| 2 | 30° | 111- 2 | 2.70 | 111- 2-T2 | 10.50 |
| Recommended Knobs | | Stock No. 5150 or 5116 | | Stock No. 5109 or 5110 | |

*Without Knob.

## MODEL 212 TAP SWITCH

Alternating Current Rating *15 Amps. 150 Volts* — Diameter 2¼" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut. Tandem Mounting: For ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long.

| Depth Behind Panel | | Single Unit | | 2 in Tandem | | 3 in Tandem | |
|---|---|---|---|---|---|---|---|
| | | 1¾" | | 4 3/16" | | 6 3/16" | |
| No. of Taps | Total Rotation | Stock No. | Net *Price | Stock No. | Net *Price | Stock No. | Net *Price |
| 12 | 330° | 212-12 | $ 7.74 | 212-12-T2 | $20.79 | 212-12-T3 | $30.90 |
| 11 | 300° | 212-11 | 7.74 | 212-11-T2 | 20.79 | 212-11-T3 | 30.90 |
| 10 | 270° | 212-10 | 7.47 | 212-10-T2 | 20.31 | 212-10-T3 | 30.12 |
| 9 | 240° | 212- 9 | 7.47 | 212- 9-T2 | 20.31 | 212- 9-T3 | 30.12 |
| 8 | 210° | 212- 8 | 7.23 | 212- 8-T2 | 19.80 | 212- 8-T3 | 29.34 |
| 7 | 180° | 212- 7 | 7.23 | 212- 7-T2 | 19.80 | 212- 7-T3 | 29.34 |
| 6 | 150° | 212- 6 | 6.96 | 212- 6-T2 | 19.26 | 212- 6-T3 | 28.56 |
| 5 | 120° | 212- 5 | 6.96 | 212- 5-T2 | 19.26 | 212- 5-T3 | 28.56 |
| 4 | 90° | 212- 4 | 6.69 | 212- 4-T2 | 18.72 | 212- 4-T3 | 27.81 |
| 3 | 60° | 212- 3 | 6.69 | 212- 3-T2 | 18.72 | 212- 3-T3 | 27.81 |
| 2 | 30° | 212- 2 | 6.69 | 212- 2-T2 | 18.72 | 212- 2-T3 | 27.81 |
| Recommended Knobs | | Stock No. 5150 or 5116 | | Stock No. 5111 or 5112 | | Stock No. 5111 or 5112 | |

*Without Knob.

## MODEL 312 TAP SWITCH

Alternating Current Rating *25 Amps. 300 Volts*, 150 V. A.C. between taps — Diameter 3 3/16" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long.

| Depth Behind Panel | | Single Unit | | 2 in Tandem | | 3 in Tandem | |
|---|---|---|---|---|---|---|---|
| | | 2¼" | | 4⅝" | | 7" | |
| No. of Taps | Total Rotation | Stock No. | Net *Price | Stock No. | Net *Price | Stock No. | Net *Price |
| 12 | 330° | 312-12 | $10.80 | 312-12-T2 | $28.14 | 312-12-T3 | $42.60 |
| 11 | 300° | 312-11 | 10.80 | 312-11-T2 | 28.14 | 312-11-T3 | 42.60 |
| 10 | 270° | 312-10 | 10.56 | 312-10-T2 | 27.60 | 312-10-T3 | 41.70 |
| 9 | 240° | 312- 9 | 10.56 | 312- 9-T2 | 27.60 | 312- 9-T3 | 41.70 |
| 8 | 210° | 312- 8 | 10.32 | 312- 8-T2 | 27.06 | 312- 8-T3 | 40.98 |
| 7 | 180° | 312- 7 | 10.32 | 312- 7-T2 | 27.06 | 312- 7-T3 | 40.98 |
| 6 | 150° | 312- 6 | 10.02 | 312- 6-T2 | 26.55 | 312- 6-T3 | 40.14 |
| 5 | 120° | 312- 5 | 10.02 | 312- 5-T2 | 26.55 | 312- 5-T3 | 40.14 |
| 4 | 90° | 312- 4 | 9.78 | 312- 4-T2 | 26.04 | 312- 4-T3 | 39.42 |
| 3 | 60° | 312- 3 | 9.78 | 312- 3-T2 | 26.04 | 312- 3-T3 | 39.42 |
| 2 | 30° | 312- 2 | 9.78 | 312- 2-T2 | 26.04 | 312- 2-T3 | 39.42 |
| Recommended Knobs | | Stock No. 5109 or 5110 | | Stock No. 5111 or 5112 | | Stock No. 5111 or 5112 | |

*Without Knob.

## MODEL 412 TAP SWITCH

Alternating Current Rating *50 Amps. 300 Volts*, 150 V. A.C. between taps — Diameter 4 3/16" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum three No. 10-32 flat-head machine screws ⅜" long.

| Depth Behind Panel | | Single Unit | | 2 in Tandem | | 3 in Tandem | |
|---|---|---|---|---|---|---|---|
| | | 2 7/16" | | 5 1/32" | | 7⅝" | |
| No. of Taps | Total Rotation | Stock No. | Net *Price | Stock No. | Net *Price | Stock No. | Net *Price |
| 12 | 330° | 412-12 | $14.40 | 412-12-T2 | $35.31 | 412-12-T3 | $53.34 |
| 11 | 300° | 412-11 | 14.40 | 412-11-T2 | 35.31 | 412-11-T3 | 53.34 |
| 10 | 270° | 412-10 | 13.80 | 412-10-T2 | 34.08 | 412-10-T3 | 51.48 |
| 9 | 240° | 412- 9 | 13.80 | 412- 9-T2 | 34.08 | 412- 9-T3 | 51.48 |
| 8 | 210° | 412- 8 | 13.53 | 412- 8-T2 | 33.57 | 412- 8-T3 | 50.70 |
| 7 | 180° | 412- 7 | 13.53 | 412- 7-T2 | 33.57 | 412- 7-T3 | 50.70 |
| 6 | 150° | 412- 6 | 12.90 | 412- 6-T2 | 32.34 | 412- 6-T3 | 48.78 |
| 5 | 120° | 412- 5 | 12.90 | 412- 5-T2 | 32.34 | 412- 5-T3 | 48.78 |
| 4 | 90° | 412- 4 | 12.60 | 412- 4-T2 | 31.68 | 412- 4-T3 | 47.88 |
| 3 | 60° | 412- 3 | 12.60 | 412- 3-T2 | 31.68 | 412- 3-T3 | 47.88 |
| 2 | 30° | 412- 2 | 12.60 | 412- 2-T2 | 31.68 | 412- 2-T3 | 47.88 |
| Recommended Knobs | | Stock No. 5111 or 5112 | | Stock No. 5111 or 5112 | | Stock No. 5111 or 5112 | |

*Without Knob.

## MODEL 608 TAP SWITCH

Alternating Current Rating *100 Amps. 300 Volts* — Diameter 6" —Shaft Diameter ⅜"—Standard Mounting: For 1" panel maximum, three flat-head machine screws ¼"-20 x 1¼".

| Depth Behind Panel | | Single Unit | | 2 in Tandem | | 3 in Tandem | |
|---|---|---|---|---|---|---|---|
| | | 3 5/16" | | 6 13/16" | | 10 5/16" | |
| No. of Taps | Total Rotation | Stock No. | Net *Price | Stock No. | Net *Price | Stock No. | Net *Price |
| 8 | 280° | 608-8 | $30.90 | 608-8-T2 | $71.88 | 608-8-T3 | $105.69 |
| 7 | 240° | 608-7 | 30.90 | 608-7-T2 | 71.88 | 608-7-T3 | 105.69 |
| 6 | 200° | 608-6 | 29.85 | 608-6-T2 | 69.84 | 608-6-T3 | 102.60 |
| 5 | 160° | 608-5 | 29.85 | 608-5-T2 | 69.84 | 608-5-T3 | 102.60 |
| 4 | 120° | 608-4 | 28.83 | 608-4-T2 | 67.74 | 608-4-T3 | 99.51 |
| 3 | 80° | 608-3 | 28.83 | 608-3-T2 | 67.74 | 608-3-T3 | 99.51 |
| 2 | 40° | 608-2 | 28.83 | 608-2-T2 | 67.74 | 608-2-T3 | 99.51 |
| Recommended Knobs | | Stock No. 5104 or 5115 or 5105 | | Stock No. 5104 or 5115 or 5105 | | Stock No. 5115 | |

*Without Knob.

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World Radio History

# SWITCHCRAFT INC.

CHICAGO 30, ILLINOIS

## JACKS

"EXTENSION JAX"
"SHIELDED JAX"
"JACK COVERS"

### "LITTEL-JAX AND "TINI-JAX"

A

B

The "Littel-Jax" (A) features notched insulating washers mechanically interlocking springs and lugs; "V" bend in tip spring firmly "holds" mating plug: minimum space requirements, economical. Mount in single 3/8" hole, panels up to 5/32" thick, except L-11 and L-12A in panels up to 1/4" thick.

No. C-11 (JJ-034) and C-12A (JJ-089) mate with No. 440 (PJ-055B) Plug; C-12B (JJ-033), S-12B and S-13B mate with No. 480 (JAN PJ-068 or W.E. No. 309) Plug. No. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve to mate with S-250 and S-280 Plugs. C-11 (JJ-034), C-12B (JJ-033) and C-12A (JJ-089) per JAN-J-641. All others mate with standard 1/4" dia. plugs such as our No. 40, 250, etc.

The "Tini-Jax" (B) a miniature 2-conductor Jack, approximately 1/4 the size of the "Littel-Jax"; otherwise similar in construction. Mounts in 1/4" dia. hole; panels up to 1/8" thick. Mate with "Tini-Plugs" No. 750, etc. 43A has a unique spring design that requires a pear shaped tip, such as our No. 750.

| "LITTEL-JAX" | | "TINI-JAX" | | Schematic No. |
|---|---|---|---|---|
| Part No. | U.S.A. List Price | Part No. | U.S.A. List Price | |
| 11 | $0.40 | 41 | $0.40 | I |
| C-11 | $0.60 | | | |
| L-11 | $0.50 | | | |
| S-11 | $0.45 | | | |
| 12A | $0.45 | 42A | $0.45 | III |
| C-12A | $0.75 | | | |
| L-12A | $0.55 | | | |
| 13 | $0.90 | | | V |
| 13A | $0.85 | 43A | $0.70 | VI |
| 13E | $0.90 | | | IX |
| Three Conductor Types | | | | |
| 12B | $0.55 | | | IV |
| C-12B | $0.70 | | | |
| S-12B | $0.65 | | | |
| 13B | $0.75 | | | VII |
| S-13B | $0.95 | | | |

### "EXTENSION JAX"

Features a clamp type terminal providing a cable anchor. Spring tempered nickel silver springs, designed to properly "hold" mating plug. Exterior metal parts N.P.: Terminals mechanically interlock. High grade insulation. Available in 2 and 3-conductor types, solder lug or screw type terminals. Bakelite or Brightly Nickel Plated Brass handles. Mates with any standard plug. S-128 mates with S-250 plug.

| Part No. | U.S.A. List | Handle | Description |
|---|---|---|---|
| 80 | $1.15 | Black | 2-cond. Screw Term. |
| 88 | $1.00 | Black | 2-cond. Lug. Term. |
| 120 | $1.55 | Shielded | 2-cond. Screw Term. |
| 126 | $1.80 | Shielded | 2-cond. for R-280 Plug |
| 128 | $1.40 | Shielded | 2-cond. Lug. Term. |
| 830 | $1.55 | Black | 3-cond. Screw Term. |
| 838 | $1.40 | Black | 3-cond. Lug. Term. |
| 1230 | $1.95 | Shielded | 3-cond. Screw Term. |
| 1238 | $1.80 | Shielded | 3-cond. Lug. Term. |
| S-128 | $1.50 | Shielded | 2-cond. Spec. Lug. Ter. |

### "SF-JAX"

C

D

"SF-JAX", Series 20 (C) requires a minimum of panel depth, mounts in single 3/8" dia. hole, panels up to 3/16" thick. Series 50 (D) similar to Series 20, except solder lug location necessitates more depth but requires less panel space. Mounts in panels up to 1/4" thick.

Series C-20 and C-50, MIL types with Military Insulation and finishes, otherwise similar to commercial Series 20 and 50; both will mount in panels up to 1/4" thick.

| Series 20 & C-20 | | Series 50 & C-50 | | MIL | Schematic No. |
|---|---|---|---|---|---|
| Part No. | U.S.A. List | Part No. | U.S.A. List | Type No. | |
| 21 | $0.65 | 51 | $0.65 | | I |
| | | C-51 | $1.20 | JJ-096 | |
| 22 | $0.80 | 52 | $0.80 | | II |
| 22A | $0.80 | 52A | $0.80 | | III |
| | | C-52A | $1.30 | JJ-097 | |
| 22B | $0.80 | 52B | $0.80 | | IV |
| | | C-52B | $1.30 | JJ-103 | |
| 23 | $0.95 | 53 | $0.95 | | V |
| C-23 | $1.35 | | | JJ-099 | |
| 23A | $0.95 | 53A | $0.95 | | VI |
| C-23A | $1.35 | | | JJ-098 | |
| | | C-53A | $1.55 | JJ-092 | |
| 23B | $0.95 | 53B | $0.95 | | VII |
| 23C | $0.95 | 53C | $0.95 | | VIII |
| 23E | $0.95 | 53E | $0.95 | | IX |
| C-23E | $1.35 | | | JJ-102 | |
| 24 | $1.10 | 54 | $1.10 | | X |
| 24A | $1.10 | 54A | $1.10 | | XI |
| | | C-54A | $1.60 | JJ-093 | |
| 24B | $1.10 | 54B | $1.10 | | XII |
| | | C-54B | $1.60 | JJ-101 | |
| 25 | $1.30 | 55 | $1.30 | | XIII |
| | | C-55B | $1.85 | JJ-095 | XV |
| 26 | $1.40 | 56 | $1.40 | | XIV |

### "LF-JAX" AND "M-JAX"

E

F

Long Frame Jacks, the "LF-JAX", (E) Series 30, requires minimum panel space, 3" deep.

"M-JAX" (F) a heavy frame, often referred to as Navy Jack, 2 11/16" deep. Both types mount in single 3/8" hole, in panels up to 1/4" thick.

| "LF-JAX" | | "M-JAX" | | MIL | Schematic No. |
|---|---|---|---|---|---|
| Part No. | U.S.A. List | Part No. | U.S.A. List | Type No. | |
| 31 | $0.75 | M-441 | $1.50 | | I |
| 32 | $0.95 | | | | II |
| 32A | $0.95 | M-442A | $1.70 | JJ-107 | III |
| 32B | $0.95 | | | | IV |
| 33 | $1.05 | | | | V |
| 33A | $1.05 | M-443A | $1.95 | JJ-105 | VI |
| 33B | $1.05 | M-443B | $2.10 | JJ-106 | VII |
| 33C | $1.05 | | | | VIII |
| 33E | $1.05 | | | | IX |
| 34 | $1.20 | | | | X |
| 34A | $1.20 | | | | XI |
| 34B | $1.20 | *M-444 | $2.30 | JJ-083 | XII |
| | | M-444B | $2.20 | JJ-082 | XII |
| 35 | $1.45 | M-445 | $2.75 | JJ-104 | XIII |
| 36 | $1.70 | M-446 | $3.50 | JJ-079 | XIV |
| | | M-446A | $3.90 | JJ-081 | XVI |

*Bushing .2085", to mate with plugs PJ-068 and PJ-309.

### "T-JAX" AND "MT-JAX"

G

The "T-JAX" and "MT-JAX" are a long frame, switchboard type. The "T-JAX", commercial quality, for low cost communication equipment where economy is all important.

The "MT-JAX" is recommended for high quality communication and Military equipment, featuring welded crossbar Palladium contacts. Frame design also available with mounting ear rotated 90° from position shown in figure "G"; add prefix "C" to part number. All types listed mate with 1/4" dia. plug sleeves unless otherwise indicated.

| "T-JAX" | | "MT-JAX" | | MIL | Schematic No. |
|---|---|---|---|---|---|
| Part No. | U.S.A. List | Part No. | U.S.A. List | Type No. | |
| T-331 | $1.05 | MT-331 | $1.50 | JJ-086 | I |
| | | MT-332 | $1.70 | | II |
| T-332A | $1.20 | MT-332A | $1.70 | JJ-024 | III |
| T-332B | $1.20 | MT-332B | $1.70 | JJ-022 | IV |
| | | MT-332C | $1.95 | JJ-016 | XVIII |
| | | MT-333 | $1.95 | JJ-084 | V |
| | | MT-333B | $1.95 | | VII |
| | | MT-333E | $1.95 | | IX |
| T-334A | $1.50 | MT-334A | $2.00 | | XI |
| T-334B | $1.60 | MT-334B | $2.00 | JJ-042 | XII |
| T-334C | $1.50 | MT-334C | $2.00 | JJ-072 | XVII |
| | | MT-334E | $2.00 | JJ-085 | XXV |
| | | MT-334F | $2.00 | JJ-035 | XIX |
| | | MT-335 | $2.25 | | XIII |
| | | MT-336 | $2.25 | JJ-074 | XX |
| | | MT-336A | $2.75 | JJ-075 | XIV |
| | | MT-336B | $2.75 | JJ-077 | XXI |
| | | MT-336C | $2.75 | JJ-073 | XXII |
| | | MT-336E | $2.75 | | XXIII |
| | | MT-337 | $2.75 | JJ-087 | XXIV |
| | | *MT-342B | $1.95 | | IV |
| | | *MT-344B | $2.25 | | XII |

*Bushing .2085" to mate with PJ-068 and PJ-309.

### "SHIELDED JAX"

H

"Shielded Jax" (H) regular "Littel-Jax" (see separate listing) assembled into shield, ideal for high impedance circuits.

| Part No. | U.S.A. List Price | DESCRIPTION |
|---|---|---|
| CN-11 | $0.80 | Open ckt. (see No. 11) |
| CN-12A | $0.85 | Close ckt. (see No. 12A) |
| CN-12B | $0.95 | (see No. 12B) |
| CN-13B | $1.15 | (see No. 13B) |

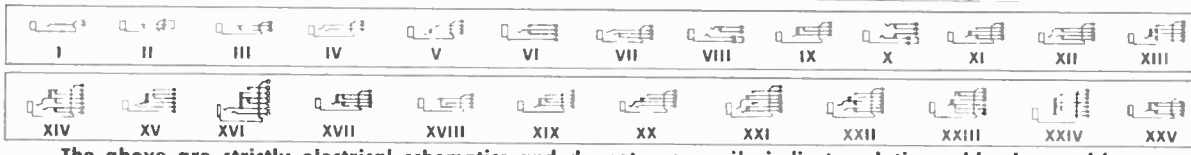
### "JACK COVERS"

500 Series Cover used with conventional 3/8"-32 threaded bushing type Phone Jacks. Spring loaded cover immediately snaps over Jack opening when plug is removed, providing a moisture seal.

600 Series Cover, similar to above, is used with certain type Tip Jacks. Fit Tip Jacks with 1/4" mounting; height of Tip Jack head 1/8" to 3/16".

Also can be used as covers for "Tini-Jax".

| Part No. | U.S.A. List Price | Description |
|---|---|---|
| 510 | $1.05 | Olive Drab |
| 515 | $1.05 | Black |
| 520 | $1.05 | Navy Grey |
| 610 | $0.75 | Olive Drab |
| 615 | $0.75 | Black |
| 620 | $0.75 | Navy Grey |




**The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.**



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

## "BUTTON SWITCHES"

An unusually small, completely enclosed switch. Series 903 and 913 (A), behind panel mounting, requires single 15/32" dia. hole, panels up to 19/64". Series 923 and 933 (B) front of panel mounting, requires 1/4" dia. hole, panels up to 5/32" thick. Rated 250 mils, non-inductive load. A.C. 30 watts max.

**"CORD SWITCHES"**—Button Switch assembled into nickel plated brass handle provides ideal switch for attachment to cable.

| Part No. Red Button | Part No. Blk. Button | U.S.A. List Price | Schematic Circuit |
|---|---|---|---|
| 903 | 913 | $1.50 | |
| 903D | 913D | $1.50 | |
| 923 | 933 | $1.75 | |
| 923D | 933D | $1.75 | |
| **"CORD SWITCHES"** | | | |
| E-903 | E-913 | $2.50 | |

## "LITTEL" AND "TINY" SWITCHES

The "Littel Switch" (C) available in 3 circuits, red or black 1 pc. Plastic P.B., non-locking only. Integral contacts; recommended for low current circuits only; same switches with suffix letter "S" in part number rated at 3 amps, 300 watts A.C. non inductive load. Mounts 3/8" dia. hole in panels up to 1/4".

The "Tiny-Switch" (D) similar in construction but approx. 1/3 the size of "Littel-Switch". Available integral contacts only. Mounts 1/4" dia. hole in panels up to 1/8" thick. *Silver Cont.

| Part No. Red Button | Part No. Blk. Button | U.S.A. List Price | Schematic Circuit |
|---|---|---|---|
| 101 | 201 | $0.90 | I |
| *101-S | 201-S | $1.05 | |
| 102 | 202 | $0.90 | II |
| *102-S | 202-S | $1.05 | |
| 103 | 203 | $1.00 | III |
| *103-S | 203-S | $1.20 | |
| **"TINY-SWITCHES"** | | | |
| 951 | 961 | $0.90 | I |
| 952 | 962 | $0.90 | II |
| 953 | 963 | $1.00 | III |

## "FF" AND "NF" SWITCHES

"FF-Switch" (E), Series 1000, 1-pc. black plastic push button; all common circuits. Mounts in single 3/8" dia. hole, panels up to 1/4" thick. Fine silver contacts rated at 3 amp. 300 Watts max. A.C. non-inductive load. Frame 3/4" wide; 1 1/64 lg. o a.

"NF-Switch" (F) series 4000, same features and rating as "FF-Switch" but smaller. Frame 1/2" wide; 15/8" long o a. mounts in panels up to 5/32" thick.

| FF-Switch Part No. | NF-Switch Part No. | U.S.A. List Price | Schematic Circuit |
|---|---|---|---|
| 1001 | 4001 | $1.05 | I |
| 1002 | 4002 | $1.05 | II |
| 1003 | 4003 | $1.20 | III |
| 1004 | 4004 | $1.30 | IV |
| 1005 | 4005 | $1.30 | V |
| 1006 | 4006 | $1.55 | VI |
| 1009 | 4009 | $2.10 | VII |

## "LEV-R-SWITCHES"

"Lev-R-Switches" (G), unusually small lever action switch, available in numerable circuits. Ideal for test equipment, inter-com. systems, model r.r. switch panels, etc. Mount in 15/32" dia. hole, panels up to 5/64" thick for series 3000, and panels up to 1/4" for series 13000. Contacts fine silver, rated at 3 amps., 300 watts max. non-inductive A.C. load. Made with welded cross bar Palladium contacts on special order. 2 and 3 position; locking or non-locking functions.

**Add prefix "L for locking type."**

### TWO POSITION TYPE

| Series 3000 Non-Locking | Series 3000 U.S.A. List | Series 13000 Non-Locking | Series 13000 U.S.A. List | Schematic CKT. |
|---|---|---|---|---|
| 3001 | $1.95 | 13001 | $2.10 | XI |
| 3002 | $1.95 | 13002 | $2.10 | XII |
| 3003 | $2.25 | 13003 | $2.40 | XIII |
| 3003D | $2.40 | 13003D | $2.50 | XIV |
| 3004 | $2.50 | 13004 | $2.65 | XV |
| 3005 | $2.50 | 13005 | $2.65 | XVI |
| 3006 | $2.75 | 13006 | $2.75 | XVII |
| 3006D | $2.90 | 13006D | $2.90 | XVIII |
| 3009 | $3.40 | 13009 | $3.75 | XIX |

### THREE POSITION TYPE

| | | | | |
|---|---|---|---|---|
| 3033 | $2.50 | 13033 | $2.65 | XX |
| 3034 | $2.60 | 13034 | $2.75 | VIII |
| 3035 | $2.60 | 13035 | $2.75 | IX |
| 3036 | $2.90 | 13036 | $3.10 | X |
| 3036D | $3.10 | 13036D | $3.25 | XXI |
| 3037 | $2.95 | 13037 | $3.10 | XXII |
| 30312 | $3.75 | 130312 | $4.00 | XXIII |
| 30313 | $3.75 | 130313 | $4.00 | XXIV |

### INTER-COMM. SWITCHES

| | | | | |
|---|---|---|---|---|
| 3033T | $2.50 | 13033T | $2.65 | XX |
| 3037T | $2.95 | 13037T | $3.10 | XXII |

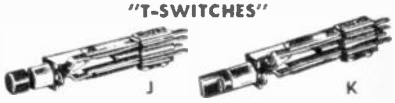
## "RS-SWITCH"

The "RS-SWITCH" (H), locking and non-locking, 2- or 3-position, all common circuits. Mounts in single 3/8" dia. hole, panels up to 1/4" thick. Fine silver contacts rated 3 amperes, 120 volts A.C. (non-inductive).

**Add suffix "L" to part number for locking type.**

| Part No. Non-Locking | U.S.A. List Price | Schematic CKT. |
|---|---|---|
| 2001 | $1.25 | XI |
| 2002 | $1.25 | XII |
| 2003 | $1.50 | XIII |
| 2004 | $1.50 | XV |
| 2005 | $1.50 | XVI |
| 2006 | $1.95 | XVII |
| **THREE POSITION TYPES** | | |
| 2034 | $1.50 | VIII |
| 2035 | $1.50 | IX |
| 2036 | $1.95 | X |

## "T-SWITCHES"




Long frame switches, Series 11000 (J), locking and non-locking push button design commonly used on Jack Panels, same mounting as "MT-JAX", 5/8" dia. mounting hole 3/4" center distance to push button. Requires 2 7/8" depth behind panel. Welded cross bar Palladium contacts rated 3 amps. A.C. 300 Watts max. non-inductive load.

Series 11200 (K), similar to above but turn type operation, locking and non-locking.

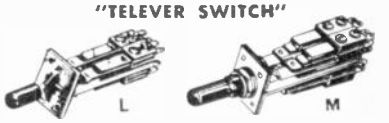
**Add suffix "L" to part number for locking type.**

| "PUSH BUTTONS" SERIES 11000 Part No. Non-Locking | "TURN-BUTTONS" SERIES 11200 Part No. Non-Locking | U.S.A. List | Contact Assembly |
|---|---|---|---|
| 11001 | 11201 | $3.50 | 1-A |
| 11002 | 11202 | $3.50 | 1-B |
| 11003 | 11203 | $4.00 | 1-C |
| 11003D | 11203D | $4.00 | 1-D |
| 11004 | 11204 | $4.50 | 2-A |
| 11005 | 11205 | $4.50 | 2-B |
| 11006 | 11206 | $5.00 | 2-C |
| 11006D | 11206D | $5.00 | 2-D |
| 11008 | 11208 | $5.60 | 4-A |
| 11009 | 11209 | $6.00 | 3-C |
| 11012 | 11212 | $6.80 | 4-C |

This table refers to Basic Contact Forms under the heading "Contact Assembly"

### BASIC CONTACT FORMS

## "TELEVER SWITCH"

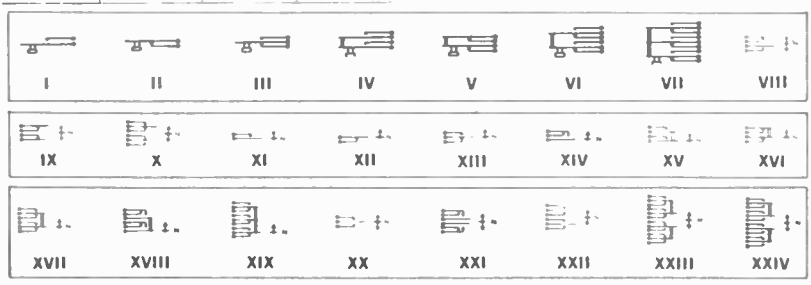



Series 6000, "Telever Switch" (L), rugged telephone type, 3" depth behind panel. Welded cross bar Palladium contacts rated at 3 amps., 300 Watts max. non-inductive A.C. load. Insulated black knob; chrome plated brass actuator. Standard mounting centers 17/32" x 11/16"; usually mounted by four No. 3-48 screws (not furnished); can be assembled to escutcheon plate.

Series 16000, "Telever Switch" (M), same design as Series 6000, except features a single hole mounting; requires 15/32" hole in panels up to 1/4" thick. Unique feature, "non-locking" type can easily be converted to "locking" by removing "stop plate".

**Add suffix "L" to part number for locking type.**

| 6000 SERIES Part No. Non-Locking | 6000 SERIES U.S.A. List | 16000 SERIES Part No. Non-Locking | 16000 SERIES U.S.A. List | Contact Assembly |
|---|---|---|---|---|
| **TWO POSITION TYPE** | | | | |
| 6006 | $ 5.00 | 16006 | $ 5.00 | 2-C |
| 6006D | $ 5.60 | 16006D | $ 5.60 | 2-D |
| 6008 | $ 5.60 | 16008 | $ 5.60 | 4-A |
| 6009 | $ 6.00 | 16009 | $ 6.00 | 3-C |
| 60012 | $ 6.80 | 160012 | $ 6.80 | 4-C |
| 60012D | $ 7.50 | 160012D | $ 7.50 | 4-D |
| 60024 | $10.00 | 160024 | $10.00 | 8-C |
| **THREE POSITION TYPE** | | | | Pos. 1 / Pos. 2 |
| 6036 | $ 5.00 | 16036 | $ 5.00 | 1-C / 1-C |
| 6036D | $ 5.60 | 16036D | $ 5.60 | 1-D / 1-D |
| 6038 | $ 5.60 | 16038 | $ 5.60 | 2-A / 2-A |
| 60312 | $ 6.80 | 160312 | $ 6.80 | 2-C / 2-C |
| 60312D | $ 7.50 | 160312D | $ 7.50 | 2-D / 2-D |
| 60316 | $ 8.80 | 160316 | $ 8.80 | 4-A / 4-A |
| 60324 | $10.00 | 160324 | $ 10.00 | 4-C / 4-C |
| 530 | $ 0.60 | Escutcheon plate with 4 mounting screws. For series 6000 only. | | |

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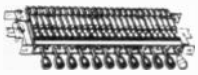
World Radio History

# SWITCHCRAFT INC.

CHICAGO 30, ILLINOIS

**"MULTI-SWITCHES"**
**"PLUGS"**
**"MICROPHONE CONTROL ADAPTER"**
**"ADAPTERS"**

## "MULTI-SWITCHES"


A

A multiple push button Switch (A), featuring choice of switching functions; 2 to 12 stations (for complete details write). Frame can be set up by user for interlock action, non-locking action, and accumulative or all-lock. Choose number of stations needed, order switching for each station as separate items, for mounting to frame by the user.

**FRAME ASSEMBLY FOR "MULTI-SWITCHES"**

| Frame Part No. | 7400 | 7600 | 7800 | 71000 | 71200 |
|---|---|---|---|---|---|
| No. of Stations | 4 | 6 | 8 | 10 | 12 |
| U.S.A. List Price | $12.00 | $16.00 | $20.00 | $24.00 | $28.00 |

Switch Stacks, for "Multi-Switches", series 70 have fine silver contacts; series 70P have welded cross bar Palladium contacts; either type rated at 3 amps., A.C. non-inductive load, 300 Watts maximum.

| SERIES 70 | | SERIES 70P | | Schematic Circuit |
|---|---|---|---|---|
| Part No. | U.S.A. List Price | Part No. | U.S.A. List Price | |
| 71 | $0.50 | 71P | $0.60 | |
| 72 | $0.50 | 72P | $0.60 | |
| 73 | $0.60 | 73P | $0.80 | |
| 73D | $0.70 | 73PD | $0.90 | |
| 76 | $0.95 | 76P | $1.15 | |

Lock-out Bars, for "Multi-Switches". For interlock function when it is desired that only one station can be depressed at one time. Assembly is added to back of frame assembly.

| Part No. | No. of Stations | U.S.A. List Price |
|---|---|---|
| K04 | 4 | $3.25 |
| K06 | 6 | $3.50 |
| K08 | 8 | $3.75 |
| K10 | 10 | $4.25 |
| K12 | 12 | $4.75 |

## SOLENOIDS "J" SERIES

A simple solenoid assembly that can be added on the end of the standard frame assembly by 2 screws.

| Part No. | U.S.A. List Price | Function Used On | Voltage |
|---|---|---|---|
| J-1 | $8.50 | Interlock | 115V A.C. |
| J-3 | $9.50 | All-lock | 115V A.C. |

## "FLAT PLUGS"

A unique design, removable cover for easy access to either screw or solder terminals; 2- and 3-cond. types. Ideal for equipment where conventional long handle may interfere.

| PART NO. | | U.S.A. List Price | DESCRIPTION |
|---|---|---|---|
| Black Handle | Red Handle | | |
| 220 | 225 | $0.90 | 2-cond. Screw term. |
| 227 | 229 | $0.85 | 2-cond. Solder term. |
| 230 | 235 | $1.30 | 3-cond. Screw term. |
| 237 | 239 | $1.25 | 3-cond. Solder term. |

## "TINI-PLUGS"

**"Tini-Plugs"**—A miniature 2-conductor Phone Plug for the **"Tini-Jax"**; about ½ the size of Switchcraft **"Littel Plug"**; similar construction. Accepts cable up to 1/16" diameter. Cable clamp terminals for soldering also screw terminal with no clamp.

| PART NO. | | U.S.A. List | DESCRIPTION |
|---|---|---|---|
| Black Handle | Red Handle | | |
| 740 | 745 | $0.75 | Screw Term. |
| 750 | 755 | $0.70 | Clamp Term. |
| Metal Handle | | | |
| 770 | | $1.05 | Screw Term. |
| 780 | | $1.00 | Clamp Term. |

"Extension Jax" for "Tini-Plug" Part No. 122 U.S.A. List $1.20

## "LITTEL-PLUG" AND "EXTENSION JAX" (NME TYPES)

440

820

Designed to meet exacting requirements of Industry and the Armed Services. Molded construction provides complete continuity of insulation in plugs. Jack per MIL-J-641A; Plugs per MIL-P-642A.

| Part No. | U.S.A. List | DESCRIPTION |
|---|---|---|
| 410 | $0.60 | 2-cond.—Solder Cup—Type PJ-291 (Old S.C. No. PL-291) Mates with No. 810 (JJ-048) Jack. |
| *430 | $1.40 | 2-cond.—Screw Term. Cable opening ¼"—Black handle—Type PJ-054B (Old S.C. No. PL-54). |
| *435 | $1.40 | Same as No. 430, except Red Handle—Type PJ-054R (Old S.C. No. PL-354). |
| 440 | $1.40 | 2-cond.—Screw Term. Black Handle—Type PJ-055B. (Old S.C. No. PL-55). |
| 445 | $1.40 | 2-cond.—Screw Term. Red Handle—Type PJ-055R. |
| *450 | $1.40 | Same as No. 430, except—Type PJ-540B—Cable Opening 9/32" (13/32" deep). (Old S.C. No. PL-540). Black Handle. |
| *455 | $1.40 | Same as No. 450, except—Type PJ-540R, Red Handle. |
| 470 | $2.00 | 2-cond.—Screw Term. Shielded Handle—Type PJ-055M (Old S.C. No. PL-125). |
| 475 | $1.95 | Shielded Handle. MIL Type PJ-636. Similar No. 70, except 2-pc handle, built-in Cable Clamp. Handle 1¾" long. |
| 480 | $3.60 | 3-cond.—Screw Term. Black Handle—Type PJ-068 (Old PL-68). |
| 810 | $0.80 | 2-cond.—Solder Lug—Type JJ-048 (Old S.C. No. JK-48), mates with No. 410 (PJ-291) Plug. |
| 820 | $2.00 | 2-cond.—Screw Term. Black Handle—Type JJ-026 (Old S.C. No. JK-26). |

**P-1074-1 $0.85 for Pkg. of 25** Strain Relief Clamp, Nickel Plate Brass.

*Mates with No. 820 (JJ-026) "Extension Jax".

## "ADAPTERS"

Various "Adapters" provide convenient interchange of equipment between various connector devices. Sturdy construction; brass nickel plated housing supports respective connecting devices.

| Part No. | U.S.A. List | DESCRIPTION |
|---|---|---|
| 331 | $14.70 | Adapter Kit contains 332, 334, 336, 338, 342, 344, 346, 348 and two 44. |
| 332 | $ 1.75 | Phone Jack Input to Female Mic Conn. Output. |
| 334 | $ 1.45 | Phono Jack Conn. Input to Female Mic. Conn. Output. |
| 335 | $ 2.95 | 2-Cond. Input Conn. 2501 MP (Amphenol 75 PC1M). Output Conn. Cannon XL-3-11. Internal wire unsoldered at one end permits Conn. to Terminal. |
| 336 | $ 1.45 | Phone Jack Input to Phono Plug Conn. Output. |
| 338 | $ 1.45 | Male Mic. Conn. Input to Phono Plug Conn. Output. |
| 339 | $ 2.95 | Same as 335. Input Conn. Cannon XL-3-12. Output Conn. 2501F. (Amphenol 75-MC1F). |
| 340 | $ 3.75 | Two 2-Cond. Jack Inputs Conn. in Par. to 2-Cond. Plug Output. Same as 310 Mini-Mix—no volume controls. |
| 342 | $ 2.60 | Dual-Pur. Bndg. Post/Ban. Jack Input to Phone Plug Output. |
| 344 | $ 1.45 | Phono Jack Conn. Input to Phone Plug Output. |
| 345A | $ 1.25 | Phone Plug Output with Phono Jack Input. Shielded. |
| 346 | $ 2.15 | Tip Jack Input to Phone Plug Output. |
| 348 | $ 1.40 | Phono Jack Input to Phono Jack Output. |
| 349A | $ 1.00 | Phono Plug Coupler, mates with Phono Plug at each end. Shielded. |

## SPECIAL "ADAPTERS"

| Part No. | U.S.A. List | DESCRIPTION |
|---|---|---|
| 49 | $ 1.50 | "Silent Plug". 2-Cond. Same application as #341. Sim. to our No. 40. 2" lg. Bl. Phen. Hndl. |
| 169 | $ 1.75 | Same as No. 49—1" Long Shield. Handle. |

## "PHONE PLUGS"

A B C D E

The "Littel-Plug" (A), radically new, fitting standard Jacks; solder lug type features clamp terminal serving as a cable clamp and terminal—perfect for metal braid cable. Screw type terminals—no clamp. Tenite or Metal handles 1⅝" L., ½" dia. Ext. metal nickel Pl.

No.'s S-250 and S-280 have a .206 dia. sleeve; mates with S-11 and S-128 Jacks. No.'s 180 and 288 have wide insulator between sleeve and tip—makes it possible to use a 2-conductor Plug in a 3-conductor Jack.

The **Standard Plugs** (B), conventional design, available both black Bakelite or metal handles 2 1/16" L. x 11/16" O.D., except No. 90 and No. 160 have metal handles 1" long. Exterior metal parts bright nickel Pl. No. 170 (E) is similar to No. 70, except 2 piece handle with built-in cable clamp: No. 190A similar to No. 90 except same handle as No. 170. No. 475 same as No. 170 but MIL construction for type PJ-636.

The **"Lug Plug"** (C), low-cost two conductor, solder lug term. Exterior metal parts bright Nickel Pl. Red or Black Tenite Handles are 1⅝" L., ½" O.D. No. 380 has metal handle 1" L., bright Nickel Pl.

**Plug Adapter** (D) used with 2501 F Connector for use with standard Jacks. See separate adapter listing.

| Part No. | U.S.A. List | Plug Type | Type Handle | Description |
|---|---|---|---|---|
| 40 | $0.75 | Standard | Black | 2-cond.* |
| 44 | $0.50 | Adapter | | 2-cond. |
| 60 | $1.05 | Standard | Black | 3-cond.‡ |
| 70 | $1.20 | Standard | Metal | 2-cond.* |
| 90 | $1.30 | Standard | Metal | 3-cond.‡ |
| 160 | $0.90 | Standard | Metal | 2-cond.* |
| 170 | $1.65 | Standard | Metal-2-pc | 2-cond.* |
| 180 | $1.05 | Standard | Metal | 2-cond.* |
| 190 | $1.50 | Standard | Metal | 3-cond.‡ |
| 190-A | $1.95 | Standard | Metal | 3-cond.‡ |
| 240 | $0.75 | Littel-Plug | Black | 2-cond.* |
| 245 | $0.75 | Littel-Plug | Red | 2-cond.* |
| 250 | $0.70 | Littel-Plug | Black | 2-cond.† |
| S-250 | $0.75 | Littel-Plug | Black | 2-cond.† |
| 255 | $0.70 | Littel-Plug | Red | 2-cond.† |
| 260 | $1.20 | Littel-Plug | Black | 3-cond.* |
| 267 | $1.05 | Littel-Plug | Black | 3-cond.† |
| 269 | $1.05 | Littel-Plug | Red | 3-cond.† |
| 270 | $1.05 | Littel-Plug | Metal | 2-cond.* |
| 280 | $1.00 | Littel-Plug | Metal | 2-cond.† |
| S-280 | $1.00 | Littel-Plug | Metal | 2-cond.† |
| R-280 | $1.25 | Littel-Plug | Metal | 2-cond.† |
| (Short sleeve for Revere Recorders, mates with No. 126 "Extension Jax") | | | | |
| 288 | $1.05 | Littel-Plug | Metal | 2-cond.† |
| 290 | $1.40 | Littel-Plug | Metal | 3-cond.* |
| 297 | $1.30 | Littel-Plug | Metal | 3-cond.† |
| 350 | $0.55 | Lug-Plug | Black | 2-cond.‡ |
| 355 | $0.55 | Lug-Plug | Red | 2-cond.‡ |
| 380 | $0.70 | Lug-Plug | Metal | 2-cond.‡ |
| 475 | $1.95 | Standard | Metal | 2-cond.* |

*Screw Terminals. †Clamp-Lug Terminals. ‡Solder-Lug Terminals.

## "SPECIAL ADAPTERS" (Cont.)

| Part No. | U.S.A. List | DESCRIPTION |
|---|---|---|
| 328 | $ 3.95 | To connect Ceramic Phono Cart. to audio amp. designed for mag. cart. Phono Jack Input (3501F) and Phono Plug Output (3501M). |
| 333 | $ 2.35 | Std. ¼" 2-Cond. Jack Input to Spcl. Plug. For Am. Gelso Recorder. |
| 341 | $ 2.95 | "Silent Plug". 2-Cond. Jack Input to 2-Cond. Plug Output. A circuit closing device when Plug is removed from equipment. |
| 343 | $ 1.95 | "Phono Adapters"—similar No. 250 "Littel Plug" with female phono jack in end of handle. Int. resistor ckt. to adapt crystal Phono or pickup from terminals of radio or T.V. set to input to Tape rec. Use as adapter with Mag. Phono, open plug and twist together opposite leads of resistor. |

**MICROPHONE CONTROL ADAPTER** for high impedance circuits to reduce or increase relative volume. Example-mic. applications (using the single cond. cable). Female mic. conn. (off center) one end to male conn. **No. 329 $6.95**



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# SWITCHCRAFT INC.

CHICAGO 30, ILLINOIS

- "MICROPHONE CONNECTORS"
- "JACK PANELS"
- "MINI-MIX"
- "MOLDED CABLE ASSEMBLIES" (Audio Jumpers)

## "JACK PANELS"

Black phenolic strip, reinforced with steel, supports Switchcraft "T-JAX" and "MT-JAX" (see separate listing). Slotted mounting brackets for standard 19" relay racks. Series 1200, single row for 24 Jacks; strip 1¾" wide. Series 2400, double row for 48 Jacks; 2⅛" wide. Series 2600, double row for 52 Jacks; 1¾" wide. Write for engineering details.

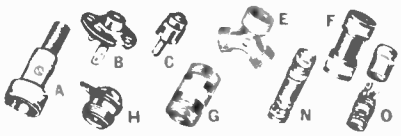
| Part No. | U.S.A. List | DESCRIPTION |
|---|---|---|
| 1200 | $18.00 | Single Row Panel, less Jacks. |
| 1232A | $45.00 | Single Row, 12 pr. closed ckt. T-332A "T-Jax". |
| 1332A | $55.00 | Single Row, 12 pr. closed ckt. MT-332A "MT-Jax". |
| 2400 | $20.00 | Double Row Panel, less Jacks. 2⅛" wide (holds 48 Jacks). |
| 2432A | $75.00 | Double Row, 24 pr. closed ckt. T-332A "T-Jax". 2⅛" wide. |
| 2532A | $95.00 | Double Row, 24 pr. closed ckt. MT-332A "MT-Jax". 2⅛" wide. |
| 2600 | $25.00 | Double Row Panel, less Jacks. 1¾" wide (holds 52 Jacks). |
| 2632A | $85.00 | Double Row with 52 No. T-332A "T-Jax". 1¾" wide. |
| 2732A | $110.00 | Double Row with 52 No. MT-332A "MT-Jax". 1¾" wide. |

## "MINI-MIX"

An unusually small 2-input Audio Mixer. Separate Volume Control directly in line with each input. Knobs recessed inside housing. Average size 2¼"x1 11/16"x1 11/16". For tape recorders to "mix" 2 different sound sources.

| Part No. | U.S.A. List | Fig. No. | DESCRIPTION |
|---|---|---|---|
| 310 | $7.95 | A | 2-cond. Phone Jack inputs with 2-cond. Plug output. (For equipment where Jack is recessed, use 8266 Cable Assembly Adapter). |
| 311 | $8.95 | A | 2-cond. plug output, long plug makes suitable for recorders with Jacks recessed such as latest Wilcox Gay, Webster Electric, V.M., etc. |
| 312 | $8.95 | A | Spc. size plug and jacks, for use with Am. Geloso Model G-255-S Tape Recorder. |
| 315 | $7.95 | B | 2-cond. Phone Jack inputs with Microphone connector output. |
| 320 | $7.95 | C | Microphone Connector inputs and output mating with standard mic. connectors. |
| 325 | $9.95 | D | For use with recorders using Jones type connectors. Fits Early Webster Recorders. |
| 326 | $9.95 | A | 3-cond. Jack Inputs with long 2-cond. Plug Output. For Webster Recorders Series 2020, 2110, and 2130. |
| 8266 | $3.75 | | Recessed Jack Adapter used with No. 310 "Mini-Mix" where equipment Jack is recessed. No. 280 "Lattel Plug" at one end. 128 Ext. Jax at other end. |

## "MICROPHONE CONNECTORS"




Series 2500, standard size Microphone Connector, designed for use with single conductor microphone cable; panel receptacle mounts in .385" hole. Series 3500, phono connector, used for phono connections.

Series 5500, "Mini-Con," a miniature MIC connector, approx. ½ the size of series 2500. Accepts cable up to 3/16" dia; panel receptacle, 5501MP mounts in 3/16" dia. hole, in panels up to ¼" thick. 5501MF mounts in ⅛" dial hole with locknut on front of panel.

### "MICROPHONE CONNECTORS"—Series 2501

| Part No. | U.S.A. List | Fig. | DESCRIPTION |
|---|---|---|---|
| 2501F | $0.60 | A | 1-contact, female, coupling ring. |
| 2501M | $0.45 | | 1-contact, male. |
| 2501MP | $0.35 | H | Panel Connector, male |
| 2501MPC | $0.45 | | Panel Connector, closed ckt. male |
| 44 | $0.50 | | Plug Adapter. |
| 25Y | $1.65 | E | Two male to one female. |
| 2501FT | $0.80 | F | Double female, for connecting 2 cables with male Connectors |
| 2501MT | $0.70 | G | Double male, for connecting 2 cables with female Connectors. |
| 2501FL | $2.25 | N | Straight Conn., 2 screw term., female, 2-pc. handle built in cable clamp. |
| 2501FS | $1.65 | O | Straight Conn. same 2501FL, except no cable clamp. |

### "PHONO CONNECTORS"

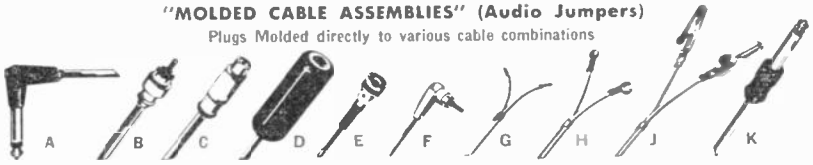
| | | | |
|---|---|---|---|
| 3501F | $0.15 | B | Phono Jack — 2 conductor. |
| 3501M | $0.10 | C | Phono Plug — 2 conductor. |
| 3501MC | $0.15 | | Phono Plug — 2 conductor cable clamp (type). |
| 3501FC | $0.32 | | Phono Extension Jax. |

### "MINI-CON" CONNECTORS—Series 5501

| | | | |
|---|---|---|---|
| 5501F | $0.60 | | 1-contact, female, coupling ring. |
| 5501M | $0.45 | | 1-contact, male. |
| 5501MF | $0.45 | | Panel Conn., male, mounts front side panel |
| 5501MP | $0.35 | | Panel Conn., male, mounts back side |

## "MOLDED CABLE ASSEMBLIES" (Audio Jumpers)

Plugs Molded directly to various cable combinations




### Right Angle Phone Plug to Various Connections

| Part No. | U.S.A. List | Connector or Termination One End | Other End | Length | Cable |
|---|---|---|---|---|---|
| 8001 | $2.60 | A | A | 72" | Shield. |
| 8002 | $3.50 | A | A | 120" | Shield. |
| 8003 | $4.75 | A | A | 25 Ft. | Shield. |
| 8021 | $2.00 | A | B | 72" | Shield. |
| 8022 | $2.75 | A | B | 120" | Shield. |
| 8041 | $2.20 | A | C | 72" | Shield. |
| 8042 | $3.00 | A | C | 120" | Shield. |
| 8061 | $2.60 | A | D | 72" | Shield. |
| 8062 | $3.50 | A | D | 120" | Shield. |
| 8063 | $4.75 | A | D | 25 Ft. | Shield. |
| 8081 | $2.60 | A | E | 72" | Shield. |
| 8082 | $3.50 | A | E | 120" | Shield. |
| 8083 | $4.75 | A | E | 25 Ft. | Shield. |
| 8161 | $2.00 | A | F | 72" | Shield. |
| 8162 | $2.75 | A | F | 120" | Shield. |
| 8181 | $1.40 | A | G | 72" | Unshield. |
| 8182 | $1.90 | A | G | 120" | Unshield. |
| 8201 | $1.50 | A | H | 72" | Unshield. |
| 8202 | $2.00 | A | H | 120" | Unshield. |
| 8221 | $1.90 | A | J | 72" | Unshield. |
| 8222 | $2.40 | A | J | 120" | Unshield. |

### Straight Phone Plug to Various Connections

| Part No. | U.S.A. List | Connector or Termination One End | Other End | Length | Cable |
|---|---|---|---|---|---|
| 8301 | $2.60 | K | K | 72" | Shield. |
| 8302 | $3.50 | K | K | 120" | Shield. |
| 8303 | $4.75 | K | K | 25 Ft. | Shield. |
| 8321 | $2.00 | K | B | 72" | Shield. |
| 8322 | $2.75 | K | B | 120" | Shield. |
| 8341 | $2.20 | K | C | 72" | Shield. |
| 8342 | $3.00 | K | C | 120" | Shield. |
| 8361 | $2.60 | K | D | 72" | Shield. |
| 8362 | $3.50 | K | D | 120" | Shield. |
| 8363 | $4.75 | K | D | 25 Ft. | Shield. |
| 8381 | $2.60 | K | E | 72" | Shield. |
| 8382 | $3.50 | K | E | 120" | Shield. |
| 8383 | $4.75 | K | E | 25 Ft. | Shield. |
| 8401 | $2.60 | K | A | 72" | Shield. |
| 8402 | $3.50 | K | A | 120" | Shield. |
| 8421 | $2.00 | K | F | 72" | Shield. |
| 8422 | $2.75 | K | F | 120" | Shield. |
| 8441 | $1.40 | K | G | 72" | Unshield. |
| 8442 | $1.90 | K | G | 120" | Unshield. |
| 8461 | $1.50 | K | H | 72" | Unshield. |
| 8462 | $2.00 | K | H | 120" | Unshield. |
| 8481 | $1.90 | K | J | 72" | Unshield. |
| 8482 | $2.40 | K | J | 120" | Unshield. |

### Right Angle Phono Plug to Various Connections

| Part No. | U.S.A. List | Connector or Termination One End | Other End | Length | Cable |
|---|---|---|---|---|---|
| 8501 | $1.05 | F | F | 18" | Shield. |
| 8502 | $1.20 | F | F | 36" | Shield. |
| 8503 | $1.35 | F | F | 48" | Shield. |
| 8504 | $1.50 | F | F | 72" | Shield. |
| 8505 | $2.00 | F | F | 120" | Shield. |
| 8521 | $1.25 | F | C | 18" | Shield. |
| 8522 | $1.35 | F | C | 36" | Shield. |
| 8523 | $1.75 | F | C | 72" | Shield. |
| 8524 | $2.00 | F | C | 120" | Shield. |
| 8541 | $2.00 | F | D | 72" | Shield. |
| 8542 | $2.75 | F | D | 120" | Shield. |
| 8561 | $2.45 | F | E | 72" | Shield. |
| 8562 | $3.35 | F | E | 120" | Shield. |
| 8563 | $4.60 | F | E | 25 Ft. | Shield. |
| 8581 | $0.75 | F | G | 36" | Unshield. |
| 8582 | $0.90 | F | G | 72" | Unshield. |
| 8583 | $1.40 | F | G | 120" | Unshield. |
| 8591 | $0.95 | F | G | 36" | Shield. |
| 8592 | $1.15 | F | G | 72" | Shield. |
| 8593 | $1.65 | F | G | 120" | Shield. |
| 8601 | $1.00 | F | H | 72" | Unshield. |
| 8602 | $1.50 | F | H | 120" | Unshield. |
| 8621 | $1.75 | F | J | 72" | Unshield. |
| 8622 | $2.25 | F | J | 120" | Unshield. |

### Straight Phono Plug to Various Connections

| Part No. | U.S.A. List | Connector or Termination One End | Other End | Length | Cable |
|---|---|---|---|---|---|
| 8641 | $1.05 | B | B | 18" | Shield. |
| 8642 | $1.20 | B | B | 36" | Shield. |
| 8643 | $1.35 | B | B | 48" | Shield. |
| 8644 | $1.50 | B | B | 72" | Shield. |
| 8645 | $2.00 | B | B | 120" | Shield. |
| 8661 | $1.25 | B | C | 18" | Shield. |
| 8662 | $1.35 | B | C | 36" | Shield. |
| 8663 | $1.75 | B | C | 72" | Shield. |
| 8664 | $2.00 | B | C | 120" | Shield. |
| 8681 | $2.00 | B | D | 72" | Shield. |
| 8682 | $2.75 | B | D | 120" | Shield. |

### MOLDED CABLE ASSEMBLIES (Cont.)

| Part No. | U.S.A. List | Connector or Termination One End | Other End | Length | Cable |
|---|---|---|---|---|---|
| 8701 | $2.45 | B | E | 72" | Shield. |
| 8702 | $3.35 | B | E | 120" | Shield |
| 8703 | $4.60 | B | E | 25 Ft. | Shield. |
| 8721 | $1.50 | B | F | 72" | Shield |
| 8722 | $2.00 | B | F | 120" | Shield. |
| 8741 | $0.75 | B | G | 36" | Unshield. |
| 8742 | $0.90 | B | G | 72" | Unshield. |
| 8743 | $1.40 | B | G | 120" | Unshield. |
| 8751 | $0.95 | B | G | 36" | Shield. |
| 8752 | $1.15 | B | G | 72" | Shield. |
| 8753 | $1.65 | B | G | 120" | Shield. |
| 8761 | $1.00 | B | H | 72" | Unshield. |
| 8762 | $1.50 | B | H | 120" | Unshield. |
| 8781 | $1.75 | B | J | 72" | Unshield. |
| 8782 | $2.25 | B | J | 120" | Unshield. |

### SPECIAL CABLE ASSEMBLIES

| | | | | | |
|---|---|---|---|---|---|
| 8801 | $0.90 | H | H | 120" | Unshield. |
| 8802 | $1.75 | H | H | 25 Ft. | Unshield. |
| 8821 | $1.70 | J | J | 120" | Unshield. |
| 8822 | $2.55 | J | J | 25 Ft. | Unshield. |
| 8841 | $2.00 | E | E | 36" | Shield. |
| 8842 | $2.50 | E | E | 72" | Shield. |
| 8843 | $3.50 | E | E | 144" | Shield. |
| 8844 | $5.00 | E | E | 25 Ft. | Shield. |

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World Radio History

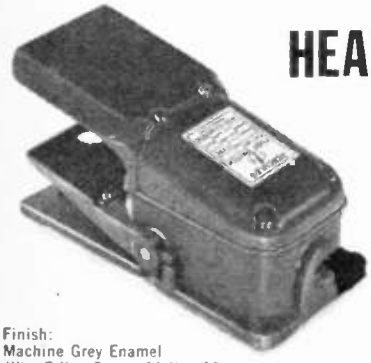
# LINEMASTER

## AMERICA'S FOOT SWITCH LEADER

LINEMASTER

## HERCULES

### HEAVY DUTY



**FOOT SWITCH LINE**

- Rugged
- Cast Iron Enclosure
- Safety-Guarded

- 2 Contact Types
- 4 Classes • 40 Models

Finish:
Machine Grey Enamel
Wt : 7 lbs. 2 oz —11 lbs. 10 oz.
Size: 8 7/16" x 4-5/16" x 4-1/2"

Interior steel parts are cadmium plated or otherwise treated to resist corrosion. All terminals face up for easy wiring upon unfastening cover guard. Casing has 1/2 inch threaded hole for conduit pipe. Pedal position trip point is minutely adjustable. Two and three stage switches have distinct "FEEL" between stages. Special circuit combinations can be supplied in addition to those listed below.

| Class—Voltage Rating | Contact Type | Single Stage SP DT | Single Stage DP DT | Single Stage TP DT | 2-Stage SP DT | 3-Stage SP-DT |
|---|---|---|---|---|---|---|
| General Purpose 125-480 V. AC-20 amps | Maintained | 561-D | 562-D | 563-D | 564-D | 565-D |
| | Momentary | 521-S | 522-S | 523-S | 524-S | 525-S |
| Water Tight NEMA Type 4 125-480 V. AC 20 amps | Maintained | 571-DW | 572-DW | 573-DW | 574-DW | 575-DW |
| | Momentary | 531-SW | 532-SW | 533-SW | 534-SW | 535-SW |
| Explosion Proof Class 1, Group D NEMA Type 7 125-480 V. AC 20 amps | Maintained | 581-DX | 582-DX | 583-DX | 584-DX | 585-DX |
| | Momentary | 541-SX | 542-SX | 543-SX | 544-SX | 545-SX |
| High DC Rated 125 V. DC-10 amps | Maintained | 591-DDC | 592-DDC | 593-DDC | 594-DDC | 595-DDC |
| | Momentary | 551-SDC | 552-SDC | 553-SDC | 554-SDC | 555-SDC |

Tip-Toe Control for Tip-Top Production!

## LINEMASTER, Jr.

### FOOT SWITCH

#121-S & #122-S

Lightweight, sensitive... ideal for women workers! Needs only a touch of the toe, while heel remains comfortably on the floor.

Aluminum housing, black crackle finish. Weight 1 lb. 5½" long, 3¼" wide, 1¼" high. Rated at 15 amps., 115 volts A.C.; 15 amps., 250 volts A.C. Can be wired to operate as single pole, normally open; single pole, normally closed; or single pole double throw. Momentary Contact only.
#122-S—Rated at 20 amps., 115-250 volts A.C.

The LINEMASTER

## CLIPPER SWITCH

*in two models:*

1. **Momentary contact** (press to start—release to stop)
2. **Maintained contact** (press to start—press to release)

Rugged Momentary Contact Clipper has proved invaluable to product engineers and machine operators. Maintained Contact Clipper is now available for heavy duty applications. Molded nylon actuating cams; rugged cast iron housings, sponge rubber skid pads. Weight: 2½ lbs. Size: 4½" x 3½" x 1½".

#632-S—AC Rating: 20-A, 125-250V, Momentary Contact, Single Pole, Double Throw.

#634-S—AC Rating: 10-A, 125-250V, Momentary Contact, Double Pole, Double Throw.

#632-D—AC Rating: 20-A, 125-250V, Maintained Contact, Single Pole, Double Throw.

#634-D—AC Rating: 10-A, 125-250V, Maintained Contact, Double Pole, Double Throw.

The LINEMASTER

## EXECUTIVE

#B-2-S

*Two Switches in One • "On-Center" Mechanical Interlock!*

This handsome switch is fool-proof and easy-to-operate! Selective circuits and guaranteed interlock eliminate possibility of accidentally tripping both circuits simultaneously, while low, wide casing saves excessive leg movement — foot pivots easily from one side to the other.
Easy to wire—remove only one screw and switch is ready. Either interior (or both) may be wired as normally open or normally closed—single pole—double throw.

Heavy steel housing, baked hammertone grey finish. Wt., 14 oz., 4⅝" long, 4" wide, 1¼" high. Each interior rated at 15 amps at 125-250 volts A.C.

The LINEMASTER

## CADET

**the "little giant" in foot switches that operates from *any angle***

#HB-2

Small only, 1⅛" high 3⅝" in diameter . . .
Lightweight, just 11 oz. including cordset . . .
Rugged, with heavy steel housing and unbreakable plastic actuating cap, the Cadet is an extremely compact foot switch that will give years of service in hundreds of different applications. It is well designed with an attractive grey hammertone effect casing, maroon cap and non-skid sponge rubber base for perfect positioning. The slightest pressure on the actuating cap from any angle puts the switch in operation. The operator has better control of work resulting in better production. Single pole, double throw, momentary contact only. Wired normally open. Rating 5A at 110V and 250V. Furnished with heavy duty 6 ft. 18-2SV black rubber cordset, series plug and molded strain relief grommet.

**"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"**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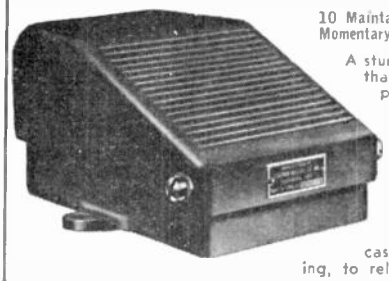
World Radio History

# LINEMASTER

**PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS**

LINEMASTER

## "SENIOR" 4000 SERIES



10 Maintained and Momentary Contact Models

A sturdy industrial-type switch that operates with light pressure from foot or knee, leaving both hands free for work. Economical and built to give years of trouble-free service — fully enclosed and hooded for protection against dirt and chips, with additional heavy spring and cast stop under cover casting, to relieve pressure and strain on spring inside switch proper

Heavy-duty cast iron housing; black crackle enamel finish. 7" long, 4" wide, 3¼" high. Weight, 5¼ lbs.

MAINTAINED CONTACT MODELS: Press to start—press to stop.

MOMENTARY CONTACT MODELS: Press to start—release to stop.

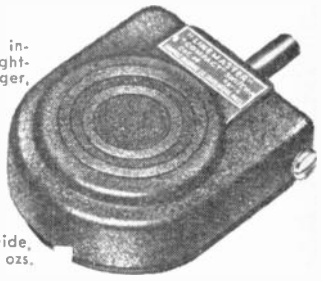
| ELECTRICAL CHARACTERISTICS | | | | | | MAINTAINED CONTACT | MOMENTARY CONTACT |
|---|---|---|---|---|---|---|---|
| Descrip. | Amperes AC | Amperes DC | Volts | Horse-power | Ph. | Cat. No. | Cat. No. |
| D-P | 20 | 20 | 125 | 1 | 1 | | |
| S-T | 20 | 20 | 250 | 1 | 1 | 4141-D | 4141-S |
| D-P | 10 | 10 | 125 | ½ | 1 | | |
| D-T | 5 | 5 | 250 | ½ | 1 | 4142-D | 4142-S |
| S-P | 15 | 15 | 125 | ½ | 1 | | |
| D-T | 10 | 10 | 250 | ½ | 1 | 4143-D | 4143-S |
| D-P | 15 | | 115 | 1 | 1 | | |
| S-T | 15 | | 230 | 2 | 1 | 4151-D | 4151-S |
| | 5 | | 575 | 2 | 1 | | |
| Three | 15 | | 115-230 | 2 | 3 | | |
| Pole | 5 | | 575 | 2 | 3 | 4351-D | 4351-S |

Safety guard available for all above models.

The LINEMASTER

## COMPACT

*Amazingly versatile—amazingly low-priced!*



Small, lightweight — and instantly responsive to the slightest pressure of foot, finger, knee or elbow! Substantially built to insure long life, with an actuating mechanism superior to any other on the market today.

Available in a wide variety of wiring plans. Strong steel housing, black crackle finish. 2¾" long, 2½" wide, ⅞" high. Weight, 6½ ozs. Momentary contact only.

| Cat. No. | DESCRIPTION | RATING |
|---|---|---|
| 491-S | Single Pole, Double Throw A.C. only | 10A at 115V<br>10A at 230V |
| 492-S | Single Pole, Double Throw A.C. only | 20A at 115V<br>20A at 230V |
| 493-S | Single Pole. Single Throw A.C. only. double break | 10A at 115V<br>5A at 230V |
| 494-S | 2 interiors so arranged as to simulate D-P-D-T | 10A at 115V<br>5A at 230V |
| 495-S | Single Pole, Double Throw A.C. | 15A at 125V<br>15A at 250V<br>15A at 460V |
| 496-S | **Foto with cord & light, Single** Pole, Double Throw A.C. | 20A at 115V<br>20A at 230V |

Twin Compacts Available: Two 491-S Switches Mounted On A Twin Base. Cat. No. 491-S Twin

The LINEMASTER

## TREADLITE

*Trim, small, lightweight, instantaneous!*

**MODEL T-51-S** — Accurate control in a modern, minute, treadle switch! Single pole, double throw, momentary contact interior, that can be wired open or closed. Rubber base pad and rubber-ribbed treadle, formed steel casing with black crackle finish. Interior rated at 5 amps., 110 volts and 250 volts A.C. Weight 7 ozs.; 3½" long, 2⅝" wide, 1" high (Supplied on order, wired with 6' cord and series plugs.)

**MODEL T-52-S** — ONE treadle activates TWO switching operations! A partial downward stroke opens or closes one circuit, added pressure actuates the second circuit. Both interiors, as well as exterior, meet specifications for single-switching Model T-51-S.

LINEMASTER

## "NAUTILUS"

### FOOT SWITCH

*waterproof • dustproof • oilproof • rustproof*

A truly great development by Linemaster. The Nautilus is waterproof, dustproof, oilproof, rustproof. Rugged Aluminum casting for long life. Piston type actuator sealed with "O" ring. Electrical interior "well" sealed with "O" ring.

Size: 8" x 4" x 2¼" Wt.: 2 lbs., 8½ ozs.

Cat. No. WP541-S 20 Amp. 125-250 VAC SPDT momentary

Cat. No. WP541-D 12 Amp. 125 VAC SPDT maintained

The LINEMASTER

## LEKTRO-LOK SWITCH

*Small, sensitive, automatically safe*

*Particularly ideal for transmission equipment!*

#L-2-S

Mechanical Interlock allows only one circuit to function at a time—and you can depend on it! LEKTRO-LOK operates on the teeter-totter system, with selective circuits. Pressure on one side actuates one circuit, release of pressure automatically returns switch to normal "off" position. Pressure on the other side is required before second switch is actuated, independent of first. Yet LEKTRO-LOK requires only a single cord—eliminates costly harness assemblies! Rugged stamped metal housing, black crackle finish. Weight, 10 ozs. 5" long, 2¾" wide, 1¼" high. Single pole, double throw. Rating (A.C. only) 15 amps at 125 volts, 15 amps. at 250 volts.

LEKTRO-LOK is available, and can be supplied to your specifications, in many electrical combinations, such as:

| | |
|---|---|
| Single pole, single throw, A.C. only | 10 A at 115V |
| Double break | 5 A at 230V |
| Interiors so arranged as to simulate | 10 A at 115V |
| Double pole, double throw | 5 A at 230V |

# LINEMASTER SWITCH CORPORATION

WOODSTOCK, CONNECTICUT

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World Radio History

# LICON® Precision Switches

## LICON TYPE 16 SUBMINIATURE SWITCHES

TYPE 16 ACTUATORS

**70-2510 OIL TIGHT PUSHBUTTON**
Available in round or hex head in aluminum. Red, Yellow, Black, Green, Orange, Blue or Olive Drab. Also available in DPDT as 70-2520.

**70-223 PANEL MOUNT PUSHBUTTON**
15/32" Bushing—White nylon plunger or specify color—in 2, 3 or 4 pole.

**70-222 MINIATURE PUSHBUTTON**
¼"-20 threaded bushing, also with 5/32" overtravel as type 70-226.

Type 16 offers extremely long life (over 20,000,000 cycles) and big switch performance in a subminiature unit—rated 10 amps 30 VDC inductive (L/R = .026) yet measures only ¼" thick and 25/32" long. Offers exceptional shock and vibration resistance—meets MIL-S-6743. Wide variety of actuators and terminal types offer unusual flexibility in application.

TYPE 16-104

TYPE 16-304

TYPE 16-404

Type 104 and 304 also avalaible in reset styles.
Type 404 also available with taper tab terminals.

Type 16 also offers wide engineered flexibility in specials — Licon engineers can adapt the type 16 to suit individual requirements. Especially adaptable to aircraft and guided missile applications where size, vibration resistance, and capacity are critical.

TYPE 16 ACTUATORS

**70-421 TOGGLE ACTUATOR**
2 to 5 poles

**70-120 PIVOTED ROLLER LEVER**
Also available without roller as 70-121.

**70-320 SPRING LEAF**
Also available with roller actuator as 70-321.

## LICON TYPE 30 INDUSTRIAL ENCLOSED LIMIT SWITCH

**SEALED SWITCHES**
- 30-200 PLUNGER SWITCH
- 30-400 ROLLER ARM SWITCH
- 30-600 PALM BUTTON SWITCH
- 30-700 ROLLER PLUNGER SWITCH

**UNSEALED SWITCHES**
- 30-100 OVERTRAVEL PLUNGER SWITCH
- 30-300 ROLLER ARM SWITCH
- 30-500 ROLLER PLUNGER SWITCH

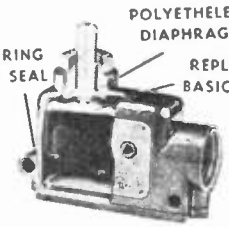
**ACTUATORS**

**70-101 LEVER ACTUATOR**
Used to convert 30-200, sealed plunger switch to 30-400 sealed roller arm; 30-100 plunger switch to 30-300 roller arm.

**70-102 PALM BUTTON ACTUATOR**
Used to convert 30-200 Sealed Plunger Switch to 30-600 Sealed Palm Button switch. Also attaches to 30-100.

Type 30 is versatile—3 actuators and 3 housings provide 16 switch types — its effective oil tight sealing is accomplished without boots. Used for industrial control, limit and safety applications. Aluminum diecast housing — adequate wiring room. ½"-14 internal tap conduit hub. Excellent mounting means — wide variety of actuators. Actuation is sensitive. Rated 15 amp 125, 250, 460V A.C. ½ amp 115V D.C. Tested life 10,000,000 cycles. Types listed are interchangeable with all 16 competitive types.

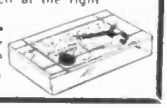
MICROMETER SCREW ADJUSTMENT




**Switchpak CONTROL COMPONENTS**

Handy plastic kit contains three complete switches, two accessory actuators and optional base mounting plates. Perfect for on-the-job maintenance. Have the right switch at the right time—get Switchpak containing . . .

*Sealed Plunger Switch • Overtravel Plunger Switch • Roller Plunger Switch • Palm Button Actuator • Lever Actuator and three optional base mounting plates*



PRICE: $24.40

## LICON TYPE 22 DOUBLE POLE DOUBLE THROW SWITCHES

TYPE 22-104
Also reset model Type 22-114

Type 22 features DPDT high current interruption, outstanding vibration resistance (over 25 G's @ 2000 cps.), long dependable life (10,000,000 cycles) and a wide variety of circuit combinations offered by four separate circuits. Switch is rated 10 amp 125/250V A.C. and 30V D.C.

TYPE 22-304
Also reset model Type 22-314



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World Radio History

# LICON® Precision Switches

## LICON TYPE 10 PRECISION BASIC SWITCHES

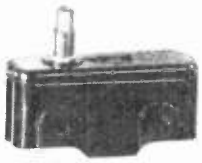
TYPE 10-122

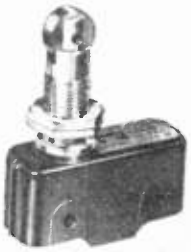
Features extremely sensitive operation plus long life and high electrical rating. Over 10,000,000 actuations by test. Movement differential of .001 on standard types. 15 amp: 125, 250, 460V A.C. Meets government specs. ½ amp: 125V D.C. U.L. Approved.

TYPE 10-72237

### SPLASH PROOF SEAL

Sealing against moisture, dirt and other harmful elements can be provided by a neoprene boot for most type 10 models without altering switch characteristics. Specify by adding 301 to part number, i.e., 10-122301.


TYPE 10-222

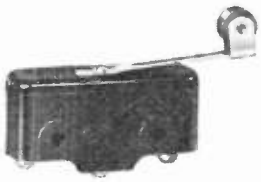

TYPE 10-922

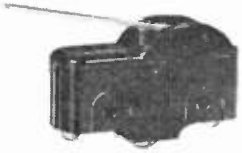
TYPE 10-322

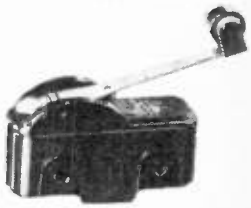
Type 10 switches shown are normally supplied with .020" contact gaps with 15 amp rating. Gaps of .010" to .070" and ratings to 20 amps are also available.

TYPE 10-822

TYPE 10-422


TYPE 10-522


TYPE 10-622


TYPE 10-722

## LICON TYPE 11 PRECISION BASIC SWITCHES

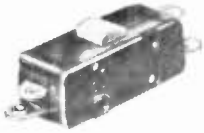
TYPE 11 ACTUATORS

70-104

70-301

Type 11 combines small size, long life, high rating and double break in one reliable package. Government approved. Rated 10 amps, 30V D.C., 125 or 250V A.C. U.L. Approved. Tested over 20,000,000 life cycles.

TYPE 11-104

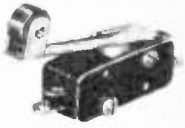


TYPE 11-204

TYPE 11-304

RESET MODEL AVAILABLE WITH END OR SIDE TERMINALS

TYPE 11 ACTUATORS


70-302

70-201

## LICON TYPE 14 HEAVY DUTY SNAP-ACTION SWITCHES

TYPE 14-124

Rugged, dependable Type 14 switches feature 30,000,000 life cycles by test. Rated 20 amps, 250V A.C. Normally supplied with .020" movement differential. Available with .010" to over .040" movement differential, in choice of mounting means and terminal designs. Operating force normally 12 oz. but can be from 100 grams to 2 lbs. Best suited to industrial and machine tool applications.

TYPE 14-12403

BOTH SWITCH TYPES AVAILABLE IN RESET MODELS

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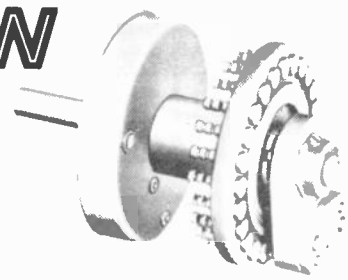
World Radio History

# the versatile, new DAVEN Adjustable Stop Switch



For flexibility in all types of circuit experimentation, laboratory work, breadboard setups, and in circuitry where the exact number of switch positions can be changed at any time. Maximum of either 24 positions with 15 spacing or 32 positions with 11¼ spacing. One, two, three, and four pole units available.

Features • sturdy, dependable construction; large silver alloy contacts and slip rings; tamper-proof, KNEE ACTION silver alloy rotor blades; high grade, accurately machined dielectric and gold flashed turret-type terminals for ease of soldering.

Constructed to meet and exceed applicable military specifications on humidity, moisture, environment, temperature cycling, contact resistance, life, vibration and shock.

Available from stock through your local DAVEN distributor.

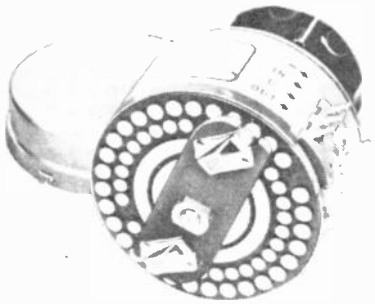
## Adjustable in the Following Combinations:

| | | |
|---|---|---|
| **Adjustable Stop with a Maximum of 24 Positions** | **15° Between Positions** | **Shorting** |
| 11 CM-24A | 1 pole | 24 pos. max per pole |
| 21 CM-12A | 2 poles | 12 pos. max. per pole |
| 31 CM-8A | 3 poles | 8 pos. max. per pole |
| 41 CM-5A | 4 poles | 5 pos. max. per pole |
| **Adjustable Stop with a Maximum of 12 Positions** | **30° Between Positions** | **Non-Shorting** |
| 11 CB-12A | 1 pole | 12 pos. max. per pole |
| 21 CB-6A | 2 poles | 6 pos. max. per pole |
| 31 CB-4A | 3 poles | 4 pos. max. per pole |
| 41 CB-3A | 4 poles | 3 pos. max. per pole |
| **Adjustable Stop with a Maximum of 32 Positions** | **11¼° Between Positions** | **Shorting** |
| 12 CM-32A | 1 pole | 32 pos. max. per pole |
| 22 CM-15A | 2 poles | 15 pos. max. per pole |
| 32 CM-10A | 3 poles | 10 pos. max. per pole |
| 42 CM-7A | 4 poles | 7 pos. max. per pole |
| **Adjustable Stop with a Maximum of 16 Positions** | **22½° Between Positions** | **Non-Shorting** |
| 12 CB-16A | 1 pole | 16 pos. max. per pole |
| 22 CB-8A | 2 poles | 8 pos. max. per pole |
| 32 CB-5A | 3 poles | 5 pos. max. per pole |
| 42 CB-4A | 4 poles | 4 pos. max. per pole |

**These units are exact equivalents of standard catalog switches.**

# DAVEN Attenuators

**For Broadcast, TV, Recording and Geophysical Applications**



| | |
|---|---|
| SP-4627 | CP-354-X |
| CP-354-T | T-330-G |
| SP-4633 | T-330-K |
| LA-350-EF | T-321-G |
| LAQ-350-EF | T-255-G |
| LA-350-G | LA-350-AH |
| TA-1000-1 | CP-350-T |
| TA-1000-4 | CP-350-Y |

# DAVOHM SERIES 850 RESISTOR

**hermetically sealed, precision metal film type**

To fill the gap between wire-wound and deposited carbon type resistors, Daven has developed the Series 850 with these characteristics: high stability, hermetically sealed, small size, lower cost, immediate availability.

| | MIL-R-10509B Allowable Change | Series 850 Typical Change |
|---|---|---|
| Temperature Cycling | 1% | 0.02% |
| Low Temperature Exposure | 3% | 0.04% |
| Short Time Overload | 0.5% | 0.02% |
| Effect of Soldering | 0.5% | 0.02% |
| Moisture Resistance | 5.0% | 0.08% |
| Voltage Coefficient | 0.002% | 0.000% |
| Load-Life (per 1000 hours) | 1% | 0.2% |
| Temperature Coefficient (PPM° C.) | ±500 | +360±20 |

*Available in popular values from your local DAVEN distributor.*

# SUPER DAVOHM ENCAPSULATED PRECISION WIRE WOUND RESISTORS

Wattage ratings shown are maximum military wattage ratings at 125°C. Maximum commercial wattages at 125°C are double these ratings.

**MIL TYPES AND DAVEN EQUIVALENTS**

| MIL Spec | Mil Types | Daven Type No. | Dia. In. | Length In. | Mil Watts MIL-R-93B | Mil Watts MIL-R-9444 | Mil Max. Volts | Daven Max. Ohms |
|---|---|---|---|---|---|---|---|---|
| MIL-R-93B | RB 54 | 1195 | ¼ | ¾ | *.250 | | | 1 Meg |
| | RB 55 | 1250 | ¼ | ½ | *.15 | | | 500K |
| MIL-R-9444 (USAF) | AFRT 10 | 1250 | ¼ | ½ | | *.125 | 150 | 500K |
| | AFRT 11 | 1195 | ¼ | ¾ | | *.250 | 300 | 1 Meg |
| | AFRT 18 | 1174 | ½ | ⅝ | | *.500 | 300 | 1 Meg |

Standard Tolerance is 1% *MIL WATTS AT 125°C

THE DAVEN CO.
Livingston, New Jersey

**Available in Popular Values From Your Local DAVEN Distributor**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# Birnbach

## ARROW H&H SWITCHES
**TOGGLE • PUSH BUTTON • ROTARY • KNIFE • POWER • SLIDE**

1

### 1 MOMENTARY CONTACT PUSH BUTTON

Solder lugs; laminated type. Has 9/16" slotted sleeve, 15/32-32 TPI Complete with hex and knurled nut; nickel plated; all accept snap on button. Supplied less insulating button.

**QUICK MAKE AND BREAK**

| Cat. No. | Descrip. | Type | Current Rating 250 V | List Price |
|---|---|---|---|---|
| 6184 | SPST | Normally Closed (On) | .3 amps. | 2.15 ea |
| 6184A | SPST | Normally Open (Off) | .3 amps. | 2.15 ea |
| 6185A | SPDT | Normally Closed (On) | .1 amp | 2.45 ea |
| 6185 | SPDT | Normally Open (Off) | .1 amp | 2.45 ea |
| 6186 | 2 Circ. | Normally Closed (On) | .1 amp | 2.50 ea |
| 6231A | DPST | Normally Closed (On) | .1 amp | 3.00 ea |
| 6231 | DPST | Normally Open (Off) | .1 amp | 3.00 ea |
| 6231B | DPDT | Normally Closed (On) | .1 amp | 3.45 ea |
| 6232 | Button only, red or black | | | .40 ea |

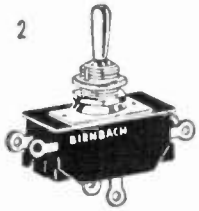
Std. Pkg. 25

**SLOW MAKE AND BREAK**

| Cat. No. | Descrip. | Type | Current Rating 125 V | List Price |
|---|---|---|---|---|
| 6180 | SPST | Normally Closed (On) | .1 amp | 1.20 ea |
| 6230 | SPST | Normally Open (Off) | .1 amp | 1.20 ea |
| 6224 | 2 Circ. | Normally Closed (On) | .1 amp | 1.55 ea |

Std. Pkg. 25

2



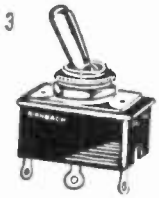
### 3 INTERMEDIATE SIZE TOGGLE-BAT

Molded phenolic base; back connected silver plated solder lug contacts; supplied with hex nut and knurled nut. SPDT rated at 1 amp-250V, 6 amps.-125 volts AC-DC; others rated at 3 amps-250V, 6 amps.- 125V AC-DC.

Std. Pkg. 25

| Cat. No. | Description | Type Action | List Price |
|---|---|---|---|
| 6280 | SPST | POSITIVE | 1.45 ea |
| 6280A | SPST | MOMENTARY OFF | 2.10 ea |
| 6281 | SPDT | POSITIVE | 1.75 ea |
| 6281A | SPDT | MOMENTARY | 2.30 ea |
| 6284 | 2 CIRC. | POSITIVE | 1.80 ea |
| 6282 | DPST | POSITIVE | 2.15 ea |
| 6282A | DPST | MOMENTARY OFF | 2.70 ea |
| 6283 | DPDT | POSITIVE | 2.50 ea |
| 6283A | DPDT | MOMENTARY | 3.30 ea |

3



### 2 THREE POSITION—CENTER OFF

Rated 3 amps-250 V, 6 amps-125 V AC-DC

| Cat. No. | | List Price |
|---|---|---|
| 6261 | SPDT | 2.65 ea |
| 6262 | 2 CIRC. | 3.00 ea |
| 6263 | DPDT | 3.30 ea |

Std. Pkg. 25

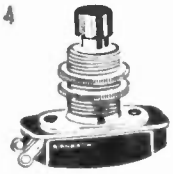
### 2 BAKELITE MOLDED MOMENTARY CONTACT SWITCHES

Same as above except momentary. SPST Normally Off. 3 A., 250 V. UL approved. Rated 6 A., 125 V.

| Cat. No. | Description | Shank Length | List Price |
|---|---|---|---|
| 6241 | SPST | 1/2" | 2.10 ea |
| 6240 | SPDT | 1/2" | 2.30 ea |
| 6242 | DPDT | 1/2" | 3.30 ea |

Std. Pkg. 25

4



### 4 MOMENTARY PUSH BUTTON

Molded momentary, solder lugs. Rated 1 A., 125 V. With 9/16" shank, normally OFF—push to make. Nickel plated. UL approved.

| Cat. No. | Descrip. | Std. Pkg. | List Price |
|---|---|---|---|
| 6233 | SPST | 25 | 1.28 ea |
| 6234 | SPDT | 25 | 1.50 ea |
| 6235 | DPST | 25 | 1.78 ea |
| 6236 | DPDT | 25 | 2.30 ea |

### 6 MIDGET SIZE TOGGLE POS. ACTION

SPST Rated 3 Amps—250 Volts, 6 amps—125 Volts. Others Rated 1 Amp—250 Volts, 6 amps—125 Volts. Molded Phenolic base, 15/32—32 x 15/32" long slotted sleeve. Nickel finish; solder lugs.

| Cat. No. | Description | Type | List Price |
|---|---|---|---|
| 6244 | SPST | Ball Handle | 1.25 ea |
| 6244A | SPST | Bat Handle | 1.25 ea |
| 6244B | SPDT | Ball Handle | 1.45 ea |
| 6244C | SPDT | Bat Handle | 1.45 ea |
| 6244D | 2 circ. | Ball Handle | 1.50 ea |
| 6244E | 2 circ. | Bat Handle | 1.50 ea |

Std. Pkg. 25

6

### 16 ROTARY SWITCHES CANOPY TYPE—ROTO LOCK

Laminated phenolic sections—solder lugs; sleeve 11/32" diam. 32 threads per inch; nickel finish; Rotary switches supplied with two hex nuts; roto lock key types have 15/32" diam. 32 threads per inch; key removable in off position only on SPST and DPST—key removable in both positions on all others.

SPST rated at 3 amps-250 V AC-DC, others rated at 1 amp-250 V, 3 amps-125 volts AC-DC.

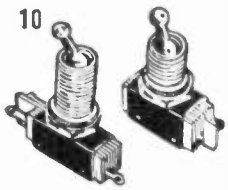
**Roto Lock (Key Type)**

| Cat. No. | Description | Std. Pkg. | List Price |
|---|---|---|---|
| 6110 | SPST | 12 | 2.15 ea |
| 6111 | SPDT | 12 | 2.35 ea |
| 6112 | DPST | 12 | 3.00 ea |
| 6113 | DPDT | 12 | 3.25 ea |
| 6114 | Key—Rem. Off Pos. | 100 | .35 ea |
| 6115 | Key—Rem. Both Pos. | 100 | .35 ea |

**Canopy type rotary**

| Cat. No. | Description | | | List Price |
|---|---|---|---|---|
| 6210 | SPST | 3/4" | 1 1/8" | 1.35 ea |
| 6211 | SPST | 1" | 2 1/8" | 1.78 ea |
| 6212 | SPDT | 3/4" | 1 1/8" | 1.70 ea |
| 6213 | SPDT | 1" | 2 1/8" | 2.14 ea |
| 6214 | DPST | 3/4" | 1 1/8" | 2.25 ea |
| 6215 | DPST | 1" | 2 1/8" | 2.78 ea |
| 6216 | DPDT | 3/4" | 1 1/8" | 2.55 ea |
| 6217 | DPDT | 1" | 2 1/8" | 3.14 ea |

10



### BALL HANDLE TOGGLE SWITCHES 10 POSITIVE ACTION

UL approved. Ball lever switches nickel plated; laminated type; ring and mounting nuts.

Std. Pkg. 25

| Cat. No. | Descrip. | Shank Length | Current Rating 125 V. | 250 V | List Price |
|---|---|---|---|---|---|
| 6200 | SPST | 15/32" | | .5 amps | 1.10 ea |
| 6201 | SPST | .5/16" | | .5 amps | 1.55 ea |
| 6202 | SPDT | 15/32" | .5 amps | .1 amp | 1.40 ea |
| 6202A | 2 Cir. | 15/32" | .3 amps | .1 amp | 1.45 ea |
| 6203 | SPDT | .5/16" | .3 amps | .1 amp | 1.65 ea |
| 6204 | DPST | 15/32" | .3 amps | .1 amp | 2.00 ea |
| 6205 | DPST | .5/16" | .3 amps | .1 amp | 2.25 ea |
| 6206 | DPDT | 15/32" | .3 amps | .1 amp | 2.40 ea |
| 6207 | DPDT | .5/16" | .3 amps | .1 amp | 2.50 ea |

**NAME PLATE** Std. Pkg. 100

| | | |
|---|---|---|
| 6208 | On Off—Fits 15/32" Sleeves | .09 ea |
| 6208A | Hi Low—Fits 15/32" Sleeves | .09 ea |

11

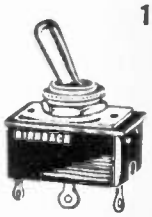
### BAT HANDLE TOGGLE SWITCHES 11 POSITIVE ACTION

UL approved. Laminated type. Nickel plated finish; supplied with ring and mounting nuts. 15/32" shank.

Std. Pkg. 25

| Cat. No. | Descrip. | Current Rating 125 V | 250 V | List Price |
|---|---|---|---|---|
| 6220 | SPST | | .3 amps | 1.10 ea |
| 6221 | SPDT | .3 amps | .1 amp | 1.40 ea |
| 6221A | 2 Cir. | .3 amps | .1 amp | 1.45 ea |
| 6222 | DPST | .3 amps | .1 amp | 2.00 ea |
| 6223 | DPDT | .3 amps | .1 amp | 2.30 ea |

12

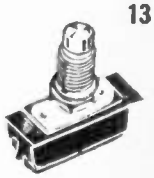


### BAT HANDLE MOMENTARY ACTION 11

UL approved. Laminated type. Nickel plated finish; supplied with ring and mounting nuts; 15/32" shank; solder terminals; SPST rated at 3 amps 250V AC-DC, others rated at 1 amp 250V, 3 amps 125V AC-DC. Std. Pkg. 25.

| Cat. No. | Descrip. | Type | List Price |
|---|---|---|---|
| 6190 | SPST | Normally Closed (On) | 1.70 ea |
| 6191 | SPST | Normally Open (Off) | 1.70 ea |
| 6192 | SPDT | Normally Closed (On) | 2.00 ea |
| 6193 | DPST | Normally Closed (On) | 2.55 ea |
| 6194 | DPST | Normally Open (Off) | 2.55 ea |
| 6195 | DPDT | Normally Closed (On) | 2.85 ea |

13



### ST TYPE PER SPEC. JAN-S-23 12

Std. Pkg. 25

Bat handle, back connected, silver plated solder lug contacts; slotted sleeve. Supplied with two hex nuts. Molded phenolic base; 15/32-32 x 15/32" long, nickel finish. They meet, where applicable, All Jan-S-23 and Mil-S 6745 Specs.

| Cat. No. | Aws No. | Description | List Price |
|---|---|---|---|
| 6250 | ST-12A | SPST | 1.90 ea |
| 6251 | ST-12D | SPDT | 2.15 ea |
| 6251C | ST-12C | SPST | 2.45 ea |
| 6251V | ST-12V | 2 Circ. | 3.30 ea |
| 6252 | ST-22K | DPST | 2.65 ea |
| 6252M | ST-22M | DPST | 3.25 ea |
| 6253 | ST-22N | DPDT | 2.90 ea |

Cur. rate 125V 6A, 250V 3A. Std. Pkg. 25.

| | | | |
|---|---|---|---|
| 6270* | ST-42A | SPST | 2.28 ea |
| 6271* | ST-42D | SPDT | 2.58 ea |
| 6249* | ST-42E | SPDT | 2.58 ea |
| 6272** | ST-52K | DPST | 3.00 ea |
| 6273** | ST-52N | DPDT | 3.28 ea |
| 6274** | ST-52P | DPDT | 3.28 ea |

*Cur. rate 125V 15A 250V 6A.
**Cur. rate 125V 25A, 250V 9A.
Std. Pkg. 25.

14

### STANDARD DUTY MOM. PUSH BUTTON 13

Molded phenolic base; 15/32-32X7/16" long slotted sleeve; nickel finish, screw terminals; complete with two hex nuts. All accept snap on button; supplied less insulating button. Cur rate 125V 12A, 250V 6A.

Std. Pkg. 100.

| Cat. No. | Description | Type | List Price |
|---|---|---|---|
| 6238 | SPST | Normally Closed | 3.10 ea |
| 6238B | SPDT | Normally Closed (on) | 3.10 ea |
| 6238C | 2 Circ.** | Normally Closed (on) | 3.10 ea |
| 6226 | DPST* | Normally Open (off) | 3.10 ea |
| 6238D | DPST* | Normally Closed (on) | 3.10 ea |

*1 H.P. 250 V.A.C.-D.C.
**Cur. rating ½.

15

### STANDARD DUTY TOGGLE SWITCHES 14

Molded phenolic base; 15/32-32 x 7/16" long slotted sleeve; nickel finish; screw terminals; complete with one hex nut, one knurled nut.

**QUICK MAKE AND BREAK BAT**

| Cat. No. | Descrip. | Current Rating AC-DC 125 V | 250 V | List Price |
|---|---|---|---|---|
| 6225A | SPST | 12 amps | 6 amps | 2.10 ea |
| 6225B | SPDT | 12 amps | 6 amps | 2.10 ea |
| 6225C | 2 Circ. | 6 amps | 3 amps | 2.10 ea |
| 6225 | DPST* | 12 amps | 6 amps | 2.10 ea |

*1 HP 250 V. Std. Pkg. 10.

16

### EXTRA HEAVY DUTY POWER SWITCHES 15 3 POSITION—POSITIVE CENTER OFF

Molded phenolic base; screw terminals; slotted sleeve ¾-32; nickel finish; with two hex nuts. Rated at 5 Amps—250 V, 10 Amps—125 V.

| Cat. No. | Description | Circuit | List Price |
|---|---|---|---|
| 6227 | DPDT | ¾ H.P. 250 V.A.C.-D.C. | 7.50 ea |
| 6228 | 3PDT | ½ H.P. 115/230 V.A.C. 3 phase | 11.40 ea |
| 6229 | 4PDT | ½ H.P. 115/230 V.A.C. 2 phase | 15.25 ea |

Std. Pkg. 10.

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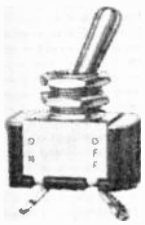
World Radio History

# Birnbach CUTLER-HAMMER SWITCHES

## AIRCRAFT SWITCHES

Made to joint Army and Navy specifications. Spec. Jan-S-23 Superseded by Mil-S-3950. Binding Screw Terminals (ST-40 Series and ST-50 series) Per Spec. AN-3021 and AN 3027. The ST-42 and ST-52 Series have solder lugs. These switches are Heavy duty; rugged design; bakelite housing; rated 10 amps-250V AC, 15 amps-125V AC, ¾ HP 115-230VAC.



### 1 SINGLE POLE STYLE ST-42—WITH SOLDER LUGS

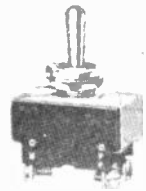
| Cat. No. | C-H No. | Jan-S-23 No. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Current Rating 125V | Current Rating 250V | |
|---|---|---|---|---|---|---|---|---|---|
| 5370 | 8803K6 | ST-42A | SPST | On | None | Off | 15 amps | 6 amps | 1.93/ea. |
| 5371 | 8819K5 | ST-42B | SPST | On | None | Mom. Off | 15 amps | 6 amps | 2.15 ea. |
| 5372 | 8817K5 | ST-42C | SPST | Off | None | Mom. On | 15 amps | 6 amps | 2.15 ea |
| 5373 | 8816K5 | ST-42D | SPDT | On | None | On | 15 amps | 6 amps | 2.30 ea. |
| 5374 | 8802K6 | ST-42E | SPDT | On | Off | On | 15 amps | 6 amps | 2.30 ea |
| 5375 | 8805K5 | ST-42F | SPDT | On | None | Mom. On | 15 amps | 6 amps | 2.52 ea |
| 5376 | 8818K5 | ST-42G | SPDT | Mom. On | Off | Mom. On | 15 amps | 6 amps | 2.52 ea |
| 5377 | 8815K6 | ST-42H | SPDT | On | Off | Mom. On | 15 amps | 6 amps | 2.52 ea |

STANDARD PKG. 25

### 2 SINGLE POLE STYLE 40—WITH SCREW TERMINALS

| Cat. No. | C-H No. | Jan-S-23 No. | MIL-S-6745 (AN-S-20A) No. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Current Rating 125V | Current Rating 250V | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5360 | 8801K13 | ST-40A | AN 3021-2 | SPST | On | None | Off | 15 amps | 6 amps | 2.62/ea. |
| 5361 | 8813K12 | ST-40B | AN 3021-9 | SPST | On | None | Mom. Off | 15 amps | 6 amps | 2.89 ea. |
| 5362 | 8811K12 | ST-40C | AN 3021-8 | SPST | Off | None | Mom. On | 15 amps | 6 amps | 2.89 ea. |
| 5363 | 8810K12 | ST-40D | AN 3021-3 | SPDT | On | None | On | 15 amps | 6 amps | 3.15 ea. |
| 5364 | 8800K13 | ST-40E | AN 3021-1 | SPDT | On | Off | On | 15 amps | 6 amps | 3.15 ea |
| 5365 | 8804K12 | ST-40F | AN 3021-6 | SPDT | On | None | Mom. On | 15 amps | 6 amps | 3.42/ea |
| 5366 | 8812K13 | ST-40G | AN 3021-7 | SPDT | Mom. On | Off | Mom. On | 15 amps | 6 amps | 3.12 ea |
| 5367 | 8809K13 | ST-40H | AN 3021-5 | SPDT | On | Off | Mom. On | 15 amps | 6 amps | 3.12/ea. |

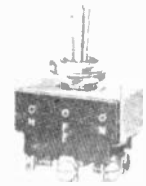
STANDARD PKG. 25



### 3 DOUBLE POLE STYLE ST-50—WITH SCREW TERMINALS

| Cat. No. | C-H No. | Jan-S-23 No. | MIL-S-6745 (AN-S-20A) No. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Current Rating 125V | Current Rating 250V | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5380 | 8822K8 | ST-50K | AN-3027-2 | DPST | On | None | Off | 25 amps | 9 amps | 3.52 ea |
| 5381 | 8828K5 | ST-50L | AN-3027-4 | DPST | On | None | Mom. Off | 15 amps | 6 amps | 4.22 ea |
| 5382 | 8826K5 | ST-50M | AN-3027-5 | DPST | Off | None | Mom. On | 15 amps | 6 amps | 4.22 ea |
| 5383 | 8824K8 | ST-50N | AN-3027-3 | DPDT | On | None | On | 25 amps | 9 amps | 4.22 ea |
| 5384 | 8820K10 | ST-50P | AN 3027-1 | DPDT | On | Off | On | 25 amps | 9 amps | 4.22 ea |
| 5385 | 8831K4 | ST-50S | AN 3027-6 | DPDT | On | None | Mom. On | 15 amps | 6 amps | 4.60 ea |
| 5386 | 8834K6 | ST-50S | AN 3027-7 | DPDT | Mom. On | Off | Mom. On | 15 amps | 6 amps | 4.60 ea |
| 5387 | 8832K4 | ST-50T | AN-3027-8 | DPDT | On | Off | Mom. On | 15 amps | 6 amps | 4.60 ea |

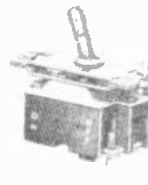
STANDARD PKG. 25



### DOUBLE POLE STYLE ST-52—WITH SOLDER LUGS

| Cat. No. | C-H No. | Jan-S-23 No. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Current Rating 125 V | Current Rating 250 V | |
|---|---|---|---|---|---|---|---|---|---|
| 5390 | 8825K5 | ST-52K | DPST | On | None | Off | 25 amps | 9 amps | 2.35 ea. |
| 5391 | 8829K5 | ST-52L | DPST | On | None | Mom. Off | 15 amps | 6 amps | 2.62 ea |
| 5391 | 8827K5 | ST-52M | DPST | Off | None | Mom. On | 15 amps | 6 amps | 2.60 ea |
| 5392 | 8823K5 | ST-52N | DPDT | On | None | On | 25 amps | 9 amps | 2.62 ea |
| 5393 | 8821K5 | ST-52P | DPDT | On | Off | On | 25 amps | 9 amps | 3.05 ea. |
| 5394 | 8833K5 | ST-52R | DPDT | On | None | Mom On | 15 amps | 6 amps | 3.05 ea. |
| 5395 | 8835K4 | ST-52S | DPDT | Mom. On | Off | Mom. On | 15 amps | 6 amps | 3.05 ea. |
| 5396 | 8836K4 | ST-52T | DPDT | On | Off | Mom. On | 15 amps | 6 amps | 3.05 ea |

STANDARD PKG. 25



### 5 THREE POLE—WITH SCREW TERMINALS FLUSH MOUNTING

| Cat. No. | C-H No. | Spec. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | |
|---|---|---|---|---|---|---|---|
| 5400 | 8740K9 | MIL-S-6745 | 3PST | On | None | Off | 5.97/ea. |
| 5401 | 8741K9 | MIL-S-6745 | 3PDT | On | None | On | 7.20 ea. |
| 5402 | 8742K9 | MIL-S-6745 | 3PDT | On | Off | On | 7.20 ea. |

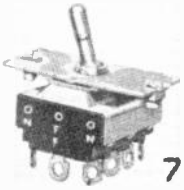
CURRENT RATING: 125 VAC 20 AMPS. 30 VDC 25 AMPS. STANDARD PKG. 12

### 6 FOUR POLE—ONE HOLE MOUNTING

The four pole switches are designed to meet the rigid specifications and requirements of JAN-S-23 and MIL-S-6745 Specs.

| Cat. No. | C-H. No. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Terminals | |
|---|---|---|---|---|---|---|---|
| 5420 | 7660K8 | 4PST | On | None | Off | Screw | 7.70/ea. |
| 5421 | 7661K6 | 4PST | On | None | Off | Lug | 7.10 ea |
| 5422 | 7662K5 | 4PDT | On | On | On | Screw | 9.60 ea |
| 5423 | 7663K5 | 4PDT | On | Off | On | Lug | 8.75 ea |
| 5424 | 7664K6 | 4PDT | On | None | On | Screw | 9.60 ea |
| 5425 | 7665K4 | 4PDT | On | None | On | Lug | 8.75 ea |
| 5426 | 7666K6 | 4PST | Off | None | Mom. on | Screw | 10.10 ea. |
| 5427 | 7667K6 | 4PST | Off | None | Mom. on | Lug | 9.80 ea |
| 5428 | 7668K4 | 4PST | On | None | Mom. off | Screw | 10.10 ea |
| 5429 | 7669K4 | 4PST | On | None | Mom. off | Lug | 9.80 ea |
| 5430 | 7670K5 | 4PDT | On | Off | Mom. on | Screw | 11.55 ea |
| 5431 | 7671K4 | 4PDT | On | Off | Mom. on | Lug | 10.75 ea. |
| 5432 | 7672K4 | 4PDT | Mom. on | Off | Mom. on | Screw | 11.55 ea |
| 5433 | 7673K4 | 4PDT | Mom. on | Off | Mom. on | Lug | 10.70 ea |
| 5434 | 7674K4 | 4PDT | On | None | Mom. on | Screw | 11.55 ea. |
| 5435 | 7675K4 | 4PDT | On | Non | Mom. on | Lug | 10.70 ea |

CURRENT RATING: 125 VAC 10 AMPS. 30 VDC 20 AMPS. STD. PKG. 12



### 7 FOUR POLE—FLUSH MOUNTING

| Cat. No. | C-H No. | Spec. | Type | Circuit: Up Position | Circuit: Center Position | Circuit: Down Position | Terminals | |
|---|---|---|---|---|---|---|---|---|
| 5410 | 8882K5 | MIL-S-6745 | 4PST | On | None | Off | Screw | 7.70 ea. |
| 5411 | 8883K5 | MIL-S-6745 | 4PST | On | None | On | Lug | 7.15/ea. |
| 5412 | 8886K5 | MIL-S-6745 | 4PST | On | Off | On | Screw | 10.10 ea |
| 5413 | 8884K5 | MIL-S-6745 | 4PDT | On | None | On | Screw | 9.60 ea |
| 5414 | 8885K5 | | 4PDT | On | None | On | Lug | 8.75 ea |
| 5415 | 8880K5 | MIL-S-6745 | 4PDT | On | Off | On | Screw | 9.60 ea |
| 5416 | 8881K5 | | 4PDT | On | Off | On | Lug | 8.75 ea |
| 5417 | 8887K5 | MIL-S-6745 | 4PDT | Mom. on | Off | Mom. on | Screw | 11.55 ea |
| 5418 | 8887K5 | MIL-S-6745 | 4PDT | On | Off | Mom. on | Screw | 11.55 ea |

CURRENT RATING: 125 VAC 10 AMPS. 30 VDC 20 AMPS. STD. PKG. 12



All Prices Subject to Change or Withdrawal Without Notice

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Trade discount applies to *list price only*

World Radio History

# Birnbach CUTLER – HAMMER SWITCHES

Complete line of Cutler-Hammer quality switches available from our warehouse stocks. Includes commercial, industrial, aircraft and Gov't spec.

## LIGHT DUTY TOGGLE SWITCHES

### 1 BACK CONNECTED LUG TERMINALS

Quick make-break; bakelite; small, compact size AC-DC UL approved

| Cat. No. | C-H No. | Descrip. | Shank | Current Rating 125V | Current Rating 250V | List Price |
|---|---|---|---|---|---|---|
| 5300 | 8280K16 | SPST | .15 32" | | 3 amps | 1.11 ea |
| 5301 | 8281K8 | SPST | .15 32" | 6 amps | 6 amps | 1.25 ea |
| 5302 | 8283K11 | SPDT | .15 32" | 6 amps | 1 amp | 1.41 ea |
| 5303 | 8282K11 | 2 circ. | .15 32" | 3 amps | 1 amp | 1.15 ea |
| 5304 | 8360K7 | DPST | .15 32" | | 3 amps | 2.00 ea |
| 5305 | 8370K7 | DPST | .15 32" | 6 amps | 3 amps | 1.15 ea |
| 5306 | 8365K7 | DPDT | .15 32" | | 5 amps | 2.30 ea |
| 5307 | 8375K7 | DPDT | .15 32" | 6 amps | 5 amps | 1.15 ea |

### 2 SIDE CONNECTED SCREW TERMINALS

| Cat. No. | C-H No. | Descrip. | Shank | Current Rating 125V | Current Rating 250V | List Price |
|---|---|---|---|---|---|---|
| 5308 | 8295K8 | SPST | .15 32" | | 3 amps | 1.35 ea |
| 5309 | 8296K8 | SPST | .15 32" | 6 amps | 3 amps | 1.50 ea |
| 5310 | 8277K8 | SPDT | .15 32" | 3 amps | 1 amp | 1.75 ea |
| 5311 | 8372K7 | DPST | .15 32" | 6 amps | 3 amps | 2.65 ea |
| 5312 | 8365K7 | DPDT | .15 32" | | 3 amps | 3.05 ea |
| 5313 | 8375K7 | DPDT | .15 32" | 6 amps | 3 amps | 3.20 ea |

### 3 SIX INCH LONG WIRE LEADS

| Cat. No. | C-H No. | Descrip. | Shank | Current Rating 125V | Current Rating 250V | List Price |
|---|---|---|---|---|---|---|
| 5335 | 8290K16 | SPST | .15 32" | | 3 amps | 1.35 ea |
| 5336 | 8391K8 | SPST | .15 32" | 6 amps | 3 amps | 1.50 ea |

### 4 PUSH BUTTON MOMENTARY SWITCHES

Door operated switches, used wherever it is desired to control current by opening or closing of refrigerated doors, telephone booths, closets, vaults, etc. AC DC, UL approved; 15 32" shank; rated at .75 AMP., 125 volts—.75 AMPS, 250 volts.

| Cat. No. | C-H No. | Description | Terminals | List Price |
|---|---|---|---|---|
| 5337 | 8411K1 | SP norm. open | lug | .80 ea |
| 5338 | 8411K3 | SP norm. open | screw | .90 ea |
| 5339 | 8411K8 | SP norm. closed | lug | .60 ea |
| 5340 | 8411K7 | SP norm. closed | screw | .65 ea |

### 8, 9 HEAVY DUTY TOGGLE SWITCHES

Quick make—quick break; 15 32" shank (No. 8680 11 32" shank); AC-DC, UL approved; bakelite case; screw terminals.

| Cat. No. | C-H No. | Descrip. | Current Rating 125V | Current Rating 250V | List Price |
|---|---|---|---|---|---|
| 5341 | @7321K3 | SPST | 12 amps | 6 amps | 2.15 ea |
| 5342 | @7320K3 | DPST | 12 amps | 6 amps | 2.15 ea |
| 5343 | *7361K5 | SPST | 15 amps | 10 amps | 3.65 ea |
| 5344 | *7360K8 | DPST | 15 amps | 10 amps | 3.65 ea |
| 5345 | **7402K1 | DPST | | 20 amps | 5.15 ea |
| 5346 | 8680K1 | DPDT | 10 amps | 5 amps | 6.80 ea |
| 5347 | 8690K2 | DPDT | 15 amps | 10 amps | 8.30, ea |

@ 1 HP—125 250V * 1½ HP—125 250V
** 1½ HP—125V, 2 HP—250V

### A MULTI-POLE, MULTI-POSITION, ROTARY SWITCHES

Nos. 7260 thru 7266 and Nos. 7271 thru 7276

### B PUSHBUTTON OPERATED AIRCRAFT SWITCHES

Nos. 8911K525, 8874, 8875

## STANDARD DUTY TOGGLE SWITCHES

### 5 BACK CONNECTED LUG TERMINALS

Slow make and break; bakelite. AC rated for longer life, greater capacity. 15 amps 125 volt—10 amps 250 volts.

| Cat. No. | C-H No. | Description | Shank | List Price |
|---|---|---|---|---|
| 5314 | 7501K13 | SPST | .15 32" | 1.10 ea |
| 5315 | 7505K4 | SPDT | .15 32" | 1.25/ea |
| 5316 | 7501K1 | DPST | .15 32" | 1.05 ea |
| 5317 | 7505K5 | DPDT | .15 32" | 1.90 ea |
| 5318 | 7611K3 | 3PST | .15 32" | 3.50 ea |
| 5319 | 7615K2 | 3PDT | .15 32" | 4.50 ea |

### 6 BACK CONNECTED SCREW TERMINALS

| Cat. No. | C-H No. | Description | Shank | List Price |
|---|---|---|---|---|
| 5320 | 7500K14 | SPST | .15 32" | 1.25 ea |
| 5321 | 7501K1 | SPDT | .15 32" | 1.50 ea |
| 5322 | 7560K5 | DPST | .15 32" | 2.00 ea |
| 5323 | 7561K6 | DPDT | .15 32" | 2.45 ea |
| 5324 | 7610K2 | 3PST | .15 32" | 4.05 ea |
| 5325 | 7614K2 | 3PDT | .15 32" | 5.15 ea |

### 4 PUSH BUTTON SWITCHES PUSH TO MAKE—PUSH TO BREAK

Push-push switches; AC-DC, UL approved, bakelite case; rated 6 amps. 125V 3 amps. 250V. Pushing the button once closes the contacts; pushing it again opens the contacts. 11/16" shank.

| Cat. No. | C-H No. | Description | Terminals | List Price |
|---|---|---|---|---|
| 5326 | 7206K1 | SPST | lug | 1.55/ea |
| 5327 | 7208K1 | SPST | screw | 1.75 ea |
| 5328 | 7207K4 | SPST | wire | 1.75 ea |

### 5 CENTER OFF STANDARD DUTY TOGGLE SWITCHES

BACK CONNECTED LUG TERMINALS

| Cat. No. | C-H No. | Description | Shank | List Price |
|---|---|---|---|---|
| 5329 | 7503K13 | SPDT | .15 32" | 1.25/ea |
| 5330 | 7563K1 | DPDT | .15 32" | 1.90 ea |
| 5331 | 7613K2 | 3PDT | .15 32" | 4.30 ea |

### 7 BACK CONNECTED SCREW TERMINALS

| Cat. No. | C-H No. | Description | Shank | List Price |
|---|---|---|---|---|
| 5332 | 7502K13 | SPDT | .15 32" | 1.50 ea |
| 5333 | 7562K1 | DPDT | .15 32" | 2.35 ea |
| 5334 | 7612K2 | 3PDT | .15 32" | 5.15 ea |

### C MISCELLANEOUS AIRCRAFT SWITCHES

Pistol grip trigger movement switches Nos. 8895, 8896, 8897

### D BUSHING SEAL No. 32-341

### E LEVER EXTENSIONS and ATTACHABLE TIPS

To meet requirements for luminous identification on switches and circuit breakers these tips snap over the standard levers and are held in place by a cup shaped spring member.
Nos. 24-1939, 24-1939-2, 24-1997, 24-1997-2, 24-1164, 24-1164-2, 24-1164-3.

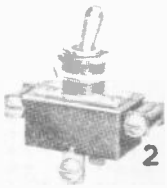
### F AIRCRAFT SWITCH GUARDS

IT IS USED TO PREVENT INADVERTENT OPERATION OF THE LEVER

### BOOTS FOR WATER and DUST RESISTANT APPLICATIONS

Gray silastic flexible designed to obstruct water and dust from entering switch interior. Remains flexible at minus 67 F. withstand exposure to sunlight without deterioration. For all applications.

1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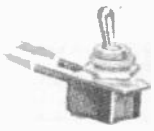
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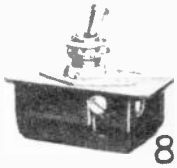
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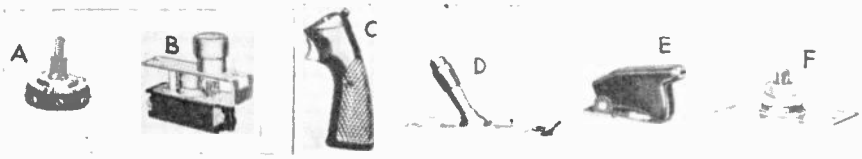
9

ADDITIONAL CUTLER-HAMMER EQUIPMENT AVAILABLE

For wire/cable listings, see pages S-1194 to S-1209

For Hardware listings, see pages U-1448 to U-1459

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All Prices Subject to Change or Withdrawal without Notice.

Trade discount applies to *list price* only



World Radio History

# MINIATURE ROTARY TAP SWITCHES

SERIES 5000

## For Commercial Applications

A fully enclosed, quality-built tap switch designed for minimum panel space. One pole per deck, 1 to 10 decks, 2 to 9 positions with built-in stop or 10 positions continuous rotation, shorting or non-shorting contacts, 36° indexing. Rating: break 1 ampere, 115 VAC, resistive, or carry 5 amperes. 3/8-32 threaded bushing, 1 1/32" O.D., including solder terminals, flatted shaft extends 5/16" beyond bushing. See illustration for difference in construction for single and multi-deck units. Studs of switches of 5 decks and over extended 1/4" at rear for double-ended mounting. Housing of molded melamine and phenolic; shaft, studs, end plates of stainless steel; bushings, nuts, single deck cover of cadmium plated brass; copper alloy contacts have special heavy silver plate. Supplied with mounting nut; non-turn keying washer and lock washer available as accessories.

### Spring Return Rotary Switch

Same as Series #24 except momentary contact, spring return to either side of center position. Available 1 to 3 decks (incl.), one pole per deck, shorting or non-shorting contacts. Also available with up to 4 detent positions plus spring return position to either right or left of detent position.

SERIES 24

## For Precision Requirements

Fully enclosed tap switch designed for high reliability military and commercial applications. Accurate indexing and best detent action. One pole per deck, 1 to 10 decks, 2 to 9 positions with built-in stop, or 10 positions continuous rotation, shorting or non-shorting contacts, 36° indexing. Rating: break 1 ampere, 115 VAC, resistive, or carry 5 amperes. 3/8-32 threaded and keyed bushing, 1 1/32" O.D. includes solder terminals, 5/16" long shaft flatted opposite contacting position. Illustration shows difference between single deck and multiple deck construction. Studs of multi-deck units of 5 decks and over extended 1/4" at rear to facilitate double-ended mounting. Housing of molded melamine and phenolic materials; studs, shaft, end plates of 303 stainless steel; single deck cover, bushings, nuts, of brass, cadmium plated .0003" to .0005" thick; special heavy silver plate on contacts. Have passed military tests such as 125G shock, 10 - 500 cps vibration, 100 hours salt spray, explosion, sand and dust, 28 day fungus exposure, humidity; will operate −55°C to +85°C, and up to 50,000 feet at rated load. Supplied with mounting nut; non-turn washer and lockwasher, available as accessories.

# PUSH BUTTON SWITCHES

### SNAP ACTION SWITCH

Snap action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: 10 amperes, 115 VAC, resistive. Life approximately 50,000 operations. 15/32-32 threaded bushing, 7/8" O.D., 1 59/64" overall length including solder type terminals.

**No. 2201—Normally Open (Red Button) ..... $1.85 ea.**
**No. 2202—Normally Closed (Black Button) ..... $1.85 ea.**

### SILENT ACTION SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: 1/2 ampere 115 VAC, resistive, for approximately 800,000 operations, or 1 ampere for approximately 100,000 operations. 15/32-32 threaded bushing, 51/64" O.D., 1 17/32" overall length including solder type terminals.

**No. 4001—Normally Open (Red Button) $0.70 ea.**
**No. 4002—Normally Closed (Black Button) ..... $0.70 ea.**

### DOUBLE POLE SWITCH

Silent action, Normally Open, momentary contact, DPST, push button switch. Rating: 1/2 ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic 51/64" O.D., 1 17/64" overall length including solder terminals.

**No. 35-1 (Red Button) ..... $1.20 ea.**

### SOLDERLESS WIRING SWITCH

Silent action, Normally Open, momentary contact, SPST, push button switch. Built-in receptacles for A-MP #53 taper pins plus "in-and-out" wiring provision on one side. Rating: 1/2 ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic. 3/8-32 threaded mounting bushing and knurled nut black anodized aluminum. Lockwasher provided. 1/2" O.D., 31/32" overall length.

**No. 34-1 (Red Button) ..... $1.35 ea.**

### MINIATURE PUSH BUTTON SWITCH

Silent action, momentary contact, Normally Open, SPST, switch rated at 1/4 ampere, 115 VAC, resistive. Life approximately 1/2 million operations. Button and housing molded phenolic. 5/16-32 threaded bushing, 1/2" O.D., 1 3/4" overall length including solder terminals.

**No. 23-1 (Red Button) ..... $0.85 ea.**

### SUB-MINIATURE SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life approximately 1/2 million operations. Button and housing molded phenolic. 1/4-32 threaded bushing, 3/8" O.D., 63/64" overall length including solder terminals.

**No. 30-1—Normally Open (Red Button) $0.95 ea.**
**No. 30-2—Normally Closed (Black Button) $0.95 ea.**

### ULTRA-MINIATURE SWITCH

Silent action, momentary contact, Normally Open, SPST, push button switch. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life over 1 million operations. Button and base molded phenolic. 1/4" O.D., 19/32" overall length including solder terminals.

**No. 39-1 (Red Button) ..... $1.00 ea.**


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World Radio History

## GRAYHILL BINDING POSTS

All metal parts are nickel plated brass. Insulating washers are non-turn "D" style phenolic to MIL M-14. Integral solder stud plus two hex nuts for solder lug connections. All posts may be used on panels up to 3/16" thick and are shipped completely assembled.

### 29-3 SCREW TYPE

For 1/2" dia. mounting hole. 5/8" dia. insulating washers for use in existing equipment or where wider spacing is desirable. Available in red, black, white, yellow, blue, gray, green and brown.

Red or Black . . . . . $0.40 ea.
All other colors $0.45 ea.

### 29-33 SPRING LOADED

For 1/2" mounting hole. 5/8" dia. insulating washers. Spring loaded head gives 24 oz. of contact force. Designed for rapid connections. Available in red or black. $0.40 ea.

### 29-1 SCREW TYPE

For 3/8" dia. mounting hole. 1/2" dia. insulating washers allows closer spacing of posts. Available in red or black. $0.40 ea.

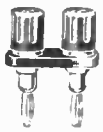
**29B11** For use with 29-1 posts. Makes an assembled unit with two posts on 3/4" centers. Molded phenolic to MIL-M-14. 29B11 1 (Black) 29B11-2 (Red) $0.10 ea.

### 29-41

Binding Plug (screw type) conforms to same standard as the binding posts. Mounted on a standard banana plug. 29 41B (Black) $0.50 ea.

### 29-43

Binding Plug (spring loaded). Head gives 24 oz. contact force. Designed for rapid connections. 29 43B (Black) $0.50 ea.



### 29-42

Twin Binding Plug. Two binding plugs mounted on a molded phenolic base. Banana plugs are on standard 3/4" centers. Sold as a completely assembled unit with two screw type heads. 29 42 (Black) $1.25 ea.

**29-44** Same as 29-42 except with spring loaded heads. 29 44 (Black) $1.25 ea.

## TEST CLIPS

The basic clip is available in 4 types of mounting. Designed for panel mounting on test equipment to allow rapid connections without manual opening and closing of jaws. Hex nut allows for tension adjustment of each clip. Clips are nickel plated brass. Length of test clip (excluding mounting base) is 1 1/8".

| 2-0 Threaded stud. | 2-1 Banana plug. | 2-4 Threaded stud with insulating washers. | 2-6 Pin plug. |
|---|---|---|---|
| $0.20 ea. | $0.35 ea. | $0.35 ea. | $0.35 ea. |

### TEST CLIP ADAPTERS

2-2 For testing resistors, capacitors and other pigtail type components. Banana plugs are on standard 3/4" centers. All metal parts are nickel plated brass. Mounting board is molded phenolic to MIL-M-14. Hex nut under clip allows for tension adjustment of individual clips. Test clip extends 1 1/8" above board.
2-2 $1.40 ea.

2-7 Similar to the 2 2 except that banana plugs are adjustable from 3/4" to 1 1/4" centers.
2-7 $1.50 ea.

2-8 Similar to the 2 2 except designed as a fixed panel mount for screw fastening, equipped with solder terminals at each end.
2-8 . . . . . $0.80 ea.

## INSULATED TEST CLIPS

**COMPLETELY INSULATED** (including hinge pin) eliminating the danger of shorting. Molded parts are phenolic to MIL-M-14. .008" thick silver overlay at point of contact. Terminal is silver plated brass. Contact resistance .0015 ohms. All units tested at 500 volts to insure complete insulation.

**16-B (Black) 16-R (Red)** $0.85 ea.

## TRANSISTOR SOCKET 22-11

Designed for JETEC 30 packaging. Leads fit on 100 MIL grid for printed circuit. Socket fits through 3/8" drilled or punched hole and may be fastened with rivets or #2 screws. Terminal numbers are molded into bottom of socket and top face has key rib for alignment with transistor tab. Contacts are wrap around type, silver plated beryllium copper with gold flash. Base is molded mica filled phenolic per MIL-M-14, Type MFE.
**22-11** $0.35 ea.

### PENCIL TUBE SOCKET 22-3

Will accept 2 tube pins .020" dia. on .115" centers. Terminals are silver plated beryllium copper with gold flash. Base is molded mica-filled phenolic per MIL-M-14, Type MFE.
**22-3** $0.35 ea.

### GERMANIUM DIODE HOLDER 17-1

Gold plated spring tension clips grip the diode with a tight snap fit. Base is molded of black electrical grade phenolic per MIL M-14, Type CFG and has a molded-in non-turn key. Overall dimensions are 15/16" long x 3/8" wide. Center to center of clips .635". Loops in spring clips may be used as terminals.
**17-1** $0.35 ea.

### SERIES 31 TEST JACKS

Designed for use on printed circuit boards as test points. Accommodates standard phone tip plugs from .081" to .0825" dia. Rivets to board like an eyelet. Rivet dia. is .114". Jack is silver plated brass with gold flash. Retaining ring is cadmium plated spring steel. Extends 1/4" above circuit board.

**31-1 (for 1/16" board) 31-2 (for 3/32" board)**
**31-3 (for 1/8" board)** $0.25 ea.

### PLASTIC SLEEVES FOR SERIES 31 TEST JACKS

Sleeves snap on and permanently lock in place over test jacks. Molded of thermo-setting plastic. Overall dimensions .245" dia. x .290" high. Available in black, red, green, gray, brown, blue, yellow and white. 31B -(Specify Color) $0.05 ea.

### COIL FORMS

(Pat. No. 2,653,992)

MOLDED OF MICA FILLED PHENOLIC per MIL-M-14, Type MFF with leads of tinned solid copper wire. Available in lengths from 1/2" to 1" and diameters from 1/8" to 1/4". With or without anchoring posts. $0.20 ea.

### STAND OFF INSULATORS

Body of insulator is molded of mica filled phenolic per MIL M 14. Type MFF Terminals are silver plated brass. Overall length excluding mounting stud is 15/16". Diameter is 5 16".

**18-1 (Female)** . . . . . $0.35 ea.
**18-2 (Male)** . . . . $0.40 ea.

### MATING INSULATING WASHERS

For jacks with a 3/8" dia. bushing. Washer for rear of panel has indexing hole that corresponds with the non turn tab of the jack. Front washer fits under hex mounting nut. Sold in pairs.

**21B78-1 (Mica-filled phenolic)**
**21B78-2 (Black elec. grade phenolic)** . . . . . $0.12 Set

### MOLDED INSULATING WASHERS

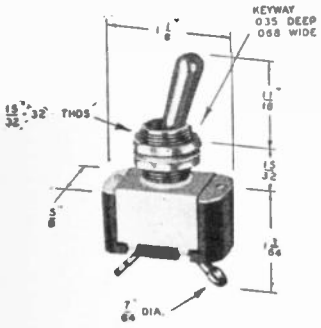
Molded from black electrical grade or mica filled phenolics. Available in eight different sizes for #2 to 3/8" screws. Overall diameters are 3/8", 1/2", or 5/8".



World Radio History

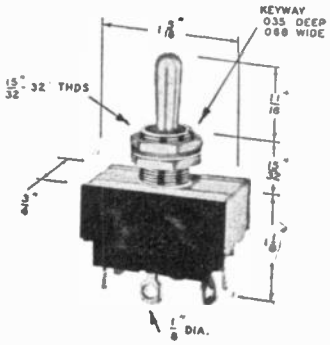
# NETWORK SWITCHES

## For Electronics, Aircraft, Small Motors




ST42 SERIES

These switches are manufactured to rigid government specifications. This page covers 54 models of toggle switches nominally rated at 15 A at 125 VAC and 10 A at 250 VAC and other ratings as specified in JAN-S-23 and other military specifications.




ST52 SERIES

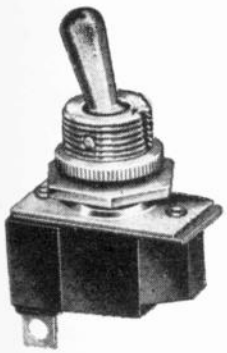
### SINGLE POLE

| SCREW LUGS | | | SOLDER LUGS | | | LEVER POSITION | | |
|---|---|---|---|---|---|---|---|---|
| JAN No. | Network No. Unsealed | Network No. Sealed | JAN No. | Network No. Unsealed | Network No. Sealed | | | |
| ST40A | N101 | N102 | ST42A | N121 | N122 | On | None | Off |
| ST40B | N103 | N104 | ST42B | N123 | N124 | On | None | Off* |
| ST40C | N105 | N106 | ST42C | N125 | N126 | Off | None | On* |
| ST40D | N107 | N108 | ST42D | N127 | N128 | On | None | On |
| ST40E | N109 | N110 | ST42E | N129 | N130 | On | Off | On |
| ST40F | N111 | N112 | ST42F | N131 | N132 | On | None | On* |
| ST40G | N113 | N114 | ST42G | N133 | N134 | On* | Off | On* |
| ST40H | N115 | N116 | ST42H | N135 | N136 | On | Off | On* |

### DOUBLE POLE

| SCREW LUGS | | | SOLDER LUGS | | | LEVER POSITION | | |
|---|---|---|---|---|---|---|---|---|
| JAN No. | Network No. Unsealed | Network No. Sealed | JAN No. | Network No. Unsealed | Network No. Sealed | | | |
| ST50K | N201 | N252 | ST52K | N221 | N273 | On | None | Off |
| ST50L | N203 | — | ST52L | N223 | — | On | None | Off* |
| ST50M | N205 | — | ST52M | N225 | — | Off | None | On* |
| ST50N | N207 | N258 | ST52N | N227 | N279 | On | None | On |
| ST50P | N209 | N260 | ST52P | N231 | N281 | On | Off | On |
| ST50R | N261 | — | ST52R | N233 | — | On | None | On* |
| ST50S | N263 | — | ST52S | N235 | — | On* | Off | On* |
| ST50T | N265 | — | ST52T | N237 | — | On | Off | On* |

* Momentary contact



### COMMERCIAL APPLICATION — SWITCHES

**UL Approved Single Pole, Single Throw — 6A 125V, 3A 250V, AC & DC**

| With 2 Lugs | With 6" Long Leads | Shank Length | Toggle Length |
|---|---|---|---|
| N501 | N510 | 15/32 | 11/16 Bat |
| N502 | N511 | 11/32 | 11/16 Bat |
| N503 | N512 | 15/32 | 1/2 Bat |
| N504 | N513 | 11/32 | 1/2 Bat |
| N505 | N514 | 15/32 | 15/32 Ball |
| N506 | N515 | 11/32 | 15/32 Ball |

# NETWORK INDUSTRIES INC.

BAYONNE, NEW JERSEY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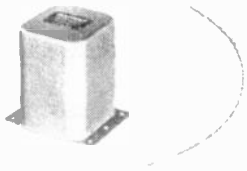
World Radio History

# ACRO PRODUCTS COMPANY

## MANUFACTURERS OF THE WORLD FAMOUS ACROSOUND TRANSFORMERS

Case Type "A" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case mounts with base flange.
Size — 3 5/8 x 3 1/4 x 4 1/4 high



Case Type "B" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case has provision for either top or bottom mounting.
Size — 4 x 4 5/8 x 5 3/8 high

| MODEL | IMPEDANCES* | POWER RATING | FREQUENCY RESPONSE | RATED PRIMARY CURRENT PER TUBE | PERMISSIBLE DC PRIMARY UNBALANCE | CASE TYPE | WEIGHT | NET PRICE | APPLICATION |
|---|---|---|---|---|---|---|---|---|---|
| TO-230 | 3000 plate-to-plate 4. 8. 16 secondary | 20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc | ±1 db 10 cps to 40 kc | 150 ma | 20 % | A | 7 lbs. | $14.50 | For use with 6B4's or 2A3's fixed bias pp par. 6L6's, etc. |
| TO-250 | 5000 plate-to-plate 4. 8. 16 secondary | 10 watts— 20 cps to 20 kc 20 watts— 30 cps to 15 kc | ±1 db 10 cps to 40 kc | 75 ma | 10% | A | 6 lbs. | 11.75 | For use with 6B4's or 2A3's self bias, 6L6's, class A, etc. |
| TO-270 | 10.000 plate-to-plate 4. 8. 16 secondary | 10 watts— 20 cps to 20 kc 20 watts— 30 cps to 15 kc | ±1 db 10 cps to 40 kc | 75 ma | 10% | A | 6 lbs. | 11.75 | For use with 6V6's, 6K6's, etc. |
| TO-280 | 9000 plate-to-plate 4. 8. 16 secondary | 20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc | ±1 db 10 cps to 40 kc | 75 ma | 10% | A | 7 lbs. | 14.50 | For use with 6L6's, class AB1 |
| TO-290 | 12.000 plate-to-plate 4. 8. 16 secondary | 20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc | ±1 db 10 cps to 40 kc | 75 ma | 10% | A | 7 lbs. | 15.75 | For use with triode connected 807's or 5881's in Williamson type circuit |
| TO-300 | 6600 plate-to-plate 4. 8. 16 secondary | 20 watts— 20 cps to 30 kc 40 watts— 30 cps to 20 kc | ±1 db 10 cps to 100 kc | 75 ma | 15% | A | 7 lbs. | 24.75 | For Ultra-Linear operation of KT-66's, 807's, 5881's, 1614's, 6L6's. Ultra-Linear conversion of Williamson type circuits |
| TO-310 | 8000 plate-to-plate 4. 8. 16 secondary | 10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc | ±1 db 10 cps to 100 kc | 75 ma | 10% | A | 6 lbs. | 18.75 | For Ultra-Linear operation of 6V6's or EL-84's |
| TO-320 | 3500 plate-to-plate 4. 8. 16 secondary | 10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc | ±1 db 10 cps to 100 kc | 75 ma | 10% | A | 6 lbs. | 18.75 | For Ultra-Linear operation of 6Y6's |
| TO-330 | 3800 plate-to-plate 4. 8. 16 secondary | 50 watts— 20 cps to 30 kc 100 watts— 30 cps to 20 kc | ±1 db 10 cps to 100 kc | 150 ma | 15% | B | 14 lbs. | 39.75 | For push pull Ultra-Linear 6550's, EL-34's, 6CA7's or for push pull parallel operation of KT-66's, 807's, etc. |
| TO-340 | 5000 plate-to-plate 4. 8. 16 secondary | 50 watts— 20 cps to 30 kc 100 watts— 30 cps to 20 kc | ±1 db 10 cps to 100 kc | 150 ma | 15% | B | 14 lbs. | 39.75 | For push pull Ultra-Linear 6550's KT-88's, in self bias operation. |
| TO-350 | 6600 plate-to-plate 4. 8. 16 secondary | 100 watts— 20 cps to 20 kc | ±1 db 7 cps to 70 kc | 175 ma | 10% | B | 14 lbs. | 49.50 | For Ultra-Linear operation of 6146 tubes using tertiary winding for screen connection. |

### POWER TRANSFORMERS

| MODEL | VOLTAGES | USE | NET PRICE |
|---|---|---|---|
| TP-520 | 285-0-285 - 175 ma. 6.3V - 5a. 5V - 2a | For 6Y6 Amplifiers | $ 9.75 |
| TP-550 | 825-290-0-100-290-825. 6.3V - 6a. 5V - 6a. 5V - 2a | For 6146 Amplifiers | 33.75 |

* All models available with additional line winding (125 and 500 Cms) at extra cost of $6.00 net for models with numbers up to TO-320 and $10.00 net for models TO-330 and TO-350. Models with line winding are designated by model numbers ending in "5." For example, Model TO-300 with additional line winding is specified as TO-305. All power transformers supplied in gray hammertone and bells with upright mounting.

## ACRO PRODUCTS COMPANY • PHILADELPHIA, PA.

High Fidelity Output Transformers for every application — Available through Leading Distributors

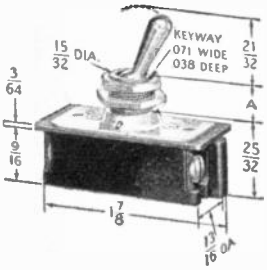


World Radio History

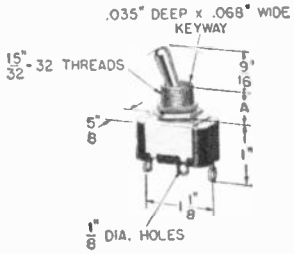
# CUTLER-HAMMER SWITCHES . . .

These Cutler-Hammer switches are of the one-hole mounted type, designed for convenient installation on panels, housings and other flat surfaces of machines and appliances. Experienced Cutler-Hammer engineers working closely with the eletronics and appliance manufacturers — have developed these devices to meet the requirements of every type of apparatus and every class of service.

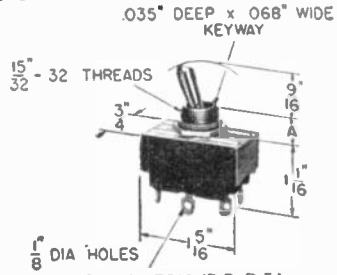
## One Hole Mounting — Commercial Applications



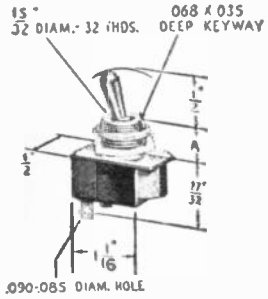

Cat. No. 7320 (D.P. S.T.)
Standard Duty



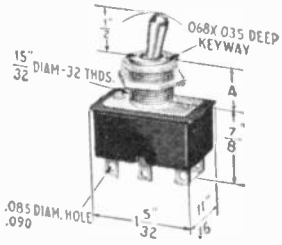

Cat. No. 7503 (S.P. D.T.) Standard Duty
Cat. No. 7581 (S.P. D.T.) Light Duty



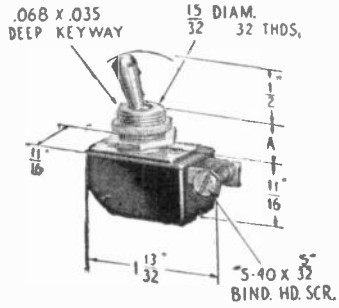

Cat. No. 7563 (D.P. D.T.)
Standard Duty




Cat. No. 8280 (S.P. S.T.)
Light Duty




Cat. No. 8363 (D.P. D.T.)
Light Duty




Cat. No. 8396 (S.P. S.T.)
Light Duty

ONE HOLE MOUNTING
A-C RATINGS

| RATING | | 1 Pole | | 2 Pole | | 3 Pole | | 4 Pole | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 250 V | 125 V | S. T. | D. T. W/O Off | S. T. | D. T. W/O Off | S. T. | D. T. W/O Off | S. T. | D. T. W/O Off | Term. Type |
| | | 8098 | | | | | | | | L |
| | 3 Amp. | 8098 | 7140* | | | | | | | S |
| | | | 7141 | | | | | | | S |
| | | 7580 | 7581* | 7590 | 7591* | | | | | S, L & Sp |
| 3 Amp. | 6 Amp. | 7583‡ | 7582 | 7593‡ | 7592 | | | | | S, L & Sp |
| | | | 7585‡ | | 7595‡ | | | | | S, L & Sp |
| | | | 7586*‡ | | 7596*‡ | | | | | S, L & Sp |
| | | 7500 | 7502* | 7560 | 7562* | 7610 | 7612* | | | S |
| | | 7501 | 7503* | 7561 | 7563* | 7611 | 7613* | | | L & Sp |
| 10 Amp. | 15 Amp. | | 7504 | | 7564 | | 7614 | | | S |
| | | | 7505 | | 7565 | | 7615 | | | L & Sp |
| | | | | | | 7616‡ | 7617*‡ | | | S & Sp |
| | | | | | | | 7618‡ | | | S & Sp |
| | | 7506‡ | 7508*‡ | 7566‡ | 7568*‡ | | | | | S, L & Sp |
| | | 7507‡ | 7510‡ | | 7570‡ | | | | | S, L & Sp |
| | | | | | | | | 7690 | 7692* | S |
| 10 Amp. | | | | | | | | 7691 | 7693* | L |
| | | | | 7522 | | | | 7696‡ | 7694 | S |
| | | 7533 | | 7520 | | | | 7697‡ | 7695 | L |
| | | | | 7521 | | | | | | W |
| 20 Amp. | | | | 7543 | | 8320 | | | | S |

Standard bushing lengths 11/32" and 15/32"
L=Solder Lug, W=Wire Leads, S=Screw terminals, Sp=Spade terminals
* Center Off
‡Momentary contact

ONE HOLE MOUNTING
AC - DC RATINGS

| RATING | | 1 Pole | | 2 Pole | | |
|---|---|---|---|---|---|---|
| 250 V | 125 V | S. T. | D. T. W/O Off (3-Way) | S. T. | D. T. W/O Off | Term. Type |
| | | | 8282 | | | L |
| 1 Amp. | 3 Amp. | | 8292 | | | W |
| | | | 8297 | | | S |
| | | 8280 | | 8360 | 8363 | L |
| 3 Amp. | | 8290 | | 8361 | 8364 | W |
| | | 8295 | | 8362 | 8365 | S |
| | | 8381 | | 8370 | 8373 | L |
| | | 8384 | | — | — | Sp |
| 3 Amp. | 6 Amp. | 8391 | | 8371 | 8374 | W |
| | | 8396 | | 8372 | 8375 | S |
| | | 7740 | | | | L |
| | | 7741 | | | | W |
| 4 Amp. | 8 Amp. | 7742 | | | | S |
| | | 7743 | | | | Sp |
| 5 Amp. | 10 Amp. | | | | 8680 | S |
| 6 Amp. | 12 Amp. | 7321 | | 7320 | | S |
| | 12 Amp. | 7322≃ | | | | S |
| 10 Amp. | 15 Amp. | 7361 | | 7360 | 8690 | S |
| 20 Amp. | | 7403 | | 7402 | | S |

Standard bushing lengths 1/4", 11/32", and 15/32"
≃ Parallel Contacts
L=Solder Lug, W=Wire Leads
S=Screw Terminals, Sp=Spade Terminals

**CUTLER-HAMMER, Inc.**
**Milwaukee 1, Wis.**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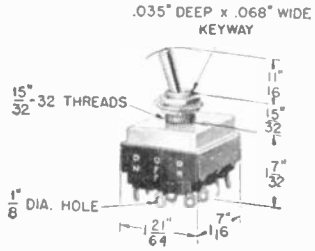
World Radio History

# . . . *for* Electronics, Radio, Small Motors

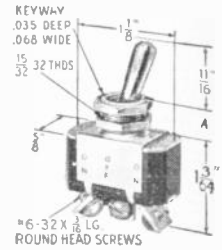
These switches are designed to meet the exacting requirements of communication and power apparatus for all branches of the government. The single pole and double pole switches meet the requirements of JAN-S-23 and the four pole switches are designed to meet the same rigid requirements. Standard bushing length — 15/32".

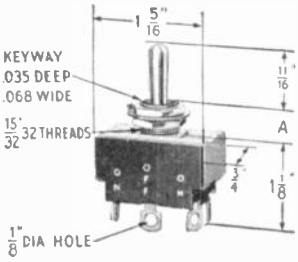



## One Hole Mounting Aircraft Type Applications

Cat. No. 7660
(4 Pole D.T. — with Solder Lug)

Cat. No. 8800
(S.P., D.T. — with Screw Terminals)




Cat. No. 8821
(D.P., D.T. — Solder Terminal)

### SINGLE POLE

| Single Pole ST No. | Single Pole Cat. No. | Terminal | Single Pole ST No. | Single Pole Cat. No. | Terminal | Lever Position |
|---|---|---|---|---|---|---|
| 40A | 8801K13 | S | 42A | 8803K6 | L | On None Off |
| 40B | 8813K12 | S | 42B | 8819K5 | L | On None Off★ |
| 40C | 8811K12 | S | 42C | 8817K5 | L | Off None On★ |
| 40D | 8810K12 | S | 42D | 8816K5 | L | On None On |
| 40E | 8800K13 | S | 42E | 8802K6 | L | On Off On |
| 40F | 8804K12 | S | 42F | 8805K5 | L | On None On★ |
| 40G | 8812K13 | S | 42G | 8818K5 | L | On★Off On★ |
| 40H | 8809K13 | S | 42H | 8815K6 | L | On Off On★ |

### DOUBLE POLE

| Double Pole ST No. | Double Pole Cat. No. | Terminal | Double Pole ST No. | Double Pole Cat. No. | Terminal | Lever Position |
|---|---|---|---|---|---|---|
| 50K | 8822K8 | S | 52K | 8823K5 | L | On None Off |
| 50L | 8828K5 | S | 52L | 8829K5 | L | On None Off★ |
| 50M | 8826K5 | S | 52M | 8827K5 | L | Off None On★ |
| 50N | 8824K8 | S | 52N | 8825K5 | L | On None On |
| 50P | 8820K10 | S | 52P | 8821K5 | L | On Off On |
| 50R | 8830K5 | S | 52R | 8831K5 | L | On None On★ |
| 50S | 8834K4 | S | 52S | 8835K3 | L | On★Off On★ |
| 50T | 8832K4 | S | 52T | 8833K3 | L | On Off On★ |

### FOUR POLE

| Four Pole Cat. No. | Terminal | Lever Position |
|---|---|---|
| 7660K8 | S | On None Off |
| 7661K6 | L | On None Off |
| 7662K5 | S | On Off On |
| 7663K5 | L | On Off On |
| 7664K3 | S | On None On |
| 7665K4 | L | On None On |
| 7666K6 | S | Off None On★ |
| 7667K6 | L | Off None On★ |
| 7668K4 | S | On None Off★ |
| 7669K4 | L | On None Off★ |
| 7670K4 | S | On Off On★ |
| 7671K4 | L | On Off On★ |
| 7672K4 | S | On★Off On★ |
| 7673K4 | L | On★Off On★ |
| 7674K4 | S | On None On★ |
| 7675K4 | L | On None On★ |

★Momentary contact  S — Screw terminal  L — Solder lug

The switches shown on these pages constitute only a partial listing of standard type Cutler-Hammer switches available. Additional data on other standard and special types may be obtained from your Cutler-Hammer electrical distributor or your nearest Cutler-Hammer sales office.

## *What you should know about Cutler-Hammer*

Cutler-Hammer has long held the respect of the aircraft industry because this company has been part of the aircraft industry for 35 years. Today, as for the decades past, Cutler-Hammer engineers are working closely with the aircraft industry's leaders . . . thinking ahead, planning, designing and building for the future. Here is the record:

**1920** Cutler-Hammer designed and manufactured the first line of switches ever created specifically for use in aircraft.

**1938** Cutler-Hammer designed and manufactured the first d-c power relays ever created specifically for use in aircraft.

**1943** Cutler-Hammer designed and manufactured the first a-c power relays ever created specifically for use in air-craft.

**1949** Cutler-Hammer started development of the first environment-free power relays for use in aircraft.

**1953** Cutler-Hammer submitted samples and certified test reports on the first hermetically sealed power relay to WADC and Bu. Aer. Cutler-Hammer configuration was adopted as industry standard by ASG.

**1955** Cutler-Hammer designed and manufactured the first one hole mounting Lever Lock aircraft switches.

**CUTLER-HAMMER, Inc.**
**Milwaukee 1, Wis.**

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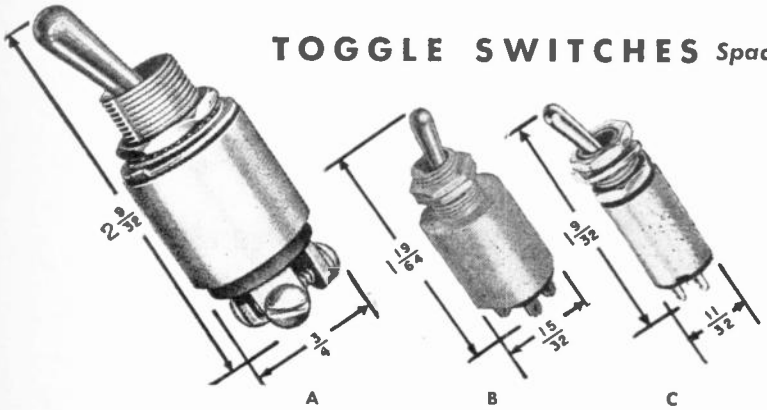
World Radio History

# HETHERINGTON

## AIRCRAFT TYPE SWITCHES AND INDICATOR LIGHTS

## TOGGLE SWITCHES *Space-Saving, Cylindrical Types*

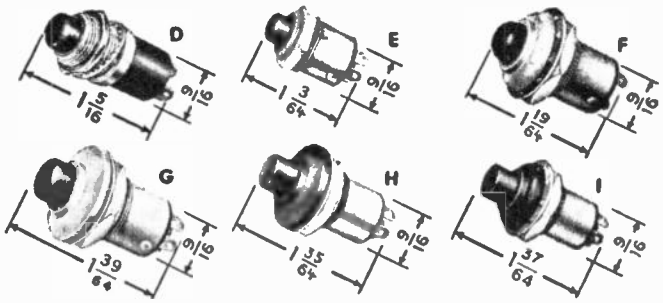



Exceptionally rugged, cam-roller Hetherington Toggle Switches positively cannot be teased off contact. Cylindrical anodized aluminum cases reduce size by 25% over conventional rectangular switches. Firmly anchored terminals separated by heavy insulation barrier. All are 2-position, snap-action.

| FIG. | TYPE | CIRCUIT | RATINGS (Resistive Loads) 28v. dc. | 115v. ac. | MTG. HOLE DIA. | SPECIAL FEATURES |
|---|---|---|---|---|---|---|
| A | T1003 | SPDT | 20 amps. | 10 amps. | 15/32" | Designed to MIL-S-6745 specs. |
| B | T2104 | 2-circuit | 10 amps. | 5 amps. | ¼" | Designed to JAN-S-23, Amend. 3. |
| C | T3103 | SPDT | 5 amps. | 2½ amps. | ¼" | Anodized aluminum case |

## PUSHBUTTON SWITCHES *Snap-Action, Momentary Contact*

The exclusive Hetherington snap-action mechanism reduces arcing and contact wear . . . provides far greater current capacity than the small sizes of these switches would indicate. Mechanism enclosed in dust- and moisture-resistant anodized aluminum housings (phenolic in B2001 & B2002). 1-piece terminals and contacts firmly anchored to bases. Many types meet JAN and MIL Specs for aviation and military requirements.




| FIG. | TYPE | CIRCUIT | RATINGS (Resistive Loads) 28v. dc. | 115v. ac. | MTG. HOLE DIA. | SPECIAL FEATURES |
|---|---|---|---|---|---|---|
| D | B2001 | SPST (N.O.) | — | 8 amps.* | ½" | Phenolic body |
| | B2002 | SPST (N.C.) | | | | |
| E | C1006 | SPST (N.O.) | 17 amps. | 15 amps.* | ½" | Anodized aluminum cases |
| | C2006 | 2-circuit | 10 amps. | | | |
| F | C100U4 | SPST (N.O.) | 17 amps. | 15 amps.* | ⅝" | Anodized aluminum cases & mounting flanges |
| G | C200P3 | 2-circuit | 10 amps. | | | |
| H | W103PB6 | 2-circuit | 10 amps. | — | ⅝" | Corresponds to MS25089-3C (MIL-S-6743). Blk. flange. |
| I | W103UB6 | 2-circuit | 10 amps. | — | ⅝" | Corresponds to MS25089-3D (MIL-S-6743). Blk. flange. |

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World Radio History

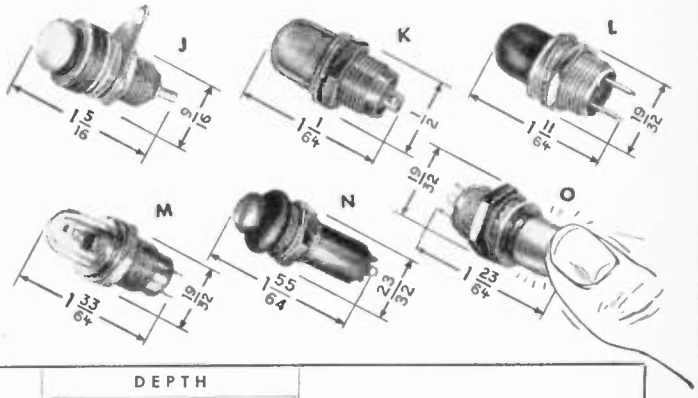
# HETHERINGTON

## AIRCRAFT TYPE SWITCHES AND INDICATOR LIGHTS

## INDICATOR LIGHTS

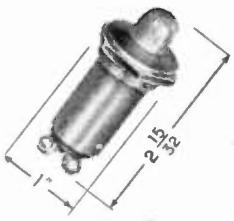
Exceptionally tiny, lightweight Hetherington Indicators withstand severe shock and vibration. Many types fully moistureproof. Wide-angle types "pipe" light evenly thru long plastic lenses. In "Press-to-Test" types, bulb is "tested" by depressing lens to make contact thru separate circuit.

Red lenses supplied. Green, amber, and white also available. Use AN3140 midget flange base bulbs — 6, 14, or 28 volts. 28 volt bulb supplied. Special 115 volt neon bulb and clear lens furnished on L7100C.




| FIG. | TYPE | CIRCUIT | MTG. HOLE | DEPTH | | SPECIAL FEATURES |
|---|---|---|---|---|---|---|
| | | | | LENS TO PANEL | FLANGE TO TERMINAL | |
| J | L1000R | Case ground | 13/32" | 19/64" | 1 1/64" | Fully moistureproof. Has insulating spacers and lug for un-grounded panels. |
| K | L6000R | Case ground | 13/32" | 29/64" | 9/16" | Subminiature, Wide angle lens. |
| L | L6600R | 2-terminal | 15/32" | 29/64" | 25/32" | Miniature, Wide angle lens. |
| M | L7100 C | 2-terminal neon | 1/2" | 17/32" | 43/64" | Clear, wide angle lens. Requires external 200K series resistor for 115V operation. |
| N | L3000R | Press-to-test | 1/2" | 35/64" | 1 5/16" | Pressing lens cap makes contact thru separate circuit. Un-grounded case. Moisture-proof. |
| O | L3200R | Press-to-test | 1/2" | 17/32" | 53/64" | Miniature version of L3000R (above). Wide angle lens. |

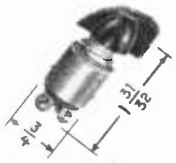
## SPECIAL SWITCHES



### PUSH "ON" — PUSH "OFF"

*Maintained Contact*

***Type J100*** — Used as reading light switch by leading airlines. Anodized alum. Screw terminals. 20 amps @ 28v dc; 10 amps @ 115v ac. Mounts in 7/8" hole.



*2-Position, Snap-Action*

### ROTARY

***Type R1003*** — Same construction and ratings as J100, but SPDT. Knob not supplied. Mounts in 15/32" hole.

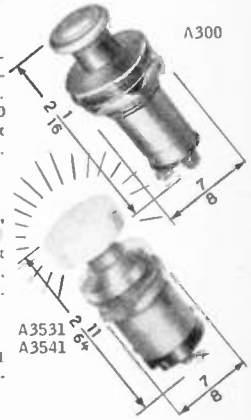
### NON-SNAP PUSHBUTTON

***Type B5023*** — For keyboards of calculators, etc. Smooth, 1/2-lb. oper. press. 1/4" travel. 2-circuit, momentary contact. 3 amps @ 30v dc. Black button furnished. Mounts in 1/2" hole.

## SWITCHLITES®

*Switches with Built-in Lights*

Unique design combines switch and light in 1 unit — saves space, wiring, installation time. Simplifies operation of complicated panels. Push-button lenses unscrew for bulb replacement. Use 6, 14, or 28 volt AN3140 bulbs. 28v bulb supplied. Lenses and mtg. flanges can be lettered. Anodized aluminum cases.




***Type A300*** — The original aircraft hostess call light. Push on — Pull off, SPST switch with aux. momentary contact on "push." 10 amps @ 28v dc. Red translucent lens. Lamp grounded to case. Mounts in 5/8" hole.

***Type A3531*** — Momentary contact, SPST (N.O.) switch. 10 amps @ 28v dc. Independent lamp circuit with 2 separate terminals. 7/8" dia., flat-top red translucent lens. Mounts in 5/8" hole.

***Type A3541***—Same as Type A3531 but with Push on — Pull off, maintained contact action.

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World Radio History

# TRIMM

## PLUGS • PATCH CORDS • JACK PANELS

### STANDARD PHONE PLUGS

The standard radio phone plug, widely used on P. A., etc. equipment. Designed to fit all standard jacks and available in both two and three conductor types. The "511" series, the two conductor plugs, are provided with binding head screws in terminal, handles of molded bakelite or metal when shielded plugs are required. The "513" series are three conductor types. The "515" adapter couples Amphenol type mike plug to standard phone jack.

| | |
|---|---|
| No. 511 —Black plastic shell | $ .69 |
| No. 511-1—Red plastic shell | .69 |
| No. 511-2—Shielded, single piece shell | 1.17 |
| No. 511-3—Shielded, two piece shell | 1.77 |
| No. 511-4—Shielded, stubby shell | .97 |
| No. 511-5—Two circuit, shielded, stubby shell. Has long tip to sleeve insulator which leaves "ring" spring open when inserted in three circuit jack | 1.09 |
| No. 513 —Three circuit black plastic shell | 1.09 |
| No. 513-1—Three circuit, red plastic shell | 1.09 |
| No. 513-2—Three circuit, shielded single piece shell | 1.59 |
| No. 513-3—Shielded, two piece shell | 2.19 |
| No. 513-4—Three circuit shielded, stubby shell | 1.40 |
| No. 515 —Adapter | .47 |

### "514" MIN-A-PLUG

Developed especially for shielded microphone cable. Wing type terminal clamps directly onto cord shield. Center conductor solders to lug. Also widely used for ordinary cords.

| | |
|---|---|
| No. 514 —Black plastic shell | $ .67 |
| No. 514-1—Red plastic shell | .67 |
| No. 514-2—Shielded, single piece shell | 1.07 |
| No. 514-4—Shielded, stubby shell | .97 |

### "512" FLAT TYPE PLUG

Compact, non-protruding design. Ideal for group hearing aid systems, centralized radio systems, etc. Body molded of phenolic plastic. All exposed edges rounded. Provision for stay cord anchorage. Fits standard jacks.

| | |
|---|---|
| No. 512 —Black | $ .87 |
| No. 512-1—Red | .87 |

### PATCH CORDS and PLUGS

Widely used by majority of radio stations. "840" series cord assembly uses TRIMM No. 506 twin plug and high quality shielded black colored, nylon braided cord. Plug self-aligning. Number following "840" represents length.

| | |
|---|---|
| No. 506 —Plug | $ 4.60 |
| No. 840-1-PP—Cord Assembly | 11.85 |
| No. 840-2-PP—Cord Assembly | 12.15 |
| No. 840-3-PP—Cord Assembly | 12.45 |

No. "841" series patch cords use a single triple circuit plug No. 517. Two program circuits connect to tip and ring, shield of cord going to sleeve of plug.

| | |
|---|---|
| No. 517 —Plug | $ 2.90 |
| No. 841-1-PP—Cord Assembly | 9.80 |
| No. 841-2-PP—Cord Assembly | 10.20 |
| No. 841-3-PP—Cord Assembly | 10.50 |

In addition to the lengths of both types of patch cords listed, lengths of 4, 5, 6 and 10 ft. are available as well as in the following colors: slate grey, white, red, and green. Also replacement cords carrying code No. 840-1 etc. and No. 841-1 etc. are available. See TRIMM Bulletin R-33 for complete listing.

### OTHER TYPES OF PATCH CORDS

In addition to the two types listed there are a number of special types produced both for audio and video work.

**No. 842 SERIES** Uses TRIMM No. 500 two circuit type plugs. Assemblies correspond with W. E. type 2P1B, 2P2A etc.

**No. 846 SERIES** Similar applications to "842" series but uses cordage jacketed with rubber-like material and TRIMM No. 501 plugs.

### "518" PLUG — "562" JACK

Two circuit miniature disconnect plug and jack series. Ideal for small size cordage. Plugs have two grooved, parallel pins which engage with multi-leafed contact springs in jack. No. 518 and 562 have acetate half shells cemented together. No. 518-7 and 562-7 have molded bakelite shells held together with screws.

| | |
|---|---|
| No. 518 —Plug | $ .60 |
| No. 518-7—Plug | .80 |
| No. 562 —Jack | 1.00 |
| No. 562-7—Jack | 1.10 |

### "525" CONNECTORS

The "525" series provides means of attaching headset cords, or any two wires, to single contact mike plugs (Amphenol 75-MC series of plugs). Main body of connector is similar to handle of "511" series plug. Connector held to receptacle by threaded retaining ring.

No. 525—Connector $ .87

### "501" PLUG

Widely used for high quality communication equipment, and commonly known as PL-55 type. Features a one piece tip-rod construction molded as an insert within plug body using blue diallyl phthalate molding compound. Parts cannot shift due to interlocking of plastic material with body and rod.

| | |
|---|---|
| No. 501 —Black plastic shell | $1.30 |
| No. 501-1—Red plastic shell | 1.30 |
| No. 501-2—Shielded shell | 1.90 |
| No. 501-10—Black plastic shell (PJ-055B) | 1.35 |

Other modifications available in quantity orders.

### "509" PLUG

Tip, ring, and sleeve three circuit plug used on microphone circuits and usually identified as type PL-68. Looks essentially like No. 501 type illustrated above.

| | |
|---|---|
| No. 509 —Black plastic shell | $2.95 |
| No. 509-10—Black plastic shell (PJ-068) | 3.00 |

### JACK PANELS and ACCESSORIES

TRIMM "96" series. Most widely used, and intended for use with standard twin type patch cords. Mounts on standard 19" racks. Constructed of bakelite panel, reinforced with steel. Designation strip, TRIMM No. 96-30, included on panel. Spacing of jacks prevents cross connection of adjacent circuits with double plug. Uses "90" series jacks (Normally No. 90-02, see description of jacks).

| | |
|---|---|
| No. 96-01—Single row, 12 pair jacks, 1¾" wide | $45.00 |
| No. 96-02—Double row, 24 pair jacks, 2⅛" wide | 78.50 |
| No. 96-03—Double row, 24 pair jacks, 3½" wide | 90.00 |

### SPECIAL JACK PANELS

In addition to the types listed a large variety of other types are in production. These include panels with different jacks; panels with a steel mat around the panel; panels with special jack spacing; panels with 24, 25 or 26 jacks per row spaced ⅝" c. to c. etc. Finally, facilities for the manufacture of custom-built panels involving special arrangements of jacks, special engraving etc. are available. Your inquiry will receive individual attention.

### DESIGNATION STRIPS

Several types are available.

| | |
|---|---|
| No. JP-30—Standard type has individual windows for each pair of jacks | $1.60 |
| No. JP-35—Alternate type, has one long window | 1.60 |

### STANDARD TELEPHONE TYPE PLUGS

Below are listed the more common of the many different types produced by TRIMM and being mechanically and electrically interchangeable with types widely used in telephone service.

| TRIMM No. | EQUIVALENT W.E. No. | DESCRIPTION | |
|---|---|---|---|
| 500 | 347 | Standard two circuit | $2.50 |
| 504 | 327 | Twin, four circuit | 4.70 |
| 505 | 289B | Twin, four circuit | 4.70 |
| 508 | 309 | Tip, ring, and sleeve, 0.206 diameter | 2.90 |
| 516 | 310 | Tip, ring, and sleeve, 0.250 diameter | 2.90 |


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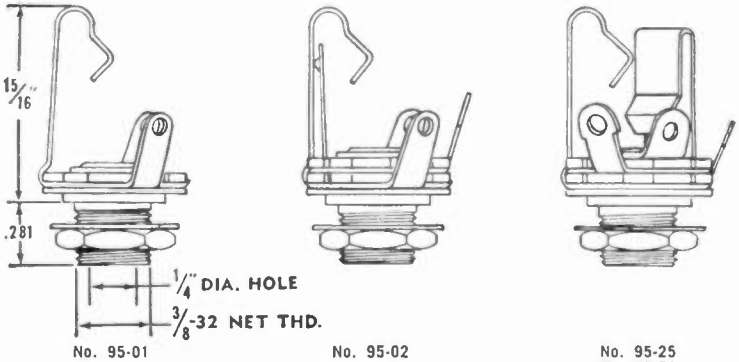
World Radio History

# TRIMM

## PLUGS • PATCH CORDS • JACK PANELS

### "95" SERIES JACKS

Widely used on P. A. amplifiers, tape recorders, short wave radios, servicemen test instruments, etc. Used where space behind panel is limited. Jack is panel mounted by means of threaded bushing upon which contact springs are directly assembled although adequately insulated from it. Bushing fits through 3/8" diameter hole. Spring contact of nickel silver, held in place by notched interlocking insulators. Drawing gives basic dimensions and arrangements.

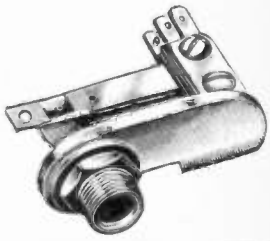



No. 95-01 No. 95-02 No. 95-25 No. 95-50

| | |
|---|---|
| No. 95-01—Open circuit, two conductor | $ .45 |
| No. 95-02—Closed circuit, two conductor | .54 |
| No. 95-25—Open circuit, three conductor (for 0.250" diameter plugs) | .64 |
| No. 95-50—Open circuit, three conductor (for 0.206" diameter plugs) | .68 |

### "93" SERIES JACK

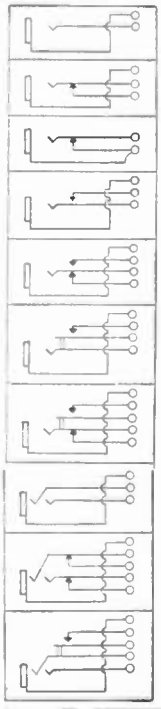
A short frame jack with springs mounted parallel to panel. Used particularly where depth behind panel is limited, on such applications as intercom systems, P. A. amplifiers, etc. Mounting is by means of threaded bushing 3/8" diameter, rigidly attached to a steel frame. May be mounted on panels up to 3/16" thick. Contact springs of nickel silver, terminals hot tinned. See diagrams below for circuits.



| | |
|---|---|
| No. 93-01 | $ .70 |
| No. 93-02 | .85 |
| No. 93-25 | .85 |
| No. 93-26 | 1.10 |

In addition a number of other circuits can be produced on order. Your inquiry will be given immediate attention.

All TRIMM jacks have a standardized coding consisting of the jack series number plus a dash number indicating spring arrangement, a few of which are shown below.



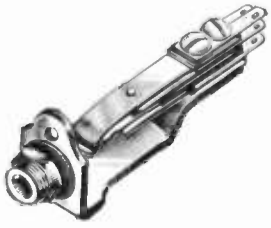
—01 —02 —03 —04 —05 —06 —07 —25 —26 —27

### "91" SERIES JACK

A long frame jack having a threaded mounting bushing and which can be attached to panel by this alone, or by a mounting screw as is done on the "90" series jacks. May be mounted on panels up to about 1/4" thick, having 3/8" hole. Depth behind panel 3 1/8".

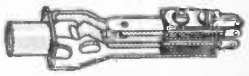
Frame is of very heavy gauge steel, zinc plated with dichromate finish. Springs of nickel silver. See diagrams below for circuits. Most circuits listed for "90" series can be supplied in "91" series. Those listed are the more commonly produced.

| | |
|---|---|
| No. 91-01 | $ .75 |
| No. 91-02 | .95 |
| No. 91-25 | .95 |
| No. 91-26 | 1.20 |



### "90" SERIES JACKS

Extensively used in jack panels and other high quality communication equipment. Commonly known as the telephone type jack. Bushing fits 29/64" diameter hole. Available in two modifications of the frame referred to as the "A" and "C" frame. These differ only in the orientation of the mounting plate with respect to the plane of the springs. Unless specified otherwise the "A" frame is supplied.



Frame of steel, heavily zinc plated with dichromate finish. Bushing of brass, natural finish standard (nickel plated or other finishes available on production orders). Springs of nickel silver, terminal ends hot tinned for ease in soldering. Contacts are of palladium-silver alloy. The circuits listed below represent those most commonly produced, but about forty circuits are available. Write for specific information.

| | |
|---|---|
| No. 90-01 | $1.05 |
| No. 90-02 | 1.20 |
| No. 90-03 | 1.20 |
| No. 90-04 | 1.30 |
| No. 90-05 | 1.40 |
| No. 90-06 | 1.40 |
| No. 90-07 | 1.50 |
| No. 90-25 | 1.20 |
| No. 90-26 | 1.60 |
| No. 90-27 | 1.80 |

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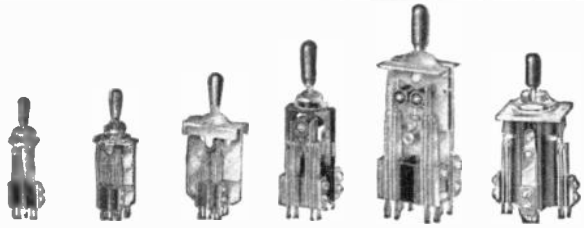
World Radio History

## A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY



MCS MCT-1 MCT-4 MCM MCL MFM

### RATINGS

| Type | Amps.* | High | Wide | Long** |
|---|---|---|---|---|
| MCS | 1 | 7/8" | 7/8" | 2-1/16" |
| MCT-1 | 1 | 1 1/4" | 3/4" | 2-5/16" |
| MCT-4 | 1 | 1 1/2" | 3/4" | 2-17/32" |
| MCM | 5 | 1 1/4" | 1 1/4" | 2-25/32" |
| MCL | 10 | 1 3/4" | 1 3/8" | 3-15/16" |
| MFM | 5 | 1 3/4" | 1 3/4" | 3" |

*125 volts, 60 cycles, non-inductive.
**From back panel to end of terminals.

**Write for data Sheet CLRM**

**MCS** Lightweight miniature switch. Two contact sections. Single-hole mounting. Especially suited for Instruments and communications systems.

**MCT** Small lever switch for multiple-circuit control. Four contact sections. Frames available for either single-hole or four-hole screw type mounting.

**MCM** Wide-mounted lever switch with multiple-position, ball-bearing detents. Four contact sections. Contact assemblies easily removed for wiring. Single-hole mounting.

**MCL** Heavy-duty switch for constant use in electrical control. Rugged frame. Four contact sections; easily removed contact assembly. Four-hole mounting.

**MFM** Versatile four-position switch with four contact sections—one neutral and three switch positions. Single-hole mounting.

### LEVER OPERATION

| Symbol: Lock (Stays put) | Symbol: Non-lock Spring return | Three Position | | | Two Position | Half Throw | Two Position | Full Throw |
|---|---|---|---|---|---|---|---|---|
| Designation | MCS | S1 | *S2 | S3 | *S4 | *S5 | | |
| | MCT | T1 | *T2 | T3 | *T4 | *T5 | | |
| | MCM | M1 | *M2 | M3 | *M4 | *M5 | M6 | *M7 |
| | MCL | L1 | *L2 | L3 | *L4 | *L5 | | |

*Lock and non-lock positions may be reversed. To reverse designate as RS2, RM4, RL5, etc.

### SPECIAL MCM LEVERS

(A) waterproof lever $3.30 EACH, LIST

(B) rotary lever $2.75 EACH, LIST

(C) right angle lever $2.00 EACH, LIST

### MFM

| Description | Lock | Non-Lock | Four-Position |
|---|---|---|---|
| SYMBOL | | | |
| OPERATION | | | |
| Operat. No. | | | |

### CONTACTS

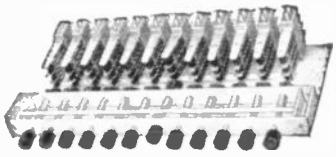
To obtain list price:— add contact prices to frame price.

| Frame Types and Prices | | Contact Forms: Circuit | A | B | C | D | E | F | G | H | O (No Contacts) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MCS | $1.35 | MCS | 0.40 | 0.40 | 0.50 | 0.60 | 0.70 | 0.50 | — | 0.50 | — |
| MCT-4 | $1.60 | MCT-4 | 0.40 | 0.40 | 0.50 | 0.60 | 0.70 | 0.50 | — | 0.50 | — |
| MCT-1 | $2.00 | MCT-1 | 0.40 | 0.40 | 0.50 | 0.60 | 0.70 | 0.50 | — | 0.50 | — |
| MCM | $3.00 | MCM | .60 | .60 | .75 | .95 | 1.20 | .75 | .75 | .75 | — |
| MCL | $4.00 | MCL | .95 | .95 | 1.05 | 1.30 | 2.00 | 1.05 | 1.05 | 1.05 | — |
| MFM | $13.75 | MFM | .60 | .60 | .75 | .95 | 1.20 | .75 | .75 | .75 | — |

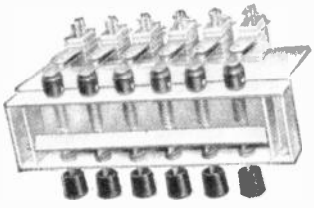
NOTE: Add 20% to MCS and MCT contact prices for contacts of palladium-silver alloy.

## PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY

A complete heavy duty push button switch with either 1 amp. or 5 amp. ratings at [illegible] Furnished in two or twelve positions. A right-angle MPB is available for use where back-of-panel depth is limited, incorporating all of the operating features of the standard MPB. 1 amp. switches are available with palladium silver contacts. It is possible to obtain the standard MPB switch stacked and/or intercoupled, providing all of the features of a single switch. Other variations of the standard MPB switch are also obtainable. Contact the factory with your requirements.



STANDARD MPB SWITCH



RIGHT-ANGLE MPB SWITCH

**Write for data sheet PBRM**

### STANDARD and RIGHT-ANGLE FRAME PRICES

| 1 FRAME TYPES / CONTACT POSITIONS | | MPB-2 / 2 | MPB-3 / 3 | MPB-4 / 4 | MPB-5 / 5 | MPB-6 / 6 | MPB-7 / 7 | MPB-8 / 8 | MPB-9 / 9 | MPB-10 / 10 | MPB-11 / 11 | MPB-12 / 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Accumulative Lock | B-13 | See note | 6.70 | 8.65 | 10.60 | 12.55 | 14.50 | 16.45 | 18.40 | 20.35 | 22.30 | 24.25 |
| No Two Interlock | B-14 | 5.50 | 5.95 | 7.40 | 8.85 | 10.30 | 11.75 | 13.20 | 14.65 | 16.10 | 17.55 | 19.60 |
| Lock Release | B-15 | 5.00 | 5.20 | 6.40 | 7.60 | 8.80 | 10.00 | 11.20 | 12.40 | 13.60 | 14.80 | 16.60 |
| Non-Lock | B-16 | 5.00 | 5.20 | 6.40 | 7.60 | 8.80 | 10.00 | 11.20 | 12.40 | 13.60 | 14.80 | 16.60 |

*Reset button requires one position in addition to standard contact positions. Reset button is on right-hand side unless otherwise specified.
*Reset button normally actuates no contacts but *can* be used to actuate *momentary* contacts if required.

### CONTACTS

| 2 CONTACT FORMS | A | B | C | D | E | H | O |
|---|---|---|---|---|---|---|---|
| Circuit | | | | | | | No Contacts |
| PRICE *5 Amps. | .60 | .60 | .75 | .95 | 1.20 | .75 | — |
| PRICE *1 Amp. | .40 | .40 | .50 | .60 | .70 | .50 | — |

*Ratings at 125 volts A.C., N.I.

### PUSH BUTTON OPERATION

| 3 OPERATION | ACCUMULATIVE LOCK | NO TWO INTERLOCK | LOCK RELEASE | NON-LOCK |
|---|---|---|---|---|
| Description | Buttons pushed in remain locked in position until released by pushing reset button. | Only one button can be pushed in at one time, and releases any other button. | Any button pushed in releases any previously pushed in button. | Has no locking action; returns to normal position on release of finger pressure. |
| Designation | B-13 | B-14 | B-15 | B-16 |

### ORDERING INFORMATION

When ordering, specify:

1. Frame Type — Standard MPB-6 — Price: $8.80
2. Push Button Operation — B-15 — ——
3. Contacts C1, C2, C3, etc — A-A-A-B-B-C — +.60 + .60 +.60 + .60 +.60 +.75
4. Contact Rating — 5-amperes — ——
5. Panel Thickness — 1/8" panel — ——

=$12.55

NOTICE: All prices and specifications subject to change without prior notice. General Control Company, Boston 34, Mass.



Net

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World Radio History

## "Footrol" FOOT SWITCHES by GENERAL CONTROL COMPANY

**FOOTROL®** GENERAL CONTROL

Since 1934, General Control Company has been a foremost manufacturer of Foot Switches. These are products of the highest quality; built for rugged industrial applications. The great number of GENERAL CONTROL foot switches now in everyday use throughout the world provides substantial evidence of their acceptance for all types of applications.

Write for data sheet FSRM

TYPE MA A new light weight foot switch with an actuating treadle built into its top to permit operation with unusually light foot pressure. A long-life SPDT "du-op" Limit Switch forms the internal switch action. Especially recommended for fast operation where minimum fatigue is important. Access to the internal "du-op" switch terminals is greatly facilitated by simply removing the front end of the casting.

TYPE MC Especially adapted for unusual applications and hard use. Easily operated for foot, knee, hand, or elbow. Non-slip-tread top may be operated at any point of its surface.

TYPE MI An ideal treadle-type foot switch, especially convenient for many applications. Inclined, non-slip tread has an adjustable throw and includes a heel rest. Two operating pressures: 5 lbs. and 10 lbs. Mounting ears are provided on each side. A BX connector is mounted in the base, and terminal access is by a removable base plate.

| TYPES | | | CONTACT TYPES | CONTACT OPERATION |
|---|---|---|---|---|
| MA-3 $4.60 | MC-13 $6.50 | *MI-23 $9.80 | | Double throw Spring return ( ONE NORMALLY OPEN, ONE NORMALLY CLOSED ) |
| — | — | MI-25 $11.25 | | First press transfers switch contacts Second press restores switch contacts (ONE NORMALLY OPEN, ONE NORMALLY CLOSED) |
| — | — | MI-26 $13.65 | | 1st half-throw closes 1st switch 2nd half-throw closes 2nd switch Spring Return |
| — | — | MI-27 $15.00 | | Double pole Double throw Spring return ( TWO NORMALLY OPEN, TWO NORMALLY CLOSED ) |

*Add $2.50 to price shown, for foot switch with heavy duty 20-ampere rating.

Standard Foot Switches are available with mounting holes to accommodate special connectors used on shielded cable.

## Precise LIMIT SWITCHES by GENERAL CONTROL COMPANY

### PRECISE MACHINE CONTROL depends upon PRECISE LIMIT SWITCHING

### BASIC du . op SWITCH

CUT-AWAY VIEW

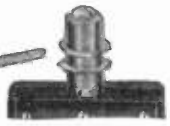
The type DU-S "du · op" is a precise action limit switch. The centrally-located plunger acts *directly* on the wide phosphor bronze blade to insure instantaneous contact at each point of repetitive plunger travel. Delays of pre-travel blade action are eliminated — an important factor at high switching speeds.

ACTUATORS

DU-S...Standard Type

DU-O... Heavy-Duty Plunger

DU-L...3 Position Leaf Actuator



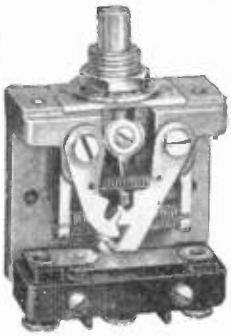
DU-B...Ball Actuator

DU-E...Stainless Steel Plunger

| TYPES AND PRICES | STANDARD SPDT CONTACT ARRANGEMENT | CONTACT OPERATION SPDT-S/R | ACTUATING FORCE | CONTACT GAP | ACTUATOR TRAVEL TO CLOSE CONTACT | OVER-TRAVEL |
|---|---|---|---|---|---|---|
| DU-S $1.90 | | Single Pole Double Throw Spring Return | 2-6 oz. | .020" | .020" | .015" |
| DU-O $2.10 | SPDT | SPDT-S/R | 2-6 oz. | .020" | .020" | .015" |
| DU-L $3.80 | SPDT | SPDT-S/R | 6 3/4-11 1/4 oz. 6 1/2-3 1/4 oz. 6 1/4-1 1/2 oz. | .020" | .250" .375" .625" | .218" .187" .125" |
| DU-B $3.65 | SPDT | SPDT-S/R | 2-6 oz. | .020" | .020" | .062" |
| DU-E $3.50 | SPDT | SPDT-S/R | 2-6 oz. | .020" | .020" | .075" |

LIGHTER OR HEAVIER ACTUATING FORCE SWITCHES ARE AVAILABLE

**RATINGS**—10 amperes 125 volts a-c; non-inductive; 5 amperes 230 volts a-c; non-inductive



### A-C-O

LIMIT SWITCH

←COVER REMOVED

ENCLOSED SWITCH→

The **A-C-O** is a new development in off-on Limit Switches . . . an innovation for use on machine tools, and other Limit Switch applications. Operation is such that the first press transfers the contacts; the second press restores them. Contacts are maintained at the completion of each plunger stroke.

| BASIC TYPE AND PRICE | STANDARD CONTACT ARRANGEMENT | MAINTAINED CONTACT OPERATION | STANDARD ACTUATING FORCE | CONTACT GAP | PLUNGER TRAVEL TO CLOSE CONTACT | OVER-TRAVEL |
|---|---|---|---|---|---|---|
| ACO $10.00 WITH COVER | | First press transfers contact; Second press restores contact | 3-4 lbs. | .020" | .218" | .113" |

**RATINGS**—10-20 amperes 125 volts a-c; non-inductive; 10 amperes 230 volts a-c; non-inductive

Write for data sheet ADRM

## "Promatic" CONTROLS by GENERAL CONTROL COMPANY

### SYNCHRONOUS-MOTOR TIMERS

The Series II, Type SY, Synchronous-motor Timers has time ranges from 1 second up to 24 hours, available to match the Type ET Timer. Redesigned to incorporate the latest production and quality improvements. A new patented O-Ring clutch eliminates gears and costly maintenance problems. Time period easily adjusted and continuously indicated on large dial. Prices from $55.00 each, list.

### ELECTRONIC TIMERS

Type ET, Electronic Timers with ranges from .060 seconds to 60 seconds, are available in a variety of frame types, terminal arrangements, and mountings. The enclosed type or chassis model have back plates punched with universal mounting holes. Double pole, double throw auxiliary load contacts are rated at 10 amps., 125 volts a-c, n.i. Prices from $35.00 each, list.

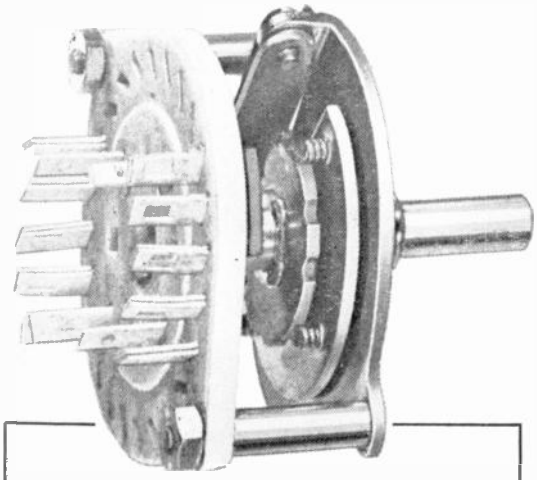
Write for data sheets SERM

World Radio History

# SWITCHES • ATTENUATORS • POTENTIOMETERS

## TYPE 2A TAP SWITCH

**A High Quality Instrument Switch at a Low Price**



### TYPE 2A TAP SWITCH
**SPECIFICATIONS**

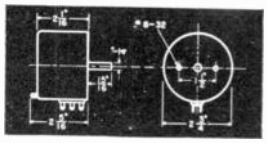
**Contact resistance:** 3-4 milliohms.
**Contact material:** Silver plated brass.
**Contact design:** Laminated wiper arm, self-cleaning, shorting or non-shorting.
**No. of contacts:** 2 to 24 single pole, 2 to 11 double pole, 2 to 7 triple pole, 2 to 5 four pole; shorting or non-shorting.
**Spacing:** 15° or 20° shorting or non-shorting.
**No. of poles per deck:** 1 to 4.
**No. of decks:** According to requirements.
**Current carrying cap.:** 3 amp.
**Max. operating voltage:** 120 V., a.c.
**Mounting:** Single hole, 3/8"-32 bushing.
**Size:** 1 3/4" dia.
**Detent:** Ball and spring.
**Weight:** Approx. 1 oz. per deck.

**WE MAKE A GREAT MANY KINDS OF ATTENUATORS & ROTARY SWITCHES**

3 to 4 weeks delivery on orders up to 6 units.

LIST PRICES QUOTED SUBJECT TO QUANTITY DISCOUNT

## Type 700 ATTENUATORS "T"-PADS



| Type | Impedance | No. of Steps | Db per Step |
|---|---|---|---|
| TA-731.5 | 600/600 | 30 | 1.5 |
| TA-731 | 600/600 | 30 | 1 |
| TA-722 | 600/600 | 20 | 2 |
| TB-731.5 | 500/500 | 30 | 1.5 |
| TB-722 | 500/500 | 20 | 2 |
| TC-731.5 | 250/250 | 30 | 1.5 |
| TC-722 | 250/250 | 20 | 2 |
| TD-731.5 | 200/200 | 30 | 1.5 |
| TD-722 | 200/200 | 20 | 2 |
| TE-731.5 | 50/50 | 30 | 1.5 |
| TE-722 | 50/50 | 20 | 2 |
| TF-731.5 | 30-30 | 30 | 1.5 |
| TF-722 | 30/30 | 20 | 2 |

NOTE: Other attenuators available in 1 1/4" dia., 1 3/4" dia., 2 1/4" dia., 3" dia. Also r.f. and co-axial attenuators.

## PRICE LIST FOR TYPE 2A

| No. of Decks | No. of Poles/Deck | No. of Pos. Shorting | Type No. for 2A | Price |
|---|---|---|---|---|
| 1 | 1 | 24 | A1S24 | $4.50 |
| 1 | 2 | 12 | A2S12 | 4.75 |
| 1 | 3 | 6 | AS36 | 5.00 |
| 1 | 4 | 5 | A4S5 | 5.25 |
| 2 | 1 | 24 | A1S24-2 | 7.00 |
| 2 | 2 | 12 | A2S12-2 | 7.50 |
| 2 | 3 | 6 | A3S6-2 | 8.00 |
| 2 | 4 | 5 | A4S5-2 | 8.50 |
| 3 | 1 | 24 | A1S24-3 | 9.50 |
| 3 | 2 | 12 | A2S12-3 | 10.25 |
| 3 | 3 | 6 | A3S6-3 | 11.00 |
| 3 | 4 | 5 | A4S5-3 | 11.75 |
| 4 | 1 | 24 | A1S24-4 | 12.00 |
| 4 | 2 | 12 | A2S12-4 | 13.00 |

*Epoxy or Melamine insulation on demand.*

# TECH LABORATORIES INC.

PALISADES PARK, N. J.

**WRITE FOR NEW BULLETINS**

on Switches • Decade Resistors Potentiometers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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

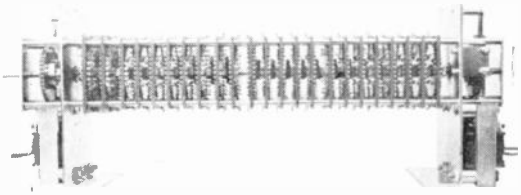
World Radio History

# STEPPING SWITCHES

for

- AUTOMATION
- TELEMETERING
- REMOTE CONTROL

- Rugged
- Dependable
- Hermetically Sealed, if desired



*Write for Bulletin*

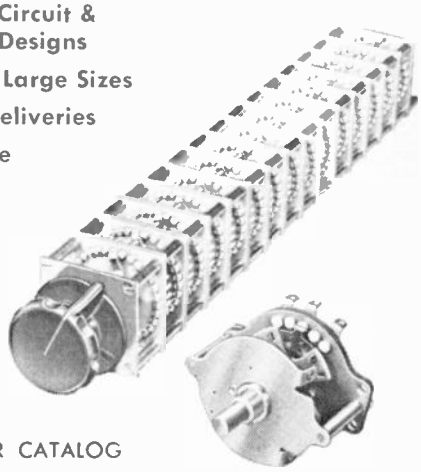
# ROTARY SWITCHES

for all

ELECTRONIC EQUIPMENT

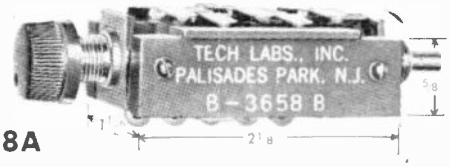
- We Meet and Exceed Government Specs.
- Printed Circuit & Special Designs
- Small & Large Sizes
- Quick Deliveries
- Long Life

*23 Years of supplying fine switches!*



WRITE FOR CATALOG

## for counting and control..




**Type 8A**

low cost, miniature

## CAM SWITCH

- A decimal-to-binary converter switch
- A control switch
- A decade switch

This versatile, miniature Cam Switch by Tech Laboratories is made in six- and ten-position models for a variety of computer and control applications. It is the least expensive and smallest switch of its kind, yet life tests in excess of 40,000,000 breaks have been performed with no evidence of failure! Type 8A is rated at one-amp., 110 volts, a-c and has a breakdown rating of 1500 volts. Available in single and double-end designs for clockwise and counter-clockwise operation. Variations in design or application.

*Send for complete technical data.*

Everyone's an Expert Tape Editor with the

***It's Quick! It's Easy It's Accurate***

Here's everything you need in one package for professional editing of magnetic recorder tapes PLUS complete, easy-to-follow instructions by Joel Tall, tape editor of CBS! The EdiTall tape editing block has been used for years by tape editors — now it can be yours in this complete low-cost Splicing Kit.

**KIT CONTENTS**

- Editall Tape Editing Block
- 66-ft. roll of splicing tape
- Package of cutting blades
- Marker pencil
- Complete instructions

**Retail Price:** $9.00

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# TECH LABORATORIES INC.

PALISADES PARK, NEW JERSEY



World Radio History

# SWITCHING PROBLEMS?...

## in aircraft, missile, electronic, or industrial applications

## ELECTROSNAP ENGINEERING CAN HELP YOU

**Qualified engineering can save you time, money and effort on any switch application — with "standard" switches achieving specified performance demands.**

**Thousands of switch configurations available for "off-the-shelf" delivery.**

### SUB-MINIATURE BASIC SWITCHES

E4-100 Series

Actual size: 25/32" x 1/4" x 25/64"
Single-Pole, Double-Throw
5 amps.; 125/250 V., A.C.
Temp. Range —65° to +350° F.
Conforms to Military Specifications
Operating Characteristics can be tailored to meet any requirements
**E4-103** ..... $1.50, list

### STANDARD BASIC SWITCHES

"S" Type

Actual size: 1-1/4" x 1/2" x 1/2"
Single-Pole, Double-Throw, 2 circuit
10 amps.; 125/250 V., A.C.
Conforms to Military Specifications
Various standard switch characteristics can be developed to meet unlimited application needs.
**S1-4** ..... $1.40, list

### MULTI-POLE SWITCHES

D-8 Series

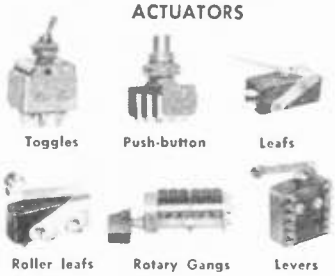
Actual size: 1-1/4" x 1/2" x 7/8"
Double-Pole, Double-Throw, 4 circuit
15 amps.; 125/250 V., A.C.
10 amps.; 30 V., D.C., Ind.
Temp. range —100° to +375° F.
Conforms to Military Specifications
Simultaneous operation; Triple-Pole (K3 Series) also available
**D8-4** ..... $6.25, list

### MINIATURE BASIC SWITCHES

F2 Series

Actual size: 1-3/32" x 13/32" x 5/8"
Single-Pole, Double-Throw
10 amps.; 125/250 V., A.C., 60 cycle
10 amps.; 28 V., D.C., Ind. or resistive
Temp. range —100° to +350° F.
Conforms to Military Specifications
**F2-3** ..... $1.10, list

### ACTUATORS




Hundreds of "standard" styles. "Specials" engineered to your requirements.

### ENVIRONMENT FREE

Push-button, panel mounted
Single-Pole, Double-Throw, 2 circuit
4 amps.; 28 V., D.C., Res.
Temp. range —100° to +221° F.
Conforms to Military Specifications
Mounting adjustable within 7/8", wire locking
Sealed against all environment conditions
High vibration and shock resistance
**H11-2** ..... $26.40, list

**EF-100 Series** H11-2

Sealed Basic Subminiature mounts anywhere for exposed control or indicating applications.
**EF-103** ..... $6.50, list

### HERMETICALLY SEALED LIMIT SWITCHES

H1-8

Rotaries and subminiatures with 500 various actuators
Double-Pole, Double-Throw, 4 circuit
10 amps.; 125/250 V., A.C.
15 amps.; 28 V., D.C.
Temp. range —65° to +400° F.
Sealed against all environment conditions
Conforms to Military Specifications
**H1-8** ..... $24.80, list

### LIGHTED PANEL SWITCHES

C-6

**C-6 Series** — combines 2-piece, color coded push-button, pilot-light and switching unit in one space-saving component, panel mounted. Use singly or "stacked". Momentary and alternate action.

**C-8 Series**—combines 3-color monitoring and switching in one compact, modular unit, panel mounted. Ten second lamp module replacement from panel front. Variety of colors available.

### DIE CAST ENCLOSED SWITCHES

ES4 Series

Single-Pole, Double-Throw, 2 circuit
10 amp.; 125/250 V., A.C.
Temp. range —67° to +160° F.
Housing resists entrance of oil, dust, moisture
One-Way Impulse action type also available
**ES4-KM2** ..... $10.50, list

Prices subject to change without notice

ELECTRO SNAP

**ELECTROSNAP CORPORATION**

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World Radio History

# SPEMCO H & H SWITCHES

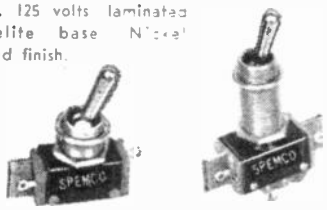
## BALL LEVER TOGGLE SWITCHES

Underwriters' approved, 3 amp. 125 volts. Laminated bakelite base. Nickel plated finish.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1120 | SPST | 15/32" | $1.00 ea. |
| 1122 | SPDT | 15/32" | 1.30 ea. |
| 1124 | DPST | 15/32" | 1.80 ea. |
| 1126 | DPDT | 15/32" | 2.10 ea. |
| 1121 | SPST | 1" | 1.30 ea. |
| 1123 | SPDT | 1" | 1.50 ea. |
| 1125 | DPST | 1" | 2.10 ea. |
| 1127 | DPDT | 1" | 2.30 ea. |

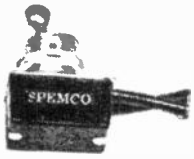
## BAT LEVER TOGGLE SWITCHES

Underwriters' approved, 3 amp. 125 volts laminated bakelite base. Nickel plated finish.



| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1135 | SPST | 15/32" | $1.00 ea. |
| 1136 | SPDT | 15/32" | 1.30 ea. |
| 1137 | DPST | 15/32" | 1.80 ea. |
| 1138 | DPDT | 15/32" | 2.10 ea. |
| 1121-B | SPST | 1" | 1.30 ea. |
| 1123-B | SPDT | 1" | 1.50 ea. |
| 1125-B | DPST | 1" | 2.10 ea. |
| 1127-B | DPDT | 1" | 2.30 ea. |

## BALL LEVER TOGGLE SWITCH

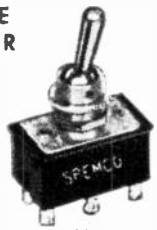


Underwriters' approved 3A 250V, 6A 125V, molded bakelite base. Nickel plated finished. WITH 6" WIRE LEADS size of case, 7/8" long, 1/2" wide, 9/16" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1154 | SPST | 3/8" | $1.35 ea. |

## MOLDED BAKELITE SWITCH, BAT LEVER

U.L. approved for 5 amp. 125 volts, 3 amp 250 volts. *Except for 1143 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.



| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1142 | SPST | 15/32" | $1.35 ea. |
| *1143 | SPDT | 15/32" | 1.60 ea. |
| 1144 | DPST | 15/32" | 2.00 ea. |
| 1145 | DPDT | 15/32" | 2.30 ea. |

*1 amp. 250 volts, 6 amp. 125 volts

## UTILITY SWITCHES—Toggle Type For AC Uses

1185
1186

1188
1194

Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1185 | SPST | 15/32" | $1.20 ea. |
| 1186 | SPDT | 15/32" | 1.45 ea. |
| 1188 | DPST | 15/32" | 1.90 ea. |
| 1194 | DPDT | 15/32" | 2.25 ea. |

## PUSH BUTTON DOUBLE ACTION SWITCH

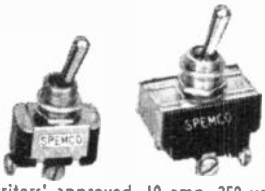
Underwriters' approved, 6 amp. 125 volts. Press lever to make contact, press lever to break contact. Nickel plated finish or snap-on plastic button, in red or black.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1156 | SP | 15/32" | $1.45 ea. |
| 1156-A | Red | Dia. | 1.80 ea. |
| 1156-B | Black | 15/32" | 1.80 ea. |

## MOMENTARY BAT LEVER TOGGLE SWITCHES

Underwriters' approved, 3 amp. 125 volts, laminated bakelite base. Nickel plated finished.

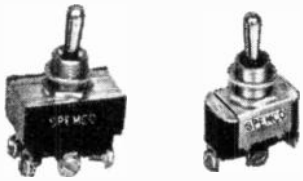
| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1166 | SPST | 15/32" | $1.75 ea. |
| 1167 | SPDT | 15/32" | 1.90 ea. |
| 1155 | DPST | 15/32" | 2.35 ea. |
| 1150 | DPDT | 15/32" | 2.65 ea. |



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1196 | SPST | 15/32" | $1.50 ea. |
| 1197 | DPST | 15/32" | 2.50 ea. |

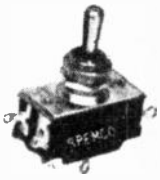
## NEUTRAL CENTER MOMENTARY BOTH ENDS



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1193 | DPDT | 15/32" | $2.75 ea. |
| 1195 | SPDT | 15/32" | 1.75 ea. |

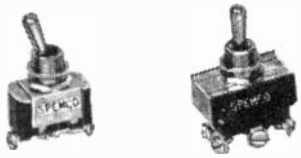
## BAT LEVER TOGGLE SWITCH Neutral Center



Underwriters' approved, 6 amp. 125 volts, either AC or DC. A 3 position switch, on-off-on. Black bakelite case.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1175 | SPDT | 13/32" | $2.45 ea. |
| 1176 | DPDT | 13/32" | 2.90 ea. |

## NEUTRAL CENTER



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1187 | SPDT | 15/32" | $1.45 ea. |
| 1189 | DPDT | 15/32" | 2.25 ea. |

## MIDGET MOMENTARY PUSH BUTTON SWITCHES

Underwriters' approved, 3 amp. 125 volts, AC. Molded bakelite base, nickel plated finish.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1141 | SP Normally Closed | 9/16" | $0.85 ea. |
| 1141-A | SP Normally Open | 9/16" | 0.85 ea. |

Underwriters' approved, 3 Amp. 125V, AC, Nickel plated finish, Molded bakelite base, Single Pole, slow make and slow break with bakelite snap-On button in red or black.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1157-A | Normally Open Red | 9/16" | $1.50 ea. |
| 1157-B | Open Black | 9/16" | 1.50 ea. |
| 1157-C | Closed Red | 9/16" | 1.50 ea. |
| 1157-D | Closed Black | 9/16" | 1.50 ea. |

Two circuit slow make and slow break, momentary switch. One circuit normally on, the other off, with snap-on plastic button, in red or black. (Pushing the button reverses the contact.) 1 Amp. 125 Volts AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1158-A | Red | 7/16" | $1.80 ea. |
| 1158-B | Black | 7/16" | 1.80 ea. |

## HARDWARE

| No. | Description | List Price |
|---|---|---|
| 1132 | On and Off Plate | $0.06 ea. |
| 1132-H | Hex Nut | 0.04 ea. |
| 1132-K | Knurled Nut | 0.04 ea. |

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World Radio History

# SPEMCO H & H SWITCHES

## INTERMEDIATE MOMENTARY PUSH SWITCH NORMALLY OFF

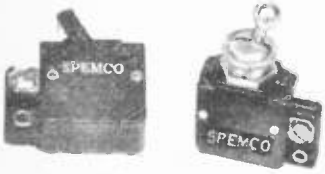
U.L. approved for 6 amp. 125 volts, 3 amp. 250 vols.

*Except for 1147 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1146 | SPST | 1/2" | $2.30 ea. |
| *1147 | SPDT | 1/2" | 2.60 ea. |
| 1148 | DPST | 1/2" | 3.00 ea. |
| 1149 | DPDT | 1/2" | 3.25 ea. |

*1 amp. 250 volts, 6 amp. 125 volts

## POWER SWITCHES




Underwriters' approved. 10 amp. 125 volts. Size of case 1 1/16", long 13/32" wide, 1 1/16" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1133 | SPST | 11/32" | $1.75 ea. |
| 1133-B | Bakelite lever | | 1.10 ea. |

Underwriters' approved, 12 amp. 125 volts. Size of case, 1 3/4" long, 3/4" wide, 23/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1159 | DPST | 15/32" | $2.00 ea. |

Underwriters' approved, 12 amp. 125 volts. Size of case, 1 3/4" long, 3/4" wide, 23/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1159-B | DPST | 15/32" | $2.00 ea. |

Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 29/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1134 | DPST | 15/32" | $3.35 ea. |

## POWER SWITCHES

Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 29/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1134-B | DPST | 15/32" | $3.35 ea. |

Fully enclosed tumbler switch, 20 amp. 250 volts, 1 1/2 horsepower, 250 volts. Size of case, 2 1/4" long, 1 1/8" wide, 1 5/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1170S | DPST | 11/32" | $4.85 ea. |

Fully enclosed tumbler switch, 20 amp. 250 volts, 1 1/2 horsepower, 250 volts. Size of case, 2 1/4" long, 1 1/8" wide, 1 5/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1170 | DPST | 15/32" | $4.85 ea. |

## MOMENTARY PUSH BUTTON SWITCH, NORMALLY OFF

Rated at 12 amp. 125 volts. 1 horsepower, 250 volt AC. Size of case, 1 3/4" long, 3/4" wide, 25/32" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1160 | DPST | 15/32" | $2.90 ea. |

## ROTARY CANOPY SWITCH With Fixed Plastic Handle

U.L. approved. 3 amp. 125 volts, 1 amp. 250 volts.

| No. | Stem | Wire Lead | List Price |
|---|---|---|---|
| 1179 | 7/16" | 8" | $0.65 ea. |

## ROTARY SWITCHES

Underwriters' approved, 3 amp. 125 volts. Nickel plated finish. Laminated bakelite base.

| No. | Description | Shaft | Sleeve | List Price |
|---|---|---|---|---|
| 1128 | SPST | 1 1/8" | 3/8" | $1.35 ea. |
| 1129 | SPDT | 1 1/8" | 3/8" | 1.65 ea. |
| 1130 | DPST | 1 1/8" | 3/8" | 2.10 ea. |
| 1131 | DPDT | 1 1/8" | 3/8" | 2.30 ea. |

## ROTO-LOCK SWITCH

Underwriters' approved, 3 amp. 250 volts.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1128-K | SPST (with key) | 15/32" | $2.00 ea. |
| | (above key removable in off position only) | | |
| 1128-KA | Key only for above | | .35 ea. |
| 1128-KE | SPST (with key) | 15/32" | 2.00 ea. |
| | (above key removable in either position) | | |
| 1128-KEA | Key only for above | | .35 ea. |

## ROTO-LOCK SWITCH

Underwriters' approved. 20 amp. 120 volts, 240 volts AC.

1 H.P. 120 volts AC
2 H.P. 240 volts AC

(with key)
(above key removable in off position only)

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1130-K | DPST | 15/32" | $4.40 ea. |
| 1130-KA | Key Only for Above | | .45 ea. |

## PORTABLE TOOL HANDLE SWITCHES

Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 6 amp. 250 volts, 12 amp. 125 volts, 1 H.P. 250 volts. 1 3/4" long, 13/32" wide, 5/8" high.

| No. | Description | List Price |
|---|---|---|
| 1168 | DPST | $3.35 ea. |

This switch is arranged with momentary contacts, normally OFF. Approved by the Underwriters' at 10 amp. 250 volts, 15 amp. 125 volts, 2 7/8" long, 23/32" wide, 1 1/16" high.

| No. | Description | List Price |
|---|---|---|
| 1173 | DP Trigger Lever | $4.25 ea. |

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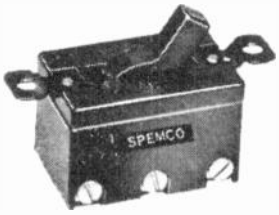
# SPEMCO H & H SWITCHES

## EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER

Used in heavy current circuits, such as transmitters, power amplifiers, motors, etc. Contacts have fast break which reduces the tendency to arc. Rated at 10 amp. 125 volts. Size of case 2 long 1 1/4" wide, 1" high.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1161 | DPDT | 11/32" | $7.00 ea. |
| *1161-A | DPDT | 11/32" | 7.00 ea. |

(*Straight type, no off-center)




Size of Case 2 long 1 3/8" wide, 1 3/8" high 3 15/16" counting centers. 10 amp., 250 volts; 20 amp., 125 volts 5 amp., 600 volts. 1 1/2 H.P., 250 volts DC 2 H.P., 230 volts DC.

| No. | Description | List Price |
|---|---|---|
| 1161-B | DPDT | $11.00 ea. |

Size of Case 2 1/4 long, 2" wide, 1 1/8" high. Rated 10 amp 125 volts, 1/2 horsepower, 115-230 volt AC.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1177 | 3PDT | 13/32" | $11.00 ea. |
| 1178 | 4PDT | 13/32" | 14.00 ea. |

## THREE & FOUR POLE AC UTILITY SWITCHES

15 amp. 125 volts, 10 amp. at 250 volts AC — 1 H.P. 120 volts AC. With Screw Terminals.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1198 | 3PST On-None-Off | 15/32" | $4.00 |
| 1199 | 3PDT On-Off-On | 15/32" | 4.85 |
| 1200 | 4PST On-None-Off | 13/32" | 5.75 |
| 1201 | 4PDT On-Off-On | 13/32" | 7.00 |

Sleeve Diameter, 1/2"

## FEED THROUGH CORD SWITCH

Underwriters' approved, black bakelite case sliding lever, 10 amp. 125 volts, 5 amp. 250 volts. 5/16" cord hole.

| No. | Description | Sleeve | List Price |
|---|---|---|---|
| 1163 | SP | | $1.90 ea. |

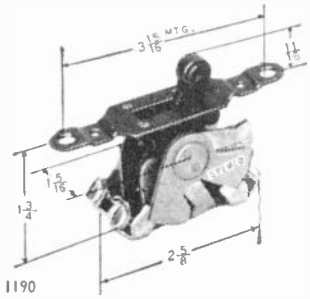
## HEAVY DUTY SWITCHES

### Toggle Type

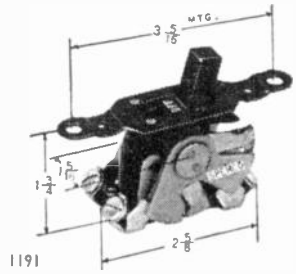
Underwriters' approved, 30 amp. 250 volts, 2 H.P., 115V-230V AC only; 1 H.P., 46V AC only.

For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.

### Roller Type Lever

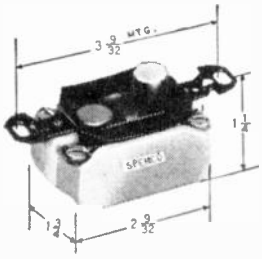



### Square Bakelite Lever




| No. | Description | *Net Price |
|---|---|---|
| 1190 | DPST | $2.85 ea. |
| 1191 | DPST | 2.85 ea. |

## METAL PUSH BUTTON TYPE NORMALLY OPEN

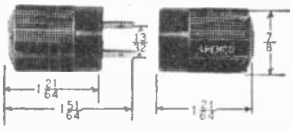



Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230V AC, 2 H.P. 250V DC.

For use on Floor Sander, as a foot switch, etc.

| No. | Description | NET PRICE |
|---|---|---|
| 1192 | DPST | $2.85 ea. |

## CORD CONNECTORS



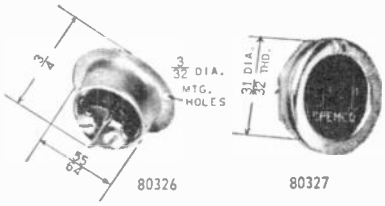

Brown Bakelite Cord Connector Complete, 7/8" O.D. x 2 1/2" long, 10 amps. 250 volts. End opening for wire size up to 3/8" O.D.

| No. | Description | List Price |
|---|---|---|
| 1162 | Complete | $2.65 ea. |
| 1162-F | Female Part | 1.50 ea. |
| 1162-M | Male Part | 1.50 ea. |

## RECEPTACLES

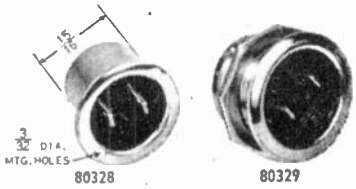
Underwriters' approved, 10 amp. 250 volts AC.

### Short Female Flush Receptacle



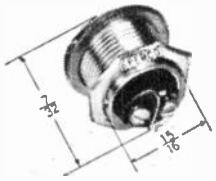

| No. | Description | List Price |
|---|---|---|
| 80326 | 2 Screw Mounting | $1.80 ea. |
| 80327 | Lock Nut Mounting | 2.65 ea. |

### Recessed Male Receptacle




| No. | Description | List Price |
|---|---|---|
| 80328 | 2 Screw Mounting | $2.10 ea. |
| 80329 | Lock Nut Mounting | 2.65 ea. |

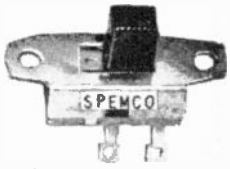
### Recessed Female Receptacle




| No. | Description | List Price |
|---|---|---|
| 80331 | Lock Nut Mounting | $2.65 ea. |

All aforementioned switches are manufactured by H. & H. for S.M.C.

## SLIDE SWITCHES




Housings are made of steel and are cadmium plated. 1 13/32" long, 35/64" wide and 1 1/8" mounting centers.

| No. | Description | List Price |
|---|---|---|
| 1180 | SPST .75A-125V AC-DC | $0.31 ea. |
| 1181 | SPDT .75A-125V AC-DC | 0.37 ea. |
| 1182 | DPST .50A-125V AC-DC | 0.44 ea. |
| 1183 | DPDT .50A-125V AC-DC | 0.55 ea. |

**SPECIALTIES MANUFACTURING CO.**

DETROIT 38, MICHIGAN

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* Net



TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

# sargent TOGGLE and TRIGGER SWITCHES

**SARGENT ELECTRIC CORP., DIVISION OF PYRAMID INSTRUMENT CORP., LYNBROOK, NEW YORK**

### APPLIANCE SWITCH

Ideal for appliances and small motors. Quick make, quick break. Mounting hardware furnished.

**S.P.S.T.**
**SCREW TERMINALS**
**10A — 125V AC**

| Cat. # | Description | List Price |
|---|---|---|
| 1001 | BLACK PLASTIC HANDLE | .90 |
| 1002 | RED PLASTIC HANDLE | 1.10 |

### GENERAL PURPOSE SWITCH

Designed specifically for fractional HP motors, small appliances, and electronic circuits. Quick make, quick break. Wiping contacts. Compact.

**3A 250V — 6A 125V**

| Cat. # | Circuit | Bushing | Terminals | List Price |
|---|---|---|---|---|
| 1503 | SPST | 11/32" | WIRE LEADS | 1.15 |
| 1504 | SPST | 15/32" | WIRE LEADS | 1.15 |
| 1505 | SPST | 11/32" | SCREW | 1.15 |
| 1506 | SPST | 15/32" | SCREW | 1.15 |

### POWER & MEDIUM MOTOR SWITCH

A quality switch built for continuous service. Fine silver contacts. Slow make, slow break.

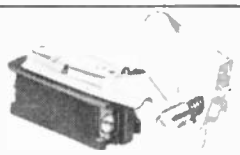
**S.P. Rating — 10A 250V AC**
**½ HP 125/250V AC**
**D.P. Rating — 10A 250V AC**
**¾ HP 125/250V AC**

| Cat. # | Circuit | Bushing | Terminals | List Price |
|---|---|---|---|---|
| 2001 | DPST | 15/32" | SOLDER | 1.77 |
| 2002 | DPST | 15/32" | SOLDER | 1.77 |
| 2003 | DPST | 15/32" | SCREW | 1.77 |
| 2004 | SPST | 15/32" | SCREW | 1.77 |

**POWER SWITCH** — Rugged Duty. Reliable performance. Fast make, fast break. Positive snap action. Wiping contacts.

**12A 125V — 6A 250V**
**1 HP 125-250V**
**AC-DC**

| Cat. # | Circuit | Bushing | Terminals | List Price |
|---|---|---|---|---|
| 3001 | DPST | 15/32" | SCREW | 1.63 |
| 3002 | SPST | 15/32" | SCREW | 1.63 |
| 3003 | DPST | 11/32" | SCREW | 1.63 |
| 3004 | SPST | 11/32" | SCREW | 1.63 |



**TRIGGER SWITCH**—For portable electric tools and motorized equipment. Rugged positive action. Fast make and fast break. Wiping contacts. Built to last.

**12A 125V — 6A 250V**
**1HP 125-250V**
**AC-DC**

| Cat. # | Circuit | Description | Terminals | List Price |
|---|---|---|---|---|
| 3101 | DPST | TRIGGER WITH LOCK | Screw | 2.49 |
| 3102 | DPST | TRIGGER WITHOUT LOCK | Screw | 2.33 |
| 3103 | DPST | TRIGGER WITH LOCK & ENVELOPE INSULATOR | Screw | 2.57 |
| 3104 | DPST | TRIGGER WITHOUT LOCK, WITH ENVELOPE INSULATOR | Screw | 2.41 |

## POPULAR AIRCRAFT TYPE, 2 and 3 POSITION, SINGLE HOLE MOUNTING

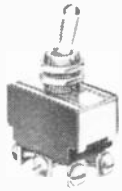
### SINGLE POLE

Specially designed for electronic circuits. Precision engineered. Fine silver contacts. Fast pivoted lever action. Continuous duty.

**15A 125-250V AC**
**1 HP 250V AC**
**½ HP 125V AC**

| Cat. # | Circuit | Bushing | Terminals | List Price |
|---|---|---|---|---|
| 4101 | ON OFF ON | 15/32" | SCREW | 1.15 |
| 4102 | ON NONE OFF | 15/32" | SCREW | .97 |
| 4103 | ON NONE ON | 15/32" | SCREW | 1.15 |
| 4121 | ON OFF ON | 11/32" | SCREW | 1.15 |
| 4122 | ON NONE OFF | 11/32" | SCREW | .97 |
| 4123 | ON NONE ON | 11/32" | SCREW | 1.15 |
| 4141 | ON OFF ON | 11/32" | SOLDER | .93 |
| 4132 | ON NONE OFF | 11/32" | SOLDER | .83 |
| 4143 | ON NONE ON | 11/32" | SOLDER | .93 |
| 4151 | ON OFF ON | 15/32" | SOLDER | .93 |
| 4152 | ON NONE OFF | 15/32" | SOLDER | .83 |
| 4153 | ON NONE ON | 15/32" | SOLDER | .93 |
| 4171 | ON OFF ON | 15/32" | *SPADE LUG | .93 |
| 4172 | ON NONE OFF | 15/32" | *SPADE LUG | .83 |
| 4173 | ON NONE ON | 15/32" | *SPADE LUG | .93 |
| 4181 | ON OFF ON | 11/32" | *SPADE LUG | .93 |
| 4182 | ON NONE OFF | 11/32" | *SPADE LUG | .83 |
| 4183 | ON NONE ON | 11/32" | *SPADE LUG | .93 |

* Quick connect



### DOUBLE POLE

Specially designed for electronic circuits. Precision engineered. Fine silver contacts. Fast pivoted lever action. Continuous duty.

**15A 125-250V AC**
**1 HP 250V AC**
**½ HP 125V AC**

| Cat. # | Circuit | Bushing | Terminals | List Price |
|---|---|---|---|---|
| 4201 | ON OFF ON | 15/32" | SCREW | 1.87 |
| 4202 | ON NONE OFF | 15/32" | SCREW | 1.55 |
| 4203 | ON NONE ON | 15/32" | SCREW | 1.87 |
| 4221 | ON OFF ON | 11/32" | SCREW | 1.87 |
| 4222 | ON NONE OFF | 11/32" | SCREW | 1.55 |
| 4223 | ON NONE ON | 11/32" | SCREW | 1.87 |
| 4241 | ON OFF ON | 11/32" | SOLDER | 1.44 |
| 4242 | ON NONE OFF | 11/32" | SOLDER | 1.26 |
| 4243 | ON NONE ON | 11/32" | SOLDER | 1.44 |
| 4251 | ON OFF ON | 15/32" | SOLDER | 1.44 |
| 4252 | ON NONE OFF | 15/32" | SOLDER | 1.26 |
| 4253 | ON NONE ON | 15/32" | SOLDER | 1.44 |
| 4271 | ON OFF ON | 15/32" | *SPADE | 1.44 |
| 4272 | ON NONE OFF | 15/32" | *SPADE | 1.26 |
| 4273 | ON NONE ON | 15/32" | *SPADE | 1.44 |
| 4281 | ON OFF ON | 11/32" | *SPADE | 1.44 |
| 4282 | ON NONE OFF | 11/32" | *SPADE | 1.26 |
| 4283 | ON NONE ON | 11/32" | *SPADE | 1.44 |

* Quick connect

### MOMENTARY SWITCH ACTION (*Momentary)

| SCREW TERMINALS 15/32" Bushing | SCREW TERMINALS 11/32" Bushing | SOLDER TERMINALS 15/32" Bushing | SOLDER TERMINALS 11/32" Bushing | SPADE TERMINALS 15/32" Bushing | SPADE TERMINALS 11/32" Bushing | CIRCUIT | | | | RATING |
|---|---|---|---|---|---|---|---|---|---|---|
| 4105 | 4125 | 4155 | 4145 | 4175 | 4185 | SP | ON | NONE | OFF* | |
| 4106 | 4126 | 4156 | 4146 | 4176 | 4186 | SP | ON | OFF | ON* | |
| 4107 | 4127 | 4157 | 4147 | 4177 | 4187 | SP | OFF | NONE | ON* | 10A 125-250V AC |
| 4108 | 4128 | 4158 | 4148 | 4178 | 4188 | SP | ON* | OFF | ON* | ½ HP 125V AC |
| 4109 | 4129 | 4159 | 4149 | 4179 | 4189 | SP | ON | NONE | ON* | ½ HP 250V AC |
| 4110† | 4130† | ..... | ..... | ..... | ..... | SP | ON | OFF | ON* | |
| 4111 | 4131 | 4160 | 4150 | 4180 | 4190 | SP | NONE | OFF | ON* | |
| 4205 | 4225 | 4255 | 4245 | 4275 | 4285 | DP | ON | NONE | OFF* | |
| 4206 | 4226 | 4256 | 4246 | 4276 | 4286 | DP | ON | OFF | ON* | |
| 4207 | 4227 | 4257 | 4247 | 4277 | 4287 | DP | OFF | NONE | ON* | 10A 125-250V AC |
| 4208 | 4228 | 4258 | 4248 | 4278 | 4288 | DP | ON* | OFF | ON* | ⅓ HP 125V AC |
| 4209 | 4229 | 4259 | 4249 | 4279 | 4289 | DP | ON | NONE | ON* | ¾ HP 250V AC |
| 4211 | 4230 | 4260 | 4250 | 4280 | 4290 | DP | NONE | OFF | ON* | |

† Jumper attached externally to on-on terminals.

The single pole 4100 series and double pole 4200 series can be furnished to conform with JAN, AN, and MS specs for size, circuits, endurance, plating and materials. The following are available — ST 40 A,B,C D,E,F,G,H ST 42 A,B,C,D,E,F,G,H ST 50 K,L,M,N,P,R,S,T ST 52 K,L,M,N,P,R,S,T. Contact factory for price and delivery.

**SWITCHES for PORTABLE ELECTRIC TOOLS . . . MOTORIZED ELECTRICAL EQUIPMENT . . . SMALL MOTORS . . . APPLIANCES . . . ELECTRONIC EQUIPMENT . . . AIRCRAFT ELECTRICAL CIRCUITS**

***. . . ALL SWITCHES LISTED ARE UNDERWRITER'S LABORATORIES APPROVED . . .***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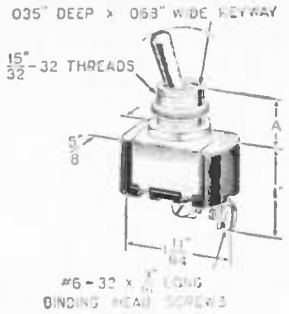
**TRADE DISCOUNT APPLIES TO *LIST* PRICE ONLY**

World Radio History

# SWITCHES - TOGGLE

*For COLORED PLASTIC Toggles—Inquire

**Heavier Duty Types of these Switches Available — Inquire**




"F" Series

## Single Pole ("F" Series)

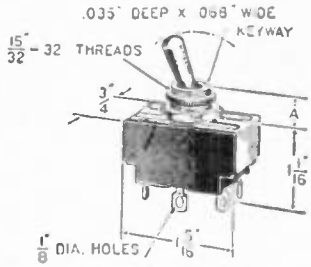
| CATALOG NUMBERS — NOMINAL RATINGS: 15 Amp—125 V. A.C., 10 Amp—250 V. A.C., ¾ H.P.—115 230 V. A.C. | | 6 Amp—125 V. A.C., 3 Amp—250 V. A.C., ¼ H.P.—115 230 V. A.C. | | ELECTRICAL CIRCUIT CHARACTERISTICS (NOTE—Keyway Indicates "Down" Position) | | |
|---|---|---|---|---|---|---|
| SOLDER LUGS | SCREW TERMINALS | SOLDER LUGS | SCREW TERMINALS | UP POSITION | CENTER POSITION | DOWN POSITION |
| *2FA53 | *2FA54 | 2FA63 | 2FA64 | On | None | Off |
| 6FA57 | 6FA58 | 6FA67 | 6FA68 | On | None | Momentarily Off |
| 6FA53 | 6FA54 | 6FA63 | 6FA64 | Off | None | Momentarily On |
| 2FB53 | 2FB54 | 2FB63 | 2FB64 | On | None | On |
| 2FC53 | 2FC64 | 2FC63 | 2FC64 | On | Off | On |
| 6FB53 | 6FB54 | 6FB63 | 6FB64 | On | None | Momentarily On |
| 6FC53 | 6FC54 | 6FC63 | 6FC64 | Momentarily On | Off | Momentarily On |
| 6FC57 | 6FC58 | 6FC67 | 6FC68 | On | Off | Momentarily On |

Note: For Cross Connected Reversing, Progressive Circuits, and other multiple circuit applications—Inquire.

For TAB Terminals as above Add Suffix — "TABS"

## Double Pole ("G" Series)

| CATALOG NUMBERS — NOMINAL RATINGS: 15 Amp—125 V. A.C., 10 Amp—250 V. A.C., ¾ H.P.—115 230 V. A.C. | | 6 Amp—125 V. A.C., 3 Amp—250 V. A.C., ¼ H.P.—115 230 V. A.C. | | ELECTRICAL CIRCUIT CHARACTERISTICS (NOTE—Keyway Indicates "Down" Position) | | |
|---|---|---|---|---|---|---|
| SOLDER LUGS | SCREW TERMINALS | SOLDER LUGS | SCREW TERMINALS | UP POSITION | CENTER POSITION | DOWN POSITION |
| 2GK53 | 2GK54 | 2GK63 | 2GK64 | On | None | Off |
| 6GK57 | 6GK58 | 6GK67 | 6GK68 | On | None | Momentarily Off |
| 6GK53 | 6GK54 | 6GK63 | 6GK64 | Off | None | Momentarily On |
| 2GL53 | 2GL54 | 2GL63 | 2GL64 | On | None | On |
| 2GM53 | 2GM54 | 2GM63 | 2GM64 | On | Off | On |
| 6GL53 | 6GL54 | 6GL63 | 6GL64 | On | None | Momentarily On |
| 6GM53 | 6GM54 | 6GM63 | 6GM64 | Momentarily On | Off | Momentarily On |
| 6GM57 | 6GM58 | 6GM67 | 6GM68 | On | Off | Momentarily On |

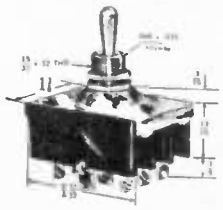



"G" Series (above)

| CATALOG NUMBER SUFFIX FOR TOGGLE and STEM LENGTHS (Bat Toggle Only) | | | | | |
|---|---|---|---|---|---|
| TOGGLE LENGTH | STEM LENGTH | SUFFIX NO. | TOGGLE LENGTH | STEM | SUFFIX NO. |
| 13/16" | 11/32" | —52 | 1" | 11/32" | —A2 |
| 15/16" | 11/32" | —62 | 1" | 11/16" | —A3 |
| 15/16" | 11/16" | —63 | 1 1/16" | 11/16" | —B3 |
| 1" | 11/16" | —72 | 3" | 11/16" | —I3 |
| 1" | 11/16" | —73 | | | |

*Note: #2FA53 and #2FA54 have a higher rating of 1 H.P.

RATING:
13 Amp.—125 V. A.C.
10 Amp.—250 V. A.C.
1 H.P.—1, 2, 3 Phase 120-240 V. A.C.

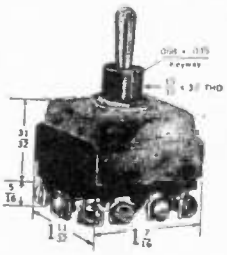


"H" SERIES
Illustration is with Tab type terminals

## Three Pole ("H" Series)

| CATALOG NUMBERS — TERMINALS | | | CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE | | |
|---|---|---|---|---|---|
| LUG | SCREW | TAB | UP | CENTER | DOWN |
| HK233 | HK234 | HK23A | On | None | Off |
| HK633 | HK634 | HK63A | Off | None | Momentarily On |
| HK637 | HK638 | HK63B | On | None | Momentarily Off |
| HL233 | HL234 | HL23A | On | None | On |
| HL633 | HL634 | HL63A | On | None | Momentarily On |
| HM233 | HM234 | HM23A | On | Off | On |
| HM633 | HM634 | HM63A | Momentarily On | Off | Momentarily On |
| HM637 | HM638 | HM63B | On | Off | Momentarily On |

RATING: 15 Amp.—125 V. A.C.
10 Amp.—250 V. A.C.



"I" SERIES
Illustration above shows Screw Terminals

## Four Pole ("I" Series)

| CATALOG NUMBERS — TERMINALS | | | CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE | | |
|---|---|---|---|---|---|
| LUG | SCREW | TAB | UP | CENTER | DOWN |
| IK253 | IK254 | IK25A | On | None | Off |
| IK653 | IK654 | IK65A | Off | None | Momentarily On |
| IK657 | IK658 | IK65B | On | None | Momentarily Off |
| IL253 | IL254 | IL25A | On | None | On |
| IL653 | IL654 | IL65A | On | None | Momentarily On |
| IM253 | IM254 | IM25A | On | Off | On |
| IM653 | IM654 | IM65A | Momentarily On | Off | Momentarily On |
| IM657 | IM658 | IM65B | On | Off | Momentarily On |

Note: Keyway is in down position on all switches shown.

# CARLING ELECTRIC, INC. — West Hartford 10, Conn.

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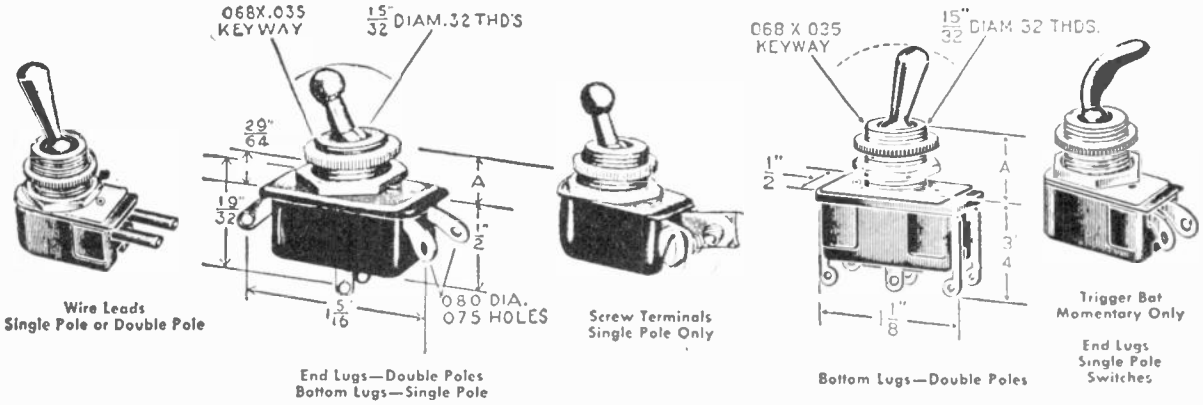
World Radio History

# SINGLE POLE DOUBLE POLE SWITCHES—TOGGLE

**Maintained (Locking) and Momentary (Non-Locking) Types**




Wire Leads Single Pole or Double Pole

End Lugs—Double Poles Bottom Lugs—Single Pole

Screw Terminals Single Pole Only

Bottom Lugs—Double Poles

Trigger Bat Momentary Only

End Lugs Single Pole Switches

**IMPORTANT—ADD correct SUFFIX NUMBER to CATALOG NUMBER to receive type TOGGLE and STEM wanted.**

## MAINTAINED CONTACTS

| CATALOG NUMBER | TYPES OF TERMINALS | POLES-CIRCUIT | NOMINAL RATING AC or DC |
|---|---|---|---|
| T-110<br>T-110-B<br>T-110-S<br>T-111-16 | Lugs—End<br>Lugs—Bottom<br>Screw<br>Wire | S.P.—S.T. | 3 Amp—250 V.<br>6 Amp—125 V.T.<br>(T Rated) |
| 110<br>110-B<br>110-D<br>110-S<br>111-16<br>111-D | Lugs—End<br>Lugs—Bottom<br>Lugs—2 Ends<br>Screw<br>Wire<br>Wire—2 Ends | S.P.—S.T. | 3 Amp—250 V.<br>6 Amp—125 V. |
| 112<br>112-A | Lugs—End<br>Wire | S.P.—D.T. | 1 Amp—250 V.<br>3 Amp—125 V. |
| 216<br>216-A<br>216-B | Lugs—End<br>Wire<br>Lugs—Bottom | D.P.—S.T. | |
| 316<br>316-A<br>316-B | Lugs<br>Wire<br>Lugs—Bottom | D.P.—D.T. | |
| 516<br>516-A<br>516-B | Lugs—End<br>Wire<br>Lugs—Bottom | Two Circuit | |
| 2BB62 | Lugs—End | S.P.—D.T. | 3 Amp—250 V.<br>6 Amp—125 V. |
| 2BK62 | Lugs—End | D.P.—S.T. | |
| 2BL62<br>2BL63 | Lugs—End<br>Lugs—Bottom | D.P.—D.T. | |
| 160<br>160-A<br>160-B<br>160-S | Lugs—End<br>Wire<br>Lugs—Bottom<br>Screw | S.P.—S.T. | 10 Amp—125 V.<br>5 Amp—250 V. |

## MOMENTARY TYPES — Stem Length 15/32" ONLY

| NOMINAL RATING AC or DC | POLES-CIRCUIT | TYPES OF TERMINALS | CATALOG NUMBER |
|---|---|---|---|
| 6 Amp—125 V.<br>3 Amp—250 V. | S.P.—S.T.<br>Normally Open (Off)<br>(Momentarily On) | Lugs—End<br>Lugs—Bottom<br>Lugs—2 Ends<br>Screw<br>Wire<br>Wire—2 Ends | 110-M-NO<br>110-BM-NO<br>110-M-DNO<br>110-SM-NO<br>111-16M-NO<br>111-16M-DNO |
| | S.P.—S.T.<br>Normally Closed (On)<br>(Momentarily Off) | Lugs—End<br>Lugs—Bottom<br>Lugs—2 Ends<br>Screw<br>Wire<br>Wire-2 Ends | 110-M-NC<br>110-BM-NC<br>110-M-DNC<br>110-SM-NC<br>111-16M-NC<br>111-16M-DNC |
| 3 Amp—125 V.<br>1 Amp—250 V. | S.P.—D.T. | Lugs—End<br>Wire | 112-M<br>112-M-A |
| | D.P.—S.T.<br>Normally Open (Off)<br>(Momentarily On) | Lugs—End<br>Wire | 216-M-NO<br>216-M-ANO |
| | D.P.—S.T.<br>Normally Closed (On)<br>(Momentarily Off) | Lugs—End<br>Wire | 216-M-NC<br>216-M-ANC |
| | D.P.—D.T. | Lugs<br>Lugs—Bottom | 316-M<br>316-BM |
| | Two Circuit<br>(1 On—1 Off) | Lugs—End<br>Wire<br>Lugs—Bottom<br>Screw | 516-M<br>516-AM<br>516-BM<br>516-SM |

| TOGGLE TYPE & LENGTH | BALL 3/8" | BAT 1/2" | BAT 11/16" | TRIGGER BAT |
|---|---|---|---|---|
| SUFFIX NO. | —23 | —63 | —73 | —93 |

| TOGGLE TYPE & LENGTH | BALL 5/16 | BALL—3/8" LONG | | | | BAT—1/2" | | BAT—11/16" | SLOTTED |
|---|---|---|---|---|---|---|---|---|---|
| STEM LENGTH (A) | 1/4" | 1/4" | 11/32" | 15/32" | 7/8" | 11/32" | 15/32" | 15/32" | 11/32" |
| Std. SUFFIX NOS. | —11 | —21 | —22 | —23 | —25 | —62 | —63 | —73 | |
| *With Neoprene Seal | | | —57 | | | —67 | —68 | | |
| & Toggle Type & Length | | | BAT 3/8 | | | BAT 1/2 | BAT 9/16 | | |

*DUSTPROOF SEAL (Also RAIN RESISTANT)

**MARINE APPLICATIONS USE PREFIX M-**

Note: Solderless quick disconnect terminals are available on #110 switch above

(See Picture on Cover) Use Addt'l Suffix No. — "TABS"

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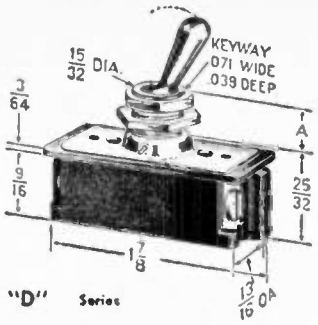
World Radio History

# SWITCHES - TOGGLE - PUSH - SLIDE




"D" Series

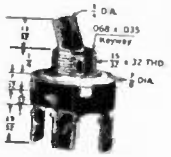
| CATALOG NUMBER | TYPE OF TERMINALS | POLES OR CIRCUIT | NOMINAL RATING A.C. OR D.C. | CATALOG NUMBER SUFFIX FOR TOGGLE & STEM LENGTHS Toggle Length 1 1/16" | | |
|---|---|---|---|---|---|---|
| | | | | TOGGLE TYPE | STEM LENGTH | SUFFIX NO. |
| 2DA25 | Screw | S.P.—S.T. | 12 Amps—125 V. 6 Amps—250 V. 1 H.P. 125—250 V. | Bat | 11/32" | —72 |
| 2DK25 | Screw | D.P.—S.T. | | Ball | 11/32" | —32 |
| EA255 | Screw | S.P.—S.T. | 15 Amps—125 V. 10 Amps—250 V. 1½ H.P. 125—250 V. | Bat | 15/32" | —73 |
| EK255 | Screw | D.P.—S.T. | | Ball | 15/32" | —33 |

Note: Dimensions of "E" Series Switches are 2 1/8" lg x 1" w x 23/32" high.

RATING: 15 Amp — 125 V. A-C
7½ Amp. — 250 V. A-C
½ H.P. 115-23 V. A-C

**Single Pole**

"A" Series Illustrated Above with Solder Lugs and Metal Toggle 1 1/16" Long



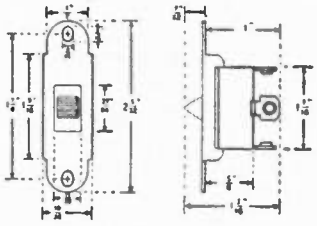
"A" Series Illustrated Above with Tab Terminals and Plastic Toggle

| CATALOG NUMBERS — TERMINALS | | | CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE | | |
|---|---|---|---|---|---|
| LUG | SCREW | TAB | UP | CENTER | DOWN |
| AA252 | AA254 | AA25A | On | None | Off |
| AB252 | AB254 | AB25A | On | None | On |
| AC252 | AC254 | AC25A | On | Off | On |
| RATING: 3 Amp. — 125 V. A-C (Below) | | | | | |
| AA232 | AA234 | AA23A | On | None | Off |

| Add: Following Suffixes to ABOVE CATALOG NOS. | | | | |
|---|---|---|---|---|
| Metal Toggle Type | Colored Plastic Toggle Types: | | | |
| | Black | Brown | White | Red |
| —71 | —BL | —BR | —WH | —RD |

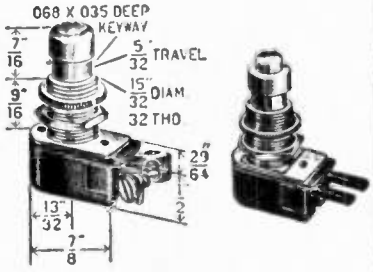
"L" Series

(Also available with ON-OFF Stamped on Slide or Case on Special Order)



| CATALOG NUMBERS — NOMINAL RATINGS | | | | | | ELECTRICAL CIRCUIT CHARACTERISTICS | | |
|---|---|---|---|---|---|---|---|---|
| 15 Amp—125 V. A.C. 10 Amp—250 V. A.C. ½ H.P.—115-230 V. A.C. | | | 3 Amp—250 V. A.C. 6 Amp—125 V. A.C. ¼ H.P. | | | UP POSITION | CENTER POSITION | DOWN POSITION |
| Solder Lugs | Screw Term. | Tab Term. | Solder Lugs | Screw Term. | Tab Term. | Single Pole—Single Throw & Single Pole—Double Throw | | |
| LA453 | LA454 | LA45A | LA463 | LA464 | LA46A | On | None | Off |
| LB453 | LB454 | LB45A | LB463 | LB464 | LB46A | On | None | On |
| LC453 | LC454 | LC45A | LC463 | LC464 | LC46A | On | Off | On |

| For Slide COLOR Add SUFFIX | BLACK | RED | GRAY |
|---|---|---|---|
| | —BL | —RD | —GY |




**MAINTAINED CONTACTS OR MOMENTARY CONTACTS AC—DC**

| CATALOG NUMBERS | | | Type Terminals | Poles Or Circuit | Nominal Rating |
|---|---|---|---|---|---|
| Maintained Contacts | MOMENTARY CONTACTS Normally Open | MOMENTARY CONTACTS Normally Closed | | | |
| 110—P<br>110—BP<br>110—SP<br>111—16P | 110—PM—OFF<br>110—PBM—OFF<br>110—SPM—OFF<br>111—PM—OFF | 110—PM—ON<br>110—PBM—ON<br>110—SPM—ON<br>111—PM—ON | Lug<br>Lug (Bottom)<br>Screw<br>Wire | S.P.—S.T. | 6 Amp—125 V.<br>3 Amp—250 V.<br>A.C.—D.C. |
| 160—P<br>160—BP<br>160—SP<br>160—AP | None | None | Lug<br>Lug (Bottom)<br>Screw<br>Wire | S.P.—S.T. | 10 Amp—125 V.<br>5 Amp—250 V.<br>A.C.—D.C. |
| 216—PP<br>216—PPA | 216—PM—OFF<br>216—PAM—OFF | 216—PM—ON<br>216—PAM—ON | Lug<br>Wire | D.P.—S.T. | |
| 112—P<br>112—PA | 112—PM<br>112—PAM | | Lug<br>Wire | S.P.—D.T. | 3 Amp—125 V.<br>1 Amp—250 V.<br>A.C.—D.C. |
| 316—PP<br>316—PPA | 316—PM<br>316—PAM | | Lug<br>Wire | D.P.—D.T. | |
| 516—PP<br>516—PPA | 516—PM<br>516—PAM | | Lug<br>Wire | 2 circuit | |

Overtravel available for Momentary Switches only)—Add CATALOG SUFFIX NO. —OV

TAB (Quick Disconnect) Terminals available on above Switches

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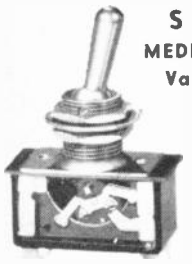
World Radio History

# Instrument Quality — J-B-T INSTRUMENTS, INC. — Components



## SINGLE HOLE • FLUSH MOUNTING TOGGLE SWITCHES

**MEDIUM-DUTY TYPES DESIGNED FOR GOV'T SPECS.: JAN-S-23; DDAX SERIES; MIL-S-21195 (Ships).**
**Variations in construction under development for MIL-S-3950A, Series MS25098 and MS25100.**
**STAND UP UNDER TOUGH ENVIRONMENTAL TESTS**

**Single Pole • Double Pole**
**Single Throw • Double Throw**
**Side Connected • Rear Connected**
**Series ST12, ST13, ST16, ST17**
**Series ST22, ST23, ST26, ST27**

**6 AMP. — MEDIUM DUTY**
This page covers 24 ST models of toggle switches nominally rated at 6 amp. at 125 VAC, 3 amp. at 250 VAC. Sixteen models have threaded bushings 29/64" in length; eight bushings 1/4" in length.

Like J-B-T Switches in the rotary, lever-action, and heavy-duty toggle switch fields this ST12-27 Series has quality as its first objective. J-B-T controls quality by doing its own designing, actual manufacturing and in-plant testing of production samples.

**Sound Electrical Characteristics** . . . Stationary contacts are brass heavily silver plated; wiping contacts are phosphor bronze, heavily silver plated. Tested to meet 50% overload for brief periods. Contact resistance well under 0.01 ohm requirement of military specifications. High dielectric exceeds 1000 volts r.m.s., 60 cycles at sea level.

**Cold and Heat** . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at both low and high temperatures (—67°F to 185°F).

**High Humidity** . . . Materials, plating, construction and lubricant enable switch to withstand tropical climates.

**Salt** . . . Meets 100 hour Salt Spray Test QQ M-151a which is twice the required minimum.

**Vibration and Shock** . . . No momentary make or break or mechanical damage during stringent shake tests and 75 G's drop test.

**Specified Plating** . . . Dull finish plating on outside metal parts follows requirements of applicable Government Specifications. For substantial orders, other plating will be quoted on request.

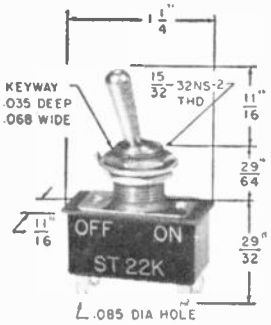
**Exceptionally Rugged Construction** . . . New enclosed molded body, with no unused holes for side terminals. . . . Terminals in this series are all solder type hot tin dipped, and withstand 5 pound pull test . . . operating cycles far in excess of minimum specified as acceptable.

SINGLE POLE — CIRCUIT ARRANGEMENT — DOUBLE POLE

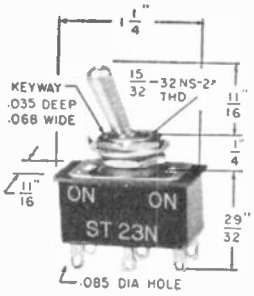
| CIRCUIT DIAGRAM | TYPE | MODEL NUMBER REAR CON Bushing Lgth. 29/64" | REAR CON Bushing Lgth. 1/4" | SIDE CON Bushing Lgth. 29/64" | SIDE CON Bushing Lgth. 1/4" | A | B | C (KEYWAY) | MODEL NUMBER REAR CON Bushing Lgth. 29/64" | REAR CON Bushing Lgth. 1/4" | SIDE CON Bushing Lgth. 29/64" | SIDE CON Bushing Lgth. 1/4" | TYPE | CIRCUIT DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SPST | ST12A‡ | ST13A | ST16A | ST17A | on | none | off | ST22K‡ | ST23K | ST26K | ST27K | DPST | |
| | SPST | ST12B‡ | — | ST16B | — | on | none | off* | ST22L‡ | — | ST26L | — | DPST | |
| | SPST | ST12C‡ | — | ST16C | — | off | none | on* | ST22M‡ | — | ST26M | — | DPST | |
| | | | | | | *Momentary Position | | | | | | | | |
| | SPDT | ST12D‡ | ST13D | ST16D | ST17D | on | none | on | ST22N‡ | ST23N | ST26N | ST27N | DPDT | |

‡ Corresponding numbers from **JAN-S-23** to **MIL-S-3950A** are: ST12A — MS25098-28; ST12B — MS25098-29; ST12C — MS25098-30; ST12D — MS25098-23; ST22K — MS25100-22; ST22L — MS25100-29; ST22M — MS25100-30; ST22N — MS25100-23.

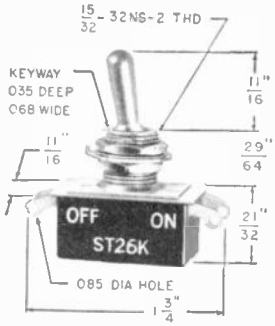
**For electrical characteristics, current values and full information, ask for Bulletin TS-6.**



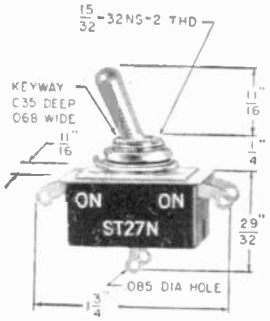

(2 terminals) ST12A, B, C
(3 terminals) ST12D
(4 terminals) ST22K, L, M
(6 terminals) ST22N




(2 terminals) ST13A
(3 terminals) ST13D
(4 terminals) ST23K
(6 terminals) ST23N




(2 terminals) ST16A, B, C
(3 terminals) ST16D
(4 terminals) ST26K, L, M
(6 terminals) ST26N




(2 terminals) ST17A
(3 terminals) ST17D
(4 terminals) ST27K
(6 terminals) ST27N


Net (based on quantity)
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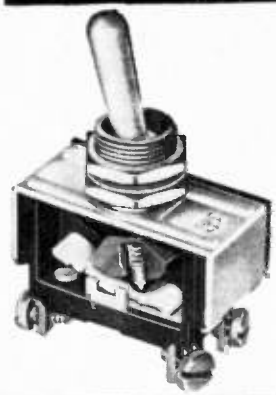
# Instrument Quality — J-B-T — Components

J-B-T INSTRUMENTS, INC



## SINGLE HOLE • FLUSH MOUNTING TOGGLE SWITCHES

**HEAVY-DUTY TYPES DESIGNED FOR GOV'T. SPECS.: JAN-S-23; MIL-S-6745; DDAX SERIES; MIL-S-21195 (Ships)**

**Variations in construction are made for aircraft type MIL-S-6745 (AN-S-20a) Series AN3021 and AN3027; other types under development for MIL-S-3950A, Series MS35058 and MS35059.**

**REGULARLY TESTED TO MEET ADVERSE OPERATING CONDITIONS**

**20 AMP. — HEAVY DUTY**
This page covers 54 models of toggle switches nominally rated at 20 amp. at 125 VAC, and 10 amp., 250 VAC, and other higher and lower ratings where specified in JAN-S-23 or other pertinent specifications.

**Overload** . . . Tested to make and break at 50% overload for brief periods. To assure performance of these switches with their comparatively heavy current ratings, J-B-T features ample size **solid coin silver contacts and rocker arms** instead of clad or brazed construction. Contact resistance is under 0.005 ohms. High dielectric exceeds 1000 volts r.m.s. at 60 cycles at sea level.

**Cold and Heat** . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at —67°F to 185°F.

**Vibration and Shock** . . . No momentary make or break or mechanical damage during severe shake and 75 G's drop tests.

**High Humidity** . . . Materials, dull finish on outside metal parts (per Armed Services specifications) and lubricant enable switches to withstand tropical climates.

**Salt** . . . Meets 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum of JAN-S-23.

**Rugged Service** . . . Generously proportioned and substantially built for extra life. For instance, both screw-type terminals and solder lugs easily withstand a 30 pound pull test. Operating cycles far in excess of minimum specified as acceptable . . . Quality standards are maintained by in-plant production testing to meet and exceed pertinent specifications.

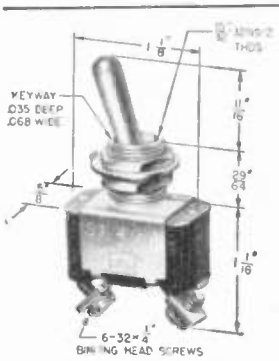
| SINGLE POLE | | | | CIRCUIT ARRANGEMENT | | | DOUBLE POLE | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CIRCUIT DIAGRAM AND TYPE | MODEL NUMBER | | | A | B | C | MODEL NUMBER | | | CIRCUIT DIAGRAM AND TYPE |
| | SCREW TERMINAL | | SOLDER LUG | | | KEYWAY | SCREW TERMINAL | | SOLDER LUG | |
| | ‡JAN-S-23 | MIL-S-6745 | ‡JAN-S-23 | | | | ‡JAN-S-23 | MIL-S-6745 | ‡JAN-S-23 | |
| SPST | ST40A | AN3021—2 # | ST42A | On | None | Off | ST50K | AN3027—2 # | ST52K | DPST |
| | ST40B | AN3021—9 # | ST42B | On | None | Off* | ST50L | AN3027—4 # | ST52L | |
| | ST40C | AN3021—8 # | ST42C | Off | None | On* | ST50M | AN3027—5 # | ST52M | |
| | — | AN3021—10 # | — | On | Off | None | — | AN3027—9 # | — | |
| | — | AN3021—11 # | — | None | Off | On* | — | AN3027—11 # | — | |
| | — | AN3021—12 # | — | On | Off* | None | — | AN3027—10 # | — | |
| SPDT | ST40D | AN3021—3 # | ST42D | On | None | On | ST50N | AN3027—3 # | ST52N | DPDT |
| | ST40E | AN3021—1 # | ST42E | On | Off | On | ST50P | AN3027—1 # | ST52P | |
| | ST40F | | ST42F | On | None | On* | ST50R | AN3027—6 # | ST52R | |
| | ST40G | AN3021—7 # | ST42G | On* | Off | On* | ST50S | AN3027—7 # | ST52S | |
| | ST40H | AN3021—5 # | ST42H | On | Off | On* | ST50T | AN3027—8 # | ST52T | |
| | — | AN3021—6 # | — | On | Off | On* | — | — | — | |

* Momentary Position

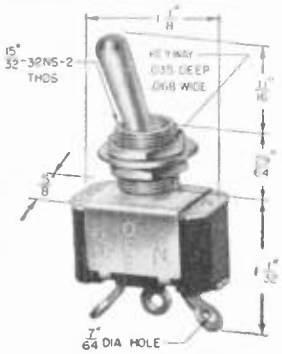
‡ Corresponding numbers from JAN-S-23 to MIL-S-3950A are: ST40D — MS35058-23; ST40E — MS35058-21; ST40F — MS35058-26; ST40G — MS35058-27; ST40H — MS35058-31; ST50N — MS35059-32; ST50P — MS35059-21; ST50R — MS35059-26; ST50S — MS35059-27; ST50T — MS35059-31.

# AN type uses internal sand and dust seal and other features involving extra cost; some models not regularly stocked.

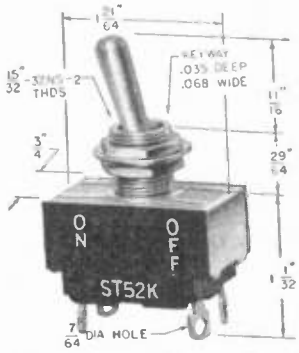
**For electrical characteristics, current values and full information, ask for Bulletin TS-6.**



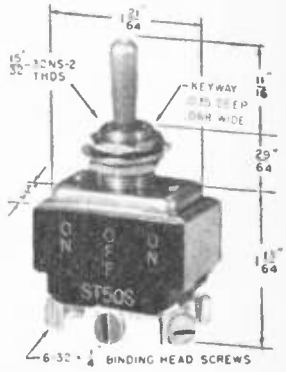

(2 terminals sc.) ST40A, B, C
(3 terminals sc.) ST40D, E, F, G, H




(2 terminals s.l.) ST42A, B, C
(3 terminals s.l.) ST42D, E, F, G, H




(4 terminals sc.) ST50K, L, M
(6 terminals sc.) ST50N, P, R
(4 terminals s.l.) ST52K, L, M
(6 terminals s.l.) ST52N, P, R




(6 terminals sc.) ST50S, T
(6 terminals s.l.) ST52S, T

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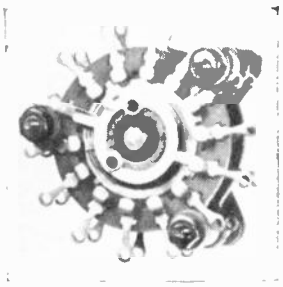
Net (based on quantity)



World Radio History

# INSTRUMENT AND TESTER SWITCHES (LAMINATED)

## Rotary Selector — Single and Multi-Gang — Non-Shorting and Shorting



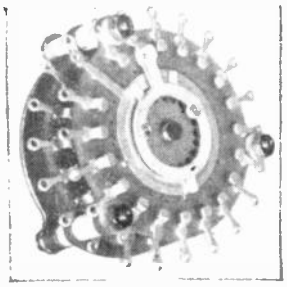
SS-14-2

J-B-T Instrument-type Rotary Selector Switches are used widely in quality test equipment, portable instruments, inspection setups and avionics where trouble-free, dependable performance is of major importance. Available in two basic types—14 and 20 position—the design gives extra contacts in minimum space. One to six decks.

**FEATURES:**

**Reliability**—Rigid, 3-post deck suspension, instead of the usual 2; all current carrying parts are brass or phosphor bronze, silver flashed and then heavily plated with fine silver to meet 100 hour salt spray test; ball bearing action, beryllium-copper balanced spring (SS-14); leaf-type (SS-20), and sharp detent assure positive indexing. Springs of both switches are generally replaceable without disturbing soldered connections. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength. Insulation resistance above 50,000 megohms.

**Exceptional Compactness**—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23 32" circle. Each deck above first adds only 5/16".



SS-20-2

**Low Contact Loss**—Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

**Ample Dielectric**—AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts 1,500 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

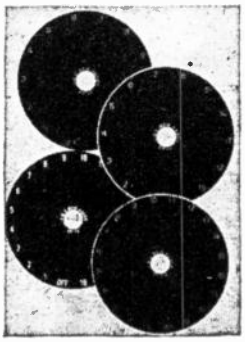
**Military Variations**—The following can be supplied on special order at extra cost: (a) laminated plastic, Type PBE-P per Spec. MIL-P-3115B; (b) vacuum impregnation of rotors, decks, spacers, and ceramic spacers with approved fungicides; (c) hot tin dip on contact surfaces to be soldered; (d) 14 to 20 live positions, no off, (add suffix F, as SS-14-2F); (e) common position in non-standard location.

**BASIC 14-POSITION: 1¼" Bar knob** supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown below, 13 contacts per deck. **One to six decks;** for each additional deck (or gang) add 5 16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Adjustable Stop** normally is supplied on standard cataloged switches. **Fixed Stops** can be supplied on quantity orders at moderate cost. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

**BASIC 20-POSITION: 2" Bar knob** supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown, 19 contacts per deck, continuous rotation types. **One to six decks;** for each additional deck, add 5 16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

### SWITCH KIT (Laminated Phenolic)

Most of the 14 and 20 position laminated switches, plus special variations as needed, can be assembled quickly from the kit shown on an adjoining page. Designers, service engineers, laboratories, and industrial maintenance departments will especially appreciate the convenience, flexibility, and time saved.



### ETCHED DIAL PLATES

For SS-14 or MS-14 Series; and for SS-20 or MS-20 Series. Dull black finish — with raised bright metal numerals. 2¾" diameter.

| | | |
|---|---|---|
| EP-13 | off thru 13 | $0.23 |
| EP-14 | 1 thru 14 | .23 |
| EP-19 | off thru 19 | .23 |
| EP-20 | 1 thru 20 | .23 |

Non-Shorting—Break before make. Shorting—Make before break.

### LAMINATED SWITCHES, SS-14 TYPE

(14 positions; angular indexing 25° 43')

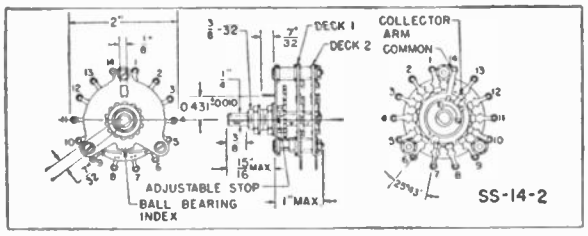
| Model | Positions Per Circuit | Circuits Per Deck | Decks or Gangs | Shorting, Non-Shorting | Boxed, Including Knob |
|---|---|---|---|---|---|
| SS-14-1 | 14 | 1 | 1 | N-S | $1.90 |
| SS-14-1A* | 5† | 2 | 1 | N-S | 2.05 |
| SS-14-1S* | 14 | 1 | 1 | S | 1.95 |
| SS-14-1CS‡* | 14 | 1 | 1 | CS | 2.35 |
| SS-14-2 | 14 | 1 | 2 | N-S | 2.35 |
| SS-14-2A* | 5† | 2 | 2 | N-S | 2.65 |
| SS-14-2S* | 14 | 1 | 2 | S | 2.45 |
| SS-14-2CS‡* | 14 | 1 | 2 | CS | 3.25 |
| SS-14-3 | 14 | 1 | 3 | N-S | 2.80 |
| SS-14-3S* | 14 | 1 | 3 | S | 2.95 |
| SS-14-4 | 14 | 1 | 4 | N-S | 3.65 |
| SS-14-6 | 14 | 1 | 6 | N-S | 5.30 |

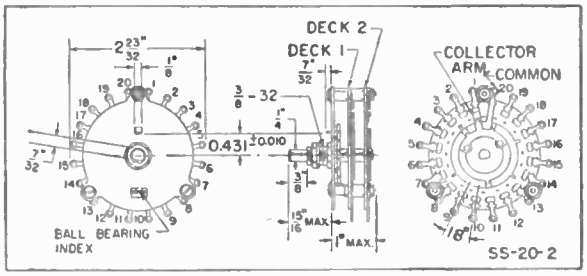
### LAMINATED SWITCHES, SS-20 TYPE

(20-positions; angular indexing, 18°)

| | | | | | |
|---|---|---|---|---|---|
| SS-20-1 • | 20 | 1 | 1 | N-S | $2.45 |
| SS-20-1A* | 6§ | 2 | 1 | N-S | 2.60 |
| SS-20-1S* • | 20 | 1 | 1 | S | 2.50 |
| SS-20-2 • | 20 | 1 | 2 | N-S | 3.05 |
| SS-20-2S* • | 20 | 1 | 2 | S | 3.15 |
| SS-20-3 • | 20 | 1 | 3 | N-S | 4.00 |
| SS-20-4 • | 20 | 1 | 4 | N-S | 4.95 |
| SS-20-6 • | 20 | 1 | 6 | N-S | 6.95 |

* Standard items, but not regularly stocked; check with your electronic parts distributors.
• Type SS-20 is discontinued effective early 1959. MS-20 molded type is recommended as an interchangeable replacement. All SS-14 and MS-14 types continue to be available.
‡ Complete shorting—all contacts shorted except one in use.
§ 6 positions include 5 "live" and 1 "off".
† 5 positions include 4 "live" and 1 "off".




**Note: Threaded bushing on all SS-14 and SS-20 switches being changed to 3/8-32 NEF-2A.**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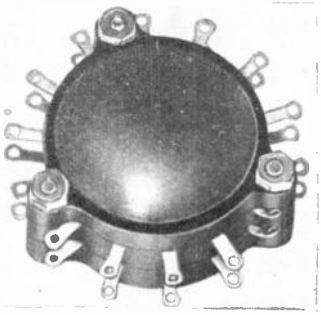
# Instrument Quality — J-B-T — Components

J-B-T INSTRUMENTS, INC.

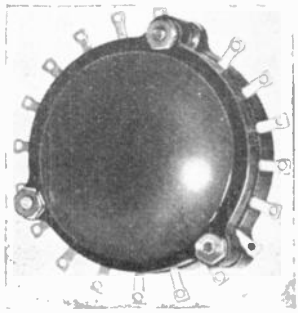
## *UNIQUE* — MOLDED ROTARY SELECTOR SWITCHES

### Fully Enclosed — Single and Multi-Gang — Shorting and Non-Shorting



MS-14-2

- All moving contacts enclosed—minimizes dirt and corrosion—also 3-post deck suspension, double grip collector arms, and rectangular drive shaft for precision indexing.
- Interchangeable, electrically and mechanically, with SS-14 and SS-20 laminated switches widely used by industry and Armed Services.



MS-20-1

**FEATURES:** For description of rigid 3-post construction; heavy fine silver plating to meet 100-hour salt-spray test; exceptional compactness; .007 ohm average contact resistance; insulation resistance above 50,000 megohms; current-carrying capacity and voltage breakdown; see adjoining page on SS-14 and SS-20 laminated switches. Besides fully enclosing all the moving contact parts, the molded switches differ from the laminated construction in the design of the detent mechanism, but both types provide the positive indexing which quickly identifies the superior quality of J-B-T switches. Test results are available on request covering certain procedures of MIL-E-5272A on insulation resistance; high and low temperature and temperature shock; humidity; altitude; salt spray; vibration; fungus resistance; rain, sand and dust; explosion; shock; and endurance values. (Ratings for MS-20-6DTS Types differ somewhat)

**BASIC 14-POSITION MOLDED (MS-14):** 13 circuits and "off" per deck in 2⅝" circle for compactness. **Molded end cover** regularly supplied. **1¼" Bar knob** included with individually boxed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms hold contact lug on upper and lower surfaces; collector ring is self-wiping. **One to ten decks** add 1/16" per deck (or gang) to depth; for eleven decks and over, add 1/16" to depth for double indexing mechanism; add 1/16" to depth for adjustable stop mechanism. **Continuous rotation type** supplied unless adjustable stop (type MAS) is ordered or, on quantity orders, pre-set fixed stops are specified. **Panel locator** is available at extra cost on quantity orders when specified; on MS-14-4 and MS-14-6 extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

**BASIC 20-POSITION MOLDED (MS-20):** 19 circuits and "off" per deck in 2⅝" circle for compactness. **Molded end cover** regularly supplied. **2" Bar knob** included with individually boxed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms and self-wiping collector ring are standard construction. **One to seven decks;** add 1/16" per deck (or gang) to depth. **Continuous rotation type** supplied; on quantity orders pre-set fixed stops are available. **Panel locator** available at extra cost on quantity orders when specified; on MS-20-4 and MS-20-6 extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

**NEW BONDED RUGGEDIZED TYPES** — All molded rotary switches may be ordered with bonded construction as MS-14B or MS-20B types using cured laminations for ruggedization, shock-proofing and further enclosure. Add 35c per deck to catalog price. Thus, 2 deck switch is MS-14B-2 at $3.25.

### MOLDED SWITCHES, MS-14 TYPE

(14 positions; angular indexing 25° 43')
Continuous rotation, no stops
Non-Shorting—Break before make. Shorting—Make before break.

| Model | Positions Per Circuit | Circuits Per Deck | Decks or Gangs | Shorting, Non-Shorting | Depth Behind Panel | Boxed Including Knob |
|---|---|---|---|---|---|---|
| MS-14-1 | 14 | 1 | 1 | N-S | 1 5/16" | $2.00 |
| MS-14-1S* | 14 | 1 | 1 | S | 1 5/16" | 2.05 |
| MS-14-2 | 14 | 1 | 2 | N-S | 1⅛" | 2.55 |
| MS-14-2S* | 14 | 1 | 2 | S | 1⅛" | 2.65 |
| MS-14-3 | 14 | 1 | 3 | N-S | 1 5/16" | 3.10 |
| MS-14-4 | 14 | 1 | 4 | N-S | 1¾" | 4.05 |
| MS-14-6 | 14 | 1 | 6 | N-S | 2⅜" | 5.90 |

For more than 6 decks, request prices

Non-Shorting—Break before make. Shorting—Make before break

### MOLDED SWITCHES, MS-20 TYPE

(20 positions; angular indexing 18°)
Continuous rotation, no stops (except 6DT Types)

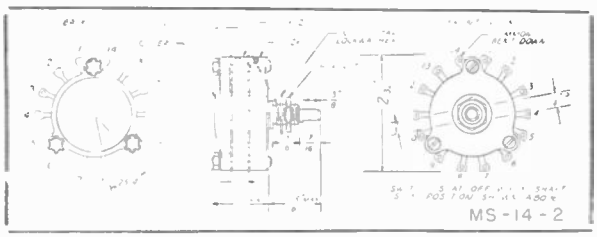
| Model | Positions Per Circuit | Circuits Per Deck | Decks or Gangs | Shorting, Non-Shorting | Depth Behind Panel | Boxed Including Knob |
|---|---|---|---|---|---|---|
| MS-20-1 | 20 | 1 | 1 | N-S | 1 5/16" | $2.55 |
| MS-20-1-6DT | 2 | 6 | 1 | N-S | 1 5/16" | 3.25 |
| MS-20-1-6DTS | 2 | 6 | 1 | S | 1 5/16" | 3.35 |
| MS-20-1S* | 20 | 1 | 1 | S | 1 5/16" | 2.60 |
| MS-20-2 | 20 | 1 | 2 | N-S | 1⅛" | 3.25 |
| MS-20-2-6DT | 2 | 6 | 2 | N-S | 1⅛" | 4.70 |
| MS-20-2-6DTS | 2 | 6 | 2 | S | 1⅛" | 4.90 |
| MS-20-2S* | 20 | 1 | 2 | S | 1⅛" | 3.35 |
| MS-20-3 | 20 | 1 | 3 | N-S | 1 5/16" | 4.30 |
| MS-20-4 | 20 | 1 | 4 | N-S | 1¾" | 5.35 |
| MS-20-6 | 20 | 1 | 6 | N-S | 2⅜" | 7.55 |

### ADJUSTABLE STOP MOLDED SWITCHES, MAS-14 TYPE

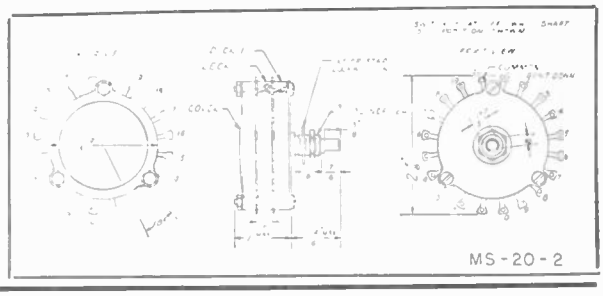
(14 positions; angular indexing 25° 43')
IMPORTANT: Enclosed adjustable stop mechanism increases switch length 3/32" behind panel; decreases effective bushing length by 1/32"; and shortens shaft extending from bushing by 1/16"
Rings RI-23 and RI-24 are supplied.

| Model | Positions Per Circuit | Circuits Per Deck | Decks or Gangs | Shorting, Non-Shorting | Depth Behind Panel | Boxed Including Knob |
|---|---|---|---|---|---|---|
| MAS-14-1 | 14 | 1 | 1 | N-S | 1 11/16" | $2.60 |
| MAS-14-1S* | 14 | 1 | 1 | S | 1 11/16" | 2.70 |
| MAS-14-2 | 14 | 1 | 2 | N-S | 1 15/16" | 3.20 |
| MAS-14-2S* | 14 | 1 | 2 | S | 1 15/16" | 3.30 |
| MAS-14-3 | 14 | 1 | 3 | N-S | 1 15/16" | 3.85 |
| MAS-14-4 | 14 | 1 | 4 | N-S | 1 15/16" | 4.80 |
| MAS-14-6 | 14 | 1 | 6 | N-S | 2 13/16" | 6.75 |

For more than 6 decks, request prices
*Standard items, but not regularly stocked; check with your electronic parts distributor.



MS-14-2



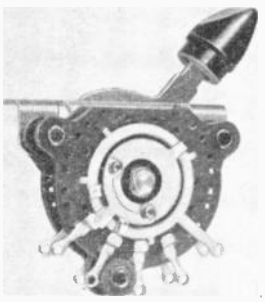
MS-20-2



World Radio History

# LEVER ACTION SWITCHES, KITS AND SPECIAL SWITCHES

**3- and 4-Position Lever Switches — New 5-Position — Unique 6-Pole Double-throw per Deck**



**SS-14-1L4F-2**
**Two-Deck Lever-Action Switch**

**POSITIVE TYPE, 3- and 4-Positions. (Single-deck.)** Specified where quality is a consideration, these lever switches offer many of the design features of the J-B-T SS-14 instrument-type rotary switches. The single-deck models (not illustrated) come in the conventional three-positions and in a newer four-position. Present uses include tube checkers, inspection apparatus, communication systems, hobby equipment, consoles, and sound devices. The four-position types, interchangeable except in slot length with the standard three-position, provide the extra circuit which is often needed. Dimensions are shown on the drawing below. Variations in mounting hole sizes, lever length, and tapped mounting holes can be supplied on long runs involving set-up charges. Switches are normally individually boxed with mounting hardware and KN-17 black pointed knob as illustrated. Spacing between single decks: recommended 3/4", minimum 9/16". Also see list of available mounting plates.

**Spring Return Type.** Single deck 3-position switches also may be ordered with spring return. Lever returns to position 11, giving momentary action at positions 9 and 10 (Model Suffix—R).

**Two-Deck Lever Action Switches.** These use the same strong parts, 3-pole suspension and double-grip collector arms as the one-deck type, but are specified where quality is the prime requirement. Spacing is 3/8" between decks, the same distance as TV twinlead wires. Non-shorting (break before make) positive action, individually boxed including KN-17 knob and hardware. Recommended spacing between decks 15/16"; minimum spacing 13/16".

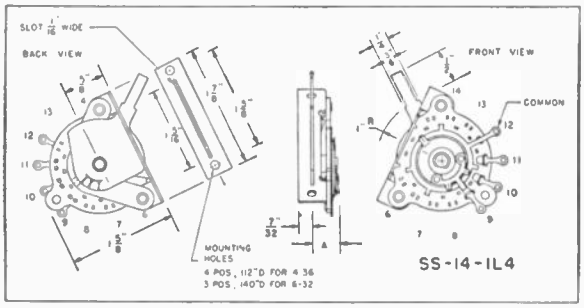
| Model | Pos. per Circuit | Ckts. per Deck | Decks | Short. or Non | Stand.* Contact Pos. | Boxed Incl. Knob |
|---|---|---|---|---|---|---|
| SS-14-1L3 | 3, no "off" | 1 | 1 | NS | A | $0.95 |
| SS-14-1L3A | 3, no "off" | 2 | 1 | NS | B | 1.10 |
| SS-14-1L3S | 3, no "off" | 1 | 1 | S | A | 1.00 |
| SS-14-1L3-R Sp. Ret. | 3, no "off" | 1 | 1 | NS | A | 1.10 |
| SS-14-1L3S-R Sp. Ret. | 3, no "off" | 1 | 1 | S | A | 1.15 |
| SS-14-1L3-2 | 3, no "off" | 1 | 2 | NS | A | 1.60 |
| SS-14-1L4 | 3 & "off" | 1 | 1 | NS | C | 1.05 |
| SS-14-1L4F | 4, no "off" | 1 | 1 | NS | D | 1.05 |
| SS-14-1L4F-2 | 4, no "off" | 1 | 2 | NS | D | 1.80 |
| SS-14-1L4S | 3 & "off" | 1 | 1 | S | C | 1.10 |

*A—common at 12, contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11.

## MOUNTING PLATES

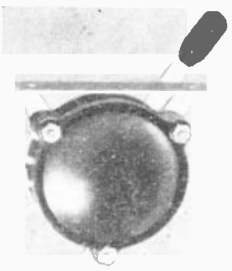
These .035" stamped steel plates in black crackle finish simplify alignment of standard 3-position 1-deck switch models having symbol 1L3. Separation is 3/4" between switches; all plates are 2 5/8" high.

**PL-36,** 3/4" long, for one switch ..... **$0.30**
**PL-37,** 1 1/2" long, for two switches ..... **.40**
**PL-38,** 3" long, for four switches (illustrated) ..... **.45**




**Dimensions A=13/32" on 1-deck Switches; 23/32" on 2-deck. Non-shorting type with standard level length is shown.**

**MS-20-1L5A-1**
**5-Position Lever Switch**



**MODEL MS-20-1L5A-1.** For the first time designers and servicemen have available 5 live positions, two circuits per deck in a fully enclosed, lustrous black molded construction. Adapted from the MS-20 series of instrument-quality switches shown on a preceding page and having similar electrical characteristics, this positive action lever switch made an instant hit for sound systems. Now that it is released for general use, control, inspection, test and experimental circuits can be simplified by its use. Shipped individually boxed with hardware and threaded black molded knob. Sketch for mounting will be supplied upon request for SK-64.

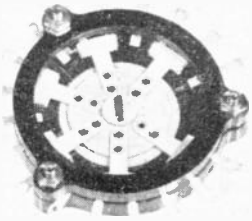
**MS-20-1L5A-1,** 5-position, 2 circuit (1-deck) ..... **$2.95**

## KNOBS FOR LEVERS

Spare knobs, push-on type, are:

**KN-17,** black, modern pointed design, metal insert, shown at left, now regularly supplied ..... **$0.08**
**KN-18,** walnut, same as KN-19 ..... **.06**
**KN-19,** black, round, flat-type, shown at right; no insert needed ..... **.06**

## 6-POLE DOUBLE-THROW PER DECK—1 or 2 DECKS



**6-Pole Switches.** Double-throw switching, 6 circuits per deck, becomes easy with this unique rotary-type molded switch. It is fully enclosed and similar in appearance to the molded MS-20 switches described on another page. The illustration at the right shows internal construction with back protective cover cut away. Circuit arrangement is designated on the metal front of the switch. Quality features include .007 ohm average contact resistance; heavy, fine-silver plating for 100-hour salt spray test; double-grip collector arms. Now available in non-shorting (break before make) and shorting (make before break). 2 5/8" maximum diameter, one deck 13/16" behind panel, two deck, 1 1/8" behind panel. DTS Shorting Types are rated 1500 volts R.M.S. between contacts and ground, 1000 volts R.M.S. between contacts.

**MS-20-1-6DT,** 6-pole, double-throw (1 deck), non-shorting ..... **$3.25**
**MS-20-1-6DTS,** 6-pole, double throw (1 deck), shorting ..... **3.35**
**MS-20-2-6DT,** 6-pole, double throw (2 decks), non-shorting ..... **4.70**
**MS-20-2-6DTS,** 6-pole, double throw (2 decks), shorting ..... **4.90**

## SWITCH KIT — 14- and 20-Positions

**MODEL K-1.** The instrument-quality, laminated phenolic switches described previously as SS-14 and SS-20 rotary types now are available in kit form for quick assembly. This arrangement is especially helpful to engineers, experimenters, hams, and electronic maintenance departments, for special assemblies or emergency requirements. The sturdy, 4-drawer, steel cabinet with 48 compartments contains 15 SS-14 index assemblies; 11 SS-20 index assemblies; 50 14-position decks, including non-shorting (break before make), shorting (make before break); A-type (2 circuits); CS-type (complete shorting); F-type (14 live positions); and 33 20-position decks including non-shorting, shorting; A-type (2 circuits); and F-type (20 live positions). Also a simple tool for pushing rotors on shafts and replacement parts list for ordering refills through distributors.

**Switch Kit Model K-1** ..... **$92.00**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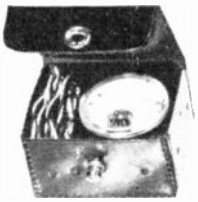
World Radio History

# APPLIANCE TEMPERATURE TESTERS

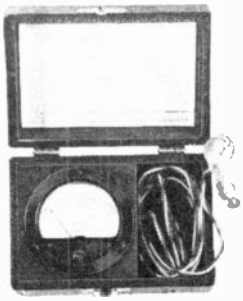
(Also See Page G-377)

**A NEW IDEA IN TESTERS — The need for scientific but sturdy portable test equipment in the appliance service field is met by this exclusive line. Here the user profits from J-B-T's wide experience in building field test sets for many well-known manufacturers of ranges, irons, refrigerators, deep freeze units, and similar equipment. All J-B-T testers include the principle of remote reading of temperature,—and temperature measures the real usefulness of the appliance. Although called appliance testers, these handy portable testers have found a multitude of uses for trouble-shooting, experimenting and research in industry and in laboratories.**

## OVEN TESTERS



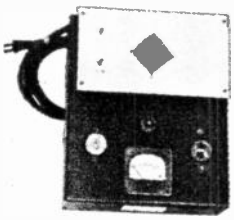
**MODEL 23-JP-1.** Latest addition to the widely-known family of J-B-T oven temperature testers is this modern and compact unit. Like the Models 32-JP-3 and 32-JP-4 described below, this indicating portable pyrometer is designed to save time and furnish reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. The same size of dial, 0-650°F., with 2⅜" scale arc reading, is used but covered by an all-plastic instrument front. The indicator is mounted on a black metal panel affixed inside a pocket-sized, black top-grain leather case 4½" x 2⅞" x 4¼" over hardware. Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error as temperatures change inside the instrument itself, and gives foolproof direct readings. Supplied with attached SA-116 5½' calibrated thermocouple, clip and convection shield ..... **$26.00**



**MODEL 32-JP-3.** This sturdy, fast reading portable is by far the most widely used oven tester in the country. The rigid outer carrying case 6" x 3⅞" x 3¾' is covered in black leatherette; the glass-covered indicator fits in a 3¼" flanged metal case. The dial shows 0-650°F. in 10° divisions readable to 2½°. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is valuable feature whether the tester is used for service work, sales demonstrations, or inspection. More details on the 32-JP-3 are available in Bulletin JP-103. Price includes attached SA-116 5½' calibrated thermocouple, clip for attaching to grill, and convection shield for steady reading ..... **$27.50**

## VERSATILE OVEN TESTERS

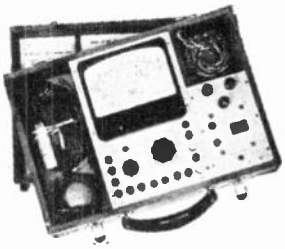
**MODEL 32-JP-4.** Companion tester to the 32-JP-3 with all the features of that tester, plus a leather carrying strap, and binding posts for quick attachment and interchanging of various thermocouples listed on this page, to check irons, washers, waffle-bakers, toasters, roasters, clothes dryers, etc. Range, 0-650°F; black leatherette case 6" x 3⅞" x 3¾". More details on the 32-JP-4 are available in Bulletin JP-104. Price includes SA-116 5½' calibrated thermocouple, clip and convection shield. ..... **$28.75**



## IRON TESTERS

**MODEL 32-JIT.** Self-contained bench type tester; checks all makes of irons; measures thermostat temperatures; and shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal base; overall size 10" x 12" x 5½", scale 0—650°F, 15 amp. fuse, 6' cord, 110-volt, 50-60 cycles ..... **$34.50**

## ALL-PURPOSE TESTERS



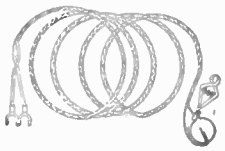
**MODEL 61-JRT.** This 9-in-1 tester speeds accurate temperature adjustment and current analysis of ranges, refrigerators, etc. Rapidly reads four cold zones, —100° F. to +80° F. up to 14' distant; two heat zones 0-600° F. up to 5½' distant; one voltage range 0-300 AC; and with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case 15½" x 10 3/16" x 4¾" with handle and slip hinges. Two-color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature scale accuracy ±2% of full scale. Rectified AC readings ±5%. Accessories listed below may be added for testing irons, grills, roasters, washers, etc. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, necessary electrical leads, and AS TR-2 built-in transformer ..... **$118.00**

For more details, see Bulletin JRT-349.

**MODEL 61-JRT (LESS TRANSFORMER).** Same unit, same scales, except does not read in amperes; AS-TR-2 transformer assembly omitted ..... **$105.00**

## THERMOCOUPLES

(See next page for Resistance Bulbs and Transformers)



**SA-116 with SHIELD and CLIP.** Standard flexible No. 22 gauge iron constantan, asbestos insulated, 5½', with attachment clip and convection shield as normally supplied with 23-JP-1, 32-JP-1, 32-JP-2, 32-JP-3, 32-JP-4, 60-JRT and 61-JRT Testers. (See SA-199 for extra quality, glass insulated type). SA-116 ..... **$2.00**

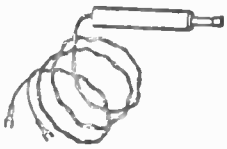
**SA-170 (REPLACEMENT THERMOCOUPLE for IRON TESTERS 32-JIT and IT-1).** Thermocouple and lead, including aluminum plate and special tip, quickly installed in the field ..... **$2.30**

**SA-175 (PLAIN TIP).** For roasters, waffle irons, etc., 5½' iron constantan flexible No. 22 gauge, asbestos insulated, with small ball tip; used where clip and shield of SA-116 not suitable; for Models 32-JP-2, 32-JP-4, 60-JRT, and 61-JRT ..... **$1.60**

**SA-176 (for TOASTERS, etc.)** 5½' iron constantan No. 22 gauge asbestos insulated, with special disc to collect heat; easily attached to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT ..... **$3.00**

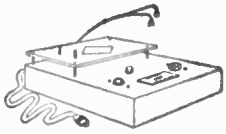
**SA-188 (for AUTOMATIC WASHER TEMPERATURES, etc.)** 3/16" diameter copper tube, 4" long, encloses thermocouple for insertion in pipe or sample of water. Has 6' leads for attachment to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT .... **$4.50**

**SA-199 with SHIELD and CLIP.** Same as SA-116 above, except duplex, non-fraying glass braid construction; diameter .115"; recommended for frequent use with these testers at temperatures above 400°F. ..... **$2.40**



**SA-300 (for SURFACE READINGS),** not regularly stocked. Spring-type iron constantan in Transite tip with handle and 5' No. 22 gauge lead for extremely rapid heat readings; for attachment to 32-JP-2, 32-JP-4, 60-JRT and 61-JRT appliance testers .... **$8.00**

**SA-301 (REPLACEMENT TIP FOR SA-300),** not regularly stocked. Transite tip and thermal element only ..... **$3.75**



**ACCESSORY IRON TESTER, MODEL IT-1.** This attachment is identical with the 32-JIT, except there is no meter. It is easily connected to Models 32-JP-2, 32-JP-4, 60-JRT and 61-JRT. Shows open circuits and shorts, checks sole plate temperatures and thermostats on all types of irons ..... **$18.00**

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Net



(Other J-B-T Temperature Testers on Page G-377)



World Radio History

# ADC AUDIO DEVELOPMENT COMPANY

MINNEAPOLIS 7, MINNESOTA

PJ-5 PJ-1 PJ-3 PJ-6 D7200

## PLUGS

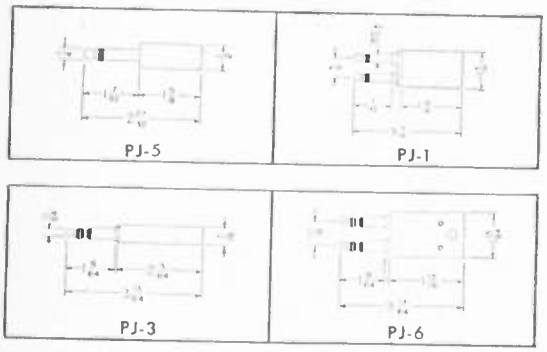
**PJ-5** **Equivalent, PJ-055, WE-47,** fits ¼" phone jacks. Black plastic shell. Screw terminals. Two conductor.

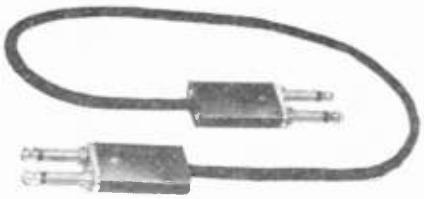
**PJ-1** **Equivalent WE-241,** heavy duty die cast frame. Black phenolic shell. Self aligning plug prongs on ⅝" center for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.

**PJ-3** **Equivalent PJ-051, WE-310.** Designed for use with ¼" tip, ring and sleeve jacks. Molded insulation, red plastic shell. Three conductor.

**PJ-6** **Equivalent WE-213.** Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom/monitor headsets. Black shell notched for polarity identification. Self aligning plug prongs on 11/16" centers.

**D7200** **Equivalent WE-315B.** Four prong, self aligning plug. Molded insulation. Brass shell notched for polarity is nickel plated and connected to plug stems to provide shielding for tip conductors. For use with four PJ-318 or two PJ-210 double jacks mounted on ⅝" centers. Five conductors.



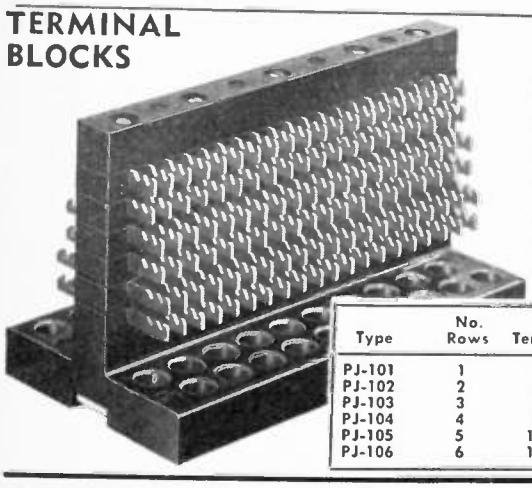
## PATCH CORDS

| Length | Cord With PJ-1 Plugs | List | Cord With PJ-5 Plugs | List | Replacement Cords Only | List |
|---|---|---|---|---|---|---|
| 6-inch | PJ-10½ | $11.80 | PJ-50½ | $5.80 | PJ-20½ | $1.85 |
| 1-foot | PJ-11 | 12.10 | PJ-51 | 6.05 | PJ-21 | 2.50 |
| 2-feet | PJ-12 | 12.35 | PJ-52 | 6.40 | PJ-22 | 2.75 |
| 3-feet | PJ-13 | 12.65 | PJ-53 | 6.85 | PJ-23 | 2.90 |
| 4-feet | PJ-14 | 13.10 | PJ-54 | 7.40 | PJ-24 | 3.00 |
| 5-feet | PJ-15 | 13.45 | PJ-55 | 7.95 | PJ-25 | 3.15 |
| 6-feet | PJ-16 | 14.05 | PJ-56 | 8.75 | PJ-26 | 4.15 |
| 10-feet | PJ-10 | 14.90 | PJ-50 | 9.70 | PJ-20 | 5.25 |

| Length | Cord With PJ-3 Plugs | List | Replacement Cords Only | List |
|---|---|---|---|---|
| 2-feet | PJ-82 | $14.50 | PJ-62 | $3.50 |
| 4-feet | PJ-84 | 15.50 | PJ-64 | 4.00 |
| 6-feet | PJ-86 | 16.50 | PJ-66 | 4.70 |

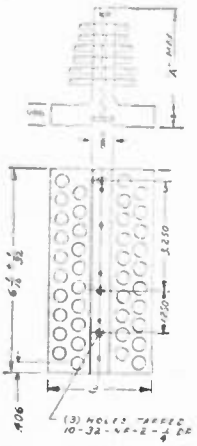
ADC patch cords have become standards in the communications industry. Unmatched in quality, these shielded cords are made of tinned copper conductor wire with a heavy braided cover reinforced at each end. These cords, as well as cord assemblies with PJ-1 double plugs, PJ-5 or PJ-3 single plugs and standard black patch cords with shields grounded both ends, are considered standard. Unshielded cords or assemblies with shields grounded one end only available on special order. Gray, red, other color cords available on special order.

## TERMINAL BLOCKS



ADC offers a completely new series of terminal blocks. The one piece base and individual terminal separators are molded of durable black phenolic plastic. Terminals are .010 brass with special tin plating for improved solderability. Rows of terminals are graduated in length for ease of wiring and the top row of terminals is identified by numbering. One to six rows of terminals, standard. Assemblies with more than six rows available on special order.

| Type | No. Rows | No. Terminals | List |
|---|---|---|---|
| PJ-101 | 1 | 20 | $5.75 |
| PJ-102 | 2 | 40 | 7.75 |
| PJ-103 | 3 | 60 | 9.95 |
| PJ-104 | 4 | 80 | 11.75 |
| PJ-105 | 5 | 100 | 13.75 |
| PJ-106 | 6 | 120 | 15.75 |





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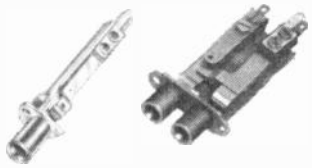
TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

World Radio History

# ADC AUDIO DEVELOPMENT COMPANY

MINNEAPOLIS 7, MINNESOTA

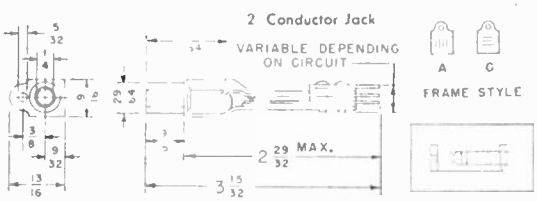
## JACKS

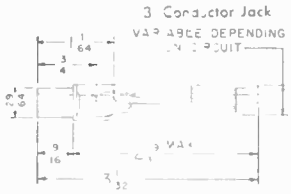


ADC is recognized as a leading supplier of long frame telephone jacks. The unique ADC one piece frame is strong, dimensionally stable, and readily interchangeable both mechanically and electrically with commonly used jacks. Plating withstands 50-hour salt spray tests. Lugs are hot tin dipped. Coin silver contacts are welded to nickel silver springs. Insulation is high grade phenolic.

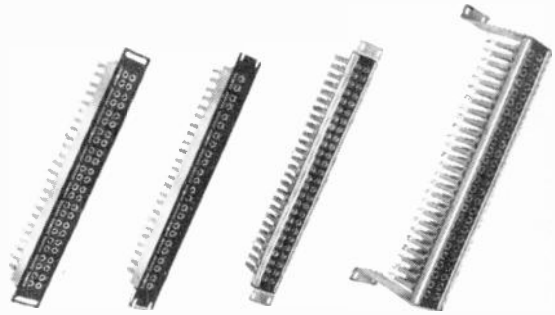
| ADC PART NO. | W E EQUIV. | FRAME STYLE | SCHEMATIC CIRCUIT | LIST |
|---|---|---|---|---|
| PJ238[2] | 238A | A | | $1.20 |
| PJ240[2] | 240C | C | | 2.05 |
| PJ241[2] | 241A | A | | 1.70 |
| PJ242 | 242C | C | | 2.05 |
| PJ339[2] | 239A | A | | 1.60 |
| PJ226[1] | 226A | A | | 1.70 |
| PJ237 | 237A | A | | 1.45 |
| PJ318[1] | 218A | A | | 1.15 |
| PJ336 | 236C | C | | 1.90 |
| PJ338[1] | 438C | C | | 2.05 |
| PJ418[1] | 218C | C | | 1.20 |
| PJ115[1] | 215A | A | | 1.50 |
| PJ116[1] | 216A | A | | 1.50 |
| PJ117[1] | 217A | A | | 1.50 |
| PJ123[1] | 223A | A | | 1.05 |
| PJ125[1] | 225A | A | | 1.70 |
| PJ203[1] | 303A | A | | 1.40 |

1. Use with all 2 conductor plugs.
2. Use with all 3 conductor ("Tip, Ring and Sleeve") plugs.




ADC PJ-210 twin jacks (WE-410A) are used extensively in carrier systems to provide simplified wiring of two cross connected circuits on a single frame. This jack is made to mate with ADC PJ-1 plug and is designed to mount in standard panels with 5/8 inch hole spacing.
$4.60 *list*



| PJ-31 | PJ-33 | PJ-30 | PJ-35 |
|---|---|---|---|
| PJ-341 | PJ-343 | PJ-340 | PJ-350 |

## JACK PANELS

ADC offers the most complete assortment of jack panels available today. ADC panels are used in television and broadcasting stations, recording studios, industrial paging systems, and communication equipment of all kinds where there is a need to efficiently switch and distribute audio signals. Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Mounting brackets and designation strips furnished with each panel. All panels designed to fit standard 19" relay rack. Consult ADC for your standard and special jack panel requirements.

*Double panel. Holds 48 jacks. Holes spaced to prevent patching adjacent circuits. Requires 2 1/8" panel space.*

| TYPE | DESCRIPTION | LIST |
|---|---|---|
| PJ-31 | Double panel, less jacks | $15.75 |
| PJ-341 | Double panel, with PJ-318 jacks | 71.25 |

*Double panel. Holds 52 jacks — requires 1 3/4" panel space. Double designation strip. Brackets for flush rack mounting. All jack mounting holes on 5/8" centers.*

| TYPE | DESCRIPTION | LIST |
|---|---|---|
| PJ-30 | Double panel, less jacks | $21.50 |
| PJ-340 | Double panel, with PJ-318 jacks | 82.50 |

*Single panel. Holds 24 jacks. Holes spaced to prevent patching adjacent circuits. Requires 1 3/4" panel space.*

| TYPE | DESCRIPTION | LIST |
|---|---|---|
| PJ-33 | Single panel, less jacks | $14.20 |
| PJ-343 | Single panel, with PJ-318 jacks | 41.88 |

*Double panel. Same as PJ-30 and PJ-340 except with stand off brackets to hold panel 7" in front of relay rack.*

| TYPE | DESCRIPTION | LIST |
|---|---|---|
| PJ-35 | Double panel, less jacks | $26.00 |
| PJ-350 | Double panel, with PJ-318 jacks | 87.50 |

**AUDIO DEVELOPMENT COMPANY**
**MINNEAPOLIS, MINNESOTA**

• *Transformers* • *Filters* • *Reactors* • *Chokes*
• *Plugs & Jacks* • *Jack Panels*

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World Radio History

# A COMPLETE LINE OF QUALITY TIME SWITCHES FOR ALL AUTOMATIC CONTROL REQUIREMENTS

Intermatic TIME CONTROLS

## PORTABLE PLUG-IN APPLIANCE TIMERS

**Time-All** — for all-around use in the home, office, or store. Converts any radio to a clock radio . . . provides automatic "on-off" operation of lamps, de-humidifiers, hi-fi, fans, tape recorders, etc. Has manual control with automatic reset. Plug-in receptacle.

**TV Show Catcher**—Catch favorite radio and TV programs with combination electric clock and signal timer. Positive reminder - pleasant buzzer sound. Plugs in anywhere. Timing periods from 1 minute to 4 hours.

**Tape Recorder Timer**—Combination clock and appliance timer. The favorite of tape recorder owners who want to hear their favorite show, even though they're away at the time.

| Model No. | Description | Watts | Amps | Volts | List Price |
|---|---|---|---|---|---|
| A221 | Standard Time-All | 875 | 7 | 125 | $ 9.95 |
| A211 | DeLuxe Time-All | 1650 | 15 | 125 | $11.95 |
| A301 | TV Show Catcher | .... | .. | 125 | $ 8.95* |
| A401 | Tape Recorder Timer | 1650 | 15 | 125 | $11.95* |

*Subject to Retail Federal Excise Tax

## STANDARD ON-OFF TIME SWITCHES

### *Century* Series T100

Tungsten-Rated to handle incandescent lighting loads. For ordinary automatic control requirements, with up to 11 on-off operations per day. Minimum on-off time, 1 hour; maximum 23 hours. Manual control with automatic reset.

| Model No. | Switch | Amps | Voltage | List Price |
|---|---|---|---|---|
| T101 | SPST | 35 | 125 | $11.95 |
| T102 | SPST | 35 | 250 | $12.95 |
| T103 | DPST | 35 | 125 | $13.95 |
| T104 | DPST | 35 | 250 | $14.95 |
| T105 | SPDT | 35 | 125 | $13.95 |
| T106 | SPDT | 35 | 250 | $14.95 |
| T101B | SPST | 35 | 125 | $11.95 |
| T102B | SPST | 35 | 250 | $12.95 |
| P101* | SPST | 10 | 125 | $13.95 |

*Portable Plug-In: 125 volts, 60 cycle only.
Models also available for 125 volt 50 cycle, 125 volt 25 cycle or 250 volt 50 cycle.

## PROGRAM TIME SWITCH

### *Supervisor* Series T960

For recorded music, process timings, fans, and heaters. Permits 1 to 96 on-off operations every 24 hrs. in 15 min. increments. 96 permanently attached trippers easily slide in and out for fast setting. Portable plug-in model available.

| Model No. | Type | Amps per pole | Voltage 60 cycle | List Price |
|---|---|---|---|---|
| T965 | Can be used 3 ways 1. SPST—Normally open | 20 | 125 | $37.50 |
| T966 | 2. SPST—Normally closed 3. SPDT—Alternate open & close | 15 | 250 | $38.50 |
| P961* | Single Pole, Single Throw | 10 | 125 | $39.50 |

*Portable Plug-In

## 12 MINUTE REPEAT CYCLE TIMER

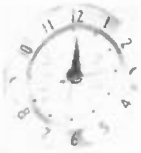
### *Cycler* Series C8300

Dial makes a complete revolution every 12 min. ON operations from 10 sec. to 11 min., 10 sec. OFF operations from 50 sec. to 11 min., 50 sec. Up to 12 sets of on-off trippers can be placed on the dial at one time.

| Model No. | Switch | Amps | Voltage | List Price |
|---|---|---|---|---|
| C8301-S | SPST | 15 | 125 | $14.45 |

## RADIO CLOCK TIMER

### Model RC 2021-4—unmounted



An unmounted radio clock timer with front control. For installation in any model radio or other electrical unit. Radio can be turned on automatically, turned on or off manually. Complete with round bezel and crystal. With front switch setting, front "time" and "automatic" set.

| Model No. | Watts | Amps | Voltage/60 cycles | List Price |
|---|---|---|---|---|
| RC2021-4 | 1650 | 15 | 125 | $9.00 |

## *Skipper* SERIES TIME SWITCHES

### T170—for 7-day Operation

Tungsten-Rated to handle incandescent lighting loads. For use where it is desired to skip operation on selected days. SKIPPER has two dials—a 24 hour time dial and a day dial—day dial advances position one day every 24 hours.

| Model No. | Switch | Amps | Voltage | List Price |
|---|---|---|---|---|
| T171 | SPST | 35 | 125 | $17.95 |
| T172 | SPST | 35 | 250 | $18.95 |
| T173 | DPST | 35 | 125 | $19.95 |
| T174 | DPST | 35 | 250 | $20.95 |
| T175 | SPDT | 35 | 125 | $19.95 |
| T176 | SPDT | 35 | 250 | $20.95 |
| T171B | SPST | 35 | 125 | $17.95 |
| T172B | SPST | 35 | 250 | $18.95 |
| P171* | SPST | 35 | 125 | $19.95 |

*Portable Plug-In: 125 volts, 60 cycle only.
Models also available for 125 volt-50 cycle, 125 volt-25 cycle, or 250 volt-50 cycle.

## 5 OR 15 MINUTE ON-OFF SWITCH

### *Supervisor DeLuxe* Series V27000

For highly accurate on-off operations in 5 or 15 min. intervals, on a 24 hr. basis. Recommended for intermittent 24 hr. control of recorded music in stores, factories and offices, for process timings in food, chemical, and industrial plants, fans, ventilating systems, etc. Timings in multiples of 5 or 15 min.

| Model No. | Case Size | Minimum Time Between Settings | Circuit Closure Range in multiples of | No. Circ. | List Price |
|---|---|---|---|---|---|
| V27101 | LC | 5 min. | 5 min. | 1 | $89.95 |
| V27201 | SC | 15 min. | 15 min. | 1 | $79.95 |
| V27107 | LC | 5 min. | 5 min. | 2 | $119.95 |
| V27207 | SC | 15 min. | 15 min. | 2 | $109.95 |

Note: All models available for 250 volt operation and/or with Skipper feature. Request catalog No. TS-110 for complete model number listing.

**for complete Time Switch information, request Catalog TS-89**

# INTERNATIONAL REGISTER COMPANY, CHICAGO, ILLINOIS



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World Radio History

**hurst** Tool and Manufacturing Co.

PRINCETON, INDIANA TELEPHONE: FULTON 5-4034

## Lowest Cost . . . Smallest Size

# 40 INCH-OUNCE SYNCHRONOUS MOTOR

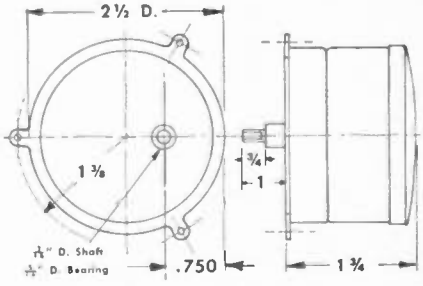
## *for heavy duty continuous timing*

This compact motor is engineered for tough jobs demanding accurate timing. It has excellent shock and vibration resistance and will start instantly at full torque (40 inch ounces at 1 RPM). It will not overheat during continuous duty nor in a stall position.

Gear-trains are constructed to withstand loads more than three times the motor's rated capacity.

### SERIES SM SPECIFICATIONS

| | |
|---|---|
| DIMENSIONS | 2½" dia. 1¾" depth |
| TORQUE | 40 inch ounces at 1 RPM |
| OUTPUT SPEEDS | 1, 4, 6, 10, 30, 60 RPM |
| DUTY | Continuous |
| WEIGHT | 12 oz. |
| SHAFT SIZE | 1/16" diameter, flatted |
| SHAFT LENGTH | 1" |
| MOUNTING | 3 No. 6 holes spaced 120° |
| POWER | 60 cy. AC 95/130V., 7 watts |
| ROTATION | Right hand (clockwise facing shaft) |
| MAX TEMP RISE | 40° C above ambient |
| OPERATE TEMP | —40° C (—40° F) to +121.1° C (+250° F) |
| SHOCK RESISTANCE | 100g without motor damage |
| VIBRATION RESISTANCE | Accurate synchronization at 10-55 cps at .065" excursion |




### TYPICAL APPLICATIONS

- Extra large clocks
- Alarm systems
- Animated displays
- Voltage regulators
- Process controls
- Paging systems
- Time switches
- Traffic signals
- Seismograph recorder
- Code signal devices
- Aircraft training devices
- Industrial testing equipment
- Railway signaling equipment
- Street lighting controls
- Program instruments
- Home lighting displays
- Engineering test equipment

**Net Price $6.75 each.**

When ordering specify series SM motor and output speed desired.

**HURST** TOOL & MANUFACTURING CO. PRINCETON, INDIANA

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World Radio History

# ADVANCE RELAYS

ELGIN

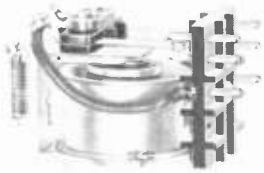
## GH RELAYS—LOW COST GENERAL PURPOSE TYPES

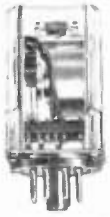
### GH SERIES
5 Amps resistive, 2 Amps inductive*

### GHB SERIES
10 Amps resistive, 5 Amps inductive*

**Maximum Size:**

| Height | Length | Width |
|---|---|---|
| 1.100" | 1.732" | .937" |





Dustite Plastic Enclosure

### GHP SERIES *(5-Amp Relay)*
### GHE SERIES *(5-Amp Plate Circuit)*

5 Amps resistive, 2 Amps inductive*

**Size of Enclosure:**
Overall length 2-11/16" x 1-13/32" x 1-13/32"
Length above chassis 2 1/8"

Enclosed in a clear polystyrene dustite enclosure with 8-pin octal for GHP1C and 2C, 11-pin for 3C versions

### OPEN SERIES

| AC Relays | | 6-12-24-115 VAC | 220 VAC |
|---|---|---|---|
| Type | Contacts* | Net | Net |
| GH 1C | SPDT | 3.05 | 3.55 |
| GH 2C | DPDT | 3.55 | 4.05 |
| GH 3C | 3 PDT | 4.05 | 4.55 |
| **DC Relays** | | **6-12-24 VDC** | **110 VDC** |
| Type | Contacts* | Net | Net |
| GH 1C | SPDT | 3.05 | 3.55 |
| GH 2C | DPDT | 3.35 | 3.85 |
| GH 3C | 3PDT | 3.75 | 4.25 |

| AC RELAYS | | 6-24-115 VAC |
|---|---|---|
| Type | Contacts* | Net |
| GHB 1C | SPDT | 3.50 |
| GHB 2C | DPDT | 4.05 |
| GHB 3C | 3PDT | 4.60 |
| **DC RELAYS** | | **6-12-24 VDC** |
| Type | Contacts* | Net |
| GHB 1C | SPDT | 3.50 |
| GHB 2C | DPDT | 3.80 |
| GHB 3C | 3PDT | 4.40 |

## GH GROUP SPECIFICATIONS

### GH, GHB, GHP Series:

**NOMINAL POWER REQUIRED:**

DC Relays:
1 to 2 watts nominal

| Voltage | Resistance |
|---|---|
| 6 | 25 Ohms |
| 12 | 100 Ohms |
| 24-28 | 400 Ohms |
| 100-120 | 8,000 Ohms |

AC Relays:
2 to 3 Volt Amperes nominal

| Voltage | Resistance |
|---|---|
| 6 | 4 Ohms |
| 12 | 16 Ohms |
| 24 | 63 Ohms |
| 115 | 1,600 Ohms |
| 220 | 5,000 Ohms |

### GHE, Plate Circuit Series:

**Nominal power required for relay pull-in:**
1C—130 milliwatts
2C—260 milliwatts
3C—350 milliwatts

**Standard Resistance and Factory Adjusted Pull-In Current Values:**

| Resistance | Pick-Up Current | | |
|---|---|---|---|
| | 1C | 2C | 3C |
| 2,500 Ohms | 7.2 MA Max. | 10.0 MA Max. | 11.8 MA Max. |
| 5,000 Ohms | 5.0 MA Max. | 7.2 MA Max. | 8.3 MA Max. |
| 10,000 Ohms | 3.6 MA Max. | 5.0 MA Max. | 5.8 MA Max. |

### DUSTITE PLASTIC ENCLOSURE SERIES

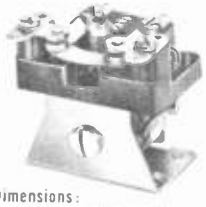
| AC RELAYS | | 6-12-24-115 VAC | | 220 VAC |
|---|---|---|---|---|
| Type | Contacts* | Net | | Net |
| GHP 1C | SPDT | 5.10 | | 5.60 |
| GHP 2C | DPDT | 5.75 | | 6.25 |
| GHP 3C | 3 PDT | 7.05 | | 7.55 |
| **DC RELAYS** | | **6-12-24 VDC** | | **110 VDC** |
| Type | Contacts* | Net | | Net |
| GHP 1C | SPDT | 5.15 | | 5.65 |
| GHP 2C | DPDT | 5.65 | | 6.15 |
| GHP 3C | 3PDT | 6.95 | | 7.45 |
| **PLATE CIRCUIT RELAYS** | | 2,500 | 5,000 | 10,000 |
| Type | Contacts* | Net | Net | Net |
| GHE 1C | SPDT | 5.40 | 5.85 | 6.25 |
| GHE 2C | DPDT | 6.30 | 6.70 | 7.10 |
| GHE 3C | 3PDT | 7.80 | 8.25 | 8.65 |

*Contacts rated at 115 VAC or 26.5 VDC resistive loads

## POWER CONTROL TYPES

### PJ SERIES *(general purpose)*

This has a higher current rating than the similar-appearing PG Series. The additional rating is achieved by including a jumper between blades, which effects a single-pole design. Such construction, providing double-make double-break heavy-duty contacts, raises the relay current rating without affecting the physical size, vibration or shock characteristics.



**Dimensions:**
H. 1 7/8" W. 1 5/8" L. 1 1/2"

**Mounting Data:**
4 tapped holes 6-32 NC-2; 1/2" x 1 5/16" centers

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| PJ/1C/6VD | 16 ohms | SPDT 30 amps | 8.95 |
| PJ/1C/115VA | 400 ohms | SPDT 30 amps | 10.40 |

### PC SERIES *(1, 2, 3 & 4 pole)*

These are compact and positive-acting relays for either AC or DC. They are used in air conditioning and lighting systems, small motor starting, transformers, garage door openers—wherever dependable circuit switching is necessary.

**Dimensions:** H. 1 5/16" W. 1 5/8"
L. 2 1/8" — 1 & 2 pole.
H. 1 9/16" W. 2 3/4"
L. 3 1/4" — 3 & 4 pole.

**Mounting Data:**
2 tapped holes 6-32 NC-2, 2" centers.

| AC RELAYS | | 6-12-24-115 VAC | 220 VAC |
|---|---|---|---|
| Type | Contacts* | Net | Net |
| PC 1C | SPDT | 3.95 | 4.45 |
| PC 2C | DPDT | 5.95 | 6.55 |
| PC 3C | 3PDT | 8.45 | 9.65 |
| PC 4C | 4PDT | 10.95 | 12.45 |
| **DC RELAYS** | | **6-12-24 VDC** | **110 VDC** |
| Type | Contacts* | Net | Net |
| PC 1C | SPDT | 3.95 | 4.45 |
| PC 2C | DPDT | 5.95 | 6.55 |
| PC 3C | 3PDT | 8.45 | 8.95 |
| PC 4C | 4PDT | 10.95 | 11.45 |

*Contacts rated at 115 VAC or 26.5 VDC resistive loads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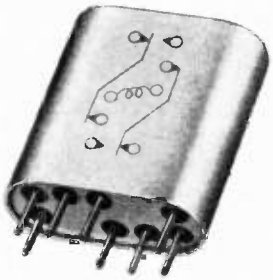
World Radio History

# ADVANCE RELAYS

ELGIN

## CRYSTAL CAN SIZE

### MV SERIES



The MV is a rotary action relay available in a wide variety of header and mounting arrangements including solder-lug and plug in terminals.

New spring lead design contact blades provide a new kind of action insuring less contamination and longer life with rapid heat dissipation.

The high performance of this relay offers wide versatility for severe military and industrial applications.

*Vibration:* 10 to 34 cycles per second at maximum excursions of .4" 34 to 2000 CPS 20G's acceleration.

*Shock:* 50G for 11 milliseconds.

**Dimensions:**
H. ⅞" W 1/16" D 23/64"

| Type | Coil Resistance | Pull-In Current Max. | Net |
|---|---|---|---|
| MV2C30D | 30 Ohms | 85 MA | 13.60 |
| MV2C120D | 120 Ohms | 44 MA | 13.60 |
| MV2C600D | 600 Ohms | 21 MA | 13.60 |
| MV2C1000D | 1000 Ohms | 16 MA | 13.85 |
| MV2C2500D | 2500 Ohms | 10 MA | 14.40 |
| MV2C5000D | 5000 Ohms | 7 MA | 14.95 |
| MV2C10,000 | 10,000 Ohms | 5 MA | 16.35 |

Contacts rated at 115 VAC or 32 VDC

### ORDERING INFORMATION

**TERMINAL ARRANGEMENT**

| | |
|---|---|
| Solder-Hook | Code 1 |
| Plug-in Pin. | Code 2 |
| 3" leads | Code 3 (add .35) |

**MOUNTING ARRANGEMENT**

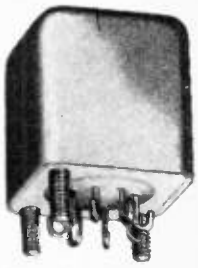
| | |
|---|---|
| Side Studs | Code 1 (add .25) |
| Top Studs | Code 2 (add .25) |
| 2 Hole Bracket | Code 3 |
| Plain Can | Code 4 |
| Wide Strap Bracket | Code 5 |
| Side Angle Brackets | Code 6 |

**EXAMPLES:**

1. Solder-hook terminals with side angle mounting brackets with 12 volt DC coil MV 2C 120D-16
   Price: 13.60 + no extras = 13.60
2. 3" leads, top studs with 110 volt DC coil
   MV 2C 10,000 D-32
   Price: 16.35 + .35 for 3" leads + .25 for top studs = 16.95

## ROTARY TYPES

### VG SERIES



An exceptionally high-precision, high-performance relay is this new VG series.

Primarily designed for aircraft and missile applications, the VG performs well in various control operations and specialized electronic equipment.

Of importance to engineers—the VG series has a contact rating of 5 amps, occupying less than 1 cubic inch of space and weighing only 1.5 oz., operating over a temperature range of −65°C to +125°C.

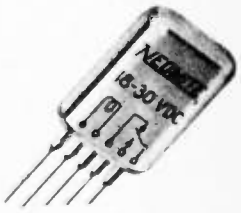
**Dimensions:**
⅞ ± 1/64 sq. × 1⅛ ± 1/64

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| VG2C 6VD | 25 Ohms | DPDT 5 amps | 20.50 |
| VG2C12VD | 100 Ohms | DPDT 5 amps | 20.50 |
| VG2C24VD | 500 Ohms | DPDT 5 amps | 20.50 |

*Contacts rate at 28 VDC or 115 VAC

## SUB-MINIATURE TYPES

### NM SERIES *(neomite)*




A transistor size DC relay ideal for missiles, aircraft, control equipment and printed circuits. Operating power 100 milliwatts—vibration resistance 10 G to 500 CPS.

**Dimensions:**
H. 17/32" W. 23/64" D. 3/16" Wt. .09 oz.
SPDT Only

| Type | Coil Resistance | Coil Volt. Nom. | Pull-in Current Max. | Net |
|---|---|---|---|---|
| NM1C50 | 50 Ohms | 4VDC | 44 MA | 24.00 |
| NM1C200 | 200 Ohms | 8VDC | 22 MA | 24.00 |
| NM1C500 | 500 Ohms | 12VDC | 14 MA | 24.00 |
| NM1C1K | 1000 Ohms | 16VDC | 10 MA | 24.00 |
| NM1C2K | 2000 Ohms | 24VDC | 7 MA | 24.00 |

Contact Rating: .25 Amp at 28VDC resistive load.

## COAXIAL TYPES

### CB SERIES *(coaxial type)*

These relays are unsurpassed for meeting the problems of coaxial cable switching. Designed for performance on 52-ohm coaxial lines. Low standing-wave ratios permit usage on frequencies up to 300 megacycles. The units operate equally well in any position.

**Dimensions:** H. 1⅞" W. 3 1/16" L. 3⅞"
**Mounting Data:** 2 tapped holes 6-32 NC-2; 1 7/16" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| CB/1C/6VD | 18 ohms | SPDT 5 amps | 12.00 |
| CB/1C/12VD | 70 ohms | SPDT 5 amps | 12.00 |
| CB/1C/24VD | 280 ohms | SPDT 5 amps | 12.00 |
| CB/1C/115VA | 280 ohms | SPDT 5 amps | 12.15 |
| CB/1C2C/6VD | 18 ohms | SPDT (int) DPDT (aux) 5 amps | 13.00 |
| CB/1C2C/12VD | 70 ohms | SPDT (int) DPDT (aux) 5 amps | 13.00 |
| CB/1C2C/24VD | 280 ohms | SPDT (int) DPDT (aux) 5 amps | 13.00 |
| CB/1C2C/115VA | 280 ohms | SPDT (int) DPDT (aux) 5 amps | 13.25 |

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.



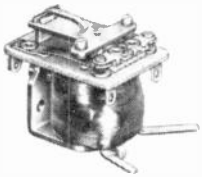
World Radio History

# ADVANCE RELAYS

ELGIN

## MINIATURE TYPES

### MK SERIES (*"Tiny-Mite"*)



Ultra-small and feather-light, these direct current devices require less than ½ cubic inch mounting space!

All switching is entirely above ground . . . insulation material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock.

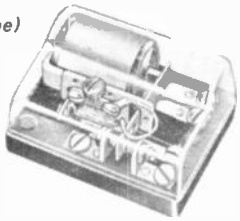
**Dimensions:**
H. 51/64" W. 41/64" L. 53/64"

**Mounting Data:**
Relay supplied with single 2-56 NC-2 machine screw.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| MK/1C/6VD | 50 ohms | SPDT 1 amp | 4.95 |
| MK/1C/12VD | 200 ohms | SPDT 1 amp | 4.95 |
| MK/1C/24VD | 800 ohms | SPDT 1 amp | 4.95 |
| MK/2C/6VD | 30 ohms | DPDT 1 amp | 5.95 |
| MK/2C/12VD | 120 ohms | DPDT 1 amp | 5.95 |
| MK/2C/24VD | 500 ohms | DPDT 1 amp | 5.95 |
| MK/2C/5000D | 5000 ohms | DPDT 1 amp | 6.95 |

## SENSITIVE TYPES

### SV SERIES (*very sensitive type*)



For use in any DC circuit restricted to a few thousandths of a watt power consumption.

Transparent, molded plastic cover guards against dust or dirt reaching the contacts or other working parts.

Adjustments are quickly made with the vernier screws which vary relay sensitivity from the 5-milliwatt factory setting. Both the two stationary contacts and the spring tension can be accurately and permanently set—yet easily changed!

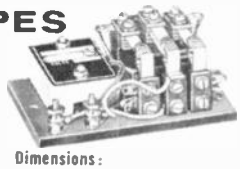
**Dimensions:**
H. 1½" W. 2" L. 2 9/16"

**Mounting Data:**
2 holes .52 dia.

| Type | Coil Resistance | Coil Current | Contacts* | Net |
|---|---|---|---|---|
| SV/1C/.005D | .005 ohms | 1.00 AMP | SPDT 1 amp | 7.95 |
| SV/1C/1000D | 1000 ohms | 2.25 MA | SPDT 1 amp | 8.25 |
| SV/1C/1600D | 1600 ohms | 1.80 MA | SPDT 1 amp | 8.40 |
| SV/1C/2200D | 2200 ohms | 1.50 MA | SPDT 1 amp | 8.40 |
| SV/1C/3500D | 3500 ohms | 1.20 MA | SPDT 1 amp | 8.40 |
| SV/1C/5500D | 5500 ohms | 0.95 MA | SPDT 1 amp | 8.75 |
| SV/1C/8700D | 8700 ohms | 0.75 MA | SPDT 1 amp | 9.40 |
| SV/1C/10000D | 10000 ohms | 0.70 MA | SPDT 1 amp | 9.40 |
| SV/1C/14000D | 14000 ohms | 0.60 MA | SPDT 1 amp | 10.10 |
| SV/1C/20000D | 20000 ohms | 0.50 MA | SPDT 1 amp | 11.10 |
| SV/1C/30000D | 30000 ohms | 0.40 MA | SPDT 1 amp | 11.85 |
| SV/1C/40000D | 40000 ohms | 0.35 MA | SPDT 1 amp | 13.30 |

## TIME DELAY TYPES

### DB & DM SERIES



The DB Series provides a time-delay before break. The DM Series provides a delay before make. Both series utilize bimetal thermal units which can be adjusted for delays from 5 to 60 seconds. Cooling of the thermal units for proper re-cycling requires 8 to 10 times the delay period.

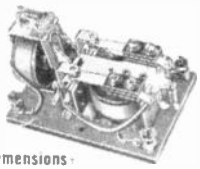
**Dimensions:**
H. 1⅜" W. 2⅜" L. 3¾"

**Mounting Data:**
2 holes .152 dia.; 3 3/16" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| DB/2C/115VA | 450 ohms | DPDT 15 amps | 13.60 |
| DM/1C/115VA | 450 ohms | SPDT 15 amps | 12.80 |
| DM/2C/115VA | 450 ohms | DPDT 15 amps | 14.35 |
| DM/2C/220VA | 1600 ohms | DPDT 15 amps | 14.85 |

## LATCHING TYPES

### LE (*electrical*) & LH (*manual*) SERIES



The LE and LH Series relays are employed in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil.

The latching mechanism in these relays is positive, and assures consistent performance. The units are assembled on a heavy bakelite base.

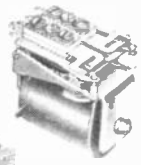
**Dimensions:**
H. 2⅜" W. 2½" L. 3⅝"

**Mounting Data:**
2 holes .152 dia.; clearance for 6-32 NC-2 screws; 2" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| LE/2C/6VA | .63 ohms | DPDT 15 amps | 12.00 |
| LE/2C/115VA | 160 ohms | DPDT 15 amps | 12.00 |
| LE/2C/24VD | 100 ohms | DPDT 15 amps | 11.65 |
| LH/2C/115VA | 250 ohms | DPDT 15 amps | 10.15 |

## TELEPHONE TYPES

### TA, TD & TQ SERIES (*miniature*)



TA, TD

TQ

Power consumption in the two TA telephone relays listed below is minimized through the use of bifurcated blades, short armature travel, and highly efficient magnetic structure. Contacts are platinum-silver alloy.

The TQ relay occupies only .94 cu. in. of space. The conventional hinge pin is replaced by a beryllium copper retaining spring, hence no hinge pin to wear out.

The TD series uses the TA series frame and coil, but has single 5-amp contacts.

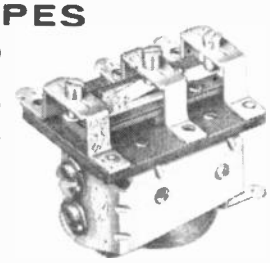
**Dimensions:**
TA, TD—H 1½" W. 1¼" L. 1⅜"
TQ—H 1⅝" W. ¾" L. 1 1/32"

**Mounting Data**
TA, TD—2 tapped holes; 6-32 NC 2
TQ—4 tapped holes; 3-48 NC 2; ⅜" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| TA/2C/115VA | 900 ohms | DPDT 2 amps | 6.45 |
| TA/4C/115VA | 900 ohms | 4PDT 2 amps | 8.45 |
| TQ/2C/24VD | 600 ohms | DPDT 3 amps | 5.75 |
| TQ/4C/24VD | 300 ohms | 4PDT 3 amps | 7.75 |
| TD/2C/115VA | 900 ohms | DPDT 5 amps | 5.95 |
| TD/4C/115VA | 900 ohms | 4PDT 5 amps | 7.95 |
| TD/2C/24VD | 630 ohms | DPDT 5 amps | 5.45 |
| TD/4C/24VD | 300 ohms | 4PDT 5 amps | 7.45 |

## SENSITIVE TYPES

### SO SERIES (*miniature*)



Here is a sensitive relay small enough for use in the tiniest spaces, and weighing only 1½ ounces. Yet it's adjustable by fine screw contacts to a close differential between pick-up and drop-out. A balanced armature on the relay provides extremely sensitive operation.

Factory adjusted at 40 milliwatts

| Type | Coil Resistance | Coil Current | Contacts* | Net |
|---|---|---|---|---|
| SO/1C/1000D | 1000 ohms | 6.2 MA | SPDT 1.5 amps | 5.45 |
| SO/1C/4000D | 4000 ohms | 3.2 MA | SPDT 1.5 amps | 5.85 |
| SO/1C/6500D | 6500 ohms | 2.5 MA | SPDT 1.5 amps | 6.35 |
| SO/1C/10000D | 10000 ohms | 2.0 MA | SPDT 1.5 amps | 6.70 |

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.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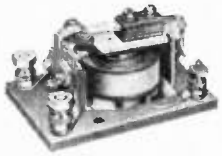
World Radio History

# ADVANCE RELAYS

ADVANCE RELAYS ELGIN

## POWER TRANSFER TYPES

### PV SERIES *(very heavy-duty)*



This series of very heavy-duty power-transfer relays is excellent for motor starting, lighting circuits and numerous applications where heavy double-make contacts are needed.

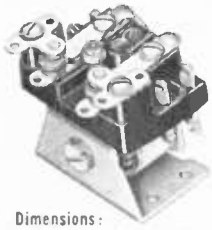
The "T" blade is equipped with two 5/16" silver-cadmium oxide contacts, with ample contact gap. These contacts minimize pitting and burning under heavy non-inductive or inductive loads.

**Dimensions:**
H. 1 5/8" W. 2 1/4" L. 3 1/4"

**Mounting Data:**
2 holes .169 dia. clearance for 8-32 NC-2 screws. 1 7/8" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| PV/1A/6VD | 16 ohms | SPST-NO 30 amps | 7.35 |
| PV/1A/115VA | 450 ohms | SPST-NO 30 amps | 7.70 |
| PV/1C/6VD | 16 ohms | SPDT 30 amps | 8.55 |
| PV/1C/115VA | 450 ohms | SPDT 30 amps | 8.70 |

### PG SERIES *(general purpose)*



Efficient coil structure provides the high magnetic strength necessary for high-pressure contacts on short blades, and excellent wiping action. You'll find these to be excellent double-pole relays for general industrial power-control circuits.

Vibration and shock are withstood easily by these relays due to the special armature and frame design. PG types can be built to meet Army-Navy specifications.

**Dimensions:**
H. 1 7/8" W. 1 5/8" L. 1 1/2"

**Mounting Data:**
4 tapped holes 6-32 NC-2; 1/2" x 1 5/16" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| PG/2C/6VA | 1.4 ohms | DPDT 15 amps | 7.50 |
| PG/2C/24VA | 25 ohms | DPDT 15 amps | 7.50 |
| PG/2C/115VA | 400 ohms | DPDT 15 amps | 7.50 |
| PG/2C/220VA | 1600 ohms | DPDT 15 amps | 7.95 |
| PG/2C/6VD | 16 ohms | DPDT 15 amps | 6.90 |
| PG/2C/12VD | 63 ohms | DPDT 15 amps | 6.90 |
| PG/2C/24VD | 400 ohms | DPDT 15 amps | 6.90 |

## RADIO CONTROL TYPES

### RC SERIES *(miniature)*

You can mount this tiny relay in a jiffy, using just one #2-56 screw. You can adjust it quickly, too, even in the field. Open and closed contacts, and hard knocks won't affect the sensitivity of this rugged little relay. It meets the most stringent requirements for precision equipment.

| Type | Coil Resistance | Pull-in Current | Contacts* | Net |
|---|---|---|---|---|
| RC1C5000D | 5000-Ohms | 1.5 MA | SPDT 0.2 amps | 5.75 |
| RC1C7250D | 7250-Ohms | 1.0 MA | SPDT 0.2 amps | 5.75 |

*Contacts rated at 110 VAC or 28 VDC, 60 Cycles

## ANTENNA TYPES

### AM SERIES *(midget antenna type)*

These space-saving "transmit-receive" antenna relays are ideally suited for hundreds of different low-power RF applications. These units fill the need for 300-ohm circuit switching in mobile, marine, aircraft, television, communication and fixed-station service.

Conically-shaped silver contacts assure low resistance paths for either "receive" or "transmit" positions.

**Dimensions:**
H. 1 9/16" W. 13/16" L. 1 15/16"

**Mounting Data:**
Relay supplied with single 6-32 NC-2 mounting stud with hex nut.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| AM/2C/6VA | 4 ohms | DPDT 2 amps | 4.70 |
| AM/2C/115VA | 1600 ohms | DPDT 2 amps | 5.05 |
| AM/2C/6VD | 25 ohms | DPDT 2 amps | 4.20 |
| AM/2C/12VD | 100 ohms | DPDT 2 amps | 4.20 |

### AH SERIES *(small antenna type)*

A changeover relay designed specifically for RF operation. The small size of this relay makes it ideal for use in compact sets where the load does not exceed 1/2 KW.

Low-loss handling of RF energy is assured by the Steatite insulation used throughout, and by adequate spacing between contacts. Units are fast and positive in action, and will operate in any position.

**Dimensions:**
H. 1 7/16" W. 1 5/8" L. 2 3/4"

**Mounting Data:**
2 tapped holes; 6-32 NC-2; 2" centers.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| AH/2C/6VD | 16 ohms | DPDT 10 amps | 11.75 |
| AH/2C/12VD | 4 ohms | DPDT 10 amps | 11.75 |
| AH/2C/6VA | 1.6 ohms | DPDT 10 amps | 13.00 |
| AH/2C/115VA | 450 ohms | DPDT 10 amps | 13.00 |
| AH/2C1C/115VA | 450 ohms | DPDT + SPDT (aux) 10 amps | 14.25 |

### AT SERIES *(antenna type)*

For heavy-duty RF transmitter antenna changeover applications. Primarily designed for fixed-station usage, with a conservative 1-kilowatt RF rating. These relays are insulated with ceramic Steatite. Excellent wiping action of the contacts assures flow of the most minute currents for receiving positions. The efficiency of these relays is very high. Available with auxiliary single-pole, normally open contacts.

**Dimensions:**
H. 1 11/16" W. 2 13/16" L. 3 9/16"

**Mounting Data:**
4 holes .157 dia.; clearance for 6-32 screws.

| Type | Coil Resistance | Contacts* | Net |
|---|---|---|---|
| AT/2C/115VA | 450 ohms | DPDT 10 amps | 13.20 |

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.



World Radio History

# Potter & Brumfield RELAYS

POTTER & BRUMFIELD, INC., PRINCETON, INDIANA — SUBSIDIARY OF AMERICAN MACHINE & FOUNDRY COMPANY

# STOCK CATALOG 100

ALPHABETICAL INDEX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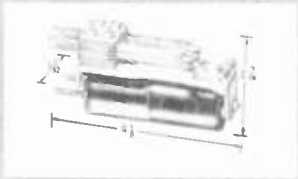
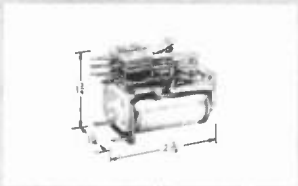
## TELEPHONE TYPE RELAYS

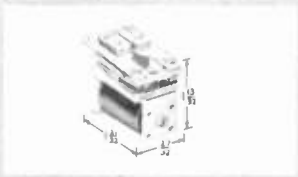
**BS SERIES** Long coil telephone type. Large size provides high sensitivity and simplifies maintenance. Suited for computer and automatic test equipment applications requiring large numbers of poles. Tinned solder type terminals for rear of panel wiring. Mounting: Two No. 8-32 tapped holes on ¾" centers. Contacts: Twin palladium. Weight: App. 9 oz.



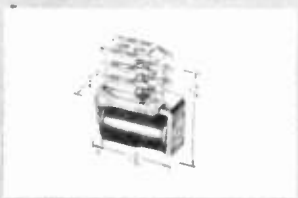
**LS SERIES** Short springs and light weight armature provides fast action without sacrificing reliability and long life. Stainless steel hinge bearing designed to give 100 million operations. Mounting: Four No. 6-32 holes on ¾" x 1 1/16" centers. Twin palladium contacts.



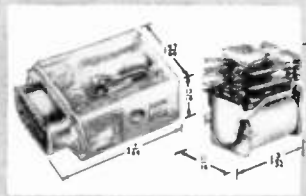
**MB SERIES** Miniature DC contactor. Designed for very high current applications. Contact arms heavy brass with large silver contacts, solder terminals. Mounting: Four No. 3-48 holes on ⅜" x ⅜" centers. Weight: 2 oz.



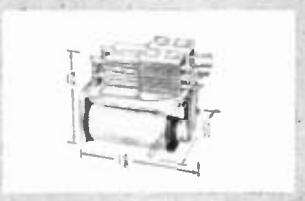
**MC SERIES** Built with ceramic contact spacers to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. D. C. types withstand 10 G vibration up to 300 C.P.S. and 25G shock. Mounting: Four No. 3-48 holes on ⅜" x ⅜" centers. Weight: 2 oz. All Standard Models have palladium contacts.



**MG SERIES** Sub-miniature telephone type relay for aircraft, computer and other applications requiring good shock and/or vibration characteristics. Can be furnished open, sealed or in a plastic dust cover. Mounting: Open model has 4 tapped No. 3-48 holes on ⅜" x ⅜" centers. Sealed model has three No. 4-40 studs on ½" x ½" centers. Dust cover model has plug-in header that fits Amphenol receptacle No. 57-20140 or similar. Weight: Open 1.2 ozs.; Dust cover 2.0 ozs.; Sealed 2.75 ozs. Contacts: 3/32" dia. silver.



**MH SERIES MINIATURE TYPE** Extremely fast acting and long life. Ideal for applications where space and weight are factors. DC models withstand .065" vibration to 55 Cps. Open AC models for intermittent duty only. Sealed AC models operate with a built-in rectifier. Mounting: MH11L model has No. 6-32 threaded stud 11/32 long plus locating boss. All other open models have four No. 3-48 holes on ⅜" x ⅜" centers. Contacts: Fine silver. Weight: Open model 2 oz. Sealed model 4 oz.



| TYPE | COIL Voltage | COIL Resistance ±10% | COIL Pick-up Current | CONTACTS Arrangement | CONTACTS Rating Amps | NET |
|---|---|---|---|---|---|---|
| BS17A | 115V | 21 | 15.6VA | 4PDT | 4 | $12.35 |
| BS23A | 115V | 21 | 15.6VA | 4PDT | 4 | 5.40 |
| BS17D | 6V | 6.5 | 500mW | 4PDT | 4 | 11.10 |
| BS17D | 12V | 25 | 500mW | 4PDT | 4 | 11.10 |
| BS17D | 24V | 110 | 500mW | 4PDT | 4 | 11.10 |
| BS17L | 2.5MA | 10,000 | 500mW | 4PDT | 4 | 12.30 |
| BS23D | 6V | 6.5 | 500mW | 4PDT | 4 | 13.75 |
| BS23D | 12V | 25 | 500mW | 4PDT | 4 | 13.75 |
| BS23D | 24V | 110 | 500mW | 4PDT | 4 | 13.75 |
| BS23L | 2.5MA | 10,000 | 500mW | 4PDT | 4 | 4.60 |
| LS17D | 6V | 25 | 1.6W | 4PDT | 4 | 9.50 |
| LS17D | 12V | 100 | 1.6W | 4PDT | 4 | 9.50 |
| LS17D | 24V | 400 | 1.6W | 4PDT | 4 | 9.50 |
| LS17D | 115V | 6,000 | 1.6W | 4PDT | 4 | 16.30 |
| LS23D | 6V | 25 | 1.6W | 4PDT | 4 | 12.10 |
| LS23D | 12V | 100 | 1.6W | 4PDT | 4 | 12.10 |
| LS23D | 24V | 400 | 1.6W | 4PDT | 4 | 12.10 |
| LS23D | 115V | 6,000 | 1.6W | 4PDT | 4 | 13.10 |
| MB3D | 6V | 13.3 | 2.5W | SPST-NO-DB | 60 | 5.00 |
| MB3D | 12V | 53.3 | 2.5W | SPST-NO-DB | 60 | 5.10 |
| MB3D | 24V | 240 | 2.5W | SPST-NO-DB | 60 | 5.10 |
| MB3D | 115V | 6,000 | 2.5W | SPST-NO-DB | 60 | 5.30 |
| MC5A | 6V | 2.1 | 4.6VA | 4PDT | 1 | 4.50 |
| MC5A | 115V | 8 | 4.6VA | 4PDT | 1 | 4.50 |
| MC11A | 6V | 2.1 | 4.6VA | 4PDT | 1 | 6.25 |
| MC11A | 115V | 8.0 | 4.6VA | 4PDT | 1 | 6.25 |
| MC5D | 6V | 2.1 | 1.6W | 4PDT | 1 | 4.00 |
| MC5D | 12V | 8 | 1.6W | 4PDT | 1 | 4.00 |
| MC5D | 24V | 32 | 1.6W | 4PDT | 1 | 4.00 |
| MC11D | 6V | 2.1 | 1.6W | 4PDT | 1 | 5.75 |
| MC11D | 12V | 8 | 1.6W | 4PDT | 1 | 5.75 |
| MC11D | 24V | 32 | 1.6W | 4PDT | 1 | 5.75 |
| MC11D | 115V | 2,300 | 1.6W | 4PDT | 1 | 6.25 |
| MG11D | 6V | 25 | 1.6W | DPDT | 2 | 4.95 |
| MG11D | 12V | 90 | 1.6W | DPDT | 2 | 4.95 |
| MG11D | 24V | 360 | 1.6W | DPDT | 2 | 4.95 |
| MG11D | 115V | 2,560 | 1.6W | DPDT | 2 | 5.40 |
| MG11DF‡ | 6V | 25 | 1.6W | DPDT | 2 | 9.60 |
| MG11DF‡ | 12V | 90 | 1.6W | DPDT | 2 | 9.60 |
| MG11DF | 24V | 360 | 1.6W | DPDT | 2 | 9.60 |
| MG11DF | 115V | 2,560 | 1.6W | DPDT | 2 | 9.60 |
| MG11DT† | 6V | 25 | 1.6W | DPDT | 2 | 10.00 |
| MG11DT† | 12V | 90 | 1.6W | DPDT | 2 | 10.00 |
| MG11DT† | 24V | 360 | 1.6W | DPDT | 2 | 10.00 |
| MG11DT† | 115V | 2,560 | 1.6W | DPDT | 2 | 10.00 |
| MG17D | 6V | 25 | 1.6W | 4PDT | 2 | 6.60 |
| MG17D | 12V | 90 | 1.6W | 4PDT | 2 | 6.60 |
| MG17D | 24V | 360 | 1.6W | 4PDT | 2 | 6.60 |
| MG17D | 115V | 2,560 | 1.6W | 4PDT | 2 | 7.05 |
| MG17DF§ | 6V | 25 | 1.6W | 4PDT | 2 | 11.00 |
| MG17DF§ | 12V | 90 | 1.6W | 4PDT | 2 | 11.00 |
| MG17DF§ | 24V | 360 | 1.6W | 4PDT | 2 | 11.00 |
| MG17DF§ | 115V | 2,560 | 1.6W | 4PDT | 2 | 11.60 |
| MG17DT† | 6V | 25 | 1.6W | 4PDT | 2 | 12.00 |
| MG17DT† | 12V | 90 | 1.6W | 4PDT | 2 | 12.00 |
| MG17DT† | 24V | 360 | 1.6W | 4PDT | 2 | 12.00 |
| MG17DT† | 115V | 2,560 | 1.6W | 4PDT | 2 | 12.60 |
| MH17A‡ | 6V | 2.1 | 4.6VA | 4PDT | 5 | 6.75 |
| MH17A‡ | 115V | 800 | 4.6VA | 4PDT | 5 | 6.75 |
| MH17A‡ | 24V | 32 | 4.6VA | 4PDT | 5 | 6.75 |
| MH17AMB† | 24V | 360 | 25A | 4PDT | 5 | 25.00 |
| MH17AMB† | 115V | 6,200 | 25A | 4PDT | 5 | 19.00 |
| MH11L | 4.5MA | 10,000 | 200mW | DPDT | 5 | 5.75 |
| MH11LM‡ | 4.5MA | 10,000 | 200mW | DPDT | 5 | 9.70 |
| MH17D | 6V | 25 | 1.6W | 4PDT | 5 | 5.75 |
| MH17D | 12V | 96 | 1.6W | 4PDT | 5 | 5.75 |
| MH17D | 24V | 365 | 1.6W | 4PDT | 5 | 5.75 |
| MH17DM† | 6V | 25 | 1.6W | 4PDT | 5 | 11.60 |
| MH17DM† | 12V | 96 | 1.6W | 4PDT | 5 | 11.60 |
| MH17DM† | 24V | 365 | 1.6W | 4PDT | 5 | 11.60 |
| MH23D | 6V | 13.3 | 2.5W | 6PDT | 5 | 7.25 |
| MH23D | 12V | 62.3 | 2.5W | 6PDT | 5 | 7.25 |
| MH23D | 24V | 245 | 2.5W | 6PDT | 5 | 7.25 |
| MH23D | 110V | 2,000 | 2.5W | 6PDT | 5 | 7.75 |
| MH23DD† | 6V | 13.3 | 2.5W | 6PDT | 5 | 15.50 |
| MH23DD† | 12V | 62.3 | 2.5W | 6PDT | 5 | 15.50 |
| MH23DD† | 24V | 245 | 2.5W | 6PDT | 5 | 15.50 |
| MH23DD† | 110V | 2,000 | 2.5W | 6PDT | 5 | 16.10 |

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

RESISTANCE ±10%

‡ For intermittent duty only † Sealed Relay § Enclosed Relay

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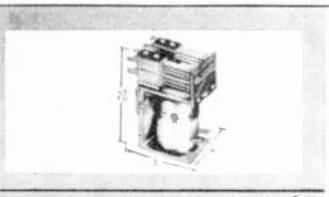
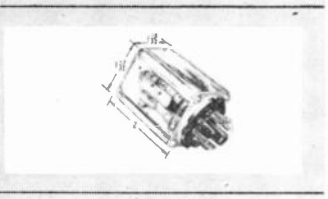
World Radio History

# Potter & Brumfield Relays PLATE CIRCUIT AND SENSITIVE RELAYS

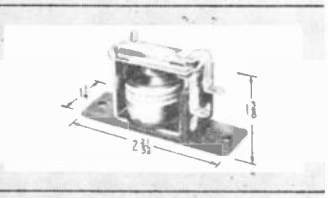
**GB SERIES** (See GA series for similar voltage actuated relays.) Sensitivity 115 milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay with silver contacts. Pull-in is not adjustable. Mounting: No. 8-32 tapped core and locating half-punch. Weight: Approx. 5 oz.



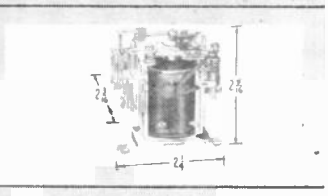
**KCP SERIES** Low cost plate circuit relay enclosed in polystyrene case. 1/8" silver contacts. Sensitivity 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: Standard octal plug in type. Eight pin for KCP 5 and KCP 11. Eleven pin for KCP 14. Weight: Approx. 3 oz.



**LB SERIES** Designed for top performance, long life at an unusually low cost. Each coil is wound with a given coil resistance and factory adjusted to operate on minimum current requirements. Mounting: Two 1/16" holes on 2 7/32" centers. Weight: Approx. 2 ozs. Silver contacts.

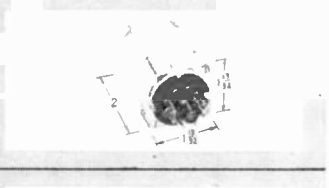


**LM SERIES** (See KL for similar voltage actuated relays.) Sensitivity 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with silver contacts. Pull-in adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 tapped holes on 1 13/32" centers. Weight: Approx. 5 oz. DC Coils only.

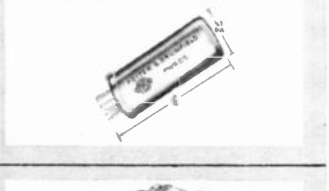


**"P" — CASE** A clear polystyrene case for mounting rectifiers, capacitors, resistors or a combination of these. Available with octal-type plug with 8 or 11 pins complete with 4 screws.

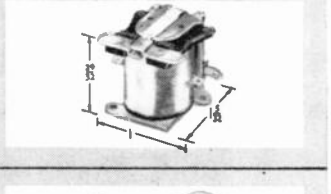
35DO70 Case (8 pin plug) NET $ .50
35DO72 Case (11 pin plug) NET $ .65



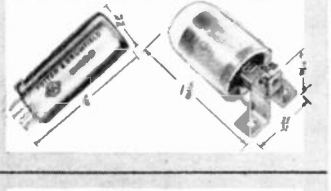
**PW SERIES** (In both voltage and current actuated models.) (Sensitivity 40 mw for current actuated models. 175 milliwatts for voltage actuated models.) Precision, light weight, hermetically sealed relay for aircraft and missile applications. Will withstand 10G vibration to 500 cps. Mounting: Standard 7-pin miniature tube base. Wt.: Approx. 1 oz.



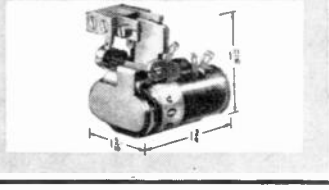
**RS SERIES** (In both voltage and current actuated models (60 mw. sensitivity). Low-cost, small, light weight, sensitive relay for radiosonde, light dimmer and model applications. Withstands 10G vibration 5-55 cycles and 25G shock. Mounting: Two No. 4-40 tapped holes on diagonal 3/4" x 5/8" centers. Weight: Approx. 1½ oz. Bar palladium contacts.



**SM SERIES** (In both voltage and current actuated models.) (Sensitivity 75 mw for current actuated models.) Medium cost, light weight, dust covered (right) or hermetically sealed (left) relay for light contact load applications such as computers, model airplanes and similar applications. Extremely long mechanical life because of reed armature. Mounting: (Sealed) Standard 7-pin miniature tube socket; (Dust cover) Two 3/32" holes on 1 13/32" ctrs. Wt.: App. 1 oz. Silver-rhodium contacts.



**SS SERIES** Ultra Sensitive precision relay. (10 mw. sensitivity.) Dual series coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. Mounting: Two No. 6-32 tapped holes on 5/32" centers. Weight: Approx. 3½ ozs. Silver contacts.



| TYPE | COILS: Voltage or Current | COILS: Resistance in Ohms | COILS: Nominal Power | CONTACTS: Arrangement | CONTACTS: Rate in Amps | NET |
|---|---|---|---|---|---|---|
| GB5D | 6 8MA | 2,500 | 115MW | SPDT | 5 | $ 3.30 |
| GB5D | 4 8MA | 5,000 | 115MW | SPDT | 5 | 3.45 |
| GB5D | 3 4MA | 10,000 | 115MW | SPDT | 5 | 3.90 |
| GB11D | 7MA | 2,500 | 125MW | DPDT | 5 | 4.60 |
| GB11D | 5MA | 5,000 | 125MW | DPDT | 5 | 4.70 |
| GB11D | 3.53MA | 10,000 | 125MW | DPDT | 5 | 5.25 |
| GB17D | 10.5MA | 2,500 | 275MW | 4PDT | 5 | 5.50 |
| GB17D | 7.4MA | 5,000 | 275MW | 4PDT | 5 | 5.65 |
| GB17D | 5.25MA | 10,000 | 275MW | 4PDT | 5 | 6.10 |
| KCP5‡ | 7 2MA | 2,500 | 125MW | SPDT | 2 | 5.60 |
| KCP5‡ | 5MA | 5,000 | 125MW | SPDT | 2 | 5.70 |
| KCP5‡ | 3 6MA | 10,000 | 125MW | SPDT | 2 | 6.10 |
| KCP11‡ | 10MA | 2,500 | 250MW | DPDT | 2 | 6.00 |
| KCP11‡ | 7 2MA | 5,000 | 250MW | DPDT | 2 | 6.10 |
| KCP11‡ | 5MA | 10,000 | 250MW | DPDT | 2 | 6.50 |
| KCP14‡ | 12 3MA | 2,500 | 375MW | 3PDT | 2 | 7.40 |
| KCP14‡ | 8.7MA | 5,000 | 375MW | 3PDT | 2 | 7.50 |
| KCP14‡ | 6.1MA | 10,000 | 375MW | 3PDT | 2 | 7.90 |
| LB5 | 9MA | 2,500 | 200MW | SPDT | 5 | 2.35 |
| LB5 | 6 3MA | 5,000 | 200MW | SPDT | 5 | 2.55 |
| LB5 | 4.5MA | 10,000 | 200MW | SPDT | 5 | 2.70 |
| LM5 | 6 3MA | 2,500 | 100MW | SPDT | 5 | 3.50 |
| LM5 | 4.5MA | 5,000 | 100MW | SPDT | 5 | 3.70 |
| LM5 | 3.2MA | 10,000 | 100MW | SPDT | 5 | 4.00 |
| LM11 | 9MA | 2,500 | 200MW | DPDT | 5 | 4.05 |
| LM11 | 6 3MA | 5,000 | 200MW | DPDT | 5 | 4.25 |
| LM11 | 4.5MA | 10,000 | 200MW | DPDT | 5 | 4.75 |
| PW5DS† | 6V | 202 | 180MW | SPDT | 2 | 10.25 |
| PW5DS† | 12V | 810 | 180MW | SPDT | 2 | 10.25 |
| PW5DS† | 24V | 3,240 | 180MW | SPDT | 2 | 10.25 |
| PW5LS† | 2 8MA | 5,000 | 40MW | SPDT | 2 | 10.60 |
| PW5LS† | 2 0MA | 10,000 | 40MW | SPDT | 2 | 11.00 |
| RS5D | 6V | 335 | 110MW | SPDT | 2 | 2.50 |
| RS5D | 12V | 1,350 | 110MW | SPDT | 2 | 2.60 |
| RS5D | 5MA | 2,500 | 60MW | SPDT | 2 | 2.70 |
| RS5D | 3.5MA | 5,000 | 60MW | SPDT | 2 | 3.00 |
| RS5D | 2.5MA | 10,000 | 60MW | SPDT | 2 | 3.45 |
| SM5D‡ | 6V | 80 | 500MW | SPDT | .25 | 5.10 |
| SM5D‡ | 12V | 360 | 500MW | SPDT | .25 | 5.10 |
| SM5D‡ | 24V | 900 | 500MW | SPDT | .25 | 5.10 |
| SM5DS† | 6V | 80 | 500MW | SPDT | .25 | 6.25 |
| SM5DS† | 12V | 360 | 500MW | SPDT | .25 | 6.25 |
| SM5DS† | 24V | 900 | 500MW | SPDT | .25 | 6.25 |
| SM5L‡ | 3.9MA | 5,000 | 75MW | SPDT | .25 | 5.40 |
| SM5L‡ | 2.7MA | 10,000 | 10MW | SPDT | .25 | 5.95 |
| SM5LS† | 3.8MA | 5,000 | 75MW | SPDT | .25 | 6.55 |
| SM5LS† | 2.7MA | 10,000 | 75MW | SPDT | .25 | 7.00 |
| SS5D | 1MA | 10,000 | 10MW | SPDT | 2 | 12.00 |

† Sealed Relay ‡ Enclosed Relay



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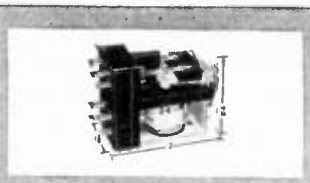
World Radio History

# Potter & Brumfield Relays

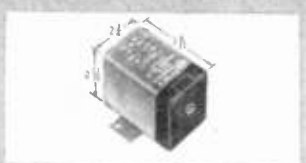
## POWER TYPE RELAYS

**AB SERIES** For appliance and general purpose operations where rugged construction, long life and quiet operation are required. All AC models carry U/L and CSA° labels. Mounting: Two No. 8-32 tapped holes, on 1¼" centers. Silver contacts.

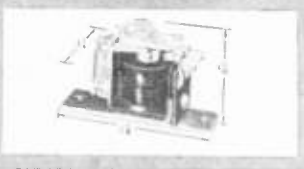


**ABC SERIES** Medium duty power relay with dust cover. For small motor, industrial control and similar applications. All equipped with terminals to fit clip on connectors and may also be applied in printed circuit technique using dip soldering. Snap on and screw connectors packed with each relay. All AC models carry U/L and CSA labels. Mounting: Two No. 8-32" stud ⅝" long. Wt.: 7 oz. Silver contacts.

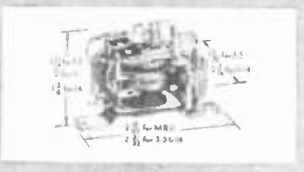
**AG SERIES** Shock proof relay enclosed in dust proof cover. Excellent for Machine Tool and product automation controls. Screw terminals molded in phenolic base. All AC models carry U/L and CSA labels. (The AG is an SP relay in a special enclosure.) Mounting: Welded bracket with two 3/16" dia. holes on 2⅜" x ⅝" diagonal centers. Wt.: 9½ ozs. Silver contacts.



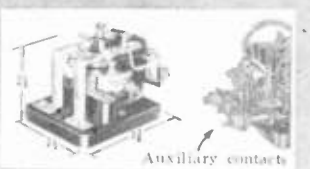
**CA SERIES** Low cost, high capacity power relay. Small over-all dimensions. Solder terminals. Mounting: Two 3/16" dia. holes on 2⅛" centers. Weight: 3 oz. Fine silver contacts.



**MR SERIES** A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Mounting: Two holes 3/16" dia. on 2⅜" centers for 1 and 3 pole and 2¼" centers for 2 pole. Weight: 4 oz. Silver contacts.

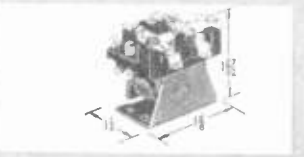


**PR SERIES** Heavy duty relay for industrial control applications requiring long life and fast action. Heavy duty screw type terminals. All AC models except PR11AL5 carry U/L and CSA labels. Mounting: Two holes 3/16" dia. on 1⅞" centers. Wt.: 11 ozs. max. Silver contacts. PR11AL5 : DPDT with SPDT auxiliary contacts rated 5 amps.

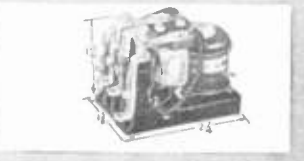



**"PR" COVER** A sheet steel base with aluminum cover all finished in gray hammertone baked enamel with 4 knockouts for ½" conduit. Mounting: Three No. 10 holes on 1⅞" x 4⅛" ctrs. Type 35D013 NET $3.50.

**PS SERIES** Extremely compact long life power relay. Ideal for mobile communication, appliances and similar applications. Solder type terminals. Mounting: Four No. 6-32 tapped holes on ½" x 1⅜" centers. Weight: 4 oz. Silver contacts.



**SP SERIES** Medium duty shock proof relays, with balanced armature. Frequently used in industrial equipment, control circuits, transmitter keying circuits or any application requiring fast, positive operation with high resistance to shock and vibration. Mounting: Two No. 6-32 tapped holes on 1⅜" centers. Weight: 4 oz. Silver contacts. (For enclosed SP see AG relay.)



| TYPE | COILS: Voltage or Current | COILS: Resistance in Ohms | COILS: Nominal Power | CONTACTS: Arrangement | CONTACTS: Rate in Amps | NET |
|---|---|---|---|---|---|---|
| A811AY | 6V | 1.3 | 6.4VA | DPDT | 10 | $ 5.05 |
| A811AY | 12V | 5.1 | 6.4VA | DPDT | 10 | 5.05 |
| A811AY | 24V | 23 | 6.4VA | DPDT | 10 | 5.05 |
| A811AY | 115V | 510 | 6.4VA | DPDT | 10 | 5.05 |
| A811AY | 230V | 2,050 | 6.4VA | DPDT | 10 | 5.45 |
| A811D | 6V | 18 | 2.0W | DPDT | 10 | 4.95 |
| A811D | 12V | 72 | 2.0W | DPDT | 10 | 4.95 |
| A811D | 24V | 288 | 2.0W | DPDT | 10 | 4.95 |
| A811D | 110V | 6,050 | 2.0W | DPDT | 10 | 5.45 |
| A8C11AY§ | 6V | 1.3 | 6.4VA | DPDT | 10 | 6.10 |
| A8C11AY§ | 12V | 5.1 | 6.4VA | DPDT | 10 | 6.10 |
| A8C11AY§ | 24V | 23 | 6.4VA | DPDT | 10 | 6.10 |
| A8C11AY§ | 115V | 510 | 6.4VA | DPDT | 10 | 6.10 |
| A8C11AY§ | 230V | 2,050 | 6.4VA | DPDT | 10 | 6.50 |
| A8C11D§ | 6V | 18 | 2.0W | DPDT | 10 | 6.00 |
| A8C11D§ | 12V | 72 | 2.0W | DPDT | 10 | 6.00 |
| A8C11D§ | 24V | 288 | 2.0W | DPDT | 10 | 6.00 |
| A8C11D§ | 110V | 6,050 | 2.0W | DPDT | 10 | 6.50 |
| AG11AY§ | 12V | 13.25 | 3.25VA | DPDT | 5 | 8.35 |
| AG11AY§ | 115V | 1,250 | 3.25VA | DPDT | 5 | 8.35 |
| AG11D§ | 24V | 360 | 1.6W | DPDT | 5 | 8.25 |
| CA3A | 6V | 2.75 | 3.25VA | SPST-NO-DB | 10 | 2.75 |
| CA3A | 24V | 13.25 | 3.25VA | SPST-NO-DB | 10 | 2.75 |
| CA3A | 115V | 1,250 | 3.25VA | SPST-NO-DB | 10 | 2.75 |
| CA3D | 12V | 96 | 1.6W | SPST-NO-DB | 10 | 2.50 |
| CA3D | 24V | 360 | 1.6W | SPST-NO-DB | 10 | 2.50 |
| MR2A | 24V | 50 | 3.25VA | SPST-NC | 8 | 2.85 |
| MR3A | 6V | 2.75 | 3.25VA | SPST-NO-DB | 10 | 3.30 |
| MR3A | 24V | 50 | 3.25VA | SPST-NO-DB | 10 | 3.30 |
| MR3A | 115V | 1,250 | 3.25VA | SPST-NO-DB | 10 | 3.30 |
| MR3D | 6V | 24 | 1.6W | SPST-NO-DB | 10 | 3.05 |
| MR3D | 12V | 96 | 1.6W | SPST-NO-DB | 10 | 3.05 |
| MR3D | 24V | 360 | 1.6W | SPST-NO-DB | 10 | 3.05 |
| MR5A | 6V | 2.75 | 3.25VA | SPDT | 8 | 3.00 |
| MR5A | 12V | 13.25 | 3.25VA | SPDT | 8 | 3.00 |
| MR5A | 24V | 50 | 3.25VA | SPDT | 8 | 3.00 |
| MR5A | 115V | 1,250 | 3.25VA | SPDT | 8 | 3.00 |
| MR5A | 230V | 4,600 | 3.25VA | SPDT | 8 | 3.40 |
| MR5D | 6V | 24 | 1.6W | SPDT | 8 | 2.75 |
| MR5D | 12V | 96 | 1.6W | SPDT | 8 | 2.75 |
| MR5D | 24V | 360 | 1.6W | SPDT | 8 | 2.75 |
| MR5D | 110V | 8,000 | 1.6W | SPDT | 8 | 3.15 |
| MR11A | 6V | 2.75 | 3.25VA | DPDT | 8 | 4.20 |
| MR11A | 12V | 13.25 | 3.25VA | DPDT | 8 | 4.20 |
| MR11A | 24V | 50 | 3.25VA | DPDT | 8 | 4.20 |
| MR11A | 115V | 1,250 | 3.25VA | DPDT | 8 | 4.20 |
| MR11A | 230V | 4,600 | 3.25VA | DPDT | 8 | 4.30 |
| MR11D | 6V | 24 | 1.6W | DPDT | 8 | 4.00 |
| MR11D | 12V | 96 | 1.6W | DPDT | 8 | 4.00 |
| MR11D | 24V | 360 | 1.6W | DPDT | 8 | 4.00 |
| MR11D | 110V | 8,000 | 1.6W | DPDT | 8 | 4.30 |
| MR14A | 6V | 2.75 | 3.25VA | 3PDT | 8 | 5.05 |
| MR14A | 12V | 13.25 | 3.25VA | 3PDT | 8 | 5.05 |
| MR14A | 24V | 50 | 3.25VA | 3PDT | 8 | 5.05 |
| MR14A | 115V | 1,250 | 3.25VA | 3PDT | 8 | 5.05 |
| MR14A | 230V | 4,600 | 3.25VA | 3PDT | 8 | 5.45 |
| MR14D | 6V | 24 | 1.6W | 3PDT | 8 | 4.70 |
| MR14D | 12V | 96 | 1.6W | 3PDT | 8 | 4.70 |
| MR14D | 24V | 360 | 1.6W | 3PDT | 8 | 4.70 |
| MR14D | 110V | 8,000 | 1.6W | 3PDT | 8 | 5.20 |
| PR1AY | 24V | 12 | 9.8VA | SPST-NO | 13 | 3.85 |
| PR1AY | 6V | 0.86 | 9.8VA | SPST-NO-DB | 13 | 3.95 |
| PR1AY | 12V | 3.2 | 9.8VA | SPST-NO-DB | 13 | 3.95 |
| PR1AY | 24V | 12 | 9.8VA | SPST-NO-DB | 13 | 3.95 |
| PR1AY | 115V | 290 | 9.8VA | SPST-NO-DB | 13 | 3.95 |
| PR1AY | 230V | 1,200 | 9.8VA | SPST-NO-DB | 13 | 4.15 |
| PR1D | 6V | 18 | 2.0W | SPST-NO-DB | 20 | 3.95 |
| PR1D | 12V | 72 | 2.0W | SPST-NO-DB | 20 | 3.95 |
| PR1D | 24V | 288 | 2.0W | SPST-NO-DB | 20 | 3.95 |
| PR1D | 110V | 6,050 | 2.0W | SPST-NO-DB | 20 | 4.35 |
| PR1AY | 6V | 0.86 | 9.8VA | SPDT | 13 | 4.15 |
| PR1AY | 12V | 3.2 | 9.8VA | SPDT | 13 | 4.15 |
| PR1AY | 24V | 12 | 9.8VA | SPDT | 13 | 4.15 |
| PR1AY | 115V | 290 | 9.8VA | SPDT | 13 | 4.15 |
| PR1AY | 230V | 1,200 | 9.8VA | SPDT | 13 | 4.35 |
| PR1D | 6V | 18 | 2.0W | SPDT | 13 | 4.15 |
| PR1D | 12V | 72 | 2.0W | SPDT | 13 | 4.15 |
| PR1D | 24V | 288 | 2.0W | SPDT | 13 | 4.15 |
| PR1D | 110V | 6,050 | 2.0W | SPDT | 13 | 4.75 |
| PR7AY | 6V | 0.86 | 9.8VA | DPDT | 13 | 4.65 |
| PR7AY | 12V | 3.2 | 9.8VA | DPDT | 13 | 4.65 |
| PR7AY | 24V | 12 | 9.8VA | DPDT | 13 | 4.65 |
| PR7AY | 115V | 290 | 9.8VA | DPDT | 13 | 4.65 |
| PR7AY | 230V | 1,200 | 9.8VA | DPDT | 13 | 5.05 |
| PR7D | 6V | 18 | 2.0W | DPDT | 13 | 4.65 |
| PR7D | 12V | 72 | 2.0W | DPDT | 13 | 4.65 |
| PR7D | 24V | 288 | 2.0W | DPDT | 13 | 4.65 |
| PR7D | 110V | 6,050 | 2.0W | DPDT | 13 | 5.25 |
| PR11AL5 | 6V | 0.86 | 9.8VA | DPDT | 13 | 7.75 |
| PR11AL5 | 12V | 3.2 | 9.8VA | DPDT | 13 | 7.75 |
| PR11AL5 | 24V | 12 | 9.8VA | DPDT | 13 | 7.75 |
| PR11AL5 | 115V | 290 | 9.8VA | DPDT | 13 | 7.75 |
| PR11AL5 | 230V | 1,200 | 9.8VA | DPDT | 13 | 8.15 |
| PR11AY | 6V | 0.86 | 9.8VA | DPDT | 13 | 6.15 |
| PR11AY | 12V | 3.2 | 9.8VA | DPDT | 13 | 6.15 |
| PR11AY | 24V | 12 | 9.8VA | DPDT | 13 | 6.15 |
| PR11AY | 115V | 290 | 9.8VA | DPDT | 13 | 6.15 |
| PR11AY | 230V | 1,200 | 9.8VA | DPDT | 13 | 6.55 |
| PR11D | 6V | 18 | 2.0W | DPDT | 13 | 6.15 |
| PR11D | 12V | 72 | 2.0W | DPDT | 13 | 6.15 |
| PR11D | 24V | 28 | 2.0W | DPDT | 13 | 6.15 |
| PR11D | 110V | 6,050 | 2.0W | DPDT | 13 | 6.75 |
| PS11A | 6V | 1.2 | 6VA | DPDT | 10 | 7.60 |
| PS11A | 24V | 17 | 6VA | DPDT | 10 | 7.60 |
| PS11A | 115V | 330 | 6VA | DPDT | 10 | 7.60 |
| PS11A | 230V | 1,800 | 6VA | DPDT | 10 | 8.00 |
| PS11D | 6V | 14 | 2.7W | DPDT | 10 | 6.55 |
| PS11D | 12V | 54 | 2.7W | DPDT | 10 | 6.55 |
| PS11D | 24V | 230 | 2.7W | DPDT | 10 | 6.55 |
| PS11D | 110V | 4,800 | 2.7W | DPDT | 10 | 6.95 |
| SP11A | 6V | 2.75 | 3.25VA | DPDT | 5 | 6.20 |
| SP11A | 12V | 13.25 | 3.25VA | DPDT | 5 | 6.20 |
| SP11A | 24V | 50 | 3.25VA | DPDT | 5 | 6.20 |
| SP11A | 115V | 1,250 | 3.25VA | DPDT | 5 | 6.20 |
| SP11D | 6V | 24 | 1.6W | DPDT | 5 | 5.95 |
| SP11D | 12V | 96 | 1.6W | DPDT | 5 | 5.95 |
| SP11D | 24V | 360 | 1.6W | DPDT | 5 | 5.95 |
| SP11D | 110V | 8,000 | 1.6W | DPDT | 5 | 6.45 |

°Canadian Standards Association

§ Enclosed Relay



Net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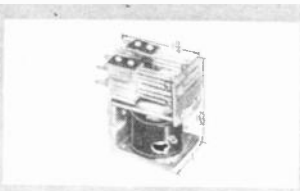
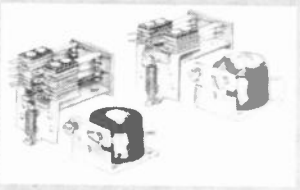
World Radio History

**GA SERIES** Multiple leaf, all purpose relays permitting a wide range of contact combinations. Dimensions: 1 3/16" W. x 1 53/32" L. x 1 53/32" H. max. Mounting: No. 8-32 tapped core with locating boss. Weight: 3½ oz. Silver contacts.

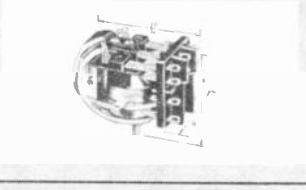


**GP-100** A complete kit of GP Series coils and switches consisting of the following: AC coils: Two 6 V., Two 12 V., Four 24 V., Six 115 V., Two 230 V. DC coils: Two 6 V., Two 12 V., Two 24 V., Four 110 V. Also Two 2,500 and Four 10,000 ohm coils; Eighteen DPDT switch assemblies; Fourteen 4PDT switch assemblies. The complete kit is ideal for experimenters, school and industrial laboratories. NET $127.30.

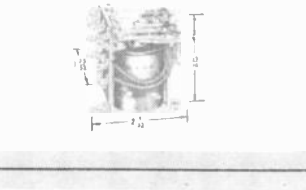
**GP SERIES** Separate AC and DC coils to match with 2PDT or 4PDT switches. AC coils (GPA) available in 6, 12, 24, 115 and 230 volts. DC coils (GPD) available in 6, 12, 24 and 110 volts; current coils: 2,500 and 10,000 ohms. Silver contacts.



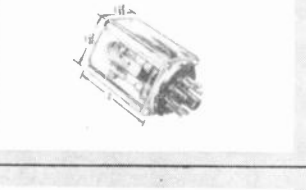
**KA SERIES** A small, low cost, highly efficient general purpose relay for handling light power loads such as small motors, solenoids and other relays, and general automation work. All AC models carry U/L and CSA* labels. Mounting: One No. 6-32 stud and locating tab. Wt. 2.0 ozs. Silver contacts.



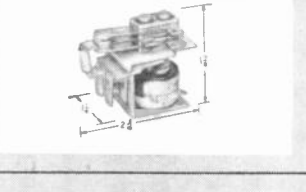
**KL SERIES** Multiple contact relays. Varied contact combinations and high di-electric phenolic insulation affords extreme versatility and utility. Mountings: All models – Two No. 6-32 tapped holes on 1 1/16" centers. Weight. 5 oz. Silver contacts.



**KRP SERIES** Versatile, multi-contact arrangements. Enclosed in polystyrene dust cover. Standard octal-type plug 8 pin for KRP5 and KRP11, 11 pin for KRP14. Weight: 3 oz. Silver contacts.

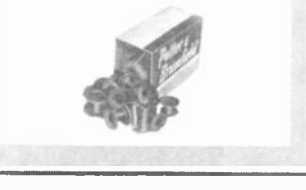


**MP SERIES** Snap action relay. Small size, heavy duty, low price, SPDT relay. Mounting: Four No. 6-32 tapped holes, ¾" x ⅞" on center. Wt.: 3½ ozs. Silver contacts.



**COIL BOBBIN KIT — 75A047**

Twenty-four assorted molded phenolic bobbins. Three each of 8 different sizes; core diameters from 3/32" to 1/16". For industrials, experimenters and amateurs. NET $2.50.



| TYPE | COILS: Voltage or Current | COILS: Resistance in Ohms | COILS: Nominal Power | CONTACTS: Arrangement | CONTACTS: Rate Amps | NET |
|---|---|---|---|---|---|---|
| GA11A | 6V | 1.7 | 6VA | DPDT | 5 | $ 3.15 |
| GA11A | 12V | 6.8 | 6VA | DPDT | 5 | 3.15 |
| GA11A | 24V | 24 | 6VA | DPDT | 5 | 3.15 |
| GA11A | 115V | 725 | 6VA | DPDT | 5 | 3.15 |
| GA14A | 6V | 1.7 | 6VA | 3PDT | 5 | 3.75 |
| GA14A | 24V | 24 | 6VA | 3PDT | 5 | 3.75 |
| GA14A | 115V | 725 | 6VA | 3PDT | 5 | 3.75 |
| GA17A | 6V | 1.7 | 6VA | 4PDT | 5 | 4.50 |
| GA17A | 12V | 6.8 | 6VA | 4PDT | 5 | 4.50 |
| GA17A | 24V | 24 | 6VA | 4PDT | 5 | 4.50 |
| GA17A | 115V | 725 | 6VA | 4PDT | 5 | 4.50 |
| GA17A | 230V | 2,950 | 6VA | 4PDT | 5 | 4.50 |
| GA11D | 6V | 18 | 2.0W | DPDT | 5 | 3.15 |
| GA11D | 12V | 72 | 2.0W | DPDT | 5 | 3.15 |
| GA11D | 24V | 288 | 2.0W | DPDT | 5 | 3.15 |
| GA11D | 110V | 6,050 | 2.0W | DPDT | 5 | 3.60 |
| GA14D | 6V | 18 | 2.0W | 3PDT | 5 | 3.75 |
| GA14D | 12V | 72 | 2.0W | 3PDT | 5 | 3.75 |
| GA14D | 24V | 288 | 2.0W | 3PDT | 5 | 3.75 |
| GA17D | 6V | 18 | 2.0W | 4PDT | 5 | 4.50 |
| GA17D | 12V | 72 | 2.0W | 4PDT | 5 | 4.50 |
| GA17D | 24V | 288 | 2.0W | 4PDT | 5 | 4.50 |
| GA17D | 110V | 6,050 | 2.0W | 4PDT | 5 | 4.95 |
| GPA | 6V | 1.7 | 6VA | None | – | 1.55 |
| GPA | 12V | 6.8 | 6VA | None | – | 1.55 |
| GPA | 24V | 24 | 6VA | None | – | 1.55 |
| GPA | 115V | 725 | 6VA | None | – | 1.55 |
| GPA | 230V | 2,950 | 6VA | None | – | 1.00 |
| GPD | – | 2,500 | – | None | – | 1.45 |
| GPD | – | 10,000 | – | None | | 1.00 |
| GPD | 6V | 8 | 2.0W | None | – | 1.00 |
| GPD | 12V | 72 | 2.0W | None | – | 1.00 |
| GPD | 24V | 288 | 2.0W | None | | 1.00 |
| GPD | 110V | 2,050 | 2.0W | None | | 3.00 |
| GP11 | Switch Assembly | | | DPDT | 5 | 1.60 |
| GP 7 | Switch Assembly | | | 4PDT | 5 | 2.80 |
| KA5AY | 6V | 5.1 | 2VA | SPDT | 5 | 3.05 |
| KA5AY | 12V | 21 | 2VA | SPDT | 5 | 3.05 |
| KA5AY | 24V | 75 | 2VA | SPDT | 5 | 3.05 |
| KA5AY | 115V | 2,250 | 2VA | SPDT | 5 | 3.05 |
| KA5AY | 230V | 9,110 | 2VA | SPDT | 5 | 3.05 |
| KA11AY | 6V | 5.1 | 2VA | DPDT | 5 | 3.65 |
| KA11AY | 12V | 21 | 2VA | DPDT | 5 | 3.65 |
| KA11AY | 24V | 75 | 2VA | DPDT | 5 | 3.65 |
| KA11AY | 115V | 2,250 | 2VA | DPDT | 5 | 3.65 |
| KA11AY | 230V | 9,110 | 2VA | DPDT | 5 | 3.65 |
| KA14AY | 6V | 5.1 | 2VA | 3PDT | 5 | 4.05 |
| KA14AY | 12V | 21 | 2VA | 3PDT | 5 | 4.05 |
| KA14AY | 24V | 75 | 2VA | 3PDT | 5 | 4.05 |
| KA14AY | 115V | 2,250 | 2VA | 3PDT | 5 | 4.05 |
| KA14AY | 230V | 9,110 | 2VA | 3PDT | 5 | 4.05 |
| KA5D | 6V | 3.0 | 1.0W | SPDT | 5 | 2.90 |
| KA5D | 12V | 12 | 1.0W | SPDT | 5 | 2.90 |
| KA5D | 24V | 47 | 1.0W | SPDT | 5 | 2.90 |
| KA5D | 110V | 10,000 | 1.0W | SPDT | 5 | 2.90 |
| KA11D | 6V | 3.0 | 1.0W | DPDT | 5 | 3.40 |
| KA11D | 12V | 12 | 1.0W | DPDT | 5 | 3.40 |
| KA11D | 24V | 47 | 1.0W | DPDT | 5 | 3.40 |
| KA11D | 110V | 10,000 | 1.0W | DPDT | 5 | 3.40 |
| KA14D | 6V | 3.0 | 1.0W | 3PDT | 5 | 3.90 |
| KA14D | 12V | 12 | 1.0W | 3PDT | 5 | 3.90 |
| KA14D | 24V | 47 | 1.0W | 3PDT | 5 | 3.90 |
| KA14D | 110V | 10,000 | 1.0W | 3PDT | 5 | 3.90 |
| KL5A | 6V | 2.25 | 2.0VA | SPDT | 5 | 3.60 |
| KL5A | 110V | 760 | 2.0VA | SPDT | 5 | 3.60 |
| KL11A | 6V | 2.25 | 2.0VA | DPDT | 5 | 4.45 |
| KL11A | 12V | 7.8 | 2.0VA | DPDT | 5 | 4.45 |
| KL11A | 24V | 13 | 2.0VA | DPDT | 5 | 4.45 |
| KL11A | 110V | 760 | 2.0VA | DPDT | 5 | 4.45 |
| KL14A | 6V | 2.25 | 2.0VA | 3PDT | 5 | 5.00 |
| KL14A | 24V | 33 | 2.0VA | 3PDT | 5 | 5.00 |
| KL14A | 115V | 760 | 2.0VA | 3PDT | 5 | 5.00 |
| KL17A | 6V | 2.25 | 2.0VA | 4PDT | 5 | 5.90 |
| KL17A | 12V | 7.8 | 2.0VA | 4PDT | 5 | 5.90 |
| KL17A | 24V | 33 | 2.0VA | 4PDT | 5 | 5.90 |
| KL17A | 115V | 760 | 2.0VA | 4PDT | 5 | 5.90 |
| KL5D | 6V | 36 | 1.1W | SPDT | 5 | 3.40 |
| KL5D | 12V | 40 | 1.1W | SPDT | 5 | 3.40 |
| KL5D | 24V | 600 | 1.1W | SPDT | 5 | 3.40 |
| KL11D | 6V | 36 | 1.1W | DPDT | 5 | 4.30 |
| KL11D | 12V | 140 | 1.1W | DPDT | 5 | 4.30 |
| KL11D | 24V | 600 | 1.1W | DPDT | 5 | 4.30 |
| KL11D | 110V | 10,000 | 1.1W | DPDT | 5 | 4.30 |
| KL14D | 6V | 36 | 1.1W | 3PDT | 5 | 4.80 |
| KL14D | 12V | 40 | 1.1W | 3PDT | 5 | 4.80 |
| KL14D | 24V | 600 | 1.1W | 3PDT | 5 | 4.80 |
| KL14D | 110V | 10,000 | 1.1W | 3PDT | 5 | 4.80 |
| KL17D | 6V | 36 | 1.1W | 4PDT | 5 | 5.60 |
| KL17D | 12V | 140 | 1.1W | 4PDT | 5 | 5.60 |
| KL17D | 24V | 600 | 1.1W | 4PDT | 5 | 5.60 |
| KL17D | 110V | 10,000 | 1.1W | 4PDT | 5 | 5.60 |
| KRP5A | 6V | 5.1 | 2VA | SPDT | 5 | 5.20 |
| KRP5A | 24V | 75 | 2VA | SPDT | 5 | 5.20 |
| KRP5A‡ | 115V | 2,250 | 2VA | SPDT | 5 | 5.20 |
| KRP11A | 6V | 5.1 | 2VA | DPDT | 5 | 5.75 |
| KRP11A | 12V | 21 | 2VA | DPDT | 5 | 5.75 |
| KRP11A | 24V | 75 | 2VA | DPDT | 5 | 5.75 |
| KRP11A‡ | 115V | 2,250 | 2VA | DPDT | 5 | 5.75 |
| KRP14A | 6V | 5.1 | 2VA | 3PDT | 5 | 7.15 |
| KRP14A | 12V | 21 | 2VA | 3PDT | 5 | 7.15 |
| KRP14A | 24V | 75 | 2VA | 3PDT | 5 | 7.15 |
| KRP14A‡ | 115V | 2,250 | 2VA | 3PDT | 5 | 7.15 |
| KRP5D‡ | 6V | 32.1 | 1.2W | SPDT | 5 | 5.15 |
| KRP5D‡ | 12V | 120 | 1.2W | SPDT | 5 | 5.15 |
| KRP5D‡ | 24V | 472 | 1.2W | SPDT | 5 | 5.15 |
| KRP5D‡ | 110V | 10,000 | 1.2W | SPDT | 5 | 5.15 |
| KRP11D‡ | 6V | 32.1 | 1.2W | DPDT | 5 | 5.70 |
| KRP11D‡ | 12V | 120 | 1.2W | DPDT | 5 | 5.70 |
| KRP11D‡ | 24V | 472 | 1.2W | DPDT | 5 | 5.70 |
| KRP11D‡ | 110V | 10,000 | 1.2W | DPDT | 5 | 5.70 |
| KRP14D‡ | 6V | 32.1 | 1.2W | DPDT | 5 | 7.10 |
| KRP14D‡ | 12V | 120 | 1.2W | DPDT | 5 | 7.10 |
| KRP14D‡ | 24V | 472 | 1.2W | DPDT | 5 | 7.10 |
| KRP14D‡ | 110V | 10,000 | 1.2W | DPDT | 5 | 7.10 |
| MP5A | 6V | 1.7 | 6VA | SPDT | 15 | 5.70 |
| MP5A | 12V | 6.8 | 6VA | SPDT | 15 | 5.70 |
| MP5A | 24V | 24.0 | 6VA | SPDT | 15 | 5.70 |
| MP5A | 115V | 725 | 6VA | SPDT | 15 | 5.70 |
| MP5A | 230V | 2,950 | 6VA | SPDT | 15 | 5.95 |
| MP5D | 6V | 18 | 6VA | SPDT | 15 | 5.70 |
| MP5D | 12V | 72 | 6VA | SPDT | 15 | 5.70 |
| MP5D | 24V | 288 | 6VA | SPDT | 15 | 5.70 |
| MP5D | 110V | 6,050 | 6VA | SPDT | 15 | 6.50 |

*Canadian Standards Association

‡ Enclosed Relay

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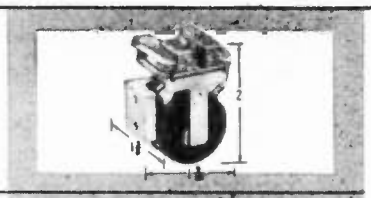
World Radio History

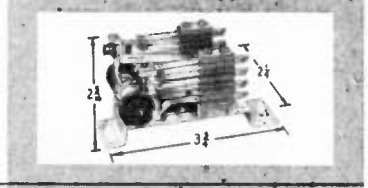
# Potter & Brumfield Relays

## SPECIAL PURPOSE RELAYS

**AF SERIES 400 CYCLE RELAY** Used in governmental or industrial laboratories and aircraft applications using 400 cycle AC coil power. Mounting: Two No. 6-32 tapped holes on 7/8" centers. Wt.: 2¾ ozs. Silver contacts.

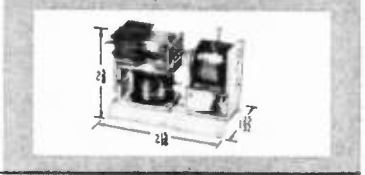


**AP SERIES RACHET, IMPULSE** A reliable compact unit for applications requiring on-off or reversing action for successive operations of the control lead. Positive rachet operation at all speeds on impulses as short as 20 ms. Intermittent operation only. Mounting: Three 5/32" holes on 3⅜" x 7/8" triangular centers. Weight 7 oz. Silver contacts.

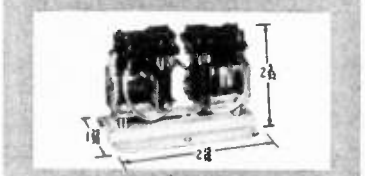


**FR SERIES PHOTO FLASH RELAYS** A special variation of the MR5. Relay contacts and insulation handle photo flash surge currents without sticking or pitting. Intermittent duty coils for high repetitive accuracy. Mounting: Two holes 5/32" dia. on 2⅝" centers. Weight: 3½ oz. Contacts: Silver Cadmium oxide.

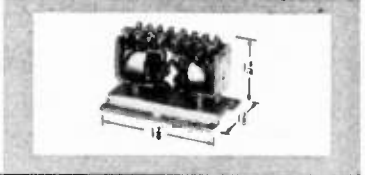
**GC SERIES OVERLOAD RELAY** Equipped with a 6 V 60 cycle AC reset coil and a 50 ma DC trip coil for overload protection of expensive tubes, instruments or other apparatus. An externally mounted rheostat (not furnished) may be employed to adjust remotely the trip current over the range 100-1000 ma. Complete instructions packed with each relay. Weight: 6½ oz. Silver contacts.



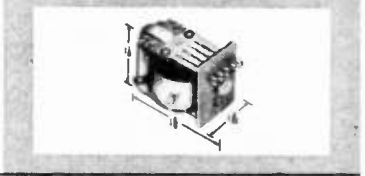
**KB SERIES LATCHING RELAY** Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: Two 5/32" holes on 1⅜" centers. Weight: 6 oz. Silver contacts rated 5 amps. "G" suffix indicates silver cadmium contacts on moveables rated 10 amps. AC relays with 5 amp. contacts carry U/L and CSA* labels.



**KE SERIES** Sub-miniature latching relay with mechanical latch and electric release. Operates on momentary impulse to either coil. For intermittent duty only. Mounting: Sealed Three No. 6-32 studs. Open Two 5/32" dia. holes on 1 1/16" centers. Wt.: Open 4 ozs.; sealed 6 ozs. Silver contacts.

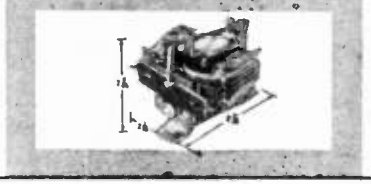


**KF SERIES** An unusual design with many contact combinations up to 5PDT with a common movable arm. Mounting: Locating tab and core hole tapped No. 6-32. Wt.: 1¼ ozs. Palladium contacts against silver.



**KM SERIES** Sub-miniature, 3-pole relay for multiple switching. For use where size and weight are critical factors. Solder lug terminals. Mounting: No. 2-56 tapped core and locating boss. Weight: Approx. ⅞ oz. Silver contacts.

**PC SERIES** Single coil impulse latching relay for on-off and current reversal switching on alternate pulses. Operates on 30 millisecond pulses to the coil. Mounting: Two 5/32" dia. holes on 2⅝" x ⅝" centers. Wt.: 5 oz. Gold-flashed silver cadmium oxide contacts.



| TYPE | COILS Voltage or Current | COILS Resistance in Ohms | COILS Nominal Power | CONTACTS Arrangement | CONTACTS Rate in Amps | NET |
|---|---|---|---|---|---|---|
| AF11A | 115V (400 Cycle) | 84 | 11.5VA | DPDT | 5 | $ 7.95 |
| AP11A | 6V | 0.6 | 18.5VA | DPDT | 5 | 7.90 |
| AP11A | 12V | 2.28 | 18.5VA | DPDT | 5 | 7.90 |
| AP11A | 24V | 8.8 | 18.5VA | DPDT | 5 | 7.90 |
| AP11A | 115V | 240 | 18.5VA | DPDT | 5 | 7.90 |
| AP11A | 230V | 900 | 18.5VA | DPDT | 5 | 8.30 |
| AP17A | 6V | 0.6 | 18.5VA | 4PDT | 5 | 9.50 |
| AP17A | 12V | 2.28 | 18.5VA | 4PDT | 5 | 9.50 |
| AP17A | 24V | 8.8 | 18.5VA | 4PDT | 5 | 9.50 |
| AP17A | 115V | 240 | 18.5VA | 4PDT | 5 | 9.50 |
| AP17A | 230V | 900 | 18.5VA | 4PDT | 5 | 9.90 |
| AP11D | 6V | 4.0 | 9.0W | DPDT | 5 | 7.90 |
| AP11D | 12V | 15.5 | 9.0W | DPDT | 5 | 7.90 |
| AP11D | 24V | 65 | 9.0W | DPDT | 5 | 7.90 |
| AP11D | 110V | 1,350 | 9.0W | DPDT | 5 | 8.50 |
| AP17D | 6V | 4.0 | 9.0W | 4PDT | 5 | 9.50 |
| AP17D | 12V | 15.5 | 9.0W | 4PDT | 5 | 9.50 |
| AP17D | 24V | 65 | 9.0W | 4PDT | 5 | 9.50 |
| AP17D | 119V | 1,350 | 9.0W | 4PDT | 5 | 10.10 |
| FR5A | 6V | 2.75 | 3.25VA | SPDT | 8 | 3.60 |
| FR5D | 2V | .55 | 3.25VA | SPDT | 8 | 3.60 |
| GC11A | 6V | 2.75 | 3.25VA | DPDT | 5 | 8.50 |
| GC11A | 115V | 1,250 | 3.25VA | DPDT | 5 | 8.50 |
| KB17AG | 6V | 2.3 | 5VA | 4PDT | 10 | 10.10 |
| KB17AG | 12V | 10 | 5VA | 4PDT | 10 | 10.10 |
| KB17AG | 24V | 42 | 5VA | 4PDT | 10 | 10.10 |
| KB17AG | 115V | 1,030 | 5VA | 4PDT | 10 | 10.10 |
| KB17AG | 230V | 4,100 | 5VA | 4PDT | 10 | 10.90 |
| KB17AY | 6V | 2.3 | 5VA | 4PDT | 5 | 10.00 |
| KB17AY | 12V | 10 | 5VA | 4PDT | 5 | 10.00 |
| KB17AY | 24V | 42 | 5VA | 4PDT | 5 | 10.00 |
| KB17AY | 115V | 1,030 | 5VA | 4PDT | 5 | 10.00 |
| KB17AY | 230V | 4,100 | 5VA | 4PDT | 5 | 10.80 |
| KB23AG | 6V | 1.8 | 7.8VA | 6PDT | 10 | 12.20 |
| KB23AG | 12V | 7.2 | 7.8VA | 6PDT | 10 | 12.20 |
| KB23AG | 24V | 27 | 7.8VA | 6PDT | 10 | 12.20 |
| KB23AG | 115V | 700 | 7.8VA | 6PDT | 10 | 12.20 |
| KB23AG | 230V | 2,750 | 7.8VA | 6PDT | 10 | 13.00 |
| KB23AY | 6V | 1.8 | 7.8VA | 6PDT | 5 | 12.00 |
| KB23AY | 24V | 27 | 7.8VA | 6PDT | 5 | 12.00 |
| KB23AY | 115V | 700 | 7.8VA | 6PDT | 5 | 12.00 |
| KB23AY | 230V | 2,750 | 7.8VA | 6PDT | 5 | 12.80 |
| KB17D | 6V | 13.1 | 2.7W | 4PDT | 5 | 9.00 |
| KB17D | 12V | 52.0 | 2.7W | 4PDT | 5 | 9.00 |
| KB17D | 24V | 230 | 2.7W | 4PDT | 5 | 9.00 |
| KB17D | 110V | 4,560 | 2.7W | 4PDT | 5 | 10.20 |
| KB17DG | 6V | 13.1 | 2.7W | 4PDT | 10 | 9.20 |
| KB17DG | 12V | 52.0 | 2.7W | 4PDT | 10 | 9.20 |
| KB17DG | 24V | 230 | 2.7W | 4PDT | 10 | 9.20 |
| KB17DG | 110V | 4,560 | 2.7W | 4PDT | 10 | 10.40 |
| KB23D | 6V | 13.1 | 2.7W | 6PDT | 5 | 10.90 |
| KB23D | 12V | 52.0 | 2.7W | 6PDT | 5 | 10.90 |
| KB23D | 24V | 230 | 2.7W | 6PDT | 5 | 10.90 |
| KB23D | 110V | 4,560 | 2.7W | 6PDT | 5 | 12.10 |
| KB23DG | 6V | 13.1 | 2.7W | 6PDT | 10 | 11.20 |
| KB23DG | 12V | 52.0 | 2.7W | 6PDT | 10 | 11.20 |
| KB23DG | 24V | 230 | 2.7W | 6PDT | 10 | 11.20 |
| KB23DG | 110V | 4,560 | 2.7W | 6PDT | 10 | 12.40 |
| KE17D‡ | 6V | 13 | 2.8W | 4PDT | 2 | 9.00 |
| KE17D‡ | 12V | 50 | 2.8W | 4PDT | 2 | 9.00 |
| KE17D‡ | 24V | 230 | 2.8W | 4PDT | 2 | 9.00 |
| KE17DM†‡ | 6V | 13 | 2.8W | 4PDT | 2 | 19.50 |
| KE17DM†‡ | 12V | 50 | 2.8W | 4PDT | 2 | 19.50 |
| KE17DM†‡ | 24V | 230 | 2.8W | 4PDT | 2 | 19.50 |
| KE23D‡ | 6V | 13 | 2.8W | 6PDT | 2 | 11.50 |
| KE23D‡ | 12V | 50 | 2.8W | 6PDT | 2 | 11.50 |
| KE23D‡ | 24V | 230 | 2.8W | 6PDT | 2 | 11.50 |
| KE23DM†‡ | 6V | 13 | 2.8W | 6PDT | 2 | 25.00 |
| KE23DM†‡ | 12V | 50 | 2.8W | 6PDT | 2 | 25.00 |
| KE23DM†‡ | 24V | 230 | 2.8W | 6PDT | 2 | 25.00 |
| KF20D | 6V | 32.1 | 1.2W | 5PDT | 2 | 2.75 |
| KF20D | 12V | 120.0 | 1.2W | 5PDT | 2 | 2.75 |
| KF20D | 24V | 472 | 1.2W | 5PDT | 2 | 2.75 |
| KF20D | 110V | 10,000 | 1.2W | 5PDT | 2 | 3.35 |
| KM5D | 6V | 36 | 1.1W | SPDT | 2 | 3.20 |
| KM5D | 12V | 144 | 1.1W | SPDT | 2 | 3.20 |
| KM5D | 24V | 500 | 1.1W | SPDT | 2 | 3.20 |
| KM11D | 6V | 36 | 1.1W | DPDT | 2 | 3.50 |
| KM11D | 12V | 144 | 1.1W | DPDT | 2 | 3.50 |
| KM11D | 24V | 500 | 1.1W | DPDT | 2 | 3.50 |
| KM14D | 6V | 36 | 1.1W | 3PDT | 2 | 4.05 |
| KM14D | 12V | 144 | 1.1W | 3PDT | 2 | 4.05 |
| KM14D | 24V | 500 | 1.1W | 3PDT | 2 | 4.05 |
| PC11A | 6V | 0.6 | 18.5VA | DPDT | 10 | 5.25 |
| PC11A | 12V | 2.28 | 18.5VA | DPDT | 10 | 5.25 |
| PC11A | 24V | 8.8 | 18.5VA | DPDT | 10 | 5.25 |
| PC11A | 115V | 240 | 18.5VA | DPDT | 10 | 5.25 |
| PC11A | 230V | 900 | 18.5VA | DPDT | 10 | 5.65 |
| PC17A | 6V | 0.6 | 18.5VA | 4PDT | 10 | 7.25 |
| PC17A | 12V | 2.28 | 18.5VA | 4PDT | 10 | 7.25 |
| PC17A | 24V | 8.8 | 18.5VA | 4PDT | 10 | 7.25 |
| PC17A | 115V | 240 | 18.5VA | 4PDT | 10 | 7.25 |
| PC17A | 230V | 900 | 18.5VA | 4PDT | 10 | 7.65 |
| PC11D | 6V | 4.0 | 9.0W | DPDT | 10 | 5.10 |
| PC11D | 12V | 15.5 | 9.0W | DPDT | 10 | 5.10 |
| PC11D | 24V | 65.0 | 9.0W | DPDT | 10 | 5.10 |
| PC11D | 110V | 1,350 | 9.0W | DPDT | 10 | 5.60 |
| PC17D | 6V | 4.0 | 9.0W | 4PDT | 10 | 7.10 |
| PC17D | 12V | 15.5 | 9.0W | 4PDT | 10 | 7.10 |
| PC17D | 24V | 65 | 9.0W | 4PDT | 10 | 7.10 |
| PC17D | 110V | 1,350 | 9.0W | 4PDT | 10 | 7.60 |

*Canadian Standards Association

‡ For intermittent duty only † Sealed Relay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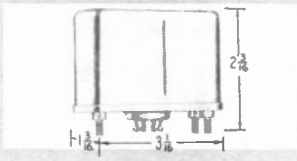
World Radio History

# Potter & Brumfield Relays

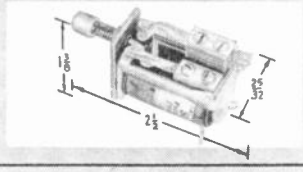
## SPECIAL PURPOSE RELAYS

**KT SERIES ANTENNA SWITCHING RELAY** Glass base insulation for minimum RF loss to switch 300 ohm line. Mounting: One No. 6-32 stud. Weight: 1½ oz. Fine silver contacts.

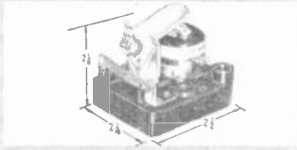
**LK SERIES** Hermetically sealed latching relay. Fitted with glass insulated solder terminal header. Mechanical latch, electric release. Mounting: Three No. 8-32 studs on 2½" x ½" centers. Weight: 6½ oz. Silver contacts.



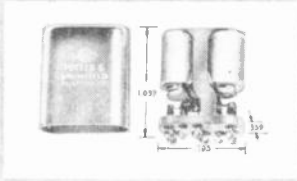
**MA SERIES** Mechanical latch on electrical impulse to coil, mechanical reset midget telephone type relay. Available with multiple contacts and DC coils. Mounting: Two No. 4-40 tapped holes on ⅜" x ⅜" centers. Wt.: 2¼ ozs. Silver contacts.



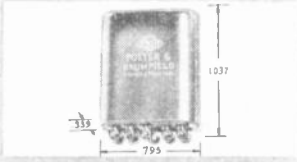
**MS SERIES MOTOR STARTING RELAYS** For starting capacitor start, induction-run motors. Operates on back EMF of running winding. Armature gap can be altered to change pull-in. Meets all U/L requirements. Mounting: Two 5/32" dia. holes on 1 3/16" ctrs. Weight: 5 oz. max.



**SC SERIES** Micro-miniature permanent magnet relay with same shock/vibration resistance and temperature range as SL. Features single coil action and conforms with standard micro-miniature circuitry. Coil connections polarized because of magnetic circuit. Positive terminal marked with red dot. Mounting: SC11D*, SC11DA and SC11DB correspond to similar SL mountings. Wt.: ¾ oz. Gold-flashed palladium contacts.
*Cinch No. 54A20730 and Armel No. HRK-1 8-pin receptacles available from distributors for plug-in applications.



**SL SERIES** Dual Coil Micro-miniature magnetic latching relay for low power, high shock/vibration applications. 100g shock, 30g vibration to 2000 cycle with no contact openings. Coils may be connected in series for polar operation. Ambient temperature range from −65°C to +125°C. Mounting: SL11D for plug-in to printed circuit; SL11DA flange mounted with two .104 x .126" holes on 1.062 centers; SL11DB has welded bracket with four .125" dia. holes on 1.062" x .281 centers. Wt.: ¾ oz. Gold-flashed palladium contacts.



| TYPE | COILS: Voltage or Current | COILS: Resistance in Ohms | COILS: Nominal Power | CONTACTS: Arrangement | CONTACTS: Rate in Amps | NET |
|---|---|---|---|---|---|---|
| KT11A | 6V | 5.1 | 2VA | DPDT | 5 | $ 3.35 |
| KT11A | 115V | 2,250 | 2VA | DPDT | 5 | 3.35 |
| KT11D | 6V | 32.1 | 1.2W | DPDT | 5 | 3.35 |
| KT11D | 12V | 120 | 1.2W | DPDT | 5 | 3.35 |
| LK17AH† | 115V | 2,250 | 2VA | 4PDT | 5 | 19.00 |
| LK17DH† | 24V | 472 | 1.2W | 4PDT | 5 | 18.50 |
| MA17D | 6V | 23 | 1.6W | 4PDT | 5 | 7.75 |
| MA17D | 12V | 96 | 1.6W | 4PDT | 5 | 7.75 |
| MA17D | 24V | 365 | 1.6W | 4PDT | 5 | 7.75 |
| MA17D | 110V | 6,200 | 1.6W | 4PDT | 5 | 8.25 |
| MS2AY | 115V | 530 | 5.9VA | SPST-NC | ¾HP | 3.25 |
| MS2AY | 230V | 2,100 | 5.9VA | SPST-NC | ¾HP | 3.65 |
| MS4AY | 115V | 530 | 5.9VA | SPST-NC-DB | 3HP | 3.75 |
| MS4AY | 230V | 2,100 | 5.9VA | SPST-NC-DB | 3HP | 4.15 |
| SC11D† | 24V | 550 | 1W | DPDT | 1 | 15.75 |
| SC11DA† | 24V | 550 | 1W | DPDT | 1 | 15.75 |
| SC11DB† | 24V | 550 | 1W | DPDT | 1 | 15.75 |
| SL11D† | 24V | 550 | 1W | DPDT | 1 | 17.25 |
| SL11DA† | 24V | 550 | 1W | DPDT | 1 | 17.25 |
| SL11DB† | 24V | 550 | 1W | DPDT | 1 | 17.25 |

† Sealed Relay

## ORDERING INSTRUCTIONS — *File-O-Matic Sec. 23*

**NOTE:** Relays shown in this bulletin are standard relays in stock and ready for immediate shipment. From them a type can be chosen to meet the needs of most Electrical or Electronic applications.
All relay contacts are rated at 115 volt-60 cycle, non inductive load.
**When ordering specify relay type and coil voltage or resistance.**
**Example: PR5AY, 115 Volts AC, 60 cycles or LB5, 2500 ohms resistance.**
To operate 110V DC relays on 220V DC use a 5 watt wire-wound resistor of a value approximately the relay coil resistance in series with the relay coil.
**CONTACT LEGEND:** S-Single; D-Double; P-Pole; T-Throw; N-Normally; O-Open: C-Closed: B-Break; M-Make.
Prices and Specifications subject to change without notice. For latest prices refer to United Pricing Service.

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World Radio History

BROOKLYN, N. Y.

## QUALITY DESIGNED RELAYS

Kurman, one of the pioneers in relay manufacturing, has been designing and manufacturing relays for industry and governmental agencies since 1928.

Kurman relays that have been engineered to the highest standards, featuring top quality, ruggedness, dependability, and long life.

Our Engineering Department is available to solve your relay problems regardless of size or requirement.

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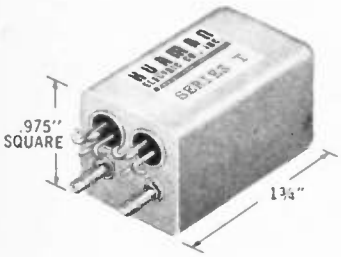
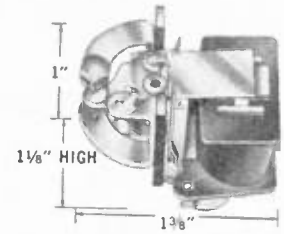
## SENSITIVE RELAYS




### SERIES T — SUB-MINIATURE

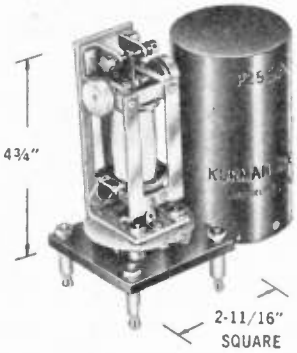
Highest quality sensitive relay meeting both military and commercial DC requirements. Sensitivity —40 milliwatts—DPDT. Wide range of coil resistances up to 20,000 ohms. Special versions as low as 6 milliwatts. Mounting: 2 #4-40 screws on ½" centers.




### SERIES 23 — MIDGET

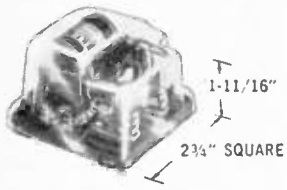
Light weight (1½ ozs), economical sensitive relay, ideal for all plate circuit, photoelectric, remote control applications, where space, economy and current drain are chief design features. SPDT. High speed flexible armature assures long life. AC or DC operation. Adjustable screw contacts and spring tension.* Mounting: 2 #6-32 tapped holes on 0.437" centers.

*Simple field adjusted for operation at 6 milliwatts handling reduced contact load.



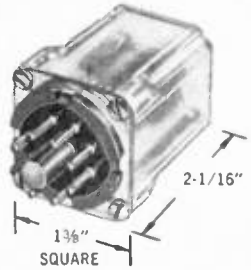

### SERIES P — ULTRA SENSITIVE POLAR

20 microwatt adjustment makes this the most sensitive armature relay manufactured. Adjustable anti-chatter, heavy duty contacts provide extra-long, trouble-free life. Ideal for teletypewriter applications, including 100 word per minute operation. Single or parallel wound coil. Coil resistance up to 82,000 ohms. Unconditionally approved as equal to W.E. types, 255A & 215. No adapters or modifications necessary.



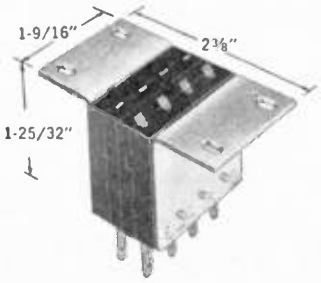

### SERIES 300 — MICROAMP

High sensitivity relay—2 milliwatts. Ideal for all low power input circuits where available current is at a premium. Typical applications include high speed keying, remote control, or battery operated devices. May be field adjusted to handle currents up to 3 amps at reduced sensitivity. Transparent plastic dust cover. Mounting: Two .196" clearance holes on 2⅛ x 2⅛ centers.




### SERIES 23D — DUST COVERED MIDGET

Low cost Series 23 enclosed in clear polystyrene case. All Series 23 features apply and are enhanced by this dust-proof and tamper-proof enclosure. Easily removable case allows field adjustment without special equipment. Mounting: 8 pin octal plug in.




### MOUNTING BLOCK

P255.714 block and springs for Series P relays, equal to W.E. #18-B.

## DC RELAYS

| Relay No. | (Ohms) Coil Resistance | Operating Current | | Contact Rating (Amps) | Net |
|---|---|---|---|---|---|
| T002-2000 | 2000 | 4.5 MA | DPDT | 2 | $15.10 |
| T002-8000 | 8000 | 2.2 MA | DPDT | 2 | 16.75 |
| 310DC35 | 470 | 2.1 MA | SPDT | 1 | 8.85 |
| 310DC37 | 1200 | 1.3 MA | SPDT | 1 | 8.85 |
| 310DC40 | 4680 | 0.7 MA | SPDT | 1 | 8.85 |
| 310DC42 | 11700 | 0.4 MA | SPDT | 1 | 10.75 |
| 310DC44 | 29250 | 0.25 MA | SPDT | 1 | 12.40 |
| 23CB37 | 350 | 6.2 MA | SPDT | 2 | 4.55 |
| 23CB40 | 1500 | 3.0 MA | SPDT | 2 | 4.55 |

## DC RELAYS

| Relay No. | (Ohms) Coil Resistance | Operating Current | | Contact Rating (Amps) | Net |
|---|---|---|---|---|---|
| 23CB42 | 4000 | 1.9 MA | SPDT | 2 | $ 5.00 |
| 23CB44 | 10000 | 1.2 MA | SPDT | 2 | 5.15 |
| 23CF44 | 10000 | 0.8 MA | SPDT | 1 | 5.40 |
| 23DB37 | 350 | 6.2 MA | SPDT | 2 | 5.55 |
| 23DB40 | 1500 | 3.0 MA | SPDT | 2 | 5.55 |
| 23DB42 | 4000 | 1.9 MA | SPDT | 2 | 6.00 |
| 23DB44 | 10000 | 1.2 MA | SPDT | 2 | 6.15 |
| P255A | 136/136 | 0.75 MA* | SPDT | .1 | 30.00 |
| P255.714 | MOUNTING BLOCK INCLUDING SPRINGS | | | | 6.00 |

## AC RELAYS

| Relay No. | Operating Voltage | Contact Arrangement | Contact Rating (Amps) | Net |
|---|---|---|---|---|
| 321DC78 | 6 V | SPDT | 2 | $9.25 |
| 321DC81 | 12 V | SPDT | 2 | 9.25 |
| 321DC84 | 24 V | SPDT | 2 | 9.25 |
| 321DC91 | 110 V | SPDT | 2 | 9.50 |
| 23C83 | 6 V | SPDT | 2 | 4.85 |
| 23C86 | 12 V | SPDT | 2 | 4.85 |
| 23C89 | 24 V | SPDT | 2 | 4.85 |
| 23D83 | 6 V | SPDT | 2 | 5.85 |
| 23D86 | 12 V | SPDT | 2 | 5.85 |
| 23D89 | 24 V | SPDT | 2 | 5.85 |

*With coils in series aiding.

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KURMAN relays

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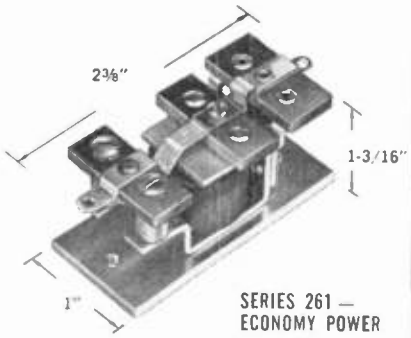
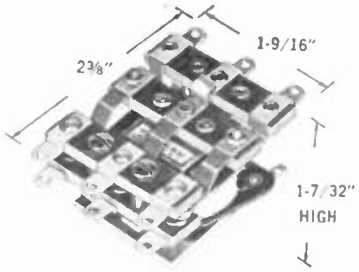
IMMEDIATE DELIVERY FROM FRANCHISED DISTRIBUTORS

## POWER AND ANTENNA RELAYS



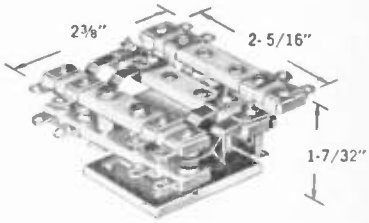

### SERIES 261 — ECONOMY POWER

Both space and cost economy have been carefully balanced in the design of this heavy duty power relay. SPDT contacts rated at carrying continuous loads of 20 amps are standard. AC or DC operation. Tested and approved for direct use with high powered cadmium sulphide photocells, handling high current lamp loads. Other applications include small motor control, appliances, industrial control, and transmitters. Mounting: 2 #6-32 tapped holes on 1-3/16" centers.



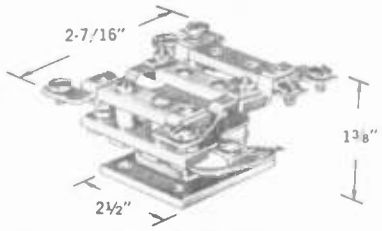

### SERIES 26 — MEDIUM POWER

The DPDT and 3PDT relays feature self-wiping contacts, which will continuously handle 20 amp loads. Can be wired for double make or break operations. AC or DC coils. This high speed relay will handle the majority of all power applications. Standard operating power: 1 watt — DPDT; 1½ watts — 3PDT. Mounting: 4 #6-32 tapped holes on 13/16" x 1-3/16" centers.



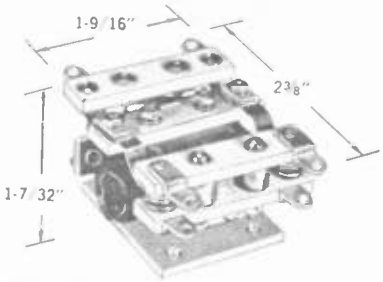

### SERIES 264 — MEDIUM POWER

Special version of Series 26 for DC application only. Available as 4PDT. With a minimum of operating power, it is now possible to handle up to 4 power control circuits at one time. Mounting: 4 #6-32 tapped holes on 13/16" x 1-3/16" centers.



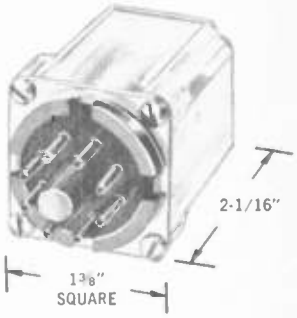

### SERIES 26L — SCREW TERMINALS

Heavy duty industrial control relay for all applications requiring high speed operation, long life and reliable high current contacts. All contacts rated at 30 amp. Heavy duty screw terminals. Mounting two 3/16" diameter holes on 1⅜" centers.




### SERIES 25 — ANTENNA

Powerful antenna change-over relay, capable of transferring up to 1500 watts RF load. High speed DPDT self-wiping contacts. AC or DC operation. Low loss handling of RF energy is insured by the use of G-7 insulating bridges. Present use includes the 450 megacycle range. Standard operating power — 1 watt. Mounting: 4 #6-32 tapped holes on 13/16" x 1-3/16" centers.




### SERIES 26D — DUST COVER

Midget version of standard Series 26 in clear polystyrene enclosure. Available up to 3PDT with standard contacts rated at 10 amps. Mounting: 8 pin octal plug in for standard DPDT; 11 pin octal type plug in for 3PDT.

## DC RELAYS

| TYPE | CONTACT ARRANGEMENT | CONTACT RATING (AMPS) | 6, 12, 24 V NET | 110 V NET |
|---|---|---|---|---|
| 261C | SPDT | 20 | $5.45 | $6.00 |
| 262C | DPDT | 20 | 6.45 | 7.00 |
| 263C | 3PDT | 20 | 6.95 | 7.50 |
| 264C | 4PDT | 20 | 7.45 | 8.00 |
| 26L2C | DPDT | 30 | 6.95 | 7.50 |
| 26D1C | SPDT | 10 | 5.45 | 5.95 |
| 26D2C | DPDT | 10 | 6.45 | 7.00 |
| 26D3C | 3PDT | 10 | 7.95 | 8.50 |
| 252C | DPDT | 1.5 KW RF | 7.50 | 8.10 |
| 253C | 3PDT | 1.5 KW RF (2C)<br>20 amp (1C) | 8.50 | 8.60 |

## AC RELAYS

| TYPE | CONTACT ARRANGEMENT | CONTACT RATING (AMPS) | 6, 12, 24 115 V NET | 230 V NET |
|---|---|---|---|---|
| 261C | SPDT | 20 | $5.45 | $6.00 |
| 262C | DPDT | 20 | 6.45 | 7.00 |
| 263C | 3PDT | 20 | 6.95 | 7.50 |
| 26L2C | DPDT | 30 | 6.95 | 7.50 |
| 26D1C | SPDT | 10 | 5.45 | 6.15 |
| 26D2C | DPDT | 10 | 6.45 | 8.00 |
| 26D3C | 3PDT | 10 | 7.95 | 8.50 |
| 252C | DPDT | 1.5 KW RF | 7.50 | 8.10 |
| 253C | 3PDT | 1.5 KW RF (2C)<br>20 amp (1C) | 8.00 | 8.60 |

**KURMAN MANUFACTURES A COMPLETE LINE OF HERMETICALLY SEALED RELAYS**

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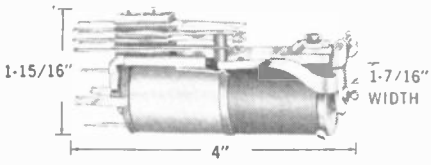
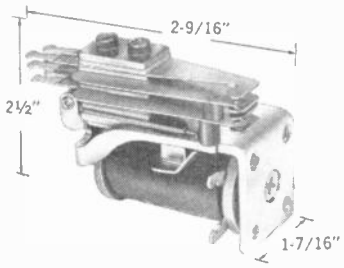
# KURMAN
## BROOKLYN, N. Y.

## TELEPHONE TYPE RELAYS



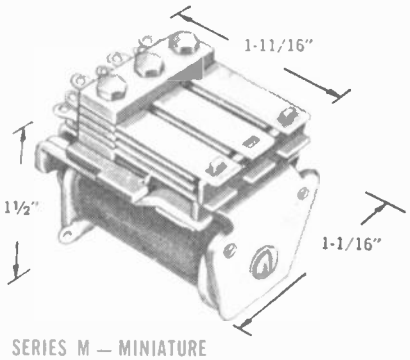

### SERIES A — LONG FORM

Designed for applications requiring rapid opening and closing of up to 15 individual circuits (forms A-E). Single or double wound coils with resistances up to 75,000 ohms. The heavy duty armature hinge with a non-loosening knurled armature pin provides an extra long operational life. Tinned solder terminals for rear of panel wiring. For sensitivity, ruggedness, reliability, multiple switching and economy, the Series A has no equal. Mounting 2 #8-32 tapped holes on ¾" centers.



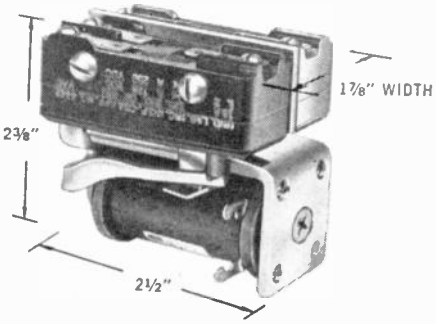

### SERIES E — SHORT FORM

Featuring all the benefits of the long form relay, and incorporating a shortened coil and heel piece, this relay is desired where space economy is a factor. Extremely fast contact switching — ideal for computer applications. High reliability — designed for hundreds of millions of operations. Sensitive versions as low as 100 milliwatt per pole. Mounting: 4 #8-32 tapped mounting holes on ⅝" x ¾" centers.



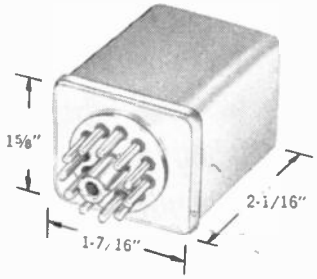

### SERIES M — MINIATURE

Ideal for all applications where space, weight and economy are factors. Short springs and lightweight armature provide fast action, reliability and long life. Up to 18 contact arms, forms (A-D). For aircraft, computer, data recording, industrial programming and other applications requiring good shock and vibration characteristics. DC operation only. Mounting: 2 #4-40 tapped holes on ¾" centers.




### SERIES ES — SNAP ACTION

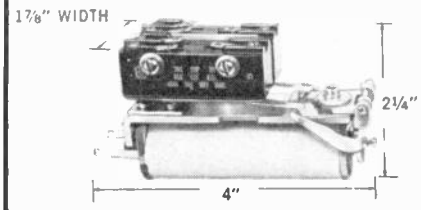
Either one or two snap action switches mounted on standard Series E frame, offering sensitive operation, handling high currents in ⅝" of the volume of the Series AS. Mounting: 4 #8-32 tapped holes on ⅝" x ¾" centers.




### SERIES DM — DUST COVERED

Standard Series M dust enclosed in metal enclosure equipped with octal type plug in. These features simplify equipment maintenance. Mounting: 8 pin octal plug in—DPDT; 11 pin octal plug in—3PDT.

**SPECIAL ORDER ONLY**




### SERIES AS — SNAP ACTION

Special version of Series A shown above, offered with either one or two snap action switches. For sensitive switching of power control circuits, carrying currents of up to 15 amps per pole. Dust-free, tamper-proof contacts—easily replaceable snap action switches. Mounting: 2 #8-32 tapped holes on ¾" centers.

### DC RELAYS

| RELAY NO. | CONTACT ARRANGEMENT | COIL VOLTAGE | CONTACT RATING (AMPS) | NET |
|---|---|---|---|---|
| A004-6 | 4PDT | 6 | 3 | $ 8.65 |
| A004-12 | 4PDT | 12 | 3 | 9.10 |
| A004-24 | 4PDT | 24 | 3 | 9.20 |
| A004-110 | 4PDT | 110 | 3 | 10.30 |
| E004-6 | 4PDT | 6 | 3 | 7.65 |
| E004-12 | 4PDT | 12 | 3 | 8.10 |
| E004-24 | 4PDT | 24 | 3 | 8.20 |
| E004-110 | 4PDT | 110 | 3 | 9.30 |
| M004-6 | 4PDT | 6 | 3 | 6.30 |
| M004-12 | 4PDT | 12 | 3 | 6.30 |
| M004-24 | 4PDT | 24 | 3 | 6.30 |
| M004-110 | 4PDT | 110 | 3 | 7.25 |

**RELAYS TO MEET ALL SPECIAL APPLICATIONS ARE AVAILABLE FROM DISTRIBUTORS**

### DC RELAYS

| RELAY NO. | CONTACT ARRANGEMENT | COIL VOLTAGE | CONTACT RATING (AMPS) | NET |
|---|---|---|---|---|
| AS2-6 | DPDT | 6 | 15 | $12.00 |
| AS2-12 | DPDT | 12 | 15 | 12.45 |
| AS2-24 | DPDT | 24 | 15 | 12.55 |
| AS2-110 | DPDT | 110 | 15 | 13.70 |
| ES2-6 | DPDT | 6 | 15 | 11.50 |
| ES2-12 | DPDT | 12 | 15 | 11.95 |
| ES2-24 | DPDT | 24 | 15 | 12.05 |
| ES2-110 | DPDT | 110 | 15 | 13.20 |
| DM002-6 | DPDT | 6 | 3 | 8.05 |
| DM002-12 | DPDT | 12 | 3 | 8.05 |
| DM002-24 | DPDT | 24 | 3 | 8.05 |
| DM002-110 | DPDT | 110 | 3 | 8.90 |
| DM003-6 | 3PDT | 6 | 3 | 8.70 |
| DM003-12 | 3PDT | 12 | 3 | 8.70 |
| DM003-24 | 3PDT | 24 | 3 | 8.70 |
| DM003-110 | 3PDT | 110 | 3 | 9.55 |

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# KURMAN relays

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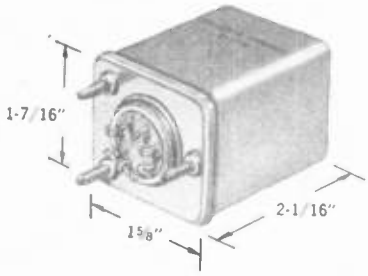
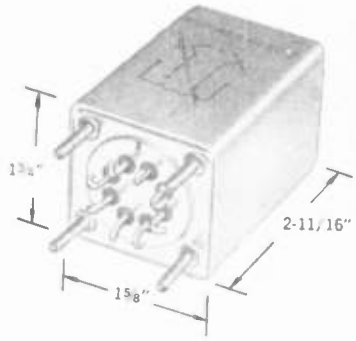
## HERMETICALLY SEALED



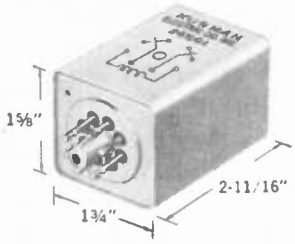

### SM004E — MINIATURE TELEPHONE

Hermetically sealed version of Series M. This relay equipped with 4PDT contacts rated at 3 amp. Operating from a 26.5 V DC nominal input source. Solder lug terminals. Hermetic enclosure makes the relay impervious to all detrimental atmospheric conditions, including contaminating gases, dust salt, etc. Mounting: 3 #6-32 studs on 15/16" x 1-3/16" centers.



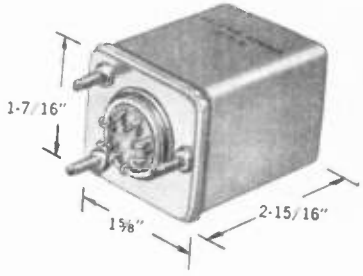

### #26S20 — HEAVY DUTY

Hermetically sealed version of Series 26, equipped with heavy duty construction, offering contacts rated at 25 amps. Relay operates at 115 V AC nominal, and offers a standard DPDT construction. Can be externally wired for double-make or break arrangements. Excellent for all industrial and other remote power controls. Mounting: 4 #6-32 studs on 1¼" x 1⅛" centers.




### #26S01 — MEDIUM POWER

Hermetically sealed Series 26 relay. DPDT contacts — rated at 10 amps. 115 V AC nominal coil operation. Equipped with octal plug-in. Small enclosures. Mounting: 8 pin octal plug-in.




### SM004F — 400 CYCLE

Special version of Series M relay equipped with internal rectifiers. Nominal operation — 110 V AC, 400 cycle (this relay can be used on frequencies as low as 60 cps). 4PDT contacts rated at 3 amp. Excellent vibration and shock characteristics. Solder lug terminals. Mounting: 3 #6-32 studs on 15/16" x 1-3/16" centers.

| RELAY TYPE | CONTACT ARRANGEMENT | CONTACT RATING (AMPS) | COIL VOLTAGE | NET |
|---|---|---|---|---|
| SM004E | 4PDT | 3 | 26.5 V DC | $10.30 |
| 26S01 | DPDT | 10 | 115 V AC | 12.85 |
| 26S20 | DPDT | 25 | 115 V AC | 14.80 |
| SM004F | 4PDT | 3 | 115 V AC-400 cps | 13.60 |

**ORDERING INFORMATION** **FILE-O-MATIC Sec. 23**

Relays PREVIOUSLY ORDERED are readily identified by the Kurman type number, which is placed on the relay. Please include this number when re-ordering.

Relays shown in this bulletin are STANDARD relays in stock for immediate shipment. From this bulletin a relay can be chosen meeting the needs of most electrical or electronic applications.

VARIATIONS of these relays are available, as shown in our GS catalog, with slightly extended delivery schedules.

All CONTACT RATINGS shown in this bulletin are for 115 V AC-60 cycles, resistive loads.

Please SPECIFY the Kurman relay type and coil voltage or resistance, AC or DC.

**CONTACT LEGEND:** S—Single; D—Double; P—Pole; T—Throw; N—Normally; O—Open; C—Closed

All prices and specifications are subject to change without notice. For latest prices refer to United Pricing Service.

**SEE LOCAL STOCKING DISTRIBUTORS FOR IMMEDIATE DELIVERY**

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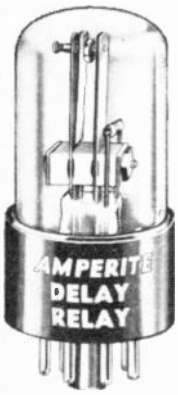
World Radio History

THERMOSTATIC **AMPERITE** DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

# AMPERITE THERMOSTATIC DELAY RELAYS




STANDARD

Amperite Thermostatic Delay Relays are actuated by a heater . . can therefore be used on A.C., D.C., or pulsating current. Being hermetically sealed, Amperite Relays are not affected by altitude, moisture, or other atmospheric conditions. **REPLACED AS EASILY AS A RADIO TUBE.**

**CIRCUITS:** At the present time only SPST is available — normally open or normally closed.

**HEATER VOLTAGES:** Relays are available with heater voltages from 2.5 to 115 V. For short delays 2 to 10 seconds) a low voltage heater, preferably 6.3 V. is recommended. STANDARD HEATER VOLTAGES: 6.3, 26 (for 22-30 V.), Other voltages available are 2.5, 5.0, 12.6 and 50 V. For 220 V., use a 115 V. relay with a dropping resistor of 6500 Ohms—5W.

## EFFECT OF HEATER VOLTAGE VARIATION ON DELAY

FIGURE 1 — Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in this diagram.

For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

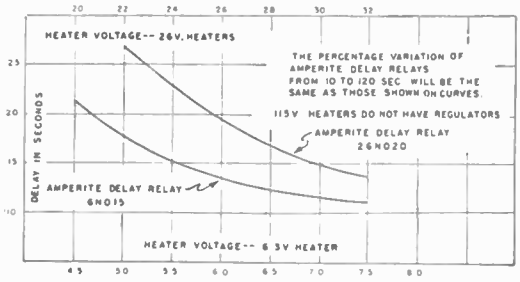
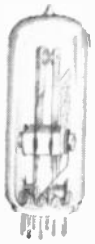



*Figure 1*



MINIATURE

### STANDARD HEATER VOLTAGES:

Amperite Delay Relays with low voltage heaters such as 2.5, 5.0, 6.3, 12.6 and 26 V. are designed with automatic voltage regulation of the heater to compensate for line voltage variation. The effect of voltage variation on a typical relay is shown in Fig. 1. Without regulation, the delay would vary as the square of the supply voltage variation. 115 V. heaters CANNOT be supplied with heater voltage regulation. **HEATER WATTAGE:** The wattage consumed by the heater is approx. 2 W. Flashers approx. 1 W. **All Heaters may be operated continuously.**

## CONTACT RATING

| | Delay | Contact Rating Non-Inductive | Voltage Breakdown DC Contact-to-Contact | Heater-to-Contact |
|---|---|---|---|---|
| STANDARD | 2 to 10 Sec. | 115V — 3a AC | 250V | 500V |
| RELAYS | 15 to 180 Sec. | 115V — 3a AC | 1000V | 1500V |
| | | 220V — 2a AC | 1000V | 1500V |
| MINIATURE | 2 to 10 Sec. | 115V — 2a AC | 250V | 500V |
| RELAYS | 15 to 180 Sec. | 115V — 2a AC | 1000V | 1500V |
| | | 220V — 1a AC | 1000V | 1500V |
| FLASHERS | | 115V — ½a AC | 250V | 500V |

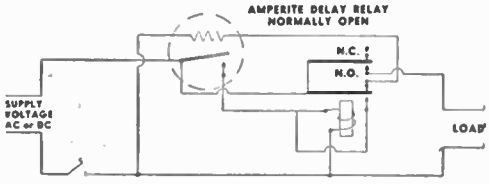
**CONTACT DROP:** —0.1V — Prox. at 1A.

**AMBIENT TEMPERATURES:** Relays are compensated for temperatures of —55° to +70°C. Tolerances given are 20°C. Ambient temperature tolerances depend on type. Low voltage heaters 26V or less have much better ambient compensation than high voltage heaters.

**DELAYS AVAILABLE:** From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay can be increased up to 50% by using a resistor in series with the heater. Relays with short delays such as 2 to 5 seconds can be increased 100%.

**LIFE** of any individual relay will depend on the service the contacts are subjected to. With a 115 V. — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. Heater can be operated continuously. Heaters will not be damaged by a 50% overload in voltage for short durations (1 hour approximately).

**INDUCTIVE A.C. LOADS:** When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd. across contacts.




**INSTANTANEOUS RECYCLE:** This can be obtained by using a normally open Amperite Delay Relay in conjunction with a DPDT Magnetic Relay as shown at left. If normally closed is required — use a **normally open** Amperite Delay Relay — and use the NC contacts on the magnetic relay. Choose the Amperite Delay Relay for the voltage required and the delay required (e.g. — 115N030 — would be used on 115 volt supply — for a 30 second delay).



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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

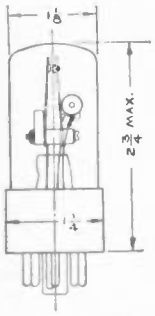
World Radio History

# THERMOSTATIC AMPERITE DELAY RELAYS

## GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

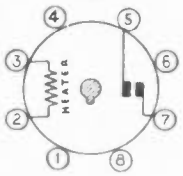
**BREAKING D.C. CURRENT:** When Relay contacts open D.C. Current above 50 volts, a condenser with a resistor in series with the condenser must be connected across the contacts. The following condenser values are approximate.

| | 50 V. D.C. | 115 V. D.C. | 230 V. D.C. |
|---|---|---|---|
| 0 to .5 Amps. | None | .1 MF | .25 MF |
| .5 to 1.5 Amps. | " | .25 " | .25 " |
| 1.5 to 3 Amps. | .25 MF | 1 " | .5 " |




BASE WIRING:

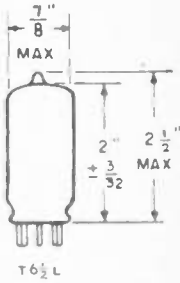
STANDARD




**Standard Radio Octal:**
Prongs 2-3-heater;
Prongs 5-7-contacts.

**9-Pin Miniature:**
Prongs 1-6 heater;
Prongs 3-4, 1 contact;
Prongs 8-9, 2nd contact

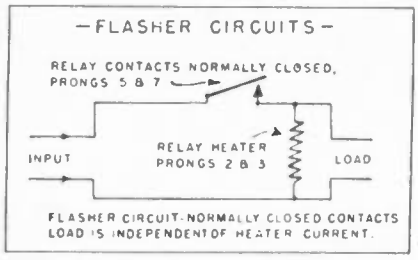
MINIATURE




### STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS....List $4.00 ea.

MINIATURE TYPES: Designated by letter T. (e.g. 6NO5T) Types shown in Bold Type are the more popular types, and are more readily available. Miniature type relays available in 2-120 Seconds Delay, EXCEPT those with a 6.3V Heater which are available in 2-180 Seconds. All Standard Type are available in 2-180 Seconds Delay.

| Delay-Seconds | Tolerance Seconds at 20°C | NORMALLY OPEN CONTACTS — HEATER VOLTAGES | | | | | | NORMALLY CLOSED CONTACTS — HEATER VOLTAGES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2.5 V. | 5.0 V. | 6.3 V. | 12.6 V. | 26 V. (22-30) | 115 V. | 2.5 V. | 5.0 V. | 6.3 V. | 12.6 V. | 26 V. (22-30) | 115 V. |
| 2 | ± 1 | 2N02 | 5N02 | 6N02 | 12N02 | 26N02 | 115N02 | 2C2 | 5C2 | 6C2 | 12C2 | 26C2 | 115C2 |
| 3 | ± 1 | 2N03 | 5N03 | **6N03** | 12N03 | **26N03** | **115N03** | 2C3 | 5C3 | **6C3** | 12C3 | **26C3** | **115C3** |
| 5 | ± 2 | 2N05 | 5N05 | **6N05** | 12N05 | **26N05** | **115N05** | 2C5 | 5C5 | **6C5** | 12C5 | **26C5** | **115C5** |
| 8 | ± 3 | 2N08 | 5N08 | **6N08** | 12N08 | **26N08** | **115N08** | 2C8 | 5C8 | **6C8** | 12C8 | **26C8** | **115C8** |
| 10 | ± 3 | 2N010 | 5N010 | **6N010** | 12N010 | **26N010** | **115N010** | 2C10 | 5C10 | **6C10** | 12C10 | **26C10** | **115C10** |
| 15 | ± 3 | 2N015 | 5N015 | **6N015** | 12N015 | **26N015** | **115N015** | 2C15 | 5C15 | **6C15** | 12C15 | **26C15** | **115C15** |
| 20 | ± 4 | 2N020 | 5N020 | **6N020** | 12N020 | **26N020** | **115N020** | 2C20 | 5C20 | **6C20** | 12C20 | **26C20** | **115C20** |
| 30 | ± 8 | **2N030** | **5N030** | **6N030** | **12N030** | **26N030** | **115N030** | 2C30 | 5C30 | **6C30** | 12C30 | **26C30** | **115C30** |
| 45 | ± 10 | 2N045 | 5N045 | **6N045** | 12N045 | **26N045** | **115N045** | 2C45 | 5C45 | **6C45** | 12C45 | **26C45** | **115C45** |
| 60 | ± 12 | **2N060** | 5N060 | **6N060** | 12N060 | **26N060** | **115N060** | 2C60 | 5C60 | **6C60** | 12C60 | **26C60** | **115C60** |
| 75 | ± 15 | 2N075 | 5N075 | **6N075** | 12N075 | **26N075** | **115N075** | 2C75 | 5C75 | **6C75** | 12C75 | **26C75** | **115C75** |
| 90 | ± 15 | 2N090 | 5N090 | **6N090** | 12N090 | **26N090** | **115N090** | 2C90 | 5C90 | **6C90** | 12C90 | **26C90** | **115C90** |
| 120 | ± 30 | 2N0120 | 5N0120 | **6N0120** | 12N0120 | **26N0120** | **115N0120** | 2C120 | 5C120 | **6C120** | 12C120 | **26C120** | **115C120** |
| 150 | ± 30 | 2N0150 | 5N0150 | **6N0150** | 12N0150 | **26N0150** | **115N0150** | 2C150 | 5C150 | **6C150** | 12C150 | **26C150** | **115C150** |
| 180 | ± 40 | 2N0180 | 5N0180 | **6N0180** | 12N0180 | **26N0180** | **115N0180** | 2C180 | 5C180 | **6C180** | 12C180 | **26C180** | **115C180** |




Flashers operate approximately ⅓ on, ⅔ off. The percentage time on can be increased by reducing the voltage of the heater.

*Normally closed flashers* are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. *For example a 6F30 flasher*, has 6.3V heater, normally closed 30 FPM with a ± 10 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from *30 to 90 Flashes per minute* with tolerances as shown in the chart below:

| Tolerance FPM — 20°C | Standard Flashers Available | | |
|---|---|---|---|
| ± 10 | 6F30 | 26F30 | 115F30 |
| ± 12 | 6F45 | 26F45 | 115F45 |
| ± 15 | 6F60 | 26F60 | 115F60 |
| ± 15 | 6F75 | 26F75 | 115F75 |
| ± 20 | 6F90 | 26F90 | 115F90 |

**FLASHERS have contact rating of 115V — ½a AC, non-inductive.**

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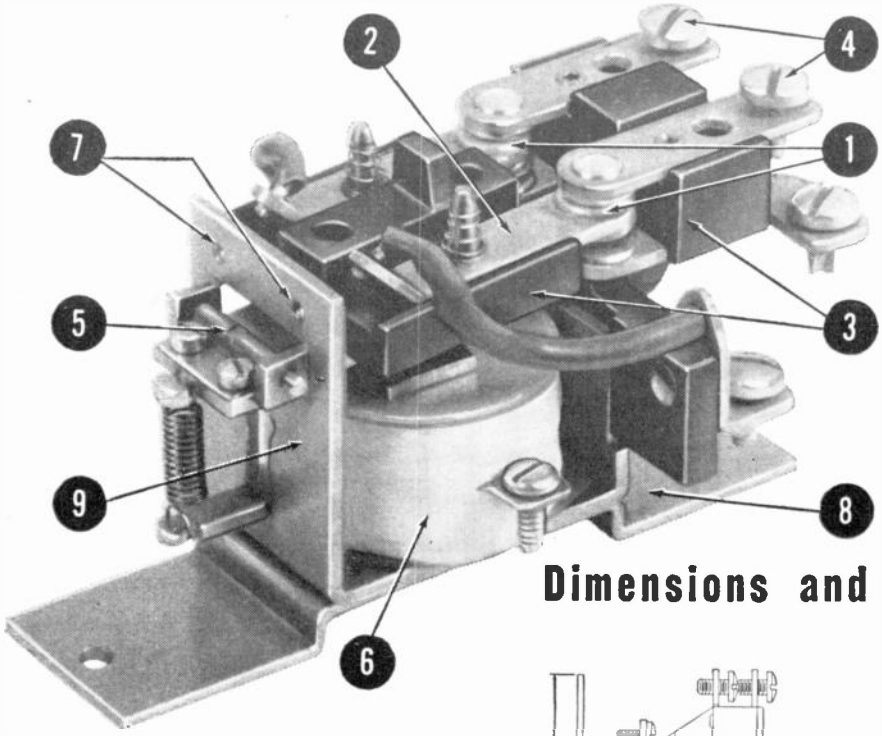
World Radio History

Wheelock SIGNALS INC.
RELAYS W S LONG BRANCH, N. J.

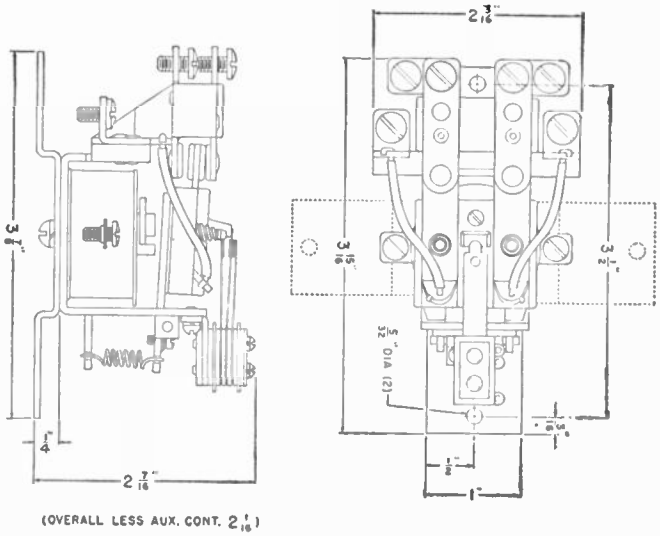
*Manufacturer of Relays for the Electronic Industry*

# GENERAL PURPOSE RELAY SERIES 130 RELAY




1. **CONTACTS:** Coin silver; generous safety factor, conservatively rated at 20 amps, 115 volt 60 cycle AC or 24 volt DC.
2. **CONTACT ARMS:** Rigid arms backed by compression springs provide self cleaning contact wipe.
3. **CONTACT SUPPORTS:** Moulded bakelite supports provide high dielectric protection for both movable and stationary contacts.
4. **TERMINALS:** Large binding head screws accommodate #12 wire or lugs.
5. **HINGE PIN:** Stainless steel ground to close tolerance assures contact alignment and long life.
6. **COILS:** Interchangeable; replaced by removing one screw in base; continuous duty.
7. **AUXILIARY CONTACT MOUNTING:** (see illustration below.)
8. **MOUNTING BASE:** Metal strap or bakelite; removable; can be rotated 90° either direction (see dimension drawing).
9. **FINISH:** Cadmium Cronak.

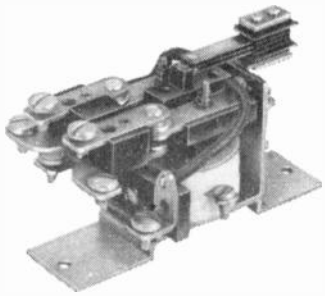
## Dimensions and Mounting Area




| 60 CYCLE AC RELAYS | | |
|---|---|---|
| Type | Contacts | 6, 12, 24, 48, 115, 230 V |
| 130-2C | DPDT | Net Price $6.53 |
| **DC RELAYS** | | |
| Type | Contacts | |
| 140-2C | DPDT | 6, 12, 24, 48 V Net Price $6.53 |
| 140-2C | DPDT | 115 V Net Price $7.13 |
| Auxiliary SPDT Contact 5 Amp at 110 V AC, Add Net $1.50 | | |
| Heavy Gauge Metal Enclosure Available Net $3.50 | | |

## THE MOST USEFUL RELAY FOR INDUSTRIAL APPLICATION

These Relays are conservatively rated and are designed to provide reliable, trouble-free service over long periods of time, when used within the limits of their rated capacity. The space requirements have been reduced as much as practicable, consistent with good electrical practice, and meet the requirements of the Underwriters' Laboratories.



## AUXILIARY CONTACTS (SERIES 131)

Auxiliary contacts (SPDT) rated 5 amps at 110 volts can be furnished with relay or easily attached later if required (see No. 7 above).


Net
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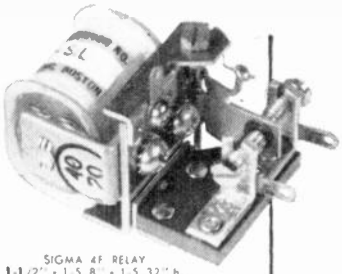
# SIGMA SENSITIVE RELAYS

### PLATE CIRCUIT RELAY . . . SERIES 4

Single-pole, double-throw, general purpose relay with 20 and 50 mw. sensitivity. Balanced armature. Operates in any position. Spring tension and air gaps screwdriver adjustable; open style only. Silver (SIL) contacts rated 2 amp. 28 VDC/120 VAC for 100,000 operations. 4F-8,000-S SIL widely used for radio controlled models. Available in other mountings and enclosures.



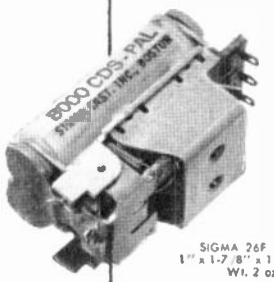
SIGMA 4F RELAY
1-1/2" x 1-5/8" x 1-5/32" h.
Wt. 2-1/4 oz.

TYPICAL ADJUSTMENTS

| | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 4F-1,000-S SIL | 1,000 | 4.5 | $5.50 |
| 4F-2,500-S SIL | 2,500 | 3.0 | 5.50 |
| 4F-5,000-S SIL | 5,000 | 2.0 | 5.75 |
| 4F-8,000-S SIL | 8,000 | 1.6 | 6.00 |

### RADIO CONTROL MODEL RELAY . . . SERIES 26

Single-pole, double-throw, balanced armature relay with adjustments from 4 mw. to 20 mw. sensitivity. Silver (SIL), gold alloy (GSP), and palladium (PAL) contacts for CDS adjustment rated 0.5 amp. at 28 VDC/120 VAC. 26F-8,000-CDS SIL exceptionally rugged and especially designed for R/C models. Unenclosed only. Uses less plate current thus prolonging tube life.
"S", "G" and "W" adjustments available unenclosed or hermetically sealed.



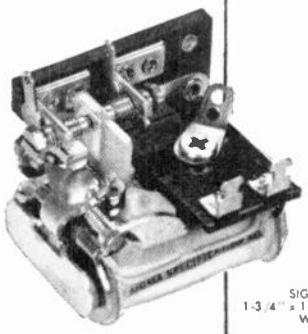
SIGMA 26F RELAY
1" x 1-7/8" x 1-1/16" h.
Wt. 2 oz.

TYPICAL ADJUSTMENTS

| Relay | Operate Ma. DC | Net Each |
|---|---|---|
| 26F-1,000-S SIL | 2.3 | $6.80 |
| 26F-8,000-CDS SIL | 0.7 | 8.30 |
| 26F-12,000-G SIL | 0.9 | 9.80 |

### EXTRA SENSITIVE PRECISION RELAY . . . SERIES 5

Extremely precise, rugged AC* and DC general purpose sensitive relay. Balanced armature, single-pole, double-throw. Suitable for wide range of adjustments from 1.0 mw. to 2.0 watts. Contact rating varies up to 3 amp. at 28 VDC/120 VAC for 100,000 operations, depending on contact material and adjustment.
*AC operation accomplished by means of built-in rectifiers. Available in other mountings and enclosures.



SIGMA 5F RELAY
1-3/4" x 1-5/16" x 1-11/16" h.
Wt. 4-1/4 oz.

TYPICAL ADJUSTMENTS

| | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 5F-1,000-S SIL | 1,000 | 2.3 | $7.50 |
| 5F-2,500-S SIL | 2,500 | 1.4 | 7.50 |
| 5F-5,000-S SIL | 5,000 | 1.0 | 8.00 |
| 5F-10,000-S SIL | 10,000 | 0.7 | 8.75 |

### SMALL LOW-COST RELAY . . . SERIES 11

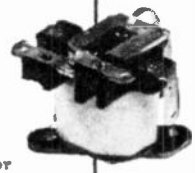
Small, single-pole double-throw AC and DC relay. DC operating sensitivities 50 mw. in "G" Adjustment, 200 mw. in "W" Adjustment. AC version: 0.3 v-a. in "ACS" Adjustment. Contacts rated 1 amp. ("G" and "ACS"), 5 amp. ("W") at 28VDC/120VAC. Available unenclosed in four mounting styles:

**11F** — 2 tapped holes, uninsulated

**11F2** — Insulated base

**11F3** — Insulated base, interchangeable with relays of other manufacture

**11FP** — Solder lug mounting for use in printed circuits



SIGMA 11F RELAY
1-5/32" x 1-5/16" x 1" h.
Wt. 1 oz.

TYPICAL ADJUSTMENTS

| AC Type | Coil Volts | Operate Voltage | Net Each |
|---|---|---|---|
| 11FZ-40-ACS SIL | 6 | 4.9 | $2.00 |
| 11FZ-150-ACS SIL | 12 | 9.5 | 2.00 |
| 11FZ-550-ACS SIL | 24 | 18 | 2.00 |
| 11FZ-9,000-ACS SIL | 120 | 75 | 2.35 |

| DC Type | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 11F-1,000-G SIL | 1,000 | 7.0 | $1.50 |
| 11F-2,300-G SIL | 2,300 | 4.6 | 1.50 |
| 11F-6,000-G SIL | 6,000 | 2.9 | 1.70 |
| 11F-9,000-G SIL | 9,000 | 2.4 | 1.85 |

**Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.**

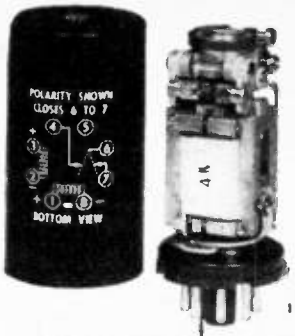
SIGMA

SIGMA INSTRUMENTS, INC.



World Radio History

# SIGMA SENSITIVE RELAYS




SIGMA 72AOZ RELAY
1-7/16" dia. x 2-5/8" h.
Wt. 3-5/8 oz. max.

### HIGH SPEED POLAR SWITCHING RELAY . . . SERIES 72

For high speed switching and pulse repeating applications. Capable of switching 500 pulses per second with virtual elimination of contact bounce. High immunity to extremes of temperature, vibration and shock. Form "Z" side-stable. Maintenance and adjustment manual available for easy field repair and adjustment.
Removable nylon cover.

TYPICAL ADJUSTMENTS

| Relay | Trip Ma. DC | Recommended Operate Current Ma. DC | Recommended Source Voltage | Net Each |
|---|---|---|---|---|
| 72AOZ-160-TS TCP | 0.6-1.4 | 15 | 50 VDC | $30.00 |
| 72AOZ-160-TG TCP | 2.4-3.6 | 0.6 | 50 VDC | 30.00 |

SIGMA 22RJC RELAY
1" square x 1-3/4" h.
Wt. 3 oz.

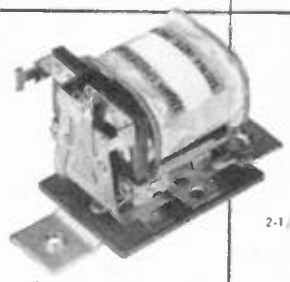
### MISSILE TYPE RELAY . . . SERIES 22

Miniature DC relay widely used in special commercial and military applications. "G" adjustment operates at sensitivities of 20 mw. SPDT and 40 mw. DPDT. Contact rating at 28 VDC/120 VAC silver (SIL) 2 amp; palladium (PAL) and gold (GSP) 0.5 amp. New "HG" adjustment operates at 20 and 40 mw.
"W" adjustment operates at 40 and 80 mw. Silver (SIL) contacts rated 1.0 amp at 28 VDC/120 VAC. Both adjustments vibration resistant: "HG" 15 g to 500 cps, "W" 10 g to 2,000 cps.

TYPICAL ADJUSTMENTS

| SPDT | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 22RJC-1,000-G SIL | 1,000 | 4.5 | $13.00 |
| 22RJC-2,500-G SIL | 2,500 | 2.8 | 13.50 |
| 22RJC-5,000-G SIL | 5,000 | 2.0 | 14.00 |
| 22RJC-8,000-G SIL | 8,000 | 1.6 | 14.50 |

| DPDT | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 22RJCC-1,000-G SIL | 1,000 | 6.3 | $14.50 |
| 22RJCC-2,500-G SIL | 2,500 | 4.0 | 13.00 |
| 22RJCC-5,000-G SIL | 5,000 | 2.8 | 13.50 |
| 22RJCC-8,000-G SIL | 8,000 | 2.3 | 16.00 |



SIGMA 41F RELAY
2-1/4" x 1-1/4" x 1-5/16" h.
Wt. 2-1/2 oz.

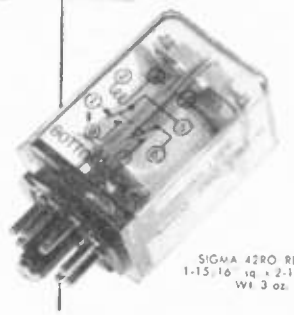
### SINGLE-POLE AC AND DC RELAY . . . SERIES 41

General purpose, highly sensitive, rugged design. Quiet enough for electric blanket controls. Contact rating from 0.5 amp. to 5.0 amp. at 28 VDC/120 VAC.
AC operation by shaded pole with sensitivity down to 0.06 volt-ampere. "K" adjustment adapted for high speed keying, largely free of contact bounce when operated SPST, normally open. Tungsten (TUN) contacts only, rated at 1.0 amp. 28 VDC/120 VAC.
Other mountings and enclosures available.

TYPICAL ADJUSTMENTS

| AC TYPES | Coil Voltage | Operate v-a. | Contact Rating amp. | Net Each |
|---|---|---|---|---|
| 41FZ-10-ACG SIL | 6 | 0.4 | 5 | $3.50 |
| 41FZ-35-ACS SIL | 6 | 0.2 | 2 | 3.50 |
| 41FZ-200-ACG SIL | 24 | 0.4 | 5 | 3.50 |
| 41FZ-500-ACS SIL | 24 | 0.2 | 2 | 3.50 |
| 41FZ-5,000-ACG SIL | 115 | 0.4 | 5 | 3.65 |
| 41FZ-10,000-ACS SIL | 115 | 0.2 | 2 | 3.85 |
| 41FZ-12,000-ACG SIL | 230 | 0.4 | 5 | 4.15 |

| DC TYPES | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 41F-5-S SIL | 5 | 90 | $3.50 |
| 41F-50-S SIL | 50 | 30 | 3.50 |
| 41F-200-S SIL | 200 | 15 | 3.50 |
| 41F-1,000-S SIL | 1,000 | 6.5 | 3.50 |
| 41F-5,000-S SIL | 5,000 | 3.0 | 3.65 |
| 41F-10,000-S SIL | 10,000 | 2.0 | 3.85 |



SIGMA 42RO RELAY
1-15/16" sq. x 2-1/16" h.
Wt. 3 oz.

### DOUBLE-POLE AC AND DC RELAY . . . SERIES 42

General purpose, double-pole version of Series 41. Shown with plastic dust cover. Operates under 0.2 watt DC and under 0.5 volt-ampere AC.

TYPICAL ADJUSTMENTS

| AC TYPES | Coil Volts | Operate Voltage | Contact Rating amp. | Net Each |
|---|---|---|---|---|
| 42ROZ-8-ACG SIL | 6 | 4.0 | 5 | $6.20 |
| 42ROZ-25-ACS SIL | 6 | 5.0 | 2 | 6.20 |
| 42ROZ-200-ACG SIL | 24 | 19.0 | 5 | 6.20 |
| 42ROZ-340-ACS SIL | 24 | 19.0 | 2 | 6.20 |
| 42ROZ-4,000-ACG SIL | 120 | 90.0 | 5 | 6.20 |
| 42ROZ-7,000-ACS SIL | 120 | 90.0 | 2 | 6.40 |

| DC TYPES | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| 42RO-5-G SIL | 5 | 200 | $6.20 |
| 42RO-50-G SIL | 50 | 65 | 6.20 |
| 42RO-200-G SIL | 200 | 32 | 6.20 |
| 42RO-1,000-G SIL | 1,000 | 14 | 6.20 |
| 42RO-5,000-G SIL | 5,000 | 6.5 | 6.40 |
| 42RO-10,000-G SIL | 10,000 | 4.5 | 6.60 |

**Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.**

SIGMA



Net

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World Radio History

# SIGMA SENSITIVE RELAYS

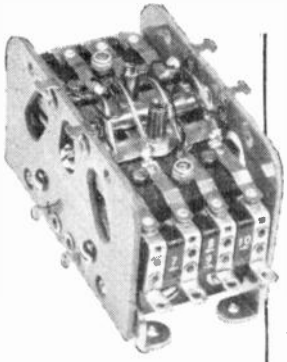
### POLARIZED MULTIPOLE RELAY . . . SERIES 6

Up to four pole, double-throw in either single or dual coil arrangement. High vibration immunity. Sensitive enough for low power electronic circuits. Fast enough for follow-up systems. Contacts rated 2 and 5 amp. at 28 VDC/120 VAC.

"X" — 3-position null center (up to 4 Form K)
"Y" — Spring biased (up to 4 Form C)
"Z" — Magnetic latching (up to 4 Form C)
Available hermetically sealed or unenclosed.

TYPICAL ADJUSTMENTS

| Relay | Coil Ohms | Operate Ma. DC | Net Each |
|---|---|---|---|
| Single coil | | | |
| 6FX2A2A-5,000-G SIL | 5,000 | 1.9 | $26.00 |
| 6FX2A2A-10,000-G SIL | 10,000 | 1.5 | 26.50 |
| Dual Coil | | | |
| 6FX2A2A-2,500-GD SIL | 2500/2500 | 4.2 | 26.75 |
| 6FX2A2A-5,000-GD SIL | 5000/5000 | 3.0 | 27.50 |



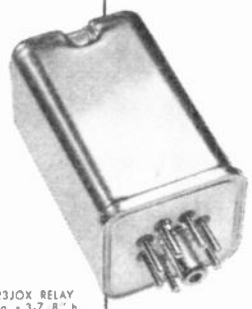
SIGMA 6FX4C RELAY
1-7/8" x 3-7/16" x 1-7/8" h.
Wt. 10 oz.

### DOUBLE-POLE 3-POSITION POLAR . . . SERIES 23

For single or double pole 3-position switching with single or dual coils. Unusual magnetic circuit restores armature to mid-position between fixed contacts improving mechanical and thermal stability. Sensitivity varies from 6 mw. to 24 mw. Silver (SIL) contacts rated 28 VDC/120 VAC for 100,000 operations. Hermetically sealed only.

TYPICAL ADJUSTMENTS

| Relay | Coil | Operate Ma. DC | Price |
|---|---|---|---|
| Single Coil | | | |
| 23JOXC-4,000-G SIL | 4,000 | 1.55 | $30.50 |
| 23JOXCC-6,000-G SIL | 6,000 | 1.4 | 31.00 |
| Dual Coils | | | |
| 23JOXC-2,500-GD SIL | 2500/2500 | 2.2 | 31.50 |
| 23JMXCC-4,200-GD SIL | 4200/4200 | 2.3 | 34.00 |



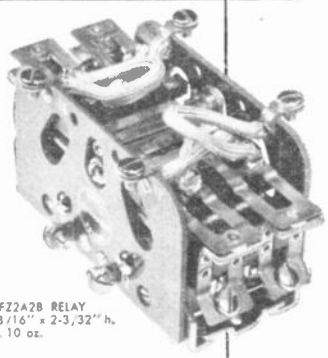
SIGMA 23JOX RELAY
1-19/32" sq. x 3-7/8" h.
Wt. 8-5/8 oz.

### LATCHING POWER RELAY . . . SERIES 61

Heavy duty Form "Z" 2-position, single or dual coil modification of Series 6. For switching heavy loads with small coil power. Load switched by momentary signal of appropriate polarity. Remains magnetically latched until signal of opposite polarity received. 2A2B only. Silver cadmium (SC) contacts only, rated 20 amp. at 28 VDC/120 VAC.

TYPICAL ADJUSTMENTS

| | Operate Each Polarity | Net Each |
|---|---|---|
| Single Coil | | |
| 61FZ2A2B-10,000-G SC | 48 VDC | $19.00 |
| Dual Coil | | |
| 61FZ2A2B-10,000-GD SC | 65 VDC | 21.00 |



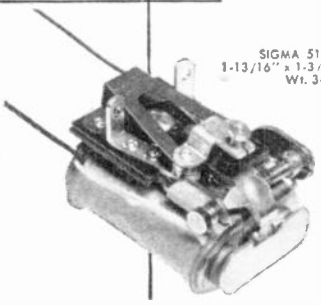
SIGMA 61FZ2A2B RELAY
3-1/2" x 2-3/16" x 2-3/32" h.
Wt. 10 oz.

### SENSITIVE POWER RELAY . . . SERIES 51

Single-pole, double-break, normally closed DC, for control of loads from 10 amp. to 1 kw. Used in commercial photoelectric streetlighting control. Rated for 1,000 watt incandescent 120 VAC loads with inrush currents in the order of 100 amp. Double-break contact construction eliminates faulty circuit operation due to sticking contacts. Unenclosed style (FB) only.

TYPICAL ADJUSTMENT

| Relay | Operate Ma. DC | Net Each |
|---|---|---|
| 51FB-5,000-G SIL | 4.5 | $8.50 |



SIGMA 51FB RELAY
1-13/16" x 1-3/8" x 1-5/16" h.
Wt. 3-1/4 oz.

**Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.**

SIGMA

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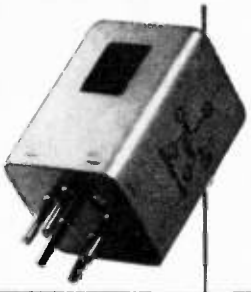
World Radio History

# SIGMA SENSITIVE RELAYS

**CdS PHOTORELAY . . . MODEL #1**

A miniature tubeless photorelay with a cadmium sulfide photocell. For furnace flame-out controls, pinball machines, elevators, conveyors, etc. 5-pin plug-in base, dust-proof can, operates at 5 foot-candles or less, releases at 0.1 foot-candle or more. 2 operations per second guaranteed minimum.
120 VAC 50/60 cps at temperature range of −40° to 75°C.



SIGMA CdS PHOTORELAY, MODEL #1
1-1/2" square x 1-7/8" h.
Wt. 3 oz. . . . Price $12.00

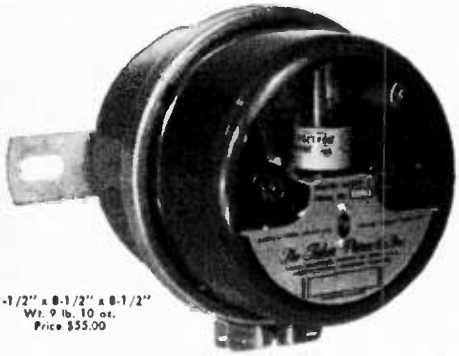
**SIGMA RELAY MANUAL**

Detailed information on Sigma relay series, types and standard adjustments. Includes general descriptions, performance characteristics, electrical characteristics of various adjustments, physical and mechanical specifications, and wiring diagrams. About 300 pages in loose leaf binder. Additional pages issued periodically. Price of Manual and one year subscription to supplementary pages: $5.00. After first year, Supplement Service $1.00 per year.
All relays listed in the Manual are available through stocking distributors.

# PHOTOELECTRIC LIGHTING CONTROLS

## by FISHER-PIERCE

AFFILIATE OF SIGMA INSTRUMENTS, INC.



11-1/2" x 8-1/2" x 8-1/2"
Wt. 9 lb. 10 oz.
Price $55.00

3-1/2" x 4-1/2" x 3-1/2"
Wt. 20 oz. . . Price $15.95

**EXTERIOR LIGHTING CONTROL . . . MODEL 63305-C**

Rugged, stable and reliable photoelectric unit for controlling aircraft obstruction lighting on towers, smoke stacks, bridges, buildings, etc., and other types of outdoor lighting. Automatically switches lights on as daylight drops to CAA-recommended turn-on point (35 foot-candles), off when daylight returns. No seasonal adjustment needed; unaffected by time of day or weather. Load rating 3000 watts. Contactor SPST, double break. Adjustable turn-on range 25–45 foot-candles; standard factory setting, 35 f-c. Supply voltage 105–130, 50/60 cycles; power consumption 10–11 watts daytime, 6–7 watts nighttime. Features pre-aged tubes for 20,000 hours min. life; highest quality components; fail-safe operation; time delay to prevent accidental turn-off by transient lights; weatherproof housing; standard meter socket with mounting bracket; glass-enclosed plug-in chassis.

**INTERIOR LIGHTING CONTROL . . . MODEL 6502**

Dependable, low cost, tubeless device for automatic turn-on of lights as darkness approaches, turn-off when daylight returns. No setting or resetting needed. Light to be controlled is simply plugged into 6502 plug, which is then connected to any 110V, 60 cycle AC outlet. "Eye" of control is faced toward daylight. Maximum lamp load 300 watts; handles heavier loads by energizing auxiliary relays. Compact, sturdy bakelite case. Max. power consumption 2 watts. Ideal for controlling lights in store windows, outdoor telephones, greenhouses, poultry houses, porches, etc., and in many other commercial and industrial applications.

**All prices subject to change without notice.**

# SIGMA INSTRUMENTS, INC.



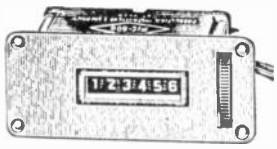
World Radio History

# PIC ELECTRIC COUNTERS and ACTUATORS

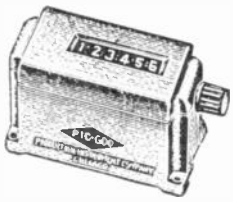
PIC *Production Instruments* G/C

DIVISION OF GENERAL CONTROLS CO.

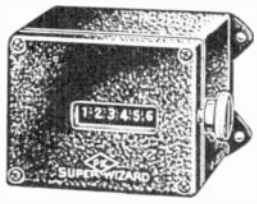
Skokie, Illinois



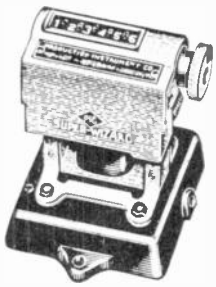
**PIC-600 Panelmount**



**PIC-600 Basemount**



**Super-Wizard Dustproof**



**Super Wizard Basemount**

PIC Electric Counters are actuated by electric impulses which may come from any suitable switch, relay photoelectric unit or other circuit breaking device. Counters rated for 1000 counts per minute (cpm) require .024 second minimum closed period and .036 second minimum open period for each count. Counters rated at 600 cpm require .040 second minimum closed period and .060 second minimum open period for each count. Additional models are available for other voltages from 12 to 230 v-ac, and for 115 or 230 volts d-c. Ask for PIC catalog E-100-A for complete information; or write to us for price and delivery.

## PIC-600 COUNTERS
### TO 999,999, WITH RESET

Compact and rugged construction for reliable, continuous operation in any position. Balanced armature permits airborne use. Conservative life rating 50 million counts. Counting rate 1000 cpm. (1600 cpm with electronic actuation.) Continuous duty coils consume 7 watts. Has white figures on black wheels. One-piece, die-cast dust resistant enclosure. Overall size: 6115A 3 1/2" x 1.668" x 2 1/2" high; P6115A has 4 7/16" x 1 7/8" panel, is 2 11/16" deep. For operation on 115 v-ac 60 cycles.

**6115A** For Base Mounting — **Net $18.50**
**P6115A** For Panel Mounting — **Net $19.50**

## MERCURY COUNTERS
### TO 9,999, WITH RESET

Small units for built-in applications, laboratory use and industrial service where the counting duty is moderate. Estimated life 6 million counts. Counting rate 600 cpm, higher with electronic actuation. Has white figures on black wheels. Coils consume 3 watts. Tamper-proof metal enclosure with plastic window. Basemount model is 2 1/4" x 1 7/8" x 2 15/64" high. Panel mount model is 2 27/64" deep, has panel 2 15/16" x 1 1/16" high. For operation on 115 v-ac 60 cycles.

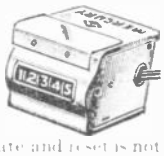
**MDA-S4-115A** Base Mount — **Net $14.00**
**MDB-S4-115A** Panel Mount — **Net $14.75**

## SUPER-WIZARD COUNTERS
### TO 999,999, WITH RESET

For industrial use where reliability, low up-keep and long life are requisites. Balanced armature permits operation in any position. Estimated life rating 200 million counts. Counting rate 1000 cpm. (1600 cpm with electronic actuation.) Has white figures on black wheels. Continuous duty coils consume 5 watts. Dust-proof model has gasket-sealed aluminum case 5 3/4" x 3 5/8" x 4 11/16" high. Base mount model is 4 3/4" x 3 5/8" x 5 11/16" high. For operation on 115 volts a-c 60 cycles.

**ECS-9** For Base Mount — **Net $38.50**
**DP1A-ESC9** Dust-Proof — **Net $47.25**

## MERCURY COUNTERS
### TO 99,999, NO RESET

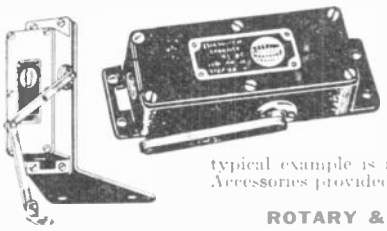


Counts to 99,999 and then repeats. Widely used in coin-operated vending machines, amusement machines, and similar applications where the counting duty is moderate and reset is not required. Estimated life 3 million counts. Counting rate 600 cpm. Operates in any position. Coil consumes 3 watts. Has white figures on black wheels. Tamper-proof metal enclosure with plastic window. Base mount model is 2 1/4" x 1 7/8" x 2 15/64" high. Panel mount model is 1 [illegible] x 2 15/64" x 1 1/16" high, requires 1 11/32" x 1 1/32" opening in panel. For 115 v-ac 60 cycle operation.

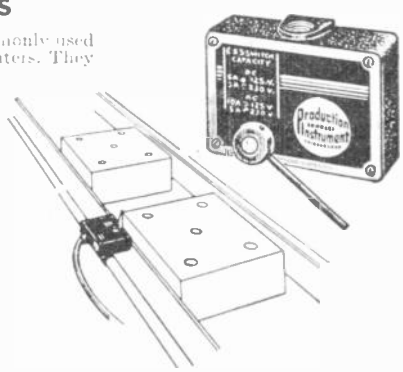
**MEA-N5-115A** Base Mount — **Net $4.40**
**MEB-N5-115A** Panel Mount — **Net $5.00**

SEND FOR CATALOG

## PIC ACTUATORS



These are a few of the more commonly used actuators for PIC Electric Counters. They may be easily adapted for use in the automatic processes employed in photographic printing, counting, packaging, bottling, sorting, etc. A typical example is illustrated with each actuator. Accessories provided are only those specified.



### ROTARY & RECIPROCAL ES-1A

At upper left. For heavy duty use on punch presses, printing presses, measuring machines, etc. Withstands continuous operation at relatively high speeds. Life expectancy 100 million counts. Minimum operating torque 2 inch-oz. Rated speed 600 rpm. Arm motion rotary or reciprocal, clockwise or counter-clockwise. In rotary operation SPST switch is closed 140° and open 220°. Reciprocal motion 20° minimum, 340° maximum, overthrow 10° to 60°. Arm position adjustable. Contact rating 10 amps. 115 v-ac. Overall size 6" x 1 7/8" x 1 9/16" deep. Furnished with arm, less bracket and link coupling shown at the left.

**Actuator ES-1A** — **Net $10.50**

### SENSITIVE ES-41

Widely used on folding machines. Requires only 3/4 in.-oz. torque. Arm motion; reciprocal 21° min., 59° max., overthrow 10° to 45°. Arm position adjustable, easily shortened or bent. Rated speed 300 cpm. SPST contacts rated 2 amps 115 v-ac. Body size 2 1/2" x 1 5/8" x 1 5/8" deep. Furnished with straight spring steel arm, 2 13/16" long.

**ES-41 Actuator** — **Net $7.00**

### HEAVY DUTY ES-5

Arm has spring return. For operation by boxes, cans, packages, etc. Minimum torque 3 oz-in. Arm motion; reciprocal, 31° min., 65° max., overthrow 10° to 42°. Arm position adjustable. Rated speed 300 cpm. SPST contacts rated 10 amps 115 v-ac. Body size 3 9/16" x 2 9/16" x 1 17/32". Furnished with lever as shown at the upper right.

**ES-5 Actuator** — **Net $8.50**

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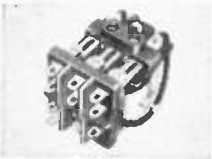
World Radio History

# Line Electric Company

## General Purpose Relays ★ Thermal Time Delay Relays

**Precision workmanship, skillful design, quality materials and quality control testing guarantee dependable performance of these relays. Used in lighting systems, signal devices, motor starting, heater loads, photographic applications, or any load circuit requiring fast, positive switching of A.C. or D.C. power.**

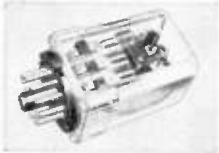
## General Purpose Relays



### MK-MKO OPEN TYPES

| SERIES | A.C. RELAYS 6, 12, 24, 115 230 V. - 60 Cy. | | D.C. RELAYS 6, 12, 24, 110V. | | CONTACT RATING 115 V. A. C. 60 Cy. Non-Inductive |
|---|---|---|---|---|---|
| **MK OPEN TYPES** | | | | | **5 AMPERES** |
| CONTACTS | TYPE | NET | TYPE | NET | |
| SPDT | MK1A | $2.95 | MK1D | $2.90 | Dimensions: 1-11/16 x 29/32 x 1-3/16 high |
| DPDT | MK2A | 3.55 | MK2D | 3.25 | Mounting: One 6-32 tapped hole. |
| 3PDT | MK3A | 3.95 | MK3D | 3.65 | Weight: 2½ oz. |
| **MKO HEAVY DUTY OPEN TYPES** | | | | | **10 AMPERES** |
| SPDT | MK01A | $3.00 | MK01D | $2.95 | Dim: 1-11/16 x 29/32 x 1-3/16 high. |
| DPDT | MK02A | 3.65 | MK02D | 3.35 | M'ting: One 6-32 tapped hole. |
| 3PDT | MK03A | 4.05 | MK03D | 3.80 | Weight: 2½ oz. |

Add 40c to net price for 230 V.A.C., 60 Cy. and 110 V.D.C. Relays



### MKP-MKH PLUG-IN TYPES

| SERIES | A.C. RELAYS 6, 12, 24, 115 230 V. 60 Cy. | | D.C. RELAYS 6, 12, 24, 110V | | CONTACT RATING 115 V.A.C. 60 Cy. Non-Inductive |
|---|---|---|---|---|---|
| **MKP PLUG-IN TYPES** | | | | | **5 AMPERES** |
| SPDT | MKP1A | $5.20 | MKP1D | $5.15 | Dim: 1⅜ x 1⅜ x |
| DPDT | MKP2A | 5.75 | MKP2D | 5.70 | 2⅛ high. |
| 3PDT | MKP3A | 7.15 | MKP3D | 7.10 | Weight: 3½ oz. |
| **MKH HEAVY DUTY PLUG-IN TYPES** | | | | | **10 AMPERES** |
| SPDT | MKH1A | $5.25 | MKH1D | $5.20 | Dim: 1⅜ x 1⅜ x |
| DPDT | MKH2A | 5.85 | MKH2D | 5.80 | 2⅛ high. |
| 3PDT | MKH3A | 7.30 | MKH3D | 7.25 | Weight: 3½ oz. |

Add 40c to net price for 230 V.A.C., 60 Cy. and 110 V.D.C. Relays

### SERIES LR

**RATING—10 Amperes**
**15 Amperes double break**

Dimensions: 2⅜ x 1½ x 1-13/16 high.
Mounting: Two holes tapped 6-32 on 2" centers.
Weight: 10 oz.

| Contacts | A.C. RELAYS 6-12-24-115-230 V. 60 C. Type | Net | D.C. RELAYS 6-12-24-115 V. Type | Net |
|---|---|---|---|---|
| SPST-NO-DB | LRAX | 3.60 | LRAY | 3.60 |
| SPST-NO | LRBX | 3.50 | LRBY | 3.50 |
| SPDT | LRCX | 3.75 | LRCY | 3.75 |
| DPST-NO | LRDX | 3.80 | LRDY | 3.80 |
| DPDT | LREX | 4.00 | LREY | 4.00 |

Add 40c to above prices for 220 V. A.C., 60c for 115 V. D.C.

### SERIES LG

**RATING—15 Amperes**

Dimensions: 3⅜ x 1½ x 1-13/16 high.
Mounting: Two holes tapped 6-32 on 2" centers.
Weight: 10 oz.

| Contacts | A.C. RELAYS 6-12-24-115-230 V. 60 C. Type | Net | D.C. RELAYS 6-12-24-115 V. Type | Net |
|---|---|---|---|---|
| SPDT | LG1A | 4.10 | LG1D | 4.00 |
| DPDT | LG2A | 4.75 | LG2D | 4.60 |
| 3PDT | LG3A | 5.60 | LG3D | 5.45 |

Add 40c to above prices for 220 V. A.C., 60c for 115 V. D.C.

### SERIES LGP

**RATING—15 Amperes**

Dimensions: 1⅞ x 2 x 3⅛ high.
Mounting: Plug-in, Standard Octal for LGP 1 and LGP 2, 11 Pin for LGP 3.
Weight: 14 oz.

| Contacts | A.C. RELAYS 6-12-24-115-230 V. 60 C. Type | Net | D.C. RELAYS 6-12-24-115 V. Type | Net |
|---|---|---|---|---|
| SPDT | LGP1A | 6.60 | LGP1D | 6.50 |
| DPDT | LGP2A | 7.75 | LGP2D | 7.60 |
| 3PDT | LGP3A | 9.10 | LGP3D | 8.95 |

Add 40c to above prices for 220 V. A.C., 60c for 115 V. D.C.

### SERIES LRP

**RATING—10 Amperes**
**15 Amperes double break**

Dimensions: 1⅞ x 2 x 3⅛ high.
Mounting: Plug-in Standard Octal for LRP 1 and LRP 2, 11 Pin for LRP 3.
Weight: 10 oz.

| Contacts | A.C. RELAYS 6-12-24-115-230 V. 60 C. Type | Net | D.C. RELAYS 6-12-24-115 V. Type | Net |
|---|---|---|---|---|
| SPST-NO-DB | LRP-AX | 6.10 | LRP-AY | 6.10 |
| SPST-NO | LRP-BX | 6.00 | LRP-BY | 6.00 |
| SPDT | LRP-CX | 6.25 | LRP-CY | 6.25 |
| DPST-NO | LRP-DX | 6.80 | LRP-DY | 6.80 |
| DPDT | LRP-EX | 7.00 | LRP-EY | 7.00 |

Add 40c to above prices for 220 V. A.C., 60c for 115 V. D.C.

## Plate Circuit Relays

| | Type | Ctks. | Res. ∿ | Pull-In | Net |
|---|---|---|---|---|---|
| MKC OPEN TYPES 5 AMPS | MKC-1 | SPDT | 2500 | 7.2 Ma. | 3.00 |
| | MKC-1 | SPDT | 5000 | 5.0 Ma. | 3.10 |
| | MKC-1 | SPDT | 10000 | 3.5 Ma. | 3.60 |
| | MKC-2 | DPDT | 2500 | 10.0 Ma. | 3.50 |
| | MKC-2 | DPDT | 5000 | 7.2 Ma. | 3.60 |
| | MKC-2 | DPDT | 10000 | 5.0 Ma. | 4.10 |
| | MKC-3 | 3PDT | 2500 | 12.0 Ma. | 3.90 |
| | MKC-3 | 3PDT | 5000 | 8.5 Ma. | 4.00 |
| | MKC-3 | 3PDT | 10000 | 6.0 Ma. | 4.50 |

| | Type | Ctks. | Res. ∿ | Pull-In | Net |
|---|---|---|---|---|---|
| MKF PLUG-IN 5 AMPS | MKF-1 | SPDT | 2500 | 7.2 Ma. | 5.30 |
| | MKF-1 | SPDT | 5000 | 5.0 Ma. | 5.40 |
| | MKF-1 | SPDT | 10000 | 3.5 Ma. | 5.90 |
| | MKF-2 | DPDT | 2500 | 10.0 Ma. | 5.45 |
| | MKF-2 | DPDT | 5000 | 7.2 Ma. | 5.55 |
| | MKF-2 | DPDT | 10000 | 5.0 Ma. | 6.05 |
| | MKF-3 | 3PDT | 2500 | 12.0 Ma. | 7.30 |
| | MKF-3 | 3PDT | 5000 | 8.5 Ma. | 7.40 |
| | MKF-3 | 3PDT | 10000 | 6.0 Ma. | 7.90 |

**ORDERING INFORMATION**

**WHEN ORDERING RELAYS OR BUZZERS PLEASE SPECIFY TYPE AND COIL VOLTAGES. SPECIFY LUGS OR LEAD FOR TYPE MA MB.**

Prices and Specifications are subject to change without notice.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World Radio History

Newark 3, New Jersey

AFFILIATE—INDUSTRIAL TIMER CORPORATION

LINE ELECTRIC CO.

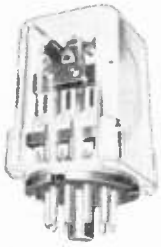
# ★ Buzzers ★ Foot Switches ★ Indicating Relays

## "Spot-Lite®" (PAT. PENDING) Indicating Relay

**Contact Rating**
5 Amperes—Resistive
2 Amperes—Inductive
**Contact Material**
5/32" Dia. Fine Silver
**Dimensions**

| Height | Width | Length |
|---|---|---|
| 2 1/8" | 1 3/8" | 1 3/8" |

**Mounting**
Standard RETNA Octal or Eleven Pin Base
**Weight**—3 ounces
**Neon Lamp**
Breakdown Voltage—65 Volts A.C.
90 Volts D.C.
**Incandescant Lamp**—Supplied on Type "A" Relays for 6, 12, 24 Volt use.
**Colored Styrene Cases**
Available in Green, Red, Blue, Purple and Amber.



General purpose plug-in relay, featuring a lamp to indicate circuit function.

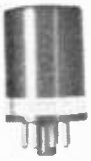
| Transparent Cases Clear or Colors | Contacts | Base | A.C. RELAYS 6, 12, 24, 115 230 V. 60 C. Model | Net | D.C. RELAYS 6, 12, 24, 110 V. Model | Net |
|---|---|---|---|---|---|---|
| TYPE "A" Neon Across Coil | SPDT | OCTAL | A-1A | 6.10 | A-1D | 6.05 |
| | DPDT | OCTAL | A-2A | 6.65 | A-2D | 6.60 |
| | 3PDT | 11 PIN | A-3A | 8.05 | A-3D | 8.00 |
| TYPE "B" Neon to N.C. Contact | SPDT | OCTAL | B-1A | 6.10 | B-1D | 6.05 |
| | DPDT | OCTAL | B-2A | 6.65 | B-2D | 6.60 |
| | 2-SPDT 1-SPST-N.O. | 11 PIN | B-3A | 8.05 | B-3D | 8.00 |
| TYPE "C" Neon to N.O. Contact | SPDT | OCTAL | C-1A | 6.10 | C-1D | 6.05 |
| | DPDT | OCTAL | C-2A | 6.65 | C-2D | 6.60 |
| | 2-SPDT 1-SPST-N.C. | 11 PIN | C-3A | 8.05 | C-3D | 8.00 |
| TYPE "D" Neon for External Use | SPDT | OCTAL | D-1A | 6.10 | D-1D | 6.05 |
| | DPDT | 11 PIN | D-2A | 6.85 | D-2D | 6.80 |

Add 40c for 230 V. A.C., 60 Cy. and 110 V. D.C. Relays.

## Thermaline® (PAT. PENDING)

### THERMAL TIME DELAY RELAYS

Submin. 7 & 9 Pin — $4.00



Octal — $5.25

7-Pin Hooked — $5.25

7 & 9 Pin Min. — $4.50

**Description**
"Thermaline" is a Thermostatically operated Time Delay Relay built to give long, trouble free service.

**Ordering information**—use the following code.

| Heater Voltage | Time Delay in Seconds | Contract Arrangement | Base Type |
|---|---|---|---|
| 115 | 180 | O | A |

**Contact Arrangement**— O—SPST—N.O.
C—SPST—N.C.

**KEY**
**Base Type**—
"A"—7 Pin miniature plug-in
"B"—8 Pin (octal) plug-in.
"C"—9 Pin miniature plug-in.
"D"—7 Pin hooked solder terminals with mounting flange.

**Heater Data**
Relays are available in these standard ratings: 2.5, 5.0, 6.3, 26.5, 48, 117 volts A.C., D.C. or pulsating current. Use a 115 volt Relay with a 3000 ohm 5 watt series resistance for 230 volt applications.
Maximum power requirements for "Thermaline" Relays is 4 watts.
Heater characteristics are such that a short time overload of 50% will not alter time setting.

**Operating Time**
Operating time tolerance with the designated heater voltage fixed is ± 10% at 20° C.
All "Thermaline" Relays are preset at the factory for any time delay setting covered by the following ranges:
1/4 second to 2 seconds — 1/4 second steps
2 seconds to 10 seconds — 1 second steps
10 seconds to 60 seconds — 5 second steps
60 seconds to 180 seconds — 10 second steps

**Contacts**
At this time only S.P.S.T., N.O. or N.C. contacts are available.
Contacts are 1/8 dia. fine silver and are rated 3 amperes at 115 volts 60 cycles non-inductive.

## Pedaline® FOOT SWITCH

Compact, light weight foot operated switch. For any electrically operated equipment.
**Dimensions:** 3 1/2" long, 2 5/8" wide, 1" high.
**Weight:** 7 oz. single, 7 1/2 oz. double.
**Contact Rating:** 5 amperes resistive at 115 and 230 volts 60 cycles.

**Model-PL1**
Basic switch with a single pole double throw momentary snap action contacts. $3.00
**Model-PL1C**
Single switch unit with a 6 foot 2 conductor line cord and a series plug. $4.25
**Model-PL5**
Contains two single pole double throw switches arranged so that a partial movement of the treadle will actuate the first switch. Then by added pressure the second switch will actuate. $4.55
**Model-PL5C**
Contains two switches which operate in sequence, same as Model PL5, with 6 foot 4 conductor line cord. $5.40

## PE Housings

Polystyrene, transparent plastic plug-in enclosures.
Available in clear and colors—Green, Blue, Red, Purple, Amber.
**Size:** 1 3/8 x 1 3/8 x 2 1/8.
**Weight:** Approx. 1 1/4 oz.

| Model | Net Price |
|---|---|
| PE-8 Octal Header | $ .50 |
| PE-11 Eleven pin Header | .65 |

## Latch Relay

### SERIES RL

**Voltage:** D.C.—6, 12, 24 and 110 V.
A.C.—6, 12, 24, 115 and 230 V.
**Power:** 2.7 watts min. 4 watts max.
**Resistance:** 16,000 OHMS max.

**Contacts:**
**Material:** fine silver for 5 Amp. units silver cadmium oxide for 10 Amp. units.
**Rating:** 5 and 10 Amps. at 115 V.A.C. non-inductive or 26.5 V.D.C.
**Arrangements:** up to 6 PDT.
**Mounting Dimensions:** 2-15/16 L., 1 3/8 W., 2 H.
**Mounting Data:** 2 holes 5/32 dia. on 1 3/8 centers.

## Industrial Type Buzzers

DIRECT TO LINE • TRANSFORMER UNNECESSARY
Available in the following AC Voltages: 6-12-24-115-230-460

TYPE MC—Encased Type Mini-Buzzer

**Dimensions:** 3 3/4 x 2 1/2 x 1 5/8 high.
**Mounting:** Two holes .156 dia. on 3-7/16 centers.
**Weight:** 12 oz.

- Ideally suited for paging systems, warning alarms, starting and dismissal signals.
- These A.C., non-contact type buzzers were designed to give a clear penetrating signal.
- Totally enclosed, ideal for external mounting.
- Finished in two-tone baked on grey enamel.
- Heavy gauge pressed steel base and cover.
- Snap on dust cover.
- Screw terminal connections for easier wiring. **NET PRICE $2.50**

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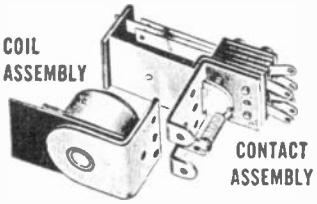
Net



World Radio History

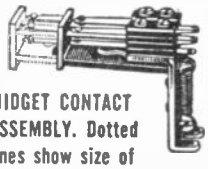
# GUARDIAN® Industrial Controls

## — Available Now from your Distributor —




## SERIES 200 INTERCHANGEABLE

Coil and contact assemblies for building your own relays. Many possible combinations are available, covering most electrical and electronic applications. Select the two basic parts, a coil assembly and a contact switch assembly, from the listing below. The coil assembly consists of the coil and the field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. Use contact switch parts to add poles. All contacts rated at 60 cycles A.C., non-inductive. Shipping weight, 4 oz., each unit. Standard contact assembly is 2⅞" long, 1¾" high, 1" wide. Midget assembly is 1⅝" long.



MIDGET CONTACT ASSEMBLY. Dotted lines show size of STANDARD unit.

### CONTACT SWITCH ASSEMBLIES

| | Net Price ea. |
|---|---|
| Type 200-1—Standard, SPDT, 8 Amps. | $1.33 |
| Type 200-2—Standard, DPDT, 8 Amps. | 1.81 |
| Type 200-4—Standard, DPDT, 12.5 Amps | 2.10 |
| Type 200-5—Standard, 4PDT, 8 Amps. | 3.28 |
| Type 200-M1—Midget, SPDT, 8 Amps. | 1.24 |
| Type 200-M2—Midget, DPDT, 8 Amps. | 1.63 |
| Type 200-M5—Midget, 4PDT, 8 Amps. | 2.70 |

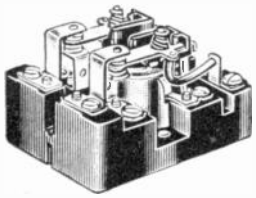
### A.C. COILS

| | Net Price ea. |
|---|---|
| 6 Volts | $1.63 |
| 12 Volts | 1.63 |
| 24 Volts | 1.63 |
| 115 Volts | 2.04 |
| 230 Volts | 2.69 |

### D.C. COILS

| | Net Price ea. |
|---|---|
| 6 Volts | $1.63 |
| 12 Volts | 1.63 |
| 24 Volts | 1.63 |
| 32 Volts | 1.63 |
| 110 Volts | 2.04 |
| 5000 for current type operation | 2.10 |

Type 200-3. Contact switch parts for adding poles to types 200-1 and 200-2. Net ea. $1.34
Type 200-M3. Midget contact switch parts for adding poles to types 200-M1 and 200-M2. Net ea. $1.34

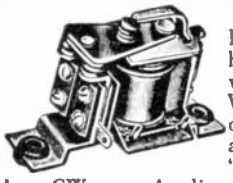


### POWER RELAY

New 25 Ampere A.C. Relay has DPDT contacts and a variety of completely interchangeable coil assemblies. By removing two easily accessible screws, coil can be replaced by another, from 6 V. to 230 V., A.C. Unit has screw terminals; contacts rated 25 amps., cont. duty at 230 V., A.C. with 75% power factor. Operating power requirement, 9.5 VA. Coil drain, approx. .080 amps. Applications: motor starting, heater loads, heavy duty controls. Size, 3⅜" x 2½" x 2 3/16". Shpg. wt., 11.5 oz.

| | | |
|---|---|---|
| 2200-U—6 V., 24 V., 115 V. | Net ea. | $6.00 |
| 2200-U—230 V. | Net ea. | 6.25 |
| Replacement Coils | | |
| 6 V., 24 V., 115 V. | Net ea. | 2.05 |
| 230 V. | Net ea. | 2.20 |
| Replacement Contact Switch Parts: | | |
| CS-2200—Right | Net ea. | 1.85 |
| CS-2200—Left | Net ea. | 1.85 |

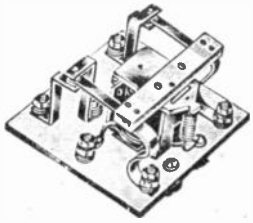
### KEYING RELAY



Low voltage relay controlling high voltage transmission. Unit will follow key or bug at highest WPM rate obtainable. High speed of response, plus strong magnet and return spring, gives clean "make" and "break," producing best CW note. Applications—Control of transmitters using filament center tap keying of any stage having up to 2000 volts on plate, primary keying or control of power supplies up to and including 1000 watts and grid controlled rectifier keying of 3000 volts power supplies. Contact points can handle 2500 watts or 20 amperes at 115 volts or 230 volts, 60 cycles, non-inductive AC Size, 3" l. x 1-15/16" h. x 1½" w. Shpg. wt., 4 oz.

**K-320 6 volts, 60 cycles A.C.** ..... **Net ea. $3.74**

### ANTENNA RELAY



The A-300 Relay is designed for low loss antenna change-over operation. The straight line positioning of screw terminals and contact springs maintains equal spacing through the relay from transmission line to transmitter. This reduces impedance mismatch to a minimum. Silver contacts, low loss Mycalex insulation; Mycalex base, contact bar. Will withstand 3000 volts to ground. Coil operates on 110 volt, 60 cycles A.C. Consumes 7 V.A. Applications: Radio—used in circuits of any transmitter having up to 1 KW input power; Industrial—widely used for high frequency heat treating and short wave therapy control. Size, 3" l. x 2-1/16" h. x 3" w. Shpg. wt., 7 oz. **A-300** ..... **Net ea. $7.57**

### TIME DELAY

Thermostatically controlled unit. Time delay adjustable between 10 and 60 seconds on operating cycle. Contact capacity, 1250 on 115 volts, 60 cycles, non-inductive A.C. Can also be used in A.C. primary, inductive power up to 1 KW. Single pole, single throw. Power requirements, approximately 12.5 VA. during thermostat operation, 6 VA. after closing. Applications: Radio—in transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated; Industrial—any control problem requiring the changing of circuits after a predetermined interval. Unit enclosed in metal box, size 5¼" l. x 2½" h. x 3" w. Shpg. wt., 8 oz.

**T-210** ..... **Net ea. $10.73**

### Engineer's CONTACT SWITCH KIT

Indispensable to those who design, build, repair or test electrical controls. Contains large assortment of switch blades, contacts, separators, adapters, fish papers, bushings, etc. All standard high-quality Guardian parts.

**Engineer's Switch Kit** ..... **Net ea. $9.95**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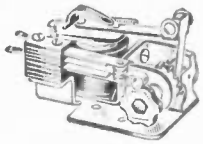
World Radio History

# GUARDIAN® *Highest Quality*

## RELAYS • SOLENOIDS • STEPPERS

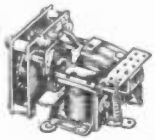
### RATCHET RELAYS



Remote control locking relays, momentary impulse type. Coil circuit requires energization only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts. Heavy ¼" silver contacts carry 1500 watts, non-inductive; 1000 watts, inductive. High test bakelite insulation. All ratings at 60 cycles A.C., non-inductive. Applications: Break-in control; phone to CW switching. Any circuit control where locking and on-off circuits are required. Size (SPST) 3¼" l. x 2" h. x 2-3/16" w. Shpg. wt. 8 oz.

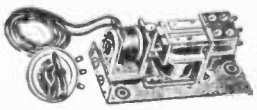
| | | | |
|---|---|---|---|
| RC-100-AR | 4PST | 115 volt | Net ea. $5.96 |
| RC-100-BR | SPDT & DPST | 115 volt | Net ea. 6.21 |
| RC-100-CR | SPDT | 115 volt | Net ea. 5.75 |
| RC-100-GR | DPDT | 115 volt | Net ea. 5.83 |

### MIDGET STEPPER

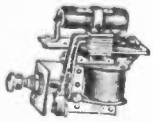


Mechanical lock of this Electrical Reset Stepper keeps the reset magnet open allowing the ratchet to reset freely on a slight electrical pulse of 10 ms. The stepping magnet releases the lock mechanism on the first step and the unit is ready for re-cycle. Disc has 24 points, 21 active. Rated up to 10 steps per second. Contacts "make" and "break" at 1 amp., 115 volts, 60 cycles A.C., non-inductive. Size, 3¼" l. x 2-3/16" h. x 3¼" w. Shpg. wt., 13 oz.

MS-115 ..... Net ea. $12.18



X-300-ER



X-100

### OVERLOAD RELAYS

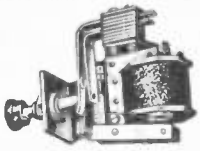
**X-300-ER** gives positive protection against current surges or continuous overloads when coil is used in series with high voltage plate supply leads. Relay contacts open to break primary circuit of high voltage power supply and remain open until reset. This model operates on any current value from 250 to 750 ma. Auxiliary contacts for pilot light indicate "overload" or "clear" position. Reset relay can be operated from any position. Applications—excellent for industrial panel installation for remote protection of machines and replacing fuses. Size, 4¾" l. x 2" h. x 1-15/16" w. Shpg. wt., 12 oz.

X-300-ER ..... Net ea. $7.69

**X-100** relay replaces expensive, time-wasting fuses, provides flexible control of current flow. Large, fine silver contacts rated for 1500 watts on 115 volts, 60 cycles, non-inductive A.C. and in A.C. primary circuits of any inductive power supply up to 1 KW. Coil is adjustable to operate on any current flow from 250 to 650 mils. Applications: Overload protection in circuits with varying current demand, such as oscillators, amplifiers, induction welders and electronic computers. Size, 4" l. x 3½" h. x 2½" w. Shpg. wt., 12 oz.

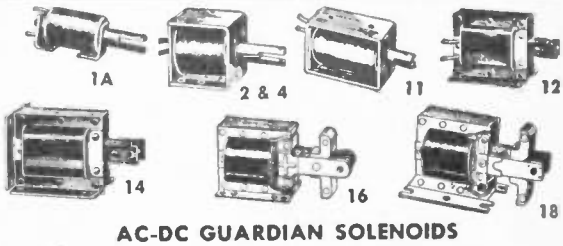
X-100 ..... Net ea. $11.85

### OVERLOAD RELAYS



These rugged units provide accurate, fixed circuit protection. Oversized silver contacts can take severe overloads without damage. Rated for 1500 watts on 115 volts, 60 cycles, A.C., non-inductive or 1 KW in A.C. primary circuits. L-250 is set to act at 250 ma. overload current; L-500 at 500 ma. overload. Applications: Radio—fixed overload protection against surges and overloads (where current values are constant, this removes possibility of accidental misadjustment); Industrial—wherever completely mechanical reset that has to be reset at point of operation is desired. Size, 3¾" l. x 1¾" h. x 2½" w. Shpg. wt., 11 oz.

L-250 ..... Net ea. $8.92
L-500 ..... Net ea. 8.92




### AC-DC GUARDIAN SOLENOIDS

Available in both intermittent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C. above 24° C. ambient rating without giving sufficient time to cool between operation cycles. Continuous duty types are designed so they will not rise more than 85° C. above the 24° C. ambient temperature rating when operated at rated load. Plunger has slotted end with ⅛" diameter hole for coupling. In chart, (I) indicates intermittent duty type, (C) indicates continuous duty type.

| Type | Volts | Duty | Ohms | Amps. | Adj. Stroke (Inches) | *Max. Lift (Ozs.) ⅛" Stroke | NET |
|---|---|---|---|---|---|---|---|
| Type 1A. Size: 1¾" l. x 1 1/16" h. x 15/16" w. | | | | | | | |
| 1A | 117 AC | I | 300 | .17 | ⅛– ½ | 8 | $2.48 |
| 1A | 117 AC | C | 675 | .076 | ⅛– ½ | 3 | 2.48 |
| Type 2. Size. 1 9/16" l. x 1 5/8" h. x 1 7/16" w. | | | | | | | |
| 2 | 117 AC | I | 60 | .50 | ⅛– ⅞ | 27 | 2.90 |
| 2 | 117 AC | C | 166 | .155 | ⅛– ⅞ | 10.5 | 2.90 |
| Type 4. Size: 2" l. x 1 5/8" h. x 1 7/16" w. | | | | | | | |
| 4 | 117 AC | I | 37 | .64 | ⅛–1⅛ | 24 | 3.13 |
| 4 | 117 AC | C | 133 | .14 | ⅛–1⅛ | 6 | 3.13 |
| Type 11. Size: 15/16" l. x 1 3/16" h. x 1 27/32" w. | | | | | | | |
| 11 | 6 DC | I | 2.0 | 3.00 | ⅛–1 | 39 | 3.08 |
| 11 | 6 DC | C | 4.5 | 1.35 | ⅛–1 | 21 | 3.08 |
| 11 | 24 DC | I | 32 | .750 | ⅛–1 | 39 | 3.08 |
| 11 | 24 DC | C | 80 | .30 | ⅛–1 | 21 | 3.08 |
| Type 12. Size: 1 5/8" l. x 1 7/16" h. x 1 3/16" w. | | | | | | | |
| 12 | 117 AC | I | 100 | .27 | ⅛–1 | 32 | 3.88 |
| 12 | 117 AC | C | 150 | .155 | ⅛–1 | 22 | 3.88 |
| Type 14. Size: 2 3/16" l. x 2 5/16" h. x 1⅞" w. | | | | | | | |
| 14 | 117 AC | I | 11 | 1.4 | ⅛–1½ | 110 | 5.61 |
| 14 | 117 AC | C | 18 | .52 | ⅛–1½ | 65 | 5.61 |
| Type 16. Size: 1 5/8" l. x 1 7/16" h. x 1 1/8" w. | | | | | | | |
| 16 | 115 AC | I | 41 | .540 | ⅛– ⅝ | 96 | 3.48 |
| 16 | 115 AC | C | 85.2 | .21 | ⅛– ⅝ | 55 | 3.48 |
| 16 | 230 AC | I | 224 | .215 | ⅛– ⅝ | 96 | 3.65 |
| 16 | 230 AC | C | 350 | .110 | ⅛– ⅝ | 55 | 3.65 |
| Type 18. Size: 2½" l. x 2 1/16" h. x 1 13/16" w. | | | | | | | |
| 18 | 115 AC | I | 8.8 | 1.45 | ⅛–1 | 304 | 4.88 |
| 18 | 115 AC | C | 19.7 | .39 | ⅛–1 | 145 | 4.88 |
| 18 | 230 AC | I | 45.2 | .59 | ⅛–1 | 304 | 5.10 |
| 18 | 230 AC | C | 78.2 | .20 | ⅛–1 | 145 | 5.10 |

*Pull data obtained during "cold" operation.

## GUARDIAN ELECTRIC MANUFACTURING COMPANY

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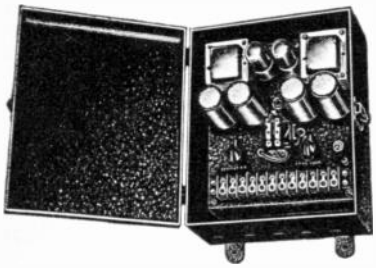
World Radio History

## ELECTRONICALLY OPERATED RELAYS MODEL 63



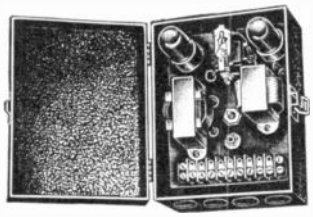
Especially designed for use with a correct combination of the standardized Worner Photo-Cell and Exciter Lamp units shown at right. Will operate also from light sources such as daylight, artificial lights, radiant energy, etc.

Model 63 Electronically Operated Relay is a specially engineered, highest quality unit. It enjoys wide preference as it efficiently meets exacting requirements and replaces the need of costly individually engineered equipment. Technical details on request.

### ELECTRONICALLY OPERATED RELAYS

| | Price, Each |
|---|---|
| Model 63, Described Above | $137.50 |
| Model 63-A, combines Model 63 and Time Delay Circuit giving delay from zero to 45 seconds | $162.40 |
| Model 63-B, same as Model 63 with additional amplification to operate on less active change of light | $162.40 |
| Model 63-C, same as Model 63 but operates with "on" light | $137.50 |

## ELECTRONICALLY OPERATED RELAY MODEL 64



An economical unit for practically any industrial application where cost is a factor. Designed for use with a combination of standardized Worner Photo-Cell and Exciter Lamp units shown at right.

Model 64 Electronically Operated Relay... each $91.20

## EXCITER LAMP & PHOTO-CELL RECEIVER UNITS

***For Use With Models 63, 63-A, 63-B, 63-C and 64 Electronically Operated Relays***

**NOTE: "Exciter Lamp" and "Light Source" Mean the Same.**

Model 33

Model 23

Model 31

Model 21

The Exciter Lamp unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the beam and convert its light into electrical energy through the Electronically Operated Relay unit.

Model 33 Exciter Lamp Unit is "standard" for general applications. Its light beam covers a distance from a few inches to 10 feet from Exciter Lamp Unit to Photo-Cell Unit. Heavy duty cast iron unit with ½-inch conduit fittings. Gray finish.

Model 23 Photo-Cell Receiver is engineered for use with Model 33 Exciter Lamp. Same case specifications.

For use in damp surroundings, Models 33 and 23 can be made moisture-proof at slight additional cost.

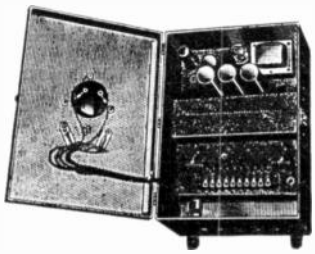
Model 31 Exciter Lamp Unit is "standard" where a lighter weight case is practical. Its light beam covers a distance from a few inches to 15 feet from Exciter Lamp Unit to Photo-Cell Unit. Case is 18 gauge steel, gray wrinkle finish. Has ½-inch knockout.

Model 21 Photo-Cell Receiver is engineered for use with Model 31 Exciter Lamp. Same case specifications.

| Model No. | Description | Size, Inches | Price, Each |
|---|---|---|---|
| 33 | Exciter Lamp Unit | 4¼ x 2¾ x 2¾ | $21.32 |
| 23 | Photo-Cell Receiver | 4¼ x 2¾ x 2¾ | 26.60 |
| 31 | Exciter Lamp Unit | 6⅝ x 2 x 1¾ | 15.20 |
| 21 | Photo-Cell Receiver | 6⅝ x 2 x 1¾ | 20.90 |

## FOTOLECTRIC COMBUSTION SUPERVISOR

A three-piece set: consisting of Exciter Lamp, Photo-cell Receiver and a choice of three Electronically Operated Relay units. Operates on the smoke detection principle. Dependably sets into operation the controls that maintain combustion efficiency.



**MODEL 71A.** Used as alarm, and to actuate combustion control equipment.

**MODEL 71B.** Has input time delay to prevent needless operation from voltage drop, etc.

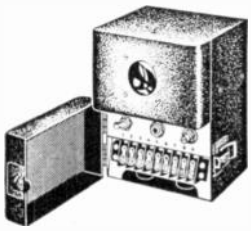
**MODEL 71C.** Same as 71B plus additional time delay holding circuit.

## FOTOLECTRIC FIRE PROTECTION

**The Worner Fan Motor Stop** installed on ventilating ducts detects smoke, gives alarm, stops fan to prevent fan-driven fire to a succession of outbreaks. Approved by Underwriters Laboratories. Write for Bulletin 650.

## MODEL 62 R & L. A TWO-UNIT SET

**Model 62-L Exciter Lamp**
*(Light Source Unit)*



**Model 62-R Electronically Operated Relay Unit**

This "two-unit" set has specially designed Light Source Unit and an Electronically Operated Relay unit that includes the Photo-Cell Receiver, Relay and other electrical components. This combination has proved efficient for countless simple applications for distances from a few inches to 75 feet or where Relay is not required to operate in excess of 400 times a minute. Light intensity is variable and adjustable. Supervises efficiently on simple applications such as: Counting or sorting large objects; limit switches; start and stop operations; opening doors, etc.

Model 62-R has split hinge front easy access for installation and regulation, yet shielding central mechanism.

| | | |
|---|---|---|
| Model 62 R & L "Two-Unit Set" | per set | $104.60 |
| Model 62-R Electronically Operated Relay | each | 88.32 |
| Model 62-L Exciter Lamp Unit | each | 28.98 |



Prices slightly higher West of Rockies

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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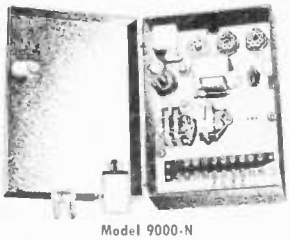
World Radio History

## FOTOLECTRIC BURGLAR ALARM SYSTEMS

**MODEL 9000 SERIES.** The Worner Master Control System consists of a Master Control Panel used in combination with 1, 2, 3 or 4 Fotolectric Sets. (Each Fotolectric Set consists of Exciter Lamp for invisible beam and Photo-cell). Operates alarms the user installs. May be used with foil systems, etc. Sets off alarm if wiring of Fotolectric Set is tampered with.

**MODEL 9000-N Master Control Panel** prevents false alarm if power fluctuates 5 volts or more. If power fails completely, the unit automatically resets supervision when power is restored.



Model 9000-N

Relays controlled by a switch. For 110-120 V. Panels are supplied with plate relays for the number of Fotolectric Sets ordered. Should Fotolectric Sets be added later, plug-in relays are supplied with Fotolectric Sets ordered. 9000-N Master Control Panel ..... ea. $81.40

Sets for 150', 250', and 500' have unwanted light rejector which increases day-light range. Ranges listed are for infra-red light.

| Model No. | Fotolectric Set | Range | Per Set |
|---|---|---|---|
| 9100 | Master Trespass Trap..... | 100 ft. | $104.80 |
| 9150 | Master Trespass Trap..... | 150 ft. | 120.00 |
| 9250 | Master Trespass Trap..... | 250 ft. | 158.00 |
| 9500 | Master Trespass Trap ..... | 500 ft | 195.00 |

**MODEL 7000 SERIES** operates with burglar alarm company's central office control, police signal or local alarm. The Relay may be connected either in series or parallel to meet circuit requirements. One or more Fotolectric Sets (illustrated below) can be used and can be operated by an existing control panel. Can be used with foil systems, etc. For 110-120V or 24V.

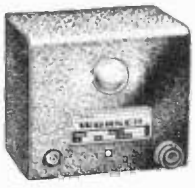
| Model No. | Fotolectric Set | Range | Per Set |
|---|---|---|---|
| 7100 | Remote Cont. Trespass Trap | 100 ft. | $104.80 |
| 7150 | Remote Cont. Trespass Trap | 150 ft. | 120.00 |
| 7250 | Remote Cont. Trespass Trap | 250 ft. | 158.00 |
| 7500 | Remote Cont. Trespass Trap | 500 ft. | 195.00 |

**MODEL 5000 SERIES** for 100' range and 150' range for interior use where a single beam is ample protection. Not intended for use with foil systems, etc. The Electronically Operated Relays of this series are equipped with lock and key. 110V. Illustrated below.

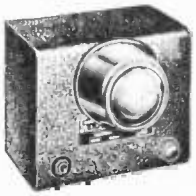
| Model No. | Fotolectric Set | Range | Per Set |
|---|---|---|---|
| 5100 | Single Beam Trespass Trap.... | 100 ft. | $107.80 |
| 5150 | Single Beam Trespass Trap.... | 150 ft. | 124.00 |

### FOTOLECTRIC SETS FOR ABOVE SYSTEMS

Exciter Lamp (Light Source Unit) 100' and 150' range



Electronically Operated Relay for 100 ft. Range.



Electronically Operated Relay for 150 ft. Range.

Exciter Lamps (Light Source Units) and Electronically Operated Relays for 250' and 500' ranges are externally the same and are weather-proof.

## THE TWO-UNIT WORNER WATCHMAN

Operation is activated by the interruption of an "invisible" light beam as the Exciter Lamp is equipped with removable infra-red filter. Range up to 35 feet for black light, 50 feet for white light.

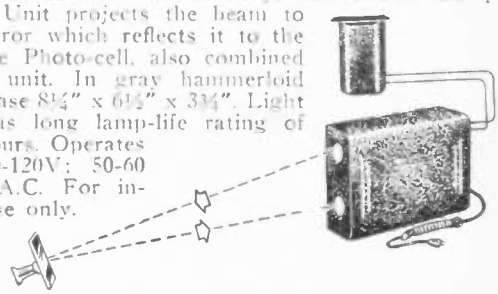
The Electronically Operated Relay combines Photo cell and electrical components. Equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Has extraneous light rejector to maintain daylight range. Two-piece case construction enables removal of cover for easy installation; also for accessibility to interior without unmounting. Identical cases 5" x 5" x 5½" welded steel, mahogany hammerloid finish. For indoor use; 110-120V. 60 cycle A.C.

**MODEL 4000** Two-Unit Watchmen.....per set $64.00

## THE ELECTRONIC RECEPTIONIST

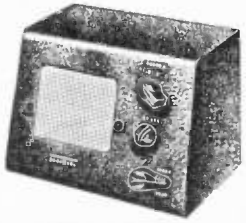
This complete three-piece set is designed to project a beam of light across any entrance to any room or building. Breaking of this light beam by person entering activates a pleasant chime, which can be located remotely wherever the signal is desired.

The unit has efficient grid controlled rectifier circuit which insures maximum stability. The Exciter Lamp in the Unit projects the beam to the mirror which reflects it to the sensitive Photo-cell, also combined in the unit. In gray hammerloid metal case 8¼" x 6½" x 3¾". Light bulb has long lamp-life rating of 1000 hours. Operates on 110-120V; 50-60 cycle. A.C. For indoor use only.



**MODEL 61** Fotolectric Announcer, three-piece set including Unit, Mirror and Chime..... Set, each $44.00

## WORNER COMMUNICATING SYSTEMS



Models P-359, P-353

Model P-360

All units operate up to 2000 feet apart. Persons at Sub-stations may answer without leaving work, from as far away as 25 feet. "Silent feature" shuts out noise in vicinity at Station. 110-120, A.C. or D.C. — Metal cabinets, hammered walnut lacquer finish.

**MODEL P-359** Selective Master Station. Handles 1 to 5 Sub-stations. Contains 5-inch speaker for maximum input without talking directly into unit. Size 9 x 6¼ x 6 in. .....each $34.75

**MODEL P-353** Combination Master Station. 2 to 5 units may be used, in any combination of Masters to Masters, or Masters to Sub-stations. 5-inch speaker. each $47.50

**MODEL P-360** Sub-station. Has 5-inch speaker. Talk-listen switch used by Sub to originate call. Size: 7½ x 4 x 6 in. .....each $11.50

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Prices slightly higher West of Rockies

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

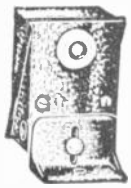


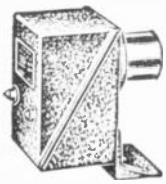
World Radio History

# AUTOTRON Photoelectric Controls

AUTOTRON, INC. DANVILLE, ILL.

## S SERIES PHOTOELECTRIC CONTROLS

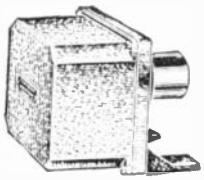




Rugged, industrial quality controls preadjusted for use with 100% light beam interruption. Used for counting and control applications where phototube dark time and phototube light time each is .060 second or more. Plate Relay: Energized when light beam is interrupted. Contacts SPDT, rated 5 amps. at 115 v., AC, noninductive load. Splashpr of cast aluminum case with adjustable mounting bracket, tapped for ½" conduit. Power consumption 10 watts.

**S1A Photoelectric Control** –Requires 20 foot-candle minimum light. Lens diameter ¾". 115 230 v. 50-60 cycles. Net Each **$38.75**
**S1AR**—S1A with built-in Safety Relay* 115 or 230 v. 50-60cycles (specify). Net **$50.75**
**S2A Photoelectric Control** —Requires 10 foot-candles minimum light. Lens diameter 1½". 115 230 v., 50-60 cycles. Net Each **$45.00**
**S2AR**—S2A with built-in Safety Relay* 115 or 230 v., 50-60 cycles (specify). Net **$57.00**

## F SERIES PHOTOELECTRIC CONTROLS

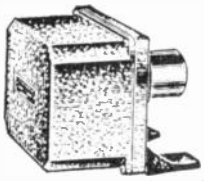


"Fail Safe", sensitive, high speed. Widely used where "safe" relay action is required in case of tube failure, where light change is limited, and where phototube dark time or light time is short. Special, quick response DC circuit permits speeds to 1200 operations (cycles) per minute. Sensitivity adjustment inside case inhibits tampering. Shaftlock secures setting. Minimum light, 5 foot-candles. Minimum phot tube dark time, .025 second; minimum phototube light time, .025 second.

Plate Relay: Contacts DPDT, rated 8 amps. at 115 v., AC, noninductive load. Splashproof cast aluminum case tapped for ½" conduit. Rigid mounting feet. Lens dia. 1½". 115/230 v. 50-60 cycles. Power consumption, 20 watts.

**F1A Photoelectric Control.•** Plate Relay energizes when the light beam is on the phototube and all tubes are operating. De-energizes when light beam is interrupted, when a tube filament fails or any tube loses emission.
Used where the phototube normally sees light, such as high level bin control, travel-limit, SAFETY controls, combustion controls, smoke detection, and for repetitive type applications. **$67.50**
Net Each.....
**F1ARW•**—F1A with built-in SAFETY RELAY and warm-up protection† (prevents operation before tubes warm-up).
Net Each..... **$79.50**
**F2A Photoelectric Control•.** Plate Relay energizes when the light beam is interrupted. De-energizes when the light beam is on the phototube, when a tube filament fails or the power or rectifier tube loses emission.
Used for counting, or where the phototube is normally dark, such as web breakage detection, low level bin control, certain types of die protection. Net Each..... **$67.50**
**F2ARW•**—F2A with built-in Safety Relay and warm-up protection. Net Each..... **$79.50**

## T SERIES TIMING CONTROLS



For photoelectric Control applications requiring delayed plate relay response to light change, such as conveyor jam-up, merging conveyors, paint spraying, processing and counting where phototube dark time or light time is too short.

Plate Relay: Contacts DPDT, rated 8 amps. at 115 v., AC, noninductive load. Time delay adjustment has shaft lock to secure setting.

Splashproof cast aluminum case tapped for ½" conduit. Lens diameter 1½". 115/230 v., 50-60 cycles. Power consumption, 20 watts.

**T2A Photoelectric Timing Control:** Plate relay energizes when light is on the phototube, de-energizes when the light beam is interrupted and the timing period expires. Timing accuracy 3%. Minimum light, 20 foot-candles.

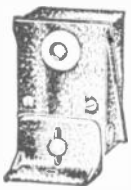
| Adjustable Timing Ranges (specify) | Minimum Phototube Light Time |
|---|---|
| No. 1. .25 to 3 seconds | .25 second |
| No. 2. 1.25 to 10 seconds | .5 second |
| No. 3. 3.0 to 20 seconds | 1.0 second |

**T2A Photoelectric Timing Control†**— **$72.50**
Net Each.....
**T2ARW•**—T2A with SAFETY Relay and warm-up protection†.
Net Each..... **$84.50**
**T3A Photoelectric Timing Control.** Plate relay energizes when light is on the phototube and timing period expires. De-energizes when the light beam is interrupted. Timing accuracy, 2%. Minimum light, 10 foot candles.

| Adjustable Timing Ranges (specify) | | | | |
|---|---|---|---|---|
| No. 0 1 | .03 second | to | 0 1 second | |
| No 0 5 | .25 second | to | 8.0 seconds | |
| No 1. | .5 second | to | 15 seconds | |
| No 2. | 1 second | to | 30 seconds | |
| No 3 | 5 seconds | to | 10 minutes | |

**T3A Photoelectric Timing Control•**— **$72.50**
Net Each.....
**T3AR, T3A with Safety Relay*†**—Net Each..... **$84.50**

## L1A LIGHT SOURCE



Has ¾" OD straight, fixed beam conservatively rated as follows—

| | | | | |
|---|---|---|---|---|
| Foot-Candles | 20 | 10 | 5 | 2 |
| Distance in feet | 8 | 12 | 15 | 18 |

Dustproof, cast aluminum case. Adjustable bracket. Tapped for ½" conduit. 115/230 v., 50-60 cycles.

| Model | Features | Net |
|---|---|---|
| L1A | Light Source only | $14.30 |
| L1AY | Y feature (beam int. adj.‡) | 21.80 |
| L1AR | R feature (safety relay**) | 26.30 |
| L1ARY | R and Y features | 33.80 |

## L2A LIGHT SOURCE

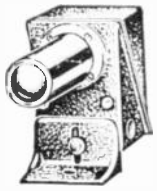
Has 1½" OD straight, fixed beam conservatively rated as follows—

| | | | | |
|---|---|---|---|---|
| Foot-Candles | 20 | 10 | 5 | 2 |
| Distance in feet | 13 | 20 | 30 | 45 |

Splashproof, cast aluminum case. Adjustable bracket. Tapped for ½" conduit. 115/230 v., 50-60 cycles.

| Model | Features | Net |
|---|---|---|
| L2A | Light Source only | $21.80 |
| L2AY | Y feature (beam int. adj.‡) | 29.30 |
| L2AR | R feature (safety relay**) | 33.80 |
| L2ARY | R and Y features | 41.30 |

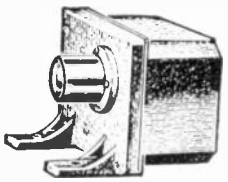
## L3A ADJUSTABLE FOCUS LIGHT SOURCE



Light beam adjustable from a minimum focal length of 4¾" and corresponding focal size of 1/16" x ¼" to a straight light beam of 1½" OD. Light input at twice the focal distance exceeds 30 foot-candles. Increasing the focal length increases the focal size. For example, at 6" focal length the focal size is ½" x 3/16"; at 9" focal length the focal size is ¾" x 3/16" and at 12" focal length the focal size is 1½" (straight light beam).
Splashproof, cast alum. case; adjustable bracket, tapped for ½" conduit. 115 230 v., 50-60 cycles.

| Model | Features | Net |
|---|---|---|
| L3A | Light Source only | $29.30 |
| L3AY | Y feature (beam int. adj.‡) | 36.80 |
| L3AR | R feature (safety relay**) | 41.30 |
| L3ARY | R and Y features | 48.80 |

## L4 DUAL FILAMENT LIGHT SOURCE

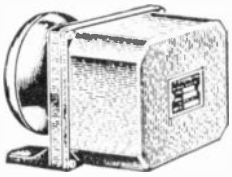


Has a prefocused two-filament lamp for protection against shutdowns. When one filament fails, the other "comes on" automatically—operation is not interrupted—and a signal lights up in the case, indicating the lamp should be replaced. Has 1½" OD straight, fixed beam, with normal and low voltage connections.

| | | | | |
|---|---|---|---|---|
| Foot-Candles | 20 | 10 | 5 | 2 |
| Distance in feet–Normal | 7 | 12 | 17 | 21 |
| –Low* | 2 | 4 | 6 | 12 |

*Used at short distances to further increase lamp and tube life.
Splashproof, cast alum. case; rigid mounting, tapped for ½" conduit. 115 230 v., 50-60 cycles.
**L4 Dual Filament Light Source**—Net Each..... **$49.50**

## L6 HIGH INTENSITY LIGHT SOURCE



Developed for extremely adverse conditions such as steam, vapor, fog, heavy rainfall and other applications where extra light intensity is needed.
Has high intensity spot beam with normal and low voltage connections affording two foot-candle-distance ratings as follows:

| | | | | |
|---|---|---|---|---|
| Foot-Candles | 20 | 10 | 5 | 2 |
| Distance in ft.–Normal | 30 | 42 | 57 | 85 |
| –Low | 18 | 25 | 31 | 40 |

The lamp assembly is swivel-mounted in the case for convenient directional adjustment of the beam.
The lamp is a No. 4515 sealed-beam spot; average life, 3000 hours at normal 10,000 hours at low voltage, replacement cost, $1.95. Case is splashproof, cast aluminum; rigid mounting, tapped for ½" conduit. 115 230 v., 50-60 cycles, standard.
**L6 High Intensity Light Source**—Net Each..... **$36.00**

### FOOTNOTES

*The Safety Relay may be used to control a machine, operate a signal or other safety circuit when a tube filament burns out. Energizes when power comes on the photoelectric control; de-energizes when power goes off or a tube fails. Contacts are SPDT, rated at 5 amperes, 115 v. AC, noninductive load.
†The Safety Relay with warm-up protection **energizes after the photoelectric control tubes warm up to operating temperature.** Otherwise same as 1 above.
•Available with built-in heating element at $7.50 extra. Heats inside case during shut down periods. Used where humidity and temperature change are excessive.
‡Safety Relay energizes when the lamp comes on, de-energizes when the lamp fails or goes off. Otherwise same as * above.
**Has a built-in adjustable resistor. Permits adjustment to minimum intensity required for reliable operation—thus prolonging life of tube and lamp.

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World Radio History

*Superior . . .* **RIPLEY COMPANY, INC.** **RIPLEY** ESTABLISHED 1936 *through Research* **MIDDLETOWN, CONN.**

# ELECTRONIC CONTROLS & DEVICES

## SUNSWITCH LIGHT CONTROLS

The SUNSWITCH uses an amplifier and phototube that responds to the foot candle value of daylight. When illumination falls below a pre-determined value, the lights are turned on. When the illumination has increased to the correct value, the lights are automatically turned off. Applications are numerous — Street Lights, Radio and TV Towers, Signs, Factories, Construction Work, Airports, Railroads, etc. Mounted in standard watt-hour meter case or in extruded aluminum housing.

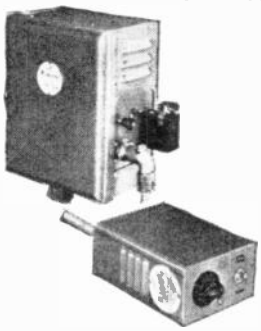
8500 SERIES

| Model No. | Voltage 50/60 Cy. | Setting F.C. | Turn-on Range in F.C. | Load Relay* | Rated Load (Watts) | List Price |
|---|---|---|---|---|---|---|
| 8239-A | 110-220 | 1 | 1-10 | SP ST DB | 3000 WTS. | $60.00 |
| 8239-B | 110-220 | 1 | 1-10 | SP ST | 500 WTS. | 52.50 |
| 8500-M | 110 | 1 | 1-10 | SP ST DB | 3000 WTS. | 44.00 |
| 8500-M1 | 220 | 1 | 1-10 | SP ST DB | 3000 WTS. | 44.00 |
| 8500-M2 | 110 | 1 | 1-10 | SP ST DB (2 circuit ea.) | 3000 WTS.110V (ea. circuit) | 57.00 |
| 8500-M3 | 220 | 1 | 1-10 | SP ST DB (2 circuit ea.) | 3000 WTS.110V (ea. circuit) | 57.00 |
| 8500-CM | 110 | 1 | 1-10 | SP DT DB | 3000 N/C 3000 N/O | 46.00 |

* SP—Single Pole; ST—Single Throw; DT—Double Throw; DB—Double Break N/C—Normally Closed; N/O—Normally Open; FC—Foot Candle

8239 SERIES

## REGISTRATION CONTROLS



This highly sensitive Registration Control responds to all colors — insures accurate control of register in printing, packaging, wrapping, cutting, etc. No change in method of scanning required to switch from opaque to translucent or transparent wrapping material.

High Speed — 500 operations per minute . . . sensitive to hairline registration. Ruggedly built, compact and simple to install.

**Model No. 102** ....List Price $275.00

## ELECTRONIC SWITCHES

Engineered for exceptional reliability, long life with minimum maintenance. These Switches are highly sensitive and utilize no coaxial cable. Designed for applications needing a very short or medium impulse . . . as short as .0005 seconds.

List Price

**Model ES-15 SPDT relay-contacts** 3 amp., non-inductive, at 110 V A.C. .....$33.00

**Model ES-15MS SPDT** relay-contacts 10 amp., non-inductive, at 110 V A.C. ..... 37.40

## ELECTRONIC TIMERS

The Ripley Timers are of the short interval period, stop cycle, type. Built to control industrial processes, they meet the most exacting requirements by delivering dependable, accurate, and long-lived performance. Basic models cover the ranges of from .05 to .5, .1 to 10., and 1. to 100. sec.

List Price

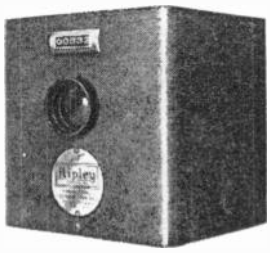
**Model 52 SPDT** relay-contacts 3 amp., non-inductive, at 110V A.C.-Range .05 to .5 sec...$43.00

**Model 54 SPDT** relay-contacts 3 amp., non-inductive, at 110V A.C.-Range .1 to 10. sec... 45.20

**Model 56 SPDT** relay-contacts 3 amp., non-inductive, at 110V A.C.-Range 1. to 100. sec... 44.10

## ELECTRONIC Phototube COUNTERS

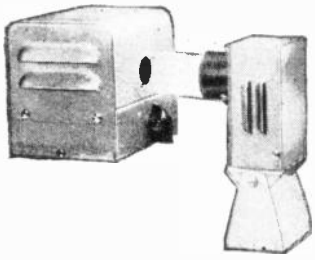
These sturdy, well built Electronic Counters are furnished with 5-digit counters. Available with outside light source as well as a built-in light source. The model with built-in light source incorporates a reflector mirror which directs the beam back into the Phototube, thus eliminating the need for an extra pair of wires. Operates on 110 volts, 60 cycles. Dimensions: 5¼" x 6" x 6¼" high.




**Model 151** with external light source .....List Price $61.60

**Model 153** with built-in light source .....List Price $58.30

## PHOTO-ELECTRIC CONTROL

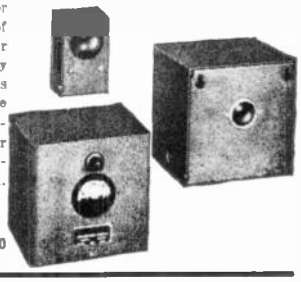


Here's an accurate, efficient, automatic control that anyone can install. Simply plug into your current supply and you are ready to count, control, start, stop, signal or measure objects as they interrupt the beam of light. Housed in hammertone gray finished steel case. Only 4" high. Operates on 110 volts, 60 cycles A.C. Contact rating 10 amps. A.C. Complete with Light Source and plug-in wire connections.

**Model PE-150** .....List Price $49.50

## SMOKE DENSITY INDICATOR

The Ripley Smoke Density Indicator will indicate small quantities of smoke in an air exhaust, duct or other location, thus giving early warning of fire even in remote parts of the building. Composed of three principal parts: the "eye" and amplifier, light source, and the Indicator unit consisting of a meter, red telltale lamp and sensitivity control. Operates on 110 volts, 60 cycles.



**Model 1510** (Complete — three units) .....List Price $132.50

**FOR MORE DATA ON RIPLEY'S QUALITY PRODUCTS SEE THE FOLLOWING PAGES** ➜

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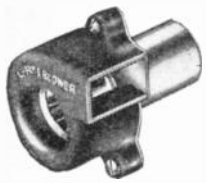
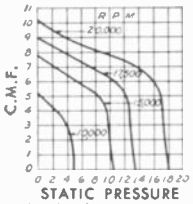
World Radio History

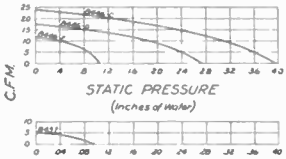
# L-R MOTOR & BLOWER ASSEMBLIES

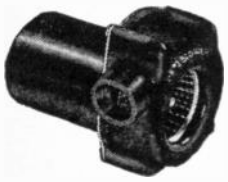


## NO. 1

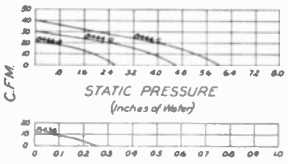


## NO. 1½

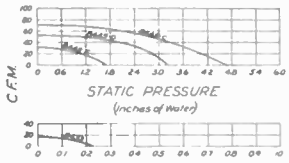


## NO. 2



## NO. 2½



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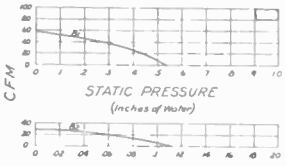
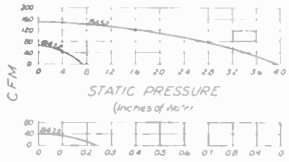
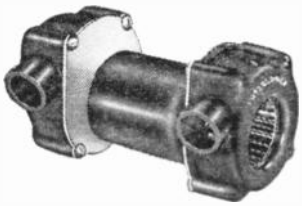


## NO. 3

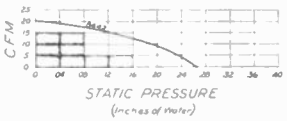


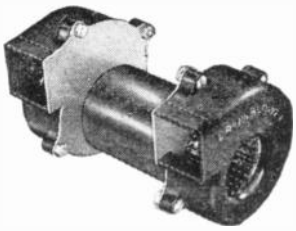

| Model No. | Type | Input Voltage | Watts | Duty Cycle | R.P.M. | Output Free Air C.F.M. | Dimensions Length O.A. | Dimensions Motor Dia. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 8474 | 1 | 27.5V. D.C. | 8 | Continuous | 18,000 | 9 | 2 21/64 | ⅞ | 49.00 |
| 8437 | 1½ | 115V. AC-60 Cycle | 15 | Continuous | 3,150 | 4 | 4 5/16 | 2¼ | 13.29 |
| 8446-E | 1½ | 115V. AC/DC | 25 | Intermittent | 8,000 | 12 | 4½ | 2 7/32 | 18.14 |
| 8446-D | 1½ | 115V. AC/DC | 45 | Intermittent | 11,000 | 17 | 4½ | 2 7/32 | 17.96 |
| 8446-C | 1½ | 115V. AC/DC | 70 | Intermittent | 15,000 | 23 | 4½ | 2 7/32 | 17.96 |
| 8438 | 2 | 115V. AC-60 Cycle | 16 | Continuous | 3,100 | 10 | 4½ | 2 7/32 | 17.96 |
| 8444-E | 2 | 115V. AC/DC | 27 | Intermittent | 6,500 | 20 | 4 15/16 | 2¼ | 13.48 |
| 8444-D | 2 | 115V. AC/DC | 53 | Intermittent | 10,000 | 30 | 4 15/16 | 2 7/32 | 18.14 |
| 8444-C | 2 | 115V. AC/DC | 90 | Intermittent | 13,000 | 40 | 4 15/16 | 2 7/32 | 18.14 |
| 8433 | 2½ | 115V. AC-60 Cycle | 17 | Continuous | 2,800 | 17 | 4½ | 2¼ | 13.60 |
| 8445-E | 2½ | 115V. AC/DC | 30 | Intermittent | 6,000 | 35 | 4 27/32 | 2 7/32 | 18.26 |
| 8445-D | 2½ | 115V. AC/DC | 55 | Intermittent | 9,000 | 53 | 4 27/32 | 2 7/32 | 18.26 |
| 8445-C | 2½ | 115V. AC/DC | 105 | Intermittent | 12,000 | 70 | 4 27/32 | 2 7/32 | 18.26 |
| 82 | 2¾ | 115V. AC-60 Cycle | 35 | Continuous | 1,550 | 28 | 5 61/64 | 2 13/16 | 17.40 |
| 81 | 2¾ | 115V. AC-60 Cycle | 40 | Continuous | 3,100 | 58 | 5 61/64 | 2 13/16 | 16.50 |
| 8473 | 3 | 115V. AC-60 Cycle | 35 | Continuous | 1,550 | 40 | 6 5/64 | 2 13/16 | 16.95 |
| 8472 | 3 | 115V. AC-60 Cycle | 40 | Continuous | 3,100 | 77 | 6 5/64 | 2 13/16 | 16.05 |
| 8452 | 3 | 115V. AC/DC | 120 | Intermittent | 6,000 | 150 | 6¾ | 2¾ | 22.40 |

# L-R BLOWERS DUAL ASSEMBLY

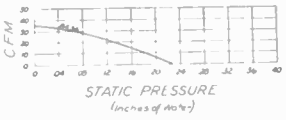


## NO. 2 Dual



## NO. 2½ Dual




| Model No. | Type | Input Voltage | Watts | Duty Cycle | R.P.M. | Output Free Air C.F.M. | Dimensions Length O.A. | Dimensions Motor Dia. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 8442 | 2 Dual | 115V. AC-60 Cycle | 18 | Continuous | 2,800 | 17-17 | 5 11/16 | 2¼ | 19.52 |
| 8434 | 2½ Dual | 115V. AC 60 Cycle | 20 | Continuous | 3,000 | 10-10 | 5 11/16 | 2¼ | 20.59 |



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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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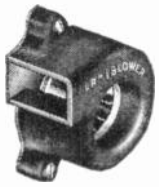
# L-R BLOWERS—*"Mighty-Mites"*



## No. 1

High impact Phenolic Housing. Weight 1 ounce. Wheel is 1" in dia. Standard shaft bores, 1/8" or 3/16". Overall height 2-5/16". Overall width 2-1/8". Depth 63/64". Blower outlet 63/64" wide by 11/16" high.

List Price $3.64 ea.

## No. 1½

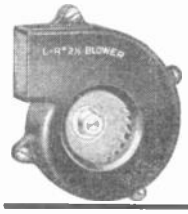
High impact Phenolic Housing. Weight 2-1/2 ounces. Wheel is 1-1/2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3". Overall width 2-7/8". Depth 1". Blower outlet 1" wide by 1-3/16" high.

List Price $4.44 ea.

## No. 2

High impact Phenolic Housing. Weight 5 ounces. Wheel is 2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3-3/4". Overall width 3-1/2". Depth 1-3/8". Blower outlet 1-1/8" diameter.

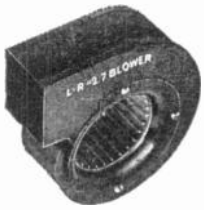
List Price $4.53 ea.



## No. 2½

High impact Phenolic Housing. Weight 5 1/2 ounces. Wheel is 2" in dia. Standard shaft bores, 3/16" or 1/4". Overall height 4 3/8". Overall width 3 7/8". Depth 1-7/16". Blower outlet 1-7/16" wide by 1-19/32" high.

List Price $4.65 ea.



## No. 2.7

Rigid Steel Housing. Weight 8-1/2 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 1-33/64". Blower outlet 1-33/64" wide by 1-3/4" high.

**List Price $4.90 ea.**

## No. 2¾

Rigid Steel Housing. Weight 10 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 2-5/64". Blower outlet 2-5/64" wide by 1-3/4" high.

List Price $4.90 ea.

## No. 3

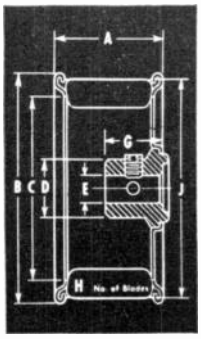
High impact Phenolic Housing. Weight 12-1/2 ounces. Wheel is 3" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 6 7/16". Overall width 5-1/2". Depth 2 3/8". Blower outlet 2-3/8" wide by 2-1/2" high.

List Price $5.36 ea.

# L-R *Whirlwind* BLOWER WHEELS

A key factor in the superior efficiency of any blower is the wheel utilized in the housing. The Ripley Company provides the utmost in equipment and engineering "know-how" to produce small blower wheels of the highest standard and quality. Manufactured from the finest material available, precision engineered and rigidly inspected to meet your most exacting requirements. Standard wheels are cadmium plated steel. Other material and finishes available. Available for CW or CCW Rotation.

## DIMENSIONS AND SPECIFICATIONS




**ROTATION** is determined viewing closed end of wheel

| Wheel Size Dia. | Width | Used in Blower No. | A Width (± 1/32) | B Dia. (± 1/32) | C Dia. (± 1/64) | D Dia. (± .005) | E* (+.001 −.000) | F Set Screw | G (± .010) | H Number of Blades | J Dia. (± 1/32) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | x 29/32 | 1 | 5/8 | 1 | 11/16 | .3125 | .125, .1875 | 5-40 | .3125 | 10 | 5/64 |
| 1 15/32 | x 29/32 | 1½ | 5/8 | 1½ | 1 5/16 | .5625 | .1875, .250 | 8-32 | .5156 | 16 | 1 15/32 |
| 2 | x 31/32 | 2, 2½ | 31/32 | 2 | 1 39/64 | .5625 | .1875, .250 | 8-32 | .5156 | 24 | 1 29/32 |
| 2 15/32<br>2 15/32 | x 31/32<br>x 1 15/32 | 2.7<br>2¾ | 31/32<br>1 15/32 | 2½ | 2⅛ | .750 | .250, .3125 | 8-32 | .6562 | 31<br>28 | 2 15/32 |
| 3 | x 1 25/32 | 3 | 1⅞ | 3 | 2 29/64 | .750 | .250, .3125 | 10-32 | .6562 | 24 | 2 15/16 |
| 3 29/32 | x 1 25/32 | | 1⅞ | 3 15/16 | 3⅜ | .9375 | .250, .3125 | ¼-28 | .750 | 30 | 3¾ |

* Standard Bore—Other Sizes Available

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World Radio History

# EVEREADY TRADE-MARK

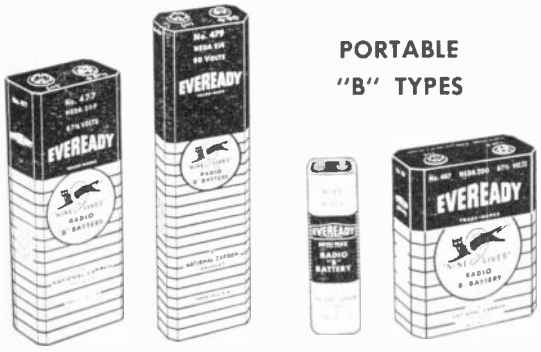
# BATTERIES FOR RADIO

## ELECTRONIC AND OTHER APPLICATIONS

### ENERGIZERS FOR TRANSISTOR RADIOS & OTHER ELECTRONIC APPLICATIONS

No. 233* 4.2 VOLTS *Mercury | No. 216 9 VOLTS | No. A100 1½ VOLTS | No. E9* 1.4 VOLTS | No. 239 13½ VOLTS | No. 276 9 VOLTS | No. 2761 9 VOLTS | No. 1015 1½ VOLTS | No. 226 9 VOLTS

### PORTABLE "B" TYPES



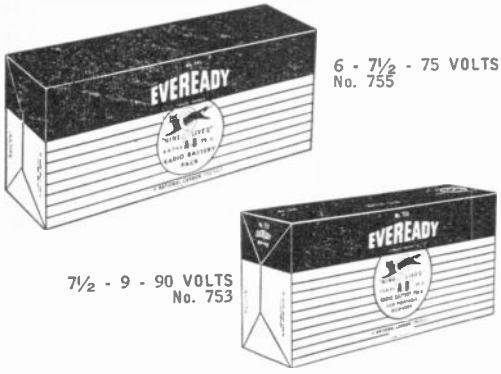
67½ VOLTS No. 477 | 90 VOLTS No. 479 | 45 VOLTS No. 415 | 67½ VOLTS No. 467

### PORTABLE "A" TYPES

1½ VOLTS No. 635

No. 707 7½ VOLTS | 7½ VOLTS No. 717 | 1½ VOLTS No. 964

### PORTABLE "A-B" PACKS



6 - 7½ - 75 VOLTS No. 755

7½ - 9 - 90 VOLTS No. 753

### "A-B" FARM PACKS

1½ - 90 VOLTS No. 759

### ENERGIZERS for heavy-duty applications

No. E95 1.5 VOLTS Size D

No. E94 1.5 VOLTS Size ½ D

### LANTERN BATTERIES

No. 731 6 VOLTS | No. 509 6 VOLTS

### DRY CELL

1½ VOLTS No. 6 IGNITOR

### HOT-SHOT BATTERY

6 VOLTS No. 1461
1462 6 VOLTS
1562 7½ VOLTS
1662 9 VOLTS

### EMERGENCY LIGHTING TYPES

No. 715 7½ Volts
No. 706 6 Volts
No. 716 9 Volts



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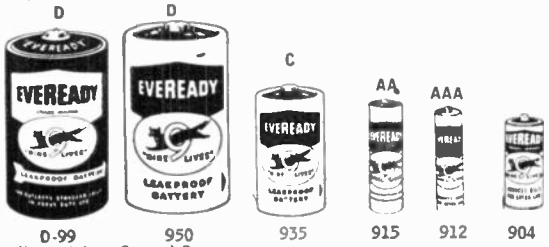
World Radio History

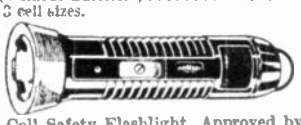
# EVEREADY TRADE-MARK

# FLASHLIGHTS and BATTERIES

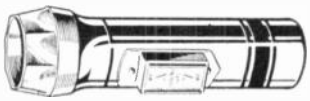



D-99 Heavy duty | 950 General-Purpose | 935 | 915 | 912 | 904

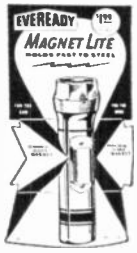
No. 1251A—2-Cell Heavy Duty Spotlight. Rugged Insulated Case. Will not shatter, crack or dent. Unbreakable safety-glow lens-guard. Streamlined to slip in and out of pocket without snagging. Ring-hanger.
List price each (Without Batteries) ..... $2.50
Also available in 3 cell sizes.

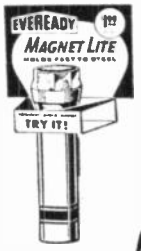


No. 1259A—2-Cell Safety Flashlight. Approved by United States Bureau of Mines and listed with Underwriters Laboratories Inc.
List price each (Without Batteries) ..... $4.15
Also available in 3 cell sizes.

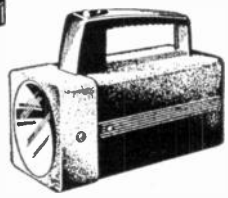


No. 5MF. The always handy No. 5MF Magnet Lite attaches with 15 lb. pull to steel, iron, etc. Powerful permanent-type "Alnico" magnet. Ideal for use anywhere on automobile and around the home. Uses two "Eveready" No. 950 or D-99 batteries and PR2 lamp. List price per light ..... $1.99



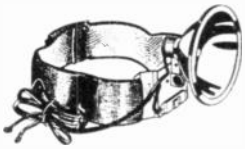

6-5MF. Display package No. 6-5MF contains 6 5MF Magnet Lites and a free display-er for each! List price per package .. $11.94



No. 59. High quality lantern. No. 59 is low priced and ideal for all outdoor and indoor uses. Features lightweight seamless metal case, push-button switch and durable, sure-grip handle. Uses one "Eveready" No. 509 standard 6 volt lantern battery and PR13 lamp.
List price ..... $4.25

**Display Package No. 15**

"Little Jim" Miniature Pocket-Lite. Replica of famous "Eveready" "Masterlite" Square Flashlight. Unbreakable lens-guard glows red for greater light and safety.
List price each ..... $0.69
(With Batteries)



**Head • Lite No. 3452**

Long-range beam, leaves both hands free for work around the home and on the job. Uses No. 5108 lantern battery.
List price each ..... $2.75
(Without Batteries)

Pouch No. 1348

Available for use with No. 3452 Head-Lite. Rugged—rain-proof—fits on belt or strap.
List price each ..... $0.69

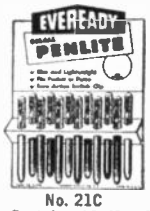
Contains 6 "Beacon Lites." Chrome colored case with red or copper-colored case with green.
List price $1.29

No. 20

No. 220

No. 22

Contains 6 No. 220 Heavy-duty Penlites.
List price each ..... $0.98



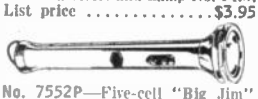

No. 212



No. 21C

Contains 12 No. 212 Small Penlites.
List price each ..... $0.89

No. 7352P—Three-cell "Big Jim" Searchlight. Uses 3 No. 950 or D-99 Batteries and Lamp No. PR3.
List price ..... $3.95



No. 7552P—Five-cell "Big Jim" Searchlight. Uses 5 No. 950 or D-99 Batteries and Lamp No. PR12.
List price ..... $4.95

No. 25

Contains 6 No. 2251 Spotlights.
List price each ..... $1.85

2251— 2 cells
List price— $1.85

2351— 3 cells
List price— $2.20

No. 72P-6

Contains 6 "Masterlite" No. 7251P Spotlights.
List price each ..... $1.95

7251P—Uses 2 No. 950 or D-99 Batteries and Lamp No. PR2.
List price. $1.95

7351P—Square Spotlight. Uses 3 No. 950 or D-99 Batteries and Lamp No. PR3.
List price .... $2.35

7231P—Small Square Spotlight. Uses 2 No. 935 Batteries and Lamp No. PR4.
List price .... $1.85

7551P—"Slim Jim" Spotlight. Uses 5 "Eveready" No. 950 or D-99 Batteries and Lamp No. PR12.
List price .... $3.50

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World Radio History

# COMPLETE LINE SPECIFICATIONS

EVEREADY

| "Eveready" Battery Number | NEDA Number | Other Stock Numbers | | Overall Dimensions In Inches L W H | Terminals and Voltages | LIST PRICE | Unit Pkg. Quan. | Wt. of Unit Pkg. lbs. |
|---|---|---|---|---|---|---|---|---|
| **ENERGIZERS FOR TRANSISTOR RADIOS *and Other Electronic Applications*** | | | | | | | | |
| E9 | | | | .546 Diam. x 1.968 | Flat Contact—, +1.34 | $0.75 | 2 | 2-1/4 |
| E9N | | | DM-9N | .546 Diam. x 1.968 | Flat Contact—, +1.4 | 0.80 | 2 | 2-1/4 |
| A100 | | | | 1-21/64 Diam. x 2-13/32 | Flat Contact—, +1-1/2 | 0.25 | 48 | 10 |
| E146 | | | | 1 x 17/32 x 2 | Snap Type—, +9 | 2.75 | 12 | 1-1/4 |
| 216 | 1604 | 2U6 | | 1-1/32 x 11/16 x 1-29/32 | Snap Type—, +9 | 1.65 | 1 | 3/16 |
| 226 | | | VS300 | 1 x 1 x 1-15/16 | Snap Type—, +9 | 1.10 | 1 | 1/8 |
| E233 | 1300 | | | 1-1/64 Diam. x 1.968 | Flat Contact—, +4 | 2.65 | 1 | 5 oz |
| 239 | 1900 | XX9 | | 1-21/64 x 1-1/32 x 2-11/16 | Socket—, +9, +13-1/2 | 1.35 | 1 | 3/16 |
| 243 | 1610 | | | 1-13/32 x 1-11/32 x 2-3/4 | Snap Type—, +4-1/2 | 1.59 | 1 | 3/8 |
| 246 | 1602 | 2N6 | VS305 | 1-13/32 x 1-11/32 x 3-3/16 | Snap Type—, +9 | 1.85 | 1 | 3/8 |
| 266 | 1605 | M6 | | 1-13/16 x 1-13/16 x 2-7/16 | Snap Type—, +9 | 1.50 | 1 | 1 |
| 274 | 1400 | 4D4 | | 2-9/16 x 2-1/32 x 7-29/32 | Snap Type—, +6 | 3.95 | 1 | 2-3/4 |
| 276 | 1603 | D6 | VS306 | 2-9/16 x 2-1/32 x 3-5/32 | Snap Type—, +9 | 1.65 | 1 | 15/16 |
| 1015 | | | | 35/64 Diam. x 1-31/32 | Flat Contact—, +1-1/2 | 0.17 | 12 | 7/16 |
| 2314 | 2400 | | | 1-21/64 x 1-1/32 x 2-7/8 | Socket+, —12, —21 | 1.95 | 1 | 1/4 |
| 2506 | 1601 | DP61 | VS301 | 8 x 1-9/16 x 2-13/16 | Socket—, +3, +6, +9 | 1.65 | 1 | 1-1/2 |
| 2761 | 1608 | | | 2-9/32 x 1-1/4 x 7-31/32 | Socket—, +9 | 2.25 | 1 | 1-9/16 |
| **PORTABLE "A" TYPES *For Portable Radios, Instruments and Other Applications*** | | | | | | | | |
| A100 | | | | 1-21/64 Diam. x 2-13/32 | Flashlight—, +1-1/2 | $0.25 | 48 | 10 |
| E233 | 1300 | | | 1-1/64 Diam. x 1-31/32 | Flat Contact—, +4 | 2.65 | 1 | 5/16 |
| 635 | | 1 | VS035 | 1-1/64 Diam. x 1-31/32 | Flashlight—, 1-1/2 | .020 | 12 | 1-1/8 |
| 707 | 26 | | | 2-9/16 x 2-1/32 x 2-13/16 | Snap Type—, +7-1/2 | 1.45 | 1 | 34 |
| 713 | 8 | B5 | VS129 | 3-29/32 x 53/64 x 2-27/32 | Socket—, +7-1/2 | 1.80 | 1 | 3/8 |
| 717 | 9 | C5 | VS065 | 2-7/32 x 1-15/16 x 3-1/32 | Socket—, +7-1/2 | 1.35 | 6 | 3 |
| ††718 | 1 | 2F4 | VS010 | 3-29/32 x 2-3/4 x 5-7/16 | Socket—, +6 | 3.55 | 1 | 2-3/4 |
| 720 | 18 | 2D | VS069 | 2-25/32 x 1-13/32 x 3-1/32 | Socket—, +1-1/2 | 0.90 | 6 | 2-5/8 |
| 724 | 2 | Z4 | VS068 | 1-7/32 x 1-7/32 x 2-11/32 | Flashlight—, +6 | 0.90 | 1 | 1/4 |
| 726 | 19 | D3 | VS072 | 3-15/16 x 1-5/16 x 2-15/16 | Socket—, +4-1/2 | 0.98 | 6 | 4 |
| 736 | 3 | F3 | VS067 | 3-15/16 x 1-5/16 x 4-3/32 | Socket—, +4-1/2 | 1.05 | 6 | 6-1/4 |
| ††741 | 17 | 8F | | 3-7/8 x 2-11/16 x 5-3/8 | Socket—, +1.5 | 2.85 | 1 | 2-3/4 |
| 742 | 4 | 4F | VS004 | 2-9/16 x 2-9/16 x 3-31/32 | Socket—, +1.5 | 1.50 | 6 | 8 |
| ††743 | 5 | 6F | VS007 | 3-13/16 x 2-5/8 x 4-1/32 | Socket—, +1.5 | 2.15 | 3 | 6 |
| 744 | * | F4PI | VS009 | 2-21/32 x 2-21/32 x 3-31/32 | Socket—, +6 | 1.35 | 6 | 8-1/4 |
| ††745 | 21 | 8FL | VS008 | 3-7/8 x 1-7/16 x 10-25/32 | Socket—, +1.5 | 3.30 | 2 | 5-1/2 |
| 746 | 7 | G3 | VS002 | 3-15/16 x 1-5/16 x 4-21/32 | Socket—, +4.5 | 1.20 | 6 | 7-1/4 |
| ††747 | 16 | 2F4L | VS011 | 3-7/8 x 1-7/16 x 10-25/32 | Socket—, +6 | 3.95 | 2 | 5-1/2 |
| †904 | | N | VS073 | .445 Diam. x 1.180 | Flashlight—, +1-1/2 | 0.125 | 24 | 3/8 |
| †912 | 24 | 7 | | 0.4 Diam. x 1-3/4 | Flashlight—, 1-1/2 | 0.125 | 12 | 1/4 |
| †915 | 15 | Z | VS034 | 35/64 Diam. x 1-31/32 | Flashlight—, 1-1/2 | 0.125 | 12 | 7/16 |
| †935 | 14 | 1 | VS035 | 1-1/64 Diam. x 2 | Flashlight—, 1-1/2 | 0.20 | 12 | 1-1/8 |
| †950 | 13 | 2+2R | VS036 | 1-21/64 Diam. x 2-13/32 | Flashlight—, 1-1/2 | 0.20 | 48 | 9-1/2 |
| †D-99 | | | | 1-21/64 Diam. x 2-13/32 | Flashlight—, 1-1/2 | 0.25 | 48 | 10 |
| 960-P | 23 | 8R | VS070 | 1-11/32 Diam. x 4-1/16 | Socket—, +1.5 | 0.60 | 1 | 5/16 |
| 964 | 20 | 21R | VS236 | 1-3/8 Diam. x 4-11/64 | Flashlight—, 1-1/2 | 0.49 | 12 | 4-1/2 |
| 1015 | | | | 35/64 Diam. x 1-31/32 | Flashlight—, 1-1/2 | 0.17 | 12 | 7/16 |
| **PORTABLE "B" TYPES *For Portable Radios, Instruments and Electronic Applications*** | | | | | | | | |
| 411 | 208 | U10 | VS083 | 1-1/32 x 5/8 x 1-29/64 | Flat Contact—, +15 | $1.15 | 1 | 1-1/6 |
| 412 | 215 | U15 | VS084 | 1-1/32 x 5/8 x 2 | Flat Contact—, +22-1/2 | 1.50 | 1 | 1-1/2 |
| 413 | 210 | U20 | VS085 | 1-1/32 x 5/8 x 2-9/16 | Flat Contact—, +30 | 1.75 | 1 | 1-1/10 |
| 415 | 213 | U30 | VS086 | 1-3/64 x 5/8 x 3-11/16 | Snap Type—, +45 | 2.50 | 6 | 7/8 |
| 416 | 217 | | | 1-21/64 x 63/64 x 3-1/2 | Snap Type—, +67-1/2 | 2.95 | 1 | 1/4 |
| 417 | | | | 1-5/16 x 31/32 x 1-9/16 | Flat Contact—, +15 | 1.50 | 6 | 4/5 |
| 420 | | | | 1-5/16 x 31/32 x 2-3/16 | Flat Contact—, +22-1/2 | 1.65 | 6 | 1-1/10 |
| 430 | | | | 1-5/16 x 1 x 2-13/16 | Flat Contact—, +30 | 1.95 | 1 | 5-1/2 |
| 437 | 212 | XX50 | VS217 | 1-15/16 x 1-15/32 x 6-15/32 | Snap Type—, +75 | 3.95 | 3 | 3 |
| 455 | 201 | XX30 | VS055 | 2-21/32 x 1 x 3-11/16 | Snap Type—, +45 | 2.70 | 6 | 3-1/4 |
| 457 | 203 | K45 | VS082 | 2-13/16 x 1-3/8 x 2-1/2 | Snap Type—, +67-1/2 | 3.15 | 6 | 3 |
| 467 | 200 | XX45 | VS016 | 2-13/16 x 1-3/8 x 3-45/64 | Snap Type—, +67-1/2 | 3.50 | 6 | 4-3/4 |
| 477 | 211 | P45+P45M | VS216+218 | 1-29/32 x 63/64 x 5-7/16 | Snap Type—, +67-1/2 | 3.10 | 6 | 3 |
| 479 | 214 | P60 | VS219 | 1-31/32 x 1-1/32 x 7-15/32 | Snap Type—, +90 | 3.75 | 6 | 4-3/4 |
| 482 | 202 | M30 | VS013 | 3-19/32 x 1-27/32 x 5-1/2 | Socket—, +45 | 3.15 | 6 | 12-1/2 |
| 484 | 207 | B30 | VS012 | 3-31/32 x 2-17/32 x 5-5/16 | Socket—, +45 | 3.85 | 1 | 3-1/4 |
| 490 | 204 | N60 | VS090 | 3-23/32 x 1-3/8 x 3-45/64 | Snap Type—, +90 | 4.25 | 6 | 6-1/2 |
| 495 | * | | | 1-15/16 x 1-15/32 x 7-1/8 | Snap Type—, +90 | 4.25 | 1 | 1 |
| 504 | | Y10 | | 5/8 x 19/32 x 1-3/8 | Flat Contacts—, +15-1/2 | 1.15 | 1 | 1/16 |
| 505 | | Y15 | | 5/8 x 19/32 x 1-63/64 | Recessed—, +22-1/2 | 1.50 | 1 | 1/16 |
| 506 | | Y20 | | 1-13/64 x 5/8 x 1-27/64 | Flat Contacts—, +30 | 1.85 | 1 | 1/16 |
| 507 | | Y20S | | 5/8 x 19/32 x 2.605 | Flat Contact—, +30 | 1.85 | 1 | 1/16 |
| 738 | 205 | Z30 | VS015 | 3 x 2-5/16 x 4-1/8 | Socket—, +22-1/2, +45 | 3.95 | 2 | 2-1/2 |
| **PORTABLE "A-B" BATTERY PACKS** | | | | | | | | |
| 727 (756P) | 428 | T6Z60P | VS059 | 8-7/8 x 2-1/8 x 3-25/32 | Recessed Plug—"A"—+9 "A", —"B", +90 "B" | $6.85 | 1 | 3 |
| ††729 | * | 4TZ60 | VS064 | 7-13/16 x 2-7/32 x 3-27/32 | Socket—"A"—+1-1/2 "A" —"B" +90 "B" | 5.75 | 1 | 2-1/2 |
| 752 | 400 | C6B60 | VS047 | 14-1/16 x 2-11/16 x 4-1/16 | Recessed Plug—"A" +9 "A", —"B", +90 "B" | 7.75 | 1 | 6-1/4 |
| 752W | 416 | | | 14-1/16 x 2-11/16 x 4-1/16 | Recessed Plug—"A" +10-1/2 "A", —"B" +90 "B" | 7.95 | 1 | 7 |
| 753 | 401 | F6A60 | VS019 | 9-7/32 x 2-23/32 x 4-5/16 | Socket—"A" +7-1/2 "A", +9 "A"—"B" +90 "B" | 7.25 | 1 | 5 |
| 754 | 402 | G6M60 | VS018 | 10-15/32 x 3-1/4 x 4 | Socket—"A" +7-1/2 "A", +9 "A", —"B", +90 "B" | 7.85 | 1 | 6-1/4 |
| 755 | 403 | T5Z50 | VS050 | 8-9/16 x 2-7/16 x 3-3/4 | Socket—"A", +6 "A", +7-1/2 "A" —"B", +75 "B" | 6.25 | 1 | 3-3/4 |
| 756 | * | T6Z60 | VS057W | 8-7/8 x 2-1/8 x 3-25/32 | Socket—"A" +7-1/2 "A", +9 "A", —"B", +90 "B" | 6.75 | 1 | 3 |
| 757 | * | F6A60P | VS058 | 9-7/32 x 2-23/32 x 4-7/32 | Recessed Plug—"A" +9 "A", —"B", +90 "B" | 6.85 | 1 | 5 |
| 776 | * | S6D60P | VS119 | 7-27/32 x 4-1/8 x 9-7/8 | Socket & Recessed Plug—"A"+7-1/2 "A", +9 "A"—"B"+90 "B" | 12.50 | 1 | 15-1/4 |
| 785 | 431 | T5Z50P | VS060 | 8-3/8 x 3-5/8 x 2-1/4 | Socket—,+7-1/2"A",—"B",+75"B" | 6.25 | 1 | 2-7/8 |
| **"B" BATTERY FOR FARM TYPE RECEIVERS *and Miscellaneous Applications*** | | | | | | | | |
| 487 | | | | 5-1/8 x 2-1/16 x 7-1/4 | Socket—, +22-1/2, +45 | $4.25 | 6 | 26-1/2 |
| **"A-B" FARM PACKS** | | | | | | | | |
| 758 | 414 | 4SD60 | VS021 | 10-11/16 x 4-1/8 x 6-13/16 | Socket—"A", +1.5 "A" —"B", +90 "B" | $9.65 | 1 | 14-3/4 |
| 759 | * | 17GD60 | VS022 | 15-11/16 x 4-5/32 x 6-15/16 | Socket—"A", +1.5 "A" —"B," +90 "B" | 9.65 | 1 | 17 |
| **SPECIAL BATTERY TYPES *For Radios, Electronic Equipment, Test Instruments and Other Applications*** | | | | | | | | |
| W-350 | 711 | Z30NX | VS114 | 3-1/32 x 1-7/8 x 4-31/32 | Screw—, +22-1/2, +45 | $3.50 | 5 | 4-7/8 |
| W-351 | | Z30BP | | 3-5/8 x 2-1/4 x 3-11/16 | Screw—, +22-1/2, +45 | 6.95 | 1 | 1-3/4 |
| W-352 | 701 | F2BP | VS100 | 2-21/32 x 1-11/32 x 4-9/16 | Screw—, +3 | 1.15 | 5 | 4-1/4 |
| W-353 | 11 | 2F | VS141 | 2-19/32 x 1-3/8 x 4-1/4 | Socket—, +1-1/2 | 1.00 | 1 | 7/8 |
| W-354 | 700 | 2FBP | VS101 | 2-21/32 x 1-11/32 x 4-3/8 | Screw—, +1-1/2 | 1.15 | 5 | 4-3/16 |
| W-355 | | 2BBP | | 1-9/16 x 13/16 x 2-15/16 | Screw—, +1-1/2 | 1.50 | 5 | 1-5/16 |
| W-356 | * | 2F2H | VS136 | 2-5/8 x 2-5/8 x 4-9/16 | Screw—, +3 | 1.40 | 5 | 1-15/16 |
| W-357 | 901 | 4F2H | VS138 | 3-7/8 x 2-11/16 x 5-13/16 | Spring Clip—, +3 | 1.95 | 1 | 3 |
| W-358 | | W30BPX | | 2-15/16 x 1-3/16 x 4-1/8 | Ins. Screw—, +45 | 3.25 | 1 | 3/4 |
| W-359 | 206 | A30 | VS014 | 3-9/16 x 2-1/4 x 4-1/2 | Socket—, +45 | 3.25 | 1 | 2 |
| W-360 | 10 | T5 | | 2-9/16 x 2-9/16 x 4-1/32 | Socket—, +7-1/2 | 1.65 | 3 | 3-3/4 |
| W-361 | | XX69 | | 1-11/32 x 1-11/32 x 11-23/32 | Contact—, +103-1/2 | 5.95 | 1 | 1-5/8 |

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping. †Flashlight Types. ††Shipped from factory only.



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World Radio History

| "Eveready" Battery Number | NEDA Number | Other Stock Numbers | | Overall Dimensions In Inches L W H | Terminals and Voltages | LIST PRICE | Unit Pkg. Quan. | Wt. of Unit Pkg. lbs. |
|---|---|---|---|---|---|---|---|---|
| *(continued)* | | **SPECIAL BATTERY TYPES** *For Radios, Electronic Equipment, Test Instruments and Other Applications* | | | | | | |
| W-362 | | W5BP | | 2-15 16 x 11 16 x 1-3 4 | Screw+, —4-1 2, —7-1 2 | $1.95 | 5 | 13 16 |
| W-363F | * | 10308SC | VS127 | △8-1 32 x 4-1 16 x 7-5 8 | Spring Clip—, +22-1 2, +45 | 6.35 | 1 | 10-13 16 |
| W-364F | * | 21308SC | VS157 | △8-1 8 x 4-7 16 x 7-11 16 | Spring Clip—, +22-1 2, +45 | 6.95 | 1 | 12-3 8 |
| W-365F | 723 | 2308SC | VS126 | △8-1 16 x 2-15 16 x 7-5 8 | Spring Clip—, +22-1 2, +45 | 5.00 | 1 | 8 |
| W-366 | 407 | 4GA42 | VS053 | 9-1 32 x 2-1 32 x 4-23 32 | Socket—"A", +1-1 2 "A", —"B", +63 "B" | 7.75 | 1 | 4-5 8 |
| W-367 | 408 | G5A42 | VS038 | 9-1 8 x 2-3 4 x 4-7 16 | Socket—"A", +7-1 2 "A", —"B", +63 "B" | 8.50 | 1 | 4-11 16 |
| W-368 | * | F4A50 | | 9-1 32 x 2-23 32 x 3-9 16 | Recessed Plug—"A", +6 "A", —"B", +75 "B" | 8.35 | 1 | 4-3 8 |
| W-369 | * | 6TA60 | VS054 | 9-15 16 x 2-1 4 x 4-23 32 | Socket—"A", +1-1 2 "A", —"B", +90 "B" | 7.15 | 1 | 4-11 16 |
| W-370 | * | 2TXX40 | | 2-13 32 x 1-11 32 x 7-5 32 | Socket—"A", +1-1 2 "A", —"B", +60 "B" | 5.35 | 1 | 1-9 16 |
| W-371 | | 2Z2P1 | | 1-5 32 x 1-5 32 x 2-9 16 | Socket including plug—, +3 | 0.90 | 12 | 2-1 16 |
| W-376 | 709 | 5308 | VS112 | 4-3 32 x 2-9 16 x 5-7 16 | Screw—, +22-1 2, +45 | 4.35 | 1 | 3 |
| | | **MERCURY ENERGIZERS** *For Radio, Electronic and Industrial Applications* | | | | | | |
| E1 | | RM-1R | RG-1 | .625 Diam. x .650 | Flat Contact—, +1.35 | $0.58 | 4 | 1-3 4 oz. |
| E3 | | RM-3R | RG-3 | .985 Diam. x .660 | Flat Contact—, +1.35 | 0.80 | 4 | 4-1 4 oz. |
| E4 | | RM-4R | RG-4 | 1.195 Diam. x .660 | Flat Contact—, +1.35 | 1.05 | 4 | 6-1 4 oz. |
| E9 | | ZM-9 | Z-9 | .546 Diam. x 1.968 | Flat Contact—, +1.4 | 0.75 | 2 | 2-1 4 oz. |
| E9N | | | | | | | | |
| E12 | | RM-12R | | .625 Diam. x 1.968 | Flat Contact—, +1.35 | 1.25 | 2 | 3-1 4 oz. |
| E132 | | TR-132R | G-132(B-1) | .662 Diam. x 1.315 | Flat Contact—, +2.70 | 1.75 | 2 | 1-3 4 oz. |
| E133 | | TR-133R | G-133(B-3) | .662 Diam. x 1.965 | Flat Contact—, +4.05 | 2.25 | 2 | 2-3 4 oz. |
| E134 | | TR-134R | G-134 | .662 Diam. x 2.620 | Flat Contact—, +5.4 | 2.25 | 2 | 3-3 4 oz. |
| E146 | | TR-146R | | 1 x 17 32 x 2 | Snap Type—, +8.4 | 2.75 | | |
| E233 | | TR-233R | G-696VS400 | 1-1 64 Diam. x 1.968 | Flat Contact—, +4.2 | 2.65 | 1 | 5 oz. |
| E400 | | RM-400R | | .455 Diam. x .130 | Flat Contact—, +1.35 | 0.36 | 5 | 1 4 oz. |
| E401 | | RM-401R | G-401 | .465 Diam. x 1.140 | Flat Contact—, +1.35 | 0.52 | 2 | 3 4 oz. |
| E502 | | RM-502R | | .546 Diam. x 1.968 | Flat Contact—, +1.35 | 0.95 | 2 | 2-1 4 oz. |
| E625 | | RM-625R | G-625 | .610 Diam. x .235 | Flat Contact—, +1.35 | 0.45 | 4 | 3 4 oz. |
| E302157 | | 302157 | | 2-3 16 x 1-7 16 x 4-5 16 | Socket—, +1.34 | 15.50 | 1 | 16 oz. |
| E302158 | | 302158 | | 3-1 4 x 1-3 8 x 4-1 4 | Socket—, +45.—, +22-1 2.—, +2.6, +5 | 37.00 | 1 | 22 oz. |
| E302351 | | 302351-M | G-679 | 1-1 8 Diam. x 2-5 8 | Flat Contact—, +5.4 | 3.60 | 1 | 6 oz. |
| E302478 | | 302478-M | | 1.245 Diam. x 3-5 8 | Flat Contact—, +9.8 | 5.69 | 1 | 12 oz. |
| E302642 | | 302642-M | | 1-1 16 Diam. x 2-9 16 | Flat Contact—, +6.75 | 4.85 | 1 | 6 oz. |
| | | **BATTERIES FOR OTHER APPLICATIONS** | | | | | | |
| *Flashlight Types* | | | | | | | | |
| 904 | | N | VS073 | .445 Diam. x 1.180 | Flashlight—, 1-1 2 | $0.125 | 24 | 1 2 |
| 912 | 24 | 7 | VS074 | 0.4 Diam. x 1-3 4 | Flashlight—, 1-1 2 | 0.125 | 12 | 1 4 |
| 915 | 15 | Z | VS034 | 35 64 Diam. x 1-31 32 | Flashlight—, 1-1 2 | 0.125 | 12 | 7 16 |
| 935 | 14 | 1 | VS035 | 1-1 64 Diam. x 2 | Flashlight—, 1-1 2 | 0.20 | 12 | 1-1 8 |
| 950 | 13 | 2+2R | VS036 | 1-21 64 Diam. x 2-13 32 | Flashlight—, 1-1 2 | 0.20 | 48 | 9-1 2 |
| D-99 | | | | 1-21 64 Diam. x 2-13 32 | Flashlight—, 1-1 2 | 0.25 | 48 | 10 |
| *Lantern Batteries* | | | | | | | | |
| 509 | 916 | F4H | VS040C | 2-5 8 x 2-5 8 x 3-27 32 | Coils—, +6 | 1.19 | 1 | 1-1 2 |
| 731 | | TW1 | | 5-3 8 x 2-7 8 x 4-15 16 | Ins. Sc.—, +6 | 2.45 | 1 | 3-1 2 |
| *Lighting Types* | | | | | | | | |
| 510-F | 917 | | | 2-5 8 x 2-5 8 x 4-9 32 | Spring—, +6 | 1.19 | 1 | 1-1/4 |
| 510-S | * | F4BP | VS040S | 2-5 8 x 2-5 8 x 4-5 32 | Screw—, +6 | 1.19 | 1 | 1-1/4 |
| *General Purpose* | | | | | | | | |
| 735 | 900 | 4FH | VS106 | 2-5 8 x 2-5 8 x 4-9 32 | Screw—, +1-1 2 | 1.15 | 12 | 15-1 2 |
| *Dry Cell Types* | | | | | | | | |
| "Ignitor" 6 Gen. Purpose | 905 | 6 IGN | VS006S | 2-5 8 Diam. x 6-5 8 | **Screw, +1-1 2 | 1.15 | 12 | 27 |
| "Gray Label" 6 Telephone | 906 | 6 TEL | VS042C | 2-5 8 Diam. x 6-5 8 | ***Spring—, +1-1 2 | 1.15 | 12 | 26-1 4 |
| 6 Railroad & Industrial | 911 | 6 IND | | 2-5 8 Diam. x 6-5 8 | **Screw, +1-1 2 | 1.26 | 12 | 27-1 2 |
| *High Voltage Type* | | | | | | | | |
| 493 | 722 | U200 | VS093 | 2-11 16 x 2-7 32 x 3-29 32 | Pin Jacks—, +300 | 11.00 | 1 | 1 |
| *"Hot Shot" Batteries* | | | | | | | | |
| 1461 | 907 | S461 | VS039 | 10-3 8 x 2-3 4 x 7-1 4 | Ins. Sc.—, +6 | 4.75 | 4 | 38 |
| 1462 | | | | 5-3 8 x 5-3 8 x 7-1 4 | Ins. Sc.—, +6 | 4.75 | 4 | 39-1 4 |
| 1562 | * | | | 7-7 8 x 5 x 7-1 4 | Ins. Sc.—, +7-1 2 | 6.10 | 4 | 50-1/2 |
| 1662 | 913 | | | 7-13 16 x 5-1 4 x 7-1 4 | Ins. Sc.—, +9 | 7.10 | 4 | 60-1 4 |
| *Emergency Lighting Types* | | | | | | | | |
| 706 | 902 | 4F4H | VS103 | 8-5 16 x 2-13 16 x 6-7 16 | Ins. Sc.—, +6 | 4.75 | 1 | 6-3/8 |
| 715 | 903 | 4F5H | VS139 | 7-1 4 x 4-1 16 x 6-7 16 | Ins. Sc.—, +7-1 2 | 6.10 | 1 | 8 |
| 716 | 904 | 4F6H | VS140 | 8-37 64 x 4-1 16 x 6-7 16 | Ins. Sc.—, +9 | 7.10 | 1 | 9 |
| | | **"C" BATTERIES & TYPES USED IN INSTRUMENTS, TELEPHONE & OTHER APPLICATIONS** | | | | | | |
| 703 | * | 532 | VS133 | 2-7 16 x 27 32 x 3-1 16 | Spring—, +4-1 2 | $0.90 | 1 | 5 16 |
| 714 | | | | 3-31 32 x 1-11 32 x 3-13 32 | Screw—, +4-1 2 | 1.30 | 1 | 1 |
| 750 | * | 422 | VS134 | 1-11 32 x 11 16 x 2-11 16 | Spring—, +3 | 0.75 | 10 | 1-1 2 |
| 751 | * | 432 | VS142 | 2 x 11 16 x 2-21 32 | Spring—, +4-1 2 | 0.85 | 10 | 2 |
| 760 | | | | 2-7 16 x 27 32 x 2-19 32 | Wire—, +3-1 2 | 1.05 | 6 | 1 |
| 761T | * | 2370ST | VS130 | 4-1 16 x 1-15 32 x 3-1 2 | Screw+, —1-1 2, —3, —4-1 2 | 1.50 | 5 | 5 |
| 763 | * | 4156 | VS102 | 3-1 2 x 2-3 32 x 2-15 16 | Screw—, +22-1 2 | 2.35 | 1 | 1 |
| 766T | * | 2156 | VS132 | 6-3 4 x 4-1 8 x 3-15 16 | Spring—, +16-1 2, +18, +19-1 2, +21, +22-1 2 | 5.15 | 6 | 32 |
| 768 | 721 | 5156P1 | VS031 | 4-1 8 x 2-17 32 x 2-31 32 | Socket+, —3, —4-1 2, —16-1 2, —1, 22-1 2 | 3.30 | 1 | 1-1 2 |
| 771 | * | 2370P1 | VS030 | 3-29 32 x 1-3 8 x 3-1 16 | Socket+, —3, —4-1 2 | 1.80 | 5 | 4-1 2 |
| 773 | * | 5540 | VS029 | 3-29 32 x 7 8 x 3-1 8 | 5 Screw: 1 wire+, —1-1 2, —3, —4-1 2, —6, —7-1 2 | 1.75 | 5 | 3 |
| 774 | | | | 4-1 32 x 1-13 32 x 3 | Socket+, —7-1 2 | 2.70 | 5 | 3 |
| 778 | * | 5156SC | VS131 | 4-1 8 x 2-17 32 x 3-7 16 | Fahnestock+, —3, —4-1 2, —6, —9, —10-1 2, —16-1 2, —22-1 2 | 3.30 | 4 | 6-1 2 |
| 781 | * | 5360 | VS028 | 2-15 32 x 55 64 x 3-1 4 | Screw+, —4-1 2 | 1.05 | 5 | 1-3/4 |
| 789 | | | | 5-19 32 x 1-7 16 x 3-1 4 | Flat—, +3 | 2.20 | 1 | 1-1/2 |
| 799 | | 10338 | | 8-5 32 x 4-1 4 x 8-19 32 | Spring—, +22-1 2, +45, +49-1 2 | 9.35 | 6 | 93-1 2 |
| | | **"A" BATTERY FOR HOME RADIO** | | | | | | |
| ††740 | 719 | 20F | VS024 | 4-19 32 x 3-7 8 x 7-3 4 | Socket—, +1.5 | $8.15 | 1 | 6-1/4 |
| | | **SHOT FIRING BATTERIES** | | | | | | |
| 702 | | B3RT | | 2-17 32 x 7 8 x 3-1 8 | Recessed Plug—, +4-1 2 | $1.20 | 1 | 5 16 |
| 704 | | F2RT | | 2-11 16 x 1-11 32 x 4-3 8 | Plug—, +3 | 1.50 | 1 | 3/4 |
| 708 | | | | 2-5 8 x 2-3 4 x 4-13 16 | Plug—, +22-1 2 | 3.25 | 1 | 2 |

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.
△Furnished with Fahnestock spring terminals. If socket terminals required, specify W-363P, W-364P, W-365P. ††Shipped from factory only.
**Equipped with screw terminals unless Fahnestock spring terminals are specified. ***Equipped with Fahnestock spring terminals unless screw terminals are specified.

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World Radio History

# RCA BATTERIES

**RADIO • FLASHLIGHT • FARM • TRANSISTOR • INDUSTRIAL • SPECIAL**

| | RCA TYPE NO. | DEALER PRICE EA.* | LIST PRICE EA.* | VOLTAGE | INTERCHANGEABILITY GUIDE EVEREADY | NEDA | BURGESS | STANDARD PKG. QTY. | WT. (lbs.) | MAX. DIMENSIONS (in.) L. | W. or DIAM. | HT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PORTABLE "A" TYPES** | VS002 | .77 | 1.10 | 4½ | 746 | 7 | G3 | 6 | 8 | 4 | 1⅜ | 4 11/16 |
| | VS004 | .95 | 1.35 | 1½ | 742 | 4 | 4F | 6 | 9 | 2⅝ | 2⅜ | 4 1/16 |
| | VS009 | .95 | 1.35 | 6 | 744 | 6 | 4FP1 | 6 | 9¼ | 2 23/32 | 2 23/32 | 4 5/16 |
| | VS010 | 2.07 | 2.95 | 6 | 718 | 1 | 2F4 | 5 | 17 | 3⅞ | 2 13/16 | 5½ |
| | VS035 | .125 | .20 | 1½ | 935 | 14 | 1 | 120 | 11 | — | 1 | 1 15/16 |
| | VS036■ | .125 | .20 | 1½ | 950 | 13 | 2R | 192 | 38 | — | 1 5/16 | 2⅜ |
| | VS065 | .95 | 1.35 | 7½ | 717 | 9 | C5 | 12 | 6½ | 2 7/32 | 1 15/16 | 3 1/32 |
| | VS067 | .74 | 1.05 | 4½ | 736 | 3 | F3 | 6 | 7 | 4 | 1 7/16 | 4 3/16 |
| | VS068 | .63 | .90 | 6 | 724 | 2 | Z4 | 24 | 3¼ | 1¼ | 1¼ | 2 7/16 |
| | VS069 | .53 | .75 | 1½ | 720 | 18 | 2D | 12 | 3¼ | 2⅜ | 1⅜ | 2 15/16 |
| | VS072 | .63 | .90 | 4½ | 726 | 19 | D3 | 12 | 9½ | 3 31/32 | 1 7/16 | 3 |
| | VS129 | 1.05 | 1.50 | 7½ | 713 | 8 | B5 | 12 | 7½ | 4 1/16 | 15/16 | 3 |
| | VS236 | .28 | .40 | 1½ | 964 | 20 | 21R | 48 | 19 | — | 1⅜(dia.) | 4 11/64 |
| | VS315 | .78 | 1.45 | 7½ | 707 | 26 | — | 6 | 4⅜ | 2 9/16 | 2 1/32 | 2 13/16 |
| **PORTABLE "B" TYPES** | VS012 | 2.70 | 3.85 | 45 | 484 | 207 | B30 | 6 | 19¾ | 3 31/32 | 2 17/32 | 5 5/16 |
| | VS013 | 2.21 | 3.15 | 45 | 482 | 202 | M30 | 6 | 12[illegible] | 3 19/32 | 1 27/32 | 5½ |
| | VS014 | 2.12 | 3.05 | 45 | W359 | 206 | A30 | 6 | 12 | 3 7/16 | 2¼ | 4 9/16 |
| | VS015 | 2.76 | 3.95 | 22½-45 | 738 | 205 | Z30 | 6 | 8½ | 3 | 2 5/16 | 4⅛ |
| | VS016 | 2.45 | 3.50 | 67½ | 467 | 200 | XX45 | 24 | 19 1/10 | 2 13/16 | 1⅜ | 3 45/64 |
| | VS055 | 1.72 | 2.45 | 45 | 455 | 201 | XX30 | 12 | 6¾ | 2 21/32 | 1 | 3 11/16 |
| | VS082 | 2.21 | 3.15 | 67½ | 457 | 203 | K45 | 12 | 6½ | 2 13/16 | 1⅜ | 2½ |
| | VS084 | 1.05 | 1.50 | 22½ | 412 | 215 | U15 | 12 | 1 | 1 1/32 | ⅝ | 2 |
| | VS086 | 1.75 | 2.50 | 45 | 415 | 213 | U30 | 24 | 3½ | 1 3/64 | ⅝ | 3 11/16 |
| | VS090 | 2.98 | 4.25 | 90 | 490 | 204 | N60 | 12 | 13 | 3 23/32 | 1⅜ | 3 45/64 |
| | VS215 | 2.45 | 3.50 | 67½ | 477 | 211M | P45M | 24 | 14¾ | 1 29/32 | 1 | 5 7/16 |
| | VS216 | 2.71 | 3.95 | 67½ | 477 | 211M | P45M | 24 | 20½ | 1 15/16 | 1 1/32 | 5 9/16 |
| | VS217 | 2.77 | 3.95 | 75 | 437 | 212 | XX50 | 12 | 12½ | 1 15/16 | 1 15/32 | 6 15/32 |
| | VS218 | 2.17 | 3.10 | 67½ | 477 | 211P | P42 | 12 | 6 2/5 | 1 29/32 | 63/64 | 5 7/16 |
| | VS219 | 2.63 | 3.75 | 90 | 479 | 214 | P60 | 12 | 9 1/10 | 1 31/32 | 1 1/32 | 7 15/32 |
| | VS316 | 2.33 | 4.25 | 90 | 495 | 216 | — | 6 | 6¼ | 1 15/16 | 1 15/32 | 7⅛ |
| | VS318 | 2.07 | 2.95 | 67½ | 416 | — | — | 6 | 1¾ | 1 21/64 | 63/64 | 3½ |
| **PORTABLE "A-B" TYPES** | VS019 | 5.08 | 7.25 | 7½-9-90 | 753 | 401 | F6A60 | 6 | 36¾ | 9¼ | 2 13/16 | 4 7/16 |
| | VS047 | 5.43 | 7.75 | 9-90 | 752 | 400 | G6B60 | 6 | 55 | 13 3/16 | 2 13/16 | 4 7/16 |
| | VS050 | 4.38 | 6.25 | 6-7½-75 | 755 | 403 | T5Z50 | 6 | 21½ | 8⅝ | 2½ | 3 11/16 |
| | VS057W | 4.73 | 6.75 | 7½-9-90 | 756 | 405 | T6Z60 | 6 | 25½ | 8⅞ | 2¼ | 3⅞ |
| | VS058 | 4.80 | 6.85 | 9-90 | 757 | 406 | F6A60P | 6 | 36¾ | 9 13/16 | 2¾ | 4 7/16 |
| | VS059 | 4.80 | 6.85 | 9-90 | 727 | 428 | T6Z60P | 6 | 25½ | 9 7/16 | 2¼ | 3 13/16 |
| | VS060 | 4.38 | 6.25 | 7½-75 | 785 | 431 | T5Z50P | 6 | 21½ | 8 9/16 | 2 7/16 | 3 11/16 |
| | VS064 | 4.03 | 5.75 | 1½-90 | 729 | — | 4TZ60 | 6 | 21½ | 7 13/16 | 2¼ | 3 13/16 |
| **TRANSISTOR BATTERIES** | VS300 | 1.23 | 1.75 | 9 | 226 | 1600 | — | 24 | 6½ | — | 31/32 | 1 31/32 |
| | VS301 | 1.16 | 1.65 | 3, 6, 9 | 2506 | 1601 | — | 12 | 17 | 8 | 1 9/16 | 2 13/16 |
| | VS304 | .95 | 1.35 | 13½ | 239 | 1900 | XX9 | 12 | 2⅝ | 1 21/64 | 1 1/32 | 2 11/16 |
| | VS305 | 1.30 | 1.85 | 9 | 246 | 1602 | 2N6 | 12 | 4 | 1 13/32 | 1 11/32 | 3 3/16 |
| | VS306 | 1.16 | 1.65 | 9 | 276 | 1603 | D6 | 6 | 5¾ | 2 9/16 | 2 1/32 | 3 5/32 |
| | VS307 | .79 | 1.44 | 5.5 | — | 1402 | — | 12 | 1¼ | — | 31/32 | 1 9/32 |
| | VS308 | .70 | 1.28 | 4 | — | 1302 | — | 12 | 1 | — | 31/32 | 1 1/16 |
| | VS309 | .88 | 1.61 | 9 | — | 1606 | — | 12 | ¾ | — | 35/64 | 1 29/32 |
| | VS310 | .71 | 1.29 | 5.5 | — | 1401 | — | 12 | ½ | — | 35/64 | 1¼ |
| | VS311 | .60 | 1.10 | 4 | — | 1301 | — | 12 | ⅜ | — | 35/64 | 1 1/32 |
| | VS312 | 1.85 | 2.75 | 8 | 216 | — | — | 12 | 1¼ | 1 | 19/32 | 1 15/16 |
| | VS313 | .51 | .75 | 1.4 | E9 | 15 | — | 20 | 1½ | — | 9/16 | 1 31/32 |
| | VS314 | .77 | 1.10 | 9 | 226 | 1600 | — | 12 | 1 | 1 | 1 | 1 15/16 |
| | VS321 | 1.93 | 2.75 | 4½ | 2731 | — | — | 12 | 36¾ | 2 13/16 | 1¾ | 8 11/32 |
| | VS400 | 1.80 | 2.65 | 4 | E233 | 1300 | — | 10 | 2¼ | — | 1 1/32 | 1 31/32 |

■ Sealed-in-Steel. * Optional.


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World Radio History

# RCA BATTERIES

**RADIO • FLASHLIGHT • FARM • TRANSISTOR • INDUSTRIAL • SPECIAL**

## LIGHTING TYPES

| RCA TYPE NO. | DEALER PRICE EA.* | LIST PRICE EA.* | VOLTAGE | INTERCHANGEABILITY GUIDE EVEREADY | NEDA | BURGESS | STANDARD PKG. QTY. | WT. (lbs.) | MAX. DIMENSIONS (In.) L. | W. or DIAM. | HT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VS034 | .08 | .125 | 1½ | 915 | 15 | Z | 120 | 4 | — | 9/16 | 2 |
| VS035 | .125 | .20 | 1½ | 935 | 14 | 1 | 120 | 11 | — | 1 | 1 13/16 |
| VS036■ | .125 | .20 | 1½ | 950 | 13 | 2 | 192 | 38 | — | 1 3/16 | 2 3/8 |
| VS040C | .65 | .98 | 6 | 509 | 908 | F4H | 10 | 16 | 2¾ | 2¾ | 4⅜ |
| VS040S | .65 | .98 | 6 | 510S | 915 | F4BP | 10 | 16 | 2¾ | 2¾ | 4¼ |
| VS073 | .08 | .125 | 1½ | W468 | 910 | N | 240 | 5 | — | 7/16 | 1 3/16 |
| VS138 | 1.25 | 1.85 | 3 | W357 | 901 | 4F2H | 5 | 14½ | 3 15/16 | 2¾ | 6¼ |
| VS074 | .08 | .125 | 1½ | 912 | 24 | 7 | 60 | 1½ | — | 7/16 | 1¾ |
| VS317 | 1.63 | 2.45 | 6 | 731 | TWI | — | 4 | 14½ | 5 7/16 | 2⅞ | 4 3/16 |

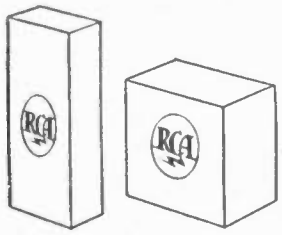
## FARM TYPES

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VS022 | 7.21 | 9.65 | 1½-90 | 759 | 413 | 17GD60 | 1 | 22½ | 16 1/16 | 4¼ | 6 11/16 |
| VS026 | 3.19 | 4.55 | 22½-45 | W365P | 717 | 2308PI | 3 | 24 | 8 1/16 | 3 3/16 | 7 3/16 |
| VS045 | 7.21 | 9.65 | 1½-90 | — | 426 | 18GD60 | 1 | 22½ | 12⅛ | 5⅜ | 6⅞ |
| VS119 | 8.75 | 12.50 | 7½-9-90 | 776 | 415 | SD60 | 1 | 20 | 8¼ | 4½ | 13⅞ |

## INDUSTRIAL and SPECIAL-PURPOSE TYPES

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VS006C | .70 | 1.05 | 1½ | 6GL | 914 | — | 12 | 22 | — | 2⅜ | 6⅜ |
| VS006S | .70 | 1.05 | 1½ | 61GN | 905 | 6IGN | 12 | 22 | — | 2⅜ | 6⅜ |
| VS026 | 3.19 | 4.55 | 22½-45 | W365P | 717 | 2308PI | 3 | 24 | 8 1/16 | 3 3/16 | 7 3/16 |
| VS028 | .63 | .90 | 4½ | 781 | 714 | 5360 | 5 | 1½ | 2 17/32 | 1 3/16 | 3 1/16 |
| VS029 | 1.02 | 1.47 | 1½-3-4½-6-7½ | 773 | 713 | 5540 | 10 | 6¼ | 4⅛ | 1 3/16 | 3 |
| VS039 | 2.90 | 4.35 | 6 | 1461 | 907 | S461 | 3 | 28 | 10⅜ | 2⅞ | 7⅜ |
| VS070 | .35 | .50 | 1½ | 960P | 23 | 8R | 25 | 9 | — | 1 5/16 | 3 15/16 |
| VS083 | .81 | 1.15 | 15 | 411 | 208 | U10 | 12 | ¾ | 1 1/32 | ⅜ | 1 29/64 |
| VS085 | 1.23 | 1.75 | 30 | 413 | 210 | U20 | 12 | 1¼ | 1 1/32 | ⅜ | 2 5/16 |
| VS093 | 7.70 | 11.00 | 300 | 493 | 722 | U200 | 3 | 3½ | 2 11/16 | 2 5/32 | 3 29/32 |
| VS100 | .74 | 1.05 | 3 | W352 | 701 | F2BP | 8 | 6½ | 2 11/16 | 1 7/16 | 4 9/16 |
| VS101 | .74 | 1.05 | 1½ | W354 | 700 | 2FBP | 8 | 6½ | 2⅜ | 1 7/16 | 4 9/16 |
| VS102 | 1.61 | 2.35 | —22½ | 763 | 710 | 4156 | 6 | 6 | 3¼ | 2⅛ | 2 13/16 |
| VS103 | 2.90 | 4.35 | 6 | 706 | 902 | 4F4H | 4 | 27 | 8 5/16 | 2 13/16 | 6 5/16 |
| VS106 | .70 | 1.05 | 1½ | 735 | 900 | 4FH | 10 | 16 | 2 11/16 | 2 11/16 | 4 3/16 |
| VS112 | 2.64 | 3.75 | 22½-45 | W376 | 709 | 5308 | 5 | 18 | 4 3/16 | 2 11/16 | 6 |
| VS114 | 2.37 | 3.40 | 22½-45 | W350 | 711 | Z30NX | 5 | 8 | 3 | 1⅞ | 4 13/16 |
| VS127 | 4.00 | 5.75 | 22½-45 | W363F | 716 | 10308SC | 3 | 36½ | 8 3/16 | 4 5/16 | 8 |
| VS127W● | 4.41 | 6.30 | 22½-45 | W363F | 724 | 10308SC | 3 | 37 | 8 3/16 | 4 7/16 | 8 |
| VS130 | .92 | 1.32 | —1½-3-4½ | 761T | 712 | 2370ST | 8 | 6 | 4 | 1 7/16 | 3 1/16 |
| VS131 | 2.02 | 2.90 | —22½◆ | 778 | 708 | 5156SC | 5 | 7½ | 4⅛ | 2½ | 3 3/16 |
| VS132● | 1.98 | 2.95 | 9 | — | 909 | D6BP | 5 | 7¾ | 4 1/16 | 2 13/16 | 3 |
| VS133 | .52 | .75 | 4½ | 703 | 706 | 532 | 5 | 1½ | 2⅜ | 1 5/16 | 3 1/16 |
| VS134 | .42 | .60 | 3 | 750 | 704 | 422 | 10 | 3 | 1 7/16 | ¾ | 2 9/16 |
| VS139 | 3.67 | 5.50 | 7½ | 715 | 903 | 4F5H | 5 | 39½ | 7¼ | 4 | 6 5/16 |
| VS141 | .59 | .85 | 1½ | W353 | 11 | 2F | 6 | 5 | 2 21/32 | 1 7/16 | 4¼ |
| VS157 | 4.45 | 6.35 | 22½-45 | W364F | 715 | 21308SC | 5 | 67½ | 8⅛ | 4⅜ | 7 11/16 |
| VS317 | 1.63 | 2.45 | 6 | 731 | TWI | — | 4 | 14½ | 5 7/16 | 2⅞ | 4 3/16 |

## TYPES MADE TO ORDER ONLY



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VS005 | 1.27 | 1.86 | 1½ | — | 12 | 4FL | 5 | 7 | 3 13/16 | 1⅜ | 5⅜ |
| VS011 | 2.28 | 3.25 | 6 | 747 | 16 | 2F4L | 6 | 17 | 3⅞ | 1 7/16 | 10⅜ |
| VS030 | 1.05 | 1.50 | 3-4½ | 771 | 718 | 2370PI | 5 | 3½ | 3 15/16 | 1⅜ | 2⅞ |
| VS031 | 2.02 | 2.90 | 3-4½-16½-22½ | 768 | 721 | 5156PI | 5 | 6½ | 4 | 2½ | 3 |
| VS038 | 5.68 | 8.50 | 7½-63 | W367 | 408 | G5A42 | 6 | 26 | 8⅜ | 2¾ | 4 1/16 |
| VS043 | 4.26 | 6.13 | 1½-90 | — | 409 | 5DA60 | 5 | 23 | 5½ | 2 11/16 | 7⅛ |
| VS046 | 4.17 | 5.95 | 6-75 | — | 422 | G4B50 | 6 | 39½ | 12⅜ | 2¾ | 4⅛ |
| VS052 | 3.40 | 4.86 | 1½-61½ | — | 423 | 4GA41 | 5 | 19 | 9⅜ | 2 11/16 | 3 7/16 |
| VS053 | 4.95 | 7.35 | 1½-63 | W366 | 407 | 45A42 | 5 | 19 | 9⅛ | 2 | 4¾ |
| VS054 | 4.80 | 7.15 | 1½-90 | W369 | 410 | 6TA60 | 5 | 24 | 10 | 2 5/16 | 4 13/16 |
| VS126 | 3.19 | 4.55 | 22½-45 | W365F | 723 | 2308SC | 5 | 37 | 8⅛ | 3¼ | 7 9/16 |
| VS136 | .94 | 1.35 | 3 | W356 | 703 | 2F2H | 5 | 8 | 2 11/16 | 2 11/16 | 4 3/16 |
| VS140 | 4.30 | 6.45 | 9 | 716 | 904 | 4F6H | 5 | 50 | 8½ | 4 1/16 | 6 7/16 |
| VS142 | .49 | .70 | 4½ | 751 | 705 | 432 | 10 | 4 | 2 | ¾ | 2⅜ |
| VS157W● | 4.83 | 6.90 | 22½-45 | — | — | — | 5 | 68½ | 8⅛ | 4⅜ | 7 11/16 |

● Wax coated. ◆ Other voltage taps: 3, 4½, 6, 9, 10½, 16½. * Optional. ■ Sealed-in-Steel.

**RCA COMPONENTS DIVISION, Camden, N. J.**

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World Radio History

# BURGESS BATTERIES

## AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES

5308

5540

2370

10308

2308

### BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES ("B" Types)

F4BP

D6

| | | | |
|---|---|---|---|
| No. W30. | 45 volts. Size, 3" x 1¼" x 3²⁵⁄₃₂". Standard package 1 | List price, | $3.15 |
| W30BPX | 45 volts. Size, 3" x 1¼" x 3²⁵⁄₃₂". Standard package 1 | List price, | 3.25 |
| No. Z30NX. | 45 volts. Size, 3½" x 1⅞" x 4¹⁹⁄₃₂". Standard package 5 | List price, | 3.50 |
| K10 | 15 volts. Size, 1¼" x ⅞" x 1¹⁷⁄₃₂". Standard package 1 | List price, | 1.50 |
| K15 | 22½ volts. Size, 1¼" x ⅞" x 2⁹⁄₃₂". Standard package 1 | List price, | 1.65 |
| K20 | 30 volts. Size, 1¼" x ¹⁵⁄₁₆" x 2²³⁄₃₂". Standard package 1 | List price, | 1.95 |
| U10 | 15 volts. Size, 1" x ³⁹⁄₆₄" x 1⁷⁄₁₆". Standard package 1 | List price, | 1.15 |
| U15 | 22½ volts. Size, 1" x ³⁹⁄₆₄" x 1³¹⁄₃₂". Standard package 1 | List price, | 1.50 |
| U20 | 30 volts. Size, 1" x ³⁹⁄₆₄" x 2¹⁷⁄₃₂". Standard package 1 | List price, | 1.75 |
| XX15 | 22½ volts. Size, 1¹¹⁄₃₂" x ¹⁵⁄₁₆" x 3⅞". Standard package 1 | List price, | 1.80 |
| XX22 | 33 volts. Size, 2¹⁷⁄₃₂" x ³¹⁄₃₂" x 3⅛". Standard package 1 | List price, | 2.05 |
| XX30PI | 45 volts. Size, 2¹⁷⁄₃₂" x ³¹⁄₃₂" x 4½". Standard package 1 | List price, | 2.50 |
| Y10 | 15 volts. Size, ¹⁹⁄₃₂" x ¹⁹⁄₃₂" x 1²³⁄₆₄". Standard package 1 | List price, | 1.15 |
| Y15 | 22½ volts. Size, ¹⁹⁄₃₂" x ¹⁹⁄₃₂" x 1³¹⁄₃₂". Standard package 1 | List price, | 1.50 |
| Y20 | 30 volts. Size, ¹⁹⁄₃₂" x 1¾" x 1¹³⁄₃₂". Standard package 1 | List price, | 1.85 |
| Y20S | 30 volts. Size, ¹⁹⁄₃₂" x ¹⁹⁄₃₂" x 2⅞". Standard package 1 | List price, | 1.85 |
| No. 4156. | 22½ volts. Size, 3¹⁷⁄₃₂" x 2⅛" x 2²⁹⁄₃₂". Standard package 1 | List price, | 2.35 |
| No. 5156SC. | 22½ volts. Size, 4⅛" x 2½" x 2¾". Standard package 5 | List price, | 3.30 |
| No. 5156PI. | 22½ volts. Size, 4⁷⁄₆₄" x 2⅜" x 2⁵⁵⁄₆₄". Standard package 1 | List price, | 3.30 |
| No. 5308. | 45 volts. Size, 4¹⁄₁₆" x 2⁹⁄₁₆" x 5⅛". Standard package 1 | List price, | 4.35 |
| U200. | 300 volts. Size, 2¾" x 2⁹⁄₃₂" x 3⅞". Standard package 1 | List price, | 11.00 |

### BURGESS INDUSTRIAL AND ELECTRONIC "C" BATTERIES

4D4

| | | | |
|---|---|---|---|
| No. A8BP. | 12 volts. Size, 2²⁵⁄₃₂" x 1²⁵⁄₆₄" x 2¹⁵⁄₃₂". Standard package 1 | List price, | 3.80 |
| No. W5BP. | 7½ volts. Size, 2³¹⁄₃₂" x ²³⁄₃₂" x 1¾". Standard package 6 | List price, | 1.95 |
| No. 2156. | 22½ volts. Size, 6²¹⁄₃₂" x 4¹⁄₁₆" x 2³¹⁄₃₂". Standard package 6 | List price, | 5.15 |
| No. 2370. | 4½ volts. Size, 3¹⁵⁄₁₆" x 1⅜" x 2⅞". Standard package 5 | List price, | 1.50 |
| No. 2370PI. | 4½ volts. Size, 4¹⁄₆₄" x 1²⁷⁄₆₄" x 2⁶³⁄₆₄". Standard package 5 | List price, | 1.80 |
| No. 5360. | 4½ volts. Size, 2¹³⁄₃₂" x ²⁷⁄₃₂" x 2²¹⁄₃₂". Standard package 10 | List price, | 1.05 |
| No. 5540. | 7½ volts. Size, 4" x ⅞" x 2¾". Standard package 5 | List price, | 1.75 |

### BURGESS ACTIVATORS FOR TRANSISTOR CIRCUITS

2R

4F

| | | | |
|---|---|---|---|
| NE | 1½ volts. Size, ⁷⁄₁₆" (diam.) x 1¹¹⁄₆₄". Standard package 48 | List price, | .125 |
| XX9 | 9, 13½ volts. Size, 1⁹⁄₃₂" x ²⁹⁄₃₂" x 2¹⁷⁄₃₂". Standard package 1 | List price, | 1.35 |
| D6 | 9 volts. Size, 2⁹⁄₁₆" x 2" x 3⁵⁄₃₂". Standard package 1 | List price, | 1.65 |
| 2N6 | 9 volts. Size, 1⅜" x 1⅜" x 2¾". Standard package 1 | List price, | 1.85 |
| 4D4 | 6 volts. Size, 2¹⁷⁄₃₂" x 2" x 7⁵⁄₁₆". Standard package 1 | List price, | 3.95 |
| 2U6 | 9 volts. Size, 1" x ³⁹⁄₆₄" x 1⅞". Standard package 1 | List price, | 1.65 |
| A4 | 6 volts. Size, 1⁹⁄₃₂" x 1⁹⁄₃₂" x 2¹¹⁄₃₂". Standard package 1 | List price, | 1.00 |
| D6P1 | 3, 6, 9 volts. Size, 2¹⁹⁄₃₂" x 1⁷⁄₁₆" x 7²⁷⁄₃₂". Standard package 1 | List price, | 1.65 |
| C6X | 9 volts. Size, 2⁵⁄₁₆" x 1½" x 6¹⁄₁₆". Standard package 1 | List price, | 1.60 |
| P6 | 9 volts. Size, 3¹⁄₃₂" x 3¹⁄₃₂" x 1³¹⁄₃₂". Standard package 1 | List price, | 1.10 |
| D5 | 7½ volts. Size, 2⁹⁄₁₆" x 2" x 2²³⁄₃₂". Standard package 1 | List price, | 1.45 |
| 130 | 1½ volts. Size, ⁶³⁄₆₄" (diam.) x 1¹⁵⁄₁₆". Standard package 12 | List price, | .20 |
| 230 | 1½ volts. Size, 1²¹⁄₆₄" (diam.) x 2²⁵⁄₆₄". Standard package 48 | List price, | .25 |
| 930 | 1½ volts. Size, ³⁵⁄₆₄" (diam.) x 1³¹⁄₃₂". Standard package 12 | List price, | .17 |
| P6M | 9 volts. Size, 3¹⁄₃₂" x 3¹⁄₃₂" x 1⁶³⁄₆₄". Standard package 1 | List price, | 1.35 |
| M6 | 9 volts. Size, 1¹³⁄₁₆" x 1¹³⁄₁₆ x 2⁷⁄₁₆". Standard package 1 | List price, | 1.50 |
| D6S | 9 volts. Size, 2¼" x 1¼" x 7²⁹⁄₃₂". Standard package 1 | List price, | 1.50 |
| 2Z3 | 4½ volts. Size, 1⅜" x 1⅜" x 2¾". Standard package 1 | List price, | 1.59 |

### BURGESS PORTABLE RADIO "A" BATTERIES

| | | | |
|---|---|---|---|
| No. 2F. | 1½ volts. Size, 2¹⁹⁄₃₂" x 1⅜" x 4¼". Standard package 1 | List price, | 1.00 |
| No. 2F4. | 6 volts. Size, 4" x 2¹³⁄₁₆" x 5⁷⁄₁₆". Standard package 1 | List price, | 3.55 |
| No. 2R. | 1½ volts. Size, 1²¹⁄₆₄" diameter x 2²⁵⁄₆₄". Standard package 48 | List price, | .20 |
| No. 4F. | 1½ volts. Size, 2⅝" x 2⅝" x 4³⁄₃₂". Standard package 6 | List price, | 1.50 |
| No. 4FL. | 1½ volts. Size, 4⅞" x 1⅜" x 5⁹⁄₁₆". Standard package 1 | List price, | 2.20 |
| No. 6F. | 1½ volts. Size, 4³⁄₃₂" x 2¾" x 4¹⁄₁₆". Standard package 1 | List price, | 2.15 |

**A QUALITY DRY BATTERY FOR EVERY PURPOSE**



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World Radio History

# BURGESS BATTERIES

## AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES

TW1

F4H

No. 2

No. 1

Z

No. 7

No. N

### BURGESS FLASHLIGHT AND LANTERN BATTERIES

| | | | |
|---|---|---|---|
| **No. 1.** | 1½ volts. Size, 6¾" x 1 15/16". Standard package 12 | List price, | $ .20 |
| **No. 2.** | 1½ volts. Size, 1 21/64" x 2⅜". Standard package 48 | List price, | .20 |
| **No. Z.** | 1½ volts. Size, 35/64" x 1 31/32". Standard package 12 | List price, | .125 |
| **No. 7.** | 1½ volts. Size, 13/32" x 1¾". Standard package 12 | List price, | .125 |
| **F4H.** | 6 volts. Size, 2⅝" x 2⅝" x 4⅛". Standard package 12 | List price, | 1.19 |
| **4F2H.** | 3 volts. Size, 3 29/32" x 2 11/16" x 5 13/32". Standard package 1 | List price, | 1.95 |
| **No. 210** | 1½ volts. Size, 1 21/64" x 2⅜". Standard package 50 | List price, | .25 |
| **N (Bare)** | 1½ volts. Size, 7/16" x 1 11/64". Standard package 24 | List price, | .125 |
| **530** | 45 volts. Size, 4 1/16" x 2 17/32" x 5 5/16". Standard package 2 | List price, | 3.85 |
| ***TW1** | 6 volts. Size, 5⅜" x 2⅞" x 4 15/16". Standard package 1 | List price, | 2.45 |

*For use with Radar Line.

4F5H

### BURGESS IGNITION—TELEPHONE AND PROTECTIVE SYSTEM BATTERIES

| | | | |
|---|---|---|---|
| **4FH.** | 1½ volts. Size, 2⅝" x 2⅝" x 4". Standard package 12 | List price, | 1.15 |
| **4F2H.** | 3 volts. Size, 3 29/32" x 2 11/16" x 5 13/32". Standard package 1 | List price, | 1.95 |
| **4F4H.** | 6 volts. Size, 8 5/16" x 2 13/16" x 5 13/16". Standard package 1 | List price, | 4.75 |
| **4F5H.** | 7½ volts. Size, 7 3/16" x 3 31/32" x 5 13/16". Standard package 1 | List price, | 6.10 |
| **4F6H.** | 9 volts. Size, 8½" x 3 31/32" x 5 13/16". Standard package 1 | List price, | 7.10 |
| **No. 6 R. R. and Ind.** | 1½ volts. Size, 2½" Diam. 6⅝". Standard package 12 | List price, | 1.26 |
| **No. 6 IGN.** | 1½ volts. Size, 2½" Diam. 6⅝". Standard package 12 | List price, | 1.15 |
| **No. 6 TEL.** | 1½ volts. Size, 2½" Diam. 6⅝". Standard package 12 | List price, | 1.15 |
| **S 461.** | 6 volts. Size, 10½" x 2¾" x 7 13/32". Standard package 6 | List price, | 4.75 |
| **2Z2PI** | 3 volts. Size, 1 5/32" x 1 5/32" x 2 13/32". Standard package 12 | List price, | .90 |

4FH

6 Ign.

6 Tel.

### BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES
### ("A" Types)

| | | | |
|---|---|---|---|
| **No. 2F2H.** | 3 volts. Size, 2⅝" x 2⅝" x 4 1/16". Standard package 5 | List price, | 1.40 |
| **No. 2FBP.** | 1½ volts. Size, 2 21/32" x 1⅜" x 4 1/32". Standard package 5 | List price, | 1.15 |
| **No. B2BP.** | 3 volts. Size, 1⅝" x 13/16" x 2 11/16". Standard package 6 | List price, | 1.40 |
| **No. F2BP.** | 3 volts. Size, 2 21/32" x 1⅜" x 4 1/32". Standard package 5 | List price, | 1.15 |
| **No. F4BP.** | 6 volts. Size, 2⅝" x 2⅝" x 4". Standard package 1 | List price, | 1.19 |
| **No. Z.** | 1½ volts. Size, 35/64" x 1 31/32". Standard package 12 | List price, | .125 |
| **No. 7.** | 1½ volts. Size, 13/32" x 1¾". Standard package 12 | List price, | .125 |
| **No. 2R.** | 1½ volts. Size, 1 21/64" x 2 25/64" diameter. Standard package 48 | List price, | .20 |
| **5R** | 1½ volts. Size, 49/64" (Diam.) 2 15/64". Standard package 12 | List price, | .20 |
| **8R** | 1½ volts. Size, 1 3/32" (Diam.) 3 15/16". Standard package 24 | List price, | .60 |
| **9R** | 1½ volts. Size, 35/64" (Diam.) 1 63/64". Standard package 12 | List price, | .17 |
| **2Z** | 1½ volts. Size, 1⅛" x 19/32" x 1 63/64". Standard package 10 | List price, | .34 |
| **422** | 3 volts. Size, 1 11/32" x 23/32" x 2 5/16". Standard package 10 | List price, | .75 |
| **432** | 4½ volts. Size, 1 31/32" x 21/32" x 2¼". Standard package 10 | List price, | .85 |
| **532** | 4½ volts. Size, 2 15/32" x 13/16" x 2 23/32". Standard package 1 | List price, | .90 |
| **2F4FL** | 6 volts. Size, 4⅛" x 2 11/16" x 5½". Standard package 1 | List price, | 2.35 |

F2BP

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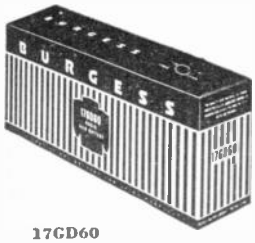
# BURGESS BATTERIES

## AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES



17GD60

### BURGESS FARM RADIO "A & B" BATTERIES

| | | List Price |
|---|---|---|
| **No. 17GD60.** | 1½ volt "A", 90 volt "B". Size 15 11/16" x 4⅜" x 7 1/16". ....Std. pkg. 1 | $9.65 |
| **No. 4SD60.** | 1½ volt "A", 90 volt "B". Size 10 11/16" x 4 5/16" x 6 13/16". ....Std. pkg. 1 | 9.65 |
| **No. S6D60.** | 7½ volt "A", 9 "A" 90 volt "B". Size 9⅞" x 4⅛" x 7 13/16". Std. pkg. 1 | 12.50 |

220

### BURGESS PHOTO-FLASH BATTERIES

| | | | |
|---|---|---|---|
| **120** | 1½ volts. Size, 1" (diam.) 1 15/16". Standard package 12..... | List price, | .25 |
| **220** | 1½ volts. Size, 1 11/32" (diam.) 2 25/64". Standard package 12.... | List price, | .25 |
| **920** | 1½ volts. Size, 35/64" (diam.) 1 31/32". Standard package 24..... | List price, | .20 |
| **U15PF** | 22½ volts. Size, 31/32" x 9/16" x 1 31/32". Standard package 1..... | List price, | 1.50 |
| **U10** | 15 volts. Size, 1" x 39/64" x 1 7/16". Standard package 1..... | List price, | 1.15 |
| **U20** | 30 volts. Size, 1" x 39/64" x 2 17/32". Standard package 1..... | List price, | 1.75 |
| **Y10** | 15 volts. Size, 19/32" x 19/32" x 1 23/64". Standard package 1..... | List price, | 1.15 |
| **Y15** | 22½ volts. Size, 19/32" x 19/32" x 1 31/32". Standard package 1..... | List price, | 1.50 |
| **XX45** | 67½ volts. Size, 2¾" x 1 11/32" x 3 43/64". Standard package 6..... | List price, | 3.50 |
| **N60** | 90 volts. Size, 3 11/16" x 1 9/32" x 3 19/32". Standard package 6..... | List price, | 4.25 |
| **D3** | 4½ volts. Size, 3⅞" x 1 5/16" x 2 15/16". Standard package 6..... | List price, | .98 |
| **XX150** | 225 volts. Size, 4¼" x 2⅝" x 4¼". Standard package 1..... | List price, | 9.95 |
| **U160** | 240 volts. Size, 2 9/16" x 1 5/16" x 4 13/32". Standard package 1..... | List price, | 7.95 |
| **N150** | 225 volts. Size, 3 9/16" x 2¾" x 4¾". Standard package 1..... | List price, | 7.95 |
| **U320** | 510 volts. Size 2 15/16" x 1 17/32" x 5 7/16". Standard package 1..... | List price, | 15.95 |
| **K45** | 67½ volts. Size, 2 11/16" x 1 5/16" x 2¼". Standard package 6..... | List price, | 3.15 |
| **M30** | 45 volts. Size 3 9/16" x 1¾" x 5½". Standard package 6..... | List price, | 3.15 |

TW7

### BURGESS RADAR-LITE LANTERNS (less batteries)

| | | | |
|---|---|---|---|
| **TW3.** | RADAR-LITE (with flasher) Spotlight Beam. Stand. package 1. | List price, | 9.95 |
| **TW4.** | RADAR-LITE (without flasher) Spotlight Beam. Stand. pack. 1. | List price, | 7.50 |

TW3

### BURGESS RADAR-LAMP LANTERNS (less batteries)

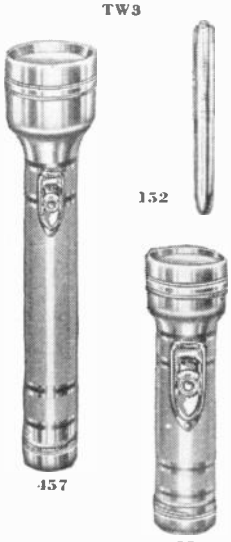
| | | | |
|---|---|---|---|
| **TW7** | Radar-Lamp (chrome finish). Standard package 1..... | List price, | 6.50 |
| **TW8** | Radar-Lamp (copper finish). Standard package 1..... | List price, | 6.50 |

### BURGESS RADAR BEARCAT LANTERN (less battery)

| | | | |
|---|---|---|---|
| **TW9** | Radar Bearcat (focusing lantern). Standard package 1..... | List price, | 4.50 |

### BURGESS RADAR-FLASH (less battery)

| | | | |
|---|---|---|---|
| **TW34** | Radar-Flash (flashing red light). Standard package 1..... | List price, | 3.95 |


152

457

257

### BURGESS PEG BOARD RADAR-LINE ASSORTMENT

| | | | |
|---|---|---|---|
| **573** | 1-573 Peg Board, 2-TW1, 1 each TW3, TW4, TW7, TW8, TW9 each complete with a TW1 battery. Std. pkg. 1..... | List price, | 52.10 |

### BURGESS BATTERY AND ACCESSORIES FOR RADAR-LINE

| | | | |
|---|---|---|---|
| **TW1** | 6 volts. Size, 5⅜" x 2⅞" x 4 15/16". Standard package 1..... | List price, | 2.45 |
| **RL11** | Lens Guard for Radar-Lite. Standard package 1 ..... | List price, | 1.25 |
| **RL22** | Storage Bracket for Radar-Lite. Standard package 1 ..... | List price, | 1.50 |
| **RL33** | Bracket Hanger for Radar-Lite. Standard package 1 ..... | List price, | 1.50 |

251

### BURGESS FLASHLIGHT CASES (less batteries)

| | | | |
|---|---|---|---|
| **157** | Escort Torch—2 cell prefocused—Assort. colors, Std. Pkg. 12.. | List price, | .98 |
| **257** | Satellite Torch—Jr. 2 cell prefoc.—Sand Tan & Chr. Std. Pkg. 3. | List price, | 1.75 |
| **357** | Satell. Torch—2 cell prefoc.—Sand Tan & Chr. Std. Pkg. 6... | List price, | 1.95 |
| **457** | Satell. Torch—4 cell prefoc.—Sand Tan & Chr. Std. Pkg. 1... | List price, | 3.29 |
| **57 Asst.** | 1-257, 4-357, 1-457, Standard package 1 ..... | List price, | 12.84 |
| **152.** | New slim Penlight—Tu-Tone Colors. Std. package 12..... | List price, | .88 |
| **251.** | Zebra Light with cells. Standard package 12 ..... | List price, | .69 |
| **255** | Town and Country, 2 cell Chrome. Standard package 6 ..... | List price, | 1.89 |
| **346** | 2 cell Baby Prefocused Maroon & Chrome. Std. pkg. 3..... | List price, | 1.70 |
| **350** | 2 cell Tough Industrial Light. Stand. package 6 ..... | List price, | 1.90 |
| **P92** | Penlight Maroon Chrome. Standard package 6 ..... | List price, | .88 |
| **953** | Key Chain Zebra Light with Cells. Std. pkg. 12 ..... | List price, | .79 |
| **450** | 3 Cell Tough Industrial. Standard package 1 ..... | List price, | 2.15 |
| **453** | 2 Cell Industrial—Safety Light. Std. package 1 ..... | List price, | 5.00 |
| **561-A** | 1-561 Hyd-Away Bracket, 1-255 flashlight. Std. pkg. 1 ..... | List price, | 3.19 |
| **LD34** | Lens Display Kit (32 Popular Lenses). Standard package 1..... | List price, | 3.20 |
| **RW-2** | Traffic Wand. Standard package 6..... | List price, | .98 |

**A QUALITY DRY BATTERY FOR EVERY PURPOSE**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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

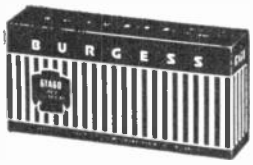
# BURGESS BATTERIES

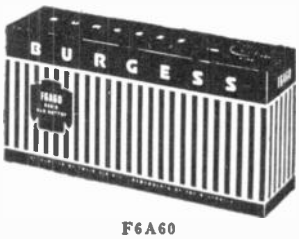
## AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES

A30

F3

F4PI


6TA60


F6A60

### BURGESS PORTABLE RADIO "A" BATTERIES (Continued)

| | | | |
|---|---|---|---|
| **No. 8F.** | 1½ volts. Size, 3 29/32" x 2 23/32" x 5½". Standard package 1 | List price, | $2.85 |
| **No. F4PI.** | 6 volts. Size, 2 21/32" x 2 21/32" x 4⅛". Standard package 6 | List price, | 1.35 |
| **No. G3.** | 4½ volts. Size, 4 1/16" x 1⅞" x 4 11/16". Standard package 6 | List price, | 1.20 |
| **No. T5.** | 7½ volts Size, 2 17/32" x 2 19/32" x 3 29/32". Standard package 3 | List price, | 1.65 |
| **No. D3.** | 4½ volts. Size, 3⅞" x 1 5/16" x 2 15/16". Standard package 6 | List price, | .98 |
| **No. 2D.** | 1½ volts. Size, 2 9/16" x 1 9/32" x 2 31/32". Standard package 1 | List price, | .90 |
| **No. Z4.** | 6 volts. Size, 1 3/16" x 1 3/16" x 2 7/32". Standard package 1 | List price, | .90 |
| **No. B5** | 7½ volts. Size, 3 29/32" x ⅞" x 2 27/32". Standard package 6 | List price, | 1.80 |
| **No. C5.** | 7½ volts. Size, 2 7/32" x 1 15/16" x 3 1/32". Standard package 6 | List price, | 1.35 |
| **No. F3.** | 4½ volts. Size, 4" x 1 7/16" x 4⅛". Standard package 6 | List price, | 1.05 |
| **No. 21R.** | 1½ volts. Size, 1 21/64" (diam.) 4⅛". Standard package 12 | List price, | .40 |
| **No. 37** | 1½ volts. Size, 1 5/16" (diam.) 6⅛". Standard package 1 | List price, | .98 |

N60

### BURGESS PORTABLE RADIO "B" BATTERIES

| | | | |
|---|---|---|---|
| **No. A30.** | 45 volts. Size, 3 9/16" x 2¼" x 4 5/16". Standard package 2 | List price, | 3.25 |
| **No. B30.** | 45 volts. Size, 4 1/16" x 2 17/32" x 5 5/16". Standard package 2 | List price, | 3.85 |
| **No. M30.** | 45 volts. Size, 3 9/16" x 1¾" x 5½". Standard package 6 | List price, | 3.15 |
| **No. XX30.** | 45 volts. Size, 2 17/32" x 31/32" x 3 21/32". Standard package 6 | List price, | 2.45 |
| **No. XX45.** | 67½ volts. Size, 2¾" x 1 11/32" x 3 43/64". Standard package 6 | List price, | 3.50 |
| **No. XX50.** | 75 volts. Size, 1 27/32" x 1 5/16" x 6 5/16". Standard package 6 | List price, | 3.95 |
| **No. Z30.** | 45 volts. Size, 3" x 2 5/16" x 4 1/16". Standard package 2 | List price, | 3.95 |
| **No. U200.** | 300 volts. Size, 2¾" x 2 9/32" x 3⅞". Standard package 1 | List price, | 11.00 |
| **No. N60.** | 90 volts. Size, 3 11/16" x 1 9/32" x 3 19/32". Standard package 6 | List price, | 4.25 |
| **No. K45.** | 67½ volts. Size, 2 11/16" x 1 5/16" x 2¼". Standard package 6 | List price, | 3.15 |
| **No. XX69.** | 103½ volts. Size, 1 11/32" x 1 11/32" x 11 23/32". Standard package 1 | List price, | 5.95 |
| **No. P45.** | 67½ volts. Size 1 29/32" x 1" x 5 9/32". Standard package 6 | List price, | 3.10 |
| **No. U30.** | 45 volts. Size 1 3/32" x 19/32" x 3 17/32". Standard package 1 | List price, | 2.50 |
| **P45M** | 67½ volts. Size 1 29/32" x 1" x 5 9/32". Standard package 6 | List price, | 4.00 |
| **P60** | 90 volts. Size, 1 29/32" x 1" x 7 13/32". Standard package 6 | List price, | 3.75 |
| **U15** | 22½ volts. Size, 1" x 39/64" x 1 31/32". Standard package 1 | List price, | 1.50 |
| **UX45** | 67½ volts. Size, 1 7/32" x 31/32" x 3 31/32". Standard package 1 | List price, | 2.95 |
| **N60X** | 90 volts. Size, 1⅞" x 1 11/32" x 7⅛". Standard package 1 | List price, | 4.25 |

M30


XX45

### BURGESS PORTABLE RADIO "A & B" BATTERIES

| | | | |
|---|---|---|---|
| **2TXX40.** | 1½A, 60B volts. Size, 2 13/32" x 1 11/32" x 7 5/32". Std. package 1 | List price, | 5.35 |
| **4GA42.** | 1½A, 63B volts. Size, 9 1/16" x 2⅛" x 4¾". Std. package 1 | List price, | 7.75 |
| **6TA60.** | 1½A, 90B volts. Size, 9 31/32" x 2¼" x 4 7/16". Std. package 1 | List price, | 7.15 |
| **F4A50.** | 6A, 75B volts. Size, 9 9/32" x 2 23/32" x 3 21/32". Std. package 1 | List price, | 8.35 |
| **F6A60.** | 7½, 9A, 90B volts, Size, 9 5/16" x 2 21/32" x 4 5/16". Std. package 1 | List price, | 7.25 |
| **F6A60P.** | 9A, 90B volts. Size, 9 7/16" x 2¾" x 4 11/32". Std. package 1 | List price, | 6.85 |
| **T5Z50.** | 6, 7½A, 75B volts. Size, 8½" x 3 11/32" x 2⅜". Std. package 1 | List price, | 6.25 |
| **T5Z50P.** | 7½A, 75B volts. Size, 8½" x 3 11/32" x 2⅜". Std. package 1 | List price, | 6.25 |
| **G6B60.** | 9A, 90B volts. Size, 13 29/32" x 2 13/16" x 4 21/32". Std. package 1 | List price, | 7.75 |
| **G6M60.** | 7½, 9A, 90B volts. Size, 10 3/16" x 3⅛" x 4 1/32". Std. package 1 | List price, | 7.85 |
| **T6Z60P.** | 9A, 90B volts. Size, 8 15/16" x 2 3/16" x 3 13/16". Std. package 1 | List price, | 6.85 |
| **4TZ60.** | 1½A, 90B volts. Size, 7⅝" x 2⅛" x 3¾". Std. package 1 | List price, | 5.75 |
| **T6Z60.** | 7½, 9A, 90B volts. Size, 8 15/16" x 2 13/16" x 3 13/16". Std. package 1 | List price, | 6.75 |

XX30

### BURGESS FARM RADIO "A" BATTERIES

| | | | |
|---|---|---|---|
| **No. 20F.** | 1½ volts. Size, 7⅝" x 2 9/16" x 6 15/16". Standard package 1 | List price, | 8.15 |
| **No. 20F2.** | 3 volts. Size, 11½" x 4" x 6⅛". Standard package 1 | List price, | 9.30 |

### BURGESS FARM RADIO "B" BATTERIES

| | | | |
|---|---|---|---|
| **No. 10308SC or Pl.** | 45 volts. Size, 8 1/32" x 4 1/32" x 7 3/16". Standard package 1 | List price, | 6.35 |
| **No. 21308SC or Pl.** | 45 volts. Size, 8⅛" x 4 15/32" x 7 9/32". Standard package 1 | List price, | 6.95 |
| **No. 2308 SC or Pl.** | 45 volts. Size, 8 3/32" x 2 31/32" x 7¼". Standard package 1 | List price, | 5.00 |

P45M 21R

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World Radio History

# Rely on RAY·O·VAC® Batteries

## SUPPORTED BY A COMPLETE MERCHANDISING PROGRAM

### A B BATTERIES

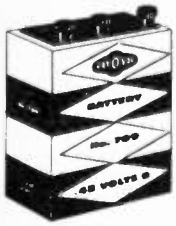
A400*

401

| STOCK NO. | VOLTAGE | DIMENSIONS L | DIMENSIONS W | DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| A400* | 9, 90 | 13 5/8 | 2 3/4 | 4 9/16 | 4 Prong Recessed Plug | 752 | G6B60 | VS047 |
| 401 | 7 1/2, 9, 90 | 9 3/16 | 2 23/32 | 4 3/8 | RMA 116 | 753 | F6A60 | VS019 |
| 403 | 6, 7 1/2, 75 | 8 9/16 | 3 11/16 | 2 7/16 | RMA 116 | 755 | T5Z50 | VS050 |
| 405 | 7 1/2, 9, 90 | 8 11/16 | 2 3/16 | 3 3/4 | RMA 116 | 756 | T6Z60 | VS057W |
| 406 | 9, 90 | 9 1/2 | 2 23/32 | 4 3/8 | 4 Prong Recessed Plug | 757 | F6A60P | VS058 |
| 407 | 1 1/2, 63 | 9 1/8 | 2 | 4 3/4 | 4 Hole Socket | W366 | 4GA42 | VS053 |
| 408 | 7 1/2, 63 | 8 5/8 | 2 3/4 | 4 1/8 | RMA 116 | W367 | G5A42 | VS038 |
| 409 | 1 1/2, 90 | 5 1/2 | 2 11/16 | 7 1/8 | RMA 115 | — | 5DA60 | VS043 |
| 410 | 1 1/2, 90 | 10 | 2 5/16 | 4 13/16 | RMA 115 | W369 | 6TA60 | VS054 |
| 413 | 1 1/2, 90 | 15 3/4 | 4 1/4 | 6 13/16 | RMA 115 | 759 | 17GD60 | VS022 |
| 415 | 7 1/2, 9, 90 | 8 1/8 | 4 5/16 | 13 5/8 | RMA 116 & 4 Prong Plug | 776 | S6D60 | VS119 |
| 422 | 6, 75 | 12 5/8 | 2 3/4 | 4 1/8 | 4 Prong Recessed Plug | — | G4B50 | VS046 |
| 423 | 1 1/2 61 1/2 | 9 3/8 | 2 11/16 | 3 7/16 | 4 Hole Socket | — | — | VS052 |
| 425 | 1 1/2, 90 | 3 11/16 | 2 1/4 | 7 13/16 | RMA 115 | 729 | 4TZ60 | VS064 |
| 426 | 1 1/2, 90 | 12 9/16 | 5 3/8 | 6 5/8 | RMA 115 & 8 Hole Socket | — | 18GD60 | VS045 |
| 428 | 9, 90 | 8 11/16 | 2 3/16 | 3 3/4 | 4 Prong Recessed Plug | 756P | T6Z60P | VS059 |
| 431 | 7 1/2, 75 | 8 7/16 | 3 11/16 | 2 3/8 | 5 Prong Recessed Plug | | | VS060 |

403

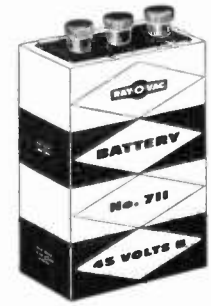
413



709

### INDUSTRIAL AND SPECIAL-PURPOSE BATTERIES

| STOCK NO. | VOLTAGE | DIMENSIONS L | DIMENSIONS W | DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| 700 | 1 1/2 | 2 5/8 | 1 3/8 | 4 9/16 | 2 Screw | W354 | 2FBP | VS101 |
| 701 | 3 | 2 5/8 | 1 3/8 | 4 9/16 | 2 Screw | W352 | F2BP | VS100 |
| 703 | 3 | 2 11/16 | 2 11/16 | 4 3/8 | 2 Screw | W356 | 2F2H | VS136 |
| 704 | 3 | 1 3/8 | 3/4 | 2 5/16 | 2 Flat Spring | 750 | 422 | VS134 |
| 705 | 4 1/2 | 2 | 3/4 | 2 5/8 | 2 Flat Spring | 751 | 432 | VS142 |
| 706 | 4 1/2 | 2 15/32 | 1 3/16 | 3 1/16 | 2 Flat Spring | 703 | 532 | VS133 |
| 708 | 3, 4 1/2, 6, 9, 10 1/2, 16 1/2, 22 1/2 | 4 1/8 | 2 1/2 | 3 5/16 | 8 Spring Clip | 778 | 5156SC | VS131 |
| 709 | 22 1/2, 45 | 4 1/8 | 2 5/8 | 5 7/16 | 3 Screw | W376 | 5308 | VS112 |
| 711 | 22 1/2, 45 | 2 31/32 | 1 27/32 | 5 | 3 Screw | W350 | Z30NX | VS114 |
| 712 | 1 1/2, 3, 4 1/2 | 3 15/16 | 1 3/8 | 3 | 4 Screw | 761T | 2370ST | VS130 |
| 713 | 1 1/2, 3, 4 1/2, 6, 7 1/2 | 3 15/16 | 7/8 | 3 | 5 Screw 1 Pigtail | 773 | 5540 | VS029 |
| 714 | 4 1/2 | 2 15/32 | 13/16 | 2 7/8 | 2 Screw | 781 | 5360 | VS028 |
| 715 | 22 1/2, 45 | 8 1/8 | 4 5/8 | 7 11/16 | 3 Spring Clip | W364F | 21308SC | VS157 |
| 717 | 22 1/2, 45 | 3 1/16 | 3 3/16 | 7 3/16 | RMA 107 | W365P | 2308PI | VS026 |
| 718 | 3, 4 1/2 | 3 15/16 | 1 5/16 | 2 7/8 | RMA 112 | 771 | 2370PI | VS030 |
| 721 | 3, 4 1/2, 16 1/2, 22 1/2 | 4 | 2 1/2 | 3 | RMA 113 | 768 | 5156PI | VS031 |
| 722 | 300 | 2 5/8 | 2 5/32 | 3 13/16 | 2 Flush Pin Jack | 493 | U200 | VS093 |
| 723 | 22 1/2, 45 | 3 1/8 | 3 1/4 | 7 9/16 | 3 Spring Clip | W365F | 2308SC | VS126 |
| 724 (Wax Coated) | 22 1/2, 45 | 8 | 4 | 7 3/8 | 3 Spring Clip | — | 10308SC(P) | VS127W |



711

713

6 Ign. SC.

941

* Prefix A added to NEDA number to eliminate duplication of existing Ray-O-Vac number.
† Over-all height.

RAY-O-VAC FIRST WITH NEDA NUMBERING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# RAY-O-VAC®

## BATTERIES FOR ALL RADIO, ELECTRONIC, LIGHTING & HOBBY NEEDS • A NEW COMPLETE LINE OF POWERFUL BATTERIES

### A BATTERIES

| STOCK NO. | VOLTAGE | MAX. DIMENSIONS L | MAX. DIMENSIONS W | MAX. DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| A1* | 6 | 3 7/8 | 4 1/4 | 5 1/2 | RMA 104 | 718 | 2F4 | VS010 |
| A2* | 6 | 1 5/32 | 1 5/32 | 2 11/32 | Flashlight | 724 | Z4 | VS068 |
| A3* | 4 1/2 | 4 | 1 3/8 | 4 1/8 | RMA 103 | 736 | F3 | VS067 |
| A4* | 1 1/2 | 2 5/8 | 2 5/8 | 4 | RMA 101 | 742 | 4F | VS004 |
| A6* | 6 | 2 5/8 | 2 5/8 | 4 | RMA 104 | 744 | F4PI | VS009 |
| A7* | 4 1/2 | 4 | 1 3/8 | 4 11/16 | RMA 103 | 746 | G3 | VS002 |
| 8 | 7 1/2 | 4 1/16 | 15/16 | 3 | RMA 105 | 713 | B5 | VS129 |
| 9 | 7 1/2 | 2 5/16 | 2 | 3 1/16 | RMA 105 | 717 | C5 | VS065 |
| 11 | 1 1/2 | 2 9/16 | 15/16 | 4 5/16 | RMA 101 | W353 | 2F | VS141 |
| 12 | 1 1/2 | 3 3/4 | 1 3/8 | 5 5/8 | RMA 101 | — | 4FL | VS005 |
| 2LP (NEDA 13) | 1 1/2 | 1 11/32 Diam. | — | 4 1/4 | Flashlight | 950 | 2-2R | VS036 |
| 5LP | 1 1/2 | 1 11/32 Diam. | — | 5 11/16 | Flashlight | D99 | 2-2R | VS036 |
| 1LP (NEDA 14) | 1 1/2 | 1 1/32 Diam. | — | 1 31/32 | Flashlight | 935 | 1 | VS035 |
| 7R (NEDA 15) | 1 1/2 | 9/16 Diam. | — | 1 31/32 | Flashlight | 915 | Z | VS034 |
| 7LP | 1 1/2 | 9/16 Diam. | — | 1 31/32 | Flashlight | 915 | Z | VS034 |
| 16 | 6 | 3 7/8 | 1 7/16 | 10 3/4 | RMA 104 | 747 | 2F4L | VS011 |
| 18 | 1 1/2 | 2 9/16 | 1 5/16 | 2 13/16 | RMA 101 | 720 | 2D | VS069 |
| 19 | 4 1/2 | 3 7/8 | 1 3/8 | 3 | RMA 103 | 726 | D3 | VS072 |
| 20 | 1 1/2 | 1 3/8 Diam. | — | 4 11/64 | Flashlight | 964 | 21R | VS236 |
| 23 | 1 1/2 | 15/16 Diam. | — | 4 1/16 | RMA 101 | 960P | 8R | VS070 |
| 400 (NEDA 24) | 1 1/2 | 7/16 Diam. | — | 1 49/64 | Flashlight | 912 | 7 | VS074 |

### B BATTERIES

| STOCK NO. | VOLTAGE | MAX. DIMENSIONS L | MAX. DIMENSIONS W | MAX. DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| 200 | 67 1/2 | 2 11/16 | 1 3/8 | 3 3/4 | RMA 119 | 467 | XX45 | VS016 |
| 201 | 45 | 2 21/32 | 1 | 3 11/16 | RMA 119 | 455 | XX30 | VS055 |
| 202 | 45 | 3 9/16 | 1 13/16 | 5 1/2 | RMA 110 | 482 | M30 | VS013 |
| 203 | 67 1/2 | 2 3/4 | 1 3/8 | 2 1/2 | RMA 119 | 457 | K45 | VS082 |
| 204 | 90 | 3 11/16 | 1 3/8 | 3 3/4 | RMA 119 | 490 | N60 | VS090 |
| 205 | 22 1/2, 45 | 3 1/16 | 2 5/16 | 4 1/16 | RMA 111 | 738 | Z30 | VS015 |
| 206 | 45 | 3 7/16 | 2 1/4 | 4 9/16 | RMA 111 | W359 | A30 | VS014 |
| 207 | 45 | 4 1/8 | 2 5/8 | 5 5/16 | RMA 111 | 484 | B30 | VS012 |
| 208 | 15 | 1 1/32 | 39/64 | 1 7/16 | RMA 120 | 411 | U10 | VS083 |
| A210* | 30 | 1 1/64 | 39/64 | 2 17/32 | RMA 120 | 413 | U20 | VS085 |
| 211M | 67 1/2 | 1 29/32 | 63/64 | 5 33/64 | 2 Snap Fasteners | — | P45M | VS216/215 |
| 211P | 67 1/2 | 1 7/8 | 1 | 5 15/32 | 2 Snap Fasteners | 477 | P45 | VS218 |
| 212 | 75 | 1 13/16 | 1 3/8 | 6 1/4 | 2 Snap Fasteners | 437 | XX50 | VS217 |
| 213 | 45 | 1 3/16 | 35/64 | 3 9/16 | 2 Snap Fasteners | 415 | U30 | VS086 |
| 214 | 90 | 1 7/8 | 1 | 7 15/32 | 2 Snap Fasteners | 479 | P60 | VS219 |
| 215 | 22 1/2 | 1 1/64 | 5/8 | 2 | RMA 120 | 412 | U15 | VS084 |
| 220 | 15 | 19/32 | 19/32 | 1 3/8 | Flat Contact | 504 | Y10 | — |
| 221 | 22 1/2 | 19/32 | 19/32 | 1 31/32 | Flat Contact | 505 | Y15 | — |

### TRANSISTOR BATTERIES

| STOCK NO. | VOLTAGE | MAX. DIMENSIONS L | MAX. DIMENSIONS W | MAX. DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| 1600 | 9 | 31/32 diam. | | 1 31/32 | 2 Snap Fasteners | 226 | P6 | VS300 |
| 1601 | 9, 6, 3 | 8 | 2 3/4 | 1 9/16 | 4-Hole Socket | 2506 | D6PI | VS301 |
| 1602 | 9 | 1 3/8 | 1 3/8 | 2 3/4 | 2 Snap Fasteners | 246 | 2N6 | VS305 |
| 1603 | 9 | 2 9/16 | 2 1/32 | 3 3/32 | 2 Snap Fasteners | 276 | D6 | VS306 |
| 1604 | 9 | 1 | 19/32 | 1 31/32 | 2 Snap Fasteners | 216 | 2U6 | — |
| 1900 | 9, 13 1/2 | 1 1/4 | 7/8 | 2 9/16 | 3 Hole Socket | 239 | XX9 | VS304 |

Note 2LP or 5LP size D, 1LP size C and 7R or 7LP size AA 1 1/2 Volt batteries are also used in transistor applications. These batteries are listed under the "A" battery section.

### IGNITION AND LANTERN BATTERIES

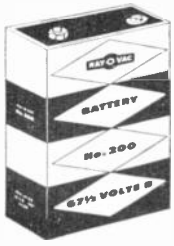
| STOCK NO. | | MAX. DIMENSIONS L | MAX. DIMENSIONS W | MAX. DIMENSIONS † O.A.H. | TERMINALS | COMPARATIVE GUIDE EVEREADY | COMPARATIVE GUIDE BURGESS | COMPARATIVE GUIDE RCA |
|---|---|---|---|---|---|---|---|---|
| 900 | 1 1/2 | 2 11/16 | 2 11/16 | 4 3/16 | 2 Screw | 735 | 4FH | VS106 |
| 901 | 3 | 13/16 | 2 11/16 | 5 13/16 | 2 Spring Clip | W357 | 4F2H | VS138 |
| 902 | 6 | 8 9/32 | 2 25/32 | 6 3/16 | 2 Screw | 706 | 4F4H | VS103 |
| 903 | 7 1/2 | 7 1/4 | 4 | 6 5/16 | 2 Screw | 715 | 4F5H | VS139 |
| 904 | 9 | 8 9/16 | 4 | 6 17/32 | 2 Screw | 716 | 4F6H | VS140 |
| 6 Ign. SC. (NEDA 905) | 1 1/2 | 2 5/8 Diam. | — | 6 9/16 | 2 Screw | 6 Ign. | 6 Ign. | VS006S |
| 6 Tel. (NEDA 906) | 1 1/2 | 2 5/8 Diam. | — | 6 5/8 | 2 Spring Clip | 6 GL | 6 Tel. | VS042C |
| 641 (NEDA 907) | 6 | 10 3/8 | 2 13/16 | 7 3/8 | 2 Screw | 1461 | S461 | VS039 |
| 941 (NEDA 908) | 6 | 2 11/16 | 2 11/16 | 4 5/16 | 2 Coil Spring | 509 | F4H | VS040C |
| 716 (NEDA 910) | 1 1/2 | 29/64 Diam. | — | 1 13/64 | Flashlight | W468 | N | VS073 |
| 6 Ign. Clip (NEDA 914) | 1 1/2 | 2 5/8 Diam. | — | 6 5/8 | 2 Spring Clip | 6 Ign. Clip | 6 Ign. Cl. | VS006C |
| 918 | 6 | 5 3/8 | 2 13/16 | 4 7/8 | 2 Screw | 731 | TW1 | — |

* Prefix A added to NEDA number to eliminate duplication of existing Ray-O-Vac number.
† Over-all height.

2LP

1LP

7R

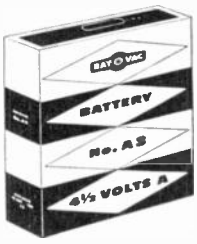


200

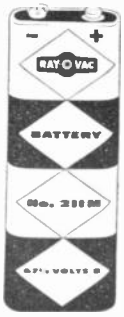
1603

213

20



A3*



211M

1600

204

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World Radio History

# Mueller Electric Co.

CLEVELAND, OHIO

# ALLIGATOR, TEST, AND BATTERY CLIPS

U.S. PATENTS: 2,416,113; 2,549,589; 2,593,130; 2,762,028

**For use in making quick, temporary electrical connections. Screw connections.**

## NEW "70 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 2,762,028

A modern, streamlined version of our standard size Alligator Clips.

Features simplified design, fast connection of wire with cord strain relief ears, patented hinge construction and lower cost.

Mueller's traditionally snappy spring, full jaw spread, fine meshing teeth, round thumb grip and trim shape give most wanted features for test work in close quarters.

### No. 70—FOR SOLDERED CONNECTION

Steel, cadmium plated. 1 11/16" long.

EACH NET.....$0.07 LOTS OF 10.....$0.044

### No. 70-S—SCREW CONNECTION

Otherwise same as No. 70.

EACH NET.....$0.08 LOTS OF 10.....$0.05

### No. 70-CS—COPPER SCREW CONNECTION

Solid copper version of No. 70-S.

EACH NET.....$0.11 LOTS OF 10.....$0.075

### No. 62—FLEXIBLE VINYL INSULATOR

Red and black insulators for Alligator Clips 70-S, 70-CS and 70.

EACH NET....$0.07 LOTS OF 10 $0.048

## "60 SERIES" ALLIGATOR CLIPS

### No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.

EACH NET.....$0.07 LOTS OF 10.....$0.05

### No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.

EACH NET....$0.08 LOTS OF 10.....$0.058

### No. 60-CS—COPPER ALLIGATOR CLIP

Solid copper version of No. 60-S. Screw connection. 2" long. 10 per box.

EACH NET.....$0.12 LOTS OF 10.....$0.084

### No. 62 FLEXIBLE VINYL INSULATOR

Red and black insulators for Alligator Clips 60S, 60CS and 60.

EACH NET.....$0.07 LOTS OF 10.....$0.048

### No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 11/16" long. Shipped half red, half black.

EACH NET.....$0.14 LOTS OF 10.....$0.095

### No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE

Solid copper version of No. 60-HS. Screw connection. Shipped with half red half black insulating sleeves. 10 per box.

EACH NET.....$0.16 LOTS OF 10.....$0.11

## MINI-GATOR CLIP

(Smallest Insulated Clip Ever Made)

U.S. Patent No. 2,762,028 Trademark Reg.

Mini-gator

Mini-gator with Insulator

A truly miniaturized clip—the only one of its kind. Indispensable for testing or incorporation into miniaturized equipment. Skin-tight flexible Vinyl insulator (sold separately) covers completely—has slotted "lip action" tip. Clip weighs 1/20th oz., has tiny 11/64" O.D. nose, but ample 3/8" jaw spread. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.

No. 30 (Steel, cadmium plated)

EACH NET.....$0.07 LOTS OF 10.....$0.044

No. 30-C (Solid Copper)

EACH NET.....$0.08 LOTS OF 10.....$0.056

No. 32 (Insulator for Nos. 30 and 30-C)

EACH NET.....$0.11 LOTS OF 10.....$0.076

## COMPLETELY INSULATED ALLIGATOR CLIPS

Patent Pending

No. 63 or 63-C Clip

Sold only as a unit, with factory-applied insulators.

A radically new development that doubles the usefulness of Alligator Clips! Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted nose that permits opening of clip without exposing metal. Insulator nose is only 15/64" O.D. The tight fitting sheath preserves all the slimness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. These clips could be bunched together—touching all around—without danger of shorting. Screw connection easily made by slipping insulator forward.

### No. 63—INSULATED ALLIGATOR CLIP (STEEL)

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black. 10 per box.

EACH NET.....$0.28 LOTS OF 10.....$0.20

### No. 63-C—INSULATED ALLIGATOR CLIP (COPPER)

Composed of Mueller No. 60-CS Alligator Clip, solid copper, screw connection. Shipped half with red insulators, half black. 10 per box.

EACH NET.....$0.30 LOTS OF 10.....$0.21

## CROCODILE CLIPS

No. 85 or 85-C Clip with No. 87 Insulator

No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 1/8" long.

EACH NET.....$0.08 LOTS OF 10.....$0.058

No. 85-C—Same as No. 85, except solid copper. A radio frequency, entirely non-ferrous test clip. 10 per box.

EACH NET.....$0.16 LOTS OF 10.....$0.11

No. 85-T—Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2 5/8" long. 10 per box.

EACH NET.....$0.21 LOTS OF 10.....$0.15

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.

## WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever!

An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring temper phosphor bronze. Ideal for close-wound coils. 1 13/16" long; jaw spread 3/8". 10 per box.

EACH NET.....$0.22 LOTS OF 10.....$0.15

Use No. 98 Insulator.



World Radio History

# Mueller Electric Co.

## TEST CLIPS

### No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½" long. Jaw spread 5/16". Steel, cadmium plated.

EACH NET.....$0.07 LOTS OF 10.....$0.05

No. 45-C Clip
No. 47 Insulator

### No. 45-C
### Solid Copper R.F. Test Clip

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1½" long. 10 per box.

EACH NET.....$0.13 LOTS OF 10.....$0.09

Use No. 47 Insulator for clips 45 and 45-C.

### No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 7/16". Steel, cadmium plated. 10 per box.

EACH NET.....$0.10 LOTS OF 10.....$0.07

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....$0.14 LOTS OF 10.....$0.098

### No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2¼" long. 10 per box.

EACH NET....$0.25 LOTS OF 10....$0.18

No. 51-C—Large crocodile clip. Same as 50-C but without needle. 10 per box.

EACH NET....$0.17 LOTS OF 10....$0.12

Use No. 49 Insulator for Clips 48-B, 48-C, 50-C and 51-C.

### No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 5/16" long. Jaw spread 5/8". Steel, cadmium plated. 10 per box.

EACH NET.....$0.12 LOTS OF 10.....$0.08

No. 27-C—Solid copper. Same size as No. 27. 10 per box.

EACH NET.....$0.20 LOTS OF 10.....$0.14

Use No. 29 Insulator for clips 27 and 27-C.

## LARGER SIZES OF CLIPS

### No. 24-A
25 Amp.

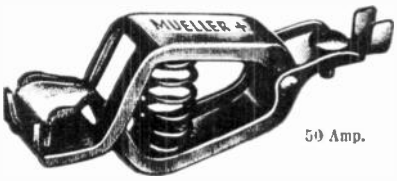
A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞" long. Jaw spread ¾". Steel, lead plated. 10 per box.

EACH NET .....$0.20
LOTS OF 10 .....$0.14

No. 24-C—Solid copper 50 Amp. Same size as No. 24-A.

EACH NET.....$0.34 LOTS OF 10.....$0.24

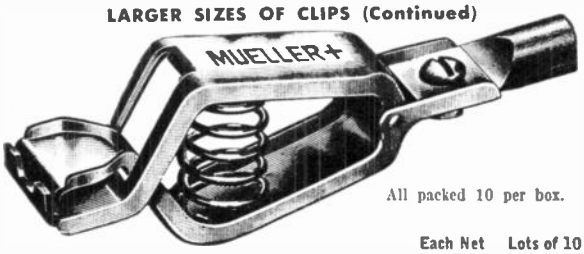
Use No. 26 Insulator for Clips 24-A and 24-C.




50 Amp.

| | Each Net | Lots of 10 |
|---|---|---|
| No. 21-A—Heavy Duty Steel, lead plated, 4" long. 10 per box | $0.36 | $0.25 |

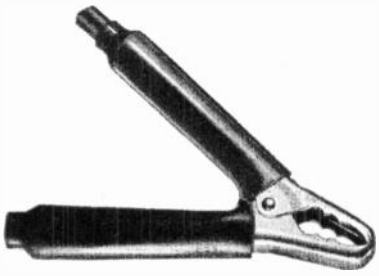
## LARGER SIZES OF CLIPS (Continued)




All packed 10 per box.

| | Each Net | Lots of 10 |
|---|---|---|
| No. 21-C—100 Amp. Solid Copper, 4½" long.... | $0.88 | $0.62 |
| No. 11-A—100 Amp. Steel, lead plated, 6" long | 1.00 | .70 |
| No. 11-C—200 Amp. Solid Copper, 6" long..... | 1.70 | 1.19 |
| No. 33-C—300 Amp. Solid Copper, 7¾" long.... | 3.25 | 2.28 |

(Furnished with detachable lug connection for easy securing to large cables.)



**No. 41-A**
**Steel**
**(lead plated)**
100 Amp.

**No. 41-C**
**Solid Copper**
200 Amp.

**No. 43**
**Paired**
**Insulators**

### HIPPO-CLIP

An improved clip for fast chargers and booster cables. Full 1 5/16" jaw spread. Detachable lug connection. Rugged design. Optional vinyl handle insulators, red for positive, black for negative.

| | | List Price Ea. |
|---|---|---|
| No. 41-A | Hippo-Clip | $ .95 |
| No. 41-C | Hippo-Clip | 2.00 |
| No. 43 | Insulators (per pair) | .45 |

## FLEXIBLE INSULATORS FOR CLIPS

A convenient protection against short circuit and electric shock. Colors help to distinguish leads. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly. NOW AVAILABLE also in blue, white, yellow and green at 10% above regular price are insulators marked * below.

| Insulator No. | For Use with Clip No. | Each Net | Lots of 10 |
|---|---|---|---|
| 13 | 11-A, 11-C | $0.77 | $0.54 |
| 23 | 21-A, 21-C | .48 | .34 |
| 26* | 24-A, 24-C | .24 | .17 |
| 29* | 27, 27-C | .16 | .11 |
| 32 | 30, 30-C | .11 | .076 |
| 35 | 33-C | 2.58 | 1.80 |
| 47* | 45, 45-C | .07 | .048 |
| 49* | 48-B, 48-C, 50-C, 51-C | .10 | .07 |
| 62* | 60S, 60CS, 60, 70S, 70CS, 70 | .07 | .048 |
| 87* | 85, 85-C, 85-T | .07 | .048 |
| 93 | 88 | .10 | .07 |

*Also available in blue, white, yellow and green.

### GROUND CLAMP

CLAMPIPE™
No. 58

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe ⅜" to 1⅜" outside diameter.

Packed 10 in a box

EACH NET.....$0.20 LOTS OF 10.....$0.14

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Net



TRADE DISCOUNT APPLIES TO LIST PRICES ONLY



World Radio History

ROTARY Carter POWER (TRADE MARK)

# DC TO DC GENEMOTORS
# AC TO AC FREQUENCY CHANGERS
# DC TO AC CONVERTERS

## NEW CHANGE-A-CYCLE FREQUENCY CHANGERS

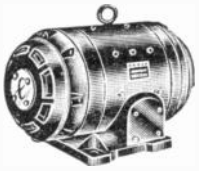
Now you can operate standard communications equipment, compressors, freezers, vending machines, air-conditioners, and other appliances for "non-standard" AC inputs. These models produce 60 cycle AC output from 25 to 400 cycle AC input. Standard units operate from single phase input and deliver single phase output. New silicon diode rectifier provides filtered DC to a special Carter converter which delivers a 60 cycle AC output. The 20 to 200 watt models are mounted in metal cabinets; on 250 to 2,000 watt models, the converter is furnished as a separate unit. Simplified construction; no belts, gears or chain drives to maintain or adjust. Many standard models other than those listed below available promptly. Three-phase input or output available on order. 70% P. F. models available at no extra cost. Frequency meters available; add **$30.00** to the net price. Fifty-cycle output available at no extra charge.

| Carter Number | Input Volts, 25-400 Cps. | Output, Watts (115 v. AC, 60 cps.) | Net Each |
|---|---|---|---|
| FC1060L | 115 | 60 | $186.75 |
| FC1010C | 115 | 100 | 238.50 |
| FC1050CP | 115 | 500 | 386.25 |
| FC1075CP | 115 | 750 | 408.75 |
| FC10200M | 115 | 2,000 | 821.25 |

## NEW MARINE REFRIGERATOR-APPLIANCE CONVERTERS

Operates standard refrigerators, compressors, vacuum cleaners and other appliances from DC; for use aboard commercial and pleasure-boats. Converter operates only when power is called for. Input, from 24 to 115 v. DC. Size: 14" x 6¾" x 11" high. Net Weight, 65 lbs.
All Models, Net Each..... **$336.75**

## NEW MONARCH CONVERTERS



The Monarch series is ideal for heavy duty industrial service, marine, mine, crane and railroad communications. Plenty of power for telephone emergency standby and industrial requirements. Slow speed (1800 rpm.), long-life, 4-pole design; ball-bearing equipped. Many other standard models available promptly. **No filter is necessary for most applications.** Size: 19" x 11" x 12" high. Three-phase output available at no extra charge.

| Carter Number | DC Input Volts | DC Input Amps | Watts at 115 v. AC, 60 cps | Net Each |
|---|---|---|---|---|
| C10150M | 32 | 69 | 1500 | $480.00 |
| W10200M | 48 | 60 | 2000 | 517.50 |
| H10200M | 64 | 45 | 2000 | 517.50 |
| D10200M | 115 | 25 | 2000 | 517.50 |
| K10200M | 230 | 12.5 | 2000 | 532.50 |

**Note:** DC starters are necessary on all models except 24 or 28 volt input. For starter, add **$70.50** to net price.

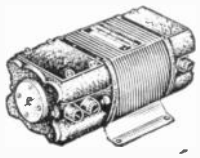
## NEW CUSTOM CONVERTERS

Dependable rotary power for operating office business machines, professional tape recorders, railroad, mobile and marine radio and radar equipment. Finest construction. Sealed ball bearings require no lubrication. Long life, continuous duty, high efficiency on all models. Only popular models listed here. For 50-cycle output, add **$3.75** to net prices. All models 100% power factor. Size: 300 watts, 11⅝" x 6¾" x 7¼" high; 500 watts, 12⅝" long; 750 watts, 13⅞" long.

| Carter Number | DC Input Volts | DC Input Amps | Watts at 115 v. AC, 60 cps. | Net Each |
|---|---|---|---|---|
| BR1021CP* | 12 | 29 | 210 | $195.00 |
| B1030CP | 12 | 45 | 300 | 142.50 |
| E1030CP | 24 | 22 | 300 | 142.50 |
| C1030CP | 32 | 19 | 300 | 142.50 |
| D1030CP | 115 | 4.6 | 300 | 142.50 |
| E1050CP | 24 | 33 | 500 | 163.88 |
| C1050CP | 32 | 25 | 500 | 163.88 |
| D1050CP | 115 | 7 | 500 | 161.25 |
| C1075CP | 32 | 32 | 750 | 184.50 |
| D1075CP | 115 | 8.8 | 750 | 184.50 |

*Equipped with manual frequency control. For frequency control on all other models, add **$59.25** to net prices. Filter available; add **$30.00** to net prices.

## DUOVOLT 6/12 VOLT GENEMOTORS



Will operate 30- to 100-watt mobile transmitters. Incorporates two separate six-volt windings, each having its own field. Six or twelve volt operation is obtained simply by connecting the four input leads in parallel or in series. May be transferred from one car to another regardless of battery voltage, without replacing generator and without wiring modification of hookup. Size: 3½" high, 4¾" wide, 8" long. Weight, 11½ lbs.

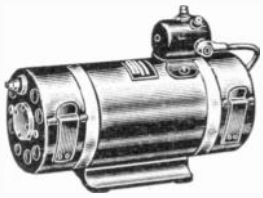
| Carter No. | Input Volts | Input Amps. | Input Volts | Input Amps. | Output Volts | Output Amps. | Duty | Net Each |
|---|---|---|---|---|---|---|---|---|
| 450ABNS | 6 | 29 | 12 | 14.5 | 400 | .250 | Int. | $73.88 |
| 4030VBNS | 5.2 | 40 | 10.4 | 20 | 400 | .300 | Int. | 74.25 |
| 4228VBNS | 5.8 | 33 | 11.6 | 16.5 | 420 | .280 | Int. | 74.25 |
| 4432VBNS | 5.8 | 42 | 11.6 | 21 | 430 | .325 | Int. | 74.63 |
| 520ABNS | 6 | 28 | 12 | 14 | 500 | .200 | Int. | 75.75 |
| 624VBNS | 5.7 | 46 | 11.4 | 23 | 600 | .240 | Int. | 75.75 |
| 6427VBNS | 5.7 | 51 | 11.4 | 25.5 | 640 | .270 | Int. | 77.25 |
| 7212ABNS | 6.1 | 28 | 12.2 | 14 | 720 | .125 | Int. | 77.25 |

## DUOVOLT SUPER GENEMOTORS

Engineered for adequate capacity to operate 50- to 108-watt mobile transmitters in the HIGH frequency 144-174 mc. band. 8¾" long, 4¼" high, 5⅝" wide including base, 4⅝" wide less base. Weight, 16¾ lbs.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TAB430 | 6 | 32 | 12 | 16 | 400 | .300 | Con. | $93.75 |
| TVBS627 | 5.5 | 46 | 11 | 23 | 600 | .270 | Int. | 96.00 |
| TVBS630 | 5.5 | 52 | 11 | 26 | 600 | .300 | Int. | 96.00 |
| TABS6228 | 6 | 46 | 12 | 23 | 620 | .280 | Int. | 96.00 |
| TVBS6537 | 5.8 | 62 | 11.6 | 31 | 620 | .375 | Int. | 97.50 |

## CHANGE-A-VOLT DYNAMOTORS

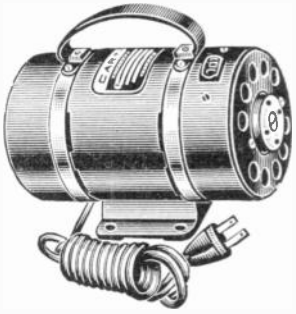


Operate 6 volt 2-way radio equipment from 12 volt systems without rewiring. Supplied complete with starting relay and switch, 12 volt fuse block and wiring to directly convert a 12 volt battery to a 6 volt radio supply. B615V delivers 15 amps continuously and 45 amps intermittent. 65% efficiency. Can also serve as battery equalizer when operating low voltage equipment. Size: 11¼" x 4½" x 7½" high. Weight, 25 lbs.

| Carter No. | Input* Volts | Input* Amps. | Net Each | Carter No. | Input† Volts | Input† Amps. | Net Each |
|---|---|---|---|---|---|---|---|
| B615V | 12 | 11.5 | $88.50 | E128V | 24 | 6.0 | $88.50 |
| E615V | 24 | 5.7 | 88.50 | J128V | 28 | 5.3 | 88.50 |
| J615V | 28 | 5.0 | 88.50 | C128V | 32 | 4.6 | 88.50 |
| C615V | 32 | 4.3 | 88.50 | HS128V | 70 | 2.2 | 88.50 |
| HS615V | 70 | 2.1 | 88.50 | D128V | 115 | 1.3 | 88.50 |
| D615V | 115 | 1.2 | 88.50 | ..... | .... | .... | ..... |

*Output 6 volts, 15 amps. †Output 12 volts, 8 amps.

## MARK II SUPER CONVERTERS



New, long life design increases brush life and assures dependable service. Smooth, quiet, ball-bearing operation. Standard 100% P. F. models change DC to AC for operating amplifiers, office equipment, test instruments, radios and other high-power-factor equipment. Also available in 70% P. F. models to operate popular tape recorders from DC input. Many other catalog models available promptly from factory stock. A converter can be furnished to operate any tape recorder. Continuous duty. Size: 8¼" x 4½" x 5" high. Weight, 13 lbs.

## STANDARD 100% PF CONVERTERS

| Carter No. | DC Input Volts | DC Input Amps. | Watts, AC at 60 cps, 115 v. | Net Each |
|---|---|---|---|---|
| D1040CB | 115 | .7 | 40 | $86.25 |
| D1010CB | 115 | 1.7 | 100 | 88.50 |
| D1015CB | 115 | 2.0 | 150 | 89.25 |
| B1040CB | 12 | 8 | 40 | 79.50 |
| B1010CB | 12 | 15 | 100 | 81.75 |
| B1015CB | 12 | 23 | 150 | 82.50 |
| **Mark II Heavy Duty Super Converter.** Continuous duty, less filter, 10¼" long, 4½" wide, 5" high. Weight, 19 lbs. | | | | |
| D1020CB | 115 | 2.6 | 200 | $99.00 |
| D1025CB | 115 | 3.2 | 250 | 99.00 |
| B1020CB | 12 | 30 | 200 | 92.25 |
| B1025CB | 12 | 34 | 250 | 92.25 |

305X-58A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World Radio History

## Vibrators

Mallory Vibrators are engineered to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Extra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.

| Type No. | Notes* | Volt | Type | Base Dia. | Can Type | Size A B C | List Price |
|---|---|---|---|---|---|---|---|
| F294 | 1 | 32 | Int. | 8 | 1 | 1½ x 2⅞ | $ 7.15 |
| F826S F826C | 1, 2 | 32 | Int. | 8 | 1 | 1½ x 2⅞ | 7.70 |
| G1803S G567C | | 12 | Int. | 38 | 1 | 1½ x 3 | 9.95 |
| G1801S G725C | 1, 2 | 12 | Syn. | 32 | 1 | 1½ x 2 15/16 | 9.95 |
| G1802S G749C | 1, 2 | 12 | Syn. | 21 | 1 | 1½ x 2 15/16 | 9.95 |
| G1603S G826C | 1, 2 | 12 | Int. | 8 | 1 | 1½ x 2 15/16 | 7.70 |
| G1601 G859 | | 12 | Int. | 8 | 1 | 1½ x 2⅞ | 4.70 |
| G1602 G883 | | 12 | Int. | 55 | 9 | 1½ x 2⅞ | 4.70 |
| G1501 G4501 | 1 | 12 | Int. | 53 | 1 | 1½ x 2⅞ | 6.90 |
| G1808 G4546 | | 12 | Syn. | 38 | 1 | 1½ x 2⅞ | 8.55 |
| G1807 G4548 | | 12 | Syn. | 44 | 1 | 1½ x 2⅞ | 8.55 |
| G1801 G4549 | | 12 | Syn. | 32 | 1 | 1½ x 2⅞ | 8.55 |
| M1501 M4501 | | 24 | Int. | 53 | 1 | 1½ x 2⅞ | 6.90 |
| T4002 | | 2 | Syn. | 52 | 8 | 1½ x 2⅛ x 1½ | 10.70 |
| T4003 | | 2 | Syn. | 50 | 1 | 15/16 x 2⅛ | 9.80 |
| W1802 W759 | 3 | 4 | Syn. | 21 | 1 | 1½ x 2⅞ | 8.25 |
| W1601 W859 | 3 | 4 | Int. | 8 | 1 | 1½ x 2⅞ | 4.90 |
| 1802 245 | 1 | 6 | Syn. | 21 | 1 | 1½ x 2⅞ | 7.70 |
| 247 | | 6 | Syn. | 46 | 1 | 1½ x 3¼ | 7.70 |
| 273C | | 6 | Syn. | 29 | 1 | 2 x 4½ | 9.15 |
| 294 | | 6 | Int. | 8 | 1 | 1½ x 2⅞ | 4.90 |
| 298 | | 6 | Int. | 51 | 1 | 1½ x 2⅞ | 6.35 |
| 509P | | 6 | Int. | 8 | 1 | 1½ x 2⅞ | 7.70 |
| 1806 576 | | 6 | Syn. | 61 | 1 | 1½ x 2⅞ | 4.15 |
| 716 | | 6 | Syn. | 30 | 7 | 1 15/16 x 3½ | 7.70 |
| 1801S 725C | 1, 2 | 6 | Syn. | 32 | 1 | 1½ x 2 15/16 | 8.55 |
| 1801 742 | | 6 | Syn. | 32 | 1 | 1½ x 2⅞ | 7.70 |
| 743 | | 6 | Syn. | 38 | 1 | 1¼ x 2⅞ | 7.70 |
| 748 | | 6 | Syn. | 44 | 1 | 1½ x 2⅞ | 7.70 |
| 825S 825C | 1, 2 | 6 | Int. | 8 | 1 | 1½ x 2⅞ | 6.90 |
| 1603S 826C | 1, 2 | 6 | Int. | 8 | 1 | 1½ x 2 15/16 | 6.35 |
| 8541 | | 6 | Int. | 11 | 1 | 1½ x 2⅞ | 4.90 |
| 1601 859 | 1 | 6 | Int. | 8 | 1 | 1½ x 2⅞ | 4.70 |
| 870 | | 6 | Int. | 14 | 1 | 1½ x 2⅞ | 4.90 |
| 903M | | 6 | Int. | 8 | 1 | 1½ x 2⅞ | 3.60 |
| 954 | | 6 | Syn. | 39 | 1 | 1½ x 3 5/16 | 7.70 |
| 1604 1100 | | 6 | Int. | 8 | 1 | 1 5/16 x 2 3/16 | 4.90 |
| 1701 | | 6/12 | Int. | 57 | 1 | 1½ x 3 | 9.60 |
| 1751 | | 6 | Int. | 58 | 1 | 1½ x 3 | 9.80 |
| 1752 | | 6/12 | Int. | 62 | 1 | 1½ x 3 | 9.70 |
| 1852 | | 6 | Syn. | 59 | 1 | 1½ x 2⅞ | 9.70 |
| 1501 4501 | 1 | 6 | Int. | 53 | 1 | 1½ x 2⅞ | 6.35 |
| 1512 4512 | | 6 | Int. | 54 | 1 | 1½ x 2⅞ | 6.90 |
| 1513 4513 | | 6/12 | Int. | 56 | 1 | 1½ x 2⅞ | 6.90 |
| 1514 4514 | | 6 | Int. | 53 | 1 | 1½ x 2⅞ | 6.90 |
| 1808 4546 | | 6 | Syn. | 38 | 1 | 1½ x 2⅞ | 7.70 |
| 1807 4548 | | 6 | Syn. | 44 | 1 | 1½ x 2⅞ | 7.70 |
| 1801 4549 | | 6 | Syn. | 32 | 1 | 1½ x 2⅞ | 7.70 |

Int.—Interrupter Syn.—Synchronous

*** Notes:**

1. Use only these types in design of new equipment. Other types are for replacement purposes only.
2. Hermetically Sealed Construction.
3. Designed for photo flash applications.
4. A grounding cup for 1½" dia. vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.
5. Will be discontinued when present stocks are exhausted.
6. Five special sockets for Practical Vibrator Tester. Supplied as complete kit only.
7. For 1½" diameter vibrators.
See next column for Vibrator Base Diagrams.

**VP-555H**
**VP-557**

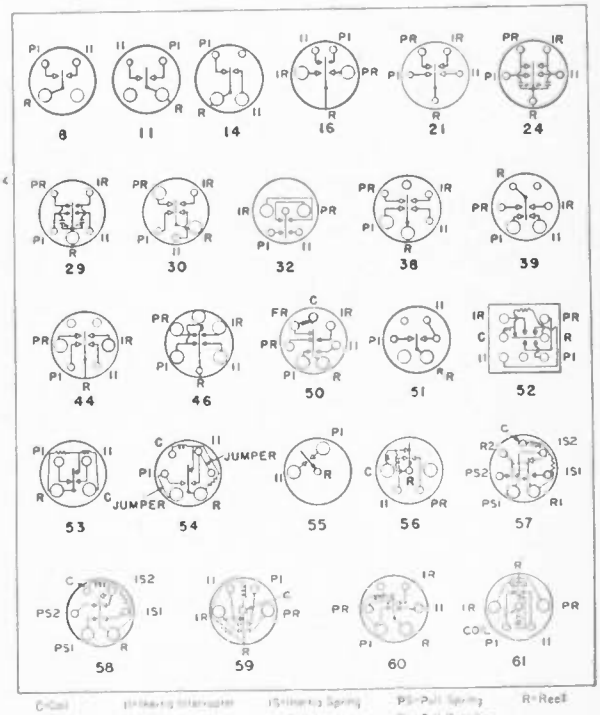
## Vibrapacks

Mallory Vibrapacks are the ideal vibrator power supplies designed to provide at low cost, dependable, high-voltage, direct current from low-voltage, storage batteries. Mallory Vibrapacks offer high efficiency, dependability, low maintenance cost and long life because of years of field testing. Added features are; light weight, compactness and simplicity of installation.

| Catalog Number | Nominal Operating Voltage | Nominal Output Voltage | Maximum Output Current | Type | List Price |
|---|---|---|---|---|---|
| **VP-552** | 6 | 225–250–275–300 | 50–60–80–100 ma. | Self-Rectifying | **$55.00** |
| **VP-G556** | 12 | 225–250–275–300 | 50–60–80–100 ma. | Self-Rectifying | **55.00** |
| **VP6-260** | 6 | 200–260 | 60 ma. | | **28.95** |
| **VP12-260** | 12 | 200–260 | 60 ma. | | **28.95** |
| **VP24-260** | 24 | 200–260 | 60 ma. | | **30.95** |
| **VP6-325** | 6 | 325 | 100 ma. | | **29.95** |
| **VP12-325** | 12 | 325 | 100 ma. | | **29.95** |
| **VP24-325** | 24 | 325 | 100 ma. | | **32.95** |
| **VP-557†** | 6 | 400 | 150 ma. | Tube Rectifier | **79.95** |

* Includes complete audio filter.
† Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential. Reduces maximum output watts ratings to 75% of listed values.
‡ Will be deleted when present stock is exhausted.

## Vibrator Base Diagrams

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World Radio History

## Chart of Replacement Magnesium-Copper Sulfide Rectifier Stacks

| New Catalog Number | List Price | Maximum AC Volts (Normal Line) | | Approx. DC Volts | | | Max. DC† Amperes | | Approximate Overall Dimensions in Inches | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No Load | Full Load | Inductive Load | Resistive Load | Capacitive-Battery Load | Continuous Duty § | Intermittent Duty | Length | Width | Height |
| **IB4R** | **$2.40** | 3.6 | 3.2 | 1.5 | 1.7 | 2.5 | 1.5 | 5.0 | 1 | 9/16 | 7/8 |
| **IB8R** | **2.85** | 7.2 | 6.4 | 3.1 | 3.4 | 5.1 | 1.5 | 5.0 | 1 3/8 | 9/16 | 7/8 |
| **IB12R** | **3.25** | 10.8 | 9.7 | 4.8 | 5.2 | 7.8 | 1.3 | 5.0 | 1 3/4 | 9/16 | 7/8 |
| **IB12L5** | **5.85** | 10.8 | 9.7 | 4.5 | 5.0 | 7.6 | 4.5 | 15.0 | 2 1/2 | 2 1/8 | 2 5/8 |
| **IB12C1J** | **6.55** | 10.8 | 9.8 | 4.6 | 5.1 | 7.7 | 3.2 | 24 | 2 3/4 | 1 1/4 | 1 5/8 |
| **IB12C3** | **6.80** | 10.8 | 9.7 | 4.5 | 5.0 | 7.6 | 4.5 | 24 | 2 3/4 | 1 3/4 | 2 1/8 |
| **IB12C5** | **7.40** | 10.8 | 9.7 | 4.5 | 5.0 | 7.6 | 5.3 | 24.0 | 3 | 2 1/8 | 2 5/8 |
| **F16C3** | **8.85** | 14.4 | 13.0 | 6.1 | 6.8 | 10.2 | 3.9 | 24 | 3 | 1 3/4 | 2 1/8 |
| **IF16CB7M** | **10.20** | 14.4 | 12.8 | 5.9 | 6.6 | 9.9 | 6.0 | 24 | 3 | 2 1/2 | 3 3/16 |
| **IS16CB7** | **10.20** | 14.4 | 12.8 | 5.9 | 6.6 | 9.9 | 6.0 | 24 | 3 3/4 | 2 1/2 | 3 |
| **IS16B7** | **11.25** | 14.4 | 12.8 | 5.8 | 6.5 | 9.8 | 8.3 | 24 | 5 1/2 | 2 1/2 | 3 |
| **IS16B9** | **12.80** | 14.4 | 12.7 | 5.7 | 6.4 | 9.7 | 11.6 | 24 | 5 1/2 | 3 1/2 | 4 1/4 |
| **F20C7** | **12.75** | 18.0 | 16.2 | 7.6 | 8.4 | 12.6 | 4.8 | 24 | 4 3/8 | 2 1/2 | 3 3/16 |
| **IS24C7J** | **12.80** | 21.6 | 19.4 | 9.0 | 10.1 | 15.1 | 4.0 | 24 | 4 3/4 | 2 1/2 | 3 3/16 |
| **IS24B9** | **17.95** | 21.6 | 19.1 | 8.5 | 9.6 | 14.4 | 11.0 | 24 | 7 1/2 | 3 1/2 | 4 1/4 |
| **IS28C7J** | **15.30** | 25.2 | 22.7 | 10.7 | 11.7 | 17.8 | 4.3 | 24 | 6 | 2 1/2 | 3 |

**NOTE:** All rectifiers are single phase, full wave, bridge type.
**Mounting Prefix:** IB=Insulated Bolt; F=Grounded Foot; IF=Insulated Foot; IS=Insulated Stud.
**P** suffix designates reverse polarity stacking. Center terminal is DC positive.
**J** suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.

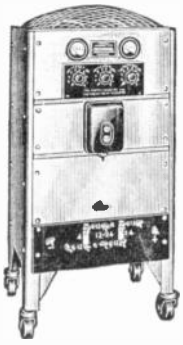
† To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1; resistive load by 1.2; capacitive load by 1.4.
§ Ratings given are for resistive and inductive loads. To determine the Max. continuous DC amp. rating for capacitive and battery loads multiply these ratings by 0.82.

## Mallory VA Series Rectopower® Rectifier DC Power Supplies

Seven models are contained in the line of general utility filtered rectifier DC power supplies for designing, building, testing and repairing electrical and electronic equipment for the automotive, aviation and military equipment industries. The models may also be used for battery charging and electrolytic processes such as plating, anodizing, electrocleaning and electropolishing. These units incorporate voltmeter, ammeter, isolating-type transformer and many other features which make them desirable for production or laboratory use.

The four independent filtered output circuits may be paralleled, series-paralleled, seriesed, used independently or connected in several different combinations to provide simultaneous outputs as required. Delivery information and more detailed specifications on special Rectostarters® for aircraft engine starting and industrial electric truck battery charging, may be had by writing to P. R. Mallory & Co., Inc., Box 1558, Indianapolis, Ind.

VA400
VA800



VA1500
VA3000
VA4500
VA6000

| MODEL | VA400 | VA800 | VA1500 | VA3000 | VA4500 | VA6000 |
|---|---|---|---|---|---|---|
| **AC Input** | | | | | | |
| Volts ± 10% | 115 | 208 230 or 115 | 208–230 or 460 | 208–230 or 460 | 208–230 or 460 | 208–230 or 460 |
| Phase* | 1 | 1 | 3 | 3 | 3 | 3 |
| Cycles | 60 | 60 | 60 | 60 | 60 | 60 |
| KVA | 1.2 | 2.4 | 3.0 | 6.0 | 9.0 | 12.0 |
| **DC Output Rating** | | | | | | |
| Max. Amperes at Nominal Volts of different Circuit Combinations. | Amps. | Amps. | Amps. | Amps. | Amps. | Amps. |
| 6 volts (all paralleled) | 50 | 100 | 200 | 400 | 600 | 800 |
| 12 (series-paralleled) | 25 | 50 | 100 | 200 | 300 | 400 |
| 24 (all seriesed) | 12½ | 25 | 50 | 100 | 150 | 200 |
| **DC Output Adjustment** | | | | | | |
| Voltage Adjustment Range at Max. Rated Ampere Output. | Volts | Volts | Volts | Volts | Volts | Volts |
| 6 volt nominal | 0– 8 | 0– 8 | 4– 8 | 4– 8 | 4– 8 | 4– 8 |
| 12 volt nominal | 0–16 | 0–16 | 8–16 | 8–16 | 8–16 | 8–16 |
| 24 volt nominal | 0–32 | 0–32 | 16–32 | 16–32 | 16–32 | 16–32 |
| Number of Voltage Controls | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of Voltage Control Positions | Infinite | Infinite | 28 | 28 | 28 | 28 |
| **DC Output Ripple**—At Rated Output Less Than | 2% | 2% | 2% | 2% | 2% | 2% |
| **DC Output Regulation** From 0 to Rated Amps. at Max. DC Volts and Constant AC Volts | 15% | 15% | 25% | 25% | 25% | 25% |
| **Overall Dimensions**—Width | 22 | 25½ | 25½ | 25½ | 25½ | 25½ |
| Depth | 9 | 12½ | 19 | 19 | 19 | 19 |
| Height | 14 | 15½ | 55 | 55 | 55 | 55 |
| **Weight in Pounds**—Net | 90 | 175 | 300 | 370 | 415 | 480 |
| Shipping | 95 | 175 | 415 | 485 | 530 | 600 |
| **List Price** | **$375.00** | **$575.00** | **$850.00** | **$1055.00** | **$1160.00** | **$1325.00** |

* 25 and 50 cycle Rectopower supplies are available at additional cost.



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

## Rectifier Battery Chargers—Power Supplies • UL Approved

Mallory Automotive, Marine and Aviation Battery Chargers provide convenient, efficient and economical charging of any storage battery used in automobiles, buses, trucks, tractors, taxicabs, small boats, airplanes and on the farm. Taper charging (an automatically decreasing charging rate) is designed into all Mallory chargers to prevent damage to battery plates and to insure maximum battery life. These chargers also are ideal for charging any 6 or 12-volt storage battery used in industrial, engineering and research laboratories.

6SAC10

6SAC6

6SAC4

R670

R675

| Mallory Charger Model Number | Nominal Battery DC Volts | Maximum Charging Rate DC Amps. | Tapered Rate DC Amps. | Maximum Continuous DC Amps. as Power Supply | DC Output Termination | Type of Charging Indicator | Approx. Overall Dimensions in Inches | | | Approx. Shipping Wt. in Pounds | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Height | Width | Depth | | |
| 6SAC4* | 6 | 4 | 2 | 3 | Universal | None | 4⅝ | 4¼ | 4⅜ | 5¼ | $19.95 |
| 6SAC6* | 6 | 6 | 4 | 5 | Universal | Light | 6⅞ | 4⅞ | 4¾ | 6 | 22.95 |
| 6SAC10* | 6 | 10 | 7 | 8 | Universal | Light | 7⅞ | 6½ | 5¾ | 9 | 33.95 |
| 12SAC5* | 12 | 5 | 3 | 4 | Universal | Light | 7⅞ | 6½ | 5¾ | 9 | 33.95 |
| 12SAC10D | 6 | 20 | 15 | 16 | 6' Clamps | Meter | 9⅛ | 6½ | 5¾ | 15½ | 66.95 |
| | 12 | 10 | 8 | 8 | | | | | | | |

* These chargers are equipped with a Universal DC Output Socket. No DC Cable Assemblies are packaged with Charger. Purchase either R670 or R675 Cable Assembly.

## Mallory 12RS6D Bench Power Supply

The Mallory 12RS6D is a dual purpose bench power supply designed for use on the radio service bench for operating conventional 6 and 12 volt automobile and truck radio sets. Fully AC-operated from the 115V/60 cycle line, the 12RS6D supplies rectified and filtered DC in either of 2 ranges. Range "A" supplies 0 to 16 volts at 6 amperes continuously, or 12 amperes intermittently. Range "B" supplies 0 to 8 volts at 10 amperes; or 20 amperes intermittently. Both ranges are infinitely variable from zero to maximum output to permit precise adjustment of bench test voltages. The 12RS6D is equipped with a DC voltmeter, a DC ammeter, infinitely variable voltage control, a range switch, an on-off toggle switch, automatic overload protection, primary fuse and rubber-covered line cord and plug. The rectifying system employs a full-wave metallic rectifier. The cabinet is sheet steel finished in blue enamel and measures 6¾" high, 10⅜" wide and 5½" deep. Shipping weight approximately 8 lbs. Catalog No. **12RS6D $42.95** Net

## Mallory Service Bench Rectopower Supplies

Model 28RS15D is designed to operate from 110-120 volts, 60-cycles, and is equipped with accurate reading DC voltmeters and ammeters, self-reclosing overload circuit breakers in the DC circuit, fuse protection in the AC circuit and an "on-off" switch. Both models are equipped with a continuously adjustable transformer-rotor system to provide precise adjustment of the output voltage to any value from 0 to rated output voltage. Both models are filtered by high-capacity electrolytic capacitors.

These models are also equipped with a new, simplified automatic voltage regulating system (no relays) which keeps the output voltage relatively constant as the load changes from no-load to full load. Model 28RS15D will supply 0-16VDC@ 30A or 0-32VDC@ 15A.

Model **28RS15D $224.50** Net.

## Mallory 12RS14D Heavy Duty Six Volt DC Power Supply

The Mallory 12RS14D 6/12 volt, 25 ampere rectifier type power supply is designed to replace storage battery-charger combinations for bench testing medium power 2-way mobile-phone equipment. It may also be utilized for non-radio uses requiring well-filtered low voltage DC in the 25 ampere range. Heavy sheet-steel housing makes it adaptable for use in garages as mobile radio bench equipment.

The 12RS14D operates from a standard 115 volt 60 cycle source to supply DC voltage from 0 to 8 volts at continuous or variable loads of 0 to 25 amperes. Intermittently, it will supply a maximum of 40 amperes at 6 volts.

An adjustable variable control allows quick selection of any voltage from 0 to 8 at 0 to 25 amperes. Three capacitors totaling 30,000 mfd. filter the output to less than 1 volt ripple and suppress RF and power line interference. A 0-10 volt DC voltmeter and a 0–40 ampere DC ammeter are included.

Conduction cooling of the full-wave Selenium Rectifier Cells, automatic overloading protection, and a self resetting circuit breaker insure long life.

Overall dimensions—11" high, 10½" wide, 8¾" deep. Shipping weight—26 lbs. Catalog No. **12RS14D $139.50** Net

## Accessories

| Catalog Number | | List Price |
|---|---|---|
| R670 | Polarized Battery Clip D.C. Cord Assembly for 6SAC4, 6SAC6, 6SAC10 and 12SAC5 | $1.95 |
| R675 | Universal Cigarette Lighter Plug D.C. Cord Assembly for 6SAC4, 6SAC6, 6SAC10 and 12SAC5 | 2.25 |
| R653 | Extra Battery Clip | .25 |



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## Mercury "A" Batteries

Provide up to 4 times energy-volume ratio of other types of batteries. Ideal for use in portable electronic equipment, etc. Perform under wide range of adverse weather and humidity conditions. No need for rotation or rest periods. Uniform and optimum discharge voltage throughout long service life. 1.34 volts. Button height .058".

| Catalog Number | Capacity MAH | Diameter (Inches) | Overall Height (Inches) | Max. Drain (Ma.) | No Load Voltage | List Price |
|---|---|---|---|---|---|---|
| RM-1R | 1000 | .620 | .650 | 100 | 1.34 | $0.59 |
| RM-3R | 2200 | .980 | .650 | 60 | 1.34 | .82 |
| RM-4R | 3400 | 1.190 | .650 | 80 | 1 34 | 1.05 |
| RM-12R | 3600 | .620 | 1.950 | 250 | 1.34 | 1.25 |
| RM-42R* | 14,000 | 1.190 | 2.375 | 1000 | 1.34 | 3.15 |
| RM-400R | 80 | .450 | .125 | 10 | 1.34 | .36 |
| RM-401R | 800 | .455 | 1.130 | 100 | 1.34 | .53 |
| RM-450R* | 400 | .450 | .560 | 40 | 1.34 | .51 |
| RM-502R | 2400 | .530 | 1.950 | 200 | 1.34 | .96 |
| RM-601R* | 1800 | .620 | 1.125 | 150 | 1.34 | .75 |
| RM-625R | 250 | .610 | 2.33 | 20 | 1.34 | .45 |
| RM-630R | 350 | .610 | .233 | 20 | 1 40 | .45 |
| RM-640R | 500 | .620 | .430 | 50 | 1.34 | .47 |
| RM-675R | 175 | .450 | .200 | 5 | 1.3 | .38 |

## Transistor Batteries

Mallory Mercury Batteries are preferred by original equipment manufacturers of transistor radios. The batteries marked(*) above and those on page 3 are especially recommended for replacement purposes.

| Catalog Number | Capacity MAH | Length (Inches) | Diameter (Inches) | Overall Height (Inches) | Max. Drain (Ma.) | No Load Voltage | List Price |
|---|---|---|---|---|---|---|---|
| TR-113R** | 250 | | .650 | .844 | 20 | 4.0 | $2.00 |
| TR-114R** | 250 | | .650 | 1.060 | 20 | 5.0 | 2.35 |
| TR-115R | 250 | | .650 | 1.295 | 20 | 6.5 | 2.55 |
| TR-120R** | 800 | .980 | .505 | 1.227 | 100 | 2.5 | 1.60 |
| TR-132R | 1000 | | .655 | 1.305 | 100 | 2.5 | 1.25 |
| TR-133R | 1000 | | .655 | 1.960 | 100 | 4.0 | 1.75 |
| TR-134R | 1000 | | .655 | 2.605 | 100 | 5.0 | 2.25 |
| TR-135R | 1000 | | .655 | 3.218 | 100 | 6.5 | 2.75 |
| TR-136R | 1000 | | .655 | 3.906 | 100 | 8.0 | 3.40 |
| TR-140R | 1600 | .960 | .505 | 1.227 | 200 | 1.3 | 1.65 |
| TR-145R | 350 | | .650 | 1.050 | 20 | 7.5 | 2.20 |
| TR-146R | 400 | 1.000 | .531 | 1.938 | 40 | 9.0 | 2.75 |
| TR-152R | 400 | | .480 | 1.125 | 40 | 2.5 | 1.05 |
| TR-153R** | 400 | | .480 | 1.687 | 40 | 4.0 | 1.35 |
| TR-162R** | 500 | | .655 | .875 | 50 | 2.5 | 1.15 |
| TR-163R** | 500 | | .655 | 1.350 | 50 | 4.0 | 1.60 |
| TR-164R** | 500 | | .655 | 1.780 | 50 | 5.0 | 2.00 |
| TR-165R** | 500 | | .655 | 2.185 | 50 | 6.5 | 2.45 |
| TR-233R | 2200 | | 1.015 | 1.969 | 60 | 4.0 | 2.65 |

**Available on special order.

## Transistor Type Zinc-Carbon Batteries for Radio and Instrument Applications

Mallory's new line of special mix Zinc-Carbon Batteries for use with the new and popular portable transistor radios and industrial electronic applications are now available. They offer greatly improved shelf and service life as well as a more stable current drain.

| Catalog Number | Capacity MAH | Length (Inches) | Width (Inches) | Overall Height (Inches) | Max. Drain (Ma.) | No Load Voltage | List Price |
|---|---|---|---|---|---|---|---|
| M-215 | | 1 1/32 | 5/8 | 2 | | 22½ | $1.50 |
| M-1600 | | 1 | 1 | 1 31/32 | | 9 | 1.10 |
| M-1601 | | 2 5/8 | 1 11/32 | 7 15/16 | | 3, 6, 9 | 1.65 |
| M-1602 | | 1 3/8 | 1 5/16 | 2 9/16 | | 9 | 1.85 |
| M-1603 | | 2 1/2 | 1 15/16 | 3 1/8 | | 9 | 1.65 |
| M-1604 | | 1 13/16 | 1 13/16 | 2 7/16 | | 9 | 1.65 |
| M-1900 | | 1 1/2 | 7/8 | 2 9/16 | | 9, 13½ | 1.35 |

## Mallory Power-Pak Batteries

Multi-cell power-pak batteries are available in various standard and special sizes for applications in geophysical, radiation detection, recording instruments, transceivers and other approved applications requiring batteries of various capacities and voltages to meet specialized power supply requirements.

| Catalog Number | Description | Nominal Voltage | Capacity MAH | Suggested Industrial Prices |
|---|---|---|---|---|
| 302125-M | Fire Alarm | 5.3 | 2400 | $ 3.20 |
| 302157 | SU-10 Radiation Detector "A" | 1.3 | 28000 | 10.35 |
| 302158 | SU-10 Radiation Detector "B" | 45.0-22.5 | 500 | 24.38 |
| 302227* | P. H. Meter | 4.0 | 250 | 1.47 |
| 302229* | P. H. Meter | 5.3 | 250 | 1.63 |
| 302240 | Aircraft Instrument | 24.0 | 2400 | 21.28 |
| 302249 | Radiation Detector | 6.7 | 250 | 2.13 |
| 302250 | Radiation Detector | 9.4 | 250 | 2.30 |
| 302257* | Aircraft Test Equipment | 1.3 | 14400 | 6.40 |
| 302351-M | Home Fire Alarm Battery | 5 3 | 2200 | 2.39 |
| 302354* | Radiation Detector | 5 3 | 250 | 1.54 |
| 302358* | Radiation Detector | 10.4 | 250 | 2.60 |
| 302360* | Radiation Detector | 13.0 | 250 | 3.60 |
| 302362* | Radiation Detector | 15.6 | 250 | 3.80 |
| 302424 | Automotive Test Meter | 6.7 | 1000 | 1.90 |
| 302425 | Standard "B" Battery | 45 0 | 250 | 15.40 |
| 302435 | Radiation Detector | 6.7 | 250 | 2.13 |
| 302437 | Radiation Detector | 9.4 | 250 | 2.23 |
| 302462 | Transmitter "B" Supply | 96.0 | 1000 | 31.38 |
| 302463 | New Style Geophysical | 1.3 | 18000 | 5.70 |
| 302464 | New Style Geophysical | 6.7 | 3600 | 5.70 |
| 302465 | New Style Geophysical | 45.0 | 1000 | 15.40 |
| 302467* | Test Meter | 5.3 | 1000 | 1.70 |
| 302478-M | Miniton Recorder | 9.0 | 2300 | 3.75 |
| 302497* | Test Meter | 6 5 | 2200 | 4.00 |
| 302499 | Missile Equipment | 64 0 | 500 | 28.50 |
| 302502 | Geophysical Amplifier | 90 0 | 250 | 26.50 |
| 302506* | Telemetering Equipment | 16.0-4.0 | 250 | 8.97 |
| 302510* | Voltage Reference for Computor | 1.3 | 36000 | 14.50 |
| 302519* | Aircraft Test Equipment | 10 4 | 3600 | 9.00 |
| 302527 | Standard "B" Battery | 90.0 | 250 | 26.50 |
| 302530* | Nike Equipment | 10.4 | 14000 | 35.00 |
| 302539 | Aircraft Test Equipment | 21.5 | 250 | 8.85 |
| 302540* | Aircraft Test Equipment | 1.3 | 14000 | 2.26 |
| 302554 | Standard "B" Battery | 90 0 | 250 | 26.50 |
| 302558* | Missile Equipment | 64.0-35.0 | 500 | 25.50 |
| 302579* | Aircraft Test Equipment | 30.0 | 250 | 10.50 |
| 302580 | Aircraft Test Equipment | 27.0 | 3400 | 19.00 |
| 302589 | Portable Radio | 21.5 | 250 | 12.20 |
| 302642-M | Fire Alarm | 6.5 | 2400 | 3.22 |
| 302667 | Portable Communications Equipment | 6.7 | 14000 | 21.28 |
| 302702* | Geophysical Equipment | 2.6 | 2200 | 2.25 |
| 302800 | Aircraft Test Equipment | 70.0 | 1000 | 27.50 |
| 302830 | Portable Communications Equipment | 12.06-6.7 | 1000-7200 | 19.25 |
| 302896-M | Portable Communications Equipment | 9.0-1.3 | 3600 | 7.80 |
| 302904 | Aircraft Meter | 5.3 | 3400 | 3.91 |
| 302905 | Aircraft Test Equipment | 6.5 | 3400 | 5.00 |
| 302908 | Radiation Detector | 10 6 | 3400 | 7.48 |

*Available on special order.

## New Mercury Batteries for Radio and Instrument Applications

A series of new standard size Mercury Batteries recently added to the Mallory line is now available. They are suitable for the direct replacement of zinc-carbon types now used in existing electronic and radio applications. These new Mallory Mercury Batteries provide two to three times the service and shelf life of the ordinary type, and at a lower operating cost to the user.

| Catalog Number | Capacity MAH | Length (Inches) | Width (Inches) | Overall Height (Inches) | Max. Drain (Ma.) | No Load Voltage | List Price |
|---|---|---|---|---|---|---|---|
| RM-411R | 130 | 1.000 | 17/32 | 1 13/32 | 10 | 15.0 | $2.15 |
| RM-412R | 130 | 1.000 | 17/32 | 1 15/16 | 10 | 22.5 | 2.75 |
| RM-413R | 130 | 1 000 | 17/32 | 2 1/2 | 10 | 30.0 | 3.25 |
| RM-415R | 130 | 1.000 | 17/32 | 3 1/2 | 10 | 45.0 | 4.50 |
| RM-42R | 14,000 | | 1 190 | 2.375 | 1000 | 1.34 | 3.15 |
| ZM-9 | 2400 | | .530 | 1.950 | 200 | 1.5 | .75 |
| TR-145R | 350 | | .650 | 1.050 | 20 | 7.5 | 2.20 |
| TR-146R | 400 | 1.000 | .531 | 1.938 | 40 | 9.0 | 2.75 |
| TR-233R | 2200 | | 1.015 | 1.969 | 60 | 4.0 | 2.65 |



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## Mallory Batteries for Portable Radio Applications

Mallory Dry Batteries incorporate many outstanding improvements as extra heavy seamless zinc cups, more of the active ingredients, curled rim "sure-lock" seals and other features found only in Mallory Batteries. These features assure longer shelf and service life, and the maximum in dry battery operation.

M-13R

M-15R

M-200

M-214

M-413

M-13F

M-1600

| Mallory and NEDA Numbers | No Load Voltage | Length (Inches) | Width (Inches) | Overall Height (Inches) | List Price |
|---|---|---|---|---|---|
| | | **"A" Batteries** | | | |
| M-3 | 4½ | 3⅞ | 1⅝ | 4 | $1.05 |
| M-9 | 7½ | 3 | 1 13/16 | 2⅛ | 1.35 |
| M-13R | 1½ | | 1 5/16 | 2⅛ | .25 |
| M-14R | 1½ | | 1 | 1⅞ | .20 |
| M-15R | 1½ | | 17/32 | 1 15/16 | .17 |
| M-20 | 1½ | | 1½ | 4 1/16 | .40 |
| | | **"B" Batteries** | | | |
| M-200 | 67½ | 2 11/16 | 1 5/16 | 3⅝ | $3.50 |
| M-201 | 45 | 2⅝ | 15/16 | 3½ | 2.45 |
| M-211P | 67½ | 1 3/16 | ⅞ | 5¼ | 3.10 |
| M-212 | 75 | 1⅞ | 1 15/32 | 6⅛ | 3.95 |
| M-213 | 45 | 1 | ⅝ | 3 9/16 | 2.50 |
| M-214 | 90 | 1 31/32 | 1 1/32 | 7⅜ | 3.75 |
| M-215 | 22½ | 1 | ⅝ | 1 15/16 | 1.50 |
| | | **"A-B" Battery Packs** | | | |
| M-400 | 9-90 | 12 7/16 | 2 11/16 | 4 9/16 | $7.75 |
| M-401 | 7½, 9-90 | 9½ | 2 9/16 | 4 5/16 | 7.25 |
| M-405 | 7½, 9-90 | 8¾ | 2 3/16 | 3¾ | 6.75 |
| M-413 | 1½-90 | 16 | 4⅛ | 6⅝ | 9.65 |
| | | **Batteries for Flashlights and Toys** | | | |
| M-14F | 1½ | | 1 | 1⅞ | $0.20 |
| M-13F | 1½ | | 1 5/16 | 2⅜ | .20 |
| M-15F | 1½ | | 17/32 | 1 15/16 | .125 |
| | | **Batteries for Industrial, Instrument and Lantern Applications** | | | |
| M-902 | 6 | 8 5/16 | 2 13/16 | 5 13/16 | $4.75 |
| M-907 | 6 | 10⅛ | 2 11/16 | 7⅜ | 4.75 |
| M-908 | 6 | 2 11/16 | 2 11/16 | 3¾ | .98 |
| M-908S | 6 | 2 11/16 | 2 11/16 | 3¾ | .98 |
| M-914 | 6 | | 2 9/16 | 6⅛ | 1.15 |
| M-916 | 6 | 2 11/16 | 2 11/16 | 3¾ | .98 |
| M-918 | 6 | 5 7/16 | 2⅞ | 4 15/16 | 2.45 |
| | | **Photo Flash Batteries and B-C Cartridges** | | | |
| PF-934 | 1½ "D" Cell | | 1 5/16 | 3⅜ | $0.20 |
| PF-933 | 1½ "C" Cell | | 1 | 1⅞ | .20 |
| PF-932 | 1½ "AA" Penlight Cell | | 17/32 | 1 15/16 | .15 |
| PF-412 | 22½ for units with built in capacitors | 9/16 | 1 1/16 | 2 | 1.50 |
| PF-413 | 30 for units with built in capacitors | 9/16 | 1 1/16 | 2 9/16 | 1.75 |
| PX-10 | 2 "C" cells aligned vertically | | 1 | 3¾ | 3.50 |
| PX-12 | 2 "D" cells aligned vertically | | 1¼ | 4⅝ | 3.95 |
| PX-20 | 2 "C" cells aligned horizontally | 2⅛ | 1 | 1⅞ | 4.50 |
| PX-2 | 4 for low voltage flash units | battery power pak | | | 1.60 |
| PX-502 | 1½ for low voltage flash units | | 17/32 | 1 15/16 | .80 |

**For Complete Listing of Mallory Batteries See Manufacturers Catalog 9-128B**



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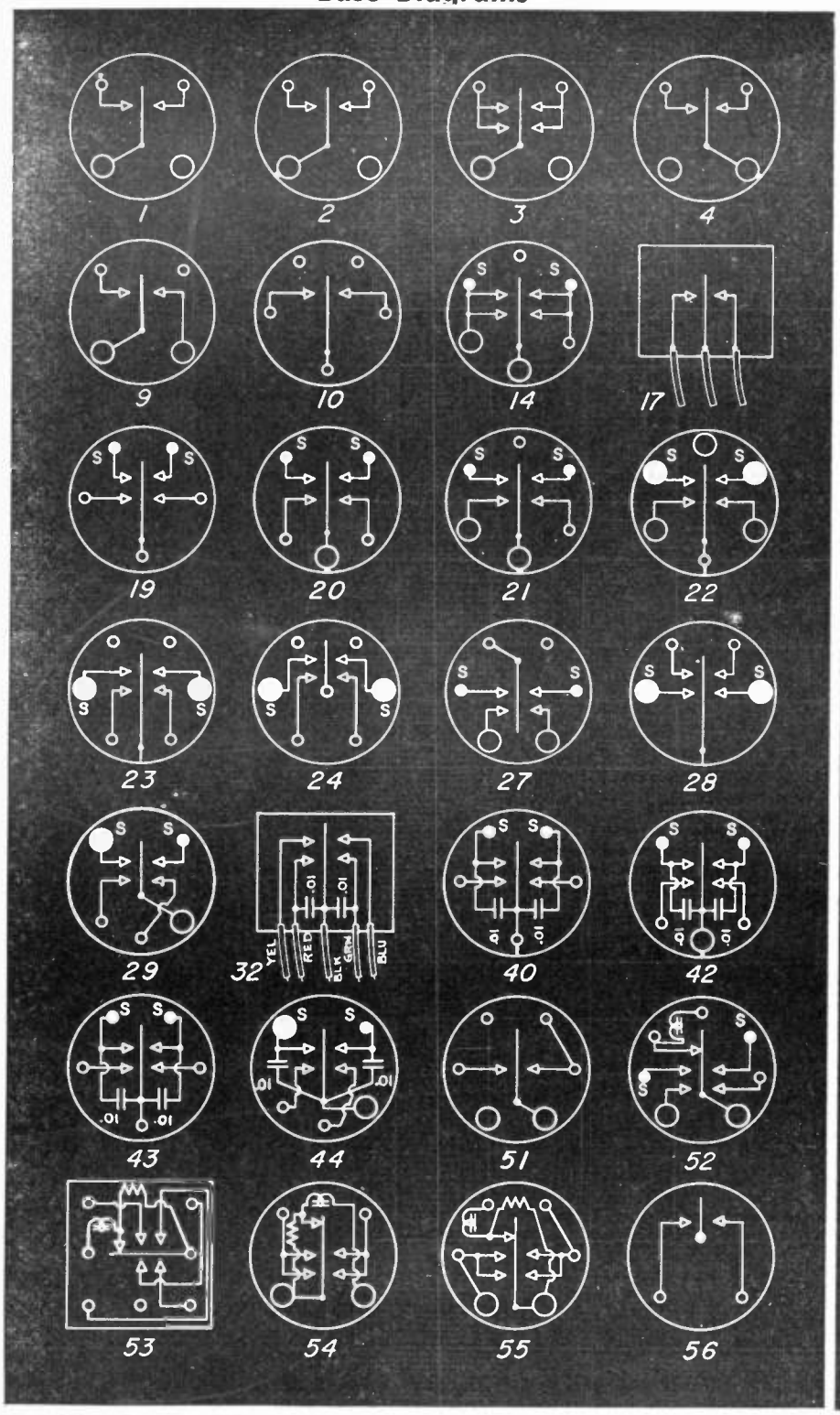
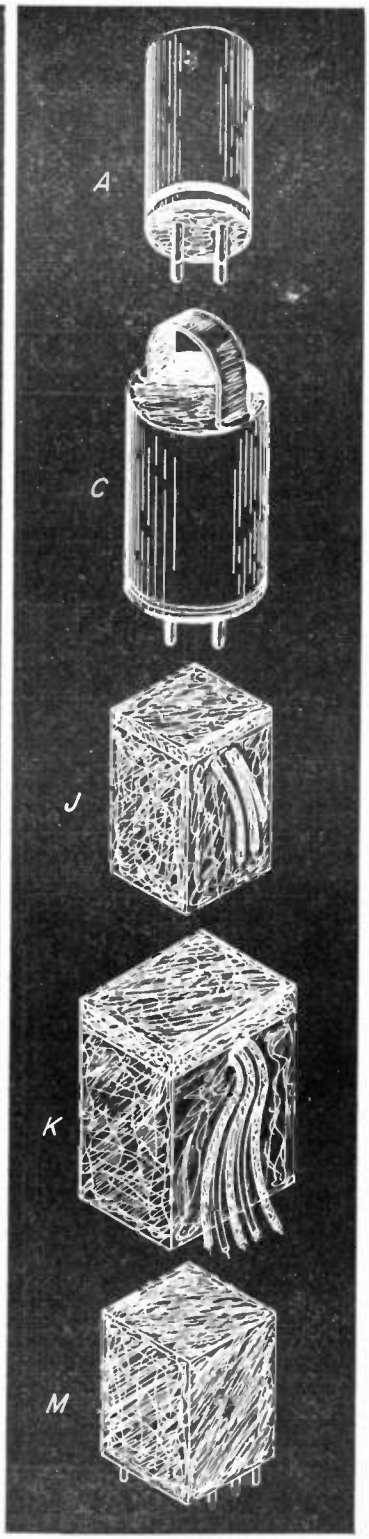
INSIST on ATR VIBRATORS-Get the Best!!

# ATR Replacement Vibrator Specifications

## Base Diagrams




## External Views



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**ATR VIBRATORS** *have Ceramic Stack Spacers*

# ATR Replacement Vibrator Specifications

Frequency: 115 Cycles except as noted. N.S.—Non Synchronous S.—Synchronous

| Type No. | Voltage | Type | Base Dia. | Can Style | Dimensions | List Price | Type No. | Voltage | Type | Base Dia. | Can Style | Dimensions | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 303 | 6 | N.S. | 17 | J | 1½" x 1⅜" x 2½" | $6.35 | 523 | 6 | S. | 22 | A | 1½" x 3⅛" | $7.70 |
| 320 | 6 | N.S. | 10 | A | 1¼" x 3⅛" | 6.35 | 524 | 6 | S. | 23 | A | 1½" x 3⅛" | 7.70 |
| 324 | 6 | N.S. | 1 | A | 1½" x 3⅛" | 4.90 | 525 | 6 | S. | 24 | A | 1½" x 3⅛" | 7.70 |
| 324A | 6 | N.S. | 2 | A | 1⅝" x 3⅝" | 4.90 | 529 | 4 | S. | 21 | A | 1½" x 3⅛" | 7.70 |
| 324B | 6 | N.S. | 1 | A | 1 15/16" x 3½" | 4.90 | 540 | 6 | S. | 27 | A | 1½" x 3⅛" | 7.70 |
| 324C | 6 | N.S. | 2 | A | 1⅝" x 4¾" | 4.90 | 541 | 4 | S. | 19 | A | 1½" x 3⅛" | 8.25 |
| 325 | 6 | N.S. | 51 | A | 1½" x 2⅞" | 6.35 | 541A | 4 | S. | 19 | A | 1 15/16" x 3½" | 8.25 |
| 328 | 6 | N.S. | 4 | A | 1½" x 3⅛" | 4.90 | 544‡ | 6 | S. | 28 | A | 1⅜" x 2⅞" | 7.70 |
| 335 | 6 | N.S. | 9 | A | 1⅝" x 3⅝" | 4.90 | 545‡ | 6 | S. | 28 | A | 1½" x 3⅛" | 7.70 |
| 337 | 6 | N.S. | 14 | A | 1 15/16" x 3½" | 6.35 | 547 | 6 | S. | 29 | C | 1 15/16" x 3½" | 7.70 |
| 338 | 6 | N.S. | 9 | C | 1½" x 3⅛" | 4.90 | *548 | 6 | S. | 24 | A | 1½" x 3⅛" | 8.55 |
| 340 | 6 | N.S. | 1 | A | 1½" x 2⅞" | 4.45 | *549 | 6 | S. | 21 | A | 1½" x 3⅛" | 8.95 |
| *344 | 6 | N.S. | 3 | A | 1½" x 3⅛" | 8.55 | 550 | 6 | S. | 32 | K | 4⅞" x 1¾" x 1¾" | 9.15 |
| 345 | 6 | N.S. | 9 | A | 1½" x 2⅞" | 4.90 | 561 | 6 | S. | 24 | A | 1½" x 2⅞" | 7.70 |
| 347† | 6 | N.S. | 1 | A | 1½" x 3⅛" | 6.35 | 562 | 6 | S. | 21 | A | 1¼" x 3⅛" | 7.70 |
| *348 | 6 | N.S. | 54 | A | 1½" x 2⅞" | 8.95 | 564# | 6 | S. | 23 | A | 1½" x 2⅞" | 7.70 |
| *349 | 6 | N.S. | 55 | A | 1½" x 2⅞" | 8.95 | *574 | 6 | S. | 23 | A | 1½" x 3⅛" | 8.95 |
| 350 | 6 | N.S. | 1 | A | 1¼" x 2⅜" | 4.90 | *575 | 6 | S. | 24 | A | 1½" x 3⅛" | 8.95 |
| 380 | 4 | N.S. | 1 | A | 1½" x 2⅞" | 4.90 | 900 | 2 | S. | 52 | A | 1 5/16" x 2⅛" | 9.80 |
| 503 | 6 | S. | 43 | A | 1 15/16" x 4½" | 9.15 | 902 | 2 | S. | 53 | M | 1½" x 2⅛" x 1½" | 10.70 |
| ADAPTER | ..... | ..... | ..... | ..... | ..... | 1.50 | 1340 | 12 | N.S. | 1 | A | 1½" x 2⅞" | 5.50 |
| 506 | 6 | S. | 40 | A | 1 15/16" x 4½" | 9.15 | 1343 | 12 | N.S. | 56 | A | 1½" x 3⅛" | 4.90 |
| 507 | 6 | S. | 44 | A | 1 15/16" x 4½" | 9.15 | *1344 | 12 | N.S. | 3 | A | 1½" x 3⅛" | 9.95 |
| 508 | 6 | S. | 42 | A | 1 15/16" x 4½" | 9.15 | *1348 | 12 | N.S. | 54 | A | 1½" x 2⅞" | 9.95 |
| 520 | 6 | S. | 19 | A | 1½" x 3⅛" | 7.70 | 1520 | 12 | S. | 19 | A | 1½" x 3⅛" | 9.95 |
| 520A | 6 | S. | 19 | A | 1 15/16" x 3½" | 7.70 | 1524 | 12 | S. | 23 | A | 1½" x 3⅛" | 8.55 |
| 521 | 6 | S. | 20 | A | 1½" x 3⅛" | 7.70 | *1548 | 12 | S. | 24 | A | 1½" x 3⅛" | 9.95 |
| 522 | 6 | S. | 21 | A | 1½" x 3⅛" | 7.70 | 2324 | 32 | N.S. | 1 | A | 1½" x 3⅛" | 7.15 |
| 522A | 6 | S. | 21 | A | 1 15/16" x 3½" | 7.70 | 2401 | 32 | S. | 22 | A | 1½" x 3⅛" | 8.55 |

#140 Cycles ‡180 Cycles †With 5 Ohm Resistors *Communications Type Vibrator for Super Service.

## Recommended Substitutions for Discontinued Vibrators

| Discontinued Type | Recommended Replacement | Discontinued Type | Recommended Replacement | Discontinued Type | Recommended Replacement |
|---|---|---|---|---|---|
| 305 | 303 | 330 | 324C | 543 | 522A (Refer Note 3) |
| 307 | 303 (Refer Note 1) | 332 | 522 (Refer Note 8) | 543A | 522A (Refer Note 3) |
| 314 | 324 | 342 | 325 | 546 | 522 (Refer Note 6) |
| 316 | 324 | 504 | 503 | 551 | 550 (Refer Note 14) |
| 317 | 324 | 505 | 503 (Plus Adapter) | 553 | 550 (Refer Note 11) |
| 323 | 340 | 531 | 550 (Refer Note 13) | 591 | 524 (Refer Note 9) |
| 326 | 325 | 536 | 524 (Refer Note 10) | 2327 | 2324 (Refer Note 12) |
| 327 | 325 | 537 | 525 | 2403 | 2324 |

The Installation Notes listed above are shown in Section 1.

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## Communication Vibrators for SUPER SERVICE

As introduced in the 1954 May-June issues of many leading radio magazines, ATR COMMUNICATION VIBRATORS are truly THE WORLD'S FINEST. See reprint of ad on this page for feature specifications.

ATR COMMUNICATION VIBRATORS eliminate the problem of short-life call-backs on those tough two-way communication rigs. Yes, Sir! these ATR COMMUNICATION VIBRATORS deliver SUPER SERVICE.

For additional specifications pertaining to ATR SUPER SERVICE COMMUNICATION VIBRATORS, see page M-673.

### ATR VIBRATORS FEATURE:

CERAMIC STACK SPACERS with Two-Bolt Stack Construction — for adjustment permanency under any operating condition.

INSTANT STARTING — as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

LARGE OVERSIZED TUNGSTEN CONTACTS having Full Wiping Action—for greater reliability and longer life.

PERFORATED REED of Highest Quality Swedish Spring Steel—for uniform flexibility and prevention of reed breakage.

HIGHEST PRECISION CONSTRUCTION AND WORKMANSHIP — Practically all parts used are held to within a tolerance of 0.0005 of an inch.

VALUE PLUS — as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship.

# ATR INTRODUCES

## *The World's Finest* Communication VIBRATORS

featuring:

- CERAMIC STACK SPACERS
- ¼" DIAMETER POWER CONTACTS
- DRIVER-TYPE COIL CONSTRUCTION
- SPECIAL REED HINGE and WIRING
- POWER CAPABILITY UP TO 15 AMPERES

**A COMPLETE LINE OF REPLACEMENT**

**ATR VIBRATORS**

**FOR AUTOMOTIVE, HOUSEHOLD and TWO-WAY COMMUNICATION SETS**

ATR VIBRATORS are proven units of the highest quality, engineered to perfection. They are backed by more than 26 years of vibrator design and research, development and manufacturing.
ATR pioneered in the vibrator field.

FREE — ATR VIBRATOR MASTER MANUAL



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World Radio History

# "A" BATTERY ELIMINATORS

## . . . FOR DEMONSTRATING AND TESTING AUTO RADIOS

### 6 VOLT OR 12 VOLT!

### TRANSISTOR or VIBRATOR OPERATED!

**Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.**

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

- **Eliminates Storage Batteries and Battery Chargers.**
- **Operates the Equipment at Maximum Efficiency at All Times.**
- **Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.**
- **Minimum Ripple**
- **Fully Automatic and Fool-Proof**
- **Adjustable Voltage Control**

Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIT; equipped with Voltmeter, Ammeter and Voltage Control.

Illustrates Standard "A" Battery Eliminator, Model 610C-ELIF; equipped with Voltmeter, Ammeter and Voltage Control.

**Equipped with Full-Wave Dry Disc Selenium Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.**

TYPE 610C-ELIF—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight, 22 lbs. Code word "SELIT." USER NET PRICE $42.95

TYPE 620C-ELIT—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Sizes 6½" x 12⅞" x 8½". Shipping weight, 33 lbs. Code word "HELIT." USER NET PRICE $59.95

Either 6 or 12 volt output obtainable by means of simple output toggle switching arrangement having locking device to prevent accidental switching.

All ATR Eliminators have as standard equipment: On-Off Switch, 8-Position Voltage Control, Meter(s), Fuse Protection, Rubber Mounting Feet, 6-ft. All-Rubber Cord Set and Cabinet of heavy gauge metal having attractive grey-hammerloid finish.

**JOBBERS ATTENTION:** *See Pages M-678 and M-679 in this ATR Section for your Catalog Needs!*

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World Radio History

# UNIVERSAL INVERTERS

**Specially Designed for Operating Standard A.C. Tape Recorder, Television Set, Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.**

Featured cut above illustrates Model 12U-RHG.

ATR Universal Inverters are actually a combination of 4 Inverter designs in one unit! These Inverters are especially recommended for applications as mentioned above and feature complete RF frequency interference suppression, instant starting, frequency stability, and built-in power factor corrector utilizing a simple toggle switch. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation at high efficiency and maximum reliability. All models indicated are equipped with ATR heavy duty plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulator which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of 75%. To figure approximate current consumption from storage battery, divide the rated input wattage of the recorder (or load) being operated by the storage battery voltage and further divide this answer by .75 which will give the actual current consumption based on the actual load and efficiency. The battery current consumption required for a tape recorder is normally less than that drawn by ordinary automobile headlight(s). These Universal Inverters are recommended only for use with loads having power factors in excess of 70%.

ATR Inverters should be used only for the applications as outlined above and on the reverse side of this sheet.

"—P" models equipped with cigarette lighter cord set to plug into dash receptacle.

All ATR Universal Inverters are housed in attractively finished grey-hammerloid metal cabinets.

Dimensions of Standard (RSF) Model Universal Inverters, 8½" x 9⅞" x 5¼"; shipping weight 22 lbs.

Dimensions of Heavy Duty (RHG) Model Universal Inverters, 6⅞" x 11¼" x 8½"; shipping weight 27 lbs.

Dimensions of Super Heavy Duty (HSJ) Model Universal Inverters 6½" x 12⅞" x 8½"; shipping weight 37 lbs.

For correct replacement Vibrator, consult Inverter Vibrator Guide.

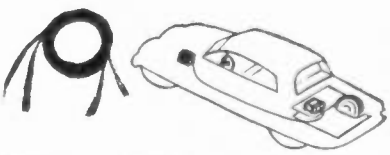
| Type | Input D.C. Volts | A.C. Output 60 Cycles | Output Watt. Int. | Output Watt. Cont. | Shipping Weight | List Price |
|---|---|---|---|---|---|---|
| 6U-RSF | 6 | 110 Volts | 100 | 80 | 22 lbs. | $ 75.00 |
| 6U-RSF-P | 6 | 110 | 100 | 80 | 22 | 75.00 |
| 6U-RHG | 6 | 110 | 150 | 125 | 27 | 89.95 |
| 6U-HSJ | 6 | 110 | 175 | 150 | 37 | 125.00 |
| 12U-RSF | 12 | 110 | 125 | 100 | 22 | 75.00 |
| 12U-RSF-P | 12 | 110 | 125 | 100 | 22 | 75.00 |
| 12U-RHG | 12 | 110 | 175 | 150 | 27 | 89.95 |
| 12U-HSJ | 12 | 110 | 250 | 200 | 37 | 125.00 |
| *28U-RSF | 28 | 110 | 125 | 100 | 22 | 89.95 |
| *28U-RHG | 28 | 110 | 175 | 150 | 27 | 105.75 |
| *28U-HSJ | 28 | 110 | 250 | 200 | 37 | 145.00 |
| 32U-RSF | 32 | 110 | 150 | 100 | 22 | 89.95 |
| 32U-RHG | 32 | 110 | 200 | 180 | 30 | 105.75 |
| 32U-HSJ | 32 | 110 | 325 | 225 | 37 | 145.00 |
| 50U-RSF | 50 | 110 | 150 | 100 | 22 | 89.95 |
| 110U-RSF | 110 | 110 | 250 | 150 | 22 | 75.00 |
| 110AU-RHG | 110 | 110 | 325 | 250 | 27 | 89.95 |
| 110BU-RHG | 110 | 110 | 450 | 350 | 30 | 105.75 |
| 110U-HSJ | 110 | 110 | 600 | 400 | 37 | 145.00 |
| 220U-RSF | 220 | 110 | 250 | 150 | 22 | 79.50 |
| 220U-RHG | 220 | 110 | 325 | 250 | 27 | 99.50 |
| 220U-HSJ | 220 | 110 | 500 | 300 | 37 | 155.00 |

* Recommended for 24 volt battery systems

## ACCESSORIES for 6, 12, and 28 Volt D.C. Input Inverters.

REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto-trunk compartment. List Price $7.95

MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated. List Price $4.95 pr.



EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment. List Price $9.95 pr.

**JOBBERS ATTENTION: *See Pages M-678 and M-679 in this ATR Section for your Catalog Needs!***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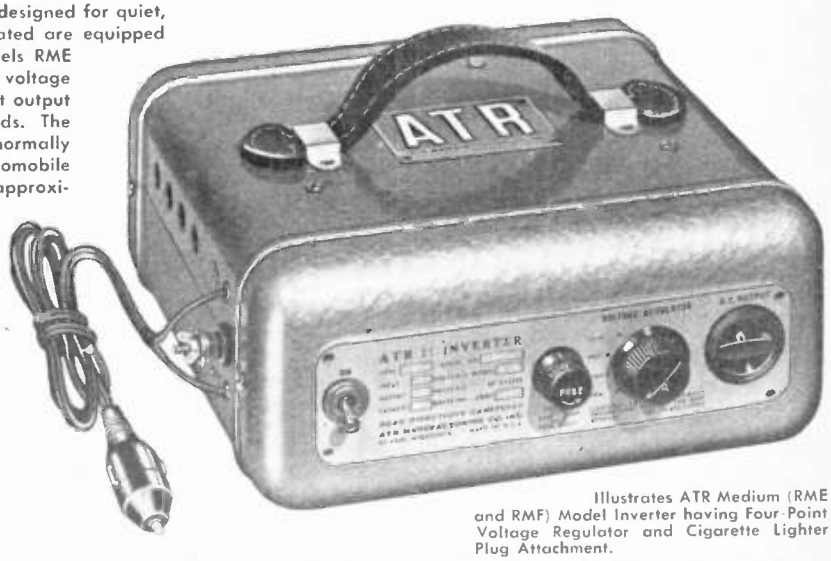
# PORTABLE — Plug-in Type
# ATR INVERTERS

**Specially Designed for Operating Standard A.C. Dictating Machines, Record Players, Incandescent Lamps, Electric Razors, Electronic Test Equipment, and Other Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, Trains, and D.C. Districts.**

ATR Portable Inverters are light-weight plug-in units for applications as recommended above. These Inverters feature instant starting, frequency stability, and high efficiency and reliability. Inverters have partial RF filtering which is only suitable for small insensitive type radios. For sensitive radio sets, ATR Universal Inverters, catalog sheet 657U, must be used. The 6 and 12-volt units are equipped with cigarette lighter cord set to plug into dash receptacle; whereas, the other higher input voltage units are equipped with standard two-blade plug-in cord sets. With ATR Inverters the need for special equipment is eliminated. They are designed for quiet, long-life operation. All ATR Models indicated are equipped with ATR plug-in Inverter Vibrators. Models RME and RMF come equipped with a four-point voltage regulator which makes possible the correct output voltage for minimum to maximum loads. The battery current consumption required is normally less than that drawn by one ordinary automobile headlight. The operating efficiency is approximately 75%. To figure battery current consumption see catalog sheet 657U. These Inverters are recommended only for use with loads having power factors in excess of 80% and should be used only for the applications as outlined above and on the reverse side of this sheet. **These Portable Inverters are not recommended for tape recorder operation, except as specified in (2) below.**

Illustrates ATR Mighty Midget (DME) Model Inverter having Cigarette Lighter Plug Attachment.




Illustrates ATR Medium (RME and RMF) Model Inverter having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

EASY TO INSTALL
EASY TO OPERATE

Illustrates Under-Dash Mounting for ATR Models RME and RMF. See Page M-802 for available accessories.

**Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.**

| TYPE | INPUT D.C. VOLTS | A.C. OUTPUT 60 CYCLES | OUTPUT WATTAGE Int. | OUTPUT WATTAGE Cont. | SHIPPING WEIGHT | LIST PRICE |
|---|---|---|---|---|---|---|
| 6-DME (1) | 6 | 110 Volts | 40 | 30 | 5 lbs. | $19.95 |
| 6C-DME (1) | 6/12 | 110 | 40 | 30 | 5 | 23.50 |
| 6-RMF (2) | 6 | 110 | 80 | 60 | 12 | 45.00 |
| 6C-RMF (2) | 6/12 | 110 | 80 | 60 | 12 | 49.50 |
| 12-DME (1) | 12 | 110 | 50 | 40 | 5 | 19.95 |
| 12T-RME (2) (3) | 12 | 110 | 125 | 90 | 12 | 42.50 |
| *28-RME (2) | 28 | 110 | 100 | 80 | 12 | 57.50 |
| 32-RME (2) | 32 | 110 | 100 | 80 | 12 | 57.50 |
| 110-RME (2) | 110 | 110 | 150 | 100 | 12 | 47.50 |

* Recommended for 24-Volt Battery Systems.
For Inverters having larger or smaller output capacities, or for operation on other D.C. input voltages, please consult available ATR Inverter catalog sheets.
All models designated above are housed in attractively finished grey-hammerloid metal cabinets. Dimensions of Medium (RME and RMF) Model Inverters, 8⅜" x 8" x 3¾"; shipping weight, 12 lbs. Dimensions of Mighty Midget (DME) Model Inverters, 5¼" x 4¾" x 2¾"; shipping weight, 5 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.

(1) These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Soundscriber (with engine of car not running).
(2) Primarily recommended for Dictaphone's Time Master, Gray Audograph and DeJur Stenorette dictating machines, or other similar types. Also, highly recommended for Norelco Tape Recorder Model EL-3516 and Geloso Model G255-S.
(3) THIS INVERTER SPECIALLY DESIGNED AND RECOMMENDED ALSO FOR USE WITH RCA 8½" PORTABLE TV SET OR G.E. 9" PORTABLE TV SET IN AN AUTOMOBILE.

**JOBBERS ATTENTION: *See Pages M-678 and M-679 in this ATR Section for your Catalog Needs!***

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World Radio History

# ATR PRODUCTS

## AMERICAN TELEVISION & RADIO CO. *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*

## ATR UNIVERSAL INVERTERS

**IDEAL FOR PORTABLE TV AND TAPE RECORDERS!**

Specially Designed for Operating A.C. Tape Recorder, Television Set, Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

| Type | Input DC Volts | A.C. Output 60 Cycles | OUTPUT WATT. Int. | OUTPUT WATT. Cont. | Shipping Weight | List Price |
|---|---|---|---|---|---|---|
| 6U-RSF | 6 | 110 Volts | 100 | 80 | 22 lbs. | $75.00 |
| 6U-RSF-P | 6 | 110 | 100 | 80 | 22 | 75.00 |
| 6U-RHG | 6 | 110 | 150 | 125 | 27 | 89.95 |
| 6U-HSJ | 6 | 110 | 175 | 150 | 37 | 125.00 |
| 12U-RSF | 12 | 110 | 125 | 100 | 22 | 75.00 |
| 12U-RSF-P | 12 | 110 | 125 | 100 | 22 | 75.00 |
| 12U-RHG | 12 | 110 | 175 | 150 | 27 | 89.95 |
| 12U-HSJ | 12 | 110 | 250 | 200 | 37 | 125.00 |
| *28U-RSF | 28 | 110 | 125 | 100 | 22 | 89.95 |
| *28U-RHG | 28 | 110 | 175 | 150 | 27 | 105.75 |
| *28U-HSJ | 28 | 110 | 250 | 200 | 37 | 145.00 |
| 32U-RSF | 32 | 110 | 150 | 100 | 22 | 89.95 |
| 32U-RHG | 32 | 110 | 200 | 180 | 30 | 105.75 |
| 32U-HSJ | 32 | 110 | 325 | 225 | 37 | 145.00 |
| 50U-RSF | 50 | 110 | 150 | 100 | 22 | 89.95 |
| 110U-RSF | 110 | 110 | 250 | 150 | 22 | 75.00 |
| 110AU-RHG | 110 | 110 | 325 | 250 | 27 | 89.95 |
| 110BU-RHG | 110 | 110 | 450 | 350 | 30 | 105.75 |
| 110U-HSJ | 110 | 110 | 600 | 400 | 22 | 145.00 |
| 220U-RSF | 220 | 110 | 250 | 150 | 37 | 79.50 |
| 220U-RHG | 220 | 110 | 325 | 250 | 27 | 99.50 |
| 220U-HSJ | 220 | 110 | 500 | 300 | 37 | 155.00 |

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.
*Recommended for 24 Volt Battery System.

Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIT; equipped with Voltmeter, Ammeter and Voltage Control.

## ATR "A" BATTERY ELIMINATORS

**FOR DEMONSTRATING AND TESTING AUTO RADIOS**
**6 Volt or 12 Volt**
**TRANSISTOR or VIBRATOR OPERATED!**

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Appliances on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

SUGGESTED USES:
As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

TYPE 610C-ELIF—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅛" x 8½". Shipping weight 22 lbs. Appearance similar to 620C-ELIT, above USER NET PRICE $42.95

TYPE 620C-ELIT—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size 6½" x 12⅞" x 8½". Shipping weight 33 lbs. USER NET PRICE $59.95

## ATR SHAV-PAKS

***EASY to OPERATE***

Keep in Glove Compartment PLUGS INTO CIGARETTE LIGHTER RECEPTACLE ON DASH

Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

| TYPE | INPUT D.C. VOLTS | OUTPUT WATTAGE | SHIPPING WEIGHT | LIST PRICE |
|---|---|---|---|---|
| 6-SPB | 6 | 15 | 2½ lbs. | $9.95 |
| 12-SPB | 12 | 15 | 2½ | 9.95 |

ATR SHAV-PAKS deliver 115 Volts A.C. 60 Cycles Current.

**Features—**

- Small Size
- Plug-in ATR Vibrator
- Fuse Protection
- Rubber Mounting Feet
- Steel Case
- Rugged Construction

Illustrates ATR Mighty Midget (DME) Model Inverter Having Cigarette Lighter Plug Attachment.

Illustrates ATR Medium (RME and RMF) Model Inverter Having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

## ATR †DICTATING MACHINE INVERTERS

Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, and Trains.

| Type | Input D.C. Volts | A.C. Output 60 Cycles | OUTPUT WATT. Int. | OUTPUT WATT. Cont. | Shipping Weight | List Price |
|---|---|---|---|---|---|---|
| 6-DME (1) | 6 | 110 Volts | 40 | 30 | 5 lbs. | $19.95 |
| 6C-DME (1) | 6/12 | 110 | 40 | 30 | 5 | 23.50 |
| 6-RMF (2) | 6 | 110 | 80 | 60 | 12 | 45.00 |
| 6C-RMF (2) | 6/12 | 110 | 80 | 60 | 12 | 49.50 |
| 12-DME (1) | 12 | 110 | 50 | 40 | 5 | 19.95 |
| 12T-RME (2) (3) | 12 | 110 | 125 | 90 | 12 | 42.50 |
| *28-RME (2) | 28 | 110 | 100 | 80 | 12 | 57.50 |
| 32-RME (2) | 32 | 110 | 100 | 80 | 12 | 57.50 |
| 110-RME (2) | 110 | 110 | 150 | 100 | 12 | 47.50 |

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.

* Recommended for 24 volt battery systems.
Dimensions of Mighty Midget (DME) Model Inverters, 5¼"x4¾"x2¾".
Dimensions of Medium (RME) and (RMF) Model Inverters, 8⅜"x8"x3¾".

**† DME AND RME MODELS NOT RECOMMENDED FOR TAPE RECORDERS.**


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World Radio History

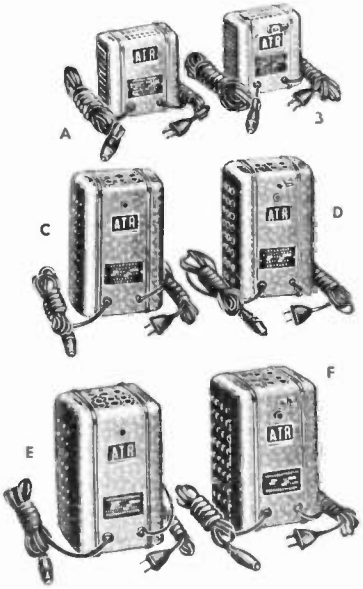
# ATR PRODUCTS

**AMERICAN TELEVISION & RADIO CO.** *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*

## AUTO Plug-In Type — Portable BATTERY CHARGERS

NO INSTALLATION — JUST PLUG INTO CIGARETTE LIGHTER RECEPTACLE



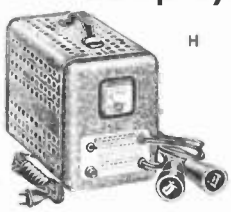

For keeping the storage battery fully charged right in the car, truck, boat, or plane! A storage battery necessity — needed more now than ever before — makes motor starting easy!

| ATR Charger Model Number | As Illustrated Right | Nominal Battery DC Voltage | Maximum Charge Rate DC Amps. | Approx. Tapered Rate DC Amps. | Approx. Shipping Wt. in Pounds | List Price |
|---|---|---|---|---|---|---|
| 6CA4 | A | 6 | 4 | 2 | 5 | $14.95 |
| 6CA6 | C | 6 | 6 | 3 | 7 | 19.95 |
| 6CA10 | E | 6 | 10 | 5 | 9 | 27.95 |
| 12CA4 | A | 12 | 3 | 1 | 5 | 15.95 |
| 12CA6 | C | 12 | 6 | 2 | 7 | 23.95 |
| 12CA10 | E | 12 | 10 | 4 | 9 | 32.95 |
| 612CA4 | B | 6 or 12 | 4 | 2 | 6 | 18.95 |
| 612CA6 | D | 6 or 12 | 6 | 3 | 8 | 27.95 |
| 612CA10 | F | 6 or 12 | 10 | 4 | 10 | 36.95 |
| 612CT20 | G | 6 | 20 (Hi) | 9 | 18 | 49.95 |
| | | | 14 (Lo) | 5 | | |
| | | and 12 | 10 (Hi) | 4 | | |
| | | | 9 (Lo) | 1 | | |
| 612CT40 | H | 6 | 40 (Hi) | 17 | 24 | 65.95 |
| | | | 27 (Lo) | 10 | | |
| | | and 12 | 20 (Hi) | 6 | | |
| | | | 15 (Lo) | 1 | | |

All Prices Subject to Change Without Notice.

## Clamp Type Portable BATTERY CHARGER

(as illustrated below)




EASILY CONNECTED DIRECTLY TO STORAGE BATTERY TERMINALS BY MEANS OF LARGE BATTERY CLIPS.

Especially recommended for charging storage batteries in trucks, tractors, boats, and planes.

Illustrates ATR Electronic Tube Protector Model 300

Illustrates ATR Electronic Tube Protector Model 250

## Electronic TUBE PROTECTOR

Specially designed to protect ALL Electronic Tubes in TV or Hi-Fi Sets, Amplifiers, and similar Electronic Equipment. Will double or triple tube life including picture tubes.

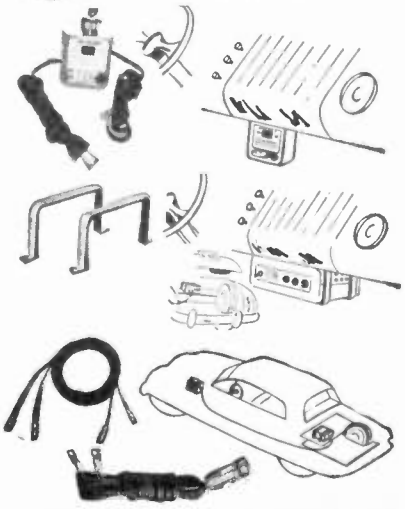
| Type | INPUT A.C. Volts | A.C. OUTPUT Volts | A.C. OUTPUT Amps. | Shipping Weight | List Price |
|---|---|---|---|---|---|
| 250 | 115 | 115 | 1-3 | 1 | $4.95 |
| 300 | 115 | 115 | 1-3 | 2 | 6.95 |

**Two (2) models are available as illustrated.**

### FEATURES

- Small Size
- Fuse Protection
- Metal Case
- Long Life
- Rugged Construction
- Automatic Operation

## ACCESSORIES For all Mobile INVERTERS




REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto trunk compartment.
List Price $7.95

MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated.
List Price $4.95 pr.

EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment.
List Price $9.95 pr.

CIGARETTE LIGHTER CORD SET — to plug into cigarette lighter receptacle on dash.
List Price $3.95

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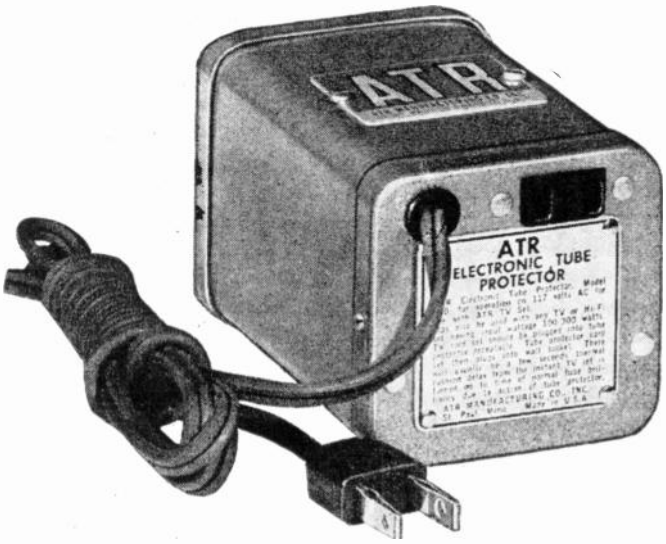
# Electronic Tube PROTECTOR

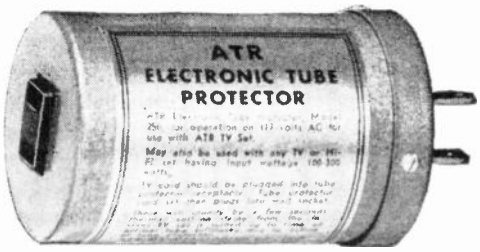
**Specially Designed To Protect ALL Electronic Tubes in TV or Hi-Fi Sets, Amplifiers, and Similar Electronic Equipment. Will Double or Triple Tube Life Including Picture Tubes.**

**EASY TO OPERATE**

ATR Electronic Tube Protectors should double or triple the life of all electronic tubes including picture tube in TV or Hi-Fi Sets, Amplifiers, Electronic Organs, and other similar electronic equipment. The ATR Electronic Tube Protector utilizes a thermal cushion-action principle which also protects all other components by eliminating initial damaging surge currents. The ATR Electronic Tube Protector can be used with any electronic equipment having input wattage of 100 to 300 watts. The Electronic Tube Protector plugs into the AC wall socket; whereas, the TV or Hi-Fi Set then plugs into the tube protector receptacle. There will usually be a few seconds thermal cushion-action delay from the instant TV set is turned on to time of normal tube brilliancy due to action of Tube Protector.




Illustrates ATR Electronic Tube Protector
Model 300




Illustrates ATR Electronic Tube Protector
Model 250

## Two (2) models are available as illustrated

### *Features—*

- Small Size
- Fuse Protection
- Metal Case
- Long Life
- Rugged Construction
- Automatic Operation

| TYPE | INPUT A.C. Volts | A.C. OUTPUT Volts | A.C. OUTPUT Amperes | SHIPPING WEIGHT | LIST PRICE |
|---|---|---|---|---|---|
| 250 | 115 | 115 | 1-3 | 1 | $4.95 |
| 300 | 115 | 115 | 1-3 | 2 | 6.95 |

ATR Type 250 Electronic Tube Protector has dimensions 1 15/16" OD x 3 1/8" in length. Housed in attractively finished golden brown hammerloid metal container. Plugs directly into wall socket as illustrated on reverse side.

ATR Type 300 Electronic Tube Protector has dimensions 4" x 2 5/8" x 2 3/4". Housed in attractively finished golden brown hammerloid steel case having rubber mounting feet. Has cord set to plug into wall socket providing flexibility in positioning.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# FOR THOSE WHO WANT THE FINEST!

ATR TV

**15 FULL-DOOR and 12 OPEN FACE DE LUXE CONSOLE TELEVISION SETS . . . to choose from!**

**FEATURING THE ULTIMATE IN HIGH-QUALITY, AUTHENTICALLY-STYLED, FINE-FURNITURE CABINETS AND THE FULL-TRANSFORMER SUPER-POWERED ATR No. 2600 CHASSIS.**

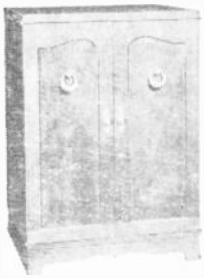
Includes push-pull, high-fidelity audio system; dual extended-range, large permanent magnet speakers; spot-light tuning; giant 265 square inches 90° aluminized 21" picture tube; and super VHF cascode tuner for high sensitivity fringe area reception.

*The Biltmore* by ATR

Pictured: Model 26007 LD-4 in mahogany

Distinctively styled in genuine walnut, mahogany or blonde Korina. Hand rubbed to a gleaming, hard finish of lasting beauty. Features the superb No. 2600 ATR chassis. Dimensions: 24½" wide, 36½" high and 20" deep. Concealed casters for mobility.

- UNSURPASSED IN BEAUTY
- UNEQUALLED IN PERFORMANCE
- UNMATCHED IN QUALITY CONSTRUCTION



*Provincial* by ATR

Model No. 26002 (Illustrated)

Cabinet has concealed casters for easy mobility. Available in 18th Century Mahogany, Early American Antique Maple and French Provincial in Cherrywood with Fruitwood finish. Dimensions: 24½" wide, 36½" high, and 20" deep. Rich finishes are applied and hand rubbed to smooth lustrous beauty.

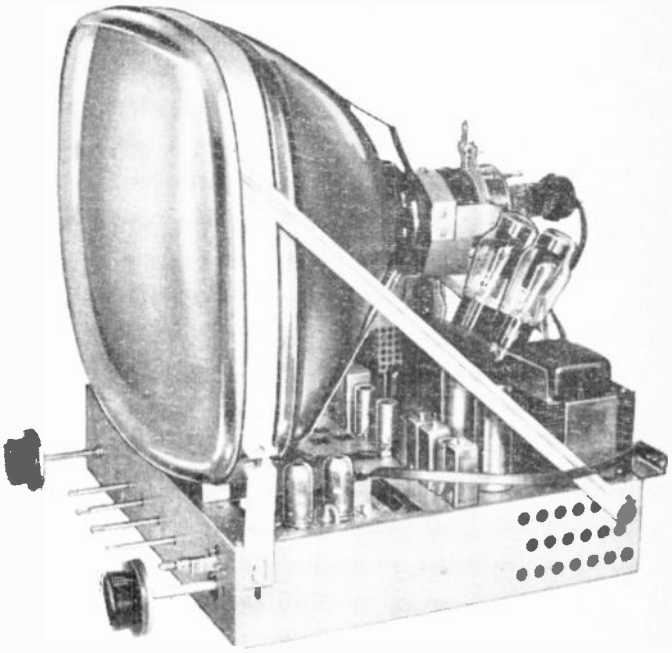
ATR TV

**SUPER-POWERED ATR No. 2600 FULL-TRANSFORMER CHASSIS**

**For Maximum Dependability and Performance**

**SPECIALLY DESIGNED BY ATR FOR MOVIE-CLEAR, SHARPEST PICTURES WITH MAXIMUM PICTURE STABILITY . . . DESIGN AND CONSTRUCTION INCLUDE EXTRA VALUE FEATURES THAT MAKE FOR QUALITY PLUS . . .**

- 18,000 volts of quality picture power
- Super-powered full-transformer 26 tube chassis
- Extended-range speakers of heavy duty construction
- Automatic gain control
- 4-Stage 41 MC IF amplifier
- Interference rejector
- Push-pull audio system
- Permanent-magnet focus
- Higher gain video amplifier



- Wider band width
- Precision interlace
- Highest quality components including molded capacitors
- Improved dependable long life ATR circuitry
- Front tuning of all important control functions

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World Radio History

# BATTERY ELIMINATORS

There are many reasons for the nation-wide preference for Radiart Vibrators! One is the absolutely complete selection of types manufactured . . . there is a CORRECT Radiart replacement vibrator for most every need, to original specifications. In addition, the precision engineering behind the design of each type is backed up by highest standards of manufacture that assure peak performance . . . always!

**The Radiart Vibrator Guide is the Standard of the Industry — Ask your jobber for your copy today!**

*Subject to change without notice.*

## AUTO-RADIO OR SPECIAL PURPOSE VIBRATORS

| INTERRUPTER | | | | | | SYNCHRONOUS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 Volt | | 6 Volt | | 12 Volt | | 6 Volt | | 6 Volt | | 12 Volt | |
| Type No | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price |
| 5300 | $4.70 | 5342 | $3.60 | 6301 | $4.90 | 5400 | $7.70 | 5607 | $8.55 | 6607 | $9.95 |
| 5301 | 4.70 | 5363 | 6.35 | 6326 | 4.50 | 5404 | 7.70 | 5610 | 7.70 | 6609 | 9.95 |
| 5303 | 4.90 | 5366 | 6.35 | 6330 | 4.90 | 5406 | 7.70 | 5616 | 8.55 | 6610 | 8.55 |
| 5304 | 6.35 | 5370 | 4.90 | 6370 | 4.70 | 5407 | 7.70 | | 7.70 | 6614 | 8.55 |
| 5307 | 4.90 | 5506 | 7.15 | 6511 | 7.70 | 5408 | 7.70 | | | 6615 | 8.55 |
| 5314 | 4.90 | 5510 | 7.15 | 6513 | 7.70 | 5409 | 7.70 | | | 6616 | 9.95 |
| 5320 | 4.90 | 5513 | 7.70 | 6514 | 9.95 | 5410 | 7.70 | | | Other Voltages | |
| 5371 | 4.90 | 5516 | 6.90 | 6517 | 7.70 | 5411 | 7.70 | | | 5468-2 | 10.70 |
| 5323 | 4.15 | 5560 | 8.55 | Other Voltages | | 5425 | 9.15 | | | 5469-2 | 9.80 |
| 5326 | 4.15 | | | 5300-32 | 7.15 | 5426 | 7.70 | | | 5615-24 | 8.55 |
| 5331 | 4.90 | | | 5314-4 | 4.90 | 5429 | 9.15 | | | | |
| 5333 | 4.90 | | | 5513-4 | 7.70 | 5437 | 7.70 | | | | |
| 5335 | 4.90 | | | 5514-4 | 7.70 | 5438 | 7.70 | | | | |
| | | | | | | 5454 | 7.70 | | | | |

Section II contains additional listings of many vibrators now out of Production.

## COMMUNICATIONS VIBRATORS

| INTERRUPTER | | | | | | SYNCHRONOUS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 Volt | | 12 Volt for 6 12* | | 12 Volt only** | | 6 Volt | | 12 Volt for 6/12* | | 12 Volt only** | |
| 5715 | $6.90 | 6715 | $6.90 | 6715S | $6.90 | 5805 | $7.70 | 6805 | $7.70 | 6820S | $7.70 |
| 5718 | 6.90 | 6718 | 6.90 | | | 5820 | 7.70 | 6820 | 7.70 | | |
| 5721 | 6.90 | 6721 | 6.90 | | | 5821 | 6.90 | 6821 | 6.90 | | |
| 5722 | 8.55 | 6722 | 8.55 | | | 5822 | 8.55 | 6822 | 8.55 | | |
| 5725 | 6.90 | 6725 | 6.90 | | | 5824 | 9.95 | 6824 | 9.95 | | |

Vibrators as produced by different manufacturers employ driving circuits which require more or less power. Such power is applied by either series or shunt driving means. Where shunt drive is employed, a given vibrator must be used at its design voltage only. Where series drive is used, an external resistor may be used to drop a higher voltage for use of a particular vibrator. These considerations apply to many 6/12 Mobile Communications equipment.

* Radiart vibrators have always used an exceptionally strong driving coil to obtain long and dependable service. When a 6 volt Radiart series drive vibrator is used for 12 volt operation in a 6/12 equipment, the usual resistor may not pass enough power to drive it properly. To avoid any dependence at all upon the coil resistor, Radiart provides similarly numbered shunt drive vibrators for use when 6/12 equipment is used on 12 volts.

In addition to insuring proper drive, the practice of using a 6 volt vibrator at 6 volts and a 12 volt vibrator on 12 volts, permits the factory to provide an adjustment and selection of contact that is best for each application.

** Where 12 volt operation only is involved, a choice of either shunt drives such as 6715 or series drive such as (6715 S) is available.


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- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

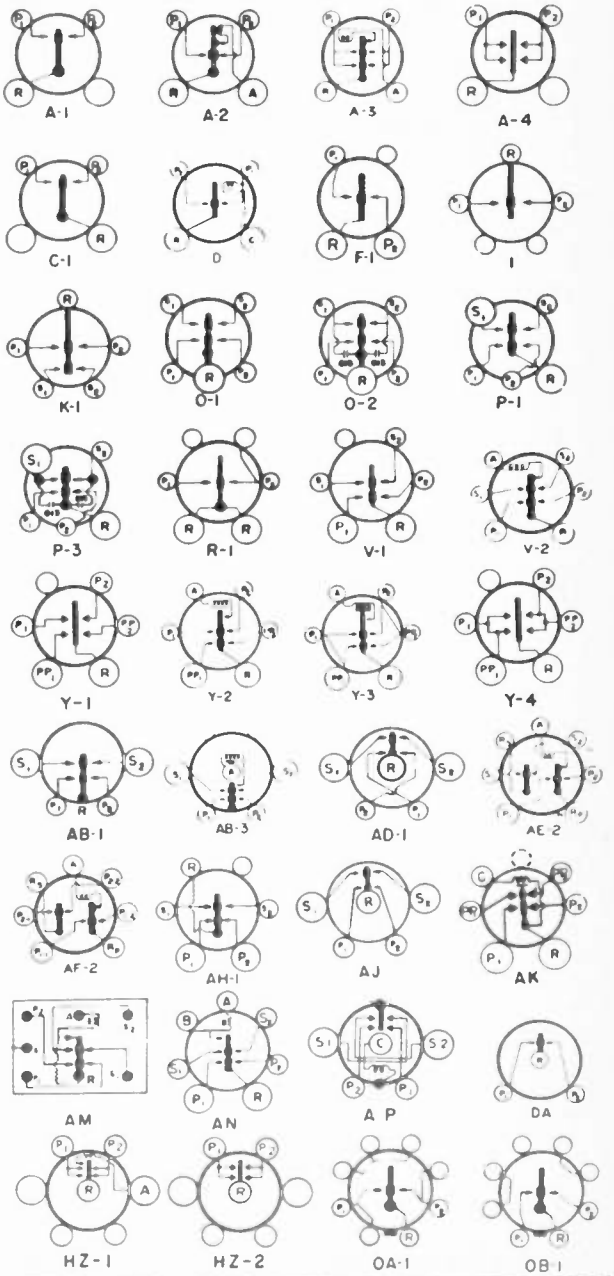
STANDARD OF COMPARISON — RADIART

THE RADIART CORPORATION
CLEVELAND 2, OHIO


## Cross Index by Base Diagrams

| Diagram | Number | Voltage | Frequency | Maximum Load, Amps | Diameter* | Height* | †Use or Characteristic |
|---|---|---|---|---|---|---|---|
| A-1 | 5300 | 6 | 115 | 6 | 1½ | 3¼ | Std. 4 prong |
| | 5300-32 | 32 | 115 | 1.4 | 1½ | 3¼ | 32 v. |
| | 5301 | 6 | 115 | 6 | 1½ | 2⅞ | Shorter height |
| | 5307 | 6 | 150 | 6 | 1½ | 3¼ | Spl. freq. |
| | 5314 | 6 | 115 | 3 | 1¼ | 2⅞ | Small size |
| | 5314-4 | 4 | 115 | 4 | 1¼ | 2⅞ | Photoflash |
| | 5320 | 6 | 115 | 6 | 1 15/16 | 3½ | Philco Dup. |
| | 5321 | 6 | 115 | 6 | 1⅝ | 3 5/16 | Larger Can |
| | 5323 | 6 | 115 | 6 | 1⅝ | 4¾ | Philco Dup. |
| | 5326 | 6 | 115 | 6 | 1½ | 2⅞ | Late Philco |
| | 5342 | 6 | 115 | 6 | 1½ | 2⅞ | Late Meterola |
| | 5370 | 6 | 115 | 6 | 1½ | 3¼ | Autronic Eye |
| | 5514-4 | 4 | 180 | 5 | 1½ | 2⅞ | Photoflash |
| | 5516 | 6 | 115 | 9 | 1½ | 3¼ | H.D. with handle |
| | 6301 | 12 | 115 | 4 | 1½ | 2⅞ | 12v. Standard |
| | 6326 | 12 | 115 | 4 | 1½ | 2⅞ | Philco 12v. |
| | 6370 | 12 | 115 | 4 | 1½ | 3¼ | Autronic Eye |
| | 6514 | 12 | 180 | 3 | 1½ | 2⅞ | Aviation |
| A-2 | 5560 | 6 | 60 | 5 | 1½ | 3¼ | Phono Inverter |
| A-3 | 5715 | 6 | 115 | 9 | 1½ | 2⅞ | Communications |
| | 6715-S | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| A-4 | 6715 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| C-1 | 5331 | 6 | 115 | 6 | 1½ | 3¼ | Stewart-Warner |
| D | 5506 | 6 | 115 | 10 | 1½ | 3¼ | Radiart Vipowers |
| F-1 | 5303 | 6 | 115 | 6 | 1⅝ | 3 9/16 | Larger Size |
| | 5333 | 6 | 115 | 6 | 1½ | 3¼ | Puller Handle |
| | 5335 | 6 | 115 | 6 | 1½ | 2⅞ | Standard |
| I | 5304 | 6 | 115 | 6 | 1¼ | 3⅛ | Setchell-Carlson |
| K | 5409 | 6 | 115 | 6 | 1½ | 3¼ | Standard |
| | 6609 | 12 | 115 | 3 | 1½ | 3¼ | Aviation Spl. |
| O-1 | 5410 | 6 | 115 | 6 | 1½ | 3⅛ | Delco base |
| O-2 | 5425 | 6 | 115 | 6 | 1 13/16 | 4½ | Internal buffers |
| P-1 | 5426 | 6 | 115 | 6 | 1 13/16 | 3½ | Buick Dup. |
| P-3 | 5429 | 6 | 115 | 6 | 1 13/16 | 4½ | Internal Buffers |
| R-1 | 5366 | 6 | 115 | 6 | 1½ | 2⅞ | Spl. Base wiring |
| V-1 | 5411 | 6 | 115 | 6 | 1½ | 3¼ | Standard |
| | 5435 | 6 | 115 | 6 | 1⅝ | 3¼ | Smaller diameter |
| | 5610 | 6 | 115 | 6 | 1¼ | 3¼ | Motorcycle sets |
| | 5615-24 | 24 | 180 | 1.4 | 1½ | 2⅞ | Bendix Spl. |
| | 6517 | 12 | 180 | 3 | 1½ | 3¼ | Aviation Spl. |
| | 6610 | 12 | 115 | 3 | 1¼ | 3¼ | Aviation Spl. |
| | 6615 | 12 | 180 | 3 | 1½ | 2⅞ | Bendix Spl. |
| | 6821 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| V-2 | 5821 | 6 | 115 | 10 | 1½ | 2⅞ | Communications |
| Y-1 | 6718 | 12 | 115 | 6 | 1½ | 2⅞ | Communications |
| Y-2 | 5718 | 6 | 115 | 10 | 1½ | 2⅞ | Communications |
| Y-3 | 5721 | 6 | 115 | 10 | 1½ | 2⅞ | Communications |
| Y-4 | 6721 | 12 | 115 | 6 | 1½ | 2⅞ | Communications |
| AB-1 | 5400 | 6 | 115 | 6 | 1½ | 3¼ | Std. reversible |
| | 5407 | 6 | 180 | 5 | 1½ | 3¼ | 180 cycles |
| | 5408 | 6 | 140 | 6 | 1½ | 2⅞ | 140 cycles, short |
| | 5437 | 6 | 180 | 5 | 1⅝ | 2¾ | Small 180 cycles |
| | 5438 | 6 | 140 | 6 | 1½ | 3¼ | Std. 140 cycles |
| | 5620 | 6 | 115 | 6 | 1½ | 2⅞ | Cab and Police |
| | 6820 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| AB-3 | 5820 | 6 | 115 | 6 | 1½ | 2⅞ | Communications |
| | 6820-S | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| AD-1 | 5406 | 6 | 115 | 6 | 1½ | 3¼ | Std. reversible |
| | 5454 | 6 | 115 | 6 | 1½ | 2⅞ | Short reversible |
| | 5805 | 6 | 115 | 10 | 1½ | 2⅞ | Communications |
| | 6805 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| | 6614 | 12 | 115 | 4 | 1½ | 2⅞ | Aviation Spl. |
| AE-2 | 5822 | 6 | 100 | 6 | 1½ | 2⅞ | Communications |
| | 6822 | 12 | 100 | 4 | 1½ | 2⅞ | Communications |
| AF-2 | 5722 | 6 | 100 | 6 | 1½ | 2⅞ | Communications |
| | 6722 | 12 | 100 | 4 | 1½ | 2⅞ | Communications |
| AH-1 | 5404 | 6 | 150 | 6 | 1½ | 3¼ | Spl. base wiring |
| AJ | 5807 | 6 | 180 | 5 | 1⅝ | 2¾ | Small 180 cycle |
| | 5816 | 6 | 180 | 5 | 1½ | 2⅞ | Std. 180 cycle |
| | 6607 | 12 | 180 | 3 | 1⅝ | 2¾ | Small 180 cycle |
| | 6616 | 12 | 180 | 3 | 1½ | 2⅞ | 12v. std. 180 cycle |
| AK | 5513 | 6 | 180 | 5 | 1½ | 3¼ | Photoflash |
| | 5513-4 | 4 | 180 | 6 | 1½ | 3¼ | Photoflash |
| | 6513 | 12 | 180 | 3 | 1½ | 3¼ | Aviation |
| AM | 5168-2 | 2 | 115 | 2 | 1½ | 2¼ | Sq. 2 v. portable |
| AN | 5169-2 | 2 | 115 | 2 | 1 9/16 | 2¼ | Round 2 v. port. |
| AP | 5824 | 6 | 115 | 10 | 1½ | 2⅞ | Communications |
| | 6824 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| DA | 6330 | 12 | 115 | 4 | 1½ | 2⅞ | Delco 12 v. |
| HZ-1 | 5725 | 6 | 115 | 9 | 1½ | 2⅞ | Communications |
| HZ-2 | 6725 | 12 | 115 | 5 | 1½ | 2⅞ | Communications |
| OA-1 | 5510 | 6 | 115 | 10 | 1½ | 3¼ | Aviation Spl. |
| OB-2 | 6511 | 12 | 115 | 6 | 1½ | 3¼ | 12 v. aviation |

Symbols Used in Vibrator Base Diagrams
A—A hot line into vibrator.
B—By-pass for driving point.
C—External coil lead in shunt vibrator.
P1—Primary contact, usually, but not necessarily connected to the magnet coil in shunt vibrators.
PP1—Dual primary contact, closed when P1 is closed.
P2—Primary contact, may be the magnet coil connection instead of P1.
PP2—Dual primary contact, closed when P2 is closed.
R—Vibrating reed in single reed vibrators.
RP—Primary vibrating reed in split-reed vibrators.
RS—Secondary vibrating reed in split-reed vibrators.
S1—Secondary contact, closed when P1 is closed.
S2—Secondary contact, closed when P2 is closed.
*All dimensions given are in inches.

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• ROTATORS
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THE RADIART CORPORATION
CLEVELAND 2, OHIO

# Heavy-Duty Vibrator Specifications

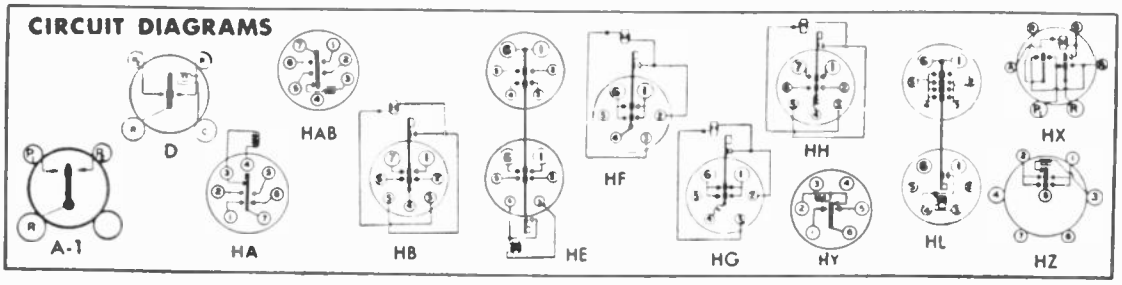
| Vibrator | Voltage | Frequency | *D.C. Amps. | Base | Type | Size |
|---|---|---|---|---|---|---|
| **POPULAR TYPES IN STANDARDIZED SERIES** | | | | | | |
| 6VB6H | 6 | 60 ± 2 | 15 | HB | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 6VD6H | 6 | 60 ± 2 | 30 | HE | Horiz. Tandem | 2 23/32 x 5 15/16 x 3 3/8 |
| 6VL6 | 6 | 60 ± 2 | 12 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 6VL10 | 6 | 100 ± 3 | 10 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 12VB6H | 12 | 60 ± 2 | 10 | HB | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 12VD6H | 12 | 60 ± 1/2 | | | | |
| 12VL6 | 12 | 60 ± 2 | 9 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 12VL10 | 12 | 100 ± 3 | 8 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 28VB6H | 28 | 60 ± 2 | 8 | HB | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 28VD6H | 28 | 60 ± 1/2 | 15 | HE | Horiz. Tandem | 2 23/32 x 5 15/16 x 3 3/8 |
| 28VL6 | 28 | 60 ± 2 | 7 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 28VL10 | 28 | 100 ± 3 | 6 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 32VB6H | 32 | | 6 | HB | | |
| 32VD6H | 32 | 60 ± 1/2 | 12 | HE | Horiz. Tandem | 2 23/32 x 5 15/16 x 3 3/8 |
| 32VL6 | 32 | 60 ± 2 | 6 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 32VL6 | 32 | 100 ± 3 | 5 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| 110VB6H | 110 | 60 ± 1/2 | 3 | HB | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 110VC6H | 110 | 60 ± 1/2 | 6 | HE | Horiz. Tandem | 2 23/32 x 5 15/16 x 3 3/8 |
| 110VL6H | 110 | 60 ± 1 | 3 | HA | Vert. Single | 1 31/32 Dia. x 4 9/16 |
| **POPULAR OLD TYPES (Not directly replaceable by Standardized Series)** | | | | | | |
| 427 | 6 | 60 ± 2 | 12 | HF | Vert. Single | 2 3/16 Dia. x 4 11/16 |
| 490 | 6 | 60 ± 3.0 | 25 | HL | Horiz. Tandem | 2 23/32 x 5 15/16 x 3 3/8 |
| 491 | 6 | 60 ± 2 | 20 | HL | Horiz. Tandem | 2 5/32 x 5 3/8 x 2 9/16 |
| 1315 | 110 | 60 ± 2 | 3 | HH | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 1315H | 110 | 60 ± 1/2 | 3 | HH | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 1684 | 6 | 120 ± 5 | 8 | HB | Single-Sync. | 2 5/32 x 5 9/16 x 2 9/16 |
| 3077 | 110 | 60 Adj. | 2 | HH | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| 11028 | 110 | 60 ± 2 | 3 | HF | Horiz. Single | 2 5/32 x 5 9/16 x 2 9/16 |
| **SMALL VIBRATORS USED IN VIPOWERS** | | | | | | |
| 2522 | 110 | 60 ± 3 | 5 | HX | Vert. ARV | 1 1/2 dia. x 2 7/8 |
| 2529 | 6 | 60 ± 5 | 5 | None | Wire-in | 1 x 1 x 2 3/8 |
| 2530 | 12 | 60 ± 5 | 3 | None | Wire-in | 1 x 1 x 2 3/8 |
| 2531 | 6 | 60 ± 3 | 10 | A-1 | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 2532 | 12 | 60 ± 3 | 5 | A-1 | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 2533 | 110 | 60 ± 5 | 6 | None | Wire-in | 1 x 1 x 3/8 |
| 2563 | 6 | 60 ± 3 | 15 | HZ | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 2564 | 28 | 60 ± 3 | 5 | HZ | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 2565 | 110 | 60 ± 3 | 8 | HY | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 5301 | 6 | 115 ± 7 | 6 | A-1 | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 5725 | 6 | 115 ± 7 | 9 | HZ | Vert ARV | 1 1/2 Dia. x 2 7/8 |
| 6301 | 12 | 115 ± 7 | 4 | A-1 | Vert ARV | 1 1/2 Dia. x 2 7/8 |

**POPULAR OLD TYPES (Directly replaceable by Standardized Series)**

| Old | New | Old | New | Old | New |
|---|---|---|---|---|---|
| 2989 | 32VB6H | 3079 | 110VC6H | 3103 | 6VB6H |
| 3047 | 12VD6H | 3087 | 12VB6H | 4123 | 6VD6H |

*D.C. Ampere rating is based upon measurement made with a D.C. ammeter in primary lead. Circuit must be properly designed for load being handled. Technical advice is available through Jobber Service Department.

## CIRCUIT DIAGRAMS




## OBSOLETE TYPES

It is entirely impractical to continue to stock the hundreds of different heavy-duty vibrators that have been supplied in past years for a large variety of uses. Every attempt is made to maintain equipment in service, even though it originally used vibrators which have generally become obsolete. Some obsolete vibrator types are still carried in limited stock at the factory. In a great many cases, simple instructions are available so that a radio technician can change wiring, sockets, or other minor features in an old design to adapt it for use with new standard vibrators.

For information regarding a possible replacement for obsolete vibrators, send details including model number of equipment, original vibrator type number, voltage and frequency to the Jobber Service Department.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THE RADIART CORPORATION, CLEVELAND 2, OHIO

★ ROTATORS
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★ POWER SUPPLIES

# RADIART VIPOWERS

## SPECIFICATIONS—6, 12, and 28 VDC TO 110 VAC VIPOWERS

*(See Engineering Bulletin EB3006 for 6 and 12 volt models and EB-3008 for 28 volt models*

| MODEL | INPUT VDC | INPUT AMPS. | OUTPUT VAC | OUTPUT WATTS CONT. | OUTPUT WATTS INT. | REPL. VIB. | REPL. FUSE | CLASS | PRINCIPAL USES |
|---|---|---|---|---|---|---|---|---|---|
| 12SP2 | 12 | 2½ | 110 | 20 | 20 | 2530 | 5A-3AG | SP | SH |
| 12LM4 | 12 | 5 | 110 | 40 | 50 | 2530 | 10A-3AG | LM | SH, PH, A |
| 12M6 | 12 | 7½ | 110 | 60 | 80 | 2532 | 10A-3AG | M | SH, DI, RA, PH, A |
| 12L8 | 12 | 10 | 110 | 80 | 100 | 2563 | 15A 3AG | L | RA, DI, TR, A, IN |
| 12S10 | 12 | 12½ | 110 | 100 | 125 | 12VB6 | 15A-3AG | S | RA, DI, TR, PA, IN |
| 12H15 | 12 | 20 | 110 | 150 | 175 | 12VD6 | 20A-2 in. | H | RA, DI, TR, TV, IN |
| 12SH22 | 12 | 26 | 110 | 200 | 250 | 12VD6H | 30A-2 in. | SH | TV, DI, TR, RA, IN |
| 12SW10 | 12 | 12½ | 110 | 100 | 125 | 12VB6 | 20A-2 in. | H | RA, DI, TR, PA, IN |
| 12SW20 | 12 | 26 | 110 | 200 | 250 | 12VD6H | 30A-2 in. | SH | TV, DI, TR, RA, IN |
| 28L8 | 28 | 4 | 110 | 80 | 100 | 2564 | 10A-3AG | L | RA, DI, PA, PH, SHR IN |
| 28S10 | 28 | 5 | 110 | 100 | 125 | 28VB6 | 10A-3AG | S | RA, TR, DI, PA, PH, IN |
| 28H15 | 28 | 7½ | 110 | 150 | 175 | 28VB6 | 15A-3AG | H | RA, TR, DI, TV, PH, IN |
| 28SH22 | 28 | 10 | 110 | 200 | 250 | 28VD6H | 20A-3AG | SH | TV, RA, TR, DI, PA, IN |

## SPECIFICATIONS—32, 110 and 220 VDC TO 110 VAC VIPOWERS

*(See Engineering Bulletin EB-3008 for 32 volt models and EB-3010 for 110 or 220 volt models)*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 32L8 | 32 | 3½ | 110 | 80 | 100 | 2564 | 10A-3AG | L | RA, DI, PA, PH, SH, IN |
| 32S12 | 32 | 5 | 110 | 125 | 150 | 32VB6 | 10A-3AG | S | RA, TR, DI, PA, PH, IN |
| 32H18 | 32 | 7½ | 110 | 180 | 200 | 32VB6H | 15A-3AG | H | RA, TR, DI, PA, PH, IN |
| 32SH22 | 32 | 10 | 110 | 225 | 275 | 32VD6H | 20A-3AG | SH | TV, RA, TR, DI, PA, IN |
| 110LM5 | 110 | .6 | 110 | 50 | 60 | 2533 | 2A-3AG | LM | PH, DI, A |
| 110M7 | 110 | .8 | 110 | 70 | 90 | 2565 | 2A-3AG | M | RA, DI, PH, PA, A |
| 110L10 | 110 | 1.1 | 110 | 100 | 150 | 110VB6 | 3A-3AG | L | RA, TR, DI, PA, IN |
| 110S15 | 110 | 1.7 | 110 | 150 | 200 | 110VB6H | 5A-3AG | S | TV, RA, TR, DI, PA, IN |
| 110H25 | 110 | 2.8 | 110 | 250 | 325 | 110VB6H | 10A-3AG | H | TV, RA, TR, DI, PA, IN |
| 110H35 | 110 | 4.0 | 110 | 350 | 450 | 110VC6H | 10A-3AG | H | TV, RA, TR, DI, PA, IN |
| 110SH40 | 110 | 4.5 | 110 | 400 | 600 | 110VC6H | 10A-3AG | SH | TV, RA, TR, DI, PA, IN |
| 110SW15 | 110 | 1.7 | 110 | 150 | 200 | 110VB6H | 5A-3AG | H | TV, RA, TR, DI, PA, IN |
| 220S15 | 220 | .85 | 110 | 150 | 200 | 110VB6H | 2A-3AG | S | TV, RA, TR, DI, PA, IN |
| 220H25 | 220 | 1.4 | 110 | 250 | 325 | 110VB6H | 3A-3AG | H | TV, RA, TR, DI, PA, IN |
| 220SH40 | 220 | 2.2 | 110 | 400 | 600 | 110VC6H | 5A-3AG | SH | TV, RA, TR, DI, PA, IN |

## SPECIFICATIONS—MOBLPAK VIPOWERS—LOW DC TO HIGH DC

*(See Sales Bulletin for Dictator model)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6DC3 | 6 | 8 | 300VDC - 100MA | 5301 | 15A-3AG | M | A, RA, PA |
| 6/12DC6 | 6 12 | 16 8 | 300VDC - 200MA | 5725 | 20/10A-3AG | S | A, MT, PA |
| 12DC3 | 12 | 4 | 300VDC - 100MA | 6301 | 10A-3AG | M | A, RA, PA |
| 6/12DC12 | 6/12 | 30 15 | 500VDC - 225MA | 5725(2) | (2) 20/10A-3G | S | A, MT, PA |

## SPECIFICATIONS—DICTATOR VIPOWERS—6/12 VDC TO 110 VAC

*(See Sales Bulletin EB-3009 for Mobipak line)*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6/12D6 | 6/12 | 15 7 | 110 | 60 | 75 | 2563 | 25A-3AG | L | DI, PH, A |

## SPECIFICATIONS—BATTERY ELIMINATOR VIPOWERS—110 VAC TO 6/12 VDC

*(See Engineering Bulletin EB-3012 for Battery Eliminators)*

| | | | | |
|---|---|---|---|---|
| 110B6 | 110 VAC to 6VDC-10A or 12VDC-6A | 3A-3AG | H | BE |
| 110B12 | 110 VAC to 6VDC-20A or 12VDC-10A | 5A-3AG | H | BE |

## SPECIFICATIONS—SPORTSMAN SENIOR VIPOWER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12SS14 | 12 | 55 | 110 | 140 | 175 | 12VL6H | 20A-3AG<br>110VAC-2A-3AG | SH | TV, RA, SH, TR, PA |

## NOTES ON SPECIFICATIONS

Note 1: Continuous ratings are based on operation of nameplate rating indefinitely at ambient temperatures not to exceed 100° F. with free air circulation. Intermittent ratings are based on 25% duty cycle, with on-time not in excess of 15 minutes. Up to 30 minutes operation at the intermittent maximum is not detrimental, provided it can be followed with approximately two hours of cooling time.

Note 2: Output watts ratings are based upon 70%-100% Power Factor loads.

Note 3: Classes of Models indicate case size and approximate weight as follows:

| | | |
|---|---|---|
| SP—Shaver Pack | 2-5 8 x 2-1/2 x 3-7/32 | — 2 Lbs. |
| LM—Light Midget | 3-1/2 x 3 x 4-13/16 | — 4 Lbs. |
| M—Midget | 4-5/8 x 3-15 16 x 5-5/16 | — 6 Lbs. |
| L—Lightweight | 5-1/2 x 6-1/4 x 8 | —12 Lbs. |
| S—Standard | 5-1/2 x 6-1/4 x 9 | —14 Lbs. |
| H—Heavy Duty | 6-1/2 x 7-1/2 x 11 | —20 Lbs. |
| SH—Super Heavy | 8 x 9-1/2 x 13 | —35 Lbs. |

Note 4: RADIART VIPOWERS contain added components required to make them universally applicable to various kinds of loads within their name-plate rating. For example, the same unit may be used for television, radio, dictating service, office machines, and even for industrial purposes. Principal uses are coded in Specifications as follows. Any model is suitable for uses coded for models of lower output rating.

| | | |
|---|---|---|
| RA—Radio | BE—Battery Eliminator | IN—Industrial |
| TV—Television | MT—Mobile Transmitters | SH—Shaver |
| DI—Dictation | A—Amplifiers | PA—Public Address |
| TR—Tape Recorder | PH—Phonometers | |

Note 5: Power Factor Correctors are available for use with highly inductive loads, so that they may be handled by Regular VIPOWERS. Model PF1 corrector used on 60% PF loads handles up to 100 watts; On 30% loads, to 25 watts. PF2 on 60% PF loads handles 150-300 watts; on 30% loads, 50-75 watts. PF3 on 60% loads handles 350-500 watts; on 30% loads 100-150 watts. See Engineering Bulletin EB-3007 for details.

Note: See Engineering Bulletin EB-3013 for mounting kits for all models, and for leads, master fuse kits and remote control kits for 6 or 12 volt models.

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World Radio History

# RAYTHEON
# VOLTAGE STABILIZERS

## Standard Catalog Models

| Catalog No. | Output Capacity Watts | Style | Dimensions in Inches: Overall L | Overall W | Overall H | Mounting L | Mounting W | Voltages Input | Voltages Output | Net Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| VR-6110 | 15 | F | 6¼ | 2 5/16 | 3 | 5 11/16 | 5 7/16 | 95-130 | 115 | 4 |
| VR-61F0** | 15 | F | 5¾ | 2⅝ | 4 1/16 | 5¼ | 4 11/16 | 95-130 | 6.3 | 4 |
| VR-61D0** | 15 | D | 3 1/16 | 2⅝ | 4 11/16 | 2 19/64 | 1 55/64 | 95-130 | 6.3 | 6 |
| VR-6710** | 25 | W | 7⅝ | 3⅛ | 3⅜ | 7 3/16 | 1½ | 95-130 | 6.0 | 4 |
| VR-6101 | 30 | E | 7½ | 3⅜ | 4⅛ | 6⅞ | 2¼ | 95-130 | 6.0/7.5 | 5 |
| VR-6111 | 30 | E | 7½ | 3⅜ | 4⅛ | 6⅞ | 2¼ | 95-130 | 115 | 5 |
| VR-6111-CP | 30 | E | 7½ | 3⅜ | 4⅛ | 6⅞ | 2¼ | 95-130 | 115 | 5 |
| VR-6221 | 30 | E | 7½ | 3⅜ | 4⅛ | 6⅞ | 2¼ | 190-260 | 230 | 5 |
| VR-6112*** | 60 | E | 7½ | 3⅜ | 4 3/16 | 6⅞ | 2¼ | 95-130 | 115 | 8 |
| VR-6112CP† | 60 | E | 7½ | 3⅜ | 4 3/16 | 6⅞ | 2¼ | 95-130 | 115 | 8 |
| VR-6222 | 60 | E | 7½ | 3⅜ | 4 3/16 | 6⅞ | 2¼ | 190-260 | 230 | 8 |
| VR-6113*** | 120 | E | 7½ | 3⅜ | 5 13/16 | 6⅞ | 2¼ | 95-130 | 115 | 14 |
| VR-6113CP† | 120 | E | 7½ | 3⅜ | 5 13/16 | 6⅞ | 2¼ | 95-130 | 115 | 14 |
| VR-6223 | 120 | E | 7½ | 3⅜ | 5 13/16 | 6⅞ | 2¼ | 190-260 | 230 | 14 |
| VR-6114 | 250 | E | 12⅜ | 5 | 7⅝ | 11 9/16 | 3½ | 95-130 | 115 | 25 |
| VR-6224 | 250 | E | 12⅜ | 5 | 7⅝ | 11 9/16 | 3½ | 190-260 | 230 | 25 |
| VR-6115 | 500 | E | 12⅜ | 5 | 7⅝ | 11 9/16 | 3½ | 95-130 | 115 | 45 |
| VR-6225 | 500 | E | 12⅜ | 5 | 7⅝ | 11 9/16 | 3½ | 190-260 | 230 | 45 |
| VR-6116 | 1000 | H | 13 3/16 | 14 1/16 | 9⅝ | 11 9/16 | 12⅞ | 95-130 | 115 | 92 |
| VR-6226 | 1000 | H | 13 3/16 | 14 1/16 | 9⅝ | 11 9/16 | 12⅞ | 190-260 | 230 | 92 |
| VR-6117 | 2000 | H | 36¼ | 14⅝ | 10⅛ | 34 | 12 7/16 | 95-130 | 115 | 185 |
| VR-6227 | 2000 | H | 36¼ | 14⅝ | 10⅛ | 34 | 12 7/16 | 190-260 | 230 | 185 |
| VR-7B | 2000 | C | 16¼ | 14¾ | 11 3/16 | 9⅛ | 13⅝ | 115/230 | 115/230 | 200 |
| VHF-6114* | 250 | E | 14 1/16 | 13 3/16 | 9⅝ | 12⅞ | 11 9/16 | 95-130 | 115 | 49 |
| VHF-6115* | 500 | E | 14 1/16 | 13 3/16 | 9⅝ | 12⅞ | 11 9/16 | 95-130 | 115 | 75 |
| VHF-6116* | 1000 | E | 29¼ | 14⅜ | 10¼ | 27⅛ | 12 7/16 | 95-130 | 115 | 150 |

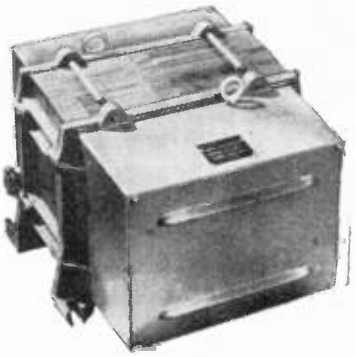
*Harmonic filtered models. Harmonic content less than 3%.
**Isolated secondary units.
***Available with isolated secondary if desired.
†Portable models, supplied with cord and plug and output receptacle.

STYLE D

STYLE E

STYLE F

STYLE H



STYLE C

### FEATURES

1. Deliver accurate AC voltage within ±½%
2. Stabilize output with more precision
3. Regulate better at full load
4. Hold up better under overload
5. Better no-load to full-load regulation
6. Accept wider input voltage range
7. Less voltage change as units heat up
8. Less change in output as frequencies fluctuate
9. Smaller, lighter, more compact; no moving parts
10. Cost less to operate

The complete line of Raytheon Voltage Stabilizers is available through 155 authorized distributors. Special custom-built units, ranging from 5 to 10,000 watts are also available to meet special needs. 50 cycle units also available in most models. Write for complete information.

RAYTHEON

*Excellence in Electronics*

A-4029

**RAYTHEON MANUFACTURING COMPANY**

**Commercial Equipment Division, Dept. 6120-MC • Waltham 54, Mass.**

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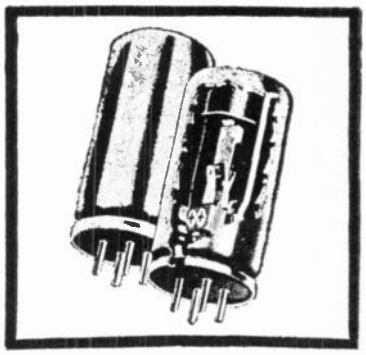
World Radio History

# CORNELL DUBILIER

# VIBRATORS

- **AUTO RADIO REPLACEMENT**
- **COMMUNICATIONS**
- **SPECIAL PURPOSE**



## AUTO-RADIO OR SPECIAL PURPOSE VIBRATORS

| INTERRUPTER | | | | | | SYNCHRONOUS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 Volt | | 6 Volt | | 12 Volt | | 6 Volt | | 6 Volt | | 12 Volt | |
| Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price |
| 5300 | $4.70 | 5342 | $3.60 | 6301 | $4.90 | 5400 | $7.70 | 5607 | $8.55 | 6607 | $9.95 |
| 5301 | 4.70 | 5363 | 6.35 | 6326 | 5.50 | 5404 | 7.70 | 5610 | 7.70 | 6609 | 9.95 |
| 5303 | 4.90 | 5366 | 6.35 | 6330 | 4.90 | 5406 | 7.70 | 5616 | 8.55 | 6610 | 8.55 |
| 5304 | 6.35 | 5370 | 4.90 | 6370 | 4.70 | 5407 | 7.70 | 5620 | 7.70 | 6614 | 8.55 |
| 5307 | 4.90 | 5506 | 7.15 | 6511 | 7.70 | 5408 | 7.70 | | | 6615 | 8.55 |
| 5314 | 4.90 | 5510 | 7.15 | 6513 | 7.70 | 5409 | 7.70 | | | 6616 | 9.95 |
| 5320 | 4.90 | 5513 | 7.70 | 6514 | 9.95 | 5410 | 7.70 | | | | |
| 5321 | 4.90 | 5516 | 6.90 | 6517 | 7.70 | 5411 | 7.70 | | | Other Voltages | |
| 5323 | 4.15 | 5560 | 8.55 | | | 5425 | 9.15 | | | 5468-2 | 10.70 |
| 5326 | 4.15 | | | Other Voltages | | 5426 | 7.70 | | | 5469-2 | 9.80 |
| 5331 | 4.90 | | | 5300-32 | 7.15 | 5429 | 9.15 | | | 5615-24 | 8.55 |
| 5333 | 4.90 | | | 5314-4 | 4.90 | 5437 | 7.70 | | | | |
| 5335 | 4.90 | | | 5513-4 | 7.70 | 5438 | 7.70 | | | | |
| | | | | 5514-4 | 7.70 | 5454 | 7.70 | | | | |

## COMMUNICATIONS VIBRATORS

| INTERRUPTER | | | | | | SYNCHRONOUS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 Volt | | 12 Volt for 6/12* | | 12 Volt Only** | | 6 Volt | | 12 Volt for 6/12* | | 12 Volt Only** | |
| Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price |
| 5715 | $6.90 | 6715 | $6.90 | 6715S | $6.90 | 5805 | $7.70 | 6805 | $7.70 | 6820S | $7.70 |
| 5718 | 6.90 | 6718 | 6.90 | | | 5820 | 7.70 | 6820 | 7.70 | | |
| 5721 | 6.90 | 6721 | 6.90 | | | 5821 | 6.90 | 6821 | 6.90 | | |
| 5722 | 8.55 | †6722 | 8.55 | | | 5822 | 8.55 | 6822 | 8.55 | | |
| 5725 | 6.90 | 6725 | 6.90 | | | 5824 | 9.90 | 6824 | 9.90 | | |

Vibrators as produced by different manufacturers employ driving circuits which require more or less power. Such power is applied by either series or shunt driving means. Where SHUNT drive is employed, a given vibrator must be used at its design voltage only. Where SERIES drive is used, an external resistor may be used to drop a higher voltage for use of a PARTICULAR vibrator. These considerations apply to many 6/12 Mobile Communications equipment.

* Cornell-Dubilier vibrators have always used an exceptionally strong driving coil to obtain long and dependable service. When a 6 volt Cornell-Dubilier series drive vibrator is used for 12 volt operation in a 6/12 equipment, the provided resistor may not pass enough power to drive it properly. To avoid any dependence at all upon the coil resistor, Cornell-Dubilier provides similarly numbered shunt drive vibrators for use when 6/12 equipment is used on 12 volts.

In addition to insuring proper drive, the practice of using a 6 volt vibrator at 6 volts and a 12 volt vibrator on 12 volts, permits the factory to provide an adjustment and selection of contact that is best for each application.

** Where 12 volt operation only is involved, a choice of either shunt drives such as 6715 or series drive such as (6715 S) is available.

†Type 6722 has 6 volt coil for use in 6/12 split reed circuits when operated at 12 volts.

## SUBSTITUTION GUIDE

COVERING C-D TYPES NOT LISTED IN TABLES ABOVE

| For Type | Use | For Type | Use | For Type | Use | For Type | Use |
|---|---|---|---|---|---|---|---|
| 5300-12 | 6715 | 5341-M | 5300 | 5501 | 5516 | 5605 | 5805 |
| 5308 | 5300 | 5343 | 5321 | 5503 | 5715 | 5605-12 | 6805 |
| 5309 | 5314 | 5365 | 5610 | 5503-12 | 6715 | 5607-12 | 6607 |
| 5312 | 5366 | 5406-12 | 6605 | 5503-32 | 5300-32 | 5609-12 | 6609 |
| 5313 | 5715 | 5409-12 | 6609 | 5504 | 5718 | 5610-12 | 6610 |
| 5322-P | 5323 | 5413 | 5409 | 5511-12 | 6511 | 5614-12 | 6614 |
| 5324-P | 5718 | 5420-P | 5411 | 5513-12 | 6513 | 5615-12 | 6615 |
| 5325-P | 5326 | 5421 | 5411 | 5514-12 | 6514 | 5616-12 | 6616 |
| 5327-P | 5301 | 5428 | 5411 | 5515 | 5715 | 5621 | 5821 |
| 5334 | 5335 | 5439 | 5610 | 5517-12 | 6517 | 5622 | 5822 |
| 5339 | 5303 | 5440 | 5400 | 5518 | 5718 | 5622S | 5822 |
| 5340-M | 5342 | 5500 | 5715 | 5519 | 5301 | 5623 | 5805 |
| | | | | | | 6503 | 6715 |
| | | | | | | 6605 | 6805 |

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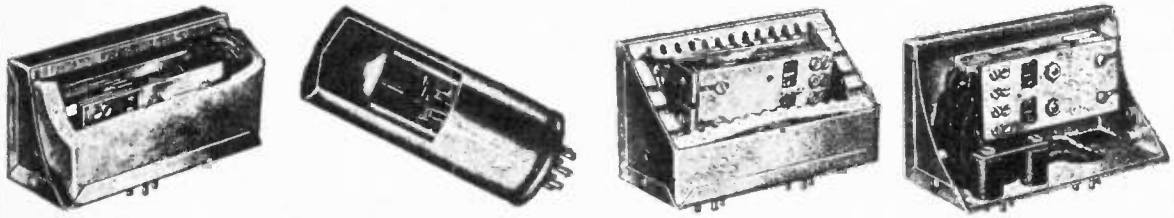
# CORNELL DUBILIER

## STANDARD HEAVY-DUTY SINGLE AND TANDEM VIBRATORS



| VB | VL | VC | VD |
|---|---|---|---|
| 5 9/16 x 2 5/32 x 2 9/16 | 4 9/16 x 1 31/32 | 5 15/16 x 2 23/32 x 3 1/8 | 5 15/16 x 2 23/32 x 3 1/8 |

SINGLE (CROSS SECTION VIEWS) TANDEM

CORNELL-DUBILIER HEAVY DUTY VIBRATORS are available in the above four styles for operation at 60 or 100 cycles with regular or close frequency adjustment in any of 6 standard operating voltages — 6, 12, 28, 32, 64 and 110. Although these combinations result in 96 "standard" vibrators, only those models which are generally used are listed below for Jobber distribution.

All heavy duty vibrators have separate driving circuits with provision for external suppression. Two or four sets of power contacts are brought out individually. Center reeds are common.

Precision ground ceramic spacers, micrometrically selected Swedish steel center reeds, and precision oscillographic adjustments combine to insure uniform reliable service life.

Coding of the heavy duty vibrators is meaningful. In a typical part number such as 110VB6, the prefix 110 denotes operating voltage, V denotes vibrator, B denotes the style, and 6 denotes 60 cycles with regular frequency tolerance. Close frequency adjustment as desired for television is denoted by a final H suffix. A typical close frequency vibrator is 110VB6H.

## HEAVY-DUTY VIBRATOR SPECIFICATIONS

| Type No. | Voltage | Frequency | List Price |
|---|---|---|---|
| **6VB6** | 6 | 60 ± 2 | **Note 1** |
| **6VB6H** | 6 | 60 ± 1/2 | **$13.50** |
| **6VD6** | 6 | 60 ± 2 | **Note 1** |
| **6VD6H** | 6 | 60 ± 1/2 | **23.50** |
| **6VL6** | 6 | 60 ± 2 | **12.25** |
| **6VL10** | 6 | 100 ± 3 | **12.25** |
| **12VB6** | 12 | 60 ± 2 | **Note 1** |
| **12VB6H** | 12 | 60 ± 1/2 | **13.50** |
| **12VD6** | 12 | 60 ± 2 | **Note 1** |
| **12VD6H** | 12 | 60 ± 1/2 | **23.50** |
| **12VL6** | 12 | 60 ± 2 | **12.25** |
| **12VL6H** | 12 | 60 ± 1/2 | **13.50** |
| **12VL10** | 12 | 100 ± 3 | **12.25** |
| **28VB6** | 28 | 60 ± 2 | **Note 1** |
| **28VB6H** | 28 | 60 ± 1/2 | **13.50** |
| **28VD6H** | 28 | 60 ± 1/2 | **23.50** |
| **28VL6** | 28 | 60 ± 2 | **12.25** |
| **28VL10** | 28 | 100 ± 3 | **12.25** |

| Type No. | Voltage | Frequency | List Price |
|---|---|---|---|
| **32VB6** | 32 | 60 ± 2 | **Note 1** |
| **32VB6H** | 32 | 60 ± 1/2 | **$13.50** |
| **32VD6H** | 32 | 60 ± 1/2 | **23.50** |
| **32VL6** | 32 | 60 ± 2 | **12.25** |
| **32VL10** | 32 | 100 ± 3 | **12.25** |
| **64VL10** | 64 | 100 ± 3 | **12.25** |
| **110VB6** | 110 | 60 ± 2 | **Note 1** |
| **110VB6H** | 110 | 60 ± 1/2 | **13.50** |
| **110VC6H** | 110 | 60 ± 1/2 | **23.50** |
| **110VL6H** | 110 | 60 ± 1/2 | **13.50** |
| **110VL10** | 110 | 100 ± 3 | **12.25** |

Old Types Replaced by Above

| | | |
|---|---|---|
| 2989 | Replaced by | **32VB6H** |
| 3047 | Replaced by | **12VD6H** |
| 3079 | Replaced by | **110VC6H** |
| 3087 | Replaced by | **12VB6H** |
| 3103 | Replaced by | **6VB6H** |
| 4123 | Replaced by | **6VD6H** |

| Type No. | Voltage | Frequency | List Price |
|---|---|---|---|
| Popular Old Types in Stock | | | |
| **427** | 6 | 60 ± 2 | **$12.25** |
| **490** | 6 | 60 ± 3 | **23.50** |
| **491** | 6 | 60 ± 2 | **23.50** |
| **1315** | 110 | 60 ± 2 | **13.50** |
| **1315H** | 110 | 60 ± 1/2 | **14.50** |
| **3077** | 110 | 60 Adj. | **14.50** |
| **11028** | 110 | 60 ± 2 | **14.50** |
| Auto Radio Types—Small Powercons | | | |
| **2522** | 110 | 60 ± 3 | **8.65** |
| **2529** | 6 | 60 ± 5 | **4.15** |
| **2530** | 12 | 60 ± 5 | **4.15** |
| **2531** | 6 | 60 ± 3 | **7.70** |
| **2532** | 12 | 60 ± 3 | **7.70** |
| **2533** | 110 | 60 ± 3 | **4.15** |
| **2563** | 6 | 60 ± 3 | **10.35** |
| **2564** | 24 | 60 ± 3 | **10.35** |
| **2565** | 110 | 60 ± 3 | **10.35** |
| **5301** | 6 | 115 ± 7 | **4.70** |
| **5725** | 6 | 115 ± 7 | **6.90** |
| **6301** | 12 | 115 ± 7 | **4.90** |

NOTE 1. This vibrator, which had a broad frequency tolerance, is no longer manufactured. Use similar type (such as 6VB6H) listed directly below, which has close frequency tolerance.

## VIBRATOR REPLACEMENTS — CURRENT MODEL POWERCONS

| For Powercon | Use Vibrator | For Powercon | Use Vibrator | For Powercon | Use Vibrator |
|---|---|---|---|---|---|
| **6DC3** | 5301 | **12DC3** | 6301 | **32H18** | 32VB6H |
| **6H10** | 6VD6H | **12H15** | 12VD6H | **32L8** | 2564 |
| **6L6** | 2563 | **12L8** | 2563 | **32S12** | 32VB6H |
| **6LM3** | 2529 | **12LM4** | 2530 | **32SH22** | 32VD6H |
| **6M4** | 2531 | **12M6** | 2532 | | |
| **6S8** | 6VB6H | **12S10** | 12VB6H | **110H25** | 110VB6H |
| **6SH15** | 6VD6H | **12SH20** | 12VD6H | **110H35** | 110VD6H |
| **6SP2** | 2529 | **12SP2** | 2530 | **110L10** | 110VB6H |
| **6SW8** | 6VB6H | **12SW10** | 12VB6H | **110LM5** | 2533 |
| **6SW15** | 6VD6H | **12SW25** | 12VD6H | **110M7** | 2565 |
| | | | | **110S15** | 110VB6H |
| | | | | **110SH40** | 110VC6H |
| **6/12D6** | 2563 | **28H15** | 28VB6H | **110SW15** | 110VB6H |
| **6/12DC6** | 5725 | **28L8** | 2564 | **110SW40** | 110VC6H |
| **6/12DC12** | (2) 5725 | **28S10** | 28VB6H | **220H25** | 110VB6H |
| | | **28SH20** | 28VD6H | **220S15** | 110VB6H |
| | | | | **220SH40** | 110BC6H |

## OLD POWERCONS

| For Powercon | Use Vibrator | Old Listing |
|---|---|---|
| **6/110DH6** | 6VB6H | 3103 |
| **6R5** | 6VB6H | 3103 |
| **6R10** | 6VD6H | 4123 |
| **12R8** | 12VB6H | 3087 |
| **12RU15** | 12VD6H | 3047 |
| **32R8** | 32VB6H | 2989 |
| **32RU15** | 32VB6H | 2989 |
| **110PA5** | 2522 | 2522 |
| **110PB5** | 2522 | 2522 |
| **110R10** | 1315 | 1315 |
| **110RA15** | 1315 | 1315 |
| **110RT15** | 3077 | 3077 |
| **110RT25** | 1315H | 1315H |
| **110RT25DL** | 1315H | 1315H |
| **110RT35** | 110VC6H | 3079 |
| **110WR15A** | 1315 | 1315 |
| **110WR15B** | 1315 | 1315 |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# CORNELL DUBILIER

## POWERCON LINE

INVERTERS
DC-AC

BATTERY ELIMINATORS
AC-DC

MOBLPAKS
DC-DC

SPORTSMAN, SR.
PORTABLE

- COMPLETE COVERAGE — Each inverter applicable to widest variety of uses. Good inventory turnover.
- SIMPLIFIED SERVICING — All components individually and readily accessible. No potted assemblies.
- SINE-WAVE-REGULATED — Models hold output steady as input or load varies and provide commercial wave form for best operation of sensitive equipment.
- POWER FACTOR CORRECTION — Auxiliary PF Correctors available to permit standard inverters to handle low PF loads. Special Inverters are not required.
- SPORTSMAN, SR. POWERCON — Combines a vibrator inverter, battery charger and a compartment for standard 12 volt auto battery, so that 110 volt AC power is available for operation of TV, radio, record players, etc.
- MOBLPAK POWERCONS — Supply up to 500 V. DC — 225 MA from 6 or 12 volt sources for mobile radio service.
- BATTERY ELIMINATORS — Compact, well filtered, conveniently styled power package for test bench.

### REGULAR POWERCONS
(DC to 110 V.AC)

| Model | Input Volts | Output Watts | Class | List Price |
|---|---|---|---|---|
| 6SP2 | 6 | 20 | SP | $8.58 |
| 6LM3 | 6 | 30 | LM | 15.33 |
| 6M4 | 6 | 40 | M | 22.88 |
| 6L6 | 6 | 60 | L | 41.28 |
| 6S8 | 6 | 80 | S | 49.60 |
| 6H10 | 6 | 100 | H | 57.57 |
| 6SH15 | 6 | 150 | SH | 79.68 |
| 12SP2 | 12 | 20 | SP | 13.40 |
| 12LM4 | 12 | 40 | LM | 23.95 |
| 12M6 | 12 | 60 | M | 34.50 |
| 12L8 | 12 | 80 | L | 44.95 |
| 12S10 | 12 | 100 | S | 72.50 |
| 12H15 | 12 | 150 | H | 99.50 |
| 12SH20 | 12 | 200 | SH | 129.50 |
| 28L8 | 28 | 80 | L | 74.50 |
| 28S10 | 28 | 100 | S | 89.95 |
| 28H15 | 28 | 150 | H | 112.95 |
| 28SH20 | 28 | 200 | SH | 167.50 |
| 32L8 | 32 | 80 | L | 69.50 |
| 32S12 | 32 | 125 | S | 83.95 |
| 32H18 | 32 | 180 | H | 118.00 |
| 32SH22 | 32 | 225 | SH | 162.50 |
| 110LM5 | 110 | 50 | LM | 28.50 |
| 110M7 | 110 | 70 | M | 44.50 |
| 110L10 | 110 | 100 | L | 57.50 |
| 110S15 | 110 | 150 | S | 72.00 |
| 110H25 | 110 | 250 | H | 89.50 |
| 110H35 | 110 | 350 | H | 135.00 |
| 110SH40 | 110 | 400 | SH | 170.00 |
| 220S15 | 220 | 150 | S | 91.50 |
| 220H25 | 220 | 250 | H | 139.50 |
| 220SH40 | 220 | 400 | SH | 199.50 |

### SINE-WAVE-REGULATED POWERCONS
(DC to AC)

| Model | Input Volts | Output Watts | Class | List Price |
|---|---|---|---|---|
| 6SW8 | 6 | 80 | H | 86.08 |
| 6SW15 | 6 | 150 | SH | 92.48 |
| 12SW10 | 12 | 100 | H | 139.50 |
| 12SW25 | 12 | 250 | SH | 154.50 |
| 110SW15 | 110 | 150 | H | 139.50 |
| 110SW40 | 110 | 400 | SH | 199.50 |

### SPORTSMAN, SR. POWERCON
(110 V.AC from self-contained battery)

Model 12SS14 Input Volts 12

Output Watts 140 Class SS User Net $79.50

Note: Unit includes 140 Watt Inverter, built-in Battery Charger and compartment for standard 12 V. auto battery (not provided)

### DICTATOR POWERCON (6/12 V.DC to 110 V.AC)

| | | | | |
|---|---|---|---|---|
| 6/12D6 | 6/12 | 60 | L | $50.00 |

### MOBLPAK POWERCONS (Low DC to High DC)

| | | | | |
|---|---|---|---|---|
| 6DC3 | 6 | 300 V.DC 100 MA | M | $39.95 |
| 12DC3 | 12 | 300 V.DC 100 MA | M | 39.95 |
| 6/12DC6 | 6/12 | 300 V.DC 200 MA | S | 74.85 |
| 6/12DC12 | 6/12 | 500 V.DC 225 MA | S | 119.80 |

### BATTERY ELIMINATOR POWERCONS

| | | | | |
|---|---|---|---|---|
| 110B6 | 110 | 6A-12V.DC 10A- 6V.DC | H | $99.50 |
| 110B12 | 110 | 10A-12V.DC 20A- 6V.DC | H | 127.50 |

### POWERCON ACCESSORIES

| Model No. | Explanation | List Price |
|---|---|---|
| **LEAD KITS** | | |
| LK-605 | Dual #6 — 5 feet | $8.95 |
| LK-612 | Dual #6 — 12 feet | 16.50 |
| LK-616 | Dual #6 — 16 feet | 20.50 |
| LK-805 | Dual #8 — 5 feet | 6.25 |
| LK-812 | Dual #8 — 12 feet | 10.75 |
| LK-816 | Dual #8 — 16 feet | 13.00 |
| LK-1005 | Dual #10 — 5 feet | 5.25 |
| LK-1012 | Dual #10 — 12 feet | 8.50 |
| LK-1016 | Dual #10 — 16 feet | 10.25 |
| **MOUNTING KITS** | | |
| MK-3544-1 | For L and S cases | $5.50 |
| MK-3544-2 | For H case only | 6.00 |
| MK-3544-3 | For SH case only | 7.50 |
| **REMOTE CONTROL KITS** (For 6 and 12 volt models in L, S, H and SH cases) | | |
| RK-105 | 5' extension cable | $9.00 |
| RK-112 | 12' extension cable | 11.00 |
| RK-116 | 16' extension cable | 12.00 |
| **MASTER FUSE KITS (2" cartridge)** | | |
| FK-220 | 20 ampere | $3.50 |
| FK-230 | 30 ampere | 3.50 |
| FK-240 | 40 ampere | 4.50 |
| FK-250 | 50 ampere | 4.50 |
| FK-260 | 60 ampere | 4.50 |
| **POWER FACTOR CORRECTORS** | | |
| PF-1 | 60% PF loads 10-100 watts; 30% PF loads 10- 25 watts | $19.95 |
| PF-2 | 60% PF loads 150-300 watts; 30% PF loads 50- 75 watts | 39.95 |
| PF-3 | 60% PF loads 350-500 watts; 30% PF loads 100-150 watts | 49.95 |

1. Standard models deliver 110 volts, 60 cycle, AC power. Output watt ratings are based on continuous operation on high power factor loads. They should be reduced by the percent of power factor where inductive loads are involved.

2. All models are housed in cases of similar design and appearance. The class designations signify approximate size and weight as follows:

SP — Shaver Pack—$2\frac{5}{8} \times 2\frac{1}{2} \times 3\frac{7}{32}$ ..... 2 lbs.
LM — Light Midget—$3 \times 3\frac{1}{2} \times 4\frac{13}{16}$ ..... 4 lbs.
M — Midget—$3\frac{15}{16} \times 4\frac{5}{8} \times 5\frac{15}{16}$ ..... 6 lbs.
L — Lightweight—$5\frac{1}{2} \times 6\frac{1}{4} \times 8$ ..... 12 lbs.
S — Standard—$5\frac{1}{2} \times 6\frac{1}{4} \times 9$ ..... 14 lbs.
H — Heavy—$6\frac{1}{2} \times 7\frac{1}{2} \times 11$ ..... 20 lbs.
SH — Super Heavy—$8 \times 9\frac{1}{2} \times 13$ ..... 35 lbs.
SS — Sportsman, Sr.—$9\frac{1}{2} \times 9\frac{1}{2} \times 14$ ..... 20 lbs. (less bat.)

3. For complete information, refer to Cornell-Dubilier Bulletins EB-3006 for 6, 12 volts; EB-3007 for Power Factor Correctors; EB-3008 for 28, 32 volts; EB-3009 for Moblpak series; EB-3010 for 110, 220 volts; EB-3011 for Dictator Model only; EB-3012 for Battery Eliminators; EB-3013 for Accessories and installation procedures; EB-3015 for Sportsman, Sr.

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World Radio History

# UNIVERSAL
TRANSISTOR PRODUCTS CORP.

A SINGLE COMMERCIAL SOURCE

## FIRST TIME AT VIBRATOR PRICES

## *transistorized* UNIVISTORS

## REPLACE VIBRATORS MOUNT-TO-MOUNT

*Really Dependable* mobile power you can plug right in to the vibrator socket . . . the quality, efficiency and reliability engineered by Universal, the pioneer in transistorized power components . . . one component which converts the power supply into a modern, *all-electronic* supply with no moving parts, no vibrator maintenance problems . . . operating life more than 20 times greater than that of a vibrator . . . cleaner output throughout this long life . . . all these are yours with UNIVISTOR at new low prices. In fact, compared life-to-life, the Univistor actually costs less than a vibrator!

**UNIVISTORS REPLACE MOST STANDARD VIBRATORS***

| Model No. | Volts | Type | List Price |
|---|---|---|---|
| 12V3A | 12 | Int. | $ 19.95 |
| 12V3A(N) | 12 | Int. | 24.95 |
| 6V10A | 6 | Int. | 24.95 |
| 6V10A(N) | 6 | Int. | 29.95 |
| 24V3A | 24 | Int. | 32.50 |
| 24V3A(N) | 24 | Int. | 35.95 |
| 24V10A | 24 | Int. | 99.50 |
| 24V10A(N) | 24 | Int. | 104.50 |
| S-12V3A | 12 | Syn. | 33.95 |
| S-12V3A(N) | 12 | Syn. | 37.95 |
| S-6V10A | 6 | Syn. | 39.95 |
| S-6V10A(N) | 6 | Syn. | 42.95 |
| S-24V3A | 24 | Syn. | 43.95 |
| S-24V3A(N) | 24 | Syn. | 44.95 |
| S-24V10A | 24 | Syn. | 107.95 |
| S-24V10A(N) | 24 | Syn. | 111.95 |

Model numbers describe input in voltage and amperes. They operate from positive ground unless model number is followed by (N). Where (N) appears in model number, unit operates from negative ground.

**Write for Universal's Vibrator Equivalent Charts*

1100/6/30

## DC-DC MINIATURE HIGH VOLTAGE, LOW CURRENT POWER SUPPLIES

### FULLY TRANSISTORIZED, RECTIFIED, FILTERED

These rugged, compact lightweight units are designed for use with low power consuming equipment such as radiation monitoring and infra-red detection devices, photomultipliers, bolometers, electrostatic dust precipitators, etc. They operate efficiently from simple flashlight cell inputs.

They are blocking oscillator types with NO internal shorting, NO mechanical noise. High moisture resistance and low leakage insured by complete encapsulation. Ripple less than 1%. Provision for external bias adjustment to control output voltage. Transistor reliability is 95% in 10,000 hours use.

| MODEL NO. | VDC INPUT | VDC OUTPUT | CURRENT (ua) | TYPE | WEIGHT | LIST PRICE |
|---|---|---|---|---|---|---|
| 1000/1.5/1 | 1.5 | 1000 | 1 | A | 8 oz. | $35.00 |
| 1200/6/10 | 6 | 1200 | 10 | A | 8 oz. | 35.00 |
| 1200/1.5/5 | 1.5 | 1200 | 5 | B | 8 oz. | 40.00 |
| 1400/3/20 | 3 | 1400 | 20 | B | 8 oz. | 40.00 |
| 2500/3/10 | 3 | 2500 | 10 | C | 9 oz. | 50.00 |
| 3000/6/20 | 6 | 3000 | 20 | C | 9 oz. | 50.00 |
| 3000/1.5/1 | 1.5 | 3000 | 1 | E | 9 oz. | 55.00 |
| 1000/6/200 | 6 | 1000 | 200 | E | 9 oz. | 55.00 |
| 7000/3/1 | 3 | 7000 | 1 | F | 10 oz. | 65.00 |
| 3000/6/50 | 6 | 3000 | 50 | F | 10 oz. | 65.00 |

A wide variety of outputs available continuously variable up to 8900 volts.



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TRADE DISCOUNT APPLIES TO ALL PRICES

World Radio History

FOR QUALITY POWER SUPPLIES

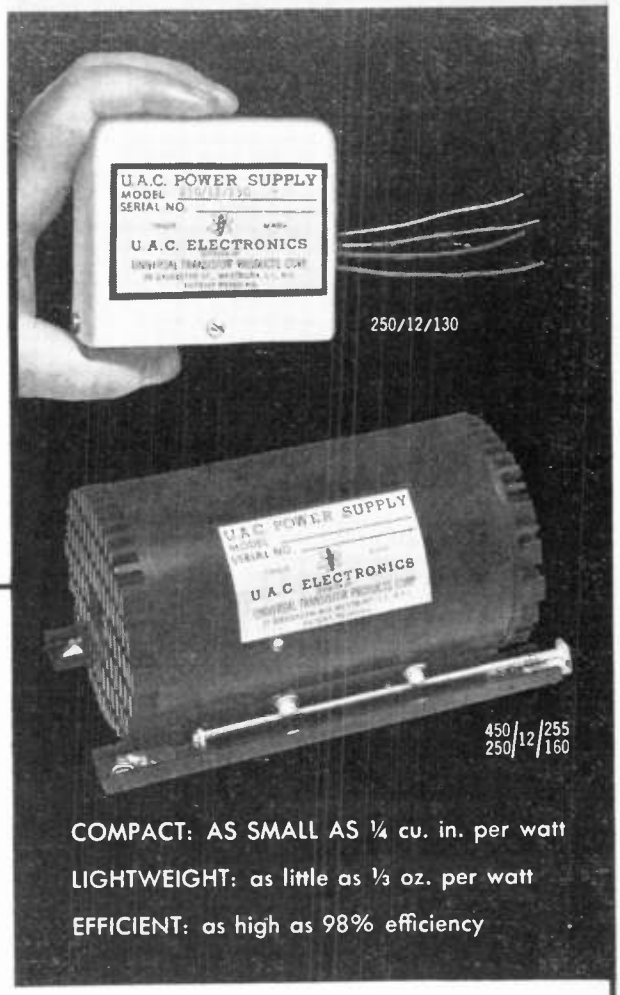
# UNIVERSAL
TRANSISTOR PRODUCTS CORP.

## FULLY TRANSISTORIZED, RECTIFIED, FILTERED

# DC TRANSFORMERS

### DIRECT MOUNT-TO-MOUNT REPLACEMENTS for DYNAMOTORS & VIBRATOR POWER SUPPLIES

Highly efficient, lightweight units that convert battery voltage DC to high voltage DC in minimum-sized, lightweight packages. Special circuitry, conservatively rated, engineered by the leading manufacturer of Transistorized Power Supplies, assures amazingly long life; trouble-free, economical operation. Extremely low ripple. No "Vibrator Hash." High Transistor Reliability.




COMPACT: AS SMALL AS ¼ cu. in. per watt

LIGHTWEIGHT: as little as ⅓ oz. per watt

EFFICIENT: as high as 98% efficiency

### SINGLE-OUTPUT UNITS

| Model No. | Output Voltage VDC | Input Voltage VDC | Output Current MA | Case | Weight | Unit Price |
|---|---|---|---|---|---|---|
| 100/12/30 | 100 | 12 | 30 | E-7 | ¾ lb. | $ 45 |
| 125/12/40 | 125 | 12 | 40 | E-7 | ¾ lb. | 65 |
| 125/12/80 | 125 | 12 | 80 | E-7 | ¾ lb. | 65 |
| 125/28/40 | 125 | 28 | 40 | E-7 | ¾ lb. | 125 |
| 150/12/40 | 150 | 12 | 40 | E-7 | ¾ lb. | 65 |
| 150/12/80 | 150 | 12 | 80 | E-7 | ¾ lb. | 65 |
| 200/12/40 | 200 | 12 | 40 | E-7 | ¾ lb. | 65 |
| 200/12/80 | 200 | 12 | 80 | E-7 | ¾ lb. | 65 |
| 200/28/80 | 200 | 28 | 80 | E-7 | ¾ lb. | 125 |
| 200/28/500 | 200 | 28 | 500 | E-3 | 2¼ lbs. | 225 |
| 240/28/130 | 240 | 28 | 130 | E-7 | 1 lb. | 165 |
| 250/6/80 | 250 | 6 | 80 | E-7 | ¾ lb. | 65 |
| 250/12/40 | 250 | 12 | 40 | E-7 | ¾ lb. | 65 |
| 250/12/80 | 250 | 12 | 80 | E-7 | ¾ lb. | 65 |
| 250/12/130 | 250 | 12 | 130 | E-7 | ¾ lb. | 65 |
| 250/28/300 | 250 | 28 | 300 | E-3 | 2¼ lbs. | 195 |
| 250/28/400 | 250 | 28 | 400 | E-3 | 2¼ lbs. | 225 |
| 290/6/80 | 290 | 6 | 80 | E-7 | ¾ lb. | 65 |
| 290/12/80 | 290 | 12 | 80 | E-7 | ¾ lb. | 65 |
| 290/12/130 | 290 | 12 | 130 | E-12 | ¾ lb. | 65 |
| 300/28/250 | 300 | 28 | 250 | E-3 | 2¼ lbs. | 195 |
| 500/28/150 | 500 | 28 | 150 | E-3 | 2¼ lbs. | 195 |

### CASE INFORMATION

| CASE | SIZE |
|---|---|
| E-3 | 3 3/16" diam. x 4" |
| E-4 | 1 7/16" x 1 7/16" x 2" |
| E-5 | 1 7/16" x 1 7/16" x 2 5/8" |
| E-7 | 2" x 3½" x 3" |
| E-12 | 2¾" x 2¾" x 3¾" |
| E-20 | 2 9/32" x 2 1/32" x 3 3/32" |
| E-21 | 2 9/32" x 2 1/32" x 2 15/32" |

### MULTI-OUTPUT UNITS*

| Model No. | Output Voltage VDC | Input Voltage VDC | Output Current MA | Weight | List Price |
|---|---|---|---|---|---|
| 450/12/255<br>250/12/160 | 450<br>250 | 12 | 255<br>160 | 2¾ lbs. | $185 |
| 500/12/165<br>270/12/150<br>−55/12/10 | 500<br>270<br>−55 | 12 | 165<br>150<br>10 | 2¾ lbs. | $195 |
| 1000/12/140<br>320/12/85<br>100/12/5 | 1000<br>320<br>100 | 12 | 140<br>85<br>5 | 4 lbs. | $195 |
| 450/12/255<br>250/12/150<br>−55/12/10 | 450<br>250<br>−55 | 12 | 255<br>150<br>10 | 2¾ lbs. | $195 |

*Also available from 28V Inputs

UAC Electronics
A DIVISION OF
UNIVERSAL TRANSISTOR PRODUCTS CORP.

IN CANADA:—CONWAY ELECTRONIC ENTERPRISES REGD., 1514 Eglington Ave., Toronto 10, Ont., Canada

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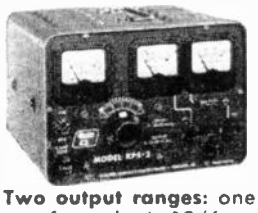
TRADE DISCOUNT APPLIES TO ALL PRICES

World Radio History

# The preferred name in DC Power Supplies now offers the best value in Kits, too!

## KIT POWER SUPPLIES



**New dual purpose model "KPS-2"**

**. . . powers transistor circuits, "hybrid" and 12/6v. auto radios without hum.**

**Two output ranges:** one for transistor circuits . . . one for today's 12/6v. auto radios.
**Low ripple:** Less than 0.5% (60 mv.) to 5 amps., less than 0.15% (3 mv.) up to 75 MA .. **$39.95** net
**"PS-2"** factory assembled (same as above) ..... **$49.95** net

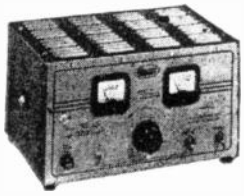
**New deluxe model "K-612T"**

**Only kit offering 10 amps. at 12 v. . . . powers transistor circuits, 12/6v. "hybrid" and vacuum tube auto radios, marine radios.**

**Ample regulation** for operating new solenoid tuning controls in today's auto radios.

**2 variable ranges:** 0-8 and 0-16v.

**½% ripple** up to 5 amperes; 2% at 10 amps. No finer kit at ..... **$44.95** net



**model "H"**

**. . . for heavy duty, high current, low voltage requirements (mobile communication equipment servicing).**

**Dual range:** 6/12v.—10 amps. up to 12v., 20 amps. up to 6v. Continuous rating. Up to 50% overload for intermittent duty. Less than 5% ripple. Services LPI and 10 watt 2-way mobile sets ..... **$67.50** net

**model "GFA"**

**. . . for heavy duty universal higher voltage servicing and DC power source.**

0-125v. continuously variable. 0-10 amps. continuous duty. Less than 1% ripple. High-efficiency germanium rectifiers. Internal impedance: 1/6 ohms ..... **$495.00** net

*All models (except KPS-2, PS-2, GFA) available with standard 19" rack panels at additional cost.*

## ASSEMBLED POWER SUPPLIES

**model "D-612T"**

**. . . for portable and auto transistor sets, 6/12v. tube sets.**

**Dual range:** 0-8 and 0-16v. continuously variable. 10 amps. continuous duty up to 12v. ½% ripple (up to 5 amps.). No finer transistor servicing unit at ..... **$49.95** net

**model "NFB"**

**. . . for aircraft and missile electronic equipment; universal servicing.**

0-32v. continuously variable. 15 amps. continuous rating. Less than ¾% ripple. High efficiency germanium rectifiers. Internal impedance: ½ ohm ..... **$210.00** net
**"NB"** . . . Similar to "NFB" except for 5% ripple at 15 amps ..... **$195.00** net
**"NFBR"** . . . Similar to "NFB" but with rack panel for Western Electric and RETMA racks. Panel 10½" high by 19" wide ..... **$235.00** net

**model "EFB"**

**. . . for design work on transistor circuits, electronic equipment.**

**Dual range:** 0-16 and 0-32v. continuously variable. 8 amps. continuous duty up to 16v., 4 amps. to 32v. Less than 1/10% (10 mv.) ripple for transistor design and servicing. Internal impedance: 4 ohms at 32v., 2 ohms at 16v. ..... **$120.00** net
**"EB"** . . . Same as "EFB" except for 5% ripple at top load ..... **$92.50** net

**Low cost model "EF"**

**. . . for laboratory and design work on electronic equipment.**

**Dual range:** 0-14 and 0-28 v. continuously variable. Up to 5 amps. continuous duty. Ripple less than 1% ..... **$84.50** net
**"E"** . . . Same as "EF" except for 5% ripple at top load ..... **$73.50** net

**ELECTRO PRODUCTS LABORATORIES,** CHICAGO 40, ILLINOIS

*All prices subject to change without notice.*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World Radio History

# THE SUPERIOR ELECTRIC COMPANY

BRISTOL, CONNECTICUT

# POWERSTAT®

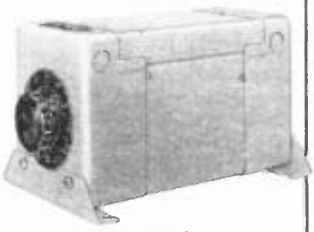
## Variable Transformers

### 116, 117, 216 and 217 SERIES

Available in 1 and 3 phase assemblies. Screened single units for bench or wall mounting available with 2- or 3-wire cord-plug set, output receptacle, switch and fuse. 117 and 217 series single units available with or without plug-in feature. Units suffixed U are of open construction for back-of-panel mounting. They are round frame except those prefixed Q which are square frame requiring less panel area and depth behind panel.

**TYPE 116**
With cord-plug, receptacle, fuse, switch

**TYPE Q116U**
Open, square frame construction



**TYPE EN216-2**
Aluminum case provides dust-tight enclosure

**TYPE 117**
For bench or wall mounting

### 116, 117, 216 and 217 SERIES POWERSTATS

| INPUT VOLTS | INPUT CYCLES | OUTPUT VOLTS | OUTPUT MAX. AMPS | OUTPUT MAX. KVA | TYPE | WEIGHT (LBS.) NET | WEIGHT (LBS.) SHIPP. |
|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 7.5 | .90 | 116U | 9 | 11 |
| 120 | 50/60 | 0-140 | 7.5 | 1.0 | Q116U | 9 | 11 |
| 120 | 50/60 | 0-140 | 7.5 | 1.0 | 116 | 10 | 12 |
| 120 | 60 | 0-120 | 10.0* | 1.6* | 117 | 10 | 12 |
| | | | | | 117U | 9 | 11 |
| | | | | | Q117U | 9 | 11 |
| 240 | 50/60 | 0-240 | 3.0 | .72 | 216U | 9 | 11 |
| 240 | 50/60 | 0-280 | 3.0 | .84 | Q216U | 9 | 11 |
| 240 | 50/60 | 0-280 | 3.0 | .84 | 216 | 10 | 12 |
| 240 | 60 | 0-240 | 4.0* | 1.5* | 217 | 10 | 12 |
| | | | | | 217U | 9 | 11 |
| | | | | | Q217U | 9 | 11 |
| 240 | 50/60 | 0-240 | 7.5 | 1.8 | 116-2 | 20 | 24 |
| 240 | 50/60 | 0-280 | 7.5 | 2.1 | 116U-2 | 18 | 21 |
| | | | | | Q116U-2 | 18 | 21 |
| 240 | 60 | 0-240 | 10.0* | 3.1* | 117-2 | 20 | 24 |
| | | | | | 117U-2 | 18 | 21 |
| | | | | | Q117U-2 | 18 | 21 |
| 480 | 50/60 | 0-480 | 3.0 | 1.4 | 216-2 | 20 | 24 |
| 480 | 50/60 | 0-560 | 3.0 | 1.7 | 216U-2 | 18 | 21 |
| | | | | | Q216U-2 | 18 | 21 |
| 480 | 60 | 0-480 | 4.0* | 3.0* | 217-2 | 20 | 24 |
| | | | | | 217U-2 | 18 | 21 |
| | | | | | Q217U-2 | 18 | 21 |
| **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 7.5 | 1.6 | 116-2 | 20 | 24 |
| 120 | 50/60 | 0-140 | 7.5 | 1.8 | 116U-2 | 18 | 21 |
| | | | | | Q116U-2 | 18 | 21 |
| 120 | 60 | 0-120 | 10.0* | 2.7* | 117-2 | 20 | 24 |
| | | | | | 117U-2 | 18 | 21 |
| | | | | | Q117U-2 | 18 | 21 |
| 240 | 50/60 | 0-240 | 3.0 | 1.2 | 216-2 | 20 | 24 |
| 240 | 50/60 | 0-280 | 3.0 | 1.5 | 216U-2 | 18 | 21 |
| | | | | | Q216U-2 | 18 | 21 |
| 240 | 60 | 0-240 | 4.0* | 2.6* | 217-2 | 20 | 24 |
| | | | | | 217U-2 | 18 | 21 |
| | | | | | Q217U-2 | 18 | 21 |
| 240 | 50/60 | 0-240 | 7.5 | 3.1 | 116-3 | 31 | 36 |
| 240 | 60 | 0-280 | 7.5 | 3.6 | 116U-3 | 26 | 30 |
| | | | | | Q116U-3 | 26 | 30 |
| 240 | 60 | 0-240 | 10.0* | 5.4* | 117-3 | 31 | 36 |
| | | | | | 117U-3 | 26 | 30 |
| | | | | | Q117U-3 | 26 | 30 |
| 480 | 50/60 | 0-480 | 3.0 | 2.5 | 216-3 | 31 | 36 |
| 480 | 60 | 0-560 | 3.0 | 2.9 | 216U-3 | 26 | 30 |
| | | | | | Q216U-3 | 26 | 30 |
| 480 | 60 | 0-480 | 4.0* | 5.2* | 217-3 | 31 | 36 |
| | | | | | 217U-3 | 26 | 30 |
| | | | | | Q217U-3 | 26 | 30 |

*Maximum current is for constant-current load; maximum KVA is for constant-impedance load.

### ENCLOSED TYPES

| INPUT VOLTS | INPUT CYCLES | OUTPUT VOLTS | OUTPUT MAX. AMPS | OUTPUT MAX. KVA | TYPE | WEIGHT (LBS.) NET | WEIGHT (LBS.) SHIPP. |
|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 6.5 | .78 | EN116 | 13 | 15 |
| 120 | 50/60 | 0-140 | 6.5 | .91 | | | |
| 120 | 60 | 0-120 | 8.5* | 1.5* | EN117 | 13 | 15 |
| 240 | 50/60 | 0-240 | 2.6 | .62 | EN216 | 13 | 15 |
| 240 | 50/60 | 0-280 | 2.6 | .73 | | | |
| 240 | 60 | 0-240 | 3.5* | 1.3* | EN217 | 13 | 15 |
| 240 | 50/60 | 0-240 | 6.5 | 1.6 | EN116-2 | 24 | 28 |
| 240 | 50/60 | 0-280 | 6.5 | 1.8 | | | |
| 240 | 60 | 0-240 | 8.5* | 3.0* | EN117-2 | 24 | 28 |
| 480 | 50/60 | 0-480 | 2.6 | 1.2 | EN216-2 | 24 | 28 |
| 480 | 50/60 | 0-560 | 2.6 | 1.5 | | | |
| 480 | 60 | 0-480 | 3.5* | 2.5* | EN217-2 | 24 | 28 |
| **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 6.5 | 1.4 | EN116-2 | 24 | 28 |
| 120 | 50/60 | 0-140 | 6.5 | 1.6 | | | |
| 120 | 60 | 0-120 | 8.5* | 2.6* | EN117-2 | 24 | 28 |
| 240 | 50/60 | 0-240 | 2.6 | 1.1 | EN216-2 | 24 | 28 |
| 240 | 50/60 | 0-280 | 2.6 | 1.3 | | | |
| 240 | 60 | 0-240 | 3.5* | 2.2* | EN217-2 | 24 | 28 |
| 240 | 50/60 | 0-240 | 6.5 | 2.7 | EN116-3 | 34 | 39 |
| 240 | 60 | 0-280 | 6.5 | 3.2 | | | |
| 240 | 60 | 0-240 | 8.5* | 5.2* | EN117-3 | 34 | 39 |
| 480 | 50/60 | 0-480 | 2.6 | 2.2 | EN216-3 | 34 | 39 |
| 480 | 60 | 0-560 | 2.6 | 2.5 | | | |
| 480 | 60 | 0-480 | 3.5* | 4.3* | EN217-3 | 34 | 39 |

*Maximum current is for constant-current load; maximum KVA is for constant-impedance load.

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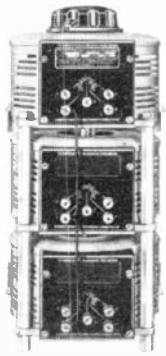
World Radio History

# POWERSTAT® Variable Transformers

## 136, 236 and LW136 SERIES

Offered in 1 and 3 phase, manually-operated or motor-driven types. Motor-driven speeds are 5, 15, 30 or 60 seconds for full range travel. Enclosed terminal and fused types are available. Types 136 and 236 also available with 2- or 3-wire cord-plug sets. Each LW136 series POWERSTAT permits connection for use as low voltage isolated output transformer; limited range transformer; or as a line corrector.

**TYPE 136**
Exposed terminal connections



**TYPE 136-3**
For bench, wall or panel mounting

**TYPE 15MB136-2**
Motor driven for remote control

**TYPE LW136**
Double wound assembly with isolated secondary

### 136 AND 236 SERIES POWERSTATS

| INPUT | | OUTPUT | | | TYPE | MANUALLY OPERATED WEIGHT (LBS.) | |
|---|---|---|---|---|---|---|---|
| VOLTS | CYCLES | VOLTS | MAX. AMPS. | MAX. KVA | | NET | SHIPP. |
| **SINGLE PHASE** | | | | | | | |
| 120 | 50 60 | 0-120 | 20.0 | 2.4 | 136 | 22 | 25 |
| 120 | 50, 60 | 0-140 | 20.0 | 2.8 | | | |
| 120 | 50, 60 | 0-120 | 40.0 | 4.8 | 136-2† | 47 | 52 |
| 120 | 50 60 | 0-140 | 40.0 | 5.6 | | | |
| 240 | 50 60 | 0-240 | 9.0 | 2.2 | 236 | 22 | 25 |
| 240 | 50/60 | 0-280 | 9.0 | 2.5 | | | |
| 240 | 50 60 | 0-240 | 20.0 | 4.8 | 136-2 | 47 | 52 |
| 240 | 50 60 | 0-280 | 20.0 | 5.6 | | | |
| 480 | 50 60 | 0-480 | 9.0 | 4.3 | 236-2 | 47 | 52 |
| 480 | 50, 60 | 0-560 | 9.0 | 5.0 | | | |
| **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 20.0 | 4.2 | 136-2 | 47 | 52 |
| 120 | 50/60 | 0-140 | 20.0 | 4.8 | | | |
| 240 | 50/60 | 0-240 | 9.0 | 3.7 | 236-2 | 47 | 52 |
| 240 | 50, 60 | 0-280 | 9.0 | 4.4 | | | |
| 240 | 50/60 | 0-240 | 20.0 | 8.3 | 136-3 | 70 | 76 |
| 240 | 60 | 0-280 | 20.0 | 9.7 | | | |
| 480 | 50/60 | 0-480 | 9.0 | 7.5 | 236-3 | 70 | 76 |
| 480 | 60 | 0-560 | 9.0 | 8.7 | | | |

†Requires also one paralleling choke type T5000.

### LW136 SERIES POWERSTATS

| INPUT | | OUTPUT | | | TYPE | MANUALLY OPERATED WEIGHT (LBS.) | |
|---|---|---|---|---|---|---|---|
| VOLTS | CYCLES | VOLTS | MAX. AMPS. | MAX. KVA | | NET | SHIPP. |
| Used as Low Voltage Isolated Output Transformer — **SINGLE PHASE** | | | | | | | |
| 120 | 50 60 | 15-0-15 | 35.0 | .52 | LW136 | 22 | 25 |
| 120 | 50/60 | 30-0-30 | 35.0 | 1.0 | LW136-2 | 47 | 52 |
| 120 | 50 60 | 45-0-45 | 35.0 | 1.6 | LW136-3 | 70 | 76 |
| 120 | 50 60 | 0-30 | 25.0 | .75 | LW136 | 22 | 25 |
| 120 | 50/60 | 0-60 | 25.0 | 1.5 | LW136-2 | 47 | 52 |
| 120 | 50, 60 | 0-90 | 25.0 | 2.2 | LW136-3 | 70 | 76 |
| 240 | 50 60 | 15-0-15 | 35.0 | .52 | LW136 | 22 | 25 |
| 240 | 50 60 | 30-0-30 | 35.0 | 1.0 | LW136-2 | 47 | 52 |
| 240 | 50/60 | 45-0-45 | 35.0 | 1.6 | LW136-3 | 70 | 76 |
| 240 | 50 60 | 0-30 | 25.0 | .75 | LW136 | 22 | 25 |
| 240 | 50 60 | 0-60 | 25.0 | 1.5 | LW136-2 | 47 | 52 |
| 240 | 50 60 | 0-90 | 25.0 | 2.2 | LW136-3 | 70 | 76 |
| 480 | 50 60 | 30-0-30 | 35.0 | 1.0 | LW136-2 | 47 | 52 |
| 480 | 50 60 | 0-60 | 25.0 | 1.5 | LW136-2 | 47 | 52 |
| Used as Low Voltage Isolated Output Transformer — **THREE PHASE** | | | | | | | |
| 120 | 50, 60 | 0-30 | 25.0 | 1.3 | LW136-2 | 47 | 52 |
| 120 | 50 60 | 0-30 | 43.3 | 2.2 | LW136-3 | 70 | 76 |
| 120 | 50 60 | 0-52 | 25.0 | 2.2 | LW136-3 | 70 | 76 |
| 240 | 50/60 | 0-30 | 25.0 | 1.3 | LW136-2 | 47 | 52 |
| 240 | 50/60 | 0-30 | 43.3 | 2.2 | LW136-3 | 70 | 76 |
| 240 | 60 | 0-35 | 43.3 | 2.6 | LW136-3 | 70 | 76 |
| 240 | 50/60 | 0-52 | 25.0 | 2.2 | LW135-3 | 70 | 76 |
| 240 | 60 | 0-60 | 25.0 | 2.6 | LW136-3 | 70 | 76 |
| 480 | 60 | 0-35 | 43.3 | 2.6 | LW136-3 | 70 | 76 |
| 480 | 60 | 0-60 | 25.0 | 2.6 | LW136-3 | 70 | 76 |
| Used as Limited Range Transformers — **SINGLE PHASE** | | | | | | | |
| 120 | 50/60 | 105-135 | 35.0 | 4.7 | LW136 | 22 | 25 |
| 120 | 50/60 | 90-150 | 35.0 | 5.2 | LW136-2 | 47 | 52 |
| 120 | 50/60 | 75-165 | 35.0 | 5.8 | LW136-3 | 70 | 76 |
| 240 | 50 60 | 225-255 | 35.0 | 8.9 | LW136 | 22 | 25 |
| 240 | 50, 60 | 210-270 | 35.0 | 9.4 | LW136-2 | 47 | 52 |
| 240 | 50/60 | 195-285 | 35.0 | 10.0 | LW136-3 | 70 | 76 |
| 480 | 50/60 | 450-510 | 35.0 | 17.8 | LW136-2 | 47 | 52 |
| Used as Limited Range Transformers — **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 105-135 | 35.0 | 8.2 | LW136-2 | 47 | 52 |
| 120 | 50/60 | 98-142 | 35.0 | 8.6 | LW136-3 | 70 | 76 |
| 240 | 50/60 | 225-255 | 35.0 | 15.5 | LW136-2 | 47 | 52 |
| 240 | 60 | 210-270 | 35.0 | 16.4 | LW136-3 | 70 | 76 |
| 480 | 60 | 450-510 | 35.0 | 30.9 | LW136-3 | 70 | 76 |
| Used as Line Correctors — **SINGLE PHASE** | | | | | | | |
| 107-137 | 60 | 120 | 35.0 | 4.2 | LW136 | 22 | 25 |
| 226-256 | 60 | 240 | 35.0 | 8.4 | LW136 | 22 | 25 |
| 214-274 | 60 | 240 | 35.0 | 8.4 | LW136-2 | 47 | 52 |
| 202-295 | 60 | 240 | 35.0 | 8.4 | LW136-3 | 70 | 76 |
| 452-512 | 60 | 480 | 35.0 | 16.8 | LW136-2 | 47 | 52 |
| Used as Line Correctors — **THREE PHASE** | | | | | | | |
| 107-137 | 60 | 120 | 35.0 | 7.3 | LW136-2 | 47 | 52 |
| 102-146 | 60 | 120 | 35.0 | 7.3 | LW136-3 | 70 | 76 |
| 226-256 | 60 | 240 | 35.0 | 14.6 | LW136-2 | 47 | 52 |
| 219-264 | 60 | 240 | 35.0 | 14.6 | LW136-3 | 70 | 76 |
| 452-512 | 60 | 480 | 35.0 | 29.1 | LW136-3 | 70 | 76 |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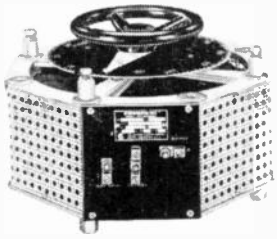
World Radio History

THE SUPERIOR ELECTRIC COMPANY
BRISTOL, CONNECTICUT

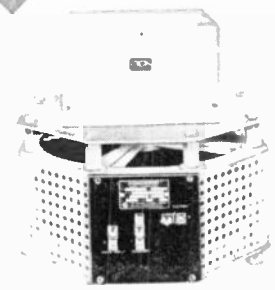
# POWERSTAT®
## Variable Transformers

**1156C—1256C SERIES**

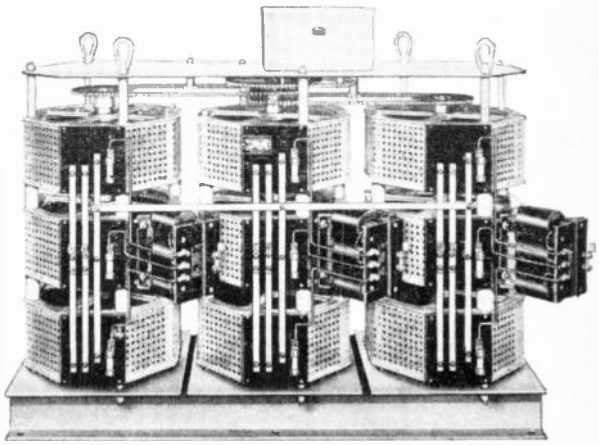
POWERSTATS of the 1156C – 1256C series are heavy duty types. They are available as single units or as standard ganged assemblies up to eight units in tandem. As many as twenty-four units can be ganged and mechanically and electrically interlocked for requirements up to 217 KVA.



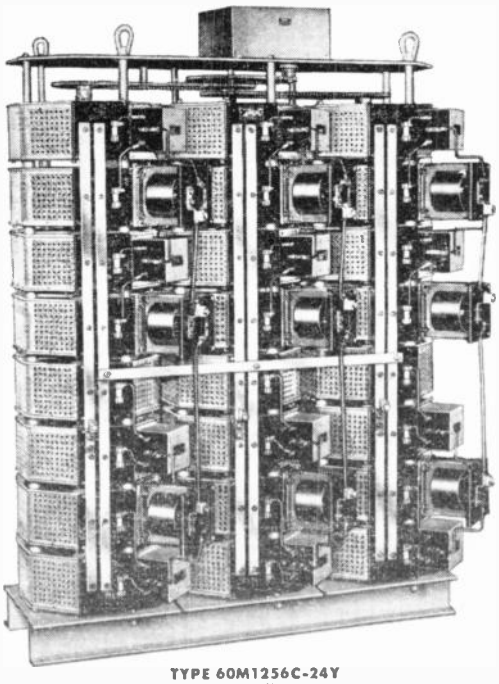
**TYPE 1156C**
Manually-operated



**TYPE 5M1156C**
Motor-driven for remote control



**TYPE 30M1256C-9Y**
Motor-driven for easy operation



**TYPE 60M1256C-24Y**
Rated 217 KVA

### 1156C AND 1256C SERIES POWERSTATS

| INPUT | | OUTPUT | | | | WEIGHT (LBS.) | | MOTOR SPEEDS |
|---|---|---|---|---|---|---|---|---|
| VOLTS | CYCLES | VOLTS | MAX. AMPS. | MAX. KVA | TYPE | NET | SHIPP. | (Seconds) |
| **SINGLE PHASE** | | | | | | | | |
| 120 | 50/60 | 0-140 | 45.0 | 6.3 | 1156C | 70 | 79 | 5, 15, 30, 60 |
| 120 | 50/60 | 0-140 | 90.0 | 12.6 | 1156C-2P | 144 | 160 | 5, 15, 30, 60 |
| 120 | 50/60 | 0-140 | 135.0 | 18.9 | 1156C-3P | 221 | 244 | 5, 15, 30, 60 |
| 120 | 50 60 | 0-140 | 180.0 | 25.2 | 1156C-4P | 360 | 450 | 15, 30, 60 |
| 120 | 50/60 | 0-140 | 270.0 | 37.8 | 1156C-6P | 515 | 615 | 15, 30, 60 |
| 240 | 50/60 | 0-280 | 28.0 | 7.8 | 1256C | 70 | 79 | 5, 15, 30, 60 |
| 240 | 50 60 | 0-280 | 45.0 | 12.6 | 1156C-2S | 137 | 152 | 5, 15, 30, 60 |
| 240 | 50 60 | 0-280 | 56.0 | 15.7 | 1256C-2P | 144 | 160 | 5, 15, 30, 60 |
| 240 | 50 60 | 0-280 | 84.0 | 23.5 | 1256C-3P | 221 | 244 | 5, 15, 30, 60 |
| 240 | 50/60 | 0-280 | 90.0 | 25.2 | 1156C-4PS | 340 | 425 | 15, 30, 60 |
| 240 | 50/60 | 0-280 | 112.0 | 31.4 | 1256C-4P | 360 | 450 | 15, 30, 60 |
| 240 | 50 60 | 0-280 | 135.0 | 37.8 | 1156C-6PS | 495 | 595 | 15, 30, 60 |
| 240 | 50 60 | 0-280 | 168.0 | 47.0 | 1256C-6P | 500 | 600 | 15, 30, 60 |
| 480 | 50 60 | 0-560 | 28.0 | 15.7 | 1256C-2S | 137 | 152 | 5, 15, 30, 60 |
| 480 | 50 60 | 0-560 | 56.0 | 31.4 | 1256C-4PS | 340 | 425 | 15, 30, 60 |
| 480 | 50 60 | 0-560 | 84.0 | 47.0 | 1256C-6PS | 495 | 595 | 15, 30, 60 |
| **THREE PHASE** | | | | | | | | |
| 120 | 50 60 | 0-140 | 45.0 | 10.9 | 1156C-2D | 137 | 152 | 5, 15, 30, 60 |
| 120 | 50 60 | 0-140 | 90.0 | 21.8 | 1156C-4D | 340 | 425 | 15, 30, 60 |
| 120 | 50 60 | 0-140 | 135.0 | 32.7 | 1156C-6D | 495 | 595 | 15, 30, 60 |
| 240 | 50 60 | 0-280 | 28.0 | 13.6 | 1256C-2D | 137 | 152 | 5, 15, 30, 60 |
| 240 | 60 | 0-280 | 45.0 | 21.8 | 1156C-3Y | 204 | 225 | 5, 15, 30, 60 |
| 240 | 50 60 | 0-280 | 56.0 | 27.2 | 1256C-4D | 340 | 425 | 15, 30, 60 |
| 240 | 50 60 | 0-280 | 84.0 | 40.7 | 1256C-6D | 495 | 595 | 15, 30, 60 |
| 240 | 60 | 0-280 | 90.0 | 43.6 | 1156C-6Y | 480 | 575 | 15, 30, 60 |
| 480 | 60 | 0-560 | 28.0 | 27.2 | 1256C-3Y | 204 | 225 | 5, 15, 30, 60 |
| 480 | 60 | 0-560 | 56.0 | 54 3 | 1256C-6Y | 480 | 575 | 15, 30, 60 |

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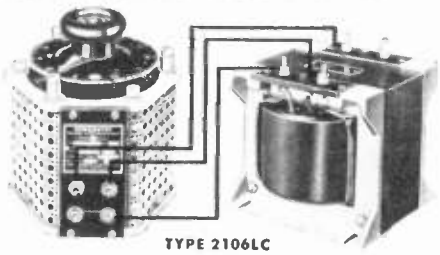
World Radio History

# POWERSTAT® Variable Transformers

## LINE CORRECTOR SERIES OIL-COOLED — EXPLOSION-PROOF VOLTBOX® A-C POWER SUPPLIES, 400 CYCLE SERIES

### LINE CORRECTOR SERIES

Used to correct line voltage variations, to maintain a constant output voltage or to supply a limited range of output voltage from a stable a-c source. All types available with motor-drives in speeds of 5, 15, 30 or 60 seconds for full range travel (except type 3270DLC has only 15, 30, 60).



TYPE 2106LC

### LINE CORRECTOR SERIES POWERSTATS

| INPUT VOLTS | INPUT CYCLES | OUTPUT VOLTS | OUTPUT MAX AMPS | OUTPUT MAX KVA | TYPE | WEIGHT (LBS) NET | WEIGHT (LBS) SHIPP |
|---|---|---|---|---|---|---|---|
| Used as Line Correctors — **SINGLE PHASE** | | | | | | | |
| 95-135 | 50/60 | 115 | 52.0 | 6.0 | **2106LC** | 65 | 80 |
| 95-135 | 50/60 | 115 | 130.0 | 15.0 | **2115LC** | 175 | 200 |
| 195-255 | 50/60 | 230 | 32.5 | 7.5 | **2207LC** | 75 | 90 |
| 195-255 | 50/60 | 230 | 120.0 | 27.5 | **2228LC** | 180 | 205 |
| 400-520 | 50/60 | 460 | 15.0 | 6.6 | **2407LC** | 70 | 85 |
| 400-520 | 50/60 | 460 | 40.0 | 17.6 | **2418LC** | 180 | 205 |
| Used as Line Correctors — **THREE PHASE** | | | | | | | |
| 195-255 | 50/60 | 230 | 25.0 | 10.0 | **3210YLC** | 185 | 210 |
| 195-255 | 50/60 | 230 | 38.0 | 15.0 | **3215YLC** | 200 | 225 |
| 195-255 | 50/60 | 230 | 50.0 | 20.0 | **3220YLC** | 215 | 240 |
| 195-255 | 50/60 | 230 | 113.0 | 45.0 | **3245YLC** | 535 | 615 |
| 195-255 | 50/60 | 230 | 175.0 | 70.0 | **3270DLC** | 685 | 795 |
| 400-520 | 50/60 | 460 | 16.0 | 12.5 | **3412YLC** | 185 | 210 |
| 400-520 | 50/60 | 460 | 22.0 | 17.5 | **3417YLC** | 200 | 225 |
| 400-520 | 50/60 | 460 | 33.0 | 25.0 | **3425YLC** | 215 | 240 |
| 400-520 | 50/60 | 460 | 66.0 | 50.0 | **3450YLC** | 500 | 580 |
| 400-520 | 50/60 | 460 | 100.0 | 75.0 | **3475YLC** | 550 | 630 |
| 420-500 | 50/60 | 460 | 131.0 | 100.0 | **34100YLC** | 550 | 630 |

When units of the LC series are used as limited range adjustable transformers, the input voltage is the output voltage shown in the above chart and the output voltage is the input voltage shown in the above chart.

### OIL-COOLED POWERSTATS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 120 | 50/60 | 0-120 | 15.0 | 1.8 | **0-116** | 44 | 85 |
| 120 | 50/60 | 0-140 | 15.0 | 2.1 | | | |
| 120 | 50/60 | 0-140 | 30.0 | 4.2 | **0-1126** | 70 | 100 |
| 240 | 50/60 | 0-240 | 6.0 | 1.4 | **0-216** | 44 | 85 |
| 240 | 50/60 | 0-280 | 6.0 | 1.7 | | | |
| 240 | 50/60 | 0-280 | 12.0 | 3.4 | **0-1226** | 74 | 105 |

OTHER TYPES AVAILABLE ON SPECIAL ORDER

### EXPLOSION-PROOF POWERSTATS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 120 | 50/60 | 0-120 | 7.5 | .90 | **X-116** | 35 | 47 |
| 120 | 50/60 | 0-140 | 7.5 | 1.0 | | | |
| 120 | 50/60 | 0-140 | 12.0 | 1.7 | **X-1126** | 125 | 142 |
| 240 | 50/60 | 0-240 | 3.0 | .72 | **X-216** | 35 | 47 |
| 240 | 50/60 | 0-280 | 3.0 | .84 | | | |
| 240 | 50/60 | 0-280 | 6.0 | 1.7 | **X-1226** | 125 | 142 |

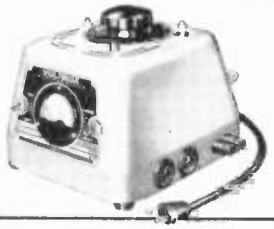
### VOLTBOX A-C POWER SUPPLIES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 120 | 50/60 | 0-140 | 7.5 | 1.0 | **UC1M** | 13 | 17 |
| 240 | 50/60 | 0-280 | 3.0 | .84 | **UC2M** | 13 | 17 |

OTHER TYPES AVAILABLE ON SPECIAL ORDER

**TYPE O-116**
For oil-cooled operation

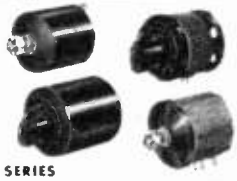
**TYPE X-116**
Explosion-proof



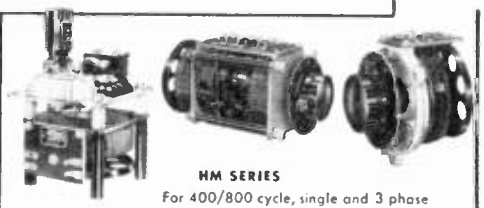
**TYPE UC1M**
Compact unit for variable a-c voltage testing

### POWERSTAT Variable Transformers for HIGH FREQUENCY Applications

Designed for use where weight and space are factors. POWERSTATS designed for 400 cycle service are one-third the weight, one-half the size of comparably rated 50/60 cycle units. Ask your distributor for POWERSTAT Bulletin P257H.



**HS SERIES**
For 400/800 cycle, 1 phase use. INPUT: 120 volts, OUTPUT: 0-120/140 volts. INPUT: 120 volts, OUTPUT: 0-28 volts or, with fixed tap a non-adjustable 28 volt supply. Rating from 56-140VA.



**HM SERIES**
For 400/800 cycle, single and 3 phase use. Units for 120 and 240 volts, 1 phase ... 240 and 480 volts 3 phase service. All units with terminal connections to provide output voltages limited to input voltages, or output voltages above input voltages. Rating from .42-3.6 KVA.

**HL SERIES**
For 400/800 cycle, single and 3 phase use. Manually operated and motor-driven models, single phase units operate from 120 and 240 volt lines. Three phase connected to 240 or 480 volt lines. Input terminals provide choice equal to or 17% higher than line voltage. Rating from 2.1-8.7 KVA.



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World Radio History

# THE SUPERIOR ELECTRIC COMPANY

BRISTOL, CONNECTICUT

# STABILINE®

## Automatic Voltage Regulators

*For precise automatic voltage control with rated outputs from 0.25 to 100 KVA in laboratory, production and testing use*

STABILINES maintain a constant output voltage regardless of line or load changes. They are precision products featuring circuit simplicity with mechanical ruggedness. Their operational characteristics equal or better their published ratings. Bulletins available at your distributor: Type IE — Bulletin S358IE; Type EMT — Bulletin S358EMT; Type TM — Bulletin S358TM.

### RATINGS — IE SERIES

| NOMINAL OUTPUT VOLTAGE | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE (adjustable) | MAX. OUTPUT AMPS. | RATED OUTPUT KVA | MOUNTING | TYPE |
|---|---|---|---|---|---|---|
| **FOR 60±10% CYCLE OPERATION** | | | | | | |
| 115 | 95 to 135 | 110 to 120 | 2.2 | 0.25 | Cabinet | IES1002 |
| | | | | | Rack | IES1002R |
| | | | 4.5 | 0.5 | Cabinet | IES1005 |
| | | | | | Rack | IES1005R |
| | | | 8.5 | 1.0 | Cabinet | IES101 |
| | | | | | Rack | IES101R |
| | | | 22.0 | 2.5 | Cabinet | IES102 |
| | | | | | Rack | IES102R |
| | | | 43.5 | 5.0 | Cabinet | IES105 |
| | | | 87.0 | 10.0 | Cabinet | IES110 |
| 230 | 195 to 255 | 220 to 240 | 1.1 | 0.25 | Cabinet | IES2002 |
| | | | | | Rack | IES2002R |
| | | | 2.2 | 0.5 | Cabinet | IES2005 |
| | | | | | Rack | IES2005R |
| | | | 4.5 | 1.0 | Cabinet | IES201 |
| | | | | | Rack | IES201R |
| | | | 11.0 | 2.5 | Cabinet | IES202 |
| | | | | | Rack | IES202R |
| | | | 22.0 | 5.0 | Cabinet | IES205 |
| | | | 43.5 | 10.0 | Cabinet | IES210 |
| **FOR 50±10% CYCLE OPERATION** | | | | | | |
| 115 | 95 to 135 | 110 to 120 | 4.5 | 0.5 | Cabinet | IEL51005 |
| | | | | | Rack | IEL51005R |
| | | | 8.5 | 1.0 | Cabinet | IEL5101 |
| | | | | | Rack | IEL5101R |
| | | | 43.5 | 5.0 | Cabinet | IEL5105 |
| 230 | 195 to 255 | 220 to 240 | 2.2 | 0.5 | Cabinet | IEL52005 |
| | | | | | Rack | IEL52005R |
| | | | 4.5 | 1.0 | Cabinet | IEL5201 |
| | | | | | Rack | IEL5201R |
| | | | 11.0 | 2.5 | Cabinet | IEL5202 |
| | | | | | Rack | IEL5202R |
| | | | 22.0 | 5.0 | Cabinet | IEL5205 |

### RATINGS — EMT SERIES

| NOMINAL OUTPUT VOLTAGE | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE (adjustable) | MAX. OUTPUT AMPS. | RATED OUTPUT KVA | COR. RATE (sec volt) | MOUNTING | TYPE |
|---|---|---|---|---|---|---|---|
| **SINGLE PHASE TYPES** | | | | | | | |
| 115 | 95 to 135 | 110 to 120 | 17.5 | 2.0 | .075 | Cabinet | EMT4102 |
| | | | | | | Rack | EMT4102R |
| | | | 52.0 | 6.0 | .075 | Cabinet | EMT4106 |
| | | | | | | Rack | EMT4106R |
| | 105 to 125 | | 104.0 | 12.0 | .15 | Cabinet | EMT4112* |
| | | | | | | Rack | EMT4112R* |
| | 95 to 135 | | 130.0 | 15.0 | .15 | Cabinet | EMT4115 |
| 230 | 195 to 255 | 220 to 240 | 32.5 | 7.5 | .10 | Cabinet | EMT4207 |
| | | | 120.0 | 27.5 | .10 | Cabinet | EMT4228 |
| 460 | 400 to 520 | 420 to 460 | 15.0 | 6.6 | .05 | Cabinet | EMT4407 |
| | | | 40.0 | 17.6 | .05 | Cabinet | EMT4418 |
| **THREE PHASE TYPES** | | | | | | | |
| 230 | 195 to 255 | 220 to 240 | 25.0 | 10.0 | .10 | Cabinet | EMT6210Y |
| | | | 38.0 | 15.0 | .10 | Cabinet | EMT6215Y |
| | | | 50.0 | 20.0 | .10 | Cabinet | EMT6220Y |
| | | | 113.0 | 45.0 | .32 | Cabinet | EMT6245Y |
| | | | 175.0 | 70.0 | .32 | Cabinet | EMT6270D |
| 460 | 400 to 520 | 420 to 460 | 16.0 | 12.5 | .05 | Cabinet | EMT6412Y |
| | | | 22.0 | 17.5 | .05 | Cabinet | EMT6417Y |
| | | | 33.0 | 25.0 | .05 | Cabinet | EMT6425Y |
| | | | 66.0 | 50.0 | .16 | Cabinet | EMT6450Y |
| | | | 100.0 | 75.0 | .16 | Cabinet | EMT6475Y |
| | 420 to 500 | 420 to 460 | 131.0 | 100.0 | .24 | Cabinet | EMT64100Y |

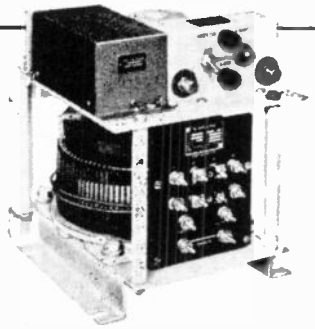
*These units can also be operated on an input range of 95 to 135 volts with a rating of 52.0 amperes, 6.0 KVA and a correction rate of .075 seconds per volt.

### RATINGS — TM SERIES

| NOMINAL OUTPUT VOLTAGE | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE (Adjustable) | MAX. OUTPUT AMPS. | RATED OUTPUT KVA | MOUNTING | TYPE |
|---|---|---|---|---|---|---|
| 115 | 95 to 135 | 110 to 120 | 8.5 | 1.0 | Cabinet | TM7101 |
| | | | | | Rack | TM7101R |
| | | | 43.5 | 5.0 | Cabinet or Rack | TM7105 |

### RATINGS — HIGH FREQUENCY

| NOMINAL OUTPUT VOLTAGE | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE (Adjustable) | FREQUENCY (Cycles Per Second) | MAX. OUTPUT AMPS. | RATED OUTPUT KVA | MOUNTING | TYPE |
|---|---|---|---|---|---|---|---|
| **INSTANTANEOUS ELECTRONIC** | | | | | | | |
| 115 | 95-130 | 110-120 | 400±5% | 8.5 | 1.0 | Cabinet | IEH5101 |
| | | | | | | Rack | IEH5101R |
| **TUBELESS MAGNETIC** | | | | | | | |
| 115 | 95-130 | 110-120 | 400±5% | 8.5 | 1.0 | Cabinet | TMH7101 |



## NEW...SMALL SIZE...HIGH RATING-to 8.4 KVA

STABILINE Automatic Voltage Regulator type EMT4104U can be used as an independent unit or as a component with the controls in the apparatus panel and the regulator elements installed elsewhere.

### RATINGS — EMT4104U

| NOMINAL OUTPUT VOLTAGE | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE (Adjustable) | MAX OUTPUT AMPS. | RATED OUTPUT KVA | COR. RATE Sec Volt | CONSTRUCTION | TYPE |
|---|---|---|---|---|---|---|---|
| 120 | 108-137 | 110-120 | 35 | 4.2 | 0.1 | OPEN | EMT4104U |
| 240 | 226-256 | 220-240 | 35 | 8.4 | 0.1 | | |

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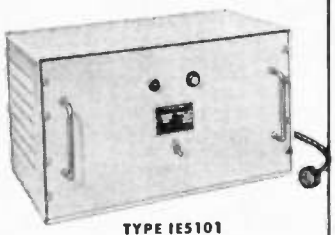
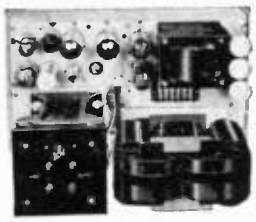
## STABILINE type IE
### Instantaneous Electronic

Completely electronic with no moving parts. Holds output voltage to within ±0.1 percent of nominal for wide line variations and within ±0.15 percent of nominal for any load current change or load power factor change from .5 lagging to unity. Waveform distortion never exceeds 3%.



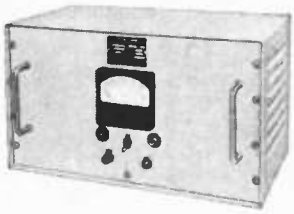
TYPE IE5101



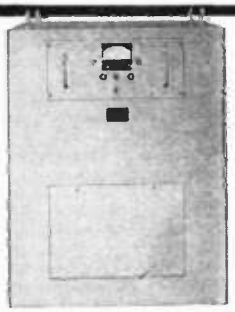
TYPE IE5102R

## STABILINE type EMT
### Electro Mechanical Transistorized

Consists of POWERSTAT variable transformer, detector circuit, auxiliary transformer. Corrects faster than most regulators and maintains constant voltage to loads up to 100 KVA without waveform distortion. Control circuit is completely transistorized.



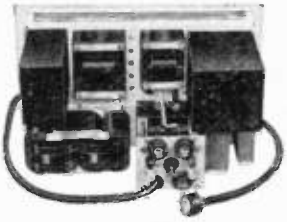
TYPE EMT4102



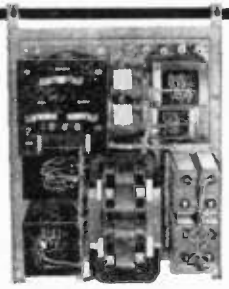
TYPE EMT6475Y

## STABILINE type TM
### Tubeless Magnetic

Has no tubes, transistors or moving parts. For unattended locations or where maintenance is impossible over long time periods. Its response time under ordinary changes is less than ½ second; always under 1 second.



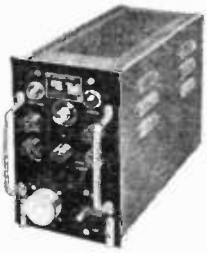
TYPE TM7101R



TYPE TM7105
(cabinet removed)

## STABILINES for High Frequency Applications

Meet the light weight and small size requirements for 400 cycle use. Built to meet military specifications.

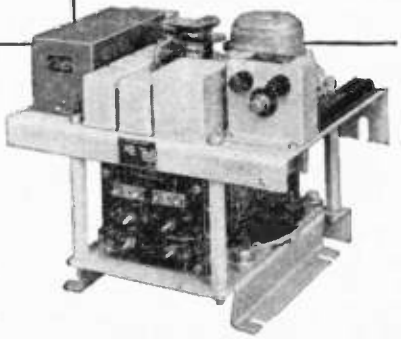


TYPE IEH5101, TYPE TMH7101
for high frequency

TYPE IEH5101R
for high frequency

## NEW *Automatic* FILAMENT VOLTAGE REGULATOR

STABILINE type EMT25136U automatically provides gradual power run-up and constant automatic regulated voltage for vacuum tubes in sensitive electronic equipment. Regulation is within a 1.0 volt band for any output setting from 9 to 24 volts.



**RATINGS — EMT25136U**

| NOMINAL INPUT VOLTAGE | INPUT VOLTAGE RANGE | FREQUENCY (Cycles Per Second) | OUTPUT VOLTAGE (Adjustable) | MAX. OUTPUT AMPS | MAX. VOLTAGE RUN-UP TIME (Seconds) | CONSTRUCTION | TYPE |
|---|---|---|---|---|---|---|---|
| 120 | 108-132 | 50/60 | 9-24 | 25 | 45* | OPEN | EMT25136U |
| 240 | 216-256 | | | | | | |

*Other speeds of 3, 6, 15, 30 or 60 seconds available on special order.



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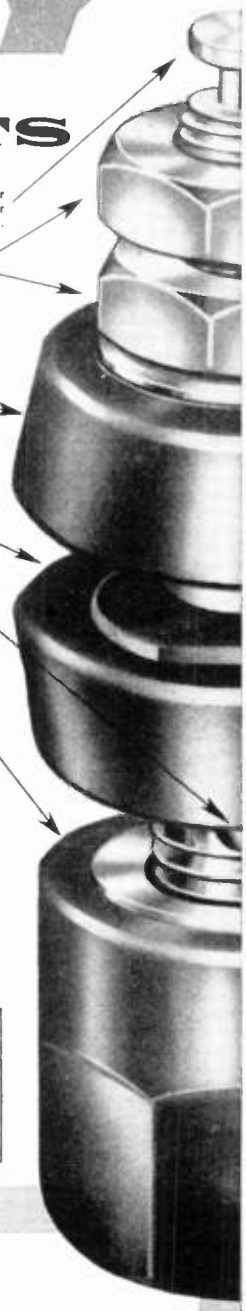
THE SUPERIOR ELECTRIC COMPANY
BRISTOL, CONNECTICUT

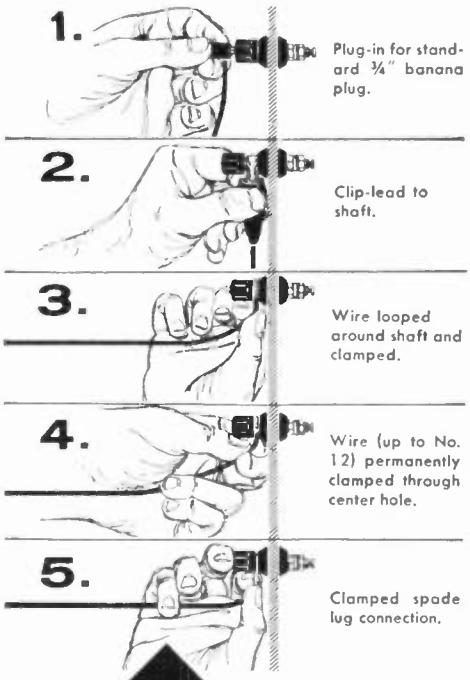
# SUPERIOR 5-WAY* BINDING POSTS




**GOLD PLATED** — *For quicker solder connections with maximum electrical contact . . . corrosion resistance.*

**6 COLORS** — *For more attractive panels, easier circuit identification.*

## 5 WAYS TO CONNECT




These are the original SUPERIOR 5-WAY Binding Posts and are the first choice of makers of electrical and electronic equipment. Their 30 amperes current capacity and 1000 volts working voltage satisfy a wide range of requirements. They can be mounted and securely locked in any panel from 1/16 to 1/4 inch thick. Adapter spacers are available for mounting in thinner panels. Complete insulation from panel is provided. Ask your distributor for Bulletin BP958.

| TYPE | COLOR | TYPE | COLOR |
|---|---|---|---|
| DF30BC | Black | DF30GNC | Green |
| DF30BLC | Blue | DF30WTC | White |
| DF30RC | Red | DF30YC | Yellow |

*Precision Products of*
THE SUPERIOR ELECTRIC COMPANY
BRISTOL, CONNECTICUT

*A TRADE NAME OF THE SUPERIOR ELECTRIC COMPANY

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THE **SUPERIOR ELECTRIC** COMPANY
BRISTOL, CONNECTICUT

# POWERSTAT®
## Variable Transformers
**10 SERIES**
**20 SERIES**

## *Choose from the Most Extensive Line of Variable Transformers*

Only the POWERSTAT line offers the innumerable standard types for:

**120, 240 and 480 volts**
**Single phase**
**Three phase**
**Four wire**
**Three wire**
**Two wire**
**Above line**
**To line**

**Open delta, wye, parallel, series-parallel connected**
**132 VA to 217 KVA**
**Motor driven**
**Manually operated**
**Temperature modulating**

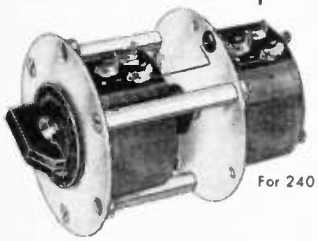
**Positioner control**
**Portable**
**Oil-cooled**
**Explosion-proof**
**Limited-range types**
**Line correctors**
**Double-wound**

POWERSTATS are of toroidal core design with a movable brush tap which is rotated to deliver any desired output voltage from zero to or above line voltage. They provide excellent regulation, high efficiency, conservative ratings, zero waveform distortion and rugged construction.

### 10 SERIES

**TYPE 2PF10**
Portable with 6 foot cord-plug set

**TYPE 10**
For back-of-panel



**TYPE 10-2**
For 240 volt, 1 phase or 120 volt, 3 phase duty

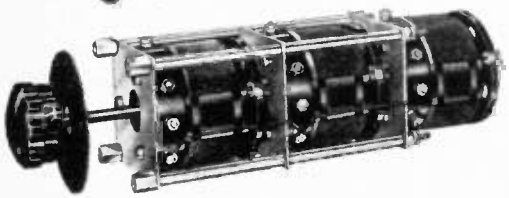
### 10 SERIES POWERSTATS

| INPUT VOLTS | INPUT CYCLES | OUTPUT VOLTS | OUTPUT MAX. AMPS. | OUTPUT MAX. KVA | TYPE | WEIGHT (LBS.) NET | WEIGHT (LBS.) SHIPP. |
|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | |
| 120 | 60 | 0-132 | 1.0 | .132 | **2PF10** | 3 | 3.3 |
| 120 | 50/60 | 0-120 | 1.25 | .150 | **10** | 1.8 | 2.1 |
| 120 | 60 | 0-132 | 1.25 | .165 | | | |
| 240 | 50/60 | 0-240 | 1.25 | .30 | **10-2** | 4.3 | 5 |
| 240 | 60 | 0-264 | 1.25 | .33 | | | |
| **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 1.25 | .26 | **10-2** | 4.3 | 5 |
| 120 | 60 | 0-132 | 1.25 | .29 | | | |
| 240 | 60 | 0-240 | 1.25 | .52 | **10-3** | 6.5 | 7.3 |

### 20 SERIES

**TYPE 20**
For back-of-panel

**TYPE 20-3**
For 240 volt, 3 phase duty



### 20 SERIES POWERSTATS

| INPUT VOLTS | INPUT CYCLES | OUTPUT VOLTS | OUTPUT MAX. AMPS. | OUTPUT MAX. KVA | TYPE | WEIGHT (LBS.) NET | WEIGHT (LBS.) SHIPP. |
|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 3.0 | .36 | **20** | 4 | 5.5 |
| 120 | 60 | 0-140 | 3.0 | .42 | | | |
| 240 | 50/60 | 0-240 | 3.0 | .72 | **20-2** | 10 | 11 |
| 240 | 60 | 0-280 | 3.0 | .84 | | | |
| **THREE PHASE** | | | | | | | |
| 120 | 50/60 | 0-120 | 3.0 | .62 | **20-2** | 10 | 11 |
| 120 | 60 | 0-140 | 3.0 | .73 | | | |
| 240 | 60 | 0-240 | 3.0 | 1.2 | **20-3** | 15 | 16 |

*For complete information ask your distributor for* POWERSTAT *Catalog P258G.*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World Radio History

# SOLA *Constant Voltage* TRANSFORMERS

## AUTOMATIC, INSTANTANEOUS VOLTAGE REGULATION

Sola Constant Voltage Transformers are static-magnetic voltage regulators. They are designed to provide a constant output voltage which is unaffected by changes in input voltage. You will find, listed in the following pages, the widest range of ratings and types available from stock offered by any manufacturer.

They have eight distinct advantages over regulators which depend solely upon saturation of core materials for their regulating action, or electronic type regulators:

1. Ultra-fast regulating action. Response time is usually 1.5 cycles or less.
2. No moving or renewable parts or manual adjustments; eliminates need for routine maintenance and spare parts stock.
3. Completely automatic, continuous regulation. No manual adjustments or instruction booklets are required.
4. Self-protecting against short circuits on output or load circuit.
5. Current-limiting characteristic protects load equipment from excessive fault currents.
6. Availability of transformer ratio for step-up, step-down, plate and/or filament supply permits substitution in place of conventional non-regulating transformers.
7. Relatively compact compared to other equipment for comparable ac voltage regulation.
8. Provide isolation between input and output circuits.

In addition, CUSTOM DESIGNED UNITS can be manufactured in capacities from 1 va to 25,000 va, to suit your individual specifications. When ordered in substantial quantities, they cost only slightly more than standard units of the same general size. Often, time and money can be saved by direct use or modification of a regulator from the several hundred special designs on file. Custom designs can include: SPECIAL VOLTAGE RATIOS, SPECIAL FREQUENCIES, COMPENSATION FOR FREQUENCY VARIATION, MULTIPLE OUTPUT VOLTAGES, THREE-PHASE SERVICE, and MILITARY SPECIFICATIONS.

*turn page for electrical and mechanical specifications of stock types and sizes available*

**Manufactured by Sola Electric Co. • Chicago 50, Illinois**

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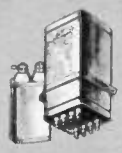
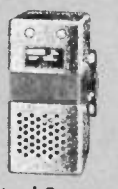
World Radio History

# SOLA CONSTANT VOLTAGE TRANSFORMERS

**Standard Constant Voltage Transformers. Regulation ±1%**

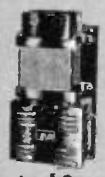


Typical Structure, Hermetic-Sealed Housing, 301002-3



Typical Structure, 250-1000 va ratings

Horizontal mounting with adapter kit



Typical Structure, 5 kva rating

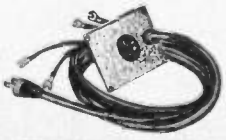
Typical Structure, Filament Regulators, 5-25 a

**Electrical and Mechanical Specifications • 60 Cycle, Single Phase**

| Catalog Number | Output Capacity in VA | VOLTAGE RATINGS Input Range | VOLTAGE RATINGS Reg±1% Output | Dimensions in Inches* A | B | C | E | F | Approx. Shipping Weight in Lbs. |
|---|---|---|---|---|---|---|---|---|---|
| 30488 | 15 | 95-125 | 6.0 | 5 11/16 | 2 5/8 | 3 1/2 | 5 1/16 | ..... | 6 |
| 30498 | 15 | 95-125 | 115 | 5 11/16 | 2 5/8 | 3 1/2 | 5 1/16 | ..... | 6 |
| 301003 | 15 | 95-125 | 115 | 5 1/4 | 3 1/2 | 2 1/4 | 3 | 1 1/2 | 4 |
| 20-13-030 | 30 | 95-130 | 118 | 6 | 4 | 5 3/16 | 3 | 3 1/2 | 6.5 |
| 20-13-030* Plus adapter kit | 30 | 95-130 | 118 | 6 | 4 | 5 3/16 | 3 | 3 1/2 | 6.5 |
| 20-13-060 | 60 | 95-130 | 118 | 6 13/16 | 4 | 5 3/16 | 3 | 3 1/2 | 9.5 |
| 20-13-060* Plus adapter kit | 60 | 95-130 | 118 | 6 13/16 | 4 | 5 3/16 | 3 | 3 1/2 | 9.5 |
| 20-13-112 | 120 | 95-130 | 118 | 7 7/8 | 4 | 5 3/16 | 3 | 3 1/2 | 13 |
| 20-13-112** Plus adapter kit | 120 | 95-130 | 118 | 7 7/8 | 4 | 5 3/16 | 3 | 3 1/2 | 13 |
| 20-21-112 | 120 | 190-260 | 236 | 7 7/8 | 4 | 5 3/16 | 3 | 3 1/2 | 13 |
| 20-13-115** | 150 | 95-130 | 118 | 8 7/8 | 5 3/8 | 7 7/16 | 4 1/8 | 4 3/4 | 22 |
| 20-13-125*** | 250 | 95-130 | 118 | 11 1/8 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 24 |
| 20-23-125 | 250 | 190-260x380-520 | 118 | 11 1/8 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 24 |
| 20-13-150*** | 500 | 95-130 | 118 | 12 1/2 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 36 |
| 20-23-150 | 500 | 190-260x380-520 | 118 | 12 1/2 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 36 |
| 20-24-150 | 500 | 190-260x380-520 | 236 | 12 1/2 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 36 |
| 20-13-210 | 1000 | 95-130 | 118 | 15 1/8 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 52 |
| 20-20-210 | 1000 | 190-260 | 118 | 15 1/8 | 6 15/16 | 6 7/16 | 4 5/8 | 6 1/8 | 52 |
| 20-25-220 | 2000 | 95-130x 175-235x 190-260 | 118x 236 | 21 1/2 | 10 1/2 | 9 1/16 | 6 1/16 | 9 1/2 | 168 |
| 20-25-230 | 3000 | 95-130x 175-235x 190-260 | 118x 236 | 27 11/16 | 10 1/2 | 9 1/16 | 9 3/4 | 9 1/2 | 246 |
| 301702 | 5000 | 95-125x190-250 | 115.0 | 39 1/16 | 16 1/4 | 12 | 34 1/2 | 14 1/4 | 485 |
| 301703 | 5000 | 190-250x380-500 | 230.0 | 39 1/16 | 16 1/4 | 12 | 34 1/2 | 14 1/4 | 485 |
| 301700 | 10000 | 190-250x380-500 | 115.0 | 48 1/8 | 34 1/4 | 14 | 41 1/2 | 31 1/4 | 1025 |
| 301701 | 10000 | 190-250x380-500 | 230.0 | 48 1/8 | 34 1/4 | 14 | 41 1/2 | 31 1/4 | 1025 |
| | in Amps | | | | | | | | |
| 30492 | 2.4 | 95-125 | 6.3 | 5 11/16 | 2 5/8 | 3 1/2 | 5 1/16 | ..... | 6 |
| 301002 | 2.4 | 95-125 | 6.3 | 5 1/4 | 3 1/2 | 2 1/4 | 3 | 1 1/2 | 4 |
| 20-04-030 | 5 | 95-130x190-260 | 6.3 | 4 13/16 | 3 1/8 | 3 1/8 | 2 1/2 | 2 1/16 | 6 |
| 20-04-065 | 10 | 95-130x190-260 | 6.3 | 4 13/16 | 3 1/8 | 3 3/4 | 2 1/2 | 2 11/16 | 7 |
| 20-04-095 | 15 | 95-130x190-260 | 6.3 | 4 13/16 | 3 1/8 | 4 11/16 | 2 1/2 | 3 5/8 | 11 |
| 20-04-113 | 20 | 95-130x190-260 | 6.3 | 7 | 4 1/2 | 5 1/8 | 3 5/8 | 3 9/16 | 20 |
| 20-04-116 | 25 | 95-130x190-260 | 6.3 | 7 | 4 1/2 | 5 11/16 | 3 5/8 | 4 1/8 | 23 |

*Specify Adapter Kit Cat. No. 999-004.
**Specify Adapter Kit Cat. No. 999-005.
***Specify Adapter Kit Cat. No. 999-009.

*These adapter kits are furnished at slight additional cost when ordered with transformer; and may also be purchased separately for converting existing units.*



DIMENSIONS—A, B & C: Outside cubic dimensions of unit, not including capacitor where furnished separately. E & F: Mounting dimensions.

Specifications subject to change without notice.



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# SOLA CONSTANT VOLTAGE TRANSFORMERS

## Harmonic-Free Transformer

### ±1% Regulated Sine Wave Output with less than 3% Total rms Harmonic Content.

| Catalog Number | Output Capacity in VA | Voltage Rating: Input Range | Voltage Rating: Regulated ±1% Output | Dimensions in Inches: Outline A | Outline B | Outline C | Mounting E | Mounting F | Approx. Ship. Wt. in Lbs. |
|---|---|---|---|---|---|---|---|---|---|
| 23-13-060 | 60 | 95-130 | 118 | 6 15/16 | 4 | 5 3/16 | 3 | 3 1/2 | 10 |
| 23-13-060* Plus adapter kit | 60 | 95-130 | 118 | 6 15/16 | 4 | 5 3/16 | 3 | 3 1/2 | 10 |
| 23-13-112 | 120 | 95-130 | 118 | 8 1/2 | 5 3/8 | 7 7/16 | 4 1/8 | 4 3/4 | 14 |
| 23-13-112** Plus adapter kit | 120 | 95-130 | 118 | 8 1/2 | 5 3/8 | 7 7/16 | 4 1/8 | 4 3/4 | 14 |
| 23-13-125*** | 250 | 95-130 | 118 | 11 1/4 | 9 | 6 7/16 | 5 5/8 | 8 1/8 | 32 |
| 23-13-150*** | 500 | 95-130 | 118 | 12 5/8 | 9 | 6 7/16 | 5 5/8 | 8 1/8 | 47 |
| 23-13-210 | 1000 | 95-130 | 118 | 17 15/16 | 9 | 6 7/16 | 5 5/8 | 8 1/8 | 80 |
| 23-25-220 | 2000 | 95-130x 175-235x | 118x | 21 3/8 | 12 3/4 | 10 9/16 | 6 1/4 | 11 3/4 | 183 |
| 23-25-230 | 3000 | 190-260 | 236 | 29 1/8 | 12 3/4 | 10 9/16 | 9 1/4 | 11 3/4 | 270 |

## Adjustable, Harmonic-Free AC Voltage Supply

### ±1% Regulated Sine Wave Output with less than 3% Total rms Harmonic Content. Adjustable from 0-130 v.

One outlet regulated ±1% and adjustable from 0 to 130 volts. One outlet for fixed value 115 volts regulated ±1%. Total rms harmonic content less than 3%. Regulating response 1.5 cycles or less. Self-protecting against short circuit. Portable for use in shop or laboratory.

Input 100-130 v; Output No. 1, 115 v; Output No. 2, 0-130 v; 60 cycle, single phase.

| Catalog Number | Output Capacity in VA | Dimensions in Inches: A | B | C | Approx. Shipping Weight in Lbs. |
|---|---|---|---|---|---|
| 23-90-50 | 500 | 9 | 19 | 12 11/16 | 77 |

## Plate-Filament Transformer

### ±3% Regulation for Plate and Filament Supply

A single, compact source of plate and filament supply voltages regulated to within ±3% or less, with line voltage variations of 100-130 volts. Each unit is furnished complete with capacitor and capacitor mounting bracket. The capacitor is not wired to the transformer, to permit maximum flexibility in mounting on the chassis.

Input 100-130v., 60 cycle, single phase

| Catalog Number | Typical Rectifier Tube | Average D.C. Input Volts To Filter | Filament Windings: 6.3 volts | Filament Windings: 5.0 volts | Dimensions in Inches: A | B | C | Approx. Shipping Weight in Lbs. |
|---|---|---|---|---|---|---|---|---|
| 7104 | 5Y3 | 275v D.C. @ 50 M.A. | 2.5 amps C.T. | 2.0 amps | 4 13/16 | 3 1/8 | 3 3/16 | 5 |
| 7106 | 5Y3 | 385v D.C. @ 110 M.A. | 3.0 amps C.T. | 2.0 amps | 4 13/16 | 3 1/8 | 3 15/16 | 8 |
| 7107 | 5U4 | 380v D.C. @ 250 M.A. | No. 1: 4.0 amps No. 2: 8.0 amps unregulated | 3.0 amps | 7 | 4 1/2 | 5 | 19 |

## TV-Appliance Transformer

### ±3% Plug-in Regulator for Television Receivers and Other Appliances

Voltage regulation for home TV Receivers eliminates flicker and distortion due to line voltage variations. Moderate price . . . plug-in type . . . regulation ±3% or less.

Input 95-130v, Nominal Output Value in 115-120 volt range; 60 cycle, single phase.

| Catalog Number | Output Capacity in VA | Dimensions in Inches: A | B | C | Approx. Shipping Weight in Lbs. |
|---|---|---|---|---|---|
| 7201 | 180 | 7 1/4 | 8 1/4 | 4 3/4 | 21 |
| 7202 | 300 | 7 1/4 | 9 1/8 | 4 3/4 | 28 |

Typical Characteristics of 300 VA No. 7202 Transformer with 300 VA Load

| Primary: Volts | Primary: Amps | Primary: Watts | Secondary: Volts | Secondary: Amps | Secondary: Reg. |
|---|---|---|---|---|---|
| 95 | 3.84 | 345 | 113.2 | 2.57 | −2.84% |
| 117 | 3.28 | 360 | 116.5 | 2.62 | |
| 130 | 3.28 | 368 | 117.9 | 2.66 | +1.2% |

**See next page for regulated DC power supplies**

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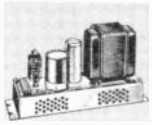
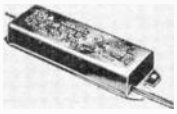
SOLA

CONSTANT VOLTAGE TRANSFORMERS


REGULATED DC POWER SUPPLIES

MERCURY LAMP TRANSFORMERS


FLUORESCENT LAMP BALLASTS

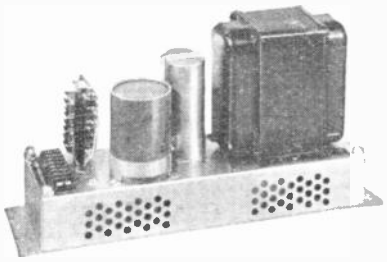
# Sola DC power supplies: compact, regulated, for high-amp loads

This combination of Sola Constant Voltage Transformer, germanium power rectifier, and high-capacitance filter yields a dc power supply compact in size, low in weight, and with other important advantages.

1. Output regulation of ±1% or less with ±10% line voltage variations.
2. Minimum output voltage change with wide, rapid load changes.
3. Low input power, with resultant good efficiency.
4. Ability to withstand high, short-time overloads without damage to components.
5. Ripple voltage of approximately 1% (rms) or less.
6. High overall economy by eliminating overload capacity needed in other types of power supplies for certain applications.
7. Low ratio of size and weight to power output.
8. Freedom from routine adjustment and maintenance.
9. Exceedingly low output impedance.

In addition to its important function of correcting line voltage variations, the Sola CV's inherent current-limiting action permits safe, economical use of the efficient germanium rectifier with its low forward voltage drop and other advantages. This same current-limiting action also permits use of high-capacitance filter sections by controlling excessive charging currents which might damage rectifier junctions. The high-capacitance filter yields very low ripple voltage without need for heavy, bulky choke components, with their substantial and often-varying load voltage drops.

## FIXED DESIGNS



**For intermittent, variable, or pulse loads.**

### ELECTRICAL SPECIFICATIONS

All Inputs 100-130 volts, 60 cps

| Catalog Number | Output Rating | | | Efficiency Approx. % | Ripple Voltage (rms)- % of Total | Approx. Shipping Weight Each Pounds |
|---|---|---|---|---|---|---|
| | Watts | Volts | Amps | | | |
| 28156 | 144 | 24 | 6.0 | 72 | Less Than 1% | 45 |
| 28120 | 192 | 48 | 4.0 | 77 | Less Than 1% | 45 |
| 28152 | 250 | 125 | 2.0 | 82 | Less Than 1% | 55 |
| 28106 | 300 | 150 | 2.0 | 80 | Less Than 1% | 50 |
| 28193 | 200 | 200 | 1.0 | 76 | Less Than ½% | 45 |
| 28192 | 250 | 250 | 1.0 | 81 | Less Than ½% | 55 |

DIMENSIONS—Above six stock units have identical dimensions: overall length, 19"; overall width, 5¼"; overall height, 9¾". All supplies furnished with drilling for standard relay rack mounting.

## ADJUSTABLE DESIGNS

**Give all the advantages of fixed designs plus an output adjustable over a considerable range of voltages.**

### ELECTRICAL SPECIFICATIONS

All inputs 100-130 volts, 60 cps

| Catalog Number | Adjustable Output Voltage Range | Rated Loadings in Amperes | | Ripple* Voltage— % of Total Output | Approx. Shipping Weight Each— Pounds |
|---|---|---|---|---|---|
| | | At max. Voltage Setting | At min. Voltage Setting | | |
| 28510 | 5-35 | 7.0 | | 0.10 | 80 |
| 28520 | 25-60 | 4.0 | 6.0 | 0.05 | 80 |
| 28530 | 30-90 | 2.8 | 4.0 | 0.04 | 80 |
| 28540 | 60-180 | 1.4 | 2.0 | 0.03 | 80 |
| 28550 | 150-250 | 1.0 | 1.5 | 0.02 | 80 |
| 28560 | 250-400 | 0.6 | 0.75 | 0.02 | 80 |

*Figures in this column ripple voltages measured at full rated load and input of 115 volts.

DIMENSIONS—Above six stock units are for relay rack mounting on standard 19" frame. Front panel is 7" high and chassis is 12¼" deep. Removable handles, for portability, are available as an accessory.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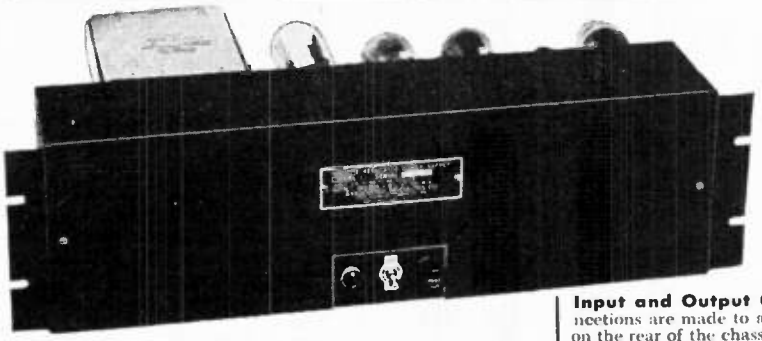
# Associated Specialties Co.

**OREFIELD, PA.**



## ELECTRONICALLY REGULATED D.C. CONSTANT VOLTAGE POWER SUPPLIES

**MODEL 1**
**RELAY RACK MOUNTING $52.50**

**Input:** 105-125 volts AC. 50-60 cycles.

**DC Output Voltage:** Continuously variable from 200 to 325 volts DC for load currents 0 to 100 ma.

**Regulation of DC Voltage:** Better than 1% for loads of 0 to 100 ma. and line voltage variations from 105 to 125 volts.

**Ripple Output:** Less than 10 millivolts rms.

**Isolated Output:** Both positive and negative sides of the output are isolated from ground. Either side may be grounded or the output may be left floating.

**AC Output for Filaments:** An isolated AC voltage of 6.3 volts AC to 3 amperes is available at the output terminal connections.

**Overload Protection:** A fuse mounted on the front panel protects supply against external overloads or internal failure.

**Input and Output Connections:** All input and output connections are made to a single terminal strip conveniently located on the rear of the chassis.

**Dimensions:** Standard 19" relay rack mounting. Panel Width: 19 inches; Panel Height: 5¼ inches; Depth Behind Panel: 7¼ inches.

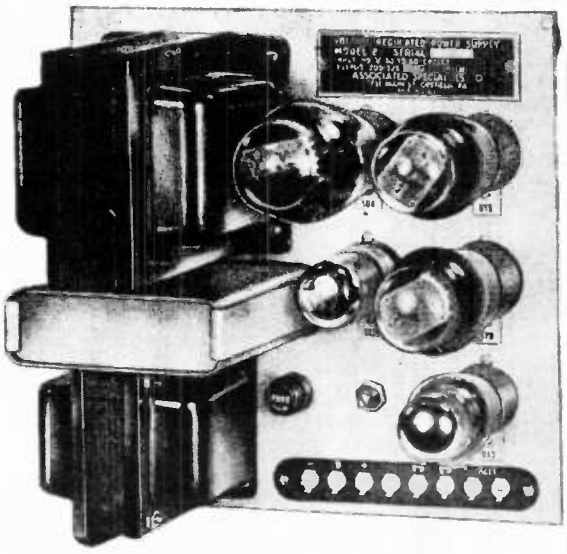
**Cabinet and Panel Finish:** Standard Black ripple enamel.

**Controls:** Rear Chassis—DC output voltage control. Front Panel —Pilot light, input power switch, and fuse.

**Weight:** Net weight is approximately 20 pounds.

**High Quality Components:** Only components of the highest quality are used in this equipment insuring you years of trouble-free dependable operation.

**Accessibility:** By removing two small screws, the front panel may be removed while the supply stays mounted on a relay rack or cabinet. This allows quick and easy inspection.



**MODEL 2 SUB-CHASSIS MOUNTING $49.50**

Sub-chassis mounting type regulated power supplies are designed to save space and money. They can be mounted on a chassis along with other components and thereby save space which would be used by a relay rack mounting supply. Savings are made in the size and cost of the cabinet required for a job along with the lower cost of the sub-chassis mounting supplies.

**SAME AS MODEL 1 EXCEPT**

**Dimensions:** 9" wide, 8¾" long, 4¾" high above chassis, 1¾" clearance required below chassis. Size of cut-out required, 8¼" wide x 8" high. Location of four mounting holes: 8⅝" wide x 8¼" high.

**Chassis Finish:** Zinc plated or equivalent.

**MODEL 3 CABINET MOUNTING $69.50**

An ideal unit for bench work or assembly into equipment.

**SAME AS MODEL 1 EXCEPT**

**Input Connections:** A line cord at rear of cabinet.
**Output Connections:** 5 way binding posts.
**Dimensions:** 5" wide, 7" high, 16" deep.
**Panel Finish:** Aluminum.
**Cabinet Finish:** Gray enamel.
**Controls:** D.C. output voltage on front panel.
**Meters:** Output voltage.
**Weight:** Net weight is approximately 20 pounds.

**Controls:** DC output voltage control adjustable from the top side of the chassis.
**Weight:** Net weight is approximately 14½ lbs.

**DUAL RACK MOUNT FOR MODEL 2 $9.00**
**Mounts 2 Model 2 Units in 8¾" x 19"**



World Radio History

# PRECISE MEASUREMENTS COMPANY BUILDS
# HIGH VOLTAGE POWER SUPPLIES

These well designed and constructed power packs are proven by many years of service in industry, laboratories, universities and by the United States Government. Only the best available selected material goes into these units. Listed below are some of our standard design models. Other voltages and currents available as we stock large quantities of specialized transformers and components to give you faster more efficient service. Since 50 per cent of our orders are for special supplies, we will cheerfully give you quotations on your specific requirements.

## HANDY PORTABLE MODELS

New Mirror Scale Instrument Illustrated

One of the most popular power supplies on the market. Completely redesigned for greater ruggedness and convenience of operation. Widely used for powering electronic equipment and for routine breakdown and insulation testing. Output voltage is well filtered D.C. which is adjustable with convenient front panel control. Input is 115 Volt, 60 cycle A.C. Equipment is available without meter, with one meter ($4\frac{1}{2}$"), with two meters or with larger 6" precision 1% mirror scale movement. Regulated models offer closely stabilized output voltage regardless of line or load changes.

| Model | | Maximum Voltage | Price | Price Regulated Model |
|---|---|---|---|---|
| 6000-1 | With Kilovolt Meter | 1,000 | $75.00 | |
| 6000 | | 2,500 | 60.00 | |
| 6000-A | With Kilovolt Meter | 2,500 | 80.00 | 120.00 |
| 6005 | | 5,000 | 75.00 | |
| 6005-A | With Kilovolt Meter | 5,000 | 95.00 | 135.00 |
| 6010 | | 10,000 | 85.00 | |
| 6010-A | With Kilovolt Meter | 10,000 | 105.00 | 145.00 |
| 6015 | | 15,000 | 95.00 | |
| 6015-A | With Kilovolt Meter | 15,000 | 115.00 | 155.00 |
| 6025 | | 25,000 | 115.00 | |
| 6025-A | With Kilovolt Meter | 25,000 | 155.00 | 205.00 |

**Mirror Scale Higher Accuracy Meter.** Recommended for more exact calibration or test purposes. Add $35.00 to any meter equipped power supply.

**For additional built-in current meter** (both meters are 3 inch size), including automatic meter protector circuit, add $35.00 to any power supply.

### PACKAGED POWER SUPPLIES

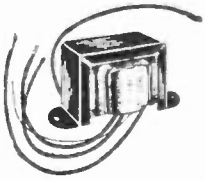
These conveniently packaged power units will be found ideal for applications requiring minimum size and weight. Features isolated high voltage terminals permitting either the positive or negative side to be grounded. Rectifier tubes are operated from separate filament transformers so that DC output voltage can be varied from zero to full rated value. Selenium rectifier types have extra cells to assure operation under high line voltage or light loading. All standard units have well filtered DC output. Power packs with AC output available on order.

| Model | Output Voltage | Current |
|---|---|---|
| 05-KV-5MA | 500 Volts DC | 5 Ma. |
| 1-KV-5MA | 1-KV-DC | 5 Ma. |
| 2-KV-5MA | 2-KV-DC | 5 Ma. |
| 5-KV-5MA | 5-KV-DC | 1 Ma. |
| 5-KV-5MA | 5-KV-DC | 5 Ma. |
| 10-KV-1MA | 10-KV-DC | 1 Ma. |
| 10-KV-5MA | 10-KV-DC | 5 Ma. |
| 15-KV-1MA | 15-KV-DC | 1 Ma. |
| 15-KV-5MA | 15-KV-DC | 5 Ma. |
| 20-KV-1MA | 20-KV-DC | 1 Ma. |
| 20-KV-5MA | 20-KV-DC | 5 Ma. |
| 30-KV-1MA | 30-KV-DC | 1 Ma. |
| 30-KV-5MA | 30-KV-DC | 5 Ma. |
| 50-KV-1MA | 50-KV-DC | 1 Ma. |
| 50-KV-5MA | 50-KV-DC | 5 Ma. |
| 75-KV-1MA | 75-KV-DC | 1 Ma. |
| 100-KV-1MA | 100-KV-DC | 1 Ma. |

### TRANSFORMERS, HIGH VOLTAGE

For experimental, laboratory, or production use. These units are small and compact and rated for constant service. Primary designed for 105/115/125 Volts, 60 Cycle. Secondary is isolated and tapped at half voltage point. Only standard models are listed, other voltages and currents available on order. We can wind specials for any frequency or voltage.

| Model | Voltage | Current |
|---|---|---|
| 1 KVT | 1 KV | 5 MA |
| 2 KVT | 2 KV | 5 MA |
| 3 KVT | 3 KV | 5 MA |
| 5 KVT | 5 KV | 5 MA |
| 10 KVT | 10 KV | 5 MA |
| 15 KVT | 15 KV | 5 MA |
| 25 KVT | 25 KV | 5 MA |
| 50 KVT | 50 KV | 5 MA |



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### FLEMINGTON • NEW JERSEY



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# PRECISE MEASUREMENTS COMPANY BUILDS
# HIGH VOLTAGE POWER SUPPLIES
## FOR INDUSTRIAL APPLICATIONS

## INDUSTRIAL POWER SUPPLIES

Regulated Types Available

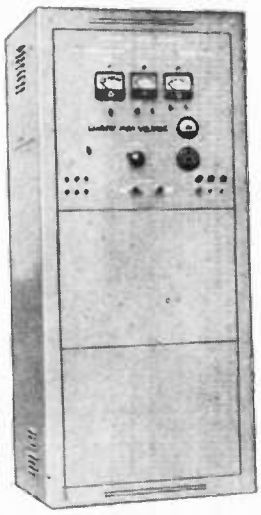
Standard hum level 5% or less. .01% to 1% ripple available. All power supplies have automatic overload cutout control circuits. Regulated models available.

These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is greatly simplified and a number of safety features are built in for maximum protection of personnel and equipment. Output is continuously variable from zero to full rated value. Polarity reversing models (as illustrated) can be had at additional cost.

| Model | Voltage | Current | Price |
|---|---|---|---|
| F-500V | 0-500 | 3 Amp | $800.00 |
| F-6001 | 0-1000 | 2 Amp | 975.00 |
| F-6002 | 0-2000 | 1 Amp | 985.00 |
| F-6003-A1 | 0-3000 | 100 MA | 375.00 |
| F-6003-AV | 0-3000 | 500 MA | 550.00 |
| F-6003-AK | 0-3000 | 1 Amp | 1100.00 |
| F-6005-A1-H | 0-5000 | 100 MA | 550.00 |
| F-6005-AV | 0-5000 | 500 MA | 750.00 |
| F-6005-A1K | 0-5000 | 1 Amp | 1200.00 |
| F-6010-A1 | 0-10,000 | 100 MA | 800.00 |
| F-6020-A05 | 0-20,000 | 50 MA | 975.00 |
| F-6050-T | 0-50,000 | ½ MA | 600.00 |
| F-6100-T | 0-100,000 | ½ MA | 1100.00 |

## HEAVY DUTY POWER SUPPLIES

For use in applications where high voltages at extra high currents are required. Illustrated is our 100 K W Model, rated for 0 to 7,000 Volts at 14 Amperes DC. This unit is housed in a single convenient cabinet. Output voltage is regulated against line and load changes. Voltage is smoothly adjustable from zero to full output. Automatic circuits protect against overvoltage or over current conditions, turning off main power in a split second. Use of special transformer construction allows constant load drain at full rated output. All power supplies in this series is available with fixed or adjustable output and with or without regulation.



| Model | Voltage | Current |
|---|---|---|
| A-30 | 3,000 | 5 amperes |
| A-31 | 3,000 | 10 Amperes |
| A-32 | 3,000 | 20 Amperes |
| A-50 | 5,000 | 5 amperes |
| A-51 | 5,000 | 10 amperes |
| A-72 | 7,000 | 14 amperes |
| A-100 | 10,000 | 5 amperes |
| A-110 | 10,000 | 10 amperes |

## SCALE PRINTING MACHINE

Prints lettering, numbers and divisions on meter scales, metal, paper, plastics. Perfect lettering is assured by use of standard printers type. Many leading instrument manufacturers and laboratories are using our machines.

NEW Model 1500
Standard Scale Printing Machine
$200.00
Prices do not include printers type.

## AC INSULATION AND BREAKDOWN TESTERS

Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output with simple toggle switch selection. Units include kilovoltmeter, current meter and automatic overload cutout circuits.

| Model | Voltage | VA | AC | Price AC and DC |
|---|---|---|---|---|
| 3000 | 0 to 3,000 | 75 | $150.00 | $ 250.00 |
| 3010 | 0 to 3,000 | 300 | 250.00 | 400.00 |
| 3050 | 0 to 3,000 | 1,500 | 500.00 | 650.00 |
| 3100 | 0 to 6,000 | 3,000 | 700.00 | 1,100.00 |
| 1000 | 0 to 10,000 | 100 | 200.00 | 400.00 |

These instruments also available with heavy duty steel dolly as illustrated. Tester slips into place for easy movement around your plant. Dolly can be used for any standard relay rack cabinet. Price $100.00

## KILOVOLTMETER

### ONE HUNDRED THOUSAND VOLTS!

FEATURES

- Shielded Polysterene Probe
- Simple Foolproof Circuits
- AC or DC Measurements

Measure high voltages quickly - easily. All voltage is dissipated in the shielded polysterene probe. "Normal-Reverse" key is provided so that probe may be used regardless of polarity of voltage under test. Indicator has large clear scale for easy reading. Additional low leakage path. Special insulated probe is supplied on all 100 KV models.

| Model | Range Kilovolts | Price D.C. Model | Price A.C./D.C. Model |
|---|---|---|---|
| 4000 | 0-25/50 | $67.50 | $100.00 |
| 4000-A | 0-100 | 80.00 | 125.00 |
| 4000-B | 0-50/100 | 85.00 | 130.00 |
| 4000-C | 0-10/50/100 | 95.00 | 160.00 |

1% Mirror Scale Meter add $50.00

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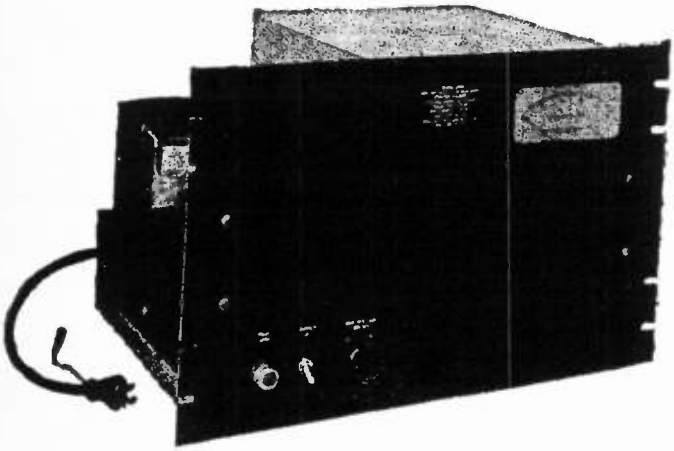
# SPELLMAN HIGH VOLTAGE POWER SUPPLIES

## RF TYPE



### MODEL 2040

**40 KV DC POWER SUPPLY**

A ruggedly built power supply which is in constant use in laboratories and industrial plants throughout the world for condenser charging, electrostatic spraying, spot knocking, flocking and insulation testing, etc. Nothing finer available at five times the price. Designed for constant use and will stand severe abuse. Available with either positive or negative 40 KV output. Voltage range of approx. 15 to 40 KV. The 15 to 40 KV variance in voltage is controlled through a knob on the front panel. Voltages supplied through a 6 ft. HV Safety Cable. 19" wide x 10½" high x 13" deep.

Specify desired polarity when ordering **$150.00 Net**

With HV meter installed in front panel **$50 additional**

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### MODEL PN-30R

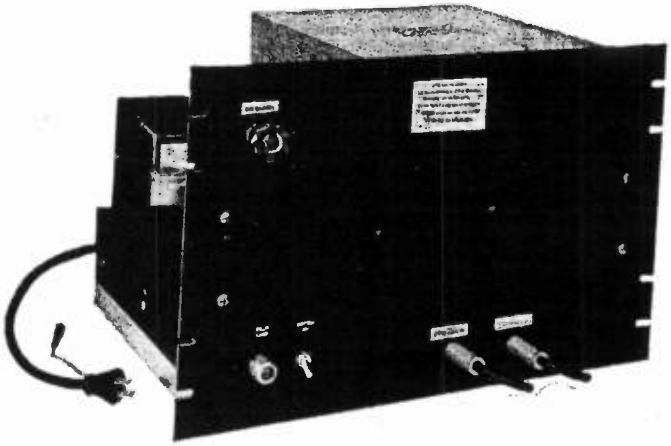
**REVERSIBLE POLARITY**

**Continuously Variable 1-30 KV**

**Unregulated DC Power Supply**

A light, compact unit in wide use for insulation testing, precipitators and laboratory research. Polarity reversible from front panel. Current output — approx. 2 milliamperes at 20 KV; 250 microamperes at 30 KV. Input — 110V AC 60 cycles. Dimensions: 19" x 12¼" x 13" ..... **$205 Net**

With meter installed on front panel **$50 additional**



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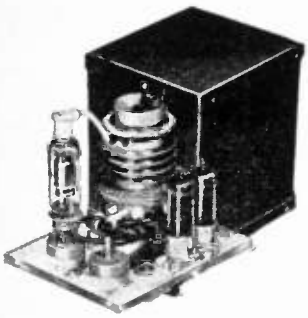


### MODEL 4575

**4½ KV Power Supply**

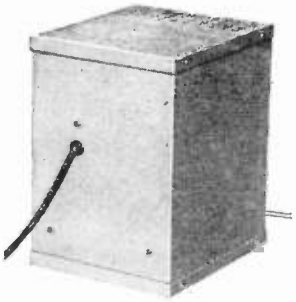
This compact, well designed, ruggedly built DC supply utilizes two 6AQ5 tubes as a parallel oscillator feeding a 1X2 rectifier tube. For an output voltage of 4½ KV DC at 1 milliampere, the low voltage input requirement is 250 V at 50 milliamperes. By varying the DC input the output voltage can be varied from approx. 1 KV to 7½ KV. Dimensions: 5⅝" high x 5" deep x 4¼" wide. In completely enclosed metal housing. Less low voltage DC supply ..... **$32 50 Net**

### MODEL 7512

**7½ KV POWER SUPPLY**

Model 7512 is an RF type power supply with a voltage output of approx. 7.5 to 12 KV. 1 ma. of current may be drawn throughout the voltage range. To obtain an output voltage of 7.5 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. By varying the DC input, the output voltage can be increased. Maximum input voltage of 425 V at 100 ma. will give an output of 12 KV at 1 ma. 5¾" W., 8¼" H., 6¾" D.

**Net Price $42.50**



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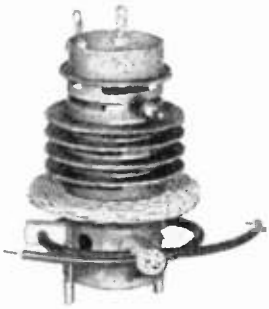
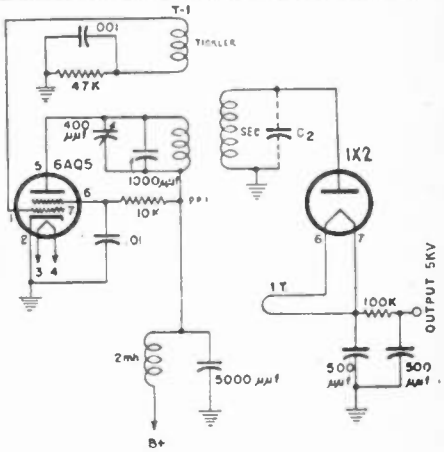
# SPELLMAN HIGH VOLTAGE STEP-UP COILS

## RF TYPE

### 5 KV

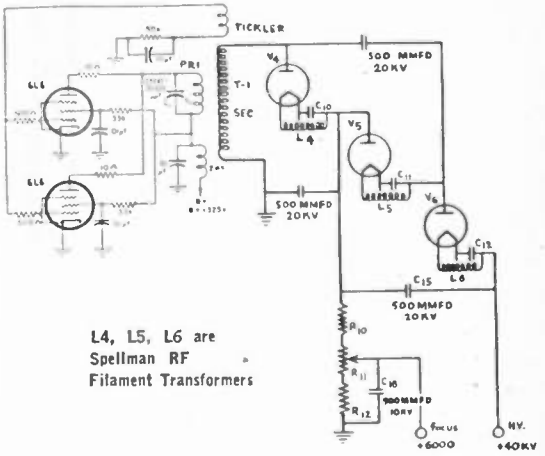


Secondary Height ..... 3½"
Secondary Windings ..... 1¾"
Consisting of 4 Pie Windings
Primary Diameter ..... 2¼"
Secondary Voltage Output..... 5 KV
Secondary Current.....2 Milliamperes
Approx. Frequency.....300 KC
5KV Coil $7.00 Net




### 10-15 KV

Secondary Height ..... 5¼"
Secondary Windings ..... 1¾"
Consisting of 7 Pie Windings
Diameter ..... 2½"
Secondary Voltage Output ...10-15 KV
Secondary Current .....2 Milliamperes
Approx. Frequency.....175 KC
10-15KV Coil $12.00 Net




L4, L5, L6 are Spellman RF Filament Transformers

### 70 KV

Secondary Height.....10"
Secondary Windings ..4" dia.
Consisting of 12 Pie Windings
Primary—
(separate from secondary)
Height .....4"
Diameter .....5"
Secondary Voltage Output—
70 KV
Secondary Current—
5 Milliamperes
Approx. Frequency....70 KC
70KV Coil $75.00 Net

### 35 KV

Secondary Height ..... 7"
Secondary Windings .....3" dia.
Consisting of 10 Pie Windings
Primary.....(separate from secondary)
Height ..... 4"
Diameter ..... 4¼"
Secondary Voltage Output.....35 KV
Secondary Current.....5 Milliamperes
Approx. Frequency.....70 KC
35KV Coil $42.00 Net

25KV—Same as 35 KV except
Secondary Height ..... 6"
25KV Coil $36.00 Net

**TECHNICAL INFORMATION AND CIRCUIT DIAGRAMS FURNISHED WITH EACH COIL**

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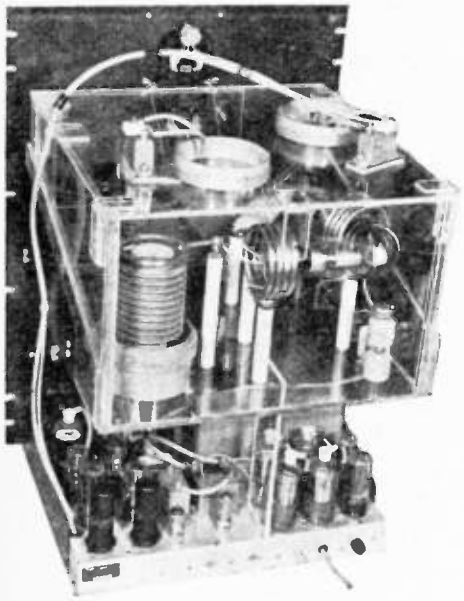
# SPELLMAN HIGH VOLTAGE POWER SUPPLIES



## MODEL LAB-80

## RF TYPE REGULATED DC POWER SUPPLY

Continuously variable 0 to 90 KV DC Power Supply. Output current 1 ma. at 80 KV. 2 ma. from 40 KV down. Voltage regulations better than 1% throughout voltage range. Panel dimensions 19" wide x 26" high x 18" deep.

**LAB-80 Complete with HV meter** ..... **$900 Net**

**Specify polarity output—positive or negative**

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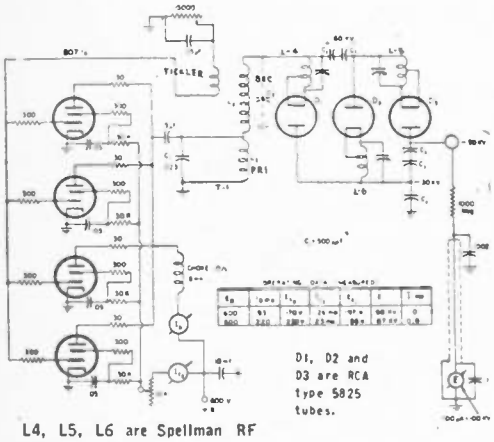

D1, D2 and D3 are RCA type 5825 tubes.

L4, L5, L6 are Spellman RF Filament Transformers

### RF FILAMENT TRANSFORMERS

A self-resonant auto transformer for use with type 1B3 Rectifier tube. Complete with instructions.

Will operate with Spellman HV coils ..... **$1.50**

**Tuning Padder** for Filament Transformer **.58**

**SPELLMAN HIGH VOLTAGE CO.**
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**BRONX 67, N. Y.**



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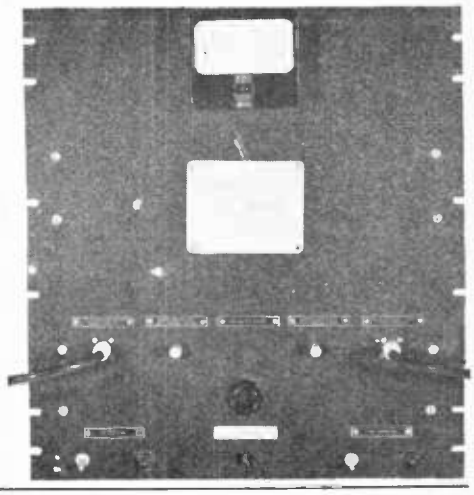
# SPELLMAN HIGH VOLTAGE POWER SUPPLIES

## RF TYPE

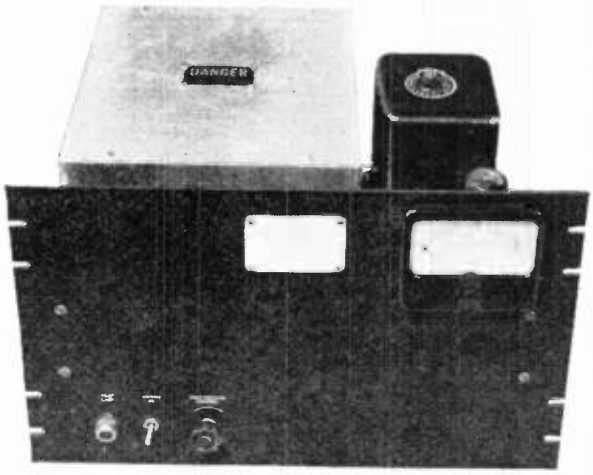


## MODEL LAB-60PN

### REVERSIBLE POLARITY CONTINUOUSLY VARIABLE 0-60 KV DC REGULATED POWER SUPPLY

Current output 1 ma. at 60 KV. 2 ma. may be drawn from 50 KV to 0. Regulation stability—1% at 1 ma. Cabinet Dimensions: 21¾" wide x 22¾" high x 18" deep.

LAB-60 .....$695.00 Net
LAB-60 PN Reversible polarity model.....$745.00 Net




## MODEL RG-30

### CONTINUOUSLY VARIABLE 15-30 KV REGULATED DC POWER SUPPLY WITH REGULATED FOCUS

A high grade supply which incorporates a voltage tap in the range of 4 to 6 KV for use with 5WP15, 5TP4 and flying spot tubes. Regulations better than .5% at 1 milliampere. In wide use for transcription and flying spot recording systems.

MODEL RG-30 19½" wide x 10½" high x 13" deep .....$295 Net
With meter installed on front panel.....$345 Net

MODEL RG-40 Same specifications as above except high voltage range is approx. 15 KV to 40 KV. Current output .7 ma. at 40 KV. Regulated focus covers range 5 to 10 KV. In wide use in projection television systems.....$295 Net
With meter installed on front panel—$345 Net

## MODEL LAB-30PN

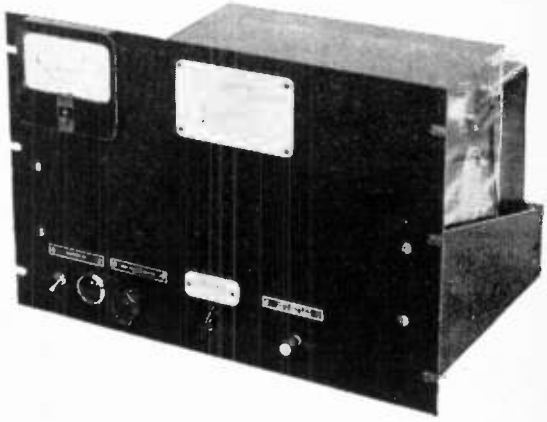
### REVERSIBLE POLARITY CONTINUOUSLY VARIABLE 1 TO 30 KV

Regulated DC Power Supply with regulations of 0.5% at 1 milliampere. Although rated at 1 ma., this unit is capable of 2 ma. operation within regulation specifications. This 16 tube unit is of the RF type consisting of a separate oscillator and buffer feeding the power oscillator into a pair of 5825 doubler rectifier. Regulations accomplished through feed-back into a DC amplifier plus simultaneous output control of the buffer stage. Polarity reversible from front panel. Standard Rack Model— 19" wide x 12¼" high x 13" deep. Standard Bench Model—21" wide x 14" high x 15" deep.

With Meter $645 Net — Less Meter $595 Net

MODEL LAB-30 is a positive polarity output regulated High Voltage DC Power Supply with same electrical characteristics and dimensions as the LAB-30PN. Available in either positive or negative polarity.

With Meter $545 Net — Less Meter $495 Net



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# *terado* Trav-Electric Mobile Power Converters

# PROVIDE HOUSE CURRENT ANYWHERE!

## "101" USES

(All Trav-Electric Mobile Power Converters change storage battery current to 110 volt AC 60 cycle. Capacities from 10 to 200 watts.)

PORTABLE TV SETS
LIGHTS
RADIOS
TEST EQUIPMENT
DRILLS
DICTATING MACHINES
SOLDERING IRONS
ELECTRIC SHAVERS
HAND VACUUM CLEANERS
TAPE RECORDERS
FOOD & LIQUID MIXERS
ELECTRIC CLOCKS
WIRE RECORDERS
ADDRESS SYSTEMS
PHONOGRAPHS
VIBRATORS, MASSAGE
HEDGE TRIMMERS
CAR POLISHERS
HEATING PADS
PAINT SPRAYERS
BUSINESS MACHINES

Model No. 50153

## SUPREME Mobile Power Converter

COMPLETE WITH

REMOTE CONTROL

**175 TO 200 WATTS — FOR 12 VOLT BATTERIES ONLY**

Output 175 watts constant, 200 watts intermittent operation. Size: 10¾" x 6" x 6". Fan cooled. Steel case and handle in 2-tone plated gold finish. Can be mounted in trunk of car or other out-of-the-way spot. Remote Control, with A.C. plug-in receptacle, signal light and 5 position switch for readily adjusting voltage, mounts under the dash, in easy reach. Control, in chromium plated case, complete with wiring and plugs, is shipped with the "Supreme," ready for installation, and is included in the price.

Filtered for use with Tape Recorders.

Model No. 50153 — 12 volt only — 175-200 Watts

List $99.95 Dealer Net $59.97 (Prices include Remote Control)

## CHIEF

75 to 125 WATTS

3½" x 4" x 6½"

Model No. 50137

Model No. 50138

Ventilated steel case; mounts under dash. A.C. plug-in receptacle in front of case. Has toggle switch. Filtered for use with tape recorders.

Model No. 50137
6 volt only—75-100 Watts

Model No. 50138
12 volt only—100-125 Watts

List $64.95 Dealer Net $38.97

## SUPER

60 to 100 WATTS

3⅛"x5"x6½"

Model No. 50126

Model No. 50127

Steel case, seal brown baked enamel. No installation; plugs into cigar lighter on dash. A.C. plug-in receptable in front of case. Filtered for tape recorder use.

Model No. 50126
6 volt only—60-75 Watts

Model No. 50127
12 volt only—75-100 Watts

List $46.95 Dealer Net $28.17

## MASTER

40 to 60 WATTS

3⅛"x5"x6½"

Model No. 50121

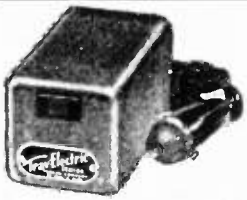
Model No. 50122

Steel case, seal brown baked enamel. No installation; plugs into cigar lighter on dash. A.C. plug-in receptable in front of case. Filtered for use with radios.

Model No. 50121
6 volt only—40-50 Watts

Model No. 50122
12 volt only—50-60 Watts

List $38.95 Dealer Net $23.37




## SENIOR

35 to 50 WATTS

2¼"x2½" x4½"

Model No. 50115

Model No. 50116

Seal brown baked enamel steel case with A.C. plug-in receptacle. No installation; plugs into cigar lighter on dash. Filtered for use with radio and audio equipment.

Model No. 50115
6 volt only—35-40 Watts
Model No. 50116
12 volt only—40-50 Watts

List $21.95 Dealer Net $13.17

## AUTOMATIC

55 to 110 WATTS

Same case as "Super" model, but operates on either 6 or 12 volt batteries, automatically. Size: 3⅛" x 5" x 6½". Filtered for use with radios and audio equipment.

Model No. 50134
6 volt—55-75 Watts — 12 volt—85-110 Watts

List $54.95 Dealer Net $32.97

## DUAL

55 to 110 WATTS

Same case as "Chief" model, with convenient toggle switch to change from 6 to 12 volt operation. Size 3⅛" x 5" x 6½". Filtered for use with radios and audio equipment.

Model No. 50135
6 volt—55-75 Watts — 12 volt—85-110 Watts

List $51.95 Dealer Net $31.17

## AUTO SHAVER

3⅝" x 4¼" x 2¼"

Operates any electric shaver from battery. Plugs into cigar lighter; shaver plugs into A.C. receptacle.

Model No. 50102 — 6 volt only
Model No. 50103 — 12 volt only

List $12.95 Dealer Net $7.77

Export Sales Division
MORHAN EXPORTING CORP.
458 Broadway
New York 13, N. Y.

# TERADO COMPANY

St. Paul 8, Minn.

In Canada, Write
ATLAS RADIO CORP., LTD.
50 Wingold Ave.
Toronto 19, Ontario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World Radio History

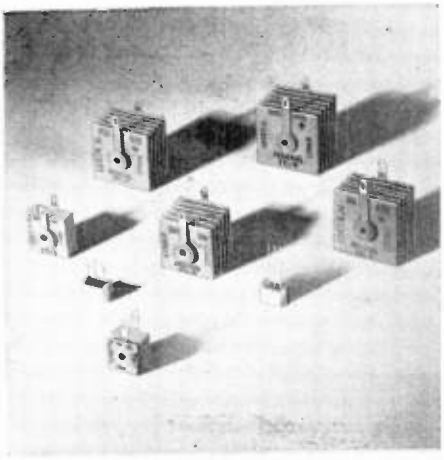
**IT&T** *Components Division*

# FEDERAL RADIO-TV SELENIUM AND SILICON RECTIFIERS

## FIRST IN PREFERENCE — FIRST IN PERFORMANCE

Federal's HI-DENSITY rectifiers, make servicing simpler than ever . . . save shelf, bench and kit space . . . save time on calls . . . make calls more profitable . . . all with just eight rectifier types. 85°C UL acceptance.

The efficiency, dependability and long life of these lighter, smaller-plate, high temperature rectifiers by FEDERAL are made by a new exclusive process and have been proved-in by the most rugged service testing.



### THE GOLDEN 8 FOR '58

100% OF ALL YOUR REPLACEMENT NEEDS
MINIMIZE YOUR INVENTORY WITH THE MINIATURIZED "GOLDEN 8" FOR '58.

#### SELENIUM RECTIFIERS

| Catalog No. | Max. D-C Ma | Max. RMS Volts | Mfg. ("H") Dimension (Max.) | Plate Size | Application |
|---|---|---|---|---|---|
| *1234AH | 65-75 | 130 | 21/32" | 11/16" | B+ TELEVISION |
| *1235AH | 100-150 | 130 | 3/4" | 1" | B+ TELEVISION |
| *1236AH | 250-300 | 130 | 1 3/8" | 1 1/4" | B+ TELEVISION |
| *1241AH | 350-400 | 130 | 1 1/4" | 1 17/32" | B+ TELEVISION |
| *1237AH | 450-500 | 130 | 1 3/8" | 1 17/32" | B+ TELEVISION |
| *1242AH (1207AH) | 550-600 | 130 | 1 1/2" | 1 5/8" | B+ TELEVISION |

#### SELENIUM DIODES

| | | | | | |
|---|---|---|---|---|---|
| †K1615 | 1.000 | 20 DC | 19/32" | —— | PHASE DISCRIMINATORS |
| †K1616 | 1.000 | 20 DC | 19/32" | —— | PHASE DISCRIMINATORS |
| *K1215 | .250 | 36 | 11/64" | —— | PHASE DISCRIMINATORS |

†Dual diode
*Single diode

K1615 — Replaces 1 RC D4
K1616 — Replaces 1 RC D5

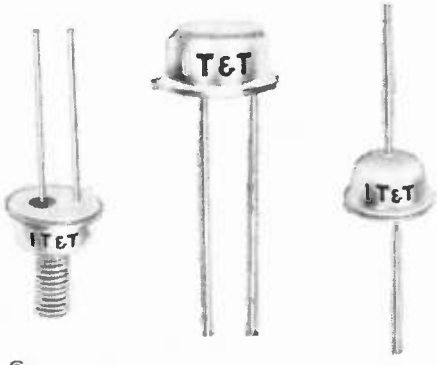
#### SPECIAL PURPOSE TYPES

| Catalog No. | Max. D-C Ma | Max. RMS Volts | Mfg. ("H") Dimension (Max.) | Plate Size | Application |
|---|---|---|---|---|---|
| 1001 | 75 | 20 | 3/8" | 1" | Battery Charger |
| 1007 * | 75 | 160 | 2 1/16" | 1" | Power Supply — High Voltage |
| 1008 * | 100 | 172 | 2 1/16" | 1 1/4" | Power Supply — High Voltage |
| 1009 * | 200 | 172 | 2 21/32" | 1 17/32" Sq. | Power Supply — High Voltage |
| 1013 | 450 | 18 | 1/4" | 1 17/32" | Filament Supply |
| 1014 | 100 | 160 | 1" | 1 9/32" Max. | Power Supply — High Voltage |
| 1015 | 150 | 25 | 3/4" | 1" | Filament Supply |
| 1016 | 300 | 25 | 3/4" | 1 1/4" | Filament Supply |
| 1017 | 600 | 25 | 3/4" | 1 17/32" | Filament Supply |
| 1512 (1018) | 1600 | 18 | 1 5/16" | 2 1/2" Sq. | Power Supply |
| K1734 | 50 | 130 | 1 7/32" | 11/16" | B+ Radio-Phono |

* Doubler Stacks

#### STANDARD TYPES

| Catalog No. | Max. D-C Ma | Max. RMS Volts | Mfg. ("H") Dimension (Max.) | Plate Size | Application |
|---|---|---|---|---|---|
| 1159 | 20 | 130 | —— | 3/8" Round | B+ Booster-bias |
| 1002A | 65 | 130 | 9/16" | 1" Sq. | B+ AC-DC (5 tube) |
| 1003A | 75 | 130 | 3/4" | 1" Sq. | B+ 3-way radio |
| 1004A | 100 | 130 | 3/4" | 1 13/64 x 19/32" | B+ radio-TV |
| 1101A | 100 | 130 | 1 1/8" | 1" Sq. | B+ radio-TV |
| 1005A | 150 | 130 | 1" | 1 13/64 x 19/32" | B+ radio-TV |




#### SILICON RECTIFIERS

| QUICK CLIP KIT | | | | UNIVERSAL REPLACEMENT KIT | | | |
|---|---|---|---|---|---|---|---|
| Type | Max. Piv. | Inp. Volts | Max. DC Ma | Type | Max. Piv. | Inp. Volts | Max. DC Ma |
| †HF 504K | 400 | 130 | 500 | *HE 504U | 400 | 130 | 500 |
| ††HF 154K | 400 | 130 | 150 | **HE 154U | 400 | 130 | 150 |

†2 Rectifiers in Mounting Device
††1 Rectifier in Mounting Device
Silicon Replacement

*2 Rectifiers in 4 way mounting device
**1 Rectifier in 4 way mounting device
Direct Replacement for all Selenium Rectifiers

**IT&T** *Components Division*
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION
CLIFTON, NEW JERSEY

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World Radio History

# TECHNICAL APPARATUS BUILDERS

**"TABTRON" SELENIUM RECTIFIERS**

*Engineered for Industry*

**FOR ALL YOUR DC POWER REQUIREMENTS**

"TECHNICAL APPARATUS BUILDERS" mfgr. Power Rectifiers to your specs. From one amp up to and above 1000 amps, convection or fan cooled, single or 3 phase. "NEMA" & Jan. Specs.

**TABTRON**

## "TEKSEL" SELENIUM RECTIFIER STACKS

***Full Wave Bridge — Single Phase — Full Wave Bridge Dated and One Year Guaranteed***

| Max. DC Amps | 18VAC 14VDC | Price | 36VAC 28VDC | Price | 54VAC 42VDC | Price | 72VAC 56VDC | Price | 130VAC 100VDC | Price | 144VAC 118VDC | Price | 266VAC 217VDC | Price | DC Amps Max. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BV18 | $1.00 | BV36 | $1.90 | BV54 | $2.90 | BV72 | $3.85 | BV130 | $5.00 | BV144 | $6.75 | BV266 | $9.75 | 0.5 |
| 1 | BA18 | 1.40 | BA36 | 2.30 | BA54 | 3.45 | BA72 | 4.90 | BA130 | 8.75 | BA144 | 10.65 | BA266 | 16.00 | 1 |
| 2 | BE18 | 2.30 | BE36 | 3.20 | BE54 | 5.25 | BE72 | 6.25 | BE130 | 11.70 | BE144 | 14.00 | BE266 | 21.90 | 2 |
| 3 | BF18 | 2.90 | BF36 | 4.15 | BF54 | 6.40 | BF72 | 8.60 | BF130 | 14.40 | BF144 | 17.25 | BF266 | 39.75 | 3 |
| 4 | BG18 | 3.65 | BG36 | 7.35 | BG54 | 11.40 | BG72 | 16.00 | BG130 | 24.85 | BG144 | 28.50 | BG266 | 47.60 | 4 |
| 6 | BJ18 | 4.40 | BJ36 | 8.75 | BJ54 | 12.75 | BJ72 | 18.75 | BJ130 | 32.60 | BJ144 | 36.00 | BJ266 | 63.45 | 6 |
| 10 | BK18 | 6.35 | BK36 | 12.60 | BK54 | 19.50 | BK72 | 26.30 | BK130 | 41.90 | BK144 | 48.75 | BK266 | 95.00 | 10 |
| 12 | BL18 | 8.00 | BL36 | 15.75 | BL54 | 21.95 | BL72 | 30.95 | BL130 | 45.00 | BL144 | 52.50 | BL266 | 103.60 | 12 |
| 15 | BW18 | 10.30 | BW36 | 20.90 | BW54 | 29.30 | BW72 | 40.00 | BW130 | 54.30 | BW144 | 64.45 | BW266 | 108.15 | 15 |
| 20 | BM18 | 12.90 | BM36 | 25.30 | BM54 | 37.45 | BM72 | 49.90 | BM130 | 78.75 | BM144 | 90.00 | BM266 | 169.00 | 20 |
| 24 | BN18 | 16.00 | BN36 | 32.00 | BN54 | 44.60 | BN72 | 57.50 | BN130 | 85.00 | BN144 | 96.50 | BN266 | 188.75 | 24 |
| 30 | BQ18 | 19.45 | BQ36 | 37.30 | BQ54 | 56.00 | BQ72 | 74.75 | BQ130 | 117.30 | BQ144 | 136.75 | BQ266 | 249.60 | 30 |
| 36 | BR18 | 24.75 | BR36 | 47.9[illegible] | BR54 | 69.30 | BR72 | 89.90 | BR130 | 142.90 | BR144 | 188.00 | BR266 | 299.45 | 36 |
| 50 | BS18 | 33.45 | BS36 | 63.75 | BS54 | 121.50 | BS72 | 135.75 | BS130 | 192.75 | BS144 | 227.00 | BS266 | 398.90 | 50 |

***Three Phase 3φ — Full Wave Bridge — Dated & One Year Guaranteed***

| Max. DC Amps | 16VAC 20VDC | Price | 30VAC 36VDC | Price | 120VAC 150VDC | Price | 208VAC 256VDC | Price | 240VAC 300VDC | Price | 420VAC 460VDC | Price | Center Tapped 30VAC 12VDC | Price | Max. DC Amps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PA16 | $3.75 | PA30 | $4.90 | PA120 | $17.90 | PA208 | $33.75 | PA240 | $36.00 | PA420 | $63.20 | CA30 | $2.40 | 1 |
| 2 | PE16 | 5.95 | PE30 | 7.45 | PE120 | 21.75 | PE208 | 39.90 | PE240 | 42.00 | PE420 | 66.90 | CE30 | 2.90 | 2 |
| 4 | PG16 | 8.60 | PG30 | 9.90 | PG120 | 33.15 | PG208 | 62.15 | PG240 | 65.00 | PG420 | 99.75 | CG30 | 3.60 | 4 |
| 6 | PJ16 | 9.90 | PJ30 | 12.90 | PJ120 | 46.90 | PJ208 | 81.75 | PJ240 | 85.00 | PJ420 | 108.60 | CJ30 | 4.70 | 6 |
| 10 | PK16 | 12.75 | PK30 | 16.60 | PK120 | 62.45 | PK208 | 116.00 | PK240 | 122.00 | PK420 | 197.45 | CK30 | 6.45 | 10 |
| 12 | PL16 | 15.90 | PL30 | 18.45 | PL120 | 66.60 | PL208 | 132.15 | PL240 | 139.00 | PL420 | 212.60 | CL30 | 7.60 | 12 |
| 20 | PM16 | 21.30 | PM30 | 28.75 | PM120 | 120.75 | PM208 | 163.90 | PM240 | 174.00 | PM420 | 239.15 | CM30 | 9.45 | 20 |
| 24 | PN16 | 24.90 | PN30 | 29.75 | PN120 | 139.30 | PN208 | 269.75 | PN240 | 280.00 | PN420 | 362.00 | CN30 | 12.75 | 24 |
| 30 | PQ16 | 30.60 | PQ30 | 41.45 | PQ120 | 185.90 | PQ208 | 348.30 | PQ240 | 366.00 | PQ420 | 517.00 | CQ30 | 14.90 | 30 |
| 36 | PR16 | 40.15 | PR30 | 46.90 | PR120 | 216.45 | PR208 | 379.60 | PR240 | Query | PR420 | Query | CR30 | Query | 36 |
| 50 | PS16 | 66.30 | PS30 | 72.60 | PS120 | 268.15 | PS208 | 411.00 | PS240 | Query | PS420 | Query | CS30 | Query | 50 |
| 100 | PT16 | 133.60 | PT30 | 99.00 | PT120 | 374.00 | PT208 | Query | PT240 | Query | PT420 | Query | CT30 | Query | 100 |

## "SILTAB" SILICON STACKS* — 65°C TO 150°C CONVECTION COOLED

***Full Wave Bridge — Single Phase — Dated and Guaranteed***

| Max DC Amps | 70VAC 62VDC | | 140VAC 125VDC | | 210VAC 185VDC | | 280VAC 250VDC | | 420VAC 370VDC | | 840VAC 750VDC | | 1120VAC 1000VDC | | 1400VAC 1250VDC | | 2800VAC 2500VDC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | JA70 | $ 4.20 | JA140 | $ 4.50 | JA210 | $ 4.75 | JA280 | $ 6.15 | JA420 | $ 9.45 | JA840 | $18.45 | JA1120 | $27.00 | JA1400 | $34.90 | JA1680 | $64 |
| 3 | JF70 | 15.40 | JF140 | 17.10 | JF210 | 19.00 | JF280 | 20.80 | JF420 | 37.75 | JF840 | 74.30 | JF1120 | 89.00 | JF1400 | 99.45 | JF1680 | 188 |
| 6 | JJ70 | 29.75 | JJ140 | 33.90 | JJ210 | 37.75 | JJ280 | 43.90 | JJ420 | 73.60 | JJ840 | 149.15 | JJ1120 | 179.00 | JJ1400 | 198.45 | JJ1680 | 372 |
| 10 | JK70 | 36.60 | JK140 | 45.75 | JK210 | 49.90 | JK280 | 61.60 | | | | | | | | | | |
| 15 | JW70 | 45.90 | JW140 | 57.60 | JW210 | 63.75 | JW280 | 77.75 | | | | | | | | | | |
| 24 | JN70 | 59.75 | JN140 | 72.45 | JN210 | 81.60 | JN280 | 93.90 | | | | | | | | | | |
| 36 | JR70 | 72.60 | JR140 | 86.90 | JR210 | 95.45 | JR280 | 108.45 | | | | | | | | | | |
| 50 | JS70 | 107.90 | JS140 | 138.00 | JS210 | 172.90 | JS280 | 217.75 | | | | | | | | | | |
| 100 | JT70 | 163.75 | JT140 | 195.75 | JT210 | 239.60 | JT280 | 275.90 | | | | | | | | | | |
| 150 | JO70 | 225.60 | JO140 | 269.60 | JO210 | 295.90 | JO280 | 339.60 | | | | | | | | | | |
| 200 | JY70 | 295.90 | JY140 | 339.75 | JY210 | 366.45 | JY280 | 407.90 | | | | | | | | | | |
| 300 | JX70 | Q | JX140 | Q | JX210 | Q | JX280 | Q | | | | | | | | | | |

***Three Phase Full Wave Bridge***

| DC Amps | 70VAC 90VDC | | 140VAC 185VDC | | 280VAC 375VDC | | 560VAC 750VDC | |
|---|---|---|---|---|---|---|---|---|
| 15 | YW70 | $63.75 | YW140 | $79.45 | YW280 | $108.45 | YW560 | $212 |
| 36 | YR70 | 103.90 | YR140 | 144.15 | YR280 | 199.90 | YR560 | 387 |
| 50 | YS70 | 139.45 | YS140 | 171.90 | YS280 | 225.30 | YS560 | 457 |
| 100 | YT70 | 198.15 | YT140 | 227.75 | YT280 | 259.75 | YT560 | 515 |
| 200 | YY70 | 395.75 | YY140 | 435.60 | YY280 | 499.60 | YY560 | 985 |
| 300 | YP70 | 540.60 | YP140 | 756.75 | YP280 | 990.90 | YP560 | Q |

## "TABTRAN" RECTIFIER TRANSFORMERS

| | SECONDARY VOLTS | Sec'd Amps | Primary Volts | Mount Centers L | Mount Centers W | Approx. Size L | Approx. Size W | Approx. Size H | Shipping Weight | Price |
|---|---|---|---|---|---|---|---|---|---|---|
| TR4000R | Dual (2) Secondaries Each 0-16V | 1 | 115 | 3-1/8" | - | 2-3/4" | 2" | 2-5/16" | 2 | $ 3.75 |
| TR4001 | Dual (2) Secondaries | 1 | 115 | 2-1/2" | 1-3/4" | 3 | 2-5/16" | 2-1/2" | 3 | 5.15 |
| TR4002 | Each 0-9-15-18 volts at rated current per each | 2 | 115 | 2-1/2" | 2-9/16" | 3 | 3-1/8" | 2-1/2" | 4 | 7.15 |
| TR4003 | winding! | 5 | 115 | 3-1/2" | 2-9/16" | 4-1/8" | 3-1/2" | 3-1/2" | 8 | 9.90 |
| TR4005 | Secondary series connected. | 12 | 115<br>110<br>105 | 3-3/4" | 4 | 4-1/2" | 5-1/2" | 3-3/4" | 14 | 17.60 |
| TR4006 | Taps give 0-3-6-9-12-15-18-21-24-27-30-33-36 volts! | 24 | 115<br>110<br>105 | 4-3/8" | 4-1/16" | 5-1/4" | 6 | 4-3/8" | 22 | 35.60 |
| TR4007 | Secondary parallel 0-9-15-18 | 50 | 115 & 230 | 5-3/8" | 5-7/16" | 6-3/8" | 7 | 5-3/8" | 42 | 58.45 |
| TR4008 | volts at twice the current. | 100 | 115 & 230 | 7-1/8" | 9 | 8-5/8" | 12-1/2" | 7-1/4" | 115 | 112.90 |
| TR4009 | 165V — Tap 160, 150, 125 | 5 | 115 & 230 | 4-1/2" | 4-1/2" | 6-3/4" | 6-1/2" | 6" | 32 | 49.60 |
| TR4010 | 165V — Tap 160, 150, 125 | 10 | 115 & 230 | 5-7/8" | 4-1/2" | 7 | 6-3/4" | 6" | 35 | 84.75 |
| TR4011 | 330V — Tap 320, 300, 250 | 5 | 115 & 230 | 5-7/8" | 5 | 7 | 6-1/4" | 6-1/8" | 35 | 69.00 |
| TR4012 | 330V — Tap 320, 300, 250 | 10 | 115 & 230 | 8-3/8" | 3-3/4" | 9-5/8" | 6" | 7-1/8" | 51 | 117.45 |

## "TABTRAN" RECTIFIER CHOKES

| | Inductance Hys. | Current Amps. | Resistance Ohms | IR Drop Volts | Approx. Size L | Approx. Size W | Approx. Size H | Mount Centers L | Mount Centers W | Shpg Weight | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CR6001 | 0.1 | 1 | 1.4 | 1.4 | 2-3/4" | 2 | 2-5/16" | 3-1/8" | | 3 | $ 3.90 |
| CR6002 | 0.1 | 2 | 0.67 | 1.34 | 3-3/4" | 2-5/8" | 3-1/8" | 3-3/16" | 2" | 5 | 5.75 |
| CR6003 | 0.07 | 5 | 0.6 | 3.00 | 4-1/8" | 3-3/4" | 3-1/2" | 3-7/16" | 3-1/16" | 10 | 9.99 |
| CR6004 | 0.01 | 12 | 0.1 | 1.20 | 4-1/8" | 3-7/8" | 3-1/2" | 3-1/2" | 3-1/8" | 10 | 15.75 |
| CR6005 | 0.004 | 24 | 0.025 | 0.60 | 4-1/2" | 4-3/4" | 3-7/8" | 3-3/4" | 3-3/8" | 14 | 29.60 |
| CR6006 | 0.001 | 50 | 0.001 | 0.05 | 5-3/4" | 5-1/2" | 4-3/8" | 4-15/16" | 3-3/8" | 19 | 47.00 |

*Prices & specifications subject to change*



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World Radio History

# TABTRON

## TECHNICAL APPARATUS BUILDERS

NEW YORK, N. Y., U.S.A.

FOR ALL DC POWERS REQUIREMENTS
Write "TECHNICAL APPARATUS BUILDERS" Eng. Dept. Specialists in Design. Mfg'r of DC POWER SUPPLIES. "TABTRON" ® HI AMP LO & HI VOLTAGE & REGULATED "REGAVAC" ® DC SUPPLIES.

Manufacturers of "TABTRON" RECTIFIERS & POWER SUPPLIES

## PACKAGED DC POWER ENGINEERED FOR INDUSTRY

### AVIONICS-INDUSTRY MISSILES POWER SUPPLIES

| TYPE | DESCRIPTION D.C. VOLTS & AMPS | CODE WORD | SHIPPING WT-LBS. | SIZE HEIGHT | PRICE |
|---|---|---|---|---|---|
| T612V12A | 0-6 or 12V @ 12 Amps | AHEAD | 20 | 9" | $ 39.00 |
| T612V12ACC | 12A 0.5% Ripple @ 5 Amps | AGREE | 25 | 9" | 48.00 |
| T400 | 4X0-8VDC @ 12.5A 2% Ripple | AFFIN | 108 | 14" | 360.00 |
| T800 | 4X0-8VDC @ 25A 2% Ripple | AFIRM | 165 | 14" | 525.00 |
| T1500 | 4X0-8VDC @ 50A 2% Ripple | AFFED | 450 | 37" | 795.00 |
| T3000 | 4X0-8VDC @ 100A 2% Ripple | AFLUX | 550 | 48" | 990.00 |
| T4500 | 4X0-8VDC @ 150A 2% Ripple | AFORD | 750 | 83" | 1095.00 |
| T6000 | 4X0-8VDC @ 200A 2% Ripple | AFRAY | 850 | 83" | 1250.00 |
| T12V25A | 0-12V @ 25 Amps | ABAFT | 65 | 10½" | 136.00 |
| T12V50A | 0-12V @ 50 Amps | ABAND | 90 | 10½" | 175.00 |
| T28V5A | 0-28V @ 5 Amps | ABBRE | 33 | 9" | 57.00 |
| T28V5ACC | 0-5 Amp (1% Ripple) | ABDIC | 72 | 10½" | 79.00 |
| T28V5A2CC | 0-5 Amp (0.1% Ripple) | ABEAM | 100 | 10½" | 97.90 |
| T28V12A | 0-28V @ 12 Amps | ABETS | 63 | 10½" | 135.00 |
| T28V12ACC | 0-12 Amps (1% Ripple) | ABIDE | 81 | 10½" | 169.00 |
| T28V12A2CC | 0-12 Amps (0.1% Ripple) | ABJEC | 102 | 10½" | 225.00 |
| T28V24A | 0-28V @ 24 Amp | ABLES | 90 | 10½" | 174.00 |
| T28V24ACC | 0-24 Amps (1% Ripple) | ABUND | 150 | 10½" | 245.00 |
| T28V24A2CC | 0-24 Amps (0.1% Ripple) | ABUT | 182 | 19¼" | 320.00 |
| T28V50A | 0-28V @ 50 Amps | ABYSM | 120 | 19¼" | 310.00 |
| T28V50ACC | 0-50 Amps (1% Ripple) | ACADE | 196 | 19¼" | 400.00 |
| T28V100A | 0-28V @ 100 Amps | ACCEA | 300 | 36" | 525.00 |
| T28V100ACC | 0-100 Amps (1% Ripple) | ACCID | 430 | 42" | 795.00 |
| T60V1ACC | 0-60VDC @ 1A (1% Ripple) | ADULT | 60 | 10½" | 108.00 |
| T60V2ACC | 0-60VDC @ 2A (1% Ripple) | ADUNK | 80 | 10½" | 145.00 |
| T60V5ACC | 0-60VDC @ 5A (1% Ripple) | ADUST | 105 | 10½" | 225.00 |
| T130V1A | 0-130VDC @ 1 Amp | ADVAK | 40 | 10½" | 89.00 |
| T130V1ACC | 0 to 1 Amp (1% Ripple) | ADVER | 75 | 10½" | 139.00 |
| T130V5A | 0 to 130 VDC @ 5 Amps | ACRES | 75 | 10½" | 234.00 |
| T130V5ACC | 0 to 5 Amps (1% Rip) | ACEDA | 150 | 10½" | 289.00 |
| T130V10A | 0 to 130VDC @ 10 Amps | ACMES | 180 | 19¼" | 275.00 |
| T130V10ACC | 0 to 10 Amps (1% Ripple) | ACORN | 230 | 19¼" | 369.00 |
| T230V5A | 0 to 230 VDC @ 5 Amps | AFARE | 95 | 10½" | 399.00 |
| T230V5ACC | 0 to 5 Amps (1% Ripple) | AFEK | 185 | 19¼" | 498.00 |
| T230V10A | 0 to 230VDC @ 10 Amps | AFFAD | 190 | 19¼" | 697.00 |
| T230V10ACC | 0 to 230VDC 10A (1% Ripple) | AFFIX | 375 | 19¼" | 845.00 |
| T240V1A | 0 to 240VDC @ 1 Amp | ADVIZ | 65 | 10½" | 169.00 |
| T240V1ACC | 0 to 1 Amp (1% Ripple) | ADVOW | 135 | 10½" | 220.00 |

NEW LOW PRICED BASIC DC SUPPLIES FOR INDUSTRIAL APPLICATIONS. CONTAIN TRANSFORMER, RECTIFIER, TERMINALS, SWITCH AND FUSE COMPLETELY BUILT WITH VENTILATED COVER OR CABINET.

| | | | | | |
|---|---|---|---|---|---|
| B2.6 8P4A | ELECTROPLATING | AMER | 18 | 10W5½"D | $ 27.00 |
| B12V10A | 12VDC @ 10 Amps | ADMIT | 30 | 10W5½"D | 44.00 |
| B12V10ACC | 12V 10A (1% Ripple) | ADJAK | 62 | 12W8"D | 81.00 |
| B12V24A | 12VDC @ 24 Amps | ADJON | 74 | 17W7"D | 97.00 |
| B12V24ACC | 12VDC 24 Amps (1% Ripple) | ADJUR | 78 | 10½"H | 145.00 |
| B12V50A | 12VDC @ 50 Amps | ADJUD | 100 | 10½"H | 140.00 |
| B12V50ACC | 12VDC @ 50 Amps (1% Ripple) | ADMOS | 130 | 10W5½"D | 275.00 |
| B24V12A | 24VDC @ 12 Amps | ADVAN | 60 | 12W8"D | 81.00 |
| B28V5A | 28VDC @ 5 Amps | ACOUS | 20 | 10W5½"D | 45.00 |
| B28V5ACC | 28VDC @ 5 Amps (1% Ripple) | ACROB | 65 | 12W8"D | 69.00 |
| B28V12A | 28VDC @ 12 Amps | ACCEN | 60 | 12W8"D | 90.00 |
| B28V12ACC | 28VDC @ 12 Amps (1% Ripple) | ADDER | 68 | 17W7"D | 135.00 |
| B28V24A | 28VDC @ 24 Amps | ADDLE | 100 | 17W13"D | 139.00 |
| B28V24ACC | 28VDC @ 24 Amps (1% Ripple) | ADAGE | 125 | 10¼" | 187.00 |
| B28V50A | 28VDC @ 50 Amps | ADOBE | 105 | 19¼" | 225.00 |
| B28V50ACC | 28VDC @ 50 Amps (1% Ripple) | ADOPT | 175 | 24" | 350.00 |
| B28V100A | 28VDC @ 100 Amps | ADPRE | 265 | 24" | 439.00 |
| B28V100ACC | 28VDC @ 100 Amps (1% Ripple) | ADSOR | 375 | 36¾" | 600.00 |
| B115V1A | (SOLENOID) | AHER | 35 | 10W5½"D | 48.00 |
| B115V2.5A | (TOOL) | AHIT | 75 | 10W5½"D | 85.00 |
| B115V5A | 115VDC @ 5 Amps | ADEPT | 90 | 17W13"D | 120.00 |
| B115V10A | 115VDC @ 10 Amps | ADPER | 150 | 17W13"D | 200.00 |
| B220V1A | (CHUCKS) | AHOS | 65 | 12W8"D | 87.00 |
| B220V5A | 220VDC @ 5 Amps | ADIEU | 120 | 10½"H | 207.00 |
| B220V10A | 220VDC @ 10 Amps | ADIEC | 165 | 19¼" | 310.00 |

*New 24-28VDC Relay Supplies Cased Filtered Ready to Work*

| | | | | | |
|---|---|---|---|---|---|
| B24VAR | 24-28VDC @ 1 Amp | AMEND | | | 6.00 |
| B24VER | 24-28VDC @ 2 Amps | ALEAD | | | 11.00 |
| B24VJR | 24-28VDC @ 6 Amps | ALIMB | | | 21.00 |

*Battery Chargers—Auto—Farm—Marine—Avionics*

| | | | | | |
|---|---|---|---|---|---|
| BC2V4T2A | BATTERY 2V | ADVEN | 8 | 5H4D3"W | 6.95 |
| BC6V4T2A | BATTERY 6V | ADVIC | 8 | 5H4D3"W | 7.95 |
| BC-1 | MARINE 6V/6 Amps | ABOAT | 18 | | 10.95 |
| BC6VT12A | BATTERY 6V/12 Amps | ADVOC | 14 | 9H6D10"W | 18.50 |
| BC6-12VT5A | BATTERY 6 & 12V | AERYS | 12 | 9H6D10"W | 19.45 |
| BC-12 | MARINE 12V/3 Amps | ASHIP | 18 | | 9.95 |
| BC12-28VT5A | BATTERY 12 OR 28V | AEPOR | 20 | 9H8D12"W | 39.00 |
| BC612M | BATTERY 6V/20 Amps, 12V/10 Amps | AFECT | 18 | 10" | 27.50 |

*"REG-O-TAB" Transistorized Regulated (1%) Regulation Supplies*

| | | | | | |
|---|---|---|---|---|---|
| RTR30V1A | 20 to 30VDC @ 1 Amp/1% Ripple | RABET | 20 | 10" | 175.00 |
| RTR30V5A | 20 to 30VDC @ 5 Amps/1% Ripple | RABID | 30 | 10" | 275.00 |

*"Magrepak" Magnetic Regulated (1%) Regulation*

| | | | | | |
|---|---|---|---|---|---|
| MRT32V15A | 2 to 32VDC @ 15 Amps/1% Ripple | RADIO | 108 | 14" | 525.00 |
| MRT32V25A | 0 to 32VDC @ 25 Amps/1% Ripple | RADEX | 119 | 16" | 550.00 |
| MRT30V40A | 5 to 30VDC @ 40 Amps/1% Ripple | RAFTS | 210 | 24" | 750.00 |
| MRT32V50A | 24 to 32VDC @ 50 Amps/1% Ripple | RAINS | 230 | 28" | 949.00 |
| MRT32V100A | 24 to 32VDC @ 100 Amps/1% Ripple | RAISE | 250 | 37" | 995.00 |

*"TABPAK" Transistorized Power Converters Input 12VDC (On Order 6V & 24-28VDC)*

| | | | | | |
|---|---|---|---|---|---|
| TR25C | 250VDC @ 100 MA | CODER | 12 | oz | 27.00 |
| TR39CB | 450 & 225VDC @ 150MA | COFAT | 4 | | 35.00 |
| TR39CK | KIT-U-BUILD (TR39CB) | COINS | 4 | | 30.00 |
| TR50C | 500 & 250VDC @ 200MA | COKES | 4 | | 58.50 |
| TR80W | 115VAC @ 80 WATTS | COLAT | 12 | | 49.00 |
| TR100W | 115VAC @ 100 WATTS | COLOR | 15 | | 87.50 |

"TABTRON" VARIABLE DC POWER SUPPLIES COMPLETELY BUILT. DESIGNED FOR CONTINUOUS SERVICE. CONTAIN SELENIUM OR SILICON RECTIFIER FULL WAVE CIRCUIT. VARIAC, ISOLATION TRANSFORMER, SWITCH, PILOT LIGHT, CIRCUIT BREAKER, FUSES, TERMINALS, HOUSED IN STURDY RELAY RACK CABINETS 22" WIDE 15" DEEP, MATCHED 2% PRECISION 4" RECTA NGULAR VOLT & AMP METERS. CONVECTION COOLED, RUGGED DESIGN, NOISELESS, TROUBLE FREE. STANDARD INPUT POWER ONE PHASE 50 OR 60 CY. AC 115V OR 220V* SPECIFY, OTHER INPUTS TO YOUR SPECIFICATIONS. "TABTRON" POWER SUPPLIES CARRY ONE YEAR GUARANTEE.

*Prices & specifications subject to change.*

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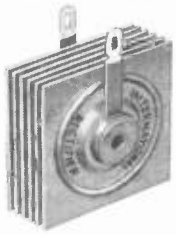
Net



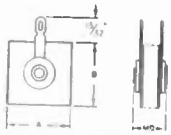
World Radio History

# International Rectifier
CORPORATION

## • TV AND RADIO RECTIFIERS



The basic replacement rectifier line offering the widest range in the industry. Input ratings from 25 to 195 volts AC and up. DC output current 10 to 1,200 MA. Also useful for amateur and experimental applications.



| STANDARD TYPES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Type | Max. DC MA | Max. RMS Volts | Min. Series Resistor Ohms | Dimensions Nominal A | Dimensions Nominal B | Dimensions Max. MD | List Price | Type |
| RS050 | 50 | 130 | 22 | .67" | .67" | [illegible] | 1.35 | RS050 |
| RS065 | 65 | 130 | 22 | 1" | 1" | [illegible] | 1.55 | RS065 |
| RS075 | 75 | 130 | 22 | 1" | 1" | [illegible] | 1.75 | RS075 |
| RS100 | 100 | 130 | 22 | 1.2" | 1.2" | [illegible] | 2.10 | RS100 |
| RS150 | 150 | 130 | 15 | 1.2" | 1.2" | [illegible] | 2.25 | RS150 |
| RS200 | 200 | 130 | 5 | 1.5" | 1.5" | [illegible] | 2.55 | RS200 |
| RS250 | 250 | 130 | 5 | 1.5" | 1.5" | [illegible] | 3.00 | RS250 |
| RS300SL | 300 | 130 | 5 | 1.5" | 1.5" | [illegible] | 3.05 | RS300SL |
| RS350SL | 350 | 130 | 5 | [illegible] | [illegible] | [illegible] | 3.60 | RS350SL |
| RS400SL | 400 | 130 | 5 | 2" | 2" | [illegible] | 3.80 | RS400SL |
| RS450SL | 450 | 130 | 5 | 2" | 2" | [illegible] | 4.00 | RS450SL |
| RS500SL | 500 | 130 | 5 | 2" | 2" | [illegible] | 4.20 | RS500SL |

Catalog numbers ending with letters SL are stud, locking lug construction. All other types are eyelet, locking lug construction.

## SILICON REPLACEMENT RECTIFIER

| Type | Max. DC MA | Max. RMS Volts | Min. Series Resistor Ohms | Dimensions Nominal A | Dimensions Nominal B | Dimensions Max. MD | List Price | Type |
|---|---|---|---|---|---|---|---|---|
| TV-500 | 500 | 130 | 5 | 1.5" | 1.5" | 1" | 4.45 | TV-500 |

No "Conversion" Required – No holes to drill . . . No special socket required! For those jobs where you want the very best . . . the silicon stack that operates cooler, cuts installation time.

## • SILICON SOLAR CELLS

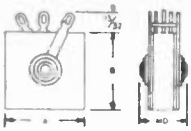
(Wide range of silicon and selenium types.) Self-generating cells available in standard and custom sizes, mounted or unmounted.

| Type | Style | Cell Size | Typical Power Output* per sq. in. |
|---|---|---|---|
| SA5-PL | Unmounted | 1⅛" diam. | 25 |
| SA5A-PL | Unmounted | 1⅛" diam. | 40 |
| SA5-M | Mounted | 1⅛" diam. | 25 |
| SA5A-M | Mounted | 1⅛" diam. | 40 |

* At 5000 foot candles optimum load.

## • SINGLE PLATE HALF WAVE RECTIFIERS

These rectifiers are used for small power applications. Voltage regulation of 15% to 20% may be realized. Ratings shown are for resistive load.



| Catalog Number | Max. DC MA | Max. RMS Volts | Min. Series Resistor Ohms | Dimensions Nominal A | Dimensions Nominal B | Dimensions Max. MD | Catalog Number |
|---|---|---|---|---|---|---|---|
| Q1H | 65 | 25 | 47 | .67" | .67" | [illegible] | Q1H |
| A1H | 100 | 25 | 22 | 1" | 1" | [illegible] | A1H |
| B1H | 150 | 25 | 15 | 1.2" | 1.2" | [illegible] | B1H |
| C1H | 250 | 25 | 5 | 1.5" | 1.5" | [illegible] | C1H |
| M1H | 500 | 25 | 5 | 2" | 2" | [illegible] | M1H |

## • FULL WAVE BRIDGE RECTIFIERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Q1B | 100 | 25 | | .67" | .67" | [illegible] | Q1B |
| Q4B | 100 | 130 | | .67" | .67" | [illegible] | Q4B |
| A1B | 180 | 25 | | 1" | 1" | [illegible] | A1B |
| B1B | 300 | 25 | | 1.2" | 1.2" | [illegible] | B1B |
| C1B | 600 | 25 | | 1.5" | 1.5" | [illegible] | C1B |
| M1B | 1200 | 25 | | 2" | 2" | [illegible] | M1B |

Trade discounts apply only to list price items. Prices subject to change without notice.

## • HIGH VOLTAGE CARTRIDGE RECTIFIERS

These rectifiers are designed with ferrule terminals for quick insertion into, and withdrawal from, standard fuse clips. Recommended for high voltage power supplies where long life and extreme reliability are of prime importance.

| Type | DC Output* Volts | DC Output* MA | Max. Volt Input RMS | Peak Inverse Voltage | Case | Dimensions Dia. | Dimensions Length | Type |
|---|---|---|---|---|---|---|---|---|
| V50HF | 1000 | 5 | 1650 | 2400 | A | [illegible] | 2[illegible]" | V50HF |
| V75HF | 1500 | 5 | 2475 | 3600 | A | [illegible] | 3" | V75HF |
| V100HF | 2000 | 5 | 3300 | 4800 | A | [illegible] | 4" | V100HF |
| V125HF | 2500 | 5 | 4125 | 6000 | A | [illegible] | 4[illegible]" | V125HF |
| V150HF | 3000 | 5 | 4950 | 7200 | A | [illegible] | 5[illegible]" | V150HF |
| V175HF | 3500 | 5 | 5775 | 8400 | A | [illegible] | 6" | V175HF |
| U45HP | 900 | 1.5 | 1485 | 2160 | B | [illegible] | 2" | U45HP |
| U50HFP | 1000 | 1.5 | 1650 | 2400 | C | [illegible] | 2" | U50HFP |

* Into Capacitive load.

## • SELENIUM PHOTOELECTRIC CELLS

| Type | Style | Cell Size | Average Output* (μa) | Type |
|---|---|---|---|---|
| A-15 | Unmounted | 2" diam. | 750 | A-15 |
| A-10 | Unmounted | 1¾" diam. | 500 | A-10 |
| A-5 | Unmounted | 1⅛" diam. | 250 | A-5 |
| A-2 | Unmounted | ¼" diam. | 12 | A-2 |
| B-15 | Unmounted | 1[illegible]" x 1[illegible]" | 750 | B-15 |
| B-10 | Unmounted | 1[illegible]" x ⅞" | 350 | B-10 |
| B-5 | Unmounted | 1[illegible]" x [illegible]" | 220 | B-5 |
| B-2 | Unmounted | [illegible]" x [illegible]" | 75 | B-2 |
| B-1 | Unmounted | [illegible]" x [illegible]" | 32 | B-1 |
| A-15M | Mounted | 2" diam. | 750 | A-15M |
| A-10M | Mounted | 1¾" diam. | 350 | A-10M |
| A-5M | Mounted | 1⅛" diam. | 220 | A-5M |
| A-2M | Mounted | [illegible]" diam. | 12 | A-2M |
| B-10M | Mounted | 1[illegible]" x ⅞" | 350 | B-10M |
| **DP-2 | Mounted | [illegible]" x [illegible]" | 24 | **DP-2 |
| **DP-3 | Mounted | [illegible]" x [illegible]" | 60 | **DP-3 |
| **DP-5 | Mounted | 1[illegible]" x 1[illegible]" | 600 | **DP-5 |
| B-2M | Mounted | [illegible]" x [illegible]" | 55 | B-2M |

* At 100 ft. candles illumination and 100 ohm external resistance. ** Hermetically sealed.

| | | |
|---|---|---|
| PB-1 | The Use of Selenium Photocells and Sun Batteries | PB-1 |

A WORLD OF DIFFERENCE THROUGH RESEARCH

# International Rectifier
CORPORATION

El Segundo, California • In Canada: Atlas Radio Corp., Ltd., Toronto, Ontario

Descriptive literature available on request. Write Product Information Department on your letterhead.

THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS



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World Radio History

# International Rectifier
C O R P O R A T I O N

## • INDUSTRIAL POWER RECTIFIERS

Manufactured by the World's Largest Supplier of Industrial Rectifiers. Ratings: to 250 KW, 50 ma to 2,300 amperes and up. 6 volts to 30,000 volts and up. Efficiency to 87%. Power factor to 95%.

FIG. I

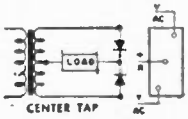



FIG. I A

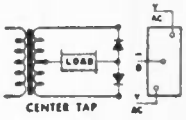
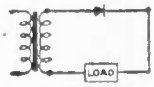



FIG. 2

SINGLE PHASE BRIDGE

FIG. 3




HALF WAVE

FIG. A

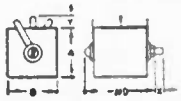
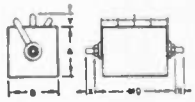


FIG. B

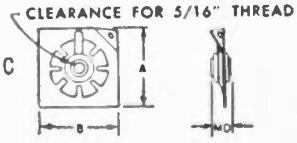


| Stock Number | Code Number | Output DC Volts | Output DC Amp. | Max. Input AC Volts | Circuit & Connecting Diag. Fig. | Dimensions (Inches) Fig. | A | B | MD * | X | Y | Stud |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JD-500G | B1C1SDAGX | | 0.4 | 13/26 | 1 | A | 1¼ | 1¼ | 1⅛ | ⅜ | ⅜ | 8-32 |
| JD-501G | C1C1SDAGX | | 0.7 | 13/26 | 1 | A | 1½ | 1½ | 1⅛ | ⅜ | 5/16 | 8-32 |
| JD-3011 | L1C1SDAGX | | 1.5 | 13/26 | 1 | A | 2 | 2 | 1⅜ | ⅜ | ⅜ | ¼-20 |
| JD-503G | D1C1SDAGX | 0-10 | 3.0 | 13/26 | 1 | A | 3 | 3 | 2 | ½ | ⅝ | 3/16-16 |
| JD-504P | P1C1SDAGX | | 5.5 | 13/26 | 1 | A | 4 | 4 | 2 | ½ | 13/16 | 3/16-16 |
| JD-505G | F1C1SDAGX | | 9.5 | 13/26 | 1 | A | 6 | 5 | 2⅛ | ¾ | 1⅛ | 3/16-16 |
| JD-506G | H1C1SDAGX | | 15.0 | 13/26 | 1 | A | 7¼ | 6¼ | 2⅛ | ¾ | 1⅛ | 3/16-16 |
| JD-4346B | F1J3NDBKX | 0-13 | 30.0† | 16.5/33 | 1A | B | 6 | 5 | 4⅛ | ¾ | 1⅛ | 3/16-16 |
| JD-507G | B1B1SDAGX | | 0.4 | 26 | 2 | A | 1¼ | 1¼ | 1½ | ⅜ | ⅜ | 8-32 |
| JD-508G | C1B1SDAGX | | 0.7 | 26 | 2 | A | 1½ | 1½ | 1½ | ⅜ | 5/16 | 8-32 |
| JD-3022 | L1B1SDAGX | | 1.5 | 26 | 2 | A | 2 | 2 | 1⅞ | ⅜ | ⅜ | ¼-20 |
| JD-510G | D1B1SDAGX | 0-20 | 3.0 | 26 | 2 | A | 3 | 3 | 2⅜ | ½ | ⅝ | 3/16-16 |
| JD-511P | P1B1SDAGX | | 5.5 | 26 | 2 | A | 4 | 4 | 2⅜ | ½ | 13/16 | 3/16-16 |
| JD-512G | F1B1SDAGX | | 9.5 | 26 | 2 | A | 6 | 5 | 3¼ | ¾ | 1⅛ | 3/16-16 |
| JD-513G | H1B1SDAGX | | 15.0 | 26 | 2 | A | 7¼ | 6¼ | 3¼ | ¾ | 1⅛ | 3/16-16 |
| JD-514G | B2B1SDBGX | | 0.4 | 52 | 2 | B | 1¼ | 1¼ | 2⅝ | ⅜ | ⅜ | 8-32 |
| JD-515G | C2B1SDBGX | | 0.7 | 52 | 2 | B | 1½ | 1½ | 2⅝ | ⅜ | 5/16 | 8-32 |
| JD-3023 | L2B1SDBGX | | 1.5 | 52 | 2 | B | 2 | 2 | 3 | ⅜ | ⅜ | ¼-20 |
| JD-517G | D2B1SDBGX | 0-40 | 3.0 | 52 | 2 | B | 3 | 3 | 4 1/16 | ½ | ⅝ | 3/16-16 |
| JD-518P | P2B1SDBGX | | 5.5 | 52 | 2 | B | 4 | 4 | 4 1/16 | ½ | 13/16 | 3/16-16 |
| JD-519G | F2B1SDBGX | | 9.5 | 52 | 2 | B | 6 | 5 | 5⅜ | ¾ | 1⅛ | 3/16-16 |
| JD-520G | H2B1SDBGX | | 15.0 | 52 | 2 | B | 7¼ | 6¼ | 5⅜ | ¾ | 1⅛ | 3/16-16 |
| JD-9317 | D3B1SDBGX | | 2.4 | 78 | 2 | B | 3 | 3 | 5 11/16 | ¾ | ⅝ | 3/16-16 |
| JD-9318P | P3B1SDBGX | 0-60 | 4.2 | 78 | 2 | B | 4 | 4 | 5 11/16 | ¾ | 13/16 | 3/16-16 |
| JD-9319 | F3B1SDBGX | | 8.5 | 78 | 2 | B | 6 | 5 | 7 13/16 | ¾ | 1¼ | 3/16-16 |
| JD-9320 | D4B1SDBGX | | 2.4 | 104 | 2 | B | 3 | 3 | 7 3/16 | ¾ | ⅝ | 3/16-16 |
| JD-9321P | P4B1SDBGX | 0-80 | 4.2 | 104 | 2 | B | 4 | 4 | 7 3/16 | ¾ | 13/16 | 3/16-16 |
| JD-9322 | F4B1SDBGX | | 8.5 | 104 | 2 | B | 6 | 5 | 10¼ | ¾ | 1¼ | 3/16-16 |
| JD-3012 | B5B1SDBGX | | 0.3 | 130 | 2 | B | 1¼ | 1¼ | 4 5/16 | ⅜ | ⅜ | 8-32 |
| JD-3007 | C5B1SDBGX | | 0.6 | 130 | 2 | B | 1½ | 1½ | 4 5/16 | ⅜ | 5/16 | 8-32 |
| JD-3008 | L5B1SDBGX | | 1.2 | 130 | 2 | B | 2 | 2 | 6¼ | ⅜ | ⅜ | ¼-20 |
| JD-3009 | D5B1SDBGX | 0-100 | 2.4 | 130 | 2 | B | 3 | 3 | 8 5/16 | ½ | ⅝ | 3/16-16 |
| JD-3010P | P5B1SDBGX | | 4.2 | 130 | 2 | B | 4 | 4 | 8 5/16 | ½ | 13/16 | 3/16-16 |
| JD-3013 | F5B1SDBGX | | 8.5 | 130 | 2 | B | 6 | 5 | 12⅜ | ¾ | 1⅛ | 3/16-16 |
| JD-3014 | H5B1SDBGX | | 13.0 | 130 | 2 | B | 7¼ | 6¼ | 12⅜ | ¾ | 1⅛ | 3/16-16 |
| JD-3015 | B6B1SDBGX | | 0.3 | 156 | 2 | B | 1¼ | 1¼ | 5⅜ | ⅜ | ⅜ | 8-32 |
| JD-3016 | C6B1SDBGX | | 0.6 | 156 | 2 | B | 1½ | 1½ | 5⅜ | ⅜ | 5/16 | 8-32 |
| JD-3017 | L6B1SDBGX | | 1.2 | 156 | 2 | B | 2 | 2 | 7 3/16 | ⅜ | ⅜ | ¼-20 |
| JD-3018 | D6B1SDBGX | 0-120 | 2.4 | 156 | 2 | B | 3 | 3 | 10¼ | ½ | ⅝ | 3/16-16 |
| JD-3019P | P6B1SDBGX | | 4.2 | 156 | 2 | B | 4 | 4 | 10¼ | ½ | 13/16 | 3/16-16 |
| JD-3020 | F6B1SDBGX | | 8.5 | 156 | 2 | B | 6 | 5 | 15 | ¾ | 1⅛ | 3/16-16 |
| JD-3021 | H6B1SDBGX | | 13.0 | 156 | 2 | B | 7¼ | 6¼ | 15 | ¾ | 1⅛ | 3/16-16 |

† Rated 100 amp DC for fast battery charging when fan cooled at 800 linear feet/min.
All ratings for Ambient Temperature of 35°C * Tolerance: ±3/32"

## • BATTERY CHARGING TYPES

FIG. C




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| JD-116G | D-116G | | 2 | 26 | 3 | C | 3 | 3 | ½ | Eyelet type |
| JD-116G** | D-116G** | | 4 | 13/26 | 1 | C | 3 | 3 | ½ | Eyelet type |
| JD-117P | D-117P | | 2.7 | 26 | 3 | C | 4 | 4 | ½ | Eyelet type |
| JD-117P** | D-117P** | 0-10 | 5.5 | 13/26 | 1 | C | 4 | 4 | ½ | Eyelet type |
| JD-241G | D-241G | | 6 | 26 | 3 | C | 6 | 5 | ½ | Eyelet type |
| JD-241G** | D-241G** | | 12 | 13/26 | 1 | C | 6 | 5 | ½ | Eyelet type |
| JD-240G | D-240G | | 9 | 26 | 3 | C | 7¼ | 6¼ | ½ | Eyelet type |
| JD-240G** | D-240G** | | 18 | 13/26 | 1 | C | 7¼ | 6¼ | ½ | Eyelet type |

** Two stacks of this type number required.

A WORLD OF DIFFERENCE THROUGH RESEARCH

# International Rectifier
C O R P O R A T I O N

El Segundo, California • In Canada: Atlas Radio Corp., Ltd., Toronto, Ontario
Descriptive literature available on request. Write Product Information Department on your letterhead.

THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS

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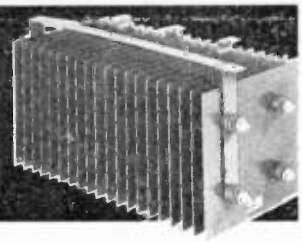
World Radio History

General Instrument Semiconductors

# RADIO RECEPTOR *hcd**

*high current density

# Petti-Sel SELENIUM RECTIFIERS



## INDUSTRIAL TYPE POWER UNITS — SINGLE PHASE FULL WAVE

| OUTPUT DC VOLTS | MAX. OUTPUT DC AMPS. | MAX. INPUT AC VOLTS | CIRCUIT | CATALOG NUMBER | NO. OF MOUNTING STUDS | APPROXIMATE DIMENSIONS IN INCHES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | OVERALL LENGTH | MOUNTING DIMENSION | CELL HORIZONTAL | CELL VERTICAL | TERMINAL EXTENSION |
| 0-10 | .4 | 26† | C.T. Fig. 1 | D101* | 1 | 1 7/8 | 1 5/16 | 1.0 | 1.0 | 7/16 |
| | 1.5 | | | D102* | 1 | 1 7/8 | 1 1/2 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D103* | 1 | 1 7/8 | 1 1/2 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D104 | 1 | 3 11/16 | 2 1/2 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D105 | 2 | 3 11/16 | 2 1/2 | 7.8 | 3.9 | 1 5/16 |
| | 24.0 | | | D106 | 3 | 4 3/16 | 2 3/4 | 11.82 | 3.9 | 1 5/16 |
| | 32.0 | | | D107 | 4 | 4 3/16 | 3 | 7.87 | 7.87 | 1 5/16 |
| 0-21 | .4 | 26 | Br. Fig. 2 | D108 | 1 | 2 11/16 | 1 15/16 | 1.0 | 1.0 | 7/16 |
| | 1.5 | | | D109 | 1 | 3 1/16 | 2 5/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D110 | 1 | 3 1/16 | 2 5/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D111 | 1 | 5 3/16 | 3 3/4 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D112 | 2 | 5 3/16 | 3 3/4 | 7.8 | 3.9 | 1 5/16 |
| | 24.0 | | | D113 | 3 | 5 3/16 | 3 3/4 | 11.82 | 3.9 | 1 5/16 |
| | 32.0 | | | D114 | 4 | 6 3/16 | 4 3/4 | 7.87 | 7.87 | 1 5/16 |
| 0-41 | .4 | 52 | Br. Fig. 2 | D115 | 1 | 3 5/8 | 2 7/8 | 1.0 | 1.0 | 7/16 |
| | 1.5 | | | D116 | 1 | 4 9/16 | 3 13/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D117 | 1 | 4 9/16 | 3 13/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D118 | 1 | 7 3/16 | 5 3/4 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D119 | 2 | 7 3/16 | 5 3/4 | 7.8 | 3.9 | 1 5/16 |
| | 24.0 | | | D120 | 3 | 7 3/16 | 6 | 11.82 | 3.9 | 1 5/16 |
| | 32.0 | | | D121 | 4 | 9 3/16 | 7 15/16 | 7.87 | 7.87 | 1 5/16 |
| 0-63 | 1.5 | 78 | Br. Fig. 2 | D122 | 1 | 5 13/16 | 5 1/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D123 | 1 | 5 13/16 | 5 1/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D124 | 1 | 9 3/16 | 8 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D125 | 2 | 9 3/16 | 8 | 7.8 | 3.9 | 1 5/16 |
| 0-84 | 1.5 | 104 | Br. Fig. 2 | D126 | 1 | 7 9/16 | 6 13/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D127 | 1 | 7 9/16 | 6 13/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D128 | 1 | 11 11/16 | 10 3/16 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D129 | 2 | 11 11/16 | 10 3/16 | 7.8 | 3.9 | 1 5/16 |
| 0-106 | .4 | 130 | Br. Fig. 2 | D130 | 1 | 6 5/16 | 5 9/16 | 1.0 | 1.0 | 7/16 |
| | 1.0 | | | D131 | 1 | 7 1/16 | 6 5/16 | 1.3 | 1.3 | 7/16 |
| | 1.5 | | | D132 | 1 | 8 13/16 | 8 1/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D133 | 1 | 8 13/16 | 8 1/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D134 | 1 | 13 11/16 | 12 7/16 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D135 | 2 | 13 11/16 | 12 7/16 | 7.8 | 3.9 | 1 5/16 |
| 0-127 | .4 | 156 | Br. Fig. 2 | D136 | 1 | 7 1/16 | 6 5/16 | 1.0 | 1.0 | 7/16 |
| | 1.0 | | | D137 | 1 | 8 1/16 | 7 5/16 | 1.3 | 1.3 | 7/16 |
| | 1.5 | | | D138 | 1 | 10 5/16 | 9 9/16 | 1.6 | 1.6 | 1/2 |
| | 4.5 | | | D139 | 1 | 10 5/16 | 9 9/16 | 2.6 | 2.6 | 7/16 |
| | 8.0 | | | D140 | 1 | 15 11/16 | 14 7/16 | 3.9 | 3.9 | 1 5/16 |
| | 16.0 | | | D141 | 2 | 15 11/16 | 14 7/16 | 7.8 | 3.9 | 1 5/16 |

NOTES:

Mounting brackets are available for the above types, except for the 7.8" x 3.9" cell size and larger.

*These units use one bracket, all others require two.

†Across outer legs of center tap connection.

Mounting studs are centrally located on the cell and where more than one is used the measurement is 3-15/16" between centers. A 10-32 stud is used with cell sizes up to 2.6" square and a 5/16-18 stud is used with the larger cell sizes.

The stacks shown above are adaptable for a wide range of common applications. The ratings are for stacks mounted with cells in a vertical position with normal convection cooling, and in a maximum ambient temperature of 35° C (95° F) with a resistive or inductive load. Many other types are available for special requirements.

Developed by Siemens Organization of West Germany and now manufactured exclusively in the U.S.A. by Radio Receptor Co., Petti-Sel rectifiers are the result of an improved vacuum process requiring no artificial barrier layer. These rectifiers have an estimated life of 100,000 hours, low forward voltage drop, and much smaller cell sizes than conventional units of the same ratings.

RECTIFIER CIRCUITS AND CONNECTIONS

Figure 1
Center Tap

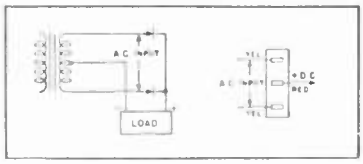
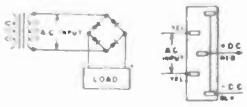



Figure 2
Bridge Circuit

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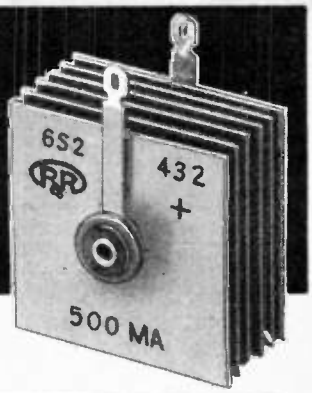
World Radio History

General Instrument Semiconductors

# RADIO RECEPTOR SELENIUM RECTIFIERS

*with SAFE CENTERS*




## Radio and TV Types

| MAX. D.C. OUTPUT MA. | CATALOG NO. | MAX. A.C. INPUT VOLTS | MIN. SERIES RESISTOR (OHMS) | MAX. PEAK INVERSE VOLTAGE | A (INCHES) | B (INCHES) | C +0 −1/32 (INCHES) | D ±1/32 (INCHES) |
|---|---|---|---|---|---|---|---|---|
| 65 | 8J1 | 130 | 33 | 380 | 11/16 | 11/16 | 19/32 | 1/2 |
| 75 | 5M4 | 130 | 22 | 380 | 1 | 1 | 15/16 | 11/16 |
| 100 | 5M1 | 130 | 22 | 380 | 1 | 1 | 15/16 | 7/8 |
| 150 | 5P1 | 130 | 15 | 380 | 1 3/16 | 1 3/16 | 15/16 | 7/8 |
| 200 | 5R1 | 130 | 5 | 380 | 1 1/2 | 1 1/2 | 1 3/16 | 7/8 |
| 250 | 5Q1 | 130 | 5 | 380 | 1 1/2 | 1 1/2 | 1 3/16 | 1 1/8 |
| 300 | 6QA1 | 130 | 5 | 380 | 1 1/2 | 1 1/2 | 1 3/16 | 1 3/8 |
| 350 | 6QA2* | 130 | 5 | 380 | 1 1/2 | 1 1/2 | 1 3/16 | 1 3/4 |
| 400 | 6S4 | 156 | 5 | 456 | 2 | 2 | 1 5/8 | 1 1/8 |
| 500 | 6S2 | 156 | 5 | 456 | 2 | 2 | 1 5/8 | 1 3/8 |

### SPECIAL REPLACEMENT LINE

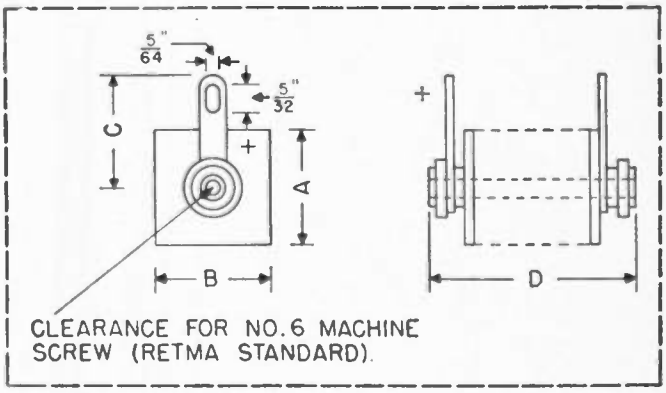
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | 1M1 | 25 | None | 75 | 1 | 1 | 15/16 | 3/8 |
| 30 | 8Y1 | 130 | 47 | 380 | 1/2 | 1/2 | 19/32 | 1/2 |
| 25 | 16Y1 | 260 | 47 | 760 | 1/2 | 1/2 | 19/32 | 7/8 |
| 75 | 6M1 | 156 | 22 | 456 | 1 | 1 | 15/16 | 7/8 |
| 100 | 6M2 | 156 | 22 | 456 | 1 | 1 | 15/16 | 1 1/8 |
| 150 | 6P2 | 156 | 15 | 456 | 1 3/16 | 1 3/16 | 15/16 | 1 3/16 |
| 250 | 6Q1 | 156 | 5 | 456 | 1 1/2 | 1 1/2 | 1 3/16 | 1 1/8 |
| 300 | 6Q4* | 130 | 5 | 380 | 1 1/2 | 1 1/2 | 1 3/16 | 1 3/4 |
| 350 | 5QS1 | 130 | 5 | 380 | 1 1/2 | 2 | 1 3/16 | 1 1/8 |
| 350 | 6QS2 | 156 | 5 | 456 | 1 1/2 | 2 | 1 3/16 | 1 3/8 |
| 350 | 6SQ1 | 156 | 5 | 456 | 2 | 1 1/2 | 1 3/16 | 1 3/8 |
| 400 | 5S2 | 130 | 5 | 380 | 2 | 2 | 1 5/8 | 1 1/8 |
| 500 | 5S3 | 130 | 5 | 380 | 2 | 2 | 1 5/8 | 1 3/8 |

*These units are mounted on a stud eyelet with an 8-32 x 1/4" thread extending from the negative side. All others are mounted on an eyelet with clearance for a #6 machine screw.

The ratings above are for half-wave capacitive load.

Radio Receptor Selenium Rectifiers are built and tested to eliminate arc-over danger, short circuits and heating at the center contact point. This 'Safe Center' feature is an added safety factor that gives protection during mounting and in use.

The rectifiers listed above are normally stocked by distributors. Many other types are available for special applications.

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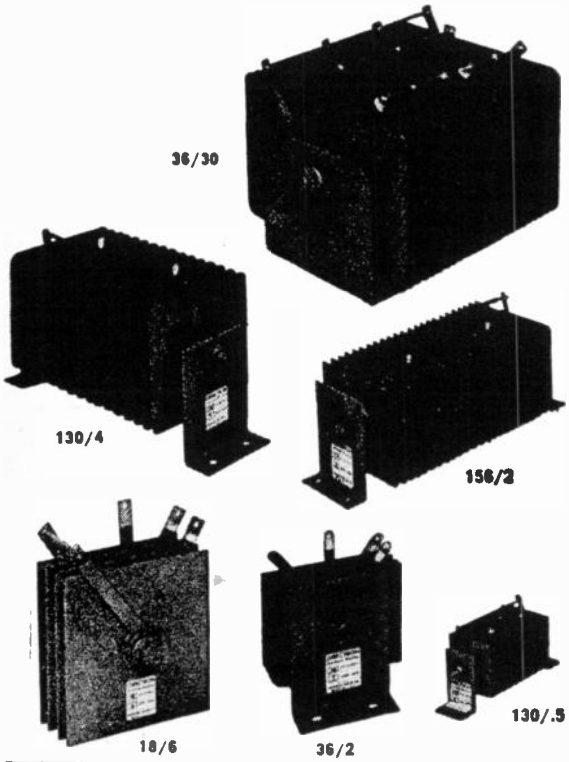
World Radio History

DIRECTRON

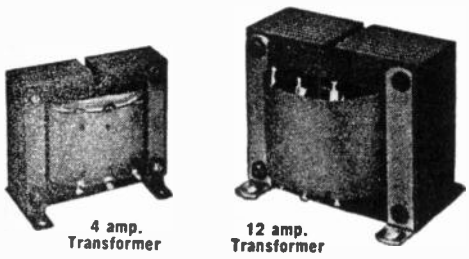
# Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies




## FULL WAVE BRIDGE RECTIFIERS, SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS ALL PRICES SHOWN ARE USER NET PRICES

| Max. Amps. | 18v. in— 14v. out | 36v. in— 28v. out | 54v. in— 42v. out | 130v. in— 100v. out |
|---|---|---|---|---|
| ½ | $1.20 | $ 2.10 | $ 3.20 | $ 6.00 |
| 1 | 1.50 | 2.40 | 3.80 | 9.00 |
| 2 | 2.40 | 3.30 | 5.40 | 12.00 |
| 3 | 3.00 | 4.20 | 6.60 | 15.00 |
| 4 | 3.75 | 7.50 | 11.50 | 25.25 |
| 6 | 4.50 | 9.00 | 13.00 | 33.00 |
| 10 | 6.60 | 12.75 | 20.00 | 42.50 |
| 12 | 8.20 | 16.25 | 22.50 | 46.00 |
| 15 | 10.50 | 21.00 | 30.00 | 60.00 |
| 20 | 13.25 | 25.50 | 38.00 | 79.50 |
| 24 | 16.25 | 32.50 | 45.00 | 86.50 |
| 30 | 20.00 | 38.00 | 57.00 | — |
| 36 | 25.00 | 48.50 | — | — |

**For Half-Wave Center-Tap, Doubler, Tripler or 3-Phase, Quotations on Request — Custom Built Stacks — 24 Hour Service**



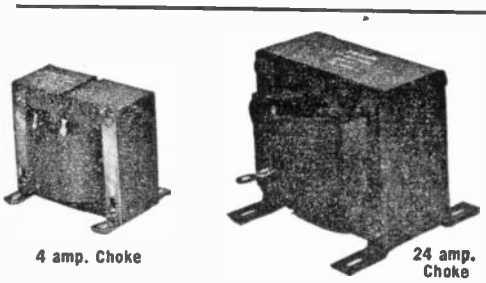

## SELENIUM RECTIFIER TRANSFORMERS

Transformers are with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

| | User's Net Price | | User's Net Price |
|---|---|---|---|
| 1 Amp | $ 5.25 | 12 Amps | $14.75 |
| 2 Amps | 7.20 | 24 Amps | 36.75 |
| 4 Amps | 8.75 | 30 Amps | 45.00 |
| 8 Amps | 15.00 | 50 Amps | 59.75 |

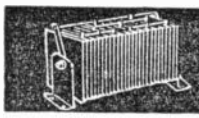
Primary taps at 100, 105, 110 and 115 volts now available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge. Custom built transformers — 48 hour service.

With two 28 V center-tapped windings — 56 volt 12 amps — $30.00




## HIGH CURRENT CHOKES

| | | | User's Net Price |
|---|---|---|---|
| 1 Amp | .1 hy | 1.5 ohm | $ 4.95 |
| 2 Amps | .04 hy | .9 ohm | 6.00 |
| 4 Amps | .07 hy | .6 ohm | 7.95 |
| 8 Amps | .03 hy | .3 ohm | 12.00 |
| 12 Amps | .01 hy | .1 ohm | 14.95 |
| 20 Amps | .004 hy | .05 ohm | 15.00 |
| 24 Amps | .004 hy | .025 ohm | 29.95 |
| 50 Amps | .001 hy | .001 ohm | 48.00 |
| 100 Amps | .0005 hy | .0005 ohm | 66.00 |



**Mfd. by SANFORD MILLER COMPANY**
**BROOKLYN 6, N. Y.**



Net

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World Radio History

# SILICON POWER RECTIFIERS

HY-A-SIL
High-Ampere-Silicon

## FEATURES

- High forward current (Low voltage drop)
- Low reverse current (Magnetic amplifier quality)
- High operating temperature, 190°C (Up to 120°C ambient)
- High operating voltage (Up to 600 p.i.v.)
- No noticeable aging (Long life)
- Hermetically sealed
- High efficiency (99% compared to about 75% for selenium)
- Excellent regulation (4% compared to about 15% for selenium)
- Small size (Easy to fan cool)

| Stock No. | Type | AC Input up to | DC Output up to | Max. Amps. Self Cooled | Max. Amps Fan Cooled | Size and Weight | User Net |
|---|---|---|---|---|---|---|---|
| SI-CT-A | Center-tap | 18-0-18v. | 16v. | 40 | 80 | B | $30.00 |
| SI-CT-B | Center-tap | 36-0-36v. | 32v. | 40 | 80 | B | 42.00 |
| SL-CT-B | Center-tap | 36-0-36v. | 32v. | 50 | 100 | C | 45.00 |
| SL-CT-D | Center-tap | 72-0-72v. | 64v. | 50 | 100 | C | 48.00 |
| SL-CT-F | Center-tap | 140-0-140v. | 125v. | 50 | 100 | C | 54.00 |
| SK-CT-A | Center-tap | 18-0-18v. | 16v. | 75 | 150 | C | 48.00 |
| SM-CT-B | Center-tap | 36-0-36v. | 32v. | 200 | 400 | C | 72.00 |
| SO-CT-B | Center-tap | 36-0-36v. | 32v. | 400 | 800 | C | 120.00 |
| SA-BR-D | 1φ Bridge | 140v. | 125v. | 1 | — | — | 9.00 |
| SC-BR-D | 1φ Bridge | 140v. | 125v. | 2 | — | — | 10.50 |
| SC-BR-F | 1φ Bridge | 280v. | 250v. | 2 | — | — | 14.00 |
| SD-BR-D | 1φ Bridge | 140v. | 125v. | 6 | — | — | 33.00 |
| SD-BR-F | 1φ Bridge | 280v. | 250v. | 6 | * | — | 42.00 |
| SE-BR-D | 1φ Bridge | 140v. | 125v. | 10 | — | — | 40.00 |
| SE-BR-F | 1φ Bridge | 280v. | 250v. | 10 | — | — | 48.00 |
| SI-BR-A | 1φ Bridge | 36v. | 32v. | 40 | 80 | D | 60.00 |
| SI-BR-B | 1φ Bridge | 72v. | 64v. | 40 | 80 | D | 84.00 |
| SI-BR-C | 1φ Bridge | 105v. | 95v. | 40 | 80 | D | 96.00 |
| SI-BR-D | 1φ Bridge | 140v. | 125v. | 40 | 80 | D | 110.00 |
| SL-BR-F | 1φ Bridge | 280v. | 250v. | 50 | 100 | D | 140.00 |
| SK-BR-A | 1φ Bridge | 36v. | 32v. | 75 | 150 | D | 120.00 |
| SK-BR-B | 1φ Bridge | 72v. | 64v. | 75 | 150 | D | 144.00 |
| SK-BR-C | 1φ Bridge | 105v. | 95v. | 75 | 150 | D | 165.00 |
| SK-BR-D | 1φ Bridge | 140v. | 125v. | 75 | 150 | D | 210.00 |
| SK-BR-F | 1φ Bridge | 210v. | 190v. | 75 | 150 | D | 270.00 |
| SJ-BR-A | 1φ Bridge | 36v. | 32v. | 130 | 300 | E | 180.00 |
| SJ-BR-B | 1φ Bridge | 72v. | 64v. | 130 | 300 | E | 250.00 |
| SJ-BR-C | 1φ Bridge | 105v. | 95v. | 130 | 300 | E | 300.00 |
| SJ-BR-D | 1φ Bridge | 140v. | 125v. | 130 | 300 | E | 360.00 |
| SM-BR-B | 1φ Bridge | 72v. | 64v. | 200 | 400 | E | 180.00 |
| SM-BR-F | 1φ Bridge | 280v. | 250v. | 200 | 400 | E | 360.00 |
| SO-BR-B | 1φ Bridge | 72v. | 64v. | 400 | 800 | E | 270.00 |
| SO-BR-F | 1φ Bridge | 280v. | 250v. | 400 | 800 | E | 570.00 |
| SI-PH-A | 3φ Bridge | 36v. | 48v. | 60 | 120 | F | 90.00 |
| SI-PH-B | 3φ Bridge | 72v. | 96v. | 60 | 120 | F | 125.00 |
| SI-PH-C | 3φ Bridge | 105v. | 144v. | 60 | 120 | F | 144.00 |
| SI-PH-D | 3φ Bridge | 140v. | 188v. | 60 | 120 | F | 165.00 |

All above ratings based on 30°C ambient. Fan-cooled ratings based on air velocity of 1000 linear ft/minute.

For resistive or inductive loads, as rated. For capacitive or battery loads, derate amperage 20%.

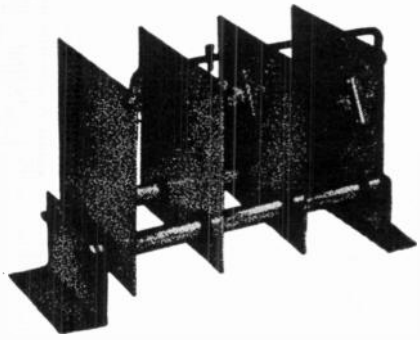
Doublers, triplers, 3 phase half wave and 3 phase center-tap also available.

Custom-built stacks, 24 hour service.

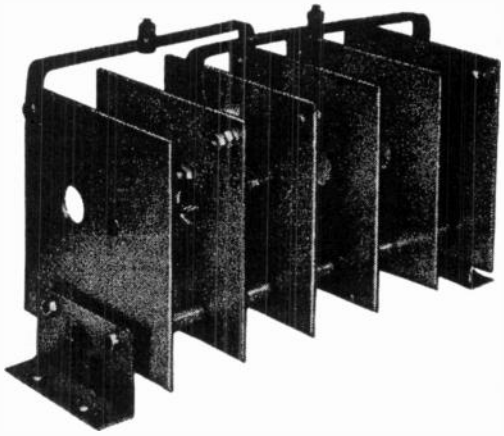
**DIMENSIONS WITH BRACKETS**

| Size | Length | Height | Width | Weight |
|---|---|---|---|---|
| A | 2″ | 6″ | 5″ | 4 oz. |
| B | 3″ | 6″ | 5″ | 12 oz. |
| C | 3″ | 6″ | 5″ | 16 oz. |
| D | 6″ | 6″ | 5″ | 1¼ lbs. |
| E | 8″ | 6″ | 5″ | 3 lbs. |
| F | 9″ | 7″ | 5″ | 2¼ lbs. |

*Not suitable for fan cooling.



SL-BR-F



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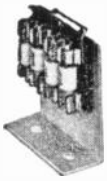

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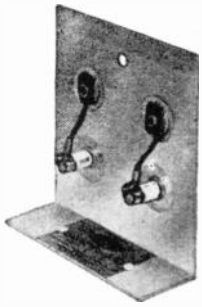

SC-BR-F

**Mfd. by SANFORD MILLER COMPANY**
**BROOKLYN 6, N. Y.**



World Radio History

# SILICON RECTIFIERS
## *by* AUDIO DEVICES, INC.

A SERIES

B3 SERIES

F SERIES

B5 SERIES

APPROX. ACTUAL SIZE

Audio Devices has available a complete line of Silicon Rectifiers having DC current ratings from .5 to 200 amperes with the peak inverse voltage ranging from 100 to 400 volts (500v in the "B" series). Audio's rectifiers in the A and F series have great versatility due to the threaded-end construction which allows them to be either plugged into a fuse-type holder or screwed down in a heat sink mounting for higher current ratings. The threading also makes it possible to couple the rectifiers together in series for high voltage applications. This universal line of silicon rectifiers are hermetically sealed and offer all-metal construction for greater efficiency, reliability and long life.

A or F UNITS COUPLED IN SERIES FOR HIGH VOLTAGE

(See Dim. Chart Below)

POWER SERIES
K - M - P - R - T - V - X

## HIGH CURRENT (POWER) TYPES

| Series | Model No. | Max. PIV | *DC Amps | Base Diam. | Height |
|---|---|---|---|---|---|
| K | 10K7 | 100 | 25 | 1⅝" | 3¼" |
| K | 20K7 | 200 | 25 | 1⅝" | 3¼" |
| K | 30K7 | 300 | 25 | 1⅝" | 3¼" |
| K | 40K7 | 400 | 25 | 1⅝" | 3¼" |
| M | 10M7 | 100 | 35 | 1⅝" | 3¼" |
| M | 20M7 | 200 | 35 | 1⅝" | 3¼" |
| M | 30M7 | 300 | 35 | 1⅝" | 3¼" |
| M | 40M7 | 400 | 35 | 1⅝" | 3¼" |
| P | 10P7 | 100 | 50 | 2¼" | 3⅝" |
| P | 20P7 | 200 | 50 | 2¼" | 3⅝" |
| P | 30P7 | 300 | 50 | 2¼" | 3⅝" |
| P | 40P7 | 400 | 50 | 2¼" | 3⅝" |
| R | 10R7 | 100 | 75 | 2¼" | 3⅝" |
| R | 20R7 | 200 | 75 | 2¼" | 3⅝" |
| R | 30R7 | 300 | 75 | 2¼" | 3⅝" |
| R | 40R7 | 400 | 75 | 2¼" | 3⅝" |
| T | 10T7 | 100 | 100 | 2¾" | 5¼" |
| T | 20T7 | 200 | 100 | 2¾" | 5¼" |
| T | 30T7 | 300 | 100 | 2¾" | 5¼" |
| T | 40T7 | 400 | 100 | 2¾" | 5¼" |
| V | 10V7 | 100 | 150 | 2¾" | 5¼" |
| V | 20V7 | 200 | 150 | 2¾" | 5¼" |
| V | 30V7 | 300 | 150 | 2¾" | 5¼" |
| V | 40V7 | 400 | 150 | 2¾" | 5¼" |
| X | 10X7 | 100 | 200 | 2¾" | 5¼" |
| X | 20X7 | 200 | 200 | 2¾" | 5¼" |
| X | 30X7 | 300 | 200 | 2¾" | 5¼" |
| X | 40X7 | 400 | 200 | 2¾" | 5¼" |

## LOW CURRENT TYPES

| Series | Model No. | Max. PIV | DC Amps (Holder) | DC Amps (*Heat Sink) |
|---|---|---|---|---|
| A | 10A1 | 100 | .5 | .75 |
| A | 20A1 | 200 | .5 | .75 |
| A | 30A1 | 300 | .5 | .75 |
| A | A750 | 400 | .5 | .75 |
| B3 | 10B3 | 100 | .... | .75 |
| B3 | 20B3 | 200 | .... | .75 |
| B3 | 30B3 | 300 | .... | .75 |
| B3 | 40B3 | 400 | .... | .75 |
| B3 | 50B3 | 500 | .... | .75 |
| B5 | 10B5 | 100 | .5 | .... |
| B5 | 20B5 | 200 | .5 | .... |
| B5 | 30B5 | 300 | .5 | .... |
| B5 | 40B5 | 400 | .5 | .... |
| B5 | 50B5 | 500 | .5 | .... |
| (B5 requires no heat sink or holder — pigtail leads) | | | | |
| F | 10F1 | 100 | 1.5 | 5 |
| F | 20F1 | 200 | 1.5 | 5 |
| F | 30F1 | 300 | 1.5 | 5 |
| F | 40F1 | 400 | 1.5 | 5 |

## RADIO and TV KITS

Audio's "A" series are packaged with holders, leads, etc. as repair or replacement of existing Selenium rectifiers in Radio and TV. Replacement with silicon assures higher voltage output with resulting greatly improved performance, brighter picture, and longer life.

| | Cat. No. | Model No. | PIV | DC Ma. | DC Volts |
|---|---|---|---|---|---|
| Radio | A11 | A200 | 360 | 200 | 130 |
| TV | A12 | A750 | 400 | 500 | 275 |

**F W POWER BRIDGE — Boxed (With Holder)**

| Cat. No. | Model No. | Max. PIV | DC Amps (Holder) | DC Amps (*Heat Sink) | DC Volts Output |
|---|---|---|---|---|---|
| A13 | 10A13 | 100 | 1.0 | 1.5 | 6-60 |
| A14 | 20A13 | 200 | 1.0 | 1.5 | 60-125 |
| A15 | 30A13 | 300 | 1.0 | 1.5 | 125-185 |
| A16 | 40A13 | 400 | 1.0 | 1.5 | 185-250 |
| A17 | 10F13 | 100 | 3.0 | 10 | 6-60 |
| A18 | 20F13 | 200 | 3.0 | 10 | 60-125 |
| A19 | 30F13 | 300 | 3.0 | 10 | 125-185 |
| A20 | 40F13 | 400 | 3.0 | 10 | 185-250 |

*Based on use of adequate heat sink or cooling.
Ratings at 190°C. junction and/or 100°C. Case Temperature.

## RECTIFIER ACCESSORIES AVAILABLE

*Single Holders • Grid Caps • Double Holders*
*Series Couplings • Power Bridge Holders*
*Series Cooling Fins • Wire Leads • Rectifier Handbook*

Canadian Representative • Alex L. Clark, Ltd.
3745 Bloor St. West, Toronto
International Representative • Rocke International Corp.
13 East 40th St., New York 16, N.Y.

AUDIO DEVICES, INC.
SANTA ANA • CALIFORNIA

RECTIFIER DIVISION



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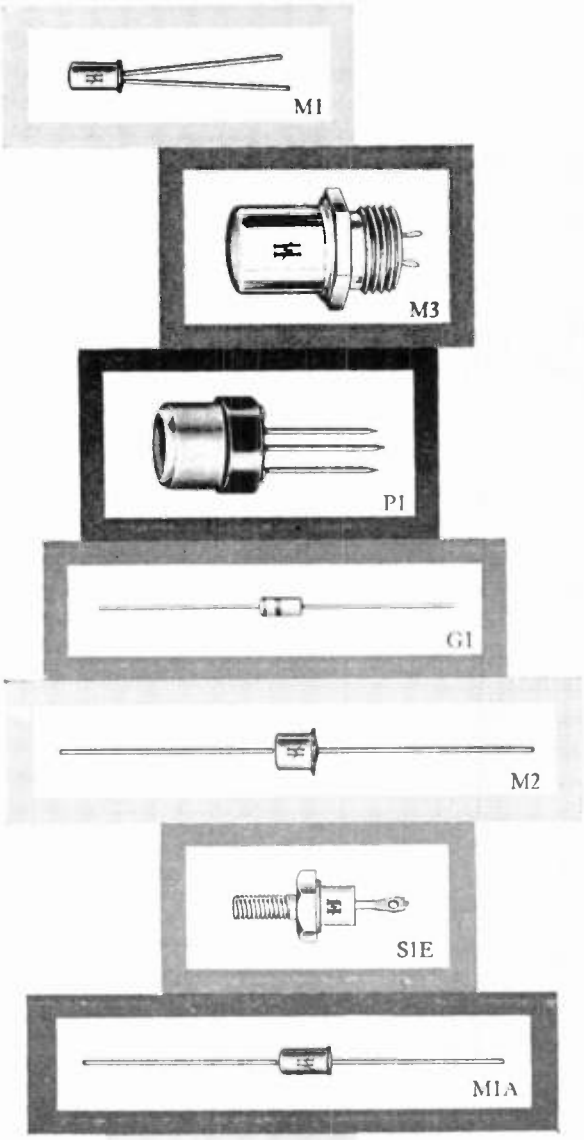
World Radio History

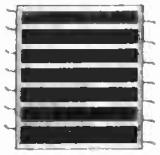
# Hoffman

*Leader in Diffused Junction Silicon Semiconductors offers the greatest selection of silicon* **diodes, rectifiers, regulators, solar cells.**




| | *Available in Case Types* |
|---|---|
| **General Purpose Silicon Junction Diodes**<br>*26 types — PIV Range — 6.8V thru 470V* | M1 |
| **Double Anode Silicon Junction Diodes**<br>*14 types — Zener Voltage Range: 3.0V thru 45V* | M1 |
| **Zener Reference Devices**<br>*OPERATING ZENER VOLTAGE*<br>*1N429 — 6.2V ±5%*<br>*1N430, 1N430A, 1N430B, 1N1530, 1N1530A — 8.4V ±5%* | M1<br>M3<br>P1 |
| **Silicon Junction "Glass" Diodes**<br>*General Purpose — 8 types*<br>*PIV Range — 25V thru 175V* | G1 |
| *Fast Recovery — 5 types*<br>*Zener Voltage Range: 30V thru 200V* | G1 |
| *Zener — 6 types*<br>*Zener Voltage Range: 2.0V thru 8.0V* | G1 |
| **Medium Power "Top Hat" Rectifiers**<br>*Axial Types — 6 types*<br>*PIV Range — 50V thru 500V* | M2 |
| *Stud Mounted Types — 8 types*<br>*PIV Range — 95V thru 570V* | S1E |
| **Medium Power Diffused Junction Rectifiers**<br>*12 types — PIV Range — 50V thru 1000V* | M1A |
| **Zener Diodes**<br>*21 types — Zener Voltage Range: 2.0V thru 145V* | M1 |
| **Silicon Junction Zener Power Regulators**<br>*44 types — Zener Voltage Range: 3.0V thru 200V* | S1E |
| **HB Silicon Junction Diodes**<br>*6 types — PIV Range — 6.8V thru 270V* | M1 |

**Silicon Solar Cell Assemblies**
*Ranging in size and power from 0.1 square centimeter (1mW) to square yards (K watts)*


HPC Assemblies

*For detailed electrical characteristics, refer to Hoffman HSD-458 Brochure*

**Hoffman Electronics** CORPORATION
SEMICONDUCTOR DIVISION
EVANSTON, ILLINOIS

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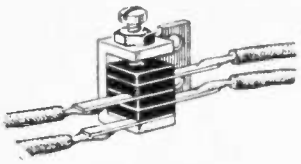
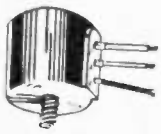
World Radio History

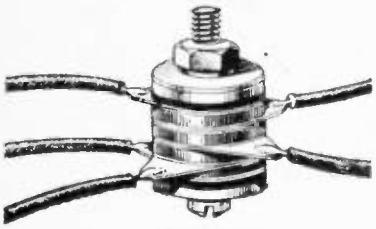
# SCHAUER INSTRUMENT RECTIFIERS



TYPE A4A



TYPE BP2B



TYPE C4A

Schauer copper oxide rectifiers for instrument and other uses are processed and individually tested to meet the requirements of the user. Versatile processing techniques make possible variations in characteristics for special or unusual applications. Each rectifier is rated conservatively for long life and dependable operation.

Size "B" Rectifiers are encapsulated—fully sealed in special formula polyester plastic in attractive red color. Cells are specially processed with vacuum evaporated gold contact areas to give maximum efficiency, stable operation and low aging characteristics. All rectifiers are supplied with 3" leads, color-coded. (Red, positive; black, negative; yellow, A.C.) Plastic encapsulated rectifiers have lead insulation imbedded in the plastic for better sealing, eliminating short circuits at the rectifier. Lead lengths of other than 3" can be supplied on special order.

"A" SIZE CELLS have good frequency response above the audio range and can be used at higher frequencies. Recommended for meter applications needing 1MA or less for operation. Can be used for other applications requiring up to 5 MA.

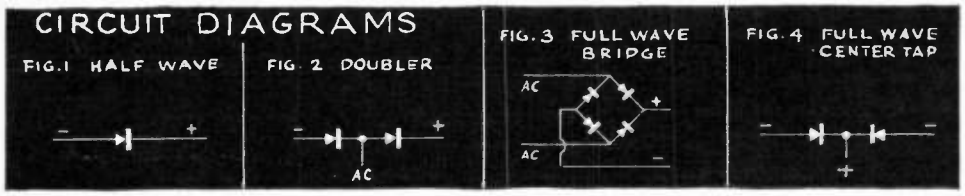
"B" SIZE CELLS are for meter, relay and other applications requiring 1MA up to their maximum rating. Recommended for commercial and low audio frequency operation.

"C" SIZE CELLS—are for general applications requiring larger output currents and operation of meters, relays and other apparatus. Special process cells for varistor applications.

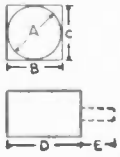
Write, wire or telephone for complete information. We welcome your inquiries concerning any special rectification problem.

**NOTE: The Schauer Mfg. Corp. is the exclusive manufacturer of replacement Westinghouse copper oxide rectifiers.**

| Max. Cont. Rating | | | Circuit Diagram Fig. | Cell Dia. Inches | No. of Cells | Leads | Mounting Screw Size | DIMENSIONS* | | | | | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D.C. M.A. | D.C. Volts | Max. RMS Volts | | | | | | (Dia.) A | B | C | D | E | |
| 3 | 6.0 | | 2 | 9/16 sq. | 2 | 3 | Hole for 2–56 | | 5/8 | 1/4 | 9/16 | | A2C |
| 5 | 3.0 | 5.0 | 3 | 9/16 sq. | 4 | 4 | Hole for 2–56 | | 5/8 | 1/4 | 9/16 | | A4A |
| 13 | 3.0 | | 1 | 7/16 | 1 | 2 | 6–32 | 9/16 | | | 7/16 | 9/32 | BP1C |
| 13 | 6.0 | | 2 | 7/16 | 2 | 3 | 6–32 | 9/16 | | | 1/2 | 5/16 | BP2B |
| 26 | 1.5 | 2.5 | 4 | 7/16 | 2 | 3 | 6–32 | 9/16 | | | 1/2 | 5/16 | BP2C |
| 26 | 3.0 | 5.0 | 3 | 7/16 | 4 | 5 | 6–32 | 9/16 | | | 23/32 | 5/16 | BP4A |
| 32 | 3.0 | | 1 | 3/4 | 1 | 0 | 10–32 | 3/4 | | | 11/16 | 5/16 | C1C |
| 32 | 6.0 | | 2 | 3/4 | 2 | 0 | 10–32 | 3/4 | | | 3/4 | 5/16 | C2C |
| 32 | 9.0 | | 1 | 3/4 | 3 | 0 | 10–32 | 3/4 | | | 5/8 | 1/4 | C3C |
| 64 | 3.0 | 5.0 | 3 | 3/4 | 4 | 5 | 10–32 | 3/4 | | | 31/32 | 5/16 | C4A |




*Dimensions




**SCHAUER MANUFACTURING CORP. • Cincinnati 42, Ohio**

***Manufacturers of high-quality, dry-disc rectifiers since 1930.***



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World Radio History

# TODAY'S OUTSTANDING D. C. POWER SUPPLIES...

## in performance! in reliability! in dollar-for-dollar value!

### SCHAUER BATTERY ELIMINATORS FOR SERVICING BOTH 6 and 12 VOLT AUTO RADIOS

Again Schauer leads the field! Here are streamlined, new Battery Eliminators specifically engineered to meet the growing needs of auto radio service men. In one compact unit, quality-built D.C. Power Supplies which more than meet manufacturers' specifications for the operation and servicing of any 6- or 12-volt auto radio equipped with signal-seeking, push-button or manual tuners.

**SCHAUER MODEL AR 5612** — Output adjustable by means of a rugged, silver contact tap switch. Toggle switch changes unit from 6-volt to 12-volt operation. Low range output: 7½ volts at 12 amps., continuous; 20 amps., intermittent. High range: 15 volts at 6 amps., continuous; 11 amps., intermittent. Components include Selenium rectifiers, transformer, condenser-type filters, accurate 0-20 V. and 0-20 A. meters, heavy wing-nut binding posts and carrying handle. Housed in sturdy steel case 7½" wide x 9½" deep x 9" high.

**SCHAUER MODEL AR 4612** — Non-adjustable 6-volt and 12-volt Battery Eliminator. Built to same high-quality standards as Model AR 5612, above. Equipped with high-low switch to change from nominal 6-volt to nominal 12-volt operation.

Own SCHAUER Battery Eliminators — they're the choice of leading service men. Specifications and illustrations of these units are found in Bulletin No. 1469. Write for your free copy.

MODEL AR 5612

MODEL AR 4612

MODEL SA-48006

### SCHAUER MODEL SA-48006 ADJUSTABLE 6-VOLT AND 12-VOLT BATTERY ELIMINATOR FOR AM AND FM 2-WAY AND MARINE RADIOS

A.C. Input: 115 volts, 60 cycle, single phase. D.C. Output: Unit delivers either 6 volts D.C. up to a maximum of 48 amperes; or 12 volts D.C. up to a maximum of 24 amperes. To maintain required voltage output under various load conditions, a ruggedly built, dial-type tap switch provides adjustment from less than 1 ampere up to the maximum rated output. A conveniently located switch is provided for changing to the voltage desired.

Equipment: Rectification is obtained through the use of Selenium dry plate rectifiers; ample filtering of the output is provided by an efficient choke and condenser combination; heavy-duty output terminals with wing nuts for connecting D.C. leads; precision D.C. voltmeter; cartridge type fuse; 6 feet of A.C. cord and plug. Case is 10" wide x 9½" deep x 15" high, finished in durable grey wrinkle, arranged for either bench or wall mounting.

### SCHAUER BATTERY CHARGERS

A complete line of battery chargers for safe recharging of storage batteries. Available in models for charging 6-volt batteries, for 12-volt batteries, and other models for charging both 6-volt and 12-volt batteries. Four to 20 ampere capacities. Equipped with exclusive Schauer *"Charger Guard"*—an automatic corrector which acts instantly in case of an overload or short circuit. No manual resetting of the circuit breaker, and fuses are eliminated. Approved by Underwriters' Laboratories, Inc. Write for new Bulletin No. 2485.

RECTIFIER DIVISION

## SCHAUER MANUFACTURING CORP.

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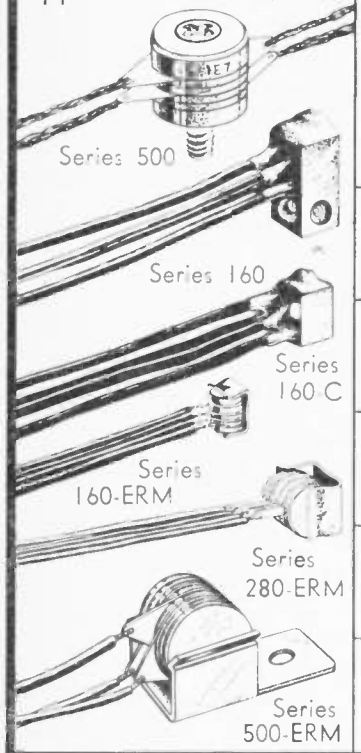
World Radio History

# CONANT — Miniature Metallic Rectifiers

**STANDARD SINCE 1933**

Illustrations approx. actual size




## CONANT MINIATURE METALLIC RECTIFIERS

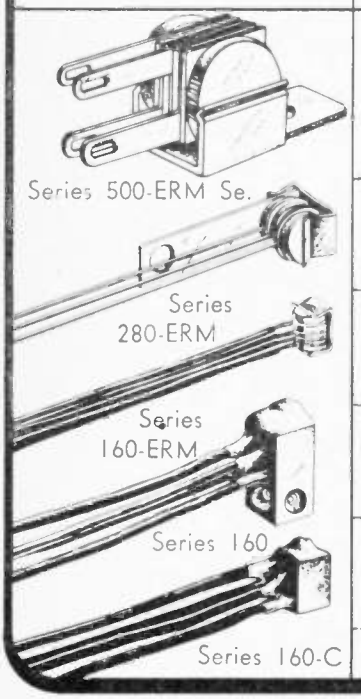
All Conant rectifiers are manufactured to the highest quality standards from individually tested and graded cells. Copper oxide cells are produced by the exclusive Conant Process and have 24K gold contacts applied in high vacuum.

The Conant Complete Color Code permits identification of rectifier type by color and physical form.

Only basic standard rectifier types are listed below. Many other standard catalog items are available and we are prepared to produce special items to meet customers' special requirements.

### COPPER OXIDE TYPES WITH INSULATED LEAD WIRES

| TYPE | CIRCUIT | CELL SIZE | ACTIVE AREA | INPUT | OUTPUT | MOUNTING | FINISH | PRICE |
|---|---|---|---|---|---|---|---|---|
| M | 1 | .500" | .125 sq. in. | 5V | 100 ma. | 6-32 stud | Lacquer | $2.10 |
| TH | Series 2 | " | " " | " | 75 ma. | " " | " | 1.86 |
| HS | 500 3 | " | " " | " | 50 ma. | " " | " | 1.53 |
| T | 4 | " | " " | " | 100 ma. | " " | " | 1.53 |
| H | 5 | " | " " | " | 50 ma. | " " | " | 1.20 |
| B | 1 | .166" | .012 sq. in. | " | 10 ma. | #2 screw | Solid fill | 2.10 |
| BTH | Series 2 | " | " " | " | 7 ma. | " " | " | 1.86 |
| BHS | 160 3 | " | " " | " | 5 ma. | " " | " | 1.53 |
| BT | 4 | " | " " | " | 10 ma. | " " | " | 1.53 |
| BH | 5 | " | " " | " | 5 ma. | " " | " | 1.20 |
| B-C | 1 | " | " " | " | 10 ma. | Fuse clip | " | 2.10 |
| BTH-C | Series 2 | " | " " | " | 7 ma. | " " | " | 1.86 |
| BHS-C | 160-C 3 | " | " " | " | 5 ma. | " " | " | 1.53 |
| BT-C | 4 | " | " " | " | 10 ma. | " " | " | 1.53 |
| BH-C | 5 | " | " " | " | 5 ma. | " " | " | 1.20 |
| B-ERM* | 1 | " | " " | " | 10 ma. | Leads | Lacquer | 1.59 |
| BTH-ERM* | Series 2 | " | " " | " | 7 ma. | " " | " | 1.35 |
| BHS-ERM* | 160- 3 | " | " " | " | 5 ma. | " " | " | 1.05 |
| BT-ERM* | ERM 4 | " | " " | " | 10 ma. | " " | " | 1.05 |
| BH-ERM* | 5 | " | " " | " | 5 ma. | " " | " | .75 |
| I-ERM* | 1 | .280" | .035 sq. in. | " | 30 ma. | " " | " | 1.59 |
| ITH-ERM* | Series 2 | " | " " | " | 20 ma. | " " | " | 1.35 |
| IHS-ERM* | 280 3 | " | " " | " | 15 ma. | " " | " | 1.05 |
| IT-ERM* | ERM 4 | " | " " | " | 30 ma. | " " | " | 1.05 |
| IH-ERM* | 5 | " | " " | " | 15 ma. | " " | " | .75 |
| M-ERM* | 1 | .500" | .123 sq. in. | " | 100 ma. | #6 screw | " | 1.59 |
| TH-ERM* | Series 2 | " | " " | " | 75 ma. | " " | " | 1.35 |
| HS-ERM* | 500 3 | " | " " | " | 50 ma. | " " | " | 1.05 |
| T-ERM* | ERM 4 | " | " " | " | 100 ma. | " " | " | 1.05 |
| H-ERM* | 5 | " | " " | " | 50 ma. | " " | " | .75 |

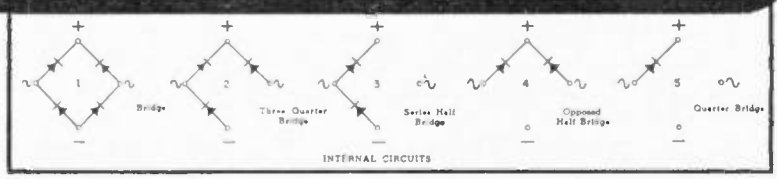



### SELENIUM TYPES, wire leads or lugs as shown

| TYPE | CIRCUIT | CELL SIZE | ACTIVE AREA | INPUT | OUTPUT | MOUNTING | FINISH | PRICE |
|---|---|---|---|---|---|---|---|---|
| SeM-ERM* | Series 1 | .500" | .15 sq. in. | 25V | 60 ma. | #6 screw | Lacquer | $1.23 |
| SeTH-ERM* | 500 2 | " | " " | " | 40 ma. | " " | " | 1.08 |
| SeHS-ERM* | ERM 3 | " | " " | " | 30 ma. | " " | " | .87 |
| SeT-ERM* | Se. 4 | " | " " | " | 60 ma. | " " | " | .87 |
| SeH-ERM* | 5 | " | " " | " | 30 ma. | " " | " | .66 |
| SeI* | 1 | .280" | .06 sq. in. | " | 20 ma. | Bracketerminal | " | .66 |
| SeITH* | Series 2 | " | " " | " | 15 ma. | " " | " | .60 |
| SeIHS* | 280 3 | " | " " | " | 10 ma. | " " | " | .51 |
| SeIT* | ERM 4 | " | " " | " | 20 ma. | " " | " | .51 |
| SeIH* | 5 | " | " " | " | 10 ma. | " " | " | .42 |
| SeB-ERM* | 1 | .166" | .02 sq. in. | " | 10 ma. | Leads | " | .87 |
| SeBTH-ERM* | Series 2 | " | " " | " | 7 ma. | " " | " | .81 |
| SeBHS-ERM* | 160 3 | " | " " | " | 5 ma. | " " | " | .69 |
| SeBT-ERM* | ERM 4 | " | " " | " | 10 ma. | " " | " | .69 |
| SeBH-ERM* | 5 | " | " " | " | 5 ma. | " " | " | .57 |
| SeB | 1 | " | " " | " | 10 ma. | #2 screw | Solid fill | 2.10 |
| SeBTH | Series 2 | " | " " | " | 7 ma. | " " | " | 1.86 |
| SeBHS | 160 3 | " | " " | " | 5 ma. | " " | " | 1.53 |
| SeBT | 4 | " | " " | " | 10 ma. | " " | " | 1.53 |
| SeBH | 5 | " | " " | " | 5 ma. | " " | " | 1.20 |
| SeB-C | 1 | " | " " | " | 10 ma. | Fuse clip | " | 2.10 |
| SeBTH-C | Series 2 | " | " " | " | 7 ma. | " " | " | 1.86 |
| Se-BHS-C | 160-C 3 | " | " " | " | 5 ma. | " " | " | 1.53 |
| SeBT-C | 4 | " | " " | " | 10 ma. | " " | " | 1.53 |
| SeBH-C | 5 | " | " " | " | 5 ma. | " " | " | 1.20 |

*Resilient structure (U. S. Pat No. 2,656,493) maintains optimum stack pressure independent of temperature changes, as well as providing the lowest price and smallest size.

Cable Address
CONANT
Lincoln, Nebraska




**CONANT LABORATORIES, LINCOLN, NEBR.**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World Radio History

CHICAGO STANDARD TRANSFORMER CORPORATION

# STANCOR TRANSFORMERS

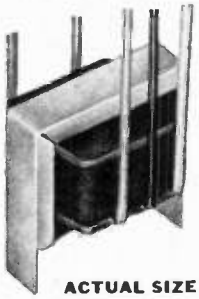
## AND RELATED COMPONENTS - INDEX on Pg. N-728

## TRANSITOR AUDIO TRANSFORMERS

| Part No. | Application | Imp. in Ohms Pri. | Imp. in Ohms Sec. | Max. Pri. DC Ma. | DC Res. in Ohms Pri. | DC Res. in Ohms Sec. | Power in Watts | Ht. | Base Area | Mtg. Ctrs. | Mtg. Type | Shpg. Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TA-1** | Input | 600 C.T. | 10 | 20 | 42 | .8 | .05 | 13/16 | 1 9/16 x 1 5/16 | 1 5/16 | A | 1 oz. | **$3.22** |
| **TA-2** | Interstage | 100 C.T. | 10 C.T. | 100 | 4.3 | .8 | .25 | 1 1/16 | 2 1/8 x 1 3/8 | 1 13/16 | A | 3 oz. | **3.22** |
| **TA-3** | Interstage | 100 | 1000 C.T. | 100 | 5.8 | 45 | .25 | 1 3/8 | 2 7/16 x 1 3/8 | 2 | A | 3 oz. | **3.22** |
| **TA-4** | Interstage | 500 C.T. | 5000 C.T. | 12 | 37 | 250 | .03 | 1 3/8 | 2 7/16 x 1 3/8 | 2 | A | 3 oz. | **4.22** |
| **TA-5** | Driver | 1000 | 200 C.T. | 10 | 400 | 115 | .05 | 5/8 | 1 1/4 x 1 1/2 | 1 1/16 | A | 2 oz. | **7.99** |
| **TA-6** | Driver | 2000 | 200 C.T. | 5 | 720 | 115 | .05 | 5/8 | 1 1/4 x 1 1/2 | 1 1/16 | A | 2 oz. | **9.05** |
| **TA-7** | Driver | 100 | 100 C.T. | 100 | 12 | 12 | .5 | 1 5/8 | 1 13/16 x 1 3/8 | 2 3/8 | A | 5 oz. | **3.22** |
| **TA-8** | Output | 9800 | 15 | 2 | 640 | 2 | .05 | 1 3/8 | 2 7/16 x 1 3/8 | 2 | A | 2 oz. | **7.22** |
| **TA-9** | Output | 1000 | 4/8/16 | 10 | 180 | 3.5 | .2 | 3/4 | 1 9/16 x 3/4 | 1 3/8 | A | 1 oz. | **8.27** |
| **TA-10** | Output | 2000 C.T. | 4/8/16 | — | 250 | 4 | .2 | 3/4 | 1 9/16 x 3/4 | 1 3/8 | A | 1 oz. | **9.05** |
| **TA-11** | Output | 48 C.T. | 8/16 | 275 | 5 | 1.5 | 5 | 2 | 3 9/16 x 1 3/4 | 2 7/8 | A | 1 lb. | **4.66** |
| **TA-12** | Output | 20 C.T. | 8 | 500 | .55 | .35 | 10 | 1 3/8 | 1 7/16 x 1 1/2 | 2 | A | 4 oz. | **3.22** |
| **TA-13** | Driver | 200 C.T. | 400 C.T. | 10 | — | — | .6 | 3 | 2 11/16 x 2 5/16 | 2 3/8 x 1 1/2 | TD | 1 1/2 lb. | **6.83** |
| **TA-14** | Output | 24 C.T. | 16/4 C.T.† | 200 | — | — | 10 | 4 1/4 | 4 3/8 x 3 3/16 | 3 7/8 x 2 3/4 | TD | 6 1/4 lb. | **15.98** |
| **TA-15** | Input | 50 to 100 | 10 | 50 | | | 5MW | 1 1/16 | 1 9/16 x 1 5/16 | 1 1/16 | A | 5 1/2 oz. | **2.50** |
| **TA-16** | Driver | 20 | 36 C.T. | 400 | | | 1W | 1 3/16 | 2 1/16 x 1 1/8 | 1 3/4 | A | 2 oz. | **2.75** |
| **TA-17** | Modulation | 8 C.T. | 7500/5000 at 120 Madc | — | | | 35 | 3 1/8 | 3x2 1/2 | 1 15/16 x 2 | C | 3 lbs. | **10.00** |

† 2 secondaries 16 ohm series, 4 ohms parallel.

## .150 WATT GROUP



ACTUAL SIZE

**Dimensions:**

H x W x D: 21/32" x 13/16" x 5/8"

Mounting Tabs Centers: 25/16"—3/16" W

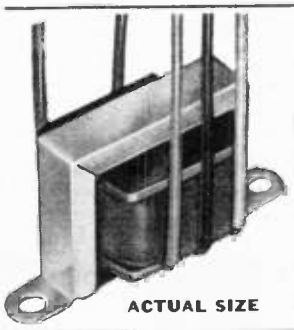
Weight.....65 oz.

**List Price.....$5.55**

| Part No. | Application | Turns Ratio Pri. to Sec. | Impedance in Ohms Pri. | Impedance in Ohms Sec. | D.C. Res. in Ohms Pri. | D.C. Res. in Ohms Sec. |
|---|---|---|---|---|---|---|
| **TA-18** | Input | 1.00:45.5 | 30 C.T. | 50,000 | 14.7 | 4060 |
| **TA-19** | Interstage | 3.08:1 | 100 C.T. | 10 C.T. | 19 | 1.27 |
| **TA-20** | Output | 5.22:1 | 350 C.T. | 4, 12 | 38 | 1.45 |
| **TA-21** | Output | 5.53:1 | 500 C.T. | 4, 8, 16 | 75.3 | 3.55 |
| **TA-22** | Interstage | 3.16:1 | 500 C.T. | 50 | 59.7 | 7.9 |
| **TA-23** | Output | 5.65:1 | 600 C.T. | 4, 8, 16 | 73.2 | 3.2 |
| **TA-24** | Interstage | 10.0:1 | 500 C.T. | 50,000 | 76.8 | 5135 |
| **TA-25** | Output | 6.75:1 | 825 C.T. | 4, 8, 16 | 74 | 2.7 |
| **TA-26** | Output | 9.80:1 | 1,250 | 4, 12 | 132.5 | 1.4 |
| **TA-27** | Interstage | 4.08:1 | 1,200 | 20,000 C.T. | 142 | 1860 |
| **TA-28** | Interstage | 1.65:1 | 1,500 | 500 C.T. | 104 | 46.5 |
| **TA-29** | Output | 11.8:1 | 2,500 | 4, 16 | 370 | 2.3 |
| **TA-30** | Interstage | 1.00:1.22 | 5,000 C.T. | 7,500 C.T. | 650 | 790 |
| **TA-31** | Interstage | 1.00:1.41 | 5,000 C.T. | 10,000 C.T. | 635 | 1100 |
| **TA-32** | Interstage | 1.00:4 | 5,000 C.T. | 80,000 C.T. | 573 | 5740 |
| **TA-33** | Output | 24.6:1 | 10,000 C.T. | 4, 8, 16 | 1174 | 2.6 |
| **TA-34** | Interstage | 14.0:1 | 10,000 | 200 C.T. | 1200 | 33.4 |
| **TA-35** | Interstage | 2.24:1 | 10,000 | 2,000 C.T. | 1200 | 257 |
| **TA-36** | Interstage | 1.83:1 | 10,000 | 3,000 C.T. | 1200 | 385 |
| **TA-37** | Output | 5.55:1 | 400 C.T. | 11 | 71.5 | 1.5 |
| **TA-38** | Interstage | 3.44:1 | 500 C.T. | 150 C.T. | 62 | 21.2 |

For other transistor transformers see:
Page N-743—Hermetically sealed units
Page N-745—Ultra-miniature units
—Transverter power supply transistor transformers

## .300 WATT GROUP



ACTUAL SIZE

**Dimensions:**

H x W x D: 13/16" x 1 5/8" x 3/4"

Mounting Centers: 1 3/8"

Weight.....1.2 oz.

**List Price $5.55**

| Part No. | Application | Turns Ratio Pri. to Sec. | Impedance in Ohms Pri. | Impedance in Ohms Sec. | D.C. Res. in Ohms Pri. | D.C. Res. in Ohms Sec. |
|---|---|---|---|---|---|---|
| **TA-39** | Output | 3.08:1 | 100 C.T. | 4, 8, 16 | 10.9 | 1.45 |
| **TA-40** | Output | 3.27:1 | 160 | 4, 8, 16 | 18.7 | 1.4 |
| **TA-41** | Output | 5.00:1 | 400 C.T. | 4, 8, 16 | 34 | 1.5 |
| **TA-42** | Output | 5.00:1 | 500 C.T. | 4, 8, 16 | 47 | .85 |
| **TA-43** | Output | 6.63:1 | 700 C.T. | 4, 8, 16 | 77 | 1.15 |
| **TA-44** | Output | 12.5:1 | 2,500 | 4, 8, 16 | 172 | 1.15 |
| **TA-45** | Output | 13.7:1 | 3,000 | 4, 8, 16 | 192 | 1.2 |
| **TA-46** | Interstage | 8.17:1 | 100,000 | 1,500 C.T. | 3250 | 143 |
| **TA-47** | Input | 1.00:14.1 | 1,000 C.T. | 200,000 C.T. | 123 | 1815 |

## TRANSISTOR POWER TRANSFORMERS—Primary 117 volts, 60 cycle operation

| Part No. | Plate Supply No. 1 AC Volts | Plate Supply No. 1 DC Ma | Plate Supply No. 2 AC Volts | Plate Supply No. 2 DC Ma | Height | Base Area | Mtg. Type | Shpg. Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| ***TP-1** | 13 or 18 | 900 | 13 or 18 | 900 | 3" | 3x2 1/2 | C | 2 3/4 | **$8.27** |

* For bridge rectifier systems.

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World Radio History

# HI-FI & TV TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

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## TELEVISION COMPONENTS

Almost 300 TV replacement transformers and related components, the most complete line in the industry, are available from Chicago Standard. These include over 140 exact replacement flybacks and almost 60 power transformers, as well as yokes, vertical outputs, width and linearity coils and many other popular TV replacement units.

Ask your distributor for a free copy of the latest edition of the Stancor TV Transformer Catalog and Replacement Guide listing these units and replacement data on thousands of television sets.

## STANCOR ULTRA-LINEAR HIGH-FIDELITY AMPLIFIER

Now you can build an Ultra-Linear version of the famous Stancor-Williamson high fidelity amplifier, using Stancor Ultra-Linear Output Transformer A-8072. For complete construction details see Stancor Bulletin 479.

The original Stancor-Williamson amplifier can be converted to Ultra-Linear operation by a few simple circuit changes and the installation of the A-8072. Conversion instructions are included in Bulletin 479.

Stancor supplies a set of two completely punched and finished chassis for the Ultra-Linear Amplifier; Chassis Set WM-8. $5.75 net. In addition to Ultra-Linear Output Transformer A-8072, $15.00 net, this amplifier uses power transformer PC8412, $8.58 net and filter choke C-1411, $4.29 net. The other components used cost about $25.00. They are all stock parts and can be readily obtained from your Stancor distributor.

Write for your FREE copy of Bulletin 479.

## HIGH FIDELITY OUTPUT TRANSFORMERS

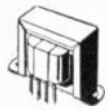
**Better than ±1 db from 20 to 20,000 cps.**

These Stancor output transformers combine the most advanced design and manufacturing practices to provide outstanding audio response at low cost. Maximum power level is conservatively rated at 50 watts. They are designed to match the most popular types of output tubes to speaker or line impedances.

Extensively interleaved "trifilar" windings, extremely tight coupling and careful electrical balance result in audio fidelity to please the most critical specialist. Inasmuch as elaborate shielding is not required at the audio output level, an inexpensive, but thoroughly practical, Type C mounting is used. Shipping weight is 6.5 lbs.

| Part No. | Pri. Imp. (P-P) in Ohms | Sec. Imp.* in Ohms | Max. Pri. D.C. Per Side | Audio Watts | Height Overall | Base Area | List Price |
|---|---|---|---|---|---|---|---|
| A-8050 | 1500 | 8, 16 | 200 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | $22.70 |
| A-8051 | 2500 | 8, 16 | 150 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8052 | 3000 | 8, 16 | 175 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8053 | 5000 | 8, 16 | 150 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8054 | 9000 | 8, 16 | 100 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8056 | 6600 | 8, 16 | 125 | 50 | 4 5/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8060 | 1500 | 500 | 200 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8061 | 2500 | 500 | 150 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8062 | 3000 | 500 | 175 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8063 | 5000 | 500 | 150 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8064 | 9000 | 500 | 100 | 50 | 4 1/16" | 3 9/16" x 4 1/4" | 22.70 |
| A-8072† | 7600 | 4, 8, 16 | 100 | 25 | 4 5/16" | 3 9/16" x 4 9/16" | 27.75 |
| A-8066 | 6600 | 500 | 125 | 50 | 4 5/16" | 3 9/16" x 4 1/4" | 22.70 |

*Where more than one secondary impedance is shown, only one value is to be used at any time.
†Primary provided with seven taps for Ultra-Linear application.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World Radio History

# DRIVER TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

## SINGLE PLATE TO PUSH-PULL GRIDS

| Part No. | Pri. Impedance in Ohms | Pri./½ Sec. Ratio | Core | Max. Pri. D.C. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A-4713 | 10,000 | 2:1 | ⅝" x ⅝" | 30 ma. | A | 1⅝" | 2⅞" x 1⅛" | 0.7 | $3.33 |
| A-4752 | 10,000 | 2/1.5/1:1 | ¾" x ¾" | 40 ma. | A | 2" | 3¼" x 1¾" | 1.2 | 4.88 |
| A-4722 | 10,000 | 2:1 | ¾" x 1" | 30 ma. | TD | 2 11/16" | 2¾" x 2 1/16" | 1.7 | 7.22 |
| A-4292 | 10,000 | 2.5:1 | ⅝" x ⅝" | 20 ma. | A | 1⅝" | 2⅞" x 1½" | 0.7 | 3.50 |
| A-4723 | 10,000 | 3:1 | ⅝" x ⅝" | 30 ma. | A | 1⅝" | 2⅞" x 1½" | 0.7 | 3.33 |
| A-4210 | 1,500 to 5,000 | 3:1 | 1" x 1" | 40 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.4 | 8.27 |
| A-4702 | 1,500 to 5,000 | 5:1 | 1" x 1" | 80 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.5 | 8.16 |

## PUSH-PULL PLATES TO PUSH-PULL GRIDS

| Part No. | Pri. Imp. (P.P.) in Ohms | Pri./½ Sec. Ratio | Core | Max. Pri. D.C. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A-4208# | 20,000 to 30,000 | 2.8:1 | 1" x 1" | 15 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.5 | $ 9.27 |
| A-4701# | 20,000 | 3:1 | 1" x 1" | 25 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.4 | 10.66 |
| A-4212 | 1,500 to 5,000 | 3.2:1 | 1" x 1" | 50 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.5 | 8.66 |
| A-4703# | 3,000 to 10,000 | 5:1 | 1⅛" x 1⅛" | 95 ma. | C | 3⅜" | 3" x 3⅛" | 3.7 | 10.55 |

## POLY-PEDANCE DRIVER MULTI-TAPPED UNITS FOR USE IN CIRCUITS WHERE THE OPTIMUM RATIO CANNOT BE PREDETERMINED.

Driver circuit changes often require new transformers. Many times it is impossible to match correctly tubes involved with a specific transformer, with high distortion resulting. *Poly-Pedance* units solve that problem; three transformers with the maximum number of usable ratios will match the driver tubes to any Class B modulator grid circuit without exceeding the power capabilities of the driver tubes.

| Part No. | Application and Ratio Pri./½ Sec. | Max. D.C. | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-4761 | Driver to Class "B" Grids 1.25:1/ 1.4:1/ 1.6:1/ 1.8:1/ 2:1/ 2.2:1/ 2.4:1 | Pri—150 ma. Sec—100 ma. | 15 | CD | 3 3/16" | 2⅝" x 3⅝" | 3.4 | $18.48 |
| A-4762 | Driver to Class "B" Grids 2.6:1/ 3:1/ 3.2:1/ 3.4:1/ 4:1/ 4.5:1/ 5:1 | Pri—150 ma. Sec—180 ma. | 15 | CD | 3 3/16" | 2⅝" x 3⅛" | 2.7 | 17.43 |
| A-4763 | Driver to Class "B" Grids 1.25:1/ 1.5:1/ 1.75:1/ 2:1/ 2.25:1/ 3.2:1 | Pri—225 ma. Sec—280 ma. | 30 | CD | 3⅝" | 3" x 4" | 4.3 | 21.59 |

## POLY-PEDANCE LINE DRIVER MULTI-TAPPED UNIT TO MATCH ALL COMMON LINE IMPEDANCES TO GRID CIRCUIT OF MODULATOR OR CLASS "B" AMPLIFIER.

Designed with pie wound coils to assure low leakage inductance, low resistance and low capacity, these two units will easily match all common line impedances to any modulator grid circuit. Individually boxed with complete instructions.

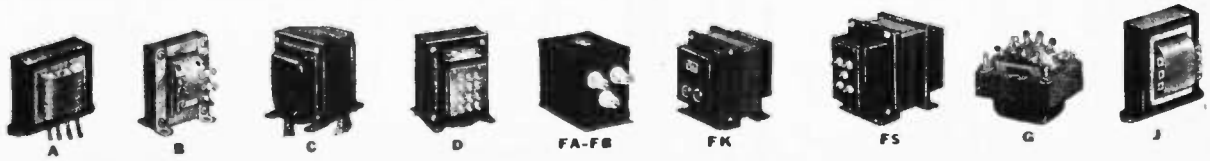
| Part No. | Application and Ratio Pri./ ½ Sec. | Max. D.C. | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-4765 | Line to Grid 1:0.75/ 1:0.85/ 1:1/ 1:1.25/ 1:1.45/ 1:1.75/ 1:2/ 1:2.25/ 1:2.5/ 1:2.75/ 1:3.15 | Pri—180 ma. Sec—100 ma. | 15 | CD | 3 3/16" | 2⅝" x 3⅝" | 3.2 | $19.15 |

## AUDIO CHOKES

Audio reactors are rated at 2 volts, 200 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

| Part No. | Rated Inductance | Max. D.C. | D.C. Res. in Ohms | Test Volts | Core | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| C-1003 | 16 hy at 50 ma. | 50 ma. | 580 | 1500 | ¾" x ¾" | A | 2" | 3¼" x 1¾" | 1.1 | $2.94 |
| C-2301 | 135 hy at 5 ma. | 10 ma. | 6500 | 1500 | ¾" x 1" | TD | 2 11/16" | 2¾" x 2 3/16" | 1.7 | 7.05 |

#These units have split secondaries for individual bias adjustment and/or use of inverse feedback.
‡To be removed from next catalog.

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World Radio History

# INPUT-INTERSTAGE

## CHICAGO STANDARD TRANSFORMER CORPORATION

### MICROPHONE OR LINE TO LINE

| Part No. | Impedance In Ohms | Mtg. | Height Overall | Base Area | Shpt. Wt. In Lbs. | List Price |
|---|---|---|---|---|---|---|
| A-4350‡ | Pri—500/333/200/125/50<br>Sec—500/333/200/125/50 | Q | 2" | 3¼" x 1¾" | 1.0 | $ 7.22 |
| A-4407‡† | Pri—500/333/200/125/50<br>Sec—500/333/200/125/50 | D | 3 1/16" | 2⅝" x 3¼" | 2.4 | 14.54 |

### MICROPHONE PICKUP OR LINE TO GRID

| Part No. | Application | Impedance in Ohms | Turns Ratio | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-4705 | S. B. Mic. to S. Grid | Pri—200/70<br>Sec—80,000 | 1:20 | A | 1⅜" | 2⅜" x 1⅜" | 0.4 | $3.55 |
| A-4706 | S. B. Mic. to S. Grid | Pri—100<br>Sec—60,000 | 1:24.5 | A | 1⅜" | 2⅜" x 1½" | 0.5 | 3.61 |
| A-4708 | D. B. Mic. to S. Grid | Pri—200 CT<br>Sec—57,000 | 1:17 | J | 2" | 2⅜" x 1⅝" | 0.7 | 4.88 |
| A-4742 | S. B. Mic. to P.P. Grids | Pri—100<br>Sec—400,000 CT | 1:64 | S | 2 9/16" | 2⅞" x 1¾" | 1.2 | 5.22 |
| A-4747 | S. B. Mic. or Low Imp. Line to S. Grid | Pri—10<br>Sec—1,300,000 | 1:137 | VE | 1 5/16" | 1 5/16" x 1¼" | 1½" 0.5 | 4.00 |
| A-4351‡ | Mic. or Line to S. Grid | Pri—500/333/200/125/50<br>Sec—89,000 | 1:13.3 | TD | 2 11/16" | 2¾" x 2 3/16" | 1.4 | 7.71 |
| A-4352‡ | Mic. or Line to S. Grid | Pri—500/333/200/125/50<br>Sec—89,000 | 1:13.3 | Q | 2" | 3¼" x 1¾" | 1.0 | 6.71 |
| A-4709 | Dynamic Mic. or Pickup to S. Grid | Pri—30/15/8/4<br>Sec—106,000 | 1:60 | TD | 2 11/16" | 2¾" x 2 3/16" | 1.7 | 8.66 |

### INTERCOMMUNICATOR AND TRANSCEIVER

| Part No. | Application | Impedance in Ohms | Max. Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-4744 | Intercom. input | Pri—4<br>Sec—25,000 | | VE | 1⅜" | 2⅜" x 1½" | 0.5 | $3.11 |
| A-4748 | Intercom. input | Pri—45 or 50<br>Sec—50,000 | | A | 1 5/16" | 2 3/16" x 1¼" | 1¾ 0.4 | 3.44 |
| A-4749 | Telephone Patch Circuit | Pri—10,000<br>Sec.—500 each (2 secs.) | | TD | 1 15/16" | 1 17/32" x 2¼" | 1.0 | 7.22 |
| A-8090 | Line to Voice Coil | Pri.—45-50<br>Sec.—3-4, 6-8 | 3 | QL | 1⅜" | 2⅜" x 1½" | 0.5 | 2.83 |
| A-8091 | Line to Voice Coil | Pri—45-50<br>Sec.—3-4, 6-8 | 8 | QL | 1⅝" | 2⅞" x 1⅝" | 0.7 | 3.11 |
| A-3833 | Transceiver Input Mic. and Plate to Grid | Pri—200 and 5,000<br>Sec—60,000 | 5 | A | 1⅝" | 2⅞" x 1½" | 0.7 | 4.77 |
| A-3836 | Transceiver Output. Plate to Low or High impedance phones | Pri—10,000<br>Sec—50 and 2,000 | 5 | A | 1⅝" | 2⅞" x 1½" | 0.7 | 4.66 |

### SINGLE PLATE TO SINGLE GRID—FOR 7,000-20,000 OHM PLATE IMPEDANCES

| Part No. | Turns Ratio | Core | Max. Pri. D.C. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-53 | 1:3 | ½" x ½" | 10 ma. | A | 1⅜" | 2⅜" x 1½" | 0.5 | $2.94 |

### SINGLE PLATE TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-52-C | 1:2 | ½" x ½" | 10 ma. | A | 1⅜" | 2⅜" x 1⅜" | 0.4 | $3.05 |
| A-62-C | 1:2 | ⅝" x ⅝" | 10 ma. | A | 1⅝" | 2⅞" x 1½" | 0.7 | 3.44 |
| A-4745 | 1:2 | ¾" x 1" | 10 ma. | TD | 2 11/16" | 2¾" x 2 3/16" | 1.7 | 9.44 |
| | Recommended for use in super-regenerative circuits. Has a static shield between pri. and sec. windings. | | | | | | | |
| A-53-C | 1:3 | ½" x ½" | 10 ma. | A | 1⅜" | 2⅜" x 1⅜" | 0.5 | 3.00 |
| A-63-C | 1:3 | ⅝" x ⅝" | 10 ma. | A | 1⅝" | 2⅞" x 1½" | 0.7 | 3.39 |
| A-73-C | 1:3 | ¾" x ¾" | 10 ma. | A | 2" | 3¼" x 1¾" | 1.0 | 4.22 |
| A-4719 | 1:3 | ¾" x 1" | 10 ma. | TD | 2 11/16" | 2¾" x 2 3/16" | 1.7 | 8.27 |
| A-64-C | 1:4 | ⅝" x ⅝" | 10 ma. | A | 2" | 2⅜" x 1¾" | 0.7 | 4.05 |

### MULTI-PURPOSE INTERSTAGE—SPLIT SECONDARIES

May be used as a single plate to single grid, single plate to push-pull grid, or push-pull plate to push-pull grid interstate transformers. Overall ratios are 3:1, however, primaries are center-tapped and secondaries have split windings, thus providing ratios of 1:1, 3:1 and 6:1 in either step-up or step-down applications. § Has split secondary.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-4774 | 1:3 | ¾" x ¾" | 10 ma. | S | 2 9/16" | 2⅞" x 1¾" | 1.2 | $5.11 |
| A-4773 | 1:3 | ¾" x 1" | 10 ma. | TD | 2 11/16" | 2¾" x 2 3/16" | 1.7 | 8.66 |

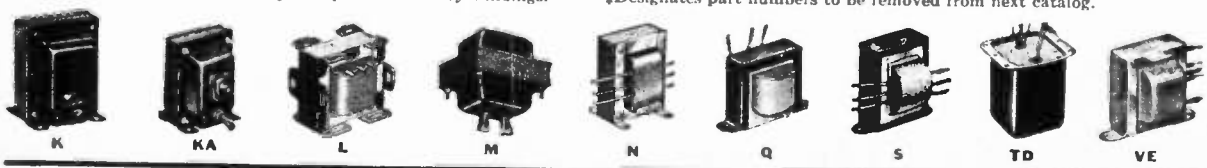
### PUSH-PULL PLATES TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-4711 | 1:1 | ⅝" x ⅝" | 10 ma. | A | 1⅝" | 2⅞" x 1½" | 0.7 | $4.05 |

### PUSH-PULL PLATES TO PARALLEL OR PUSH-PULL GRIDS—FOR 7,000-20,000 OHM PLATE IMPEDANCES

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-4208 | 1:1.4 | 1" x 1" | 15 ma. | C | 3 3/16" | 2⅝" x 2⅝" | 2.5 | $9.27 |

‡Has a dual primary—when properly connected the 500 and 200 ohm sections are center tapped. §Has split secondary.
†Has a static shield between primary and secondary windings. ‡Designates part numbers to be removed from next catalog.



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World Radio History

# OUTPUT TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

### SINGLE PLATE TO VOICE COIL

| Part No. | Application | Max. Pri. D.C. | Typical Output Tubes | Class | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| A-3332 | 2,000 ohms to 3.2 ohms | 50 ma. | 25B5, 25B6, 25L6, 35A5, 35L6, 50L6 | A | 3 | A | 1 3/16" | 2 1/8" x 1" | 0.4 | $1.78 |
| A-3876 | 2,000 ohms to 4 ohms | 60 ma. | 2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.11 |
| A-3328 | 4,000 ohms to 3.5 ohms | 10 ma. | 1S4, 3S4 | A | 3 | A | 1 5/16" | 2 1/8" x 1" | 0.4 | 2.28 |
| A-2203 | 4,000 ohms to 8 ohms | 40 ma. | 43, 45, 48, 12A5, 25A6 | A | 5 | A | 1 5/8" | 2 1/8" x 1 5/8" | 0.7 | 4.11 |
| A-3877 | 5,000 ohms to 4 ohms | 40 ma. | 43, 59, 6V6, 7C5, 25A5 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.22 |
| A-3310 | 5,000 ohms to 500/15/8/4 ohms | 55 ma. | 45, 6L6, 6V6, 25A6, 25A7 | A | 20 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.5 | 8.94 |
| A-3878 | 7,000 ohms to 4 ohms | 30 ma. | 20, 31, 33, 42, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.16 |
| A-2313 | 7,000 ohms to 8 ohms | 40 ma. | 33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5 | A | 10 | A | 2" | 3 1/4" x 1 3/4" | 1.0 | 3.77 |
| A-8114 | 7,600 ohms to 3.2 ohms | 32 ma. | 33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5 | A | 5 | A | 1 3/8" | 2 3/8" x 1 5/8" | 0.4 | 2.94 |
| A-3329 | 8,000 ohms to 3.5 ohms | 10 ma. | 1C5-GT, 1G5-G, 1Q5-GT/G, 1S4, 3S4 | A | 3 | A | 1 3/16" | 2 1/8" x 1" | 0.4 | 2.11 |
| A-3879 | 10,000 ohms to 4 ohms | 30 ma. | 1J6, 3C5, 6A4, 6G6, 6N7 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.11 |
| A-3881 | 15,000 ohms to 4 ohms | 10 ma. | 1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.39 |
| A-3327 | 25,000 ohms to 4 ohms | 5 ma. | 1A5, 1D8-GT, 1F4, 1F5-G, 1LA4, 1LB4, 1N6-G | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.72 |

### PUSH-PULL PLATES TO VOICE COIL

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A-3802 | 3,800/3,300 to 500/250/8/4 ohms | 250 ma. | 45, 6L6, Par. 6L6 | AB2, AB1 | 75 | C | 4 3/4" | 4" x 3 7/8" | 7.9 | $16.76 |
| A-3851§ | 4,400 ohms to 500/250/15/8/4 ohms | 70 ma. | 6L6 | AB1 | 30 | C | 3 5/8" | 3" x 3 1/16" | 3.6 | 11.99 |
| A-3872 | 5,000 ohms to 15/8/4 ohms | 75 ma. | 45, 2A3, 6A3, 6L6 | AB | 18 | TD | 2 11/16" | 2 3/4" x 2 3/16" | 1.7 | 7.77 |
| A-3800 | 5,000 ohms to 500/250/15/8/4 ohms | 80 ma. | 45, 2A3, 6A3, 6L6 | AB | 30 | C | 3 5/8" | 3" x 3 3/8" | 3.7 | 10.27 |
| A-3307 | 6,000 ohms to 500/15/8/4 ohms | 100 ma. | 46, 59, 42, 2A5, 6F6, Par. 53, 6A6, 6N7 | B, AB2 | 30 | C | 3 5/8" | 3" x 3 1/8" | 3.5 | 12.54 |
| A-3801 | 6,600 ohms to 500/250/15/8/4 ohms | 150 ma. | 6L6 | AB1 | 35 | C | 4" | 3 1/4" x 3 3/8" | 5 8 | 12.32 |
| A-3885 | 9,000 ohms to 500/250/15/8/4 ohms | 150 ma. | 6L6 | AB1 | 35 | C | 4" | 3 1/4" x 3 3/8" | 4.5 | 14.10 |
| A-3304 | 10,000/7,000 ohms to 500/15/8/4 ohms | 60 ma. | 45, 6V6, 6AC5 | AB | 25 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.7 | 10.71 |
| A-3311 | 10,000 ohms to 500/15/8/4 ohms | 70 ma. | 6F6, 6V6, 6AC5 | AB | 25 | C | 3 5/8" | 3" x 3 1/8" | 3.5 | 10.10 |
| A-3831 | 10,000 ohms to 8/4/2 ohms | 40 ma. | 30, 49 | AB | 5 | A | 1 5/8" | 2" x 1 1/2" | 0.7 | 4.00 |
| A-3335 | 10,000 ohms to 6-8/3.2-4 ohms | 40 ma. | 10 | S | 2 5/16" | 2 15/16" x 1 3/4" | 2 3/8" | | 1.0 | 4.88 |
| A-2312 | 14,000 ohms to 4 ohms | 40 ma. | 33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5 | AB | 10 | A | 2" | 3 1/4" x 1 3/4" | 1.0 | 3.89 |
| A-3496 | 14,000 ohms to 4 ohms | 25 ma. | 33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5 | AB | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 3.55 |
| A-3303 | 14,000 ohms to 500/15/8/4 ohms | 55 ma. | 41, 42, 47, 59, 89, 2A5, 6F6, 6K6, 7B5 | AB | 20 | C | 3 1/16" | 2 5/8" x 2 5/8" | 2.7 | 10.88 |
| A-3857 | 25,000 ohms to 4 ohms | 10 ma. | 1F4, 1F5, 1J5, 1T5, 6G6 12A7, 950 | A | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.83 |

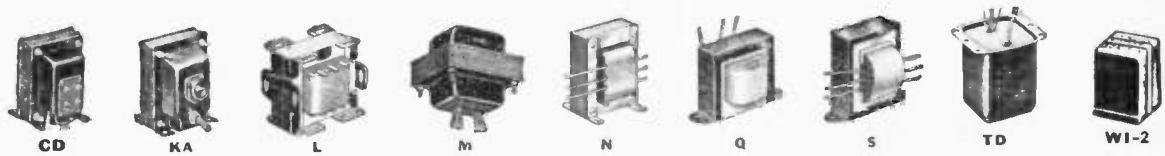
### HUM-REDUCING TRANSFORMERS, Single Plate to Voice Coil

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A-3330 | ‡2,000 ohms to 3.5 ohms | 60 ma. | 5 | A | 1 3/8" | 2 3/8" x 1 3/8" | 2 | 0.4 | $3.05 |
| A-3336 | #2,500 ohms to 3.5 ohms | 50 ma. | 5 | A | 1 3/8" | 2 1/16" x 1 3/8" | 2 | 0.4 | 2.94 |

### CRYSTAL RECORDER OUTPUT

| Part No | Application | Max. Pri. D.C. | Audio Watts | Core Size | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A-3859 | Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter OR 4 ohm voice coil | 30 ma. ea. ½ | 5 | 3/4" x 3/4" | A | 2" | 3 1/4" x 1 3/4" | 1.0 | $7.10 |

#Has tapped primary for use in hum-reducing circuit. §This unit has a tertiary winding to provide 10% inverse feedback.
‡Designates part number to be removed from next catalog. †Has a 4.5% primary tap.

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World Radio History

# OUTPUT TRANSFORMERS

**CHICAGO STANDARD TRANSFORMER CORPORATION**

## UNIVERSAL OUTPUT

| Part No. | Application | Max. Pri. D.C. | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-3856 | Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil | 35 ma. | 4 | Q | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | $3.61 |
| A-3822¶ | Single plate (7,000 to 10,000 ohms) to voice coil | 35 ma. | 4 | Q | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 3.05 |
| A-3848§ | Single plate (7,000 to 16,000 ohms) to voice coil | 10 ma. | 5 | Q | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 4.33 |
| A-3823 | Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil | 40 ma. | 8 | Q | 1 5/8" | 2 3/8" x 1 1/2" | 0.7 | 3.89 |
| A-3850 | Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil | 40 ma. | 8 | J | 2" | 2 3/8" x 1 1/2" | 0.7 | 4.38 |
| A-3825§ | Single plate (1,500 to 4,500 ohms) to voice coil | 75 ma. | 8 | Q | 2" | 3 1/4" x 1 5/8" | 0.9 | 4.38 |
| A-3824§ | Single or Push-pull plates (6,000 to 10,000 ohms) to voice coil | 75 ma. | 8 | Q | 2" | 3 1/4" x 2" | 1.4 | 5.49 |
| A-3849 | Single plate (1,500 to 10,000 ohms) to voice coil | 55 ma. | 10 | Q | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 3.72 |
| A-3880 | Push-pull plates (4,000 to 14,000 ohms) to voice coil | 40 ma. ea. 1/2 | 15 | Q | 2 1/4" | 3 3/4" x 2 1/4" | 1.7 | 6.60 |
| A-2855 | Push-pull plates (4,000 to 14,000 ohms) to voice coil | 50 ma. ea. 1/2 | 15 | L | 2 1/16" | 2 5/16" x 1 3/4" | 1.0 | 5.88 |
| A-3890 | Push-pull plates (4,000 to 14,000 ohms) to voice coil | 50 ma. ea. 1/2 | 15 | TD | 2 11/16" | 2 3/4" x 2 5/16" | 1.5 | 9.05 |
| A-3852 | Push-pull plates (4,000 to 14,000 ohms) to voice coil | 40 ma. ea. 1/2 | 18 | J | 2 5/16" | 2 7/8" x 2" | 1.3 | 4.83 |
| A-3870 | Push-pull plates (4,000 to 14,000 ohms) to voice coil | 50 ma. ea. 1/2 | 18 | Q | 2" | 3 1/4" x 2" | 1.3 | 5.49 |
| A-3830 | Push-pull plates (3,000 to 10,000 ohms) to voice coil | 60 ma. ea. 1/2 | 20 | J | 2 11/16" | 3 5/16" x 2 1/4" | 1.8 | 5.99 |

¶Secondary impedance 0.7, 1, 1.4, 2, 2.8, 4 ohms. §Secondary impedance, 1, 2, 4 ohms.

## SINGLE AND/OR PUSH-PULL PLATES TO LINE

| Part No. | Application | Impedance in Ohms | Max. Pri. D.C. | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A-3841 | Single plate to line | Pri—7,000/6,000/5,000/4,000/2,500 Sec—500 | 60 ma. | 10 | J | 2 11/16" | 3 5/16" x 2 1/4" | 1.5 | $8.33 |
| A-3842 | Push-pull plates to line | Pri—14,000/12,000/10,000/8,000 CT Sec—500 | 55 ma. | 10 | J | 2 11/16" | 3 5/16" x 2 1/4" | 1.7 | 8.66 |
| A-4770 | Single plate to line | Pri—7,000/6,000/5,000/4,000/2,500 Sec—500 | 60 ma. | 20 | J | 3 1/8" | 3 5/8" x 2 1/4" | 2.4 | 8.77 |
| A-3250 | Single plate or Push-pull plates to line | Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50 | 15 ma. | — | Q | 2" | 3 1/4" x 1 3/4" | 1.0 | 5.49 |
| A-3315 | Single plate or Push-pull plates to line | Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50 | 35 ma. | — | D | 3 3/16" | 2 5/8" x 2 5/8" | 2.7 | 12.54 |

## LINE TO VOICE COIL

| Part No. | Impedance in Ohms | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| A-8101 | Pri—500 Sec—3.2/6-8 | 5 | Q | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | $2.61 |
| A-3883 | Pri—500 Sec—15/8/6/4 | 25 | J | 2 5/16" | 2 7/8" x 1 3/4" | 1.1 | 5.22 |
| A-3882 | Pri—500/333/250 Sec—15/8/4 | 25 | D | 3 3/16" | 2 5/8" x 3 1/2" | 2.4 | 10.32 |
| A-3838 | 500/250/175/150/140/125/100/85/45/14/4/0.7 This Unit is designed to operate one or more speakers in series across a 500 ohm line or to match unequal lines. | 30 | B | 3 1/8" | 2 1/2" x 2 1/4" | 2.3 | 8.16 |
| A-3818 | Pri—1,500/1,000/500 Sec—15/8/4 | 25 | J | 3 1/8" | 3 5/8" x 2 1/4" | 2.2 | 6.05 |
| A-7947 | Pri—2,000/1,500/1,000/500 Sec—6 ohms | 8 | Q | 1 5/8" | 2 13/16" x 1 9/16" | 0.7 | 3.55 |
| A-7949 | Pri—2,000/1,500/1,000/500 Sec—6-8 ohms | 12 | J | 2 5/16" | 2 7/8" x 1 13/16" | 1.1 | 4.72 |
| A-3820 | Pri—2,000/1,500/1,000/500 Sec—15/8/4 | 40 | D | 4 5/16" | 3 5/8" x 4 1/2" | 5.0 | 17.87 |
| A-8104 | Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4 | 10 | J | 2 5/16" | 2 15/16" x 1 3/4" 2 3/8" | 1.5 | 6.77 |
| A-3837 | Line to Line or V. C. (Autoformer) Pri—500 Sec—8/4/2.65/2.35/2/1.5/0.7/0.5/0.3/0.2/0.1/0.05 This Unit is designed to operate one or more speakers in parallel across a 500 ohm line. | 15 | J | 2 5/16" | 2 7/8" x 2" | 1.4 | 6.11 |

## 70.7 VOLT LINE TO VOICE COIL

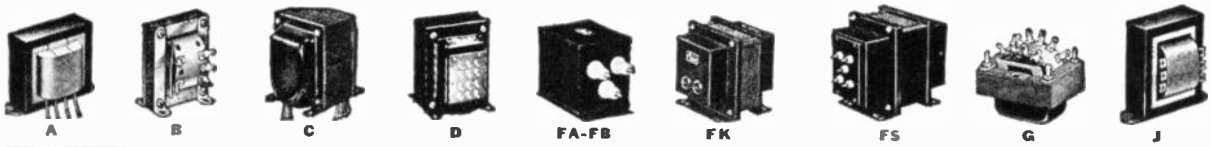
| Part No. | Power Steps in Watts | Impedance in Ohms | Mtg. Type | Height Overall | Base Area | Mtg. Ctrs. | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| A-8102 | 8/4/2/1/0.5 | Pri—625/1,250/2,500/5,000/10,000 Sec—4/8/16 | J | 2" | 1 5/8" x 2 7/8" | 2" | 0.7 | $5.00 |
| A-8103 | 16/8/4/2/1/0.5 | Pri—312.5/625/1,250/2,500/5,000/10,000 Sec—4/8/16 | J | 2 1/8" | 2 1/4" x 3 1/4" | 2 13/16" | 1.5 | 6.99 |
| A-8105 | 5/2.5/1.25/.62/.31 | Pri—1,000/2,000/4,000/8,000/16,000 Sec—4/8 | J | 1 3/8" | 2 3/8" x 1 3/8" | 2" | 0.4 | 3.61 |

## 140 VOLT LINE TO VOICE COIL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-8106 | 1/2/4/8 | Pri—2,500/5,000/10,000/20,000 Sec—4/8/16 | J | 2 | 1 5/8" x 2 7/16" | 2 | 0.7 | $5.00 |
| A-8107 | 1/2/4/8/16 | Pri—1,250/2,500/5,000/10,000/20,000 Sec—4/8/16 | J | 2 | 3 1/16" x 2" | 2 13/16" | 1.8 | 6.99 |
| A-8108 | 0.625/1.25/2.5/5.0 | Pri—4,000/8,000/16,000/32,000 Sec—4/8 | Q | 1 3/8" | 2 3/8" x 1 3/4" | 2 | 0.4 | 3.61 |

## 25 VOLT LINE TO VOICE COIL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A-8095 | 5/2.5/1.25/.62/.31 | Pri—125/250/500/1,000/2,000 Sec—4/8 | Q | 1 3/8" | 2 3/8" x 1 3/8" | 2" | 0.4 | $3.99 |
| A-8096 | 8/4/2/1/0.5 | Pri—78/156/312.5/625/1,250 Sec—4/8/16 | J | 2" | 1 5/8" x 2 7/16" | 2" | 0.65 | 6.00 |
| A-8097 | 16/8/4/2/1/0.5 | Pri—39/78/156/312.5/625/1,250 Sec—4/8/16 | J | 2 13/16" | 2 1/4" x 3 1/4" | 2 13/16" | 1.6 | 6.50 |



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World Radio History

# POWER TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

### COMBINATION PLATE AND FILAMENT SUPPLY

**POWER TRANSFORMERS TO PROVIDE APPROXIMATELY 260 VOLTS D.C. TO CONDENSER INPUT FILTER**

| Type and Part No. | Plate Supply A.C. Volts | Plate Supply D.C. Ma. | Rectifier Fil. Volts | Rectifier Fil. Amps. | Other Windings Volts | Other Windings Amps. | Base Area | Overall Height | Mtg. Centers | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PC8401 | 235-0-235 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2⅝" x 2⅝" | 3 5/16" | 2" x 1 9/16" | 2.2 | $ 7.49 |
| PM8401 | | | | | | | 2½" x 3" | 2¾" | 2" x 2½" | | |
| PC8402 | 240-0-240 | 55 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2⅝" x 2¾" | 3 5/16" | 2" x 1 11/16" | 2.4 | 8.33 |
| PM8402 | | | | | | | 2½" x 3" | 2¾" | 2" x 2½" | | |
| PC8403 | 250-0-250 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2⅝" x 3⅛" | 3 5/16" | 2" x 2 1/16" | 3.2 | 9.32 |
| PM8403 | | | | | | | 2½" x 3" | 3⅛" | 2" x 2½" | | |
| PC8404 | 260-0-260 | 90 | 5.0 | 2.0 | 6.3 CT | 3.0 | 3" x 3½" | 3⅝" | 2¼" x 2¼" | 4.0 | 10.49 |
| PM8404 | | | | | | | 2⅞" x 3⅝" | 3⅝" | 2¼" x 2 15/16" | | |
| PC8405 | 270-0-270 | 120 | 5.0 | 3.0 | 6.3 CT | 3.5 | 3¼" x 3½" | 4" | 2½" x 2 5/16" | 4.9 | 11.60 |
| PM8405 | | | | | | | 3¼" x 3¾" | 3½" | 2½" x 3⅛" | | |

**POWER TRANSFORMERS FOR USE WITH CHOKE INPUT FILTER, VR-TUBE REGULATED SUPPLY, SPEAKER FIELD IN FILTER, OR HIGHER VOLTAGE WITH CONDENSER INPUT FILTER**

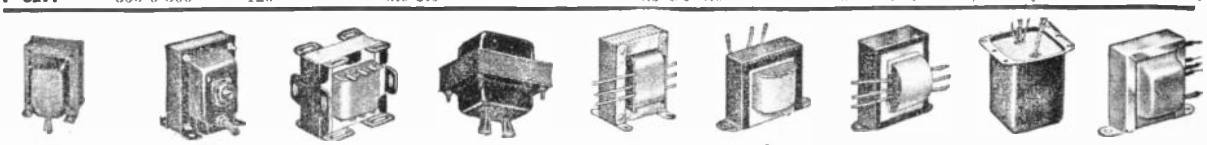
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PC8406 | 325-0-325 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2⅝" x 2¾" | 3 5/16" | 2" x 1 11/16" | 2.4 | $ 7.66 |
| PM8406 | | | | | | | 2½" x 3" | 2¾" | 2" x 2½" | | |
| PC8407 | 325-0-325 | 55 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2⅝" x 3⅛" | 3 5/16" | 2" x 2 1/16" | 3.2 | 8.44 |
| PM8407 | | | | | | | 2½" x 3" | 3⅛" | 2" x 2½" | | |
| PC8422 | 325-0-325 | 50 | 5.0 | 3.0 | 6.3 CT | 5.0 | 3¼" x 3⅞" | 4" | 2½" x 2 9/16" | 5.8 | 14.93 |
| PM8422 | | | | | | | 3⅛" x 3¾" | 3¾" | 2½ x 3⅛" | | |
| PC8408 | 340-0-340 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 3" x 3⅝" | 3⅝" | 2¼" x 2⅛" | 3.8 | 9.58 |
| PM8408 | | | | | | | 2⅞" x 3⅝" | 3½" | 2¼" x 2 13/16" | | |
| PC8409 | 350-0-350 | 90 | 5.0 | 2.0 | 6.3 CT | 3.0 | 3" x 3⅝" | 3⅝" | 2¼" x 2⅝" | 4.5 | 10.66 |
| PM8409 | | | | | | | 2⅞" x 3⅝" | 3¾" | 2¼" x 2 13/16" | | |
| PC8410 | 360-0-360 | 120 | 5.0 | 3.0 | 6.3 CT | 3.5 | 3¼" x 3¾" | 4" | 2½" x 2 7/16" | 5.5 | 11.77 |
| PM8410 | | | | | | | 3⅛" x 3¾" | 3¾" | 2½" x 3⅛" | | |
| PC8411 | 375-0-375 | 150 | 5.0 | 3.0 | 6.3 CT | 4.5 | 3⅝" x 4" | 4 1/16" | 2¾" x 2 13/16" | 5.8 | 14.10 |
| PM8411 | | | | | | | 3½" x 4⅛" | 3⅞" | 2¾" x 3 7/16" | | |
| PC8412 | 400-0-400 | 200 | 5.0 | 3.0 | 6.3 CT | 5.0 | 4" x 4" | 4¾" | 3" x 2 13/16" | 8.2 | 15.87 |
| PM8412 | | | | | | | 3¾" x 4½" | 3⅞" | 3" x 3¾" | | |
| PC8413 | 400-0-400 | 250 | 5.0 | 4.0 | 6.3 CT | 5.0 | 4" x 4½" | 4¾" | 3" x 3 3/16" | 10.0 | 19.92 |
| PC8414 | 600-0-600 | 200 | 5.0 | 3.0 | 6.3<br>6.3 | 3.0<br>3.0 | 4" x 4" | 4¾" | 3" x 2 13/16" | 8.3 | 20.04 |

**POWER TRANSFORMERS FOR USE WITH 6AX5, 6X4, 6X5, OR SELENIUM RECTIFIERS**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PS8415 | 125 ½-wave | 15 | ... | ... | 6.3 | 0.6 | 2⅝" x 1⅝" | 2" | 2" | 0.7 | $ 3.50 |
| PS8416 | 125-0-125 | 25 | ... | ... | 6.3 | 1.0 | 2⅞" x 1¾" | 2 5/16" | 2¾" | 1.0 | 4.38 |
| *PA8421 | 125 ½-wave | 50 | --- | --- | 6.3 | 2.0 | 3¾" x 2½" | 2¼" | 3⅛" | 1.5 | 5.83 |
| PC8417 | 220-0-220 | 50 | 6.3 | 0.6 | 25.2 | 0.5 | 2⅝" x 2⅝" | 3 3/16" | 2" x 1 9/16" | 2.2 | 8.21 |
| PC8418 | 230-0-230 | 50 | ... | ... | 6.3 | 2.5 | 2⅝" x 2⅝" | 3 3/16" | 2" x 1 9/16" | 2.2 | 7.27 |
| PM8418 | | | | | | | 2½" x 3" | 2⅝" | 2" x 2½" | | |
| PC8419 | 240-0-240 | 70 | ... | ... | 6.3 | 3.0 | 2⅝" x 2⅞" | 3 3/16" | 2" x 1 13/16" | 2.6 | 8.33 |
| PM8419 | | | | | | | 2½" x 3" | 2⅞" | 2" x 2½" | | |
| PC8420 | 260-0-260 | 90 | ... | ... | 6.3 | 4.0 | 3" x 3½" | 3½" | 2" x 2¼" | 3.5 | 9.27 |
| PM8420 | | | | | | | 2⅞" x 3¾" | 3½" | 2¼" x 2 13/16" | | |

## REPLACEMENT POWER TRANSFORMERS (Misc.)

| Part No. | Plate Supply A.C. Volts | Plate Supply D.C Ma. | Rectifier Filament Volts—Amperes | Other Windings Volts—Amperes | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-8173 | 250-0-250 | 10 | ——— | 6.3-0.6 6.3-1.2 | C | 2¼" | 2⅞" x 2¼" | 1.0 | $ 7.77 |
| P-8174 | 250-0-250 | 20 | ——— | 6.3-0.6 6.3-1.2 | C | 2⅝" | 3 5/16" x 2¼" | 1.5 | 8.05 |
| P-6001 | 325-0-325 | 40 | 5.0 CT-2.0 | 2.5 CT-4.0 | M | 2¾" | 2½" x 3" | 2.5 | 9.99 |
| P-6348 | 240-0-240 | 60 | ——— | 6.3 CT-2.75 | M | 2¾" | 2 3/16" x 2 11/16" | 2.3 | 7.99 |
| P-4047 | 350-0-350 | 70 | 5.0-3.0 | 2.5 CT-9.0 6.3-3.0 | C | 4" | 3¼" x 3" | 3.8 | 14.10 |
| P-8175 | 300-0-300 | 70 | 5.0-3.0 | 6.3 CT-3.0 | C | 3½" | 2⅞" x 3⅛" | 4.0 | 10.82 |
| P-6007 | 400-0-400 | 110 | 5.0 CT-3.0 | 2.5 CT-15.0 2.5 CT-3.5 | M | 3⅜" | 3⅛" x 3¾" | 5.4 | 16.43 |
| P-8176 | 350-0-350 | 110 | 5.0-2.0 | 6.3 CT-3.0 6.3 CT-3.0 | C | 3⅞" | 3 3/16" x 3⅞" | 5.5 | 15.71 |
| P-8177 | 300-0-300 | 120 | 5.0-3.0 | 6.3 CT-5.0 | C | 3⅞" | 3 3/16" x 3¾" | 5.8 | 13.04 |



PC KA L PM N Q PS TD VE

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World Radio History

# POWER TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

## REPLACEMENT POWER TRANSFORMERS (Misc.)

| Part No. | Plate Supply A.C. Volts | Plate Supply D.C. Ma. | Rectifier Filament Volts—Amperes | Other Windings Volts—Amperes | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-6143 | 440-0-440 | 130 | 5.0–3.0 | 6.3 CT–3.5 | C | 4 5/16" | 3 5/8" x 3 7/8" | 7.0 | $16.93 |
| P-4004* | 400-0-400<br>80 v. Bias | 175 | 5.0 CT–3.0 | 2.5–1.75<br>6.3 CT–2.5 6.3 CT–2.5 | C | 4 3/4" | 4" x 3 7/8" | 8.3 | 21.03 |
| P-5059* | 337.5-0-337.5 | 200 | 5.0 CT–3.0 | 6.3 CT–5.0 | C | 4 3/4" | 4" x 4 1/4" | 9.6 | 19.87 |
| P-6315 | 370-0-370 | 275 | 5.0 CT–3.0 | 6.3 CT–7.0 | M | 4 1/4" | 3 3/4" x 4 1/2" | 9.3 | 21.65 |

*Primary for 117/107 Volts.

## SELENIUM RECTIFIER TRANSFORMERS—See Page N-736

## VIBRATOR TRANSFORMERS WITH 6 VOLT D.C. PRIMARY

| Part No. | Secondary A.C. Volts | Secondary D.C. to Filter Volts | Milliamperes | Recommended Buffer Cap. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-6301 | 210-0-210 | 150 | 40 | 0.008 mfd. | S | 2 5/16" | 2 7/8" x 1 3/4" | 1.2 | $5.77 |
| P-6491 | 188-0-188 | 200 | 40 | 0.003 mfd. | S | 2 1/4" | 3 1/8" x 2 13/16" | 1.5 | 5.55 |
| P-4060 | 240-0-240 | 225 | 40 | 0.008 mfd. | N | 3 1/8" | 2 1/2" x 2 5/8" | 2.5 | 7.49 |
| P-4061 | 290-0-290 | 250 | 50 | 0.006 mfd. | N | 3 1/8" | 2 1/2" x 2 5/8" | 2.5 | 7.22 |
| P-4062 | 300-0-300 | 260 | 65 | 0.006 mfd. | N | 3 1/8" | 2 1/2" x 2 5/8" | 2.3 | 7.94 |
| P-4063 | 320-0-320 | 285 | 75 | 0.006 mfd. | N | 3 1/8" | 2 1/2" x 2 3/4" | 2.8 | 10.10 |
| P-6131 | 370-0-370 | 330 | 100 | 0.007 mfd. | N | 3 1/2" | 2 7/8" x 2" | 3.5 | 11.16 |

## VIBRATOR TRANSFORMER WITH 6 VOLT D.C. AND 117 VOLT A.C. PRIMARY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P-6166 | 350-0-350 | — | 135<br>Filament—6.3 volts at 2.25 Amps. | | C | 4 3/4" | 4" x 3 5/8" | 6.9 | $18.70 |

## AUTO RADIO VIBRATOR TRANSFORMERS—EXACT DUPLICATE

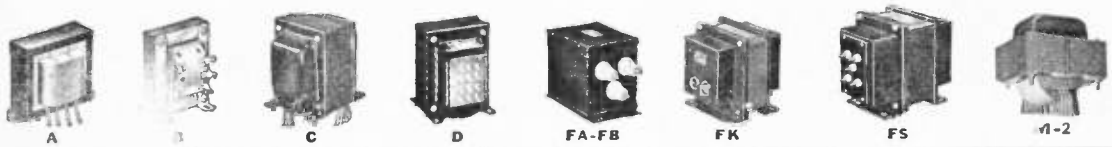
Write for FREE Stancor Auto Radio Transformer Replacement Guide listing detailed replacement information of 540 car radios.

| Part No. | Original Part No. | Original Manufacture | D.C. Volts at Filter Input | D.C. Ma. | Recommended Buffer Cap. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-4064 | 7240519 | United Motors (Delco) | 280 | 65 | 0.015–0.015 mfd. | 3 9/16" | 2 9/16" x 2 9/16" | 2.5 | $13.04 |
| P-4065 | 7255881 | United Motors (Delco) | 265 | 56 | 0.006 mfd. | 4 1/16" | 2 3/8" x 2 7/32" | 2.6 | 12.10 |
| P-6470 | 140-111 | Regal (5-tube univ. series) | 145 | 50 | 0.009 mfd. | 2 11/16" | 2 11/16" x 2 3/16" | 1.4 | 8.49 |
| P-6471 | 25B472533 | Motorola (408, 508, etc.) | 235 | 70 | 0.006 mfd. | 3" | 3 3/8" x 2 3/16" | 2.0 | 8.44 |
| P-6472 | D 71014<br>C 217020<br>C 71014<br>25B70950 | Colonial-Detrola No. 8072<br>Colonial-Bendix M1<br>Colonial-Motorola<br>Motorola (405, 505, etc.) | 270 | 56 | 0.007 mfd. | 2 5/8" | 2 27/32" x 2 5/32" | 2.0 | 8.44 |
| P-6473 | 95-1073 | Zenith | 272 | 73 | 0.008 mfd. | 3 1/32" | 2 3/8" x 2 1/2" | 2.4 | 9.60 |
| P-6474 | 95-1066 | Zenith | 240 | 52.5 | 0.008 mfd. | 3 1/32" | 2 3/8" x 2 1/2" | 2.2 | 8.77 |
| P-6476 | D 70267<br>C 70267 | Colonial-Detrola No. 7070<br>Col.-Mot.-Det. No. 8030 | 220 | 53.5 | 0.008 mfd. | 2 5/8" | 2 27/32" x 2 5/32" | 2.0 | 8.66 |
| P-6477 | 25C500189 | Motorola | 150 | 50 | .03 mfd. | 2" | 1 7/8" x 2 1/4" | 1.0 | 5.16 |
| P-6478 | 25C501644 | Motorola | 225 | 70 | .02 mfd. | 2 1/4" | 2 3/16" x 2 5/8" | 1.5 | 5.61 |
| P-6479 | 65-0358 | Philco | 260 | 60 | .005 mfd. | 2 1/2" | 2 3/8" x 3" | 2.3 | 6.99 |
| P-6480 | 65-0347 | Philco | 225 | 70 | .0033 mfd. | 2 3/16" | 2 1/4" x 2 5/8" | 1.5 | 5.94 |
| P-6481 | 32-8313-1 | Philco | 250 | 60 | .0068 mfd. | 2 1/4" | 2 3/16" x 2 5/8" | 1.5 | 6.33 |
| P-6483 | VE-169 | Farnsworth | 240 | 50 | .006 | 3 1/16" | 2 1/2" x 2 3/8" | 2 1/2 | 8.77 |
| P-6484 | 25B70950-E | Motorola | 265 | 70 | .007 | 3 1/16" | 2 1/2" x 2 3/8" | 2 1/2 | 9.32 |
| P-6485 | 95-1071 | Zenith | 240 | 70 | .008 | 3 1/16" | 2 1/2" x 2 3/8" | 2 1/2 | 9.66 |
| P-6486 | 25C472586-C | Motorola | 240 | 80 | .007 | 3 1/4" | 2 7/8" x 2 3/4" | 3 1/2 | 10.27 |
| P-6487 | 25B-231303 | Motorola | 170 | 60 | .007 | 2 11/16" | 2 3/16" x 2 3/32" | 1 3/4 | 7.83 |
| P-6488 | 25C-521454 | Motorola | 225 | 50 | .007 | 2 7/8" | 2 3/16" x 2 3/8" | 2 | 6.55 |
| P 6490 | C291787-1 | Bendix (Ford Model 5BSF) | 265 | 52 | .006 | 2 1/8" | 2 3/16" x 2 5/8" | 1.5 | 5.55 |

## FOR 12 VOLT D.C. PRIMARY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P-6482 | 6064 | United Motors (Delco) | 250 | 60 | .004 mfd. | 3 1/4" | 2 11/16" x 2 11/16" | 2.5 | $9.71 |
| P-6489 | 6067 | United Motors (Delco) | 250 | 60 | .004 mfg. | 2 3/16" | 2 3/16" x 2 3/8" | 2.0 | 5.55 |
| P-6493 | *25C535794 | Motorola | 275 | 75 | (See Footnote) | 2 3/4" | 2 3/8" x 2" | 1.7 | 5.16 |
| P-6494 | 32-8592-1 | Philco | 245 | 70 | 0.0047 mfd. | 2 3/16" | 2 5/8" x 2 1/8" | 1.5 | 5.33 |
| P-6495 | ★25K535795 | Motorola | 275 | 75 | (See Footnote) | 2 3/4" | 2 3/8" x 2 1/8" | 1.7 | 5.33 |

★2 Buffer capacitors used 0.5 mfd. and 0.04 mfd. as in original circuit.



A C D FA-FB FK FS M-2



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World Radio History

# FILTER CHOKES

## CHICAGO STANDARD TRANSFORMER CORPORATION

STANCOR

## SMOOTHING CHOKES FOR D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. They are rated at 10 volts, 60 cycles, with maximum D.C. in winding. Tolerance of plus 15% is maintained on all ratings.

| Part No. | Rating Induc. | at | Ma. D.C. | D.C. Res. in Ohms | R.M.S.V. Insul. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| C-1515 | 20.0 hy. | at | 15 ma. | 900 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | $2.44 |
| C-2318 | 12.0 hy. | at | 30 ma. | 400 | 2000 | A | 1 7/8" | 2 1/8" x 1 3/8" | 0.5 | 3.05 |
| C-1706 | 4.5 hy. | at | 50 ma. | 300 | 1500 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.05 |
| C-1707 | 7.0 hy. | at | 50 ma. | 550 | 1500 | A | 1 3/8" | 2 3/8" x 1 3/8" | 0.4 | 2.16 |
| C-1003 | 16.0 hy. | at | 50 ma. | 580 | 1500 | A | 2" | 3 1/4" x 1 3/4" | 1.1 | 2.94 |
| C-1708 | 13.0 hy. | at | 65 ma. | 500 | 1500 | A | 2" | 3 1/4" x 1 3/4" | 1.0 | 3.39 |
| C-1355 | 8.0 hy. | at | 75 ma. | 290 | 1500 | L | 2 1/16" | 2 5/16" x 1 3/4" | 1.0 | 3.39 |
| C-1002 | 15.0 hy. | at | 75 ma. | 400 | 1500 | A | 2 1/4" | 3 3/4" x 2 1/4" | 1.7 | 3.61 |
| C-1420 | 16.0 hy. | at | 80 ma. | 360 | 1500 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.5 | 5.99 |
| C-1709 | 8.0 hy. | at | 85 ma. | 250 | 1500 | A | 2" | 3 1/4" x 2" | 1.4 | 3.77 |
| C-2305 | 5.0 hy. | at | 100 ma. | 300 | 1500 | TD | 2 11/16" | 2 3/4" x 2 3/16" | 1.5 | 5.22 |
| C-1001 | 10.5 hy. | at | 110 ma. | 225 | 3000 | A | 2 5/8" | 4" x 2 1/4" | 2.3 | 4.94 |
| C-2303 | 2.5 hy. | at | 130 ma. | 100 | 2000 | A | 2" | 3 1/4" x 1 3/4" | 1.0 | 3.44 |
| C-1421 | 7.0 hy. | at | 140 ma. | 165 | 3000 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.5 | 6.83 |
| C-2304 | 2.3 hy. | at | 150 ma. | 60 | 1500 | A | 2" | 3 1/4" x 1 3/4" | 1.0 | 3.55 |
| C-2309 | 3.0 hy. | at | 150 ma. | 90 | 2000 | A | 2 1/4" | 3 3/4" x 2 1/4" | 1.7 | 4.27 |
| C-1710 | 7.0 hy. | at | 150 ma. | 200 | 1500 | A | 2 5/8" | 4" x 2 1/4" | 2.2 | 5.49 |
| C-1410 | 4.0 hy. | at | 175 ma. | 100 | 3000 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.4 | 6.99 |
| C-2327 | 1.5 hy. | at | 200 ma. | 85 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.8 | 2.72 |
| C-1646 | 5.0 hy. | at | 200 ma. | 90 | 5000 | C | 4" | 3 1/4" x 3 1/8" | 4.5 | 9.99 |
| C-1411 | 4.5 hy. | at | 200 ma. | 80 | 3000 | C | 3 5/8" | 3" x 3 1/8" | 3.5 | 7.94 |
| C-1721 | 8.5 hy. | at | 200 ma. | 120 | 3000 | N | 3 7/8" | 3 1/8" x 3" | 4.4 | 9.60 |
| C-1703 | 4.0 hy. | at | 250 ma. | 60 | 3000 | B | 3 1/2" | 2 7/8" x 3 1/8" | 4.2 | 10.10 |
| C-1412 | 4.0 hy. | at | 250 ma. | 60 | 3000 | C | 3 5/8" | 3" x 3 1/2" | 4.3 | 11.60 |
| C-1722 | 8.0 hy. | at | 300 ma. | 80 | 3000 | N | 4 5/8" | 3 3/4" x 3 1/2" | 7.3 | 15.93 |
| C-2308 | 8.0 hy. | at | 300 ma. | 80 | 3000 | C | 4 3/4" | 4" x 3 7/8" | 7.8 | 16.10 |
| C-1413 | 8.0 hy. | at | 300 ma. | 80 | 5000 | D | 4 3/4" | 4" x 4 1/8" | 7.8 | 16.10 |
| C-2328 | 0.8 hy. | at | 375 ma. | 25 | 1500 | A | 2 1/2" | 3 3/4" x 2" | 1.5 | 5.61 |
| C-1414 | 7.5 hy. | at | 400 ma. | 60 | 5000 | D | 4 3/4" | 4" x 5 1/8" | 11.8 | 23.25 |
| C-1415 | 6.0 hy. | at | 500 ma. | 75 | 7500 | FS | 8 1/8" | 5 5/8" x 5 1/2" | 23.7 | 53.89 |

## SWINGING CHOKES FOR INPUT SECTION OF D.C. POWER SUPPLIES.

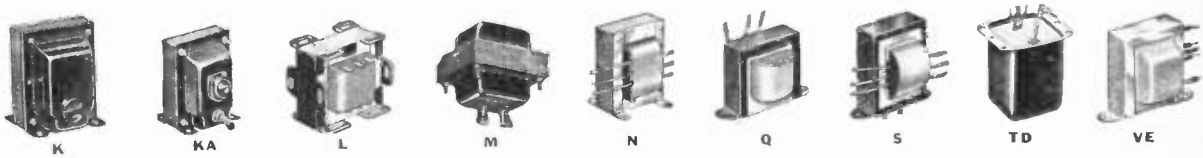
Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Swinging chokes are rated at 10 volts, 60 cycles, from maximum to 10% of maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

| Part No. | Min. Swg. Induc. | D.C. Res. in Ohms | Approx. Range of Induc. | at | D.C. Ma. | R.M.S.V. Insul. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C-1718 | 10 hy. | 130 | 13.5-3.5 hy. | at | 15-150 | 2000 | C | 3 3/16" | 2 5/8" x 2 1/2" | 2.3 | $7.05 |
| C-1400 | 10 hy. | 100 | 12-2 | at | 17.5-175 | 3000 | C | 3 3/16" | 2 5/8" x 2 5/8" | 2.4 | 7.88 |
| C-1401 | 10 hy. | 80 | 12-2 | at | 20-200 | 3000 | C | 3 5/8" | 3" x 3 1/8" | 3.5 | 8.99 |
| C-1645 | 10 hy. | 90 | 12-2 | at | 20-200 | 5000 | C | 4" | 3 1/4" x 3 3/8" | 4.5 | 10.32 |
| C-1702 | 10 hy. | 60 | 12-2 | at | 25-250 | 3000 | B | 3 1/2" | 2 7/8" x 3 1/8" | 4.3 | 10.32 |
| C-1402 | 10 hy. | 60 | 12-2 | at | 25-250 | 3000 | C | 3 5/8" | 3" x 3 1/2" | 4.3 | 11.60 |
| C-1720 | 16 hy. | 80 | 20-4 | at | 30-300 | 3000 | N | 4 5/8" | 3 3/4" x 3 1/2" | 7.2 | 14.76 |
| C-2307 | 16 hy. | 80 | 20-4 | at | 30-300 | 3000 | C | 4 3/4" | 4" x 3 7/8" | 7.9 | 17.70 |
| C-1403 | 16 hy. | 80 | 20-4 | at | 30-300 | 5000 | D | 4 3/4" | 4" x 4 1/8" | 7.7 | 15.82 |
| C-1404 | 14 hy. | 60 | 17-3 | at | 40-400 | 5000 | D | 4 3/4" | 4" x 5 1/8" | 11.7 | 23.25 |
| C-1405 | 12 hy. | 75 | 16-4 | at | 50-500 | 7500 | FS | 7 5/8" | 6 1/8" x 7" | 24.3 | 47.90 |

## SMOOTHING CHOKES FOR USE IN A.C.-D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Filter chokes are rated at 10 volts, 60 cycles, with maximum D.C. in windings Tolerance of plus 15% is maintained on all ratings.

| Part No. | Rating Induc. | at | Ma. D.C. | D.C. Res. in Ohms | R.M.S.V. Insul. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| C-1080 | 3.5 hy. | at | 50 ma. | 200 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | $2.39 |
| C-1325 | 5.0 hy. | at | 50 ma. | 250 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.55 |
| C-1277 | 7.0 hy. | at | 50 ma. | 300 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.83 |
| C-1723 | 4.5 hy. | at | 50 ma. | 325 | 1500 | A | 1 3/8" | 2 1/8" x 1 3/8" | 0.4 | 2.22 |
| C-1227 | 7.0 hy. | at | 50 ma. | 350 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.78 |
| C-1279 | 8.5 hy. | at | 50 ma. | 400 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.44 |
| C-1333 | 8.0 hy. | at | 50 ma. | 450 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.50 |
| C-1215 | 9.0 hy. | at | 50 ma. | 500 | 1500 | A | 1 5/8" | 2 7/8" x 1 1/2" | 0.7 | 2.28 |



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World Radio History

# MODULATION TRANSFORMERS

**CHICAGO STANDARD TRANSFORMER CORPORATION**

## PLATE MODULATION

| Part No. | Impedance in Ohms | Max. D.C./Tube Pri. | Max. D.C./Tube Sec. | Typical Output Tubes | Class | Audio Watts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A-3812** | Pri—10,000 CT<br>Sec—4,000 | 32 | 50 | Sgl.—37, 38, 41, 1G5, 6K6<br>Sgl.—19, 1G6, 1J6, 6E6, 6G6, 6Z7<br>P.P.—30, 49, 1H4 | A<br>B<br>B | 5 | A | 1⅝" | 2⅞" x 1½" | 0.7 | **$4.05** |
| **A-3871** | Pri—4,500<br>Sec—8,500<br>‡Secondary used as primary. | 60 | 50 | Sgl.—6L6, HY69<br>‡Sgl.—6B5, 6F6, 6N6 | A<br>A | 10 | TD | 2 11/16" | 2¾" x 2 3/16" | 1.4 | **7.38** |
| **A-3845** | Pri—10,000 CT<br>Sec—8,000/6,500/5,000/3,000 | 100 | 100 | Sgl. 53, 79, 6A6, 6N7, 6Y7<br>P.P.—42, 2A5, 6F6, 6V6 | B<br>AB2 | 25 | C | 3 3/16" | 2⅝" x 2¾" | 2.8 | **9.27** |
| **A-3808** | Pri—3,800/3,300 CT<br>Sec—10,000/7,500/5,000/4,000 | 260 | 170 | P.P.—6L6, 807, HY61, RK41<br>P.P. Par—6L6 | AB2<br>AB1 | 60 | D | 4¾" | 4" x 2⅞" | 7.7 | **22.09** |
| **A-3829** | Pri—9,000/6,900 CT<br>Sec—6,250/5,000/4,000/3,300 | 250 | 300 | P.P.—RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B | B | 175 | D | 4¾" | 4" x 6⅛" | 11.4 | **28.03** |

## POLY-PEDANCE MODULATION MULTI-TAPPED UNITS TO PROPERLY MATCH THE OUTPUT OF THE MODULATOR STAGE TO THE MODULATED LOAD. WILL MATCH ALL COMMON IMPEDANCES OF CLASS "B" MODULATOR (2,000 to 20,000 OHMS) TO CLASS "C" LOAD IMPEDANCES OF 2,000 TO 20,000 OHMS.

The number of excellent transmitting tubes available is constantly increasing. R.F. applications, too, have increased and it is sometimes difficult to obtain the correct modulation transformer suitable for matching some given modulator tubes or R.F. load. These units give an almost unlimited range in power and impedance ratings to assure a correct impedance match in all cases.

| Part No. | Max. Watts | Max. D.C. | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| **A-3891** | 15 | Pri—100 ma.<br>Sec—100 ma. | D | 3 5/16" | 2⅝" x 2⅞" | 2.5 | **$15.98** |
| **A-3892** | 30 | Pri—150 ma.<br>Sec—150 ma. | D | 4" | 3¼" x 3⅝" | 4.3 | **20.26** |
| **A-3893** | 60 | Pri—180 ma.<br>Sec—180 ma. | D | 4" | 3¼" x 4⅛" | 6.2 | **21.92** |
| **A-3894** | 125 | Pri—225 ma.<br>Sec—225 ma. | D | 4¾" | 4" x 4⅝" | 9.4 | **26.47** |
| **A-3898** | 300 | Pri—260 ma.<br>Sec—260 ma. | FS | 8⅛" | 5¾" x 7⅝" | 37.9 | **107.61** |
| **A-3899** | 600 | Pri—500 ma.<br>Sec—500 ma. | FS | 9⅛" | 7¼" x 10¼" | 70.0 | **165.39** |

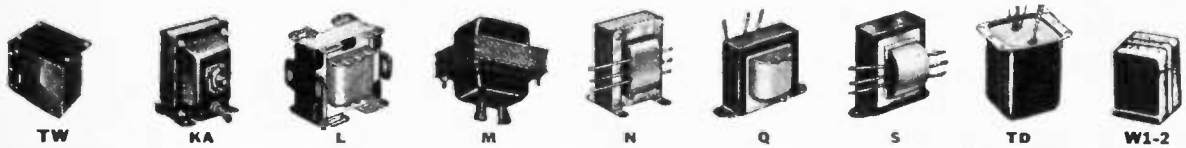
## SELENIUM RECTIFIER TRANSFORMERS★

| Part No. | Rectifier Circuit | Range of Applied A.C. Volts Under Load (Approx.) | Output Resistive or Inductive Load Max. D.C. Volts | Output Resistive or Inductive Load Max. D.C. Amps. | Output Capacitive Load* Max. D.C. Volts | Output Capacitive Load* Max. D.C. Amps. | Mtg. Type | Overall Dimensions H W D | Shpg. Wt. (lbs.) | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| **RT-201** | C. T. | 11.7 to 29.4 | 11.2 | 2.0 | 13.8[1] | 2.0 | B | 3 1/8" x 2½" x 3⅜" | 2.5 | **$ 8.05** |
| | Bridge | 11.1 to 28.5 | 23.0 | 1.25 | 30.0[2] | 1.25 | B | 3½" x 2½" x 3⅜" | 2.5 | |
| **RT-202** | C. T. | 12.0 to 29.8 | 11.1 | 4.0 | 14.7[3] | 4.0 | B | 3⅝" x 2⅞" x 3½" | 3.8 | **10.66** |
| | Bridge | 12.0 to 29.8 | 24.3 | 2.0 | 33.0[4] | 2.0 | B | 3⅝" x 2⅞" x 3½" | 3.8 | |
| **RT-204** | C. T. | 11.7 to 29.2 | 12.0 | 8.0 | 14.5[5] | 8.0 | B | 4" x 3¼" x 4⅛" | 6.1 | **13.43** |
| | Bridge | 11.6 to 29.2 | 24.0 | 4.0 | 32.4[3] | 4.0 | B | 4" x 3¼" x 4⅛" | 6.1 | |
| **RT-206** | C. T. | 12.0 to 29.7 | 11.5 | 12.0 | 14.4[6] | 12.0 | B | 4¼" x 3 7/16" x 5⅛" | 9.1 | **17.87** |
| | Bridge | 12.0 to 29.7 | 24.0 | 6.0 | 32.0[6] | 6.0 | B | 4¼" x 3 7/16" x 5⅛" | 9.1 | |
| **RT-208** | C. T. | 12.1 to 29.2 | 11.4 | 15.0 | 14.8[7] | 15.0 | B | 4¾" x 3¾" x 5¾" | 12.6 | **21.15** |
| | Bridge | 12.1 to 29.2 | 23.7 | 8.0 | 32.5[4] | 15.0 | B | 4¾" x 3¾" x 5¾" | 12.6 | |
| **RT-2012** | C. T. | 12.1 to 29.0 | 11.4 | 22.5 | 14.3[8] | 22.5 | B | 5⅜" x 4⅜" x 6⅜" | 20.5 | **32.80** |
| | Bridge | 12.0 to 29.0 | 23.5 | 12.0 | 33.0[5] | 12.0 | B | 5⅜" x 4⅜" x 6⅜" | 20.5 | |
| **RT-408** | Bridge | 25.0 to 53.5 | 44.0 | 8.0 | 63.0[4] | 8.0 | B | 5⅜" x 4⅜" x 7½" | 26.5 | **47.18** |
| **RT-4012** | Bridge | 25.0 to 53.0 | 43.5 | 12.0 | 60.0[5] | 12.0 | B | 7⅛" x 5⅝" x 6¼" | 33.5 | **63.83** |

*Transformers and Rectifiers will have a higher temperature rise when operating with a capacitive load as compared to a resistive or inductive load for a given load current. If this is undesirable extra ventilation should be provided or else the output current from the rectifier should be derated by approximately 20% from the values shown.

‡Designates part number to be removed from next catalog. ★Designed for a nominal input of 117 volts, 50-60 cycles.

RT Footnotes: MFD. Filter Capacitor: 1.1,000 2. 500 3. 2,000 4. 4,000 5. 6,000 6. 3,000 7. 7,500 8. 12,000.



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World Radio History

# FILAMENT TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

STANCOR

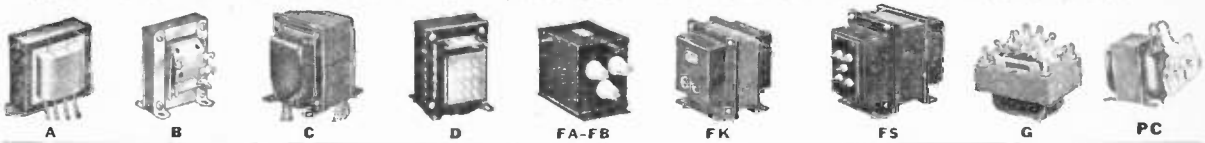
## FILAMENT TRANSFORMERS WITH SINGLE SECONDARY

| Part No. | Secondary Volts | Secondary Amperes | R.M.S. V. Insul. | Primary Volts# | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-4026 | 2.5 | 1.5 | 2,500 | 117 | A | 1⅝" | 2⅞" x 1½" | 0.7 | $4.00 |
| P-4082 | 2.5 CT | 2.5 | 2,500 | 117/107 | TD | 2 11/16" | 2¾" x 2 9/16" | 1.5 | 8.05 |
| P-6133 | 2.5 CT | 5.0 | 7,500 | 117 | S | 2 11/16" | 3 1/16" x 2¼" | 1.5 | 6.33 |
| P-4083 | 2.5 CT | 6.0 | 2,500 | 117/107 | C | 3 5/16" | 2⅝" x 2⅜" | 2.2 | 8.44 |
| P-3024 | 2.5 CT | 10.0 | 2,500 | 117/107 | C | 3 5/16" | 2⅝" x 2⅝" | 2.5 | 8.33 |
| P-6454 | 2.5 CT | 10.0 | 7,500 | 107/117 | S | 3⅛" | 3⅛" x 2½" | 2.5 | 6.38 |
| P-3060 | 2.5 CT | 10.0 | 10,000 | 117 | B | 3½" | 2⅞" x 2½" | 2.5 | 7.94 |
| P-3026 | 5.0 CT | 3.0 | 2,500 | 117/107 | C | 3 5/16" | 2⅝" x 2⅝" | 2.4 | 8.33 |
| P-4088 | 5.0 CT | 3.0 | 2,500 | 117 | B | 3⅛" | 2½" x 2½" | 1.8 | 6.60 |
| P-6467 | 5.0 CT | 3.0 | 2,500 | 117 | A | 2 | 3 5/16" x 2" | 1.4 | 5.33 |
| P-6455 | 5.0 CT | 6.0 | 2,000 | 107/117 | S | 2⅞" | 3 1/16" x 2¼" | 2.0 | 7.22 |
| P-3062 | 5.0 CT | 6.0 | 2,500 | 117 | B | 3⅛" | 2½" x 2½" | 2.3 | 7.05 |
| P-5000 | 5.0 CT | 6.0 | 2,500 | 117/107 | C | 3 5/16" | 2⅞" x 2⅞" | 3.1 | 9.66 |
| P-6135 | 5.0 CT | 10.0 | 2,500 | 117 | N | 3⅛" | 2½" x 2⅞" | 3.0 | 8.27 |
| P-4086 | 5.0 CT | 14.0 | 10,000 | 117/107 | FA | 5⅛" | 4¼" x 8½" | 12.3 | 29.14 |
| P-6302 | 5.0 CT | 22.0 | 10,000 | 117/107 | FA | 5⅛" | 4¼" x 8½" | 13.5 | 49.10 |
| P-6492 | 5.0 CT | 30.0 | 2,500 | 117 | C | 4¼" | 3¾" x 3⅞" | 7.5 | 18.04 |
| P-6468 | 5.0 CT | 30.0 | 2,500 | 117/107 | D | 4 5/16" | 3 9/16" x 3⅞" | 4.3 | 18.04 |
| P-6305 | 5.0 CT | 30.0 | 10,000 | 117/107 | FB | 5⅛" | 4½" x 10" | 18.3 | 40.79 |
| P-6137 | 5.25 CT | 13.0 | 2,500 | 117 | N | 3⅞" | 3⅛" x 3¼" | 5.2 | 12.88 |
| P-6463 | †6.0 CT, 6.5 CT, or 7.0 CT | 13.0 | 2,000 | 117 | B | 3⅞" | 2 11/16" x 3⅜" | 4.5 | 11.22 |
| P-6465 | 6.3 CT | 0.6 | 1,500 | 117 | A | 1⅝" | 2⅞" x 1⅝" | 0.5 | 2.94 |
| P-6134 | 6.3 CT | 1.2 | 3,000 | 117 | A | 1⅝" | 2⅛" x 1⅝" | 0.8 | 3.22 |
| P-8190 | 6.3 | 1.2 | 5,000 | 117 | A | 2 | 3¼" x 1¾" | 1.0 | 4.22 |
| P-8191 | 6.3 | 1.2 | 5,000 | 6.3 | A | 2 | 3¼" x 1¾" | 1.0 | 4.55 |
| P-5014 | 6.3 CT | 3.0 | 2,500 | 117 | B | 3⅛" | 2½" x 2½" | 2.0 | 6.05 |
| P-6466 | 6.3 CT | 3.0 | 2,500 | 117 | A | 2 | 3 9/16" x 2" | 1.4 | 5.16 |
| P-6462 | 6.3 | 3.0 | 7,000 | 107/117 | A | 2⅞" | 4" x 2⅞" | 2.0 | 9.32 |
| P-4019 | 6.3 CT | 4.0 | 2,500 | 117/107 | C | 3 5/16" | 2⅝" x 2⅝" | 2.7 | 7.99 |
| P-6456 | 6.3 CT | 6.0 | 2,000 | 107/117 | A | 2¼" | 3⅛" x 2½" | 2.0 | 5.88 |
| P-3064 | 6.3 CT | 6.0 | 2,500 | 117 | B | 3⅛" | 2½" x 2⅞" | 2.4 | 6.94 |
| P-4089 | 6.3 CT | 6.0 | 2,500 | 117/107 | C | 3⅝" | 3" x 3⅛" | 3.5 | 9.16 |
| P-6308 | 6.3 CT | 10.0 | 2,500 | 117/107 | N | 3½" | 2⅞" x 2¾" | 3.4 | 8.33 |
| P-6309 | 6.3 CT | 20.0 | 2,500 | 117/107 | N | 4⅝" | 3¾" x 3" | 6.7 | 15.76 |
| P-5015 | 7.5 CT | 4.0 | 2,500 | 117 | B | 3⅛" | 2½" x 2⅞" | 2.7 | 7.05 |
| P-6457 | 7.5 CT | 5.0 | 2,000 | 107/117 | C | 4½" | 3¾" x 4" | 6.0 | 21.15 |
| P-4091 | 7.5 CT | 5.0 | 2,500 | 117/107 | C | 3⅝" | 3" x 3" | 3.4 | 11.16 |
| P-6138 | 7.5 CT | 8.0 | 2,500 | 117 | N | 3⅞" | 3⅛" x 2⅞" | 4.7 | 10.21 |
| P-5016 | 10.0 CT | 4.0 | 2,500 | 117 | B | 3½" | 2⅞" x 2⅝" | 3.3 | 8.49 |
| P-6458 | 10.0 CT | 5.0 | 2,000 | 107/117 | N | 3 1/16" | 2½" x 2⅞" | 3.0 | 7.49 |
| P-4096 | 10.0 CT | 5.0 | 2,500 | 117/107 | C | 4" | 3¼" x 3⅛" | 4.0 | 10.10 |
| P-6139 | 10.0 CT | 8.0 | 2,500 | 117 | N | 3⅞" | 3⅛" x 3⅛" | 4.9 | 10.32 |
| P-4097 | 10.0 CT | 8.0 | 2,500 | 117/107 | C | 4" | 3¼" x 3⅝" | 5.2 | 11.21 |
| P-6461 | 10.0 CT | 10.0 | 2,000 | 117* | C | 3⅞" | 3¼" x 3⅞" | 5.0 | 11.66 |
| P-5002 | 10.0 CT | 12.0 | 7,500 | 117/107 | FA | 5⅛" | 4¼" x 8½" | 14.7 | 31.47 |
| P-3020 | 11.0 CT | 10.0 | 2,500 | 117/107 | C | 4¾" | 4" x 3½" | 7.7 | 16.59 |
| P-8130 | 12.6 CT | 2.0 | 1,500 | 117 | A | 2" | 3¼" x 2" | 1.4 | 5.72 |
| P-6469 | 25.2 | 1.0 | 1,500 | 117 | A | 2" | 3¼" x 2" | 1.4 | 5.44 |

## FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

| Part No. | Secondary Volts | Secondary Amperes | R.M.S. V. Insul. | Primary Volts# | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-6144 | 2.5 CT<br>5.0 CT<br>6.3 CT | 3.5<br>3.0<br>3.0 | 2,500<br>2,500<br>2,500 | 117 | C | 3⅝" | 3" x 3⅛" | 3.7 | $12.89 |
| P-6338 | 2.5<br>5.0<br>5.0 CT<br>6.3 CT | 3.0<br>3.0<br>2.0<br>3.0 | 2,500<br>2,500<br>2,500<br>2,500 | 117 | N | 3½" | 2⅞" x 2¾" | 3.4 | 12.32 |
| P-5009 | 5.0 CT<br>6.3 CT | 3.0<br>6.0 | 2,500<br>2,500 | 117/107 | C | 4" | 3¼" x 3¼" | 4.5 | 14.82 |
| P-5008 | 5.0 CT<br>6.3 CT | 4.0<br>3.6 | 2,500<br>2,500 | 117/107 | C | 3⅝" | 3" x 3¼" | 3.8 | 13.04 |
| P-4022 | 5.0 CT<br>6.3 CT | 6.0<br>6.0 | 2,500<br>2,500 | 117/107 | C | 4" | 3¼" x 3⅜" | 4.8 | 13.93 |
| P-6333 | 5.0<br>5.0<br>6.3 CT<br>7.5/6.3 CT | 3.0<br>3.0<br>4.0<br>3.0 | 2,500<br>2,500<br>2,500<br>2,500 | 117 | B | 3½" | 2⅞" x 3⅞" | 4.7 | 14.32 |

#All primary windings for 60 cycle operation. *Primary 50/60 cycles. †By means of primary tap: For Eimac 4CX1000A tube.



A B C D FA-FB FK FS G PC

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# PLATE TRANSFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

## PLATE TRANSFORMERS

| Part No. | D.C. Volts | Sec. A.C. Volts at Plate | D.C. Ma. CCS | D.C. Ma. ICAS | Pri. Volts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| P-8040 | 400<br>40 | 500/40-0-500 | 300 | 375 | 115 | C | 4¾" | 4" x 4½" | 9.8 | $22.48 |
| P-8041 | 500<br>400<br>40 | 615/520/40-0-520/615 | 250 | 310 | 115 | C | 4¾" | 4" x 5⅛" | 13.6 | 24.31 |
| P-8042 | 600<br>400<br>40 | 770/510/40-0-510/770 | 300 | 375 | 115 | C | 4¾" | 4" x 6⅜" | 18.0 | 35.80 |
| P-8043 | 750<br>600<br>40 | 950/750/40-0-750/950 | 300 | 375 | 115 | FS | 7⅝" | 6⅛" x 8½" | 29.0 | 155.00 |
| P-8025 | 1000<br>750 | 1230/940-0-940/1230 | 400 | 500 | 115 | FS | 7⅝" | 6⅛" x 9½" | 35.0 | 120.10 |
| P-8026 | 1250<br>1000 | 1475/1175-0-1175/1475 | 300 | 375 | 115 | FS | 7¾" | 7⅜" x 8¼" | 36.5 | 100.00 |
| P-8027 | 1250<br>1000 | 1510/1210-0-1210/1510 | 500 | 625 | 115 | FS | 8" | 5⅝" x 8¼" | 45.2 | 95.18 |
| P-8028 | 1500<br>1250 | 1740/1460-0-1460/1740 | 300 | 375 | 115 | FS | 8⅛" | 5⅝" x 7⅞" | 38.7 | 85.19 |
| P-8029 | 1500<br>1250 | 1775/1500-0-1500/1775 | 500 | 625 | 115-230 | FS | 9⅞" | 7¼" x 8⅜" | 65.0 | 130.92 |
| P-8030 | 1750<br>1500 | 2100/1800-0-1800/2100 | 300 | 375 | 115 | FS | 7¾" | 7⅜" x 9" | 45.8 | 108.00 |
| P-8031 | 1750<br>1500 | 2075/1775-0-1775/2075 | 500 | 625 | 115-230 | FS | 10½" | 7¼" x 8⅛" | 65.5 | 129.81 |
| P-8032 | 2000<br>1750 | 2400/2100-0-2100/2400 | 300 | 375 | 115 | FS | 7¾" | 7⅜" x 9¼" | 46.0 | 110.45 |
| P-8033 | 2000<br>1750 | 2375/2065-0-2065/2375 | 500 | 625 | 115-230 | FS | 11¼" | 7⅜" x 9½" | 77.0 | 162.62 |
| P-8034 | 2500<br>2000 | 2900/2385-0-2385/2900 | 300 | 375 | 115-230 | FS | 11¼" | 7⅜" x 8¾" | 62.8 | 158.18 |
| P-8035 | 2500<br>2000 | 2950/2375-0-2375/2950 | 500 | 575 | 115-230 | FS | 11¼" | 7⅜" x 10¼" | 80.0 | 172.61 |

## PLATE TRANSFORMERS—NEW FUNCTIONAL UNITS

No exposed terminals. Insulated leads provide protected routing to circuits. Simplified design offers ease of mounting and neat, convenient circuit wiring. No difficult cutouts needed.

Each of these units is "all transformer," taking a minimum of chassis space. No bulky casing or protruding, "hot" terminals to increase mounting area.

D.C. output rated CCS at load terminals of single-section reactor-input filter, ICAS with single-section capacitor-input filter. Primaries for 117 volts, 60 cycles.

| Type Part No. | Secondary A.C. Volts | D.C. Output Volts | D.C. Output Ma. | Type Filter | Rectifier | List Price |
|---|---|---|---|---|---|---|
| PC8301 | 415-0-415 | 300<br>425 | 200<br>160 | Reactor Input<br>Capacitor Input | 5U4G<br>5U4G | $13.38 |
| PC8302 | 515-0-515 | 385<br>500 | 235<br>200 | Reactor Input<br>Capacitor Input | 5U4G<br>5R4GY | 17.15 |
| PC8303 | 665-0-665 | 500<br>750 | 250<br>200 | Reactor Input<br>Capacitor Input | 5R4GY<br>5R4GY | 21.70 |
| PC8304 | 750-0-750 | 600<br>850 | 265<br>200 | Reactor Input<br>Capacitor Input | 2-5R4GY<br>5R4GY | 24.31 |
| PC8305 | 920-0-920 | 750<br>1000 | 250<br>200 | Reactor Input<br>Capacitor Input | 2-5R4GY<br>5R4GY | 25.36 |
| PC8306* | 920-0-920 | 750<br>1100 | 150<br>125 | Reactor Input<br>Capacitor Input | 5R4GY<br>5R4GY | 25.75 |
| | 500-0-500 | 380<br>550 | 150<br>125 | Reactor Input<br>Capacitor Input | 5U4G<br>5U4G | |

D.C. output rated at load terminals of single-section, reactor-input filter with full-wave mercury-vapor rectification. Primaries for 117 volts, 60 cycles

| Type and Part No. | Secondary A.C. Volts | D.C. Volts | D.C. Ma. CCS | D.C. Ma. ICAS | List Price |
|---|---|---|---|---|---|
| PT8311 | 1200-0-1200 | 1000 | 225 | 280 | $27.97 |
| PT8312 | 1200-0-1200 | 1000 | 325 | 405 | 46.29 |
| PT8313 | 1475-0-1475 | 1250 | 250 | 310 | 44.34 |
| PT8314 | 1790-0-1790 | 1500 | 225 | 280 | 51.17 |
| PT8315 | 2065-0-2065 | 1750 | 200 | 250 | 51.62 |

*Tapped for use with dual rectifier-filter systems to deliver two rated outputs simultaneously.

## BIAS SUPPLY TRANSFORMERS

| Part No. | High Voltage Supply A.C. Volts at D.C. Milliamps. | Rectifier Fil. Volts | Rectifier Fil. Amperes | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| P-6317 | 200/170/130/90/0/90/130/170/200 @ 200 ma. | 5.0 | 3.0 | CD | 4" | 3¼" x 3⅝" | 4.9 | $19.09 |
| P-6318 | 450/400/350/250/0/250/350/400/450 @ 200 ma. | 5.0 | 3.0 | CD | 4⅝" | 3⅝" x 4⅛" | 7.0 | 21.70 |

## TUBE CHECKER MULTI-TAPPED FILAMENT TRANSFORMER

| Part No. | Secondary Volts | Primary Volts | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| P-1834-3 | 1.1/ 1.4/ 1.5/ 2.0/ 2.5/ 3.0/ 3.3/ 5.0/ 6.3/ 7.0/ 7.5/ 12/ 25/ 30/ 35/ 50/ 70/ 85/ 110/ 117 | 125/115/105 | A | 2⅝" | 4" x 2" | 2.4 | $15.76 |

All Primary Windings for 60 cycle operation. ‡Designates part number to be removed from next catalog.
§Output changed by means of tap on primary winding. Rating is for a single section choke input filter using a 6 mfd. condenser.



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World Radio History

# ISOLATION AND AUTOFORMERS

## CHICAGO STANDARD TRANSFORMER CORPORATION

### STRAIGHT ISOLATION—125/115/105 VOLTS TO 115 VOLTS.†

| Part No. | Wattage | Primary# | Secondary | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| P-6160 | 100 | 125/115/105 | 115 | KA | 4¾" | 4" x 3⅝" | 7.0 | $22.37 |
| P-6371 | 175 | 117 | 117 | TE | 5 5/16" | 4 9/16" x 5¼" | 9.0 | 32.24 |
| P-6161 | 250 | 125/115/105 | 115 | KA | 4¾" | 4" x 5⅝" | 14.2 | 42.12 |
| P-6298 | 500 | 125/115/105 | 115 | FK | 7⅝" | 6⅛" x 7½" | 28.0 | 65.77 |
| P-6125 | 1000 | 125/115/105 | 115 | FK | 7¾" | 5⅝" x 7¾" | 34.8 | 86.30 |
| P-6123 | 1500 | 125/115/105 | 115 | FK | 7¾" | 5⅝" x 9" | 49.8 | 107.61 |

### STEP-DOWN ISOLATION—250/230/210 VOLTS TO 115 VOLTS.†

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P-6383 | 100 | 250/230/210 | 115 | KA | 4¾" | 4" x 3⅝" | 7.3 | $24.36 |
| P-6385 | 250 | 250/230/210 | 115 | KA | 4¾" | 4" x 5⅛" | 14.2 | 39.68 |
| P-6387 | 500 | 250/230/210 | 115 | FK | 7⅝" | 6⅛" x 7⅛" | 29.5 | 66.54 |
| P-6389 | 1000 | 250/230/210 | 115 | FK | 7¾" | 5⅝" x 8" | 33.8 | 87.41 |
| P-6390 | 1500 | 250/230/210 | 115 | FK | 7¾" | 5⅝" x 9⅝" | 50.3 | 120.93 |

†Built-in electrostatic shields are grounded to core internally.

### ISOLATION TESTING TRANSFORMER

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P-6415 | 350 | 117 | 105/115/125 | KC | 5⅝" | 4½" x 5¾" | 17.0 | $35.46 |

Large enough to handle almost any television or radio receiver on test. 115 and 125, with 117 volts, A.C., from the line for testing purposes or Has three standard receptacles, providing output voltages of 105, for correction of high or low line voltage. Has electrostatic shield.

### AUTOFORMERS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P-6287 | 40 | 230 | 115 | — | 4½" | 3" Diam. can | 2.7 | $10.55 |
| P-5062 | 80 | 230 | 115 | K | 3⅝" | 3" x 3¼" | 3.8 | 11.99 |
| P-5063 | 100 | 230 | 115 | K | 4" | 3¼" x 3¼" | 4.5 | 13.32 |
| P-5064 | 150 | 230 | 115 | K | 4 5/16" | 3⅝" x 3⅝" | 5.2 | 15.71 |
| P-5065 | 300 | 230 | 115 | K | 4¾" | 4" x 4⅛" | 8.8 | 20.70 |
| P-6141 | 500 | 230 | 115 | K | 4¾" | 4" x 5⅛" | 13.7 | 25.64 |
| P-6124 | 1000 | 230 | 115 | FK | 7⅛" | 5⅝" x 6¾" | 24.5 | 59.11 |
| P-6299 | 150 | 115 | 150/140/130/120/110/100/90 | KA | 4" | 3¼" x 4¾" | 6.0 | 21.15 |

**Testing Autoformer**—Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. Primary equipped with 6 ft. approved cord and plug. Secondary connected to female receptacle.

### LINE ADJUSTING AUTOFORMERS

| Type and Part No. | Va.* | Input Voltage 50-60 Cycle | Output Voltage | Height | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| PV-6441 | 150 | 65/75/90/100/115/130/145 | 115 | 5½" | 3⅞" x 5⅜" | 6.4 | $24.36 |
| PV-6442 | 350 | 65/75/90/100/115/130/145 | 115 | 5½" | 3⅞" x 6⅛" | 10.5 | 30.97 |
| PV-6443 | 500 | 65/75/90/100/115/130/145 | 115 | 5½" | 3⅞" x 6⅞" | 15.0 | 38.57 |
| PV-6444 | 750 | 65/75/90/100/115/130/145 | 115 | 6 5/16" | 4½" x 8⅛" | 19.0 | 58.16 |

*Watts to pure resistive load. To other types of loads, multiply rating of line adjuster by power factor of load for actual wattage.

### AIR CONDITIONER AUTO-TRANSFORMERS—230 VOLTS TO 208 VOLTS

| Part No. | Rating KVA | Motor Size | Input Voltage | Output Voltage | Mtg. | Height | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| PSU-2000 | 2.3 | ½-1 hp. | 208/230 | 230/208 | PSU | 3½" | 3¾" x 6½" | 9 | $24.56 |
| PSU-3000 | 3.0 | 1-2 hp. | 208/230 | 230/208 | PSU | 4" | 4½" x 6" | 10 | 27.64 |

### CATHODE RAY TUBE POWER TRANSFORMERS

For use with type 2X2 rectifier tubes in a conventional half-wave voltage supply.

| Part No. | Plate Supply A.C. Volts | D. C. Milliamperes | Rectifier Filament Volts | Amperes | Other Windings Volts | Amperes | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P-8150 | 1,550 half-wave | 1.5 | 2.5 | 1.75 | ... | ... | TD | 3 1/16" | 3" x 2½" | 1.8 | $12.21 |
| P-8151 | 2,400 half-wave | 5.0 | 2.5 | 2.0 | 2.5 | 2.0 | C | 4 5/16" | 3 9/16" x 3⅞" | 6.4 | 18.09 |

### PHOTOFLASH POWER TRANSFORMER

| Part No. | Application | Pri. | Sec. | Mtg. Type | Height Overall | Base Area | Mtg. Ctrs. | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-6425 | For use in Sprague electronic flash circuits. See Sprague Electronic Flash Handbook C-703 | 105/115/125V. 60 cy. | Charges up to 1050 mfd. to 450 Volts D.C. | S | 2⅜" | 2 15/16" x 2" | 2⅝" | 1.4 | $5.83 |
| P-6426 | Trigger coil for use with 450V. flashtube. Replaces G.E. 86G41 | | | | ¾" | ⅛" diam. | | 0.2 | $2.78 |

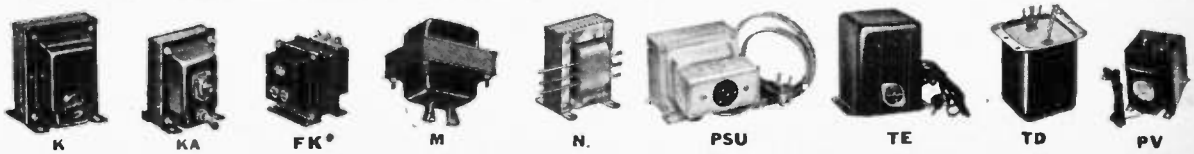
### SPEAKER FIELD SUPPLY TRANSFORMER

| Part No. | Plate Supply A.C. Volts | D.C. Milliamperes | Rectifier Filament Volts | Amperes | Mtg. | Height Overall | Base Area | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| P-6146 | 120-0-120 | 250 | 5.0 | 3.0 | C | 4" | 3¼" x 3⅛" | 4.2 | $13.04 |

### CONDENSER TESTER POWER TRANSFORMER

| Part No. | Plate Supply A.C. Volts | D.C.-M.A. | Fil. Wdgs. Volts | Amps. | Overall Dimensions L | W | D | Mtg.§ Type | Shpg. Wt. in Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| P-6459 | 550 | 30 | 6.3 | 0.9 | | | | Coil and Iron | 1.4 | $9.10 |
| | 55 | 60 | 6.3 | 0.6 | 2⅝" | 2⅛" | 2¼" | | | |

#All Primary Windings for 117 V-60 cycle operation unless otherwise indicated.



K KA FK* M N. PSU TE TD PV

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World Radio History

# CHICAGO

**MILITARY and NEW EQUIPMENT**

# POWER TRANSFORMERS
# FILTER REACTORS

**CHICAGO STANDARD TRANSFORMER CORPORATION**

## POWER TRANSFORMERS—PLATE AND FILAMENT SUPPLY—TF4RX03YY

For CAPACITOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

| High Voltage Secondary Volts A-C- | Ma. Output D-C | V.D-C | Filaments Rectifier Volts | Amps. | Others Volts | Amps. | Wt. Lbs. | YY Case Mounting Cat. No. | Case No. | List Price | S-Type Mounting Cat. No. | Case No. | List Price | C-Type Mounting Cat. No. | Case No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250-0-250 | 10 | 320 | 6.3 | 1.2 | 6.3 | 0.6 | 1¼ | PHC-10 | 14 | $18.75 | ..... | | | ..... | | |
| 250-0-250 | 20 | 300 | 6.3 | 1.2 | 6.3 | 0.6 | 1¾ | PHC-20 | 15 | 19.00 | ..... | | | ..... | | |
| 225-0-225 | 40 | 210 | 5 | 2 | 6.3CT | 2 | 3¼ | PHC-40 | 17 | 21.50 | PSC-40 | 17 | $14.75 | PCC-40 | 16 | $ 8.50 |
| 270-0-270 | 55 | 260 | 5 | 2 | 6.3CT | 2 | 3½ | PHC-55 | 17 | 21.90 | PSC-55 | 17 | 15.50 | PCC-55 | 16 | 9.15 |
| 300-0-300 | 60 | 285 | 5 | 2 | 6.3CT | 3 | 4½ | PHC-60 | 19 | 23.80 | PSC-60 | 19 | 16.50 | PCC-60 | 18 | 10.50 |
| 335-0-335 | 70 | 320 | 5 | 2 | 6.3CT | 3 | 4½ | PHC-70 | 19 | 24.25 | PSC-70 | 19 | 17.50 | PCC-70 | 18 | 11.25 |
| 330-0-330 | 85 | 320 | 5 | 2 | 6.3CT | 3 | 6 | PHC-85 | 20 | 26.00 | PSC-85 | 20 | 18.65 | PCC-85 | 20 | 13.00 |
| 345-0-345 | 105 | 320 | 5 | 2 | 6.3CT | 3.5 | 6½ | PHC-105 | 21 | 27.70 | PSC-105 | 21 | 19.75 | PCC-105 | 20 | 14.10 |
| 375-0-375 | 120 | 380 | 5 | 3 | 6.3CT | 4 | 9½ | PHC-120 | 21 | 29.30 | PSC-120 | 22 | 20.80 | PCC-120 | 22 | 15.85 |
| 370-0-370 | 150 | 390 | 5 | 3 | 6.3CT | 4 | | | | | | | | | | |
| | | | | | 6.3CT | 1 | 11½ | PHC-150 | 22 | 38.90 | PSC-150 | 22 | 27.50 | PCC-150 | 22 | 18.15 |
| 385-0-385 | 200 | 390 | 5 | 3 | 6.3CT | 4.5 | | | | | | | | | | |
| | | | | | 6.3CT | 1 | 12¼ | PHC-200 | 22 | 41.65 | PSC-200 | 22 | 29.25 | PCC-200 | 22 | 21.15 |
| 400-80-0-80-400 | 250 | 410 | 5 | 6 | 6.3CT | 7 | | | | | | | | | | |
| | | | | | 5 | 2 | 15 | PHC-250 | 24 | 45.60 | PSC-250 | 24 | 36.50 | PCC-250 | 24 | 26.05 |
| 625-0-625 | 300 | 685 | 5 | 4 | 6.3 | 8 | | | | | | | | | | |
| | | | | | 6.3 | 3 | | | | | | | | | | |
| | | | | | 6.3 | 3 | 21 | | | | PSC-300 | 24 | 51.80 | PCC-300 | 24 | 31.50 |

For REACTOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 350-0-350 | 55 | 260 | 5 | 2 | 6.3CT | 2 | 3¼ | PHR-55 | 17 | $21.65 | PSR-55 | 17 | $15.75 | PCR-55 | 16 | $ 9.50 |
| 425-0-425 | 70 | 320 | 5 | 2 | 6.3CT | 3 | 4½ | PHR-70 | 19 | 23.45 | PSR-70 | 19 | 17.25 | PCR-70 | 18 | 10.75 |
| 440-0-440 | 85 | 325 | 5 | 2 | 6.3CT | 3 | 6 | PHR-85 | 20 | 25.15 | PSR-85 | 20 | 19.00 | PCR-85 | 20 | 12.50 |
| 450-0-450 | 105 | 320 | 5 | 2 | 6.3CT | 3.5 | 6½ | PHR-105 | 21 | 27.70 | PSR-105 | 21 | 20.00 | PCR-105 | 20 | 13.35 |
| 500-0-500 | 120 | 390 | 5 | 3 | 6.3CT | 4 | 9½ | PHR-120 | 21 | 29.30 | PSR-120 | 22 | 21.25 | PCR-120 | 22 | 14.95 |
| 510-0-510 | 150 | 395 | 5 | 3 | 6.3CT | 4 | | | | | | | | | | |
| | | | | | 6.3CT | 1 | 11½ | PHR-150 | 22 | 36.30 | PSR-150 | 22 | 29.50 | PCR-150 | 22 | 17.50 |
| 520-0-520 | 200 | 390 | 5 | 3 | 6.3CT | 4.5 | | | | | | | | | | |
| | | | | | 6.3CT | 1 | 12¼ | PHR-200 | 22 | 38.20 | PSR-200 | 22 | 31.50 | PCR-200 | 22 | 19.50 |
| 550-370-75-0-75-370-550 | 300 | 420 | 5 | 6 | 6.3CT | 1 | | | | | | | | | | |
| | | | | | 6.3CT | 5 | 17½ | PHR-300 | 24 | 52.15 | PSR-300 | 24 | 44.50 | PCR-300 | 24 | 30.50 |

For REGULATED POWER SUPPLIES, CAPACITOR INPUT—Primary 117 Volts, 50-60 Cycles

| High Voltage Secondary Volts A-C | Ma. Output D-C | V.D-C- | Filaments Rectifier Volts | Amps. | Others Volts | Amps. | Volts | Amps | Wt. Lbs. | H-Type Mounting Cat. No. | Case No. | List Price | S-Type Mounting Cst. No. | Case No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 440-0-440 | 165 | 430 | 5 | 3 | 6.3 | 7.5 | 6.3 | 3 | 12 | PHC-165 | 22 | $47.65 | PSC-165 | 22 | $39.75 |
| | | | | | 6.3 | 0.6 | 6.3 | 3 | | | | | | | |
| 450-0-450 | 200 | 442 | 5 | 2 | 6.3 | 4 | 6.3 | 0.6 | 12 | PHC-200A | 22 | 42.95 | PSC-205 | 22 | 37.50 |
| | | | | | 6.3 | 4 | | | | | | | | | |

## FILTER REACTORS—TF4RX01YY

| Inductance in Henries | Max. Current Ma. D-C | D-C Resistance in Ohms | Insulation Test Volts | Wt. Lbs. | YY Case Mounting Cat. No. | Case No. | List Price | S-Type Mounting Cat. No. | Case No. | List Price | C-Type Mounting Cat. No. | Case No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 10 | 680 | 1,000 | 1 | RH-1510 | 8 | $9.75 | ..... | | | ..... | | |
| 15 | 20 | 680 | 1,000 | 1 | RH-1520 | 8 | 10.30 | ..... | | | ..... | | |
| 15 | 40 | 475 | 2,500 | 1½ | RH-1540 | 12 | 10.40 | RS-1540 | 12 | $ 6.00 | RC-1540 | 12 | $ 4.25 |
| 15 | 55 | 420 | 2,500 | 2 | RH-1555 | 13 | 10.75 | RS-1555 | 13 | 7.00 | RC-1555 | 12 | 5.20 |
| 15 | 85 | 285 | 2,500 | 2¾ | RH-1585 | 14 | 11.40 | RS-1585 | 15 | 8.45 | RC-1585 | 14 | 6.30 |
| 12 | 105 | 170 | 2,500 | 4 | RH-12105 | 17 | 13.35 | RS-12105 | 17 | 9.50 | RC-12105 | 16 | 7.35 |
| 12 | 150 | 150 | 2,500 | 5½ | RH-12150 | 19 | 15.30 | RS-12150 | 19 | 11.35 | RC-12150 | 18 | 9.75 |
| 12 | 200 | 140 | 2,500 | 7 | RH-12200 | 20 | 18.00 | RS-12200 | 21 | 13.75 | RC-12200 | 20 | 11.50 |
| 10 | 55 | 230 | 2,500 | 1¾ | RH-1055 | 13 | 10.75 | RS-1055 | 13 | 6.65 | RC-1055 | 12 | 4.95 |
| 10 | 85 | 175 | 2,500 | 2½ | RH-1085 | 14 | 11.40 | RS-1085 | 15 | 7.00 | RC-1085 | 14 | 5.85 |
| 8 | 105 | 100 | 2,500 | 3¾ | RH-8105 | 17 | 13.35 | RS-8105 | 17 | 9.50 | RC-8105 | 16 | 7.00 |
| 8 | 150 | 100 | 2,500 | 5¼ | RH-8150 | 18 | 15.30 | RS-8150 | 19 | 11.00 | RC-8150 | 18 | 9.65 |
| 8 | 200 | 85 | 2,500 | 7 | RH-8200 | 20 | 18.00 | RS-8200 | 21 | 13.00 | RC-8200 | 20 | 11.35 |
| 8 | 250 | 90 | 2,500 | 10½ | RH-8250 | 22 | 23.50 | RS-8250 | 22 | 15.75 | RC-8250 | 22 | 12.90 |
| 8 | 300 | 55 | 3,500 | 12½ | RH-8300 | 22 | 27.50 | RS-8300 | 22 | 19.75 | RC-8300 | 22 | 15.90 |

## FILAMENT TRANSFORMERS—Primary 115-230 Volts, 50-60 Cycles—TF4RX01YY

| Secondary Volts | Amps. | Insulation Test Volts | Wt. Lbs. | YY Case Mounting Cat. No. | Case No. | List Price | S-Type Mounting Cat. No. | Case No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 2.5CT | 5.25 | 3,500 | 2 | FH-25 | 15 | $15.45 | F-25 | 14 | $16.20 |
| 2.5CT | 10.0 | 5,000 | 3 | FH-210 | 15 | 22.15 | F-210 | 17 | 16.25 |
| 2.5CT | 10.0 | 9,000 | 4 | FH-210H | 19 | 25.75 | F-210H | 19 | 19.75 |
| 2.5CT | 15.0 | 9,000 | 6 | FH-215H | 21 | 30.95 | F-215H | 20 | 21.25 |
| 5CT | 4.0 | 2,500 | 2¼ | FH-54 | 15 | 16.10 | F-54 | 15 | 10.85 |
| 5CT | 10.0 | 2,500 | 3½ | FH-58 | 17 | 22.15 | F-58 | 17 | 18.50 |
| 5CT | 10 | 8,000 | 6 | FH-510H | 21 | 33.00 | F-510H | 21 | 40.00 |
| 5CT | 20.0 | 2,500 | 6½ | ..... | | | F-516 | 21 | 24.50 |
| 5CT | 20 | 10,000 | 13 | FH-520HB | 22 | 41.25 | F-520HB | 22 | 28.25 |
| 5CT | 30 | 2,500 | 10½ | ..... | | | F-530 | 22 | 28.25 |
| 5CT | 30 | 2,500 | 10½ | ..... | | | F-530BX* | 22 | 62.40 |
| 6.3CT | 1.5 | 2,500 | 1 | FH-615 | 12 | 13.50 | F-615 | 12 | 8.75 |
| 6.3CT | 3 | 2,500 | 2 | FH-63 | 14 | 15.95 | F-63 | 14 | 10.50 |
| 6.3CT | 5.5 | 2,500 | 3 | FH-65 | 16 | 18.55 | F-65 | 17 | 12.75 |
| 6.3CT | 10.0 | 2,500 | 5 | FH-610 | 19 | 26.25 | F-610 | 19 | 17.50 |
| 7.5CT | 12 | 2,500 | 6½ | ..... | | | F-712 | 21 | 24.50 |
| 7.5CT | 25.0 | 2,500 | 12 | ..... | | | F-725 | 22 | 28.25 |
| 7.5CT | 51 | 2,500 | 29 | ..... | | | F-751 | 26 | 59.50 |
| 10CT | 4.0 | 2,500 | 3¼ | FH-104 | 17 | 19.05 | F-104 | 17 | 14.00 |
| 10CT | 6.5 | 2,500 | 5 | ..... | | | F-106 | 19 | 19.50 |
| 10CT | 10.0 | 2,500 | 6½ | ..... | | | F-1010 | 21 | 24.50 |

*BX mounting, see page N-879 for illustration and dimensions.

**MEETS MIL-T-27A SPECS**

**YY Case.** Steel base cover deep-seal soldered into case. Terminals hermetically sealed. Ceramic bushings. Stud-mounted unit.

**S-Type.** Steel base cover fitted with phenolic terminal board. Convenient numbered solder lug terminals. Flange-mounted unit.

**C-Type.** With 10" color-coded stripped and tinned leads brought out through fibre board base cover. Flange-mounted unit.

### S-TYPE & C-TYPE CASE DIMENSIONS

(YY Case Dimensions on Page N-742)

| Case No. | Depth | Width | Height |
|---|---|---|---|
| 12 | 2¼ | 2⅛ | 2 11/16 |
| 13 | 2¼ | 2⅛ | 2 15/16 |
| 14 | 2½ | 2⅜ | 3 1/16 |
| 15 | 2½ | 2⅜ | 3 5/16 |
| 16 | 2⅞ | 2 11/16 | 3½ |
| 17 | 2⅞ | 2 11/16 | 3¾ |
| 18 | 3¼ | 3 | 3⅞ |
| 19 | 3¼ | 3 | 4¼ |
| 20 | 3 11/16 | 3 5/16 | 4 5/16 |
| 21 | 3 11/16 | 3 5/16 | 4 11/16 |
| 22 | 4 9/16 | 4⅛ | 5 5/16 |
| 24 | 5 5/16 | 4 13/16 | 6 1/16 |



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World Radio History

# CHICAGO

## MILITARY STANDARD AUDIOS

## MS TRANSISTOR AUDIOS

## MIL-T-27A SATURABLE TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

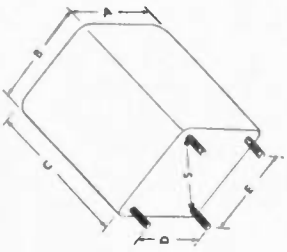
## MILITARY STANDARD AUDIO TRANSFORMERS

Designed and built in accordance with MIL-T-27A, Grade A, Class R operating temperature; Life Expectancy X (10,000 hrs. min.).

Maximum Operating Altitude 50,000 ft.

**Frequency Response ± 2 db 300—10,000 cps,** AJ Case Size—Max. Wt., 6 lbs.

| MIL-T-27A Classification | MIL-T-27A Part No. | Application | Impedance | Operating Level | Pri. DCMA | Catalog No. | List Price |
|---|---|---|---|---|---|---|---|
| TF 1RX 15AJ001 | MS-90000 | P-P Plates to P-P Grids | Pri: 10,000 ohms CT<br>Sec: 90,000 ohms CT<br>22,500 ohms CT | 15 dbm. | 10 | AMS-1 | $26.50 |
| TF 1RX 16AJ002 | MS-90001 | Line to Voice Coil | Pri: 600 ohms CT<br>150 ohms<br>Sec: 4/8/16 ohms | 2W | — | AMS-2 | 24.50 |
| TF 1RX 10AJ001 | MS-90002 | Line to P-P Grids | Pri: 600 ohms CT<br>150 ohms<br>Sec: 135,000 ohms CT | 15 dbm. | — | AMS-3 | 23.50 |
| TF 1RX 16AJ001 | MS-90003 | Line to Line | Pri: 600 ohms CT<br>150 ohms<br>Sec: 600 ohms CT<br>150 ohms | 15 dbm. | — | AMS-4 | 23.50 |
| TF 1RX 13AJ001 | MS-90004 | Single Plate to Line | Pri: 7600/4800 ohms<br>Sec: 600 ohms CT/150 ohms | 2W | 40 | AMS-5 | 21.25 |
| TF 1RX 13AJ002 | MS-90005 | Single Plate to Voice Coil | Pri: 7600/4800 ohms<br>Sec: 4/8/16 ohms | 2W | 40 | AMS-6 | 21.50 |
| TF 1RX 13AJ003 | MS-90006 | P-P Plates to Line | Pri: 15,000 ohms CT<br>Sec: 600 ohms CT/150 ohms | 2W | 10 | AMS-7 | 20.80 |
| TF 1RX 13AJ004 | MS-90007 | P-P Plates to Line | Pri: 24,000 ohms CT<br>Sec: 600 ohms CT/150 ohms | 1W | 20 | AMS-8 | 21.50 |
| TF 1RX 13AJ005 | MS-90008 | P-P Plates to Line | Pri: 60,000 ohms CT<br>Sec: 600 ohms CT/150 ohms | 5W | 20 | AMS-9 | 20.80 |




### CASE DIMENSIONS

| Case Size | Dimensions in inches A | B | C | D | E | S |
|---|---|---|---|---|---|---|
| AG | 1 | 1 | $1\frac{3}{8}$ | — | — | $\frac{3}{4}$ |
| AH | $1\frac{5}{16}$ | $1\frac{5}{16}$ | $1\frac{3}{4}$ | — | — | $1\frac{1}{4}$ |
| AJ | $1\frac{5}{8}$ | $1\frac{5}{8}$ | $2\frac{3}{8}$ | $1\frac{3}{16}$ | $1\frac{3}{16}$ | — |
| EA | $1\frac{13}{16}$ | $1\frac{13}{16}$ | $2\frac{3}{4}$ | $1\frac{3}{8}$ | $1\frac{1}{4}$ | — |
| EB | $1\frac{13}{16}$ | $1\frac{13}{16}$ | $2\frac{7}{16}$ | $1\frac{3}{8}$ | $1\frac{1}{4}$ | — |
| FA | $2\frac{3}{16}$ | $2\frac{1}{16}$ | $3\frac{1}{8}$ | $1\frac{11}{16}$ | $1\frac{7}{16}$ | — |

## TRANSISTOR AUDIO TRANSFORMERS—TF4RX— — — — †

Designed and built in accordance with MIL-T-27A, Grade 4, Class R operating temperature; Life Expectancy X (10,000 hrs. min.).

Maximum Operating Altitude 50,000 ft.

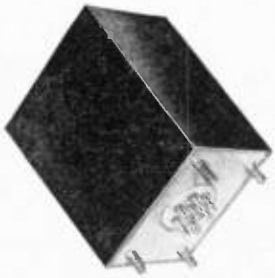
| Application | Impedance in Ohms Pri. | Sec. | Max. Pri. D.C. Ma. | DC Res. in Ohms Pri. | Sec. | Power in Watts | Case† Size | Fam-ily† | Wt. Lbs. | Catalog No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Input | 600 CT | 10 | 20 | 42 | .8 | .05 | AG | 17 | $2\frac{1}{2}$ oz. | TAMS-1 | $17.00 |
| Interstage | 100 CT | 10 CT | 100 | 4.3 | .8 | .25 | AH | 17 | 5 oz. | TAMS-2 | 17.00 |
| Interstage | 100 | 1000 CT | 100 | 5.8 | 45 | .25 | AJ | 17 | 11 oz. | TAMS-3 | 17.00 |
| Interstage | 500 CT | 5000 CT | 12 | 37 | 250 | .03 | AJ | 17 | 11 oz. | TAMS-4 | 18.00 |
| Driver | 1000 | 200 CT | 10 | 400 | 115 | .05 | AG | 17 | 2 oz. | TAMS-5 | 22.15 |
| Driver | 2000 | 200 CT | 5 | 720 | 115 | .05 | AG | 12 | 2 oz. | TAMS-6 | 22.15 |
| Driver | 100 | 100 CT | 100 | 12 | 12 | .5 | EB | 17 | 1 lb. | TAMS-7 | 17.00 |
| Output | 9800 | 15 | 2 | 640 | 2 | .05 | AG | 12 | 2 oz. | TAMS-8 | 21.50 |
| Output | 1000 | 4/8/16 | 10 | 180 | 3.5 | .2 | AG | 17 | $2\frac{1}{2}$ oz. | TAMS-9 | 22.50 |
| Output | 2000 CT | 4/8/16 | — | 250 | 4 | .2 | AG | 12 | $2\frac{1}{2}$ oz. | TAMS-10 | 23.30 |
| Output | 48 CT | 8/16 | 275 | 5 | 1.5 | 5 | FA | 17 | $1\frac{1}{2}$ lb. | TAMS-11 | 20.80 |
| Output | 20 CT | 8 | 500 | .55 | .35 | 10 | AJ | 17 | 12 oz. | TAMS-12 | 17.00 |

†Refer to Family and Case Size.

## MIL-T-27A SATURABLE TRANSFORMERS (Magnetic Amplifiers)

Application: For use with 2 phase 115v. 400 cycle Servo-Motors.

**Saturable Transformer Ratings Maximum Altitude 50,000 ft.**
**All Primaries 115v., 400 cycles: TF4RX40YY**



| Catalog No. | STH-3 | | STH-5 | STH-10 | STH-18 |
|---|---|---|---|---|---|
| Power Output in watts | 2.7 | 3.5 | 5 | 10 | 18 |
| Voltage Output, volts | 26 | 115 | 115 | 115 | 115 |
| Load Resistance in ohms | 250 | 3800 | 2640 | 1320 | 775 |
| Tuning Capacitor, MFD | .28 | .19 | .4 | .6 | 1.0 |
| Primary Current in amps | .085 | .1 | .13 | .24 | .35 |
| Control Current, MA | 8 | 8 | 8 | 8 | 8 |
| Control Coil Res. (Per Coil) in ohms | 2900 | 2900 | 3100 | 4200 | 5600 |
| Control Coil By pass Capacitors, MFD | .1 | .1 | .1 | .1 | .1 |
| Base Area, Dimensions, in. | $1\frac{5}{16} \times 1\frac{13}{16}$ | | $1\frac{1}{2} \times 2\frac{1}{8}$ | $1\frac{3}{4} \times 2\frac{1}{2}$ | $2\frac{1}{8} \times 3\frac{1}{8}$ |
| Height, in. | $2\frac{7}{16}$ | | $2\frac{3}{4}$ | $2\frac{9}{16}$ | $3\frac{3}{8}$ |
| Mtg. Ctrs., in. | $\frac{3}{4} \times 1\frac{13}{16}$ | | $1 \times 1\frac{5}{8}$ | $1\frac{1}{8} \times 1\frac{7}{8}$ | $1\frac{1}{2} \times 2\frac{1}{2}$ |
| Actual Wt., Lbs. | $\frac{3}{4}$ | | 1 | $1\frac{1}{2}$ | $2\frac{1}{2}$ |
| Typical Servo-Motor Load: Kearfott | R-118 | R-119-2 | R-110-2 | R-111-2 | R-112-2 |
| G. M. Labs. | — | 665-54-19 | 665-54-47<br>665-52-48 | 665-53-40<br>665-53-41 | 665-53-44<br>665-53-45 |
| List Price | $45.00 | | $43.50 | $47.50 | $62.50 |

### SATURABLE TRANSFORMERS

are designed and built in accordance with MIL-T-27A, Grade 4, Class R operating temperature and life expectancy X (10,000 hrs. min.).

## 400 CYCLE STEP-DOWN TRANSFORMER—TF1RX01YY

Y-Y connected, HP3-140 is identical to CHICAGO Specification No. 9926A in size and construction, but is rated at 140 va. instead of 88 va. Primary is 115 volts per phase, 3-phase, 400 cycles. Designed primarily for aircraft applications.

| Catalog No. | Secondary Volts | Va. Cap. | Case Size | Terminal Type | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|
| HP3-140 | 28.5 | 140 | 17 | R | 3 | $43.50 |

All secondary A.C. voltages ± 3%

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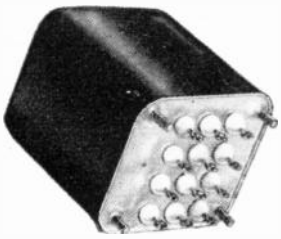
World Radio History

# CHICAGO

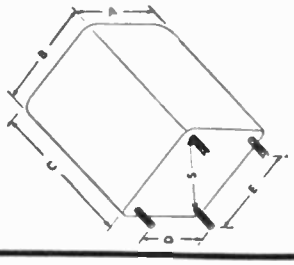
## MILITARY STANDARD AND MIL-T-27A
## 400 CYCLE
## TRANSFORMERS AND REACTORS

CHICAGO STANDARD TRANSFORMER CORPORATION



### MS CASE DIMENSIONS

| Case Size | Dimensions in Inches | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | S |
| AH | 1 5/16 | 1 5/16 | 1 3/4 | — | — | 1 1/4 |
| AJ | 1 6/8 | 1 6/8 | 2 3/8 | 1 11/16 | 1 13/16 | — |
| EA | 1 15/16 | 1 13/16 | 2 3/4 | 1 3/8 | 1 1/4 | — |
| EB | 1 15/16 | 1 13/16 | 2 7/16 | 1 3/8 | 1 1/4 | — |
| FA | 2 5/16 | 2 1/16 | 3 1/8 | 1 11/16 | 1 7/16 | — |
| GA | 2 3/4 | 2 3/8 | 3 13/16 | 2 1/8 | 1 3/4 | — |
| GB | 2 3/4 | 2 3/8 | 2 13/16 | 2 1/8 | 1 3/4 | — |
| HA | 3 1/16 | 2 6/8 | 4 1/4 | 2 19/64 | 1 13/64 | — |
| JB | 3 9/16 | 3 1/16 | 3 7/8 | 2 5/8 | 2 1/8 | — |
| KA | 3 15/16 | 3 3/8 | 5 1/4 | 3 | 2 7/16 | — |
| KB | 3 15/16 | 3 3/8 | 4 5/16 | 3 | 2 7/16 | — |




## MILITARY STANDARD CASES

**Designed and built in accordance with MIL-T-27A, Grade 4, Class S* operating temperature and life expectancy X (10,000 hours minimum). Maximum operating altitude 70,000 feet.** The complete line is housed in Chicago's one piece drawn-steel cases. Outside case dimensions and mounting dimensions are within the tolerance of the Military Standard Specifications. *High Temperature Operation 85° C. ambient, 45° C. rise.

### POWER TRANSFORMERS—TF4SX03— —† (Cap. Input. All pri. 105/115/125 V., 380-1000 c.

| High Voltage Secondary | | Rectifier Filament | | Other Filaments | | Case† Size | Wt. Lbs. | Catalog Number | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A.C. Volts | D.C. Ma. | Volts | Amps. | Volts | Amps. | | | | |
| 255-0-255 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | GB | 1 1/2 | 4PMS-40 | $38.20 |
| 270-0-270 | 55 | 5.0 | 2 | 6.3 CT | 2 | GB | 1 3/4 | 4PMS-55 | 38.90 |
| 335-0-335 | 70 | 5.0 | 2 | 6.3 CT | 3 | GB | 1 3/4 | 4PMS-70 | 42.50 |
| 330-0-330 | 85 | 5.0 | 2.0 | 6.3 CT | 3.0 | GA | 2 1/2 | 4PMS-85 | 42.95 |
| 345-0-345 | 105 | 5.0 | 2.0 | 6.3 CT | 3.5 | GA | 2 1/4 | 4PMS-105 | 47.65 |
| 375-0-375 | 120 | 5.0 | 3 | 6.3 CT | 4 | GA | 3 | 4PMS-120 | 49.50 |
| 370-0-370 | 150 | 5.0 | 3.0 | 6.3 CT | 4.0 | JB | 4 1/4 | 4PMS-150 | 64.50 |
| | | | | 6.3 CT | 1.0 | | | | |
| 440-0-440 | 165 | 5.0 | 3 | 6.3 | 7.5 | KB | 6 1/2 | 4PMS-165 | 81.75 |
| | | | | 6.3 | 3 | | | | |
| | | | | 6.3 | 3 | | | | |
| | | | | 6.3 | 0.6 | | | | |
| 450-0-150 | 200 | 5.0 | 2 | 6.3 | 4 | KB | 6 1/4 | 4PMS-200A | 74.50 |
| | | | | 6.3 | 4 | | | | |
| | | | | 6.3 | 0.6 | | | | |
| 550-370-75-0 | 300 | 5.0 | 6 | 6.3 CT | 5 | | | | |
| 75-370-550 | | | | 6.3 CT | 1 | KA | 7 1/2 | 4PMS-300‡§ | 81.75 |

### FILTER REACTORS—TF4SX04— —†

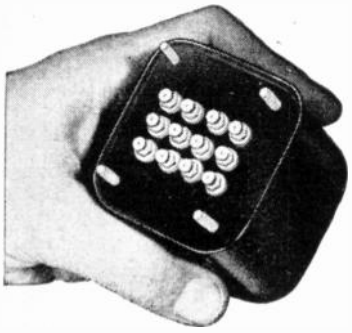
| Inductance (henries) | Maximum D.C. Ma. | D.C. Resistance (ohms) | Insulation Volts RMS | Case† Size | Wt. Lbs. | Catalog Number | List Price |
|---|---|---|---|---|---|---|---|
| 2.0 | 40 | 190 | 2,500 | AH | 1/4 | 4RMS-240 | $14.70 |
| 2.0 | 55 | 160 | 2,500 | AH | 1/4 | 4RMS-255 | 13.50 |
| 2.0 | 70 | 165 | 2,500 | AJ | 3/4 | 4RMS-270 | 13.00 |
| 2.0 | 85 | 125 | 2,500 | AH | 1/4 | 4RMS-285 | 14.50 |
| 2.0 | 105 | 110 | 2,500 | EB | 1/2 | 4RMS-2105 | 13.50 |
| 2.0 | 120 | 100 | 2,500 | EB | 1 | 4RMS-2120 | 14.50 |
| 2.0 | 150 | 95 | 2,500 | EB | 1 | 4RMS-2150 | 14.00 |
| 2.0 | 165 | 90 | 2,500 | EB | 1 | 4RMS-2165 | 14.50 |
| 2.0 | 200 | 73 | 2,500 | FA | 2 | 4RMS-2200 | 16.25 |
| 2.0 | 300 | 47 | 2,500 | HA | 4 | 4RMS-2300§ | 21.25 |

### FILAMENT TRANSFORMERS— TF4SX01 — —†(All Prim. 105 .115 .125 V., 380-1000 cys.

| Sec. Volts | Sec. Amps. | Insulation Volts RMS | Case Size | Wt. Lbs. | Catalog No. | List Price |
|---|---|---|---|---|---|---|
| 6.3 CT | 3 | 2,500 | EB | 1 | 4FMS-63 | $27.75 |
| 6.3 CT | 5.5 | 2,500 | EA | 1 1/4 | 4FMS-65 | 28.75 |
| 6.3 CT | 10 | 2,500 | FA | 2 | 4FMS-610 | 33.00 |
| 6.3 CT | 20 | 2,500 | GA | 2 1/2 | 4FMS-620 | 40.50 |

‡Reactor Input. †Refer to Case Size. All secondary A.C. voltages ±3%. §Max. operating Alt. 50,000 ft.

## 400 CYCLE TRANSFORMERS AND REACTORS (YY ALTERNATE CASES) (Max. Alt. 10,000 ft.)



### CASE DIMENSIONS

| Case Size | Dimensions in Inches | | | | |
|---|---|---|---|---|---|
| | A | C | D | H | K |
| 3 | 1 3/16 | 1 5/16 | 2 | 1 3/32-2 Studs | |
| 7 | 1 3/8 | 1 5/8 | 2 | 1 3/16-2 Studs | |
| 10 | 1 7/8 | 1 3/4 | 2 3/16 | 1 5/16 | 1 1/16 |
| 11 | 1 7/8 | 1 3/4 | 2 7/16 | 1 5/16 | 1 1/16 |
| 12 | 2 1/4 | 2 1/8 | 2 11/16 | 1 9/16 | 1 3/8 |
| 13 | 2 1/4 | 2 1/8 | 2 15/16 | 1 9/16 | 1 3/8 |
| 15 | 2 1/2 | 2 3/8 | 3 3/16 | 1 13/16 | 1 11/16 |
| 16 | 2 7/8 | 2 11/16 | 3 1/2 | 2 | 1 7/8 |
| 17 | 2 7/8 | 2 11/16 | 3 3/4 | 2 | 1 7/8 |
| 20 | 3 11/16 | 3 5/16 | 4 5/16 | 2 5/8 | 2 3/8 |
| 21 | 3 11/16 | 3 5/16 | 4 11/16 | 2 5/8 | 2 3/8 |

### POWER TRANSFORMERS (All Primaries 105/115/125 V., 380-1000 Cycles)—TF4SX03YY

| High Voltage Secondary | | Rect. Fil. | | Other Fil. | | Case Size | Wt. Lbs. | Catalog Number | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A. C. Volts | D.C. Ma. | Volts | Amps. | Volts | Amps. | | | | |
| 270-0-270 | 55 | 5.0 | 2 | 6.3 CT | 2 | 13 | 1 1/2 | 4PHC-55 | $33.50 |
| 335-0-335 | 70 | 5.0 | 2 | 6.3 CT | 3 | 13 | 1 3/4 | 4PHC-70 | 34.00 |
| 375-0-375 | 120 | 5.0 | 3 | 6.3 CT | 4 | 17 | 2 1/2 | 4PHC-120 | 39.50 |
| 440-0-440 | 165 | 5.0 | 3 | 6.3 | 7.5 | | | | |
| | | | | 6.3 | 3 | | | | |
| | | | | 6.3 | 3 | | | | |
| | | | | 6.3 | 0.6 | 20 | 6 | 4PHC-165 | 64.50 |
| 450-0-450 | 200 | 5.0 | 2 | 6.3 | 4 | | | | |
| | | | | 6.3 | 4 | | | | |
| | | | | 6.3 | 0.6 | 20 | 5 3/4 | 4PHC-200A | 59.50 |
| 550-370-75-0 | 300 | 5.0 | 6 | 6.3 CT | 5 | | | | |
| 75-370-550 | | | | 6 3 CT | 1 | 21 | 6 1/2 | 4-PHR-300 | 67.50 |

### FILTER REACTORS—TF4SX04YY

| Inductance (henries) | Maximum D.C. Ma. | D.C. Resistance (Ohms) | Insulation Volts RMS | Case Size | Wt. Lbs. | Catalog Number | List Price |
|---|---|---|---|---|---|---|---|
| 2.0 | 55 | 160 | 2,500 | 3 | 1/4 | 4RH-255 | $11.00 |
| 2.0 | 70 | 165 | 2,500 | 7 | 1/2 | 4RH-270 | 11.50 |
| 2.0 | 120 | 100 | 2,500 | 11 | 1 | 4RH-2120 | 13.50 |
| 2.0 | 165 | 90 | 2,500 | 11 | 1 1/2 | 4RH-2165 | 13.00 |
| 2.0 | 200 | 73 | 2,500 | 13 | 1 3/4 | 4RH-2200 | 14.50 |
| 2.0 | 300 | 47 | 2,500 | 16 | 3 1/4 | 4RH-2300 | 17.50 |

### FILAMENT TRANSFORMERS (All Prim. 105/115/125 V., 380-1000 cycles—TF4SX04YY)

| Sec. Volts | Sec. Amps. | Insulation Volts RMS | Case Size | Wt. Lbs. | Catalog Number | List Price |
|---|---|---|---|---|---|---|
| 6.3 CT | 3 | 2,500 | 10 | 3/4 | 4FH-63 | $24.50 |
| 6.3 CT | 5.5 | 2,500 | 11 | 1 | 4FH-65 | 26.50 |
| 6.3 CT | 10 | 2,500 | 13 | 1 3/4 | 4FH-610 | 29.50 |
| 6 3 CT | 20 | 2,500 | 15 | 2 1/2 | 4FH-620 | 32.50 |

### 400 CYCLE STEP-DOWN TRANSFORMER (See Page N-743)



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# CHICAGO

NEW EQUIPMENT

# AUDIO TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

## TRANSISTOR AUDIO TRANSFORMERS

Here are the smallest iron core audio transformers ever built. They weigh less than 1/10 ounce and are no larger than the transistors they power. Write for Bulletin 462 showing typical circuit application.

| Part No. | Application | Pri. Imp. | Sec. Imp. | Pri. DC Res. | Sec. DC Res. | Dimensions (±.015") | Weight in ounces | List Price |
|---|---|---|---|---|---|---|---|---|
| UM-110 | Interstage | 20,000 | 1,000 | 1675 | 285 | 1/4" x 3/8" x 3/8" | 0.07 | $9.50 |
| UM-111 | Output or matching | 1,000 | 50/60 | 120 | 9.0 | 3/8" x 3/8" x 3/8" | 0.10 | 6.50 |
| UM-112 | High imp. mic. input | 200,000 | 1,000 | 4000 | 195 | 3/8" x 3/8" x 3/8" | 0.10 | 10.50 |
| UM-113 | Interstage | 20,000 | 1,000 | 1350 | 205 | 3/8" x 3/8" x 3/8" | 0.10 | 7.25 |
| UM-114 | Output or matching | 500 | 50/60 | 70 | 9.0 | 3/8" x 3/8" x 3/8" | 0.10 | 6.50 |

## TRANSISTOR TRANSVERTER TRANSFORMERS

For converting 12 V. battery voltage to plate supply voltage. See Chicago Bulletin CT-43 for schematics and parts lists.

| Part No. | Application | Mtg. Type | Dimensions | Weight | List Price |
|---|---|---|---|---|---|
| DCT-1 | Converts 12 VDC to 275 VDC at 125 DCMA | C | 1 7/8" x 2 5/16" x 2 5/16" | 14 oz. | $22.04 |
| DCT-2 | Converts 12 VDC to 250 VDC at 275 DCMA or 500 VDC at 165 DCMA | C | 2 1/4" x 2 11/16" x 2 11/16" | 1.5 lbs. | 24.93 |

## MINIATURE HIGH FIDELITY AUDIO TRANSFORMERS

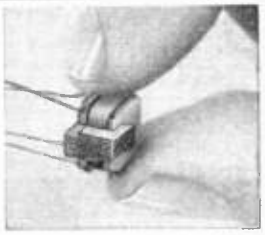
Chicago-Stancor Tinytrans are miniature transformers made with nickel steel laminations. They have an exceptional frequency response for units of this size; ±1 db. 30-15,000 cps. Maximum level 0 db. Write for Bulletin 463 showing frequency response curves on these transformers.

These units are sealed and potted in 7/8" square, anodized aluminum cases with phenolic terminal boards. Total height, including terminals, is 1 1/4". The case has two 2-56 threaded inserts, 11/16" centers, for easy chassis mounting. The entire transformer weighs only 1.3 ounces.

| Part No. | Application | Primary Impedance | Secondary Impedance | List Price |
|---|---|---|---|---|
| TT-11 | Mic., pickup or line to single grid | 50, 200/250, 500/600 | 50,000 | $14.15 |
| TT-12 | Mic., pickup or line to push-pull grids | 50, 200/250, 500/600 | 50,000 | 14.75 |
| TT-13 | Dynamic mic. to single grid | 7.5/30 | 50,000 | 13.45 |
| TT-14 | Single plate to single grid | 15,000* No DC in primary | 60,000 | 11.60 |

## PUBLIC ADDRESS RANGE TRANSFORMERS

### Frequency Response within ±1 db, 50 to 10,000 Cycles



TYPE UM

Driver and output transformers in this CHICAGO series are designed for these general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150-ohm lines, 16, 8, and 4-ohm speakers (16/8/4-ohm taps also suitable for 20/6/3.2-ohm speakers.) Output transformers have tertiary windings for 10% inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.

### DRIVERS H-Type—TF4RX12YY (Cat. No. PHD), S-Type (Cat. No. PSD) and C-Type (Cat. No. PCD) Mountings

| Application | Primary Impedance | Max. D.C. Pri. | Ratio. Pri. to ½ Sec. | Case Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| P-P Plates to P-P Grids | 20,000 ohms (Pri. CT) | 10 ma. | 3:1 | 14 | 2¼ | PHD-10<br>PSD-10<br>PCD-10 | $15.00<br>11.50<br>8.35 |
| P-P Plates to P-P Grids | 20,000 ohms (Pri. CT) | 25 ma. | 3:1 | 15 | 2¼ | PHD-25<br>PSD-25<br>PCD-25 | 17.44<br>12.50<br>17.97 |
| P-P Plates to P-P Grids | 5,000/10,000 ohms (Pri. CT) | 100 ma. | 5:1 | 18 | 4½ | PHD-100 | 24.75 |

YY CASE MOUNTING

S-TYPE MOUNTING

### OUTPUTS H-Type—TF4RX13YY (Cat. No. PHO), S-Type (Cat. No. PSO) and (Cat. No. PCO) Mountings

| Application | Impedances | Typical Output Tubes | Class | Max. Audio Watts | Max. D.C. Pri. CT | Case Size Wt. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| P-P Plates to Line or Voice Coil | Primary: 5,000 ohms, CT<br>Secondary: * 600/150/16/8/4 ohms | 6B4G, 6L6, 6V6, etc. | $A_1$<br>AB | 20 | 120 ma. | 20: 6½ lbs. | PHO-80<br>PSO-80<br>PCO-80 | $30.95<br>34.64<br>13.50 |
| P-P Plates to Line or Voice Coil | Primary: 10,000 ohms, CT<br>Secondary: * 600/150/16/8/4 ohms | 6V6, 6F6, 6K6, etc. | AB, $AB_1$ | 15 | 200 ma. | 19: 5 lbs. | PSO-150<br>PCO-150 | 19.00<br>12.50 |
| P-P Plates to Line or Voice Coil | Primary: 6,000 ohms, CT<br>Secondary: * 600/150/16/8/4 ohms | Two 6L6's, Four 6V6's, or similar | B, AB.† | 30 | 250 ma. | 22: 9 lbs. | PSO-200<br>PCO-200 | 23.25<br>14.50 |

*Has tertiary winding to provide 10% inverse feedback.
†For low distortion, use fixed bias.

See Pages N-747 and N-742 For Mounting Dimensions

C-TYPE MOUNTING

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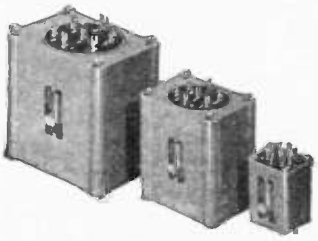
World Radio History

# HF AND WF SERIES HIGH FIDELITY AUDIO TRANSFORMERS

## HF Series



These units have a wide frequency response of 20 to 20,000 cps with ±1 db. Correct design reduces harmonic and intermodulation distortion to a negligible amount. Balanced construction minimizes hum pickup. Chicago-Stancor impregnation insures long life. Cases are finished in gray enamel and have four threaded holes at each end for flush mounting. Stud-type terminals are plainly marked for easy identification.

### LOW IMPEDANCE TO GRID

| Part No. | Application | Primary Imp/Ohms | Secondary Imp/Ohms | Max. Level | Hum-Pickup Reduction¶ | Mtg. § | List Price |
|---|---|---|---|---|---|---|---|
| **HF-20** | Low Imp. Mic., Pickup, or Line to Grid | 50, 125/150, 200, 250, 333, 500/600 | 60,000 overall, in two sections | 15 db | −74 db | HF-1 | **$58.39** |
| **HF-20X** | Low Imp., Mic., Pickup, or Line to Grid | 50, 125/150, 200, 250, 333, 500/600 | 50,000 | 14 db | −92 db‡ | HF-1 | **70.72** |
| **HF-22** | Low Imp. Mic., Pickup, or Line to P.P. Grids | 50, 125/150, 200, 250, 333, 500/600 | 120,000 overall, in two sections | 15 db | −74 db | HF-1 | **39.50** |
| **HF-22X** | Low Imp. Mic., Pickup, or Line to P.P. Grids | 50, 125/150, 200, 250, 333, 500/600 | 80,000 overall, in two sections | 14 db | −92 db‡ | HF-1 | **72.12** |
| **INTERSTAGE** | | | | | | | |
| **HF-29** | Sgl. Pl. to P.P. Grids—Split secondary | 15,000 | 95,000 (Turn ratio 2.5:1 overall) | 17 db | −50 db | HF-1 | **$31.20** |
| **HF-31** | Single Plate to P.P. Grids. Split pri. and sec. | 15,000 | 135,000 (Turn ratio 3:1 overall) | 14 db | −74 db | HF-1 | **39.50** |
| **HF-32** | P.P. Plates to P.P. Grid. Split pri. and sec. | 30,000 Plate to Plate | 80,000 (Turn ratio 1.6:1 overall) | 26 db | −50 db | HF-2 | **57.50** |
| **MIXING** | | | | | | | |
| **HF-40** | Low Imp. Mixer, Mic., Pickup, or Line to Line | 50, 125/150, 200, 250, 333, 500/600 | 50, 125/150, 200, 250 333, 500/600 | 17 db | −74 db | HF-1 | **$65.80** |
| **OUTPUT** | | | | | | | |
| **HF-65†** | P.P. 2A3's, 6L6's, etc. to Line or Voice Coil | 3,000 or 5,000 Plate to Plate | 1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333 or 500 | 20 watts | ..... | HF-2 | **$42.50** |
| **HF-67†** | P.P. 2A3's, 6L6's, etc. to Voice Coil | 3,000 or 5,000 Plate to Plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 20 watts | ..... | HF-2 | **34.50** |
| **HF-68†** | P P. Par. 2A3's, 6A5G's, 300A's, 6A3's to Line or Voice Coil | 1,500 or 2,500 Plate to Plate | 500, 333, 250, 200 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 40 watts | ..... | HF-3 | **65.00** |

§HF-1 Case: *Shpg. wt., 3.0 lbs. Height overall, 3¼". Base area, 2 3/16"x3 1/16". Mtg. ctrs., 1 11/16"x2 1/16".* HF-2 Case: *Shpg. wt., 7.5 lbs. Height overall, 4⅛". Base area, 3 3/16"x4 1/16". Mtg. ctrs., 2 11/16"x3 11/16".* HF-3 Case: *Shpg. wt., 15.0 lbs. Height overall, 4 11/16". Base area, 4 11/16"x5 3/16". Mtg. ctrs., 4 3/16"x5 1/16".*

†Response ±1 db from 25 to 20,000 cps.

¶As compared to standard uncased units.

‡Quadruple alloy magnetic shied.

## WF Series

These units are of the same outstanding quality as the HF Series above, and, with the exception of two units, have a frequency response of 30–20,000 cps within ±2 db. The WF-21 and WF-35 have a response within ±2 db from 50–20,000 cps and have multiple alloy shields for extremely low hum pickup. All WF units are cased in the WF-6 type cast case with phenolic terminal board and four tapped holes for flush mounting. Overall dimensions are 2" high with 1½" x 1½" base area. Mounting centers are 1 5/16" x 1 5/16". Shipping weight is 0.6 lbs.

| Part No. | Application | Primary Imp/Ohms | Secondary Imp/Ohms | List Price |
|---|---|---|---|---|
| **INPUT** | | | | |
| **WF-20** | Low Imp. Mic., Pickup, or Line to Grid | 50, 125/150, 200, 250, 333, 500/600 | 50,000 | **$19.50** |
| **WF-21** | Low Imp. Mic., Pickup, or L. to Sgl. or P.P. Grids | 50, 200, 500 | 50,000 | **20.80** |
| **WF-22** | Low Imp. Mic., Pickup, or Line to P.P. Grids | 50, 125/150, 200, 250, 333, 500/600 | 80,000 overall, in two sections | **19.50** |
| **WF-24** | Dynamic Microphone to 1 or 2 Grids | 30 | 50,000 overall, in two sections | **17.70** |
| **INTERSTAGE** | | | | |
| **WF-26** | Single Plate to Single Grid | 15,000 | 60,000 (Turn ratio 2:1) | **$16.45** |
| **WF-28** | Sgl. Pl. to 2 Grids. Can use split pri. for P.P. Pl. | 15,000 | 80,000 overall (Turn ratio 2.3:1 overall) | **18.20** |
| **LOW LEVEL OUTPUT** | | | | |
| **WF-34** | Single Plate to Line | 15,000 | 50, 125/150, 200, 250, 333, 500/600 | **$19.50** |
| **WF-36** | P.P. Low Level Plates to Line | 30,000 Plate to Plate | 50, 125/150, 200, 250, 333, 500/600 | **19.50** |
| **WF-35** | Single Plate to Multiple Line Primary D.C. 8.0 ma. Response from 50–20,000 cps within ±2 db | 15,000 | 50, 125/150, 200, 250, 333, 500/600 | **18.20** |
| **MIXING** | | | | |
| **WF-30** | Low Imp. Mixer, Mic., Pickup, or Line to Line | 50, 125/150, 200, 250, 333, 500/600 | 50, 125/150, 200, 250, 333, 500/600 | **19.50** |



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World Radio History

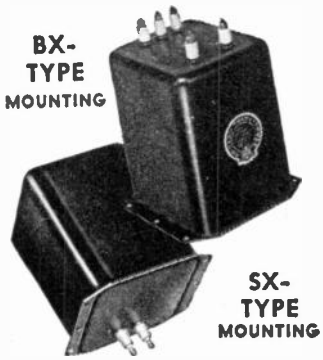
# CHICAGO

NEW EQUIPMENT

## TRANSFORMERS and REACTORS

*for Broadcast, Amateur and Industrial Application*

CHICAGO STANDARD TRANSFORMER CORPORATION

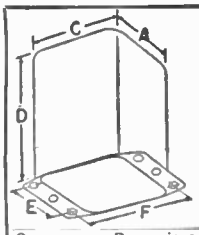



## LARGE CAPACITY TRANSFORMERS AND REACTORS
### For Broadcast, Communications and Industrial Use

### DRIVER TRANSFORMERS

| Recommended Application: In: | Tubes: | Ratio Pri./½ Sec. | Mtg. Type | Case Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| 250-Watt Transmitter | From two 2A3's, 6B4's, or similar P-P Plates to Class B 838's, 805's, 203-A's, etc. | 3.5:1 | B* | 20 | 6½ | BD-1 | $34.50 |
| 1-KW Transmitter | From four 2A3's, 6B4's, or similar P-P Plates to two 833-A's or similar P-P Grids | 3:1 | † | 24 | 12¼ | BD-2 | 42.50 |
| 5-KW Transmitter | From four 845's, two 152-TL's or similar P-P Plates to 891-R's or similar P-P Grids | 3.5:1 | BX | 26 | 24 | BD-3 | 58.50 |

†Similar to SX-Type mounting, but with screw terminals on a terminal board.
*B-Type mounting, but with screw terminals.




CASE DIMENSIONS FOR BX-, S- & SX-TYPE MOUNTINGS

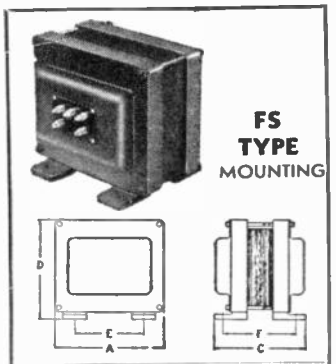
| Case Size | A | C | D | E | F |
|---|---|---|---|---|---|
| | Dimensions in Inches | | | | |
| 22 | 4 3/16 | 4⅛ | 5 5/16 | 2½ | 4¾ |
| 24 | 5 5/16 | 4 13/16 | 6 1/16 | 3½ | 5⅜ |
| 26 | 6⅛ | 5¼ | 7 1/16 | 4¼ | 6 |
| 28 | 7 1/16 | 6⅛ | 8 1/16 | 5 | 7 |

### MODULATION TRANSFORMERS

| Recommended Application In: | With: | Impedances (Pri. Plate to Plate) | Modulator Tubes | Mtg. Type | Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 250-Watt Transmitter | Driver Transformer #BD-1 | Pri: 7500 ohms CT<br>Sec: 5000 ohms | 203-A, 838<br>805, etc. | BX | 26 | 25 | BM-1 | $62.50 |
| 1-KW Transmitter | Driver Transformer #BD-2 | Pri: 9000 ohms CT<br>Sec: 7500 ohms | 833-A, etc. | FS | 84 | 175 | BM-2 | 542.46 |
| 500-Watt Transmitter | Driver Transformer #BD-2 Class C Amplifier | Pri: 11000 ohms CT<br>Sec: 5500 ohms | 833-A, etc. | FS-1 | | 105 | BM-4 | 190.00 |

### MODULATION REACTORS

| Recommended Application: In: | With: | Inductance | D.C. Ma. | Mtg. Type | Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 250-Watt Transmitter | Mod. Transformer #BM-1 | 65 hy. | 250 | BX | 28 | 41 | BR-1 | $ 95.50 |
| 1-KW Transmitter | Mod. Transformer #BM-2 | 100 hy. | 500 | FS | 81 | 165 | BR-2 | 500.00 |
| 5-KW Transmitter | Mod. Transformer #BM-3 | 120 hy. | 900 | WC | | 1100 | | |




| Size | A | D | E | F | C |
|---|---|---|---|---|---|
| | Dimensions in Inches | | | | |
| 60 | 7½ | 7 | 4¾ | 5½ | 6 5/16 |
| 61 | 7½ | 7 | 4¾ | 5 5/16 | 6⅞ |
| 62 | 7½ | 7 | 4¾ | 6¼ | 7⅛ |
| 63 | 7½ | 7 | 4¾ | 6 11/16 | 7½ |
| 64 | 7 13/16 | 10 | 8⅝ | 6 | 7¾ |
| 65 | 7½ | 7 | 4¾ | 6⅞ | 7 15/16 |
| 71 | 8⅞ | 8½ | 5½ | 6½ | 8⅛ |
| 81 | 11½ | 10½ | 7½ | 8¼ | 10¼ |
| 84 | 11½ | 10½ | 7½ | 11 13/16 | 13 13/16 |
| 90 | 13 13/16 | 12¾ | 9 | 8⅞ | 10⅜ |

### PLATE TRANSFORMERS

| Primary: Volts | Max. VA. | Secondary: A.C. Load Volts | D.C. Volts after Filter | D.C. Ma. | Mtg. Size | Mtg. Type | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 115-230 | 185 | 675-0-675<br>575-0-575 | 500<br>400 | 250 | 22 | S | 12 | P-45 | $25.50 |
| 115-230 | 250 | 900-0-900<br>735-0-735 | 750<br>600 | 250 | 22 | S | 13½ | P-67 | 28.00 |
| 115-230 | 310 | 1150-0-1150<br>870-0-870 | 1000<br>750 | 250 | 60 | FS | 37 | P-107 | 89.50 |
| 115-230 | 360 | 1425-0-1425*<br>600-0-600 | 1250<br>400 | 150<br>200 | 24 | S | 26 | P-1240 | 42.50 |
| 115-230 | 550 | 1710-0-1710<br>1430-0-1430 | 1500<br>1250 | 300 | 63 | FS | 43 | P-1512 | 95.50 |
| 115-230 | 915 | 2820-0-2820<br>2260-0-2260 | 2500<br>2000 | 300 | 71 | FS | 71 | P-2520 | 127.50 |
| 115-230 | 1600 | 2900-0-2900<br>2320-0-2320 | 2600<br>2100 | 500 | 64 | FS | 95 | P-2126 | 226.01 |
| 115-230 | 1850 | 3450-0-3450<br>2850-0-2850 | 3000<br>2500 | 500 | 81 | FS | 137 | P-3025 | 394.44 |
| 115-230 | 3050 | 4600-0-4600<br>4050-0-4050<br>3400-0-3400 | 4000<br>3500<br>3000 | 600 | 90 | FS | 150 | P-4353 | 375.00 |

*Both secondaries may be rectified simultaneously.

### FILTER REACTORS

| Inductance in Henrys | Max. D.C. Ma. | D.C. Resistance, Ohms | Insulation Test Volts | Mtg. Type | Mtg. Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 10 | 500 | 40 | 9,000 | FS | 62 | 35 | R-105 | $66.50 |
| 10 | 300 | 40 | 7,500 | SX | 26 | 22 | R-103 | 32.50 |
| 6 | 700 | 35 | 10,000 | FS | 61 | 35 | R-67 | 86.24 |
| 6 | 500 | 35 | 9,000 | FS | 60 | 35 | R-65 | 74.42 |
| 6 | 300 | 35 | 7,500 | SX | 24 | 16½ | R-63 | 38.86 |

Overall Case Dimensions:
H—31½" W—26½" D—23½"

### Splatter Chokes for High Level "Clipper" Filters

Can withstand high peak voltages. Has tapped windings to cover an inductance from .02 to 1.5 henries at relatively constant Q. Eliminates splatter, caused by heavy modulation; limits band width to 3,000 cycles, effectively increases "get through" ability of phone signals, and prevents negative peak clipping.

| Type | D.C. Ma. | Insulation Volts | Inductance in Henries | Mounting Type | Mounting Size | List |
|---|---|---|---|---|---|---|
| SR-300 | 300 | 7,500 | .02 to 1.5 Hy | BX | 22 | $44.33 |
| SR-500 | 500 | 10,000 | .02 to 1.5 Hy | BX | 24 | 50.43 |

### Low Pass Filter No. LPF-1

For attenuating frequencies above 3,000 cycles in low level speech amplifiers. Operates out of a 15,000 ohm source, *e.g.*, the plate of 6C5, 6J5, etc. when its 60,000 ohm secondary is connected to an equal impedance output. Operates at signal levels up to −8 db. Complete with operating instructions. S type mtg. Case size 13. (See pg. N-740).

List Price.....$37.87

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World Radio History

# CHICAGO

NEW EQUIPMENT

## AUDIO TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

YY CASE

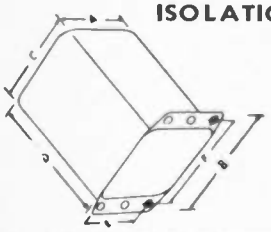
S-TYPE MOUNTING

C-TYPE MOUNTING

BX MOUNTING

STEP-DOWN

ISOLATION



### COMMUNICATIONS RANGE AUDIO TRANSFORMERS

### Frequency Response within ±1 db, 200 to 3,500 Cycles

These transformers are specifically designed for use in receiving and transmitting equipment such as amateur, police, railroad, and aircraft types, where clear voice reproduction is desired.

INPUTS H-Type-TF4RX--YY† (Cat. No. CIH), S-Type (Cat. No. CIS) and C-Type (Cat. No. CIC) Mountings*

| Application | Impedances: Primary—Secondary | Case Size | Wt. Lbs. | Cat. No. | Family | List Price |
|---|---|---|---|---|---|---|
| Low Level Line to Single or Push-Pull Grids | Pri: 600/150 ohms CT<br>**Sec: 100,000 ohms CT | 9 | 3¾ | **CIH-1**<br>**CIS-1**<br>**CIC-1** | 10<br>—<br>— | $24.50<br>25.02<br>12.50 |
| Low Level S. B. or D. B. Mike to Sgl. or P-P Grids | Pri: 125/50 ohms @ 80 ma.<br>Sec. 125,000 ohms CT | 9 | 3¾ | **CIH-2**<br>**CIS-2**<br>**CIC-2** | 11<br>—<br>— | 17.50<br>10.50<br>6.50 |

**Split and balanced windings: may be used singly or push-pull. †Refer to family.

OUTPUTS H-Type-TF4RX13YY (Cat. No. COH), S-Type (Cat. No. COS) and C-Type (Cat. No. COC) Mountings*

| Application | Impedances: Pri.—Sec. | Typical Audio Tubes | Pri. Class | Max. Case Watts | Max. Pri. D.C. | Case Size | Wt. Lbs. | Cat. No | List Price |
|---|---|---|---|---|---|---|---|---|---|
| Sgl. P. to Line or Speaker | Pri.: 5000 ohms<br>Sec. ohms:<br>600/150/16/8/4 | 6L6,<br>6V6,<br>25A6 | A | 5 | 55 ma. | 14 | 2¼ | **COH-1**<br>**COS-1**<br>**COC-1** | $17.50<br>12.50<br>7.00 |
| Sgl. Pl. to Line or Speaker | Pri: 8000 ohms<br>Sec. ohms:<br>600/150/16/8/4 | 6F6,<br>6V6,<br>6K6 | A | 5 | 55 ma. | 14 | 2¼ | **COH-2**<br>**COS-2**<br>**COC-2** | 19.30<br>12.50<br>7.00 |

DRIVER H-Type (Cat. No. CDH), S-Type (Cat. No. CDS) and C-Type (Cat. No. CDC) Mountings*

| Application | Primary Impedance | Max. D.C. Pri. CT | Ratio, Pri. to ½ Sec. | Case Size | Wt. Lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| P-P Plates (2A3's, etc.) to P-P Grids | 5,000 ohms (Pri. CT) | 100 ma. | 3:1 | 17 | 3½ | **CDS-1**<br>**CDC-1** | $15.50<br>8.35 |

*Mounting Dimensions on Page N-747.

### MODULATION TRANSFORMERS—Class B Plates to Class C Load

| Catalog No. | Typical Mod. Tubes | Impedances Primary-Secondary | D.C. Ma. Pri. | D.C. Ma. Sec. | Power Level | Mounting Type | Mounting Size | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| CMS-1 | 203A's, 805's, 75TL's, 203Z's | Pri: 9000/6700 ohms CT<br>Sec: 8000/6000/4000 ohms | 350 | 350 | 250-350 watts | SX | 26 | 22 | $65.00 |
| CMS-3 | 810's, 822's, 4-250A's, etc. | Pri: 18,000/12,000 ohms CT<br>Sec: 6250 ohms | 500 | 500 | 500-750 watts | FS† | 64† | 43 | 175.00 |

†Mounting Dimensions and Illustration on Page N-747.

### STEP-DOWN TRANSFORMERS—Primary, 50/60 cycles

CHICAGO step-down autotransformers solve the problem of operating standard 117-volt radios, amplifiers, and various electrical apliances from 220-volt power sources. They are particularly well adapted to use in Central and South American countries, where 220-volt lines are frequently found, and where the **Sealed-in-Steel** construction protects them against corrosion caused by excessive humidity. Input side is equipped with 8-foot, rubber-covered cord and plug. Output side has standard female receptacle.

| Catalog No. | Input Voltage | Output Voltage | Rating, Continuous Duty | Case Size | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| **SD-50** | 220-250 | 110-125 | 50 watts | 16 | 2¾ | $ 8.90 |
| **SD-100** | 220-250 | 110-125 | 100 watts | 20 | 4¼ | 11.10 |
| **SD-150** | 220-250 | 110-125 | 150 watts | 22 | 7 | 13.00 |
| **SD-250** | 220-250 | 110-125 | 250 watts | 22 | 8¾ | 15.75 |
| **SD-500** | 220-250 | 110-125 | 500 watts | 24 | 14½ | 20.00 |
| **SD-1000** | 220-250 | 110-125 | 1000 watts | 26 | 22½ | 32.50 |

### ISOLATION TRANSFORMERS—Primary, 50/60 cycles

A rotary switch on each CHICAGO isolation transformer adjusts to either of three primary voltages, 125/115/105 volts. With the unit operating on a 115-volt line, the three switch positions also provide varying secondary voltages, 105/115/125 volts isolated from line.

Eight-foot, rubber-covered cord and plug on primary, standard female receptacle on secondary.

| Catalog No. | Input Voltage | Output Voltage | Rating, Continuous Duty | Case Size | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| **IS-50** | 105/115/125 | 125/115/105* | 50 watts | 21 | 5 | $13.75 |
| **IS-100** | 105/115/125 | 125/115/105* | 100 watts | 22 | 8½ | 19.75 |
| **IS-150** | 105/115/125 | 125/115/105* | 150 watts | 24 | 12½ | 23.50 |
| **IS-250** | 105/115/125 | 125/115/105* | 250 watts | 24 | 18¼ | 27.75 |

*With 115-volt primary.

DIMENSIONS for S, SX, STEP-DOWN and ISOLATION TRANSFORMERS

| Case Size | Dimensions in Inches A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 16 | 2⅞ | 3½ | 2 11/16 | 3½ | 2 | 3⅛ |
| 20 | 3 11/16 | 4 7/16 | 3 3/16 | 4 5/16 | 2¾ | 3⅞ |
| 21 | 3 11/16 | 4 7/16 | 3 3/16 | 4 11/16 | 2¾ | 3⅞ |
| 22 | 4 9/16 | 5¼ | 4 1/8 | 5 5/16 | 2½ | 4¾ |
| 24 | 5 5/16 | 5⅞ | 4 13/16 | 6 1/16 | 3½ | 5⅜ |
| 26 | 6⅛ | 6½ | 5¼ | 7 1/16 | 4¼ | 6 |



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World Radio History

# UNITED TRANSFORMER CORP.

UTC UNITED

## NET PRICE LIST

| Type | Net |
|---|---|
| A-10 | $13.20 |
| A-11 | 12.00 |
| A-12 | 12.00 |
| A-14 | 10.80 |
| A-15 | 9.90 |
| A-16 | 9.90 |
| A-17 | 12.00 |
| A-18 | 12.00 |
| A-19 | 12.00 |
| A-20 | 14.40 |
| A-21 | 12.00 |
| A-22 | 9.90 |
| A-23 | 9.90 |
| A-24 | 12.90 |
| A-25 | 12.00 |
| A-26 | 13.20 |
| A-27 | 12.00 |
| A-30 | 10.20 |
| A-32 | 6.60 |
| A-33 | 2.70 |
| CG-1C | 54.00 |
| CG-1S | 54.00 |
| CG-2L6 | 13.80 |
| CG-15 | 12.00 |
| CG-16 | 12.00 |
| CG-19 | 12.00 |
| CG-20 | 15.00 |
| CG-21 | 24.00 |
| CG-33 | 9.00 |
| CG-34 | 10.20 |
| CG-40 | 8.10 |
| CG-44 | 6.90 |
| CG-45 | 6.00 |
| CG-46C | 7.50 |
| CG-51AX | 9.00 |
| CG-53AX | 10.50 |
| CG-100 | 9.00 |
| CG-101 | 9.00 |
| CG-102 | 13.20 |
| CG-103 | 13.20 |
| CG-104 | 15.00 |
| CG-105 | 15.00 |
| CG-108 | 27.00 |
| CG-109 | 27.00 |
| CG-120 | 15.00 |
| CG-121 | 18.00 |
| CG-122 | 15.00 |
| CG-124 | 15.00 |
| CG-125 | 18.00 |
| CG-126 | 24.00 |
| CG-131 | 9.90 |
| CG-132 | 9.90 |
| CG-133 | 10.50 |
| CG-134 | 9.00 |
| CG-135 | 9.90 |
| CG-136 | 13.20 |
| CG-137 | 8.40 |
| CG-140 | 7.80 |
| CG-141 | 9.00 |
| CG-233 | 9.00 |
| CG-235 | 12.00 |
| CG-300 | 16.20 |
| CG-301 | 24.00 |
| CG-302 | 30.00 |
| CG-303 | 36.00 |
| CG-305 | 63.00 |
| CG-306 | 150.00 |
| CG-307 | 138.00 |
| CG-308 | 162.00 |
| CG-309 | 360.00 |
| CG-310 | 309.00 |
| CG-311 | 66.00 |
| CG-312 | 66.00 |
| CG-315 | 14.40 |
| CG-316 | 21.00 |
| CG-333 | 9.00 |
| CG-422 | 21.00 |
| CG-428 | 24.90 |
| CG-429 | 24.90 |
| CG-431 | 36.00 |
| CG-433 | 9.90 |
| CG-710 | 12.00 |
| CGU-1 | 15.00 |
| CGU-2 | 17.40 |
| CGU-3 | 22.50 |
| CGU-4 | 25.50 |
| CGU-5 | 26.10 |
| CGU-6 | 39.00 |
| CGU-7 | 39.90 |
| CGU-8 | 72.00 |
| CGU-9 | 135.00 |
| CVA-1 | 12.00 |
| CVA-2 | 14.10 |
| CVA-3 | 18.00 |
| CVA-4 | 21.00 |
| CVA-5 | 36.00 |
| CVL-1 | 9.00 |
| CVL-2 | 10.50 |
| CVL-3 | 15.00 |
| CVM-0 | 10.50 |
| CVM-1 | 13.80 |
| CVM-2 | 18.00 |
| CVM-3 | 21.00 |
| CVM-4 | 39.00 |
| CVM-5 | 105.00 |
| CVP-1 | 13.20 |
| CVP-2 | 14.40 |

| Type | Net |
|---|---|
| CVP-3 | $21.00 |
| CVP-4 | 24.00 |
| CVP-5 | 39.00 |
| DI-1 | 42.00 |
| DI-2 | 45.00 |
| DI-3 | 51.00 |
| DI-4 | 66.00 |
| DI-T2 | 6.30 |
| DI-T3 | 6.30 |
| DI-T8 | 5.70 |
| DI-T9 | 7.50 |
| DI-T10 | 7.50 |
| DI-T11 | 7.50 |
| DI-T19 | 6.90 |
| DI-T20 | 6.90 |
| DI-T22 | 6.90 |
| DI-T23 | 7.80 |
| DO-T1 | 6.00 |
| DO-T2 | 5.40 |
| DO-T3 | 5.40 |
| DO-T4 | 5.40 |
| DO-T5 | 5.40 |
| DO-T6 | 6.00 |
| DO-T7 | 6.60 |
| DO-T8 | 4.80 |
| DO-T9 | 6.60 |
| DO-T10 | 6.60 |
| DO-T11 | 6.60 |
| DO-T12 | 5.70 |
| DO-T13 | 5.70 |
| DO-T14 | 6.00 |
| DO-T15 | 6.00 |
| DO-T16 | 6.00 |
| DO-T17 | 6.00 |
| DO-T18 | 6.30 |
| DO-T19 | 6.00 |
| DO-T20 | 6.00 |
| DO-T21 | 6.00 |
| DO-T22 | 6.00 |
| DO-T23 | 6.90 |
| DO-T24 | 7.50 |
| DO-T25 | 7.20 |
| DO-T26 | 5.70 |
| DO-T27 | 4.80 |
| DO-T-SM | .90 |
| FT-1 | 2.58 |
| FT-2 | 2.70 |
| FT-3 | 3.00 |
| FT-4 | 3.00 |
| FT-5 | 3.60 |
| FT-6 | 3.60 |
| FT-7 | 3.60 |
| FT-8 | 4.20 |
| FT-10 | 4.50 |
| H-1 | 9.00 |
| H-2 | 9.90 |
| H-3 | 7.80 |
| H-4 | 7.80 |
| H-5 | 8.40 |
| H-6 | 10.20 |
| H-7 | 9.60 |
| H-8 | 9.00 |
| H-9 | 9.00 |
| H-10 | 8.40 |
| H-11 | 7.50 |
| H-12 | 9.60 |
| H-13 | 9.00 |
| H-14 | 9.00 |
| H-15 | 9.00 |
| H-16 | 9.00 |
| H-19A | 16.50 |
| H-20 | 15.00 |
| H-21 | 18.00 |
| H-22 | 15.90 |
| H-23 | 16.20 |
| H-24 | 10.80 |
| H-25 | 15.00 |
| H-26 | 15.00 |
| H-27 | 15.00 |
| H-30 | 9.00 |
| H-31 | 9.00 |
| H-32 | 9.00 |
| H-33 | 9.00 |
| H-35 | 7.80 |
| H-36 | 9.00 |
| H-37A | 9.00 |
| H-38 | 9.60 |
| H-39 | 9.60 |
| H-40A | 9.60 |
| H-41A | 9.60 |
| H-45 | 6.90 |
| H-46 | 6.90 |
| H-47 | 6.90 |
| H-48 | 6.90 |
| H-49 | 6.90 |
| H-50 | 6.90 |
| H-51 | 7.20 |
| H-52 | 7.20 |
| H-53 | 7.20 |
| H-54 | 7.50 |
| H-55 | 7.50 |
| H-56 | 8.40 |
| H-57 | 8.40 |
| H-58 | 30.00 |
| H-70 | 7.20 |
| H-71 | 8.40 |
| H-72 | 9.00 |

| Type | Net |
|---|---|
| H-73 | $11.40 |
| H-74 | 12.90 |
| H-75 | 15.00 |
| H-76 | 24.00 |
| H-77 | 27.00 |
| H-78 | 34.50 |
| H-79 | 90.00 |
| H-80 | 12.90 |
| H-81 | 18.00 |
| H-82 | 20.40 |
| H-83 | 21.00 |
| H-84 | 26.40 |
| H-85 | 30.00 |
| H-86 | 30.90 |
| H-87 | 36.00 |
| H-88 | 45.00 |
| H-89 | 49.50 |
| H-90 | 21.00 |
| H-91 | 27.00 |
| H-92 | 33.00 |
| H-93 | 49.50 |
| H-94 | 18.00 |
| H-95 | 28.80 |
| H-96 | 48.00 |
| H-97 | 15.00 |
| H-98 | 21.00 |
| H-99 | 30.00 |
| H-100 | 39.00 |
| H-101 | 14.10 |
| H-102 | 15.00 |
| H-103 | 17.40 |
| H-104 | 19.50 |
| H-110 | 27.00 |
| H-111 | 33.00 |
| H-112 | 36.00 |
| H-113 | 54.00 |
| H-114 | 81.00 |
| H-115 | 81.00 |
| H-116 | 180.00 |
| H-117 | 291.00 |
| H-120 | 13.80 |
| H-121 | 18.00 |
| H-122 | 21.00 |
| H-123 | 36.00 |
| H-124 | 12.00 |
| H-125 | 21.00 |
| H-126 | 27.00 |
| H-127 | 45.00 |
| H-128 | 81.00 |
| H-129 | 81.00 |
| H-130 | 9.00 |
| H-131 | 12.00 |
| H-132 | 19.20 |
| H-133 | 15.00 |
| H-134 | 16.80 |
| H-135 | 21.00 |
| H-136 | 27.00 |
| H-280 | 14.40 |
| H-281 | 15.60 |
| H-282 | 16.80 |
| H-290 | 19.80 |
| H-291 | 36.00 |
| HA-100 | 17.40 |
| HA-100X | 17.40 |
| HA-101 | 22.20 |
| HA-101X | 18.00 |
| HA-103A | 15.00 |
| HA-104 | 15.00 |
| HA-105 | 21.00 |
| HA-106 | 18.90 |
| HA-107 | 27.00 |
| HA-108 | 19.80 |
| HA-108X | 19.80 |
| HA-111 | 21.00 |
| HA-113 | 18.00 |
| HA-114 | 21.00 |
| HA-130X | 21.00 |
| HA-133 | 21.00 |
| HA-134 | 16.80 |
| HA-135 | 16.80 |
| HA-136 | 18.00 |
| HA-137 | 16.80 |
| HC-115 | 9.00 |
| HC-116 | 12.00 |
| HC-117 | 9.00 |
| HP-122 | 12.00 |
| HP-123 | 12.00 |
| HQA-1 | 7.50 |
| HQA-2 | 7.80 |
| HQA-3 | 8.10 |
| HQA-4 | 8.40 |
| HQA-5 | 8.70 |
| HQA-6 | 9.00 |
| HQA-7 | 9.00 |
| HQA-8 | 9.60 |
| HQA-9 | 9.60 |
| HQA-10 | 9.90 |
| HQA-11 | 9.90 |
| HQA-12 | 10.80 |
| HQA-13 | 11.40 |
| HQA-14 | 12.90 |
| HQA-15 | 13.80 |
| HQA-16 | 15.00 |
| HQA-17 | 15.90 |
| HQA-18 | 16.80 |
| HQB-1 | 15.00 |
| HQB-2 | 15.30 |
| HQB-3 | 15.90 |
| HQB-4 | 16.80 |

| Type | Net |
|---|---|
| HQB-5 | $17.40 |
| HQB-6 | 18.00 |
| HQB-7 | 18.90 |
| HQB-8 | 19.80 |
| HQB-9 | 21.00 |
| HQB-10 | 21.90 |
| HQB-11 | 22.80 |
| HQB-12 | 24.00 |
| HQC-1 | 15.60 |
| HQC-2 | 16.80 |
| HQC-3 | 18.00 |
| HQC-4 | 19.80 |
| HQC-5 | 24.00 |
| HQD-1 | 15.60 |
| HQD-2 | 16.80 |
| HQD-3 | 18.00 |
| HQD-4 | 19.80 |
| HQD-5 | 24.00 |
| HQE-1 | 7.80 |
| HQE-2 | 7.80 |
| HQE-3 | 8.10 |
| HQE-4 | 8.40 |
| HQE-5 | 8.70 |
| HVC-1 | 9.00 |
| HVC-2 | 9.00 |
| HVC-3 | 9.00 |
| HVC-4 | 9.00 |
| HVC-5 | 9.00 |
| HVC-6 | 9.00 |
| HVC-7 | 9.60 |
| HVC-8 | 9.60 |
| HVC-9 | 9.60 |
| HVC-10 | 9.90 |
| HVC-11 | 10.80 |
| HVC-12 | 12.00 |
| LS-6L1 | 36.00 |
| LS-6L4 | 54.00 |
| LS-6 | 24.00 |
| LS-10 | 21.00 |
| LS-10X | 21.00 |
| LS-12 | 25.20 |
| LS-12X | 24.00 |
| LS-14X | 24.00 |
| LS-15X | 24.00 |
| LS-18 | 18.00 |
| LS-19 | 18.00 |
| LS-21 | 18.00 |
| LS-25 | 27.00 |
| LS-26 | 24.00 |
| LS-27 | 24.00 |
| LS-30 | 22.50 |
| LS-30X | 24.00 |
| LS-31 | 21.00 |
| LS-32 | 30.00 |
| LS-33 | 21.00 |
| LS-34 | 30.00 |
| LS-35 | 24.00 |
| LS-40 | 30.00 |
| LS-47 | 24.00 |
| LS-48 | 54.00 |
| LS-50 | 21.00 |
| LS-51 | 27.00 |
| LS-52 | 21.00 |
| LS-54 | 18.00 |
| LS-55 | 24.00 |
| LS-56 | 24.00 |
| LS-57 | 18.00 |
| LS-58 | 51.00 |
| LS-61 | 24.00 |
| LS-63 | 18.00 |
| LS-65 | 42.00 |
| LS-140 | 24.00 |
| LS-141 | 21.00 |
| LS-150 | 21.00 |
| LS-151 | 21.00 |
| LS-691 | 570.00 |
| LS-692 | 900.00 |
| MAT-1 | 27.00 |
| MAT-2 | 30.00 |
| MAT-3 | 36.00 |
| MAT-4 | 39.00 |
| MAT-5 | 10.80 |
| MAT-6 | 9.00 |
| MC-1 | 10.20 |
| MC-2 | 12.00 |
| MLF-AMP | 99.00 |
| MQA-1 | 7.50 |
| MQA-2 | 7.80 |
| MQA-3 | 8.10 |
| MQA-4 | 8.40 |
| MQA-5 | 8.70 |
| MQA-6 | 9.00 |
| MQA-7 | 9.30 |
| MQA-8 | 9.60 |
| MQA-9 | 9.90 |
| MQA-10 | 10.20 |
| MQA-11 | 10.50 |
| MQA-12 | 10.80 |
| MQA-13 | 11.10 |
| MQA-14 | 11.40 |
| MQA-15 | 12.00 |
| MQA-16 | 12.90 |
| MQA-17 | 13.80 |
| MQA-18 | 15.00 |
| MQA-19 | 18.00 |
| MQB-1 | 12.90 |
| MQB-2 | 13.20 |

| Type | Net |
|---|---|
| MQB-3 | $13.50 |
| MQB-4 | 13.80 |
| MQB-5 | 14.10 |
| MQB-6 | 14.40 |
| MQB-7 | 14.70 |
| MQB-8 | 15.00 |
| MQB-9 | 15.90 |
| MQB-10 | 16.80 |
| MQB-11 | 18.00 |
| MQB-12 | 19.20 |
| MQD-1 | 15.00 |
| MQD-2 | 15.60 |
| MQD-3 | 16.20 |
| MQD-4 | 16.80 |
| MQD-5 | 18.00 |
| MQD-6 | 21.00 |
| MQE-1 | 7.20 |
| MQE-2 | 7.50 |
| MQE-3 | 7.80 |
| MQE-4 | 7.80 |
| MQE-5 | 8.10 |
| MQE-6 | 8.40 |
| MQE-7 | 8.40 |
| MQE-8 | 8.70 |
| MQE-9 | 8.70 |
| MQE-10 | 9.00 |
| MQE-11 | 9.00 |
| MQE-12 | 9.30 |
| MQE-13 | 9.90 |
| MQE-14 | 10.80 |
| MQE-15 | 12.00 |
| MQL-0 | 21.00 |
| MQL-1 | 21.00 |
| MQL-2 | 21.00 |
| MQL-3 | 21.00 |
| MQL-4 | 22.80 |
| MQL-5 | 24.00 |
| O-1 | 7.80 |
| O-2 | 7.80 |
| O-3 | 7.50 |
| O-4 | 6.60 |
| O-5 | 6.60 |
| O-6 | 7.50 |
| O-7 | 7.50 |
| O-8 | 7.80 |
| O-9 | 7.80 |
| O-10 | 8.40 |
| O-11 | 7.80 |
| O-12 | 7.80 |
| O-13 | 6.30 |
| O-14 | 7.50 |
| O-15 | 7.50 |
| O-16 | 10.20 |
| O-17 | 1.50 |
| O-18 | 8.40 |
| O-19 | 8.40 |
| O-20 | 8.40 |
| O-21 | 7.80 |
| P-1 | 9.00 |
| P-2 | 9.00 |
| P-3 | 8.40 |
| P-6 | 8.40 |
| P-7 | 8.40 |
| P-8 | 9.00 |
| P-9 | 9.00 |
| P-10 | 9.00 |
| P-11 | 9.00 |
| P-12 | 9.00 |
| P-15 | 9.00 |
| P-16 | 11.40 |
| PF-1 | 8.40 |
| PF-2 | 8.40 |
| PF-3 | 6.00 |
| R-14 | 1.95 |
| R-15 | 1.95 |
| R-16 | 1.95 |
| R-17 | 2.25 |
| R-18 | 2.52 |
| R-19 | 3.00 |
| R-20 | 3.60 |
| R-21 | 3.60 |
| R-34 | 3.00 |
| R-35 | 2.70 |
| R-38A | 3.30 |
| R-39 | 2.70 |
| R-41 | 5.70 |
| R-42 | 6.00 |
| R-43 | 6.90 |
| R-44 | 8.40 |
| R-45 | 12.00 |
| R-46 | 24.00 |
| R-47 | 9.60 |
| R-48 | 10.50 |
| R-49 | 10.80 |
| R-55 | 1.65 |
| R-58 | 2.70 |
| R-59 | 3.30 |
| R-60 | 3.90 |
| R-64 | 45.00 |
| R-72 | 6.60 |
| R-73 | 9.00 |
| R-74 | 15.00 |
| R-75 | 24.00 |
| R-76 | 42.00 |
| R-77 | 75.00 |

| Type | Net |
|---|---|
| R-78 | $15.60 |
| R-79 | 18.00 |
| R-80 | 21.00 |
| R-81 | 33.00 |
| R-86 | 33.00 |
| R-87 | 6.00 |
| R-88 | 17.40 |
| R-97 | 15.00 |
| R-101 | 6.30 |
| R-102 | 7.20 |
| R-103 | 7.80 |
| R-104 | 9.00 |
| R-105 | 11.40 |
| R-106 | 6.60 |
| R-107 | 7.20 |
| R-110 | 6.60 |
| R-111 | 7.20 |
| R-112 | 9.00 |
| R-113 | 13.20 |
| S-1 | 4.80 |
| S-2 | 6.00 |
| S-3 | 4.20 |
| S-5 | 4.80 |
| S-6 | 4.50 |
| S-8 | 6.60 |
| S-9 | 8.40 |
| S-10 | 6.60 |
| S-11 | 5.10 |
| S-12 | 5.40 |
| S-13 | 7.80 |
| S-14 | 6.60 |
| S-15 | 7.20 |
| S-16 | 8.40 |
| S-17 | 9.90 |
| S-18 | 7.20 |
| S-19 | 9.30 |
| S-21 | 21.00 |
| S-22 | 33.00 |
| S-20 | 15.00 |
| S-23 | 4.50 |
| S-24 | 5.10 |
| S-25 | 3.90 |
| S-26 | 3.90 |
| S-27 | 5.10 |
| S-28 | 6.00 |
| S-29 | 5.10 |
| S-30 | 5.10 |
| S-31 | 6.90 |
| S-32 | 6.90 |
| S-33 | 9.30 |
| S-34 | 9.60 |
| S-35 | 12.00 |
| S-36 | 12.00 |
| S-37 | 15.00 |
| S-38 | 15.00 |
| S-39 | 16.50 |
| S-40 | 18.00 |
| S-41 | 18.00 |
| S-42 | 19.50 |
| S-43 | 30.00 |
| S-44 | 24.00 |
| S-45 | 21.00 |
| S-46 | 24.00 |
| S-47 | 33.00 |
| S-48 | 39.00 |
| S-49 | 36.00 |
| S-50 | 60.00 |
| S-51 | 12.00 |
| S-52 | 15.60 |
| S-53 | 6.00 |
| S-54 | 5.70 |
| S-55 | 5.40 |
| S-57 | 9.00 |
| S-58 | 9.60 |
| S-59 | 9.00 |
| S-60 | 13.20 |
| S-61 | 10.20 |
| S-62 | 9.30 |
| S-63 | 13.20 |
| S-64 | 10.20 |
| S-65 | 9.90 |
| S-67 | 9.90 |
| S-68 | 10.20 |
| S-70 | 10.20 |
| S-71 | 15.00 |
| S-72 | 10.80 |
| SC-3 | 7.50 |
| SC-4 | 9.00 |
| SC-5 | 14.40 |
| SO-1 | 3.00 |
| SO-2 | 3.00 |
| SO-3 | 3.00 |
| SO-4 | 3.00 |
| SO-5 | 3.00 |
| SO-6 | 3.90 |
| SO-7 | 3.00 |
| SO-8 | 3.60 |
| SO-9 | 3.60 |
| SO-10 | 3.60 |
| SSO-1 | 4.50 |
| SSO-2 | 4.80 |
| SSO-3 | 3.90 |
| SSO-4 | 3.90 |
| SSO-5 | 3.90 |

| Type | Net |
|---|---|
| SSO-6 | $3.90 |
| SSO-7 | 3.00 |
| SSO-8 | 3.90 |
| SSO-9 | 3.00 |
| SSO-10 | 3.00 |
| SSO-11 | 3.00 |
| SSO-12 | 3.00 |
| SSO-13 | 4.50 |
| SSO-14 | 4.80 |
| SSO-15 | 4.80 |
| V-1 | 20.00 |
| V-1-M | 35.00 |
| VIC-1 | 6.60 |
| VIC-2 | 6.60 |
| VIC-3 | 6.60 |
| VIC-4 | 6.60 |
| VIC-5 | 6.60 |
| VIC-6 | 6.60 |
| VIC-7 | 6.60 |
| VIC-8 | 6.90 |
| VIC-9 | 6.90 |
| VIC-10 | 6.90 |
| VIC-11 | 6.90 |
| VIC-12 | 7.20 |
| VIC-13 | 7.20 |
| VIC-14 | 7.20 |
| VIC-15 | 7.50 |
| VIC-16 | 7.50 |
| VIC-17 | 7.50 |
| VIC-18 | 7.80 |
| VIC-19 | 7.80 |
| VIC-20 | 8.40 |
| VIC-21 | 9.00 |
| VIC-22 | 12.00 |

**EQUALIZERS and SOUND EFFECTS FILTER**

| | | |
|---|---|---|
| 3A | 25 | 180.00 |
| 3AX | 25 | 270.00 |
| 4C | 25 | 240.00 |

**INTERSTAGE and LINE FILTERS**

BMI — 60, 100, 120, 400, 500, 750, 1000, 1500, 2000, 3000, 4000, 5000, 10000 $27.00

HMI—200, 400, 500, 800, 1000, 2000, 3000 $30.00

LMI—200, 400, 500, 800, 1000, 1500, 2000, 2500, 3000, 4000, 5000, 10000 $30.00

BML — 400, 1000 $27.00

HML—200, 300, 500, 1000 $33.00

LML — 1000, 1500, 2000, 2500, 4000, 8000, 10000, 12000 $30.00

Special Frequ. Filters $48.00

**TELEGRAPH RECEIVING FILTERS**

TGR—425, 595, 765, 935 $66.00

TGR — 1105, 1275, 1445, 1615 $63.00

TGR — 1785, 1955, 2125, 2295 $60.00

TGR — 2465, 2635, 2805, 2975 $57.00

**TELEGRAPH TRANSMITTING FILTERS**

TGT—425, 595, 765, 935 $39.00

TGT — 1105, 1275, 1445, 1615 $36.00

TGT — 1785, 1955, 2125, 2295 $33.00

TGT — 2465, 2635, 2805, 2975 $30.00

**TELEMETERING FILTERS**

TMN — .4, .56, .73, .96, 1.3, 1.7, 2.3, 3.0, 3.9, 5.4, 7.35 $39.00

TMN—10.5, 14.5, 22, 30, 40, 52.5, 70 $36.00

TMW — 22, 30, 40, 52.5, 70 $36.00

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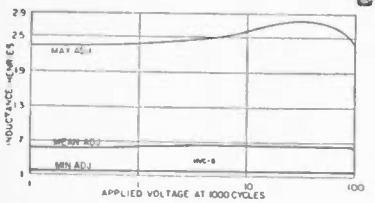
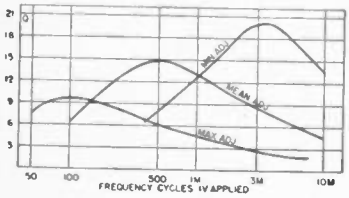
World Radio History

# UTC HERMETIC VARIDUCTORS

**Hermetically sealed to MIL-T-27A spec., MIL Type TF4RX20YY




| Type No. | Min. Hys. | Mean Hys. | Max. Hys. | DC* Ma |
|---|---|---|---|---|
| HVC-1 | .002 | 006 | .02 | 100 |
| HVC-2 | .005 | 015 | .05 | 60 |
| HVC-3 | .011 | 040 | .11 | 40 |
| HVC-4 | .03 | .1 | .3 | 30 |
| HVC-5 | .07 | .25 | .7 | 20 |
| HVC-6 | 2 | 6 | 2 | 15 |
| HVC-7 | .5 | 1.5 | 5 | 10 |
| HVC-8 | 1.1 | 4.0 | 11 | 7 |
| HVC-9 | 3.0 | 10 | 30 | 5 |
| HVC-10 | 7.0 | 25 | 70 | 3.5 |
| HVC-11 | 20 | 60 | 200 | 2 |
| HVC-12 | 50 | 150 | 500 | 1.5 |

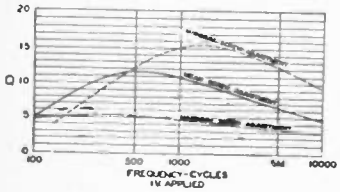
*DC MA shown is maximum recommended . . . will effect some reduction in inductance and Q.

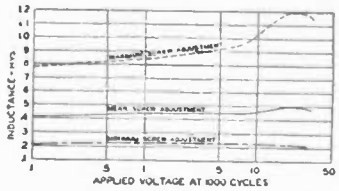
Extended development has now made possible the new HVC series of variable inductors with improved characteristics. They are hermetically sealed to MIL-T-27 specs . . . extremely compact . . . wider inductance range . . . higher Q's . . . lower and higher frequencies . . . superior voltage and temperature stability.

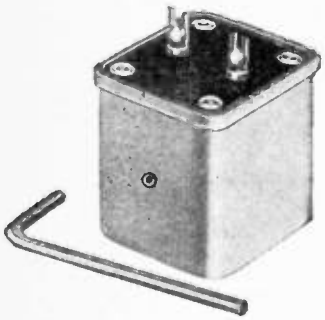
Adjustment of set screw in top of case permits changing inductance +200%, −70% of nominal value shown. Range is covered in 900° rotation. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical HVC unit. Case dimensions are 1⅛" long, 25/32" wide, 17/32" high. The two terminals and two 4/40 mounting studs are on opposite diagonals — 15/16" spacing. Wt. 2 oz.

**Pat. Pending

# VIC VARIABLE INDUCTORS



| Type | Mean Hys. | DC MA* | Type | Mean Hys. | DC MA* |
|---|---|---|---|---|---|
| VIC-1 | .0085 | 75 | VIC-12 | 1.3 | 10 |
| VIC-2 | .013 | 60 | VIC-13 | 2.2 | 8 |
| VIC-3 | .021 | 50 | VIC-14 | 3.4 | 7 |
| VIC-4 | .034 | 40 | VIC-15 | 5.4 | 6 |
| VIC-5 | .053 | 35 | VIC-16 | 8.5 | 5 |
| VIC-6 | .084 | 30 | VIC-17 | 13. | 4 |
| VIC-7 | .13 | 25 | VIC-18 | 21. | 3.5 |
| VIC-8 | .21 | 21 | VIC-19 | 33. | 3 |
| VIC-9 | .34 | 18 | VIC-20 | 52. | 2 |
| VIC-10 | .54 | 15 | VIC-21 | 83. | 1.5 |
| VIC-11 | .85 | 12 | VIC-22 | 130. | 1 |

*DC MA shown is maximum recommended . . . will effect some reduction in inductance and Q. ●

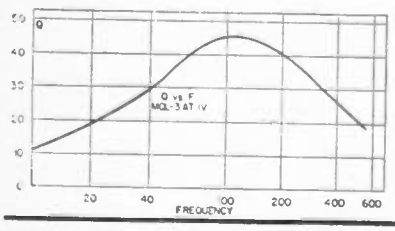
UTC type VIC variable inductors offer a revolutionary approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of +85%, −45% from mean value is obtainable. Range is covered in 600° rotation. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical VIC unit.

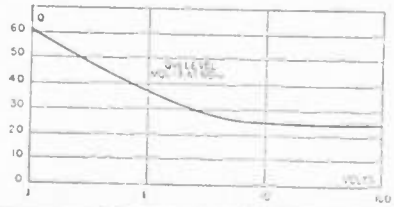
The VIC inductor is housed in a rugged die cast case 1 11/32" long, 1¼" wide and 1 5/16" high with mounting centers on terminal board side 1 3/16" by 29/32", tapped for 4-40 screw. Weight is 5½ oz.

# UTC LOW FREQUENCY HIGH Q COILS

Hermetically sealed to MIL-T-27A specs., MIL Type TF4RX20YY

Permalloy dust toroids are not suited to providing high Q at low frequencies. The MQL series of laminated Hipermalloy coils were specifically designed for this class of service . . . provides exceptional Q and stability. Inductance values are laboratory adjusted to 2% tolerance at 1 volt, 60 cycles. Stability with voltage is excellent, for MQL-3 inductance variation is less than 1% from .1 V. to 1 V. 60 cycles. Temperature stability is exceptional, total inductance swing being less than 3.5% for the wide range of −55°C to +85°C. A hum reducing lamination structure plus heavy Hipermalloy shielding provide very low hum pickup . . . 240 microvolts gauss for MQL-3 series connected. Two identical windings brought out to four terminals permti series, parallel, center tapped, or transformer type connections. Drawn case 1 13/16 x 1 13/16 x 2½ high, 1 lb.




| Type No. | Series Henries (0 DC) | Parallel Henries (0 DC) |
|---|---|---|
| MQL-0 | 1 | .25 |
| MQL-1 | 10 | 2.5 |
| MQL-2 | 20 | 5 |
| MQL-3 | 200 | 50 |
| MQL-4 | 400 | 100 |
| MQL-5 (For 60 cycles and lower) | 2500 | 625 |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# UTC "M" TYPE TOROIDS

**MAXIMUM Q**
**MINIMUM SIZE**

Hermetically sealed to MIL-T-27A specs., MIL Type TF4RX20YY

**UTC Permalloy Dust Toroids** have been the standard of the industry for over 15 years. The **MQ** series of coils provide the highest Q factor in their class (see curves below), with miniaturized dimensions. All units are **hermetically sealed** to MIL-T-27 Specifications . . . laboratory adjusted to 1% tolerance—0 DC.

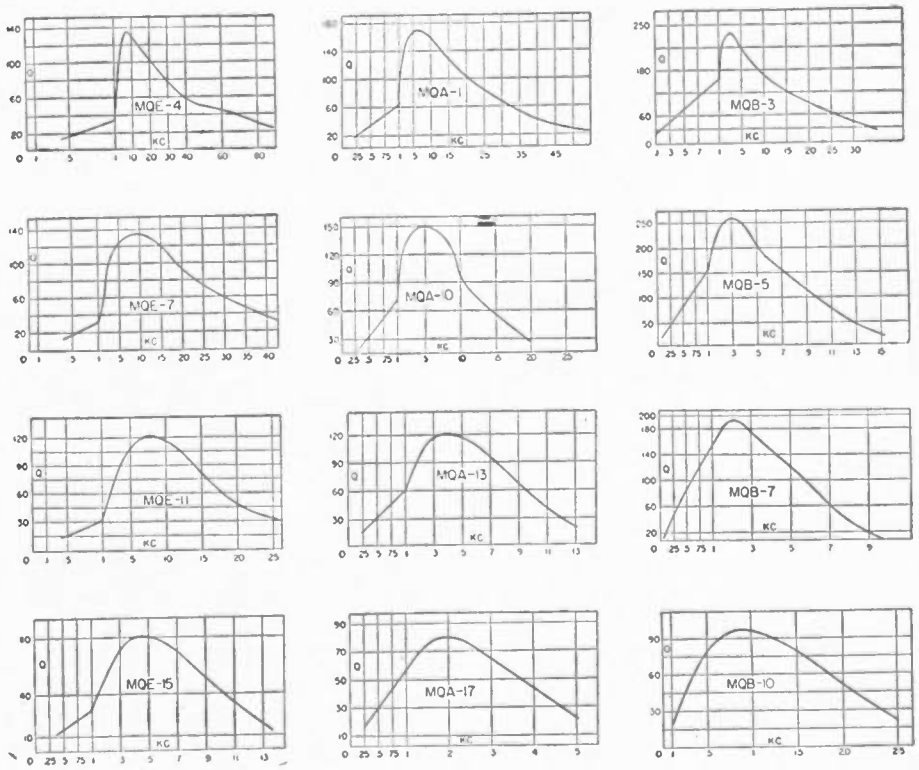
The **stability** is excellent. For the MQE-7 the inductance change is less than 1% for voltages from .1 to 3 volts. The MQA-13 change is less than 1% for applied voltages from .1 to 20 volts. The MQB-5 change is less than 1% for applied voltages from .1 to 50 volts. DC is permissible through the coil (values listed below). Inductance is virtually independent of frequency, temperature and vibration.

**Hum pickup** is extremely low due to the toroidal winding structure, with windings uniformly spread over the core. The case is of high permeability, affording additional shielding such that close spacing of units can be effected, the coupling attenuation being approximately 80 DB.

**MQE CASE**

| | |
|---|---|
| Length | 1 1/16" |
| Width | 1/2" |
| Height | 1 7/32" |
| Mounting | 3/4" |
| Screws | 4/40" |
| Cutout | 5/16" x 1/2" |
| Unit Weight | 1.5 oz. |

## TYPICAL Q CURVES



**MQA, MQD CASE**

| | |
|---|---|
| Length | 1 9/32" |
| Width | 11/16" |
| Height | 1 23/32" |
| Mounting | 7/8" x 9/32" |
| Screws | 4/40" |
| Cutout | 5/16" x 1/2" |
| Unit Weight | 4 oz. |

**MQB CASE**

| | |
|---|---|
| Length | 2 9/16" |
| Width | 1 9/16" |
| Height | 2 13/16" |
| Mounting | 2 1/16" x 11/16" |
| Screws | 6/32" |
| Cutout | 7/8" x 1/2" |
| Unit Weight | 14 oz. |

### MQE TYPES

| Type No. | Inductance (0 DC) | *DC MA Max. |
|---|---|---|
| MQE-1 | 7 mhy. | *135 |
| MQE-2 | 12 mhy. | *100 |
| MQE-3 | 20 mhy. | *80 |
| MQE-4 | 30 mhy. | *65 |
| MQE-5 | 50 mhy. | *50 |
| MQE-6 | 70 mhy. | *40 |
| MQE-7 | 100 mhy. | *35 |
| MQE-8 | 150 mhy. | *30 |
| MQE-9 | .25 hy. | *22 |
| MQE-10 | .4 hy. | *17 |
| MQE-11 | .6 hy. | *14 |
| MQE-12 | .9 hy. | *12 |
| MQE-13 | 1.5 hy. | *9 |
| MQE-14 | 2 hy. | *8 |
| MQE-15 | 2.8 hy. | *7.2 |

### MQA TYPES

| Type No. | Inductance (0 DC) | DC MA Max. |
|---|---|---|
| MQA-1 | 7 mhy. | *250 |
| MQA-2 | 12 mhy. | *200 |
| MQA-3 | 20 mhy. | *150 |
| MQA-4 | 30 mhy. | *125 |
| MQA-5 | 50 mhy. | *100 |
| MQA-6 | 70 mhy. | *80 |
| MQA-7 | 120 mhy. | *60 |
| MQA-8 | .2 hy. | *50 |
| MQA-9 | .3 hy. | *40 |
| MQA-10 | .5 hy. | *30 |
| MQA-11 | .7 hy. | *25 |
| MQA-12 | 1 hy. | *20 |
| MQA-13 | 1.5 hy. | *17 |
| MQA-14 | 2.5 hy. | *13 |
| MQA-15 | 4 hy. | *10 |
| MQA-16 | 6 hy. | *9 |
| MQA-17 | 10 hy. | *7 |
| MQA-18 | 15 hy. | *5 |
| MQA-19 | 22 hy. | *4 |

### MQB TYPES

| Type No. | Inductance (0 DC) | DC MA Max. |
|---|---|---|
| MQB-1 | 10 mhy. | *400 |
| MQB-2 | 30 mhy. | *250 |
| MQB-3 | 70 mhy. | *170 |
| MQB-4 | 120 mhy. | *120 |
| MQB-5 | .5 hy. | *60 |
| MQB-6 | 1 hy. | *40 |
| MQB-7 | 2 hy. | *30 |
| MQB-8 | 3.5 hy. | *22 |
| MQB-9 | 7.5 hy. | *16 |
| MQB-10 | 12 hy. | *11 |
| MQB-11 | 18 hy. | *9 |
| MQB-12 | 25 hy. | *8 |

### MQD TYPES

These high frequency coils are extremely stabilized type for temperature range from −40 to +85° C. Q is 170 @ 50 KC ranging down to approx. 80 at 12 and 130 KC (slightly lower for higher inductances.

| | Inductance (0 DC) |
|---|---|
| MQD-1 | 2 mhy. |
| MQD-2 | 3 mhy. |
| MQD-3 | 5 mhy. |
| MQD-4 | 7 mhy. |
| MQD-5 | 12 mhy. |
| MQD-6 | 20 mhy. |

*The DC MA Max. shown will drop the coil inductance slightly . . . this drop being proportionately smaller at lower DC currents.

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(Refer to Page N-749 for UTC Prices)

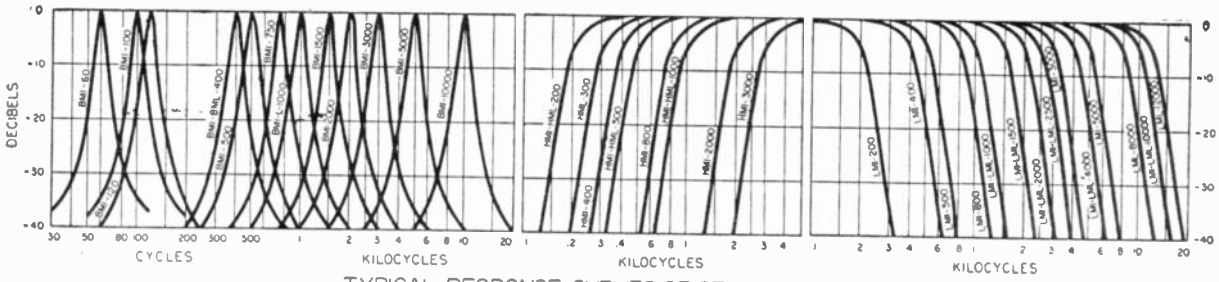


World Radio History

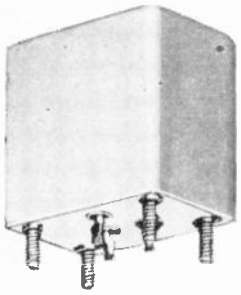
# UTC INTERSTAGE AND LINE FILTERS

(Hermetically sealed to MIL-T-27A specs.)

UTC makes a wide range of specialized filters covering bands ranging from .1 cycle to 400 megacycles. A group of standardized filters have been developed covering the more common mid-range frequencies, which take care of many filter requirements with stock units. All of these standard filters are in drawn hermetically sealed cases shielded to reduce hum pick-up. Special frequencies to order.




TYPICAL RESPONSE CURVES OF STANDARD FILTERS



**FILTER CASE M**

| | |
|---|---|
| Base | 1 3/16" x 1 11/16" |
| Mtg. | 3/4" x 1 1/4" |
| Mtg. Studs (stainless) | 6-32 |
| Cutout | 7/8" dia. |
| Height, BMI, LMI, BML | 1 5/8" |
| Height, HMI, HML, LML | 2 1/2" |
| Weight | 6 oz. and 9 oz. |

**BMI** units (Band Pass) have 2:1 gain. They are sharply peaked, having approximately 2 DB attenuation at plus or minus 3% from center frequency and attenuation of 40 DB per octave as shown. Input 10,000 ohms, output to grid.

**HMI** units (High Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at .67 cutoff frequency. Input and output 10,000 ohms.

**LMI** units (Low Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at 1.5 cutoff frequency. Input and output 10,000 ohms.

**HML** (High Pass) and **LML** (Low Pass) filters are similar to the interstage filters, in all characteristics, except that they are intended for an input and output impedance of 500/600 ohms.
**BML** (Band Pass) have input of 500/600 ohms, output to grid.

**STANDARD FILTERS . . . STOCK FREQUENCIES**

| | |
|---|---|
| BMI-60 | LMI-800 |
| BMI-100 | LMI-1000 |
| BMI-120 | LMI-1500 |
| BMI-400 | LMI-2000 |
| BMI-500 | LMI-2500 |
| BMI-750 | LMI-3000 |
| BMI-1000 | LMI-4000 |
| BMI-1500 | LMI-5000 |
| BMI-2000 | LMI-10000 |
| BMI-3000 | BML-400 |
| BMI-4000 | BML-1000 |
| BMI-5000 | HML-200 |
| BMI-10000 | HML-300 |
| HMI-200 | HML-500 |
| HMI-400 | HML-1000 |
| HMI-500 | LML-1000 |
| HMI-800 | LML-1500 |
| HMI-1000 | LML-2000 |
| HMI-2000 | LML-2500 |
| HMI-3000 | LML-4000 |
| LMI-200 | LML-8000 |
| LMI-400 | LML-10000 |
| LMI-500 | LML-12000 |

# UTC TELEMETERING BAND PASS FILTERS

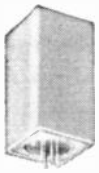
Hermetically sealed to MIL-T-27A Specs.

The standard group of UTC telemetering filters described below incorporates extreme miniaturization with maximum stability, a complete set of 18 filters taking a volume of approximately 19 cubic inches. Both TMN and TMW types are designed for 100K input and output impedance and have an insertion loss of less than 6 db. Four pin hermetic header matches small Winchester socket.

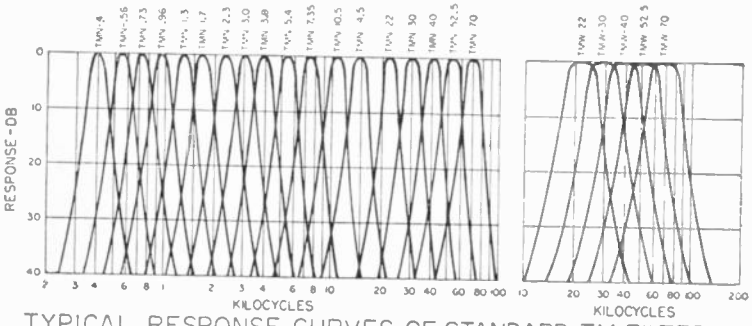
TMN filters are down less than 3 db at ± 7.5% of center frequency. They are down more than 18 db at ± 25% of center frequency. Attenuation is greater than 40 db beyond 1.75 $F_c$ and .58 $F_c$.

TMW filters are down less than 3 db at ± 15% of center frequency. They are down more than 20 db at ± 50% of center frequency. Attenuation is greater than 40 db beyond 2.5 $F_c$ and .4 $F_c$.

**TMN-.4 thru TMN-1.7**
11/16 x 1 9/32 x 2 inches
Weight 3.5 oz.



**TMN-2.3 thru TMW-70**
23/32 x 23/32 x 1 3/8 inches
Weight 1.2 oz.




TYPICAL RESPONSE CURVES OF STANDARD TM FILTERS

| Type No. | Center Frequency KC | Band Width ± |
|---|---|---|
| TMN-.4 | .4 | 7½% |
| TMN-.56 | .56 | 7½% |
| TMN-.73 | .73 | 7½% |
| TMN-.96 | .96 | 7½% |
| TMN-1.3 | 1.3 | 7½% |
| TMN-1.7 | 1.7 | 7½% |
| TMN-2.3 | 2.3 | 7½% |
| TMN-3.0 | 3.0 | 7½% |
| TMN-3.9 | 3.9 | 7½% |
| TMN-5.4 | 5.4 | 7½% |
| TMN-7.35 | 7.35 | 7½% |
| TMN-10.5 | 10.5 | 7½% |

| Type No. | Center Frequency KC | Band Width ± |
|---|---|---|
| TMN-14.5 | 14.5 | 7½% |
| TMN-22 | 22 | 7½% |
| TMN-30 | 30 | 7½% |
| TMN-40 | 40 | 7½% |
| TMN-52.5 | 52.5 | 7½% |
| TMN-70 | 70 | 7½% |
| TMW-22 | 22 | 15% |
| TMW-30 | 30 | 15% |
| TMW-40 | 40 | 15% |
| TMW-52.5 | 52.5 | 15% |
| TMW-70 | 70 | 15% |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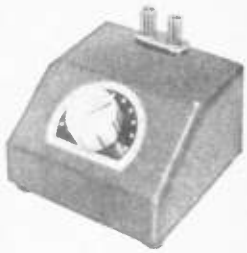
World Radio History

# HIGH Q
# PRECISION INDUCTANCE DECADES

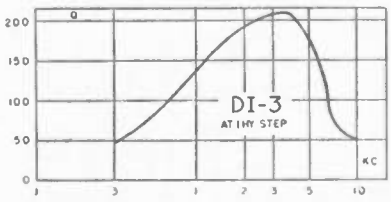
UTC DI inductance decades are invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. They set new standards of Q, stability, frequency range, and convenience. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance frequency. The switch employed is a new low capacity type which lab tests have proven for low contact resistance after 100,000 operations. The inductance values are laboratory adjusted to better than 1% precision, with calibration noted on base .

DI inductance decades are housed in a compact, rugged, die cast case with control on a sloping panel, ideally suiting these units to laboratory use.



**DI CASE**

| | |
|---|---|
| Length | 4½" |
| Width | 4⅜" |
| Height | 2⅜" |
| Weight | 2 Lbs. |




| Type No. | Induct. Henries | Optimum Range | Max. Q | Max. ACMA | Ins. Test Volts RMS |
|---|---|---|---|---|---|
| DI-1 | 10 x .01 | 2-60 KC | 200 | 500 | 500 |
| DI-2 | 10 x 1 | .25-20 KC | 200 | 150 | 500 |
| DI-3 | 10 x 1 | .25-10 KC | 200 | 50 | 500 |
| DI-4 | 10 x 10 | 2-1.5 KC | 100 | 15 | 500 |

# UTC TRANSISTOR SUPPLY TRANSFORMERS

Hermetically sealed to MIL-T-27A specs. Type TFIRX02.

UTC transistor supply transformers are high reliability units in drawn MIL cases as illustrated on opposite page. The chart below shows the secondary voltages available and the approximate DC voltages which result in typical *silicon rectifier* circuits (at MIL currents shown). Primary taps can modify nom. AC voltages by -6%, +6%, and +12%. Since the capacitor following the rectifier affects the DC voltage, values used (in 1000 mfd) are shown, *in italics*, after each current rating.

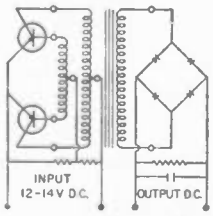
PRIMARY 115 VOLTS, 50/60 CYCLES
NOMINAL SEC. VOLTS, 8.25 to 40.5

| Type No. | MIL DC Range | Indust. DC Range | MIL CASE |
|---|---|---|---|
| H-94 | 6V-3A to 53V-1A | 6V-4A to 50V-1.2A | HF |
| H-95 | 6V-7.5A to 53V-2.5A | 6V-9A to 50V-3A | KA |
| H-96 | 6V-18A to 53V-6A | 6V-23A to 50V-7.5A | OA |

MIL-T-27A RATINGS IN REGULAR TYPE, **INDUSTRIAL RATINGS IN BOLD TYPE**

| | FULL WAVE BRIDGE SILICON RECTIFIER | | | | | | | | FULL WAVE C.T. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nom. AC Volts* | 40.5 | 32.25 | 28.5 | 24 | 20.25 | 16.5 | 12 | 8.25 | 40.5 CT | 24 CT | 11.5 CT |
| Approx. DC Volts* | 53 | 41 | 34 | 25 | 24 | 18 | 12 | 6 | 24 | 12 | 6.6 |
| H-94 DC Amp. | 1. /.5 | 1.1/.5 | 1.2/.5 | 1.3/.5 | 2. /1 | 1.5/1 | 2.5/2 | 3. /2 | 1.5/1 | 1.8/1 | 2.3/2 |
| **H-94 DC Amp.** | **1.2/.5** | **1.5/.5** | **1.5/.5** | **1.6/.5** | **2.5/1** | **2. /1** | **3. /2** | **3.8/2** | **2. /1** | **2.2/1** | **2.8/2** |
| H-95 DC Amp. | 2.5/1 | 3. /1 | 3. /1 | 3.5/1 | 5. /2 | 3.7/2 | 6. /4 | 7.5/4 | 3.7/2 | 4.5/2 | 5.5/4 |
| **H-95 DC Amp.** | **3. /1** | **3.5/1** | **3.8/1** | **4. /1** | **6. /2** | **4.5/2** | **7.5/4** | **9. /4** | **4.5/2** | **5.5/2** | **6.7/4** |
| H-96 DC Amp. | 6. /4 | 7. /4 | 7.5/4 | 8. /4 | 12. /6 | 9. /6 | 15. /12 | 18. /12 | 9. /6 | 11. /6 | 13.5/12 |
| **H-96 DC Amp.** | **7.5/4** | **8.5/4** | **9.5/4** | **10. /4** | **15. /6** | **11. /6** | **19. /12** | **23. /12** | **11. /6** | **13.5/6** | **17. /12** |

*Nom. AC and DC volts are at 115 volt input . . . primary taps can modify -6%, +6% and +12%.




# UTC TRANSISTOR INVERTER TRANSFORMERS

Hermetically sealed to MIL-T-27A specs. Type TFIRX40.

High switching current transistors have made it possible to eliminate vibrators for plate supplies operating from batteries. UTC inverter transformers for this application are high reliability (layer insulated) types providing high efficiency in small size. Units are in drawn MIL cases as illustrated on opposite page. Circuit details supplied with transformer.

FOR 12-14 VOLT BATTERY

| Type No. | DC output, when used in circuit shown | MIL Case |
|---|---|---|
| H-97 | 250V.- 60MA | AH |
| H-98 | 375V.-100MA | AJ |
| H-99 | 425V.-175MA | FA |
| H-100 | 550V.-200MA | GB |

# UTC 400 CYCLE FILAMENT TRANSFORMERS

UTC 400 cycle filament transformers are designed to provide maximum reliability with small size and weight. They are suited to ground or airborne applications.

PRIMARY 105/115 VOLTS 380-1000 CYCLES. TYPE TF5SX01ZZ

Molded to MIL-T-27A grade 5

| Type No. | Sec. Volts | Sec. Amp. | Test Volts RMS | L In. | W In. | H In. | Mtg. In. | Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|
| H-101 | 6.3 CT | 3 | 2500 | 1¾ | 1⅝ | 2 | 1⅛x1 5/32 | .25 |
| H-102 | 6.3 CT | 5.5 | 2500 | 1¾ | 2 | 2¼ | 1⅛x1 5/32 | .4 |
| H-103 | 6.3 CT | 10 | 2500 | 2 3/16 | 2⅛ | 2½ | 1 11/16x1 11/32 | .65 |
| H-104 | 6.3 CT | 20 | 2500 | 2 13/16 | 2½ | 3 | 2 3/16x1 17/32 | 1.2 |

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(Refer to Page N-749 for UTC Prices)



World Radio History

# UTC HERMETIC SEALED POWER TRANSFORMERS

**To MIL-T-27A Specs., MIL Type TF1RX03—Case Number.**

**Primary 115 volts, 50/60 cycles . . . suited to 400 cycle service**

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

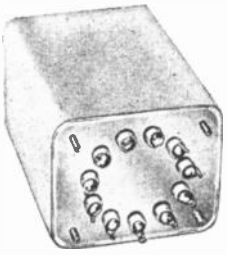
"L" ratings are for choke input filter, "C" for condenser input.

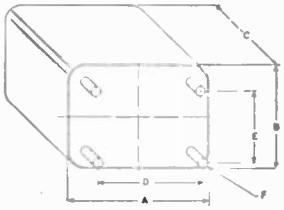
| Type No | HV Sec. C T | Approx* DC volts | DC MA | Fil. Wdg | Approx* DC volts | MA DC | Fil. Wdg | Case A | Case B | Case C | Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H 80 | 450 | C 235 | 20 | 6 3VCT-2A | C 210 | 30 | 6.3VCT-2.5A | 2 9/16 | FA 2 1/16 | 3 1/8 | 1 1/2 |
| H-81 | 500<br>550 | L 180<br>C 265<br>L 200<br>C 300 | 65<br>55<br>60<br>50 | 6 3VCT-3A<br>5V-2A | L 170<br>C 240<br>L 190<br>C 280 | 75<br>65<br>70<br>60 | 6.3VCT-3A<br>5V-2A | 3 1/16 | HA 2 5/8 | 4 1/4 | 4 |
| H-82 | 540<br>600 | L 180<br>C 280<br>L 200<br>C 325 | 110<br>65<br>100<br>60 | 6 3VCT-4A<br>5V-2A | L 140<br>C 270<br>L 170<br>C 315 | 180<br>80<br>170<br>75 | 6.3VCT-4A<br>5V-2A | 3 9/16 | JB 3 1/16 | 3 7/8 | 5 |
| H 83 | 600<br>670 | L 180<br>C 320<br>L 210<br>C 370 | 140<br>85<br>130<br>80 | 6 3V 5A<br>5V 2A | L 160<br>C 270<br>L 190<br>C 340 | 190<br>115<br>180<br>105 | 6.3V-6A<br>5V-2A | 3 9/16 | JA 3 1/16 | 4 7/8 | 6 |
| H 84 | 700<br>750 | L 255<br>C 400<br>L 275<br>C 420 | 170<br>110<br>160<br>105 | 6 3V 5A<br>6 3V 1A<br>5V-3A | L 240<br>C 360<br>L 260<br>C 380 | 210<br>150<br>200<br>140 | 6.3V-6A<br>6.3V-1.5A<br>5V-4A | 3 15/16 | KA 3 3/8 | 5 1/4 | 8 1/2 |
| H-85 | 700<br>750 | L 250<br>C 400<br>L 270<br>C 410 | 220<br>150<br>210<br>140 | 6 3V 6A<br>6 3V-1 5A<br>5V 3A | L 235<br>C 355<br>L 255<br>C 375 | 260<br>195<br>250<br>185 | 6.3V-6A<br>6.3V-1.5A<br>5V-4A | 4 5/16 | LA 3 11/16 | 5 9/16 | 10 |
| H-86 | 720<br>790 | L 240<br>C 425<br>L 270<br>C 450 | 260<br>170<br>250<br>160 | 6 3V-6A<br>6 3V-2A<br>5V-3A | L 220<br>C 410<br>L 250<br>C 440 | 310<br>210<br>300<br>200 | 6.3V-7.5A<br>6.3V-2A<br>5V-4A | 4 11/16 | MB 4 | 4 15/16 | 12 |
| H-87 | 730<br>800 | L 245<br>C 390<br>L 275<br>C 440 | 320<br>210<br>300<br>200 | 6 3V 6A<br>6 3V-2A<br>5V 4A | L 210<br>C 350<br>L 245<br>C 400 | 420<br>310<br>400<br>300 | 6.3V-6A<br>6.3V-2A<br>5V-4A | 5 1/16 | NB 4 5/16 | 5 1/2 | 16 |
| H-88 | 800<br>1000 | L 280<br>C 420<br>L 370<br>C 550 | 300<br>190<br>290<br>180 | 6 3V-6A<br>6 3V 2A<br>5V 4A | L 260<br>C 380<br>L 350<br>C 510 | 375<br>235<br>350<br>225 | 6.3V-7.5A<br>6.3V-2A<br>5V-4A | 5 1/16 | NA 4 5/16 | 6 13/16 | 18 |
| H-89 | 850<br>1050 | L 320<br>C 510<br>L 400<br>C 650 | 320<br>280<br>300<br>250 | 6 3V 8A<br>6 3V 4A<br>5V 6A | L 300<br>C 460<br>L 380<br>C 600 | 400<br>270<br>375<br>300 | 6.3V-8A<br>6.3V-4A<br>5V-6A | 5 1/2 | OA 4 1/2 | 6 3/4 | 21 1/2 |
| H 90 | 700<br>850 | L 230<br>L 290 | 140<br>130 | 6 3V 5A<br>5V 2A | L 210<br>L 260 | 190<br>180 | 6.3V-6A<br>5V-3A | 3 9/16 | JA 3 1/16 | 4 7/8 | 6 |
| H-91 | 900<br>1000 | L 320<br>L 360 | 190<br>180 | 6 3V 5A<br>6 3V 1A<br>5V-3A | L 290<br>L 320 | 270<br>250 | 6.3V-6A<br>6.3V-1.5A<br>5V-4A | 3 15/16 | KA 3 3/8 | 5 1/4 | 8 1/2 |
| H-92 | 900<br>1050 | L 330<br>L 385 | 230<br>220 | 6 3V 6A<br>6 3V 2A<br>5V-4A | L 320<br>L 370 | 290<br>270 | 6.3V-8A<br>6.3V-2A<br>5V-4A | 4 11/16 | MB 4 | 4 15/16 | 12 |
| H-93 | 1000<br>1200 | L 370<br>L 465 | 280<br>250 | 6 3V 8A<br>6 3V 4A<br>5V 6A | L 340<br>L 455 | 340<br>300 | 6.3V-10A<br>6.3V-5A<br>5V-6A | 5 1/2 | OA 4 1/2 | 6 3/4 | 21 1/2 |

* After appropriate H series choke

The "H" series of hermetic power transformers are suited to a wide variety of electronic applications in both military and industrial service. Conservative design provides maximum reliability through low temperature rise and high insulation safety factors. All units are in MIL cases with rugged internal construction stainless steel studs.

The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications (see page 11).






# UTC HERMETIC SEALED PLATE TRANSFORMERS

**To MIL-T-27A Specs., MIL Type TF1RX02—Case Number.**

**Primary: 105/115/210/220 Volts . . . 50/60 cycles.**

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

All ratings are for choke input filter.

| No. Type | Sec. V. C.T. | Approx.* DC volts | MA DC | Choke No. | MA DC | Choke No. | Case A | Case B | Case C | Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| H-110 | 1050<br>1200 | 365<br>430 | 275<br>250 | H-75<br>H-75 | 385<br>350 | H-77<br>H-77 | 4 11/16 | MB 4 | 4 15/16 | 14 |
| H-111 | 1050<br>1200 | 415<br>480 | 440<br>400 | H-77<br>H-77 | 550<br>500 | H-77<br>H 77 | 5 1/16 | NA 4 5/16 | 6 13/16 | 19 |
| H-112 | 1500<br>1900 | 615<br>790 | 290<br>250 | H-77<br>H-76 | 350<br>300 | H-77<br>H-76 | 5 1/16 | NA 4 5/16 | 6 13/16 | 19 |
| H-113 | 2500<br>3000 | 1050<br>1275 | 280<br>250 | H-77<br>H-76 | 340<br>300 | H-77<br>H-76 | 6 | 5 1/8 | 6 3/4 | 27 |
| H-114 | 2500<br>3000 | 1050<br>1265 | 450<br>400 | H-79<br>H-78 | 500<br>450 | H-78<br>H-78 | 6 3/4 | 6 1/2 | 8 | 51 |
| H-115 | 3500<br>4400 | 1500<br>1900 | 265<br>225 | H-77<br>H-77 | 350<br>300 | H-77<br>H-77 | 6 3/4 | 6 1/2 | 8 | 48 1/2 |
| H-116 | 5000<br>6000 | 2125<br>2550 | 450<br>400 | H-79<br>H-78 | 560<br>500 | H-79<br>H-78 | 8 1/2 | 9 3/4 | 10 1/4 | 95 |
| H-117 | 5000<br>6000 | 2125<br>2550 | 900<br>800 | H-79<br>H-79 | 1100<br>1000 | H-79<br>H-79 | 11 | 11 | 14 3/4 | 160 |

*After filter choke.

The tapped high voltage winding on the "H" series hermetic plate transformers provides either of two secondary voltages for greatest versatility. The listing shows the DC voltage and permissible currents for a wide variety of applications in both military and industrial service. High insulation safety factor and low temperature rise provide a maximum in reliability. The first three types are in MIL cases. The others are in rectangular cases with terminals opposite mounting for greatest convenience in typical power supply application, stainless steel studs.



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World Radio History

# UTC HERMETIC SEALED FILTER CHOKES

**To MIL-T-27A Specs., MIL Type TF1RX04—Case Number.**

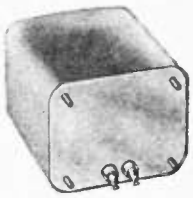
MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

| Type No. | Ind. Hys. | @ MA DC | Ind. Hys. | @ MA DC | Ind. Hys. | @ MA DC | Ind. Hys. | @ MA DC | Res. Ohms | Max. DCV* Ch. Input | Test V. RMS | Case |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H-70 | 20 | 20 | 18 | 25 | 14.5 | 30 | 10 | 35 | 925 | 350 | 1000 | AH |
| H-71 | 20 | 40 | 18.5 | 50 | 15.5 | 60 | 10 | 70 | 350 | 500 | 2500 | FB |
| H-72 | 13 | 70 | 11.5 | 85 | 9.5 | 105 | 7 | 125 | 215 | 500 | 2500 | GB |
| H-73 | 11 | 100 | 9.5 | 125 | 7.5 | 150 | 5.5 | 175 | 150 | 700 | 2500 | HB |
| H-74 | 11 | 150 | 10 | 170 | 8.5 | 195 | 6.5 | 215 | 135 | 700 | 2500 | JB |
| H-75 | 11 | 200 | 10 | 230 | 8.5 | 250 | 6.5 | 300 | 90 | 700 | 2500 | KB |
| H-76 | 11 | 200 | 10 | 230 | 8.5 | 250 | 6.5 | 300 | 85 | 1500 | 4500 | LB |
| H-77 | 10 | 300 | 9 | 350 | 8 | 390 | 6.5 | 435 | 60 | 2000 | 5500 | MB |
| H-78 | 7 | 400 | 6.5 | 430 | 6 | 465 | 5.5 | 500 | 48 | 2500 | 7000 | OA |
| H-79 | 7 | 800 | 6.5 | 900 | 6 | 1000 | 5.5 | 1250 | 20 | 3000 | 9000 | 7x7x8 |

Inductance test is performed at maximum military current rating.

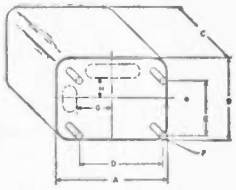
* Based on maximum ripple voltage across choke in choke input filter circuit, in terms of DC output voltage. Does not apply to condenser input circuits.

The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. All units employ rugged internal construction and MIL cases (except H-79 which has mounting opposite terminals), stainless steel studs.



## DIMENSIONS "H" SERIES FILTER CHOKES, INCHES

| Type No. | A | B | C | D | E | F | G | H | Cutout | Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| H-70 | 1 1/16 | 1 1/8 | 1¾ | 1¼ diagonal | | 6–32(2) | | 1/16 | ⅜ x ⅝ | .4 |
| H-71 | 2 1/16 | 2 1/16 | 2½ | 1 11/16 | 1 1/16 | 6–32 | | 15/32 | ½ x 1¼ | 1½ |
| H-72 | 2¾ | 2⅛ | 2 1/16 | 2⅛ | 1¾ | 6–32 | | 17/32 | ½ x ⅞ | 2½ |
| H-73 | 3 1/16 | 2⅝ | 3 1/16 | 2 19/64 | 1 55/64 | 8–32 | | ⅝ | ⅝ x 1⅛ | 3½ |
| H-74 | 3 1/16 | 3 1/16 | 3⅞ | 2⅝ | 2⅛ | 8–32 | | ¾ | ⅝ x 1⅛ | 5 |
| H-75 | 3 15/16 | 3⅜ | 4 1/16 | 3 | 2 1/16 | 10–32 | 1 1/16 | | ⅝ x 1 1/16 | 8 |
| H-76 | 4 1/16 | 3 11/16 | 4½ | 3 1/16 | 2 11/16 | 10–32 | 1 5/32 | | 11/16 x 1 1/16 | 11 |
| H-77 | 4 11/16 | 4 | 4 11/16 | 3 11/16 | 3 | ¼–20 | 1½ | | 11/16 x 1¼ | 15 |
| H-78 | 5½ | 4½ | 6¾ | 3¾ | 3 | ¼–20 | | | 1 x 2 | 25 |
| H-79 | 7 | 7 | 8 | 5⅞ | 5⅞ | ⅜–16(6) | | | term. opp. mtg. | 60 |



# UTC HERMETIC SEALED FILAMENT TRANSFORMERS

**To MIL-T-27A Specs., MIL Type TF1RX01—Case Number.**

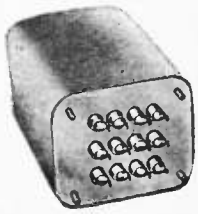
**Primary: 105/115/210/220 volts . . . 50/60 cycles, except H-130 (115 v.) and H-131 (115/220 v.)**

**Suited to 400 cycle service**

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

| Type No. | Sec. Volts | Amps. (MIL) | Amps. (Ind) | Test Volts RMS | Case | A | B | C | Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|
| H-120 | 2.5 | 10 | 12 | 4000 | GB | 2¾ | 2⅛ | 2 9/16 | 2½ |
| H-121 | 2.5 | 10 | 12 | 10000 | JB | 3 9/16 | 3 1/16 | 3⅞ | 4½ |
| H-122 | 2.5 | 20 | 26 | 10000 | KB | 3 15/16 | 3⅜ | 4 5/16 | 6 |
| H-123 | 2.5 | 5 | 7.5 | 10000 | NB | 5 1/16 | 4 5/16 | 5½ | 13 |
| | 2.5 | 5 | 7.5 | | | | | | |
| | 2.5 | 10 | 15 | | | | | | |
| H-124 | 5 | 3 | 3 | 2000 | FB | 2 9/16 | 2 1/16 | 2½ | 2 |
| H-125 | 5 | 10 | 12 | 10000 | KB | 3 15/16 | 3½ | 4 5/16 | 6 |
| H-126 | 5 | 20 | 25 | 10000 | LA | 4 9/16 | 3 11/16 | 5 9/16 | 10 |
| H-127 | 5 | 20 | 30 | 21000 | NA | 5 1/16 | 4 9/16 | 5½ | 17 |
| H-128 | 5 | 60 | 75 | 21000 | | 6½ | 5½ | 7¾ | 34 |
| H-129 | 5 | 10 | 12 | 21000 | | 6½ | 5½ | 7¾ | 28 |
| | 5 | 10 | 12 | | | | | | |
| | 5 | 20 | 24 | | | | | | |
| H-130 | 6.3CT | 6 | .75 | 1500 | AJ | 1⅝ | 1⅛ | 2⅜ | .65 |
| H-131 | 6.3CT | 2 | 2.5 | 2500 | FB | 2 9/16 | 2 1/16 | 2½ | 1½ |
| H-132 | 6.3CT | 6 | 7 | 2500 | JA | 3 9/16 | 3 1/16 | 4⅞ | 6 |
| | 6.3CT | 6 | 7 | | | | | | |
| H-133 | 6.3CT | 7 | 8 | 2500 | HB | 3 1/16 | 2⅝ | 3 9/16 | 3½ |
| H-134 | 6.3CT | 10 | 12 | 2500 | HA | 3 1/16 | 2⅝ | 4¼ | 4½ |
| H-135 | 10CT | 10 | 13 | 2500 | JB | 3 9/16 | 3 1/16 | 3⅞ | 6 |
| H-136 | 14, 12, 11CT | 10 | 14 | 2500 | LA | 4 9/16 | 3 11/16 | 5 9/16 | 11 |

The wide variety of "H" series filament transformers listed cover virtually every military and industrial need. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. Except for H-128 and H-129 which have terminals opposite mounting, all units are in MIL cases with rugged internal construction, stainless steel studs. Regulation has been a fundamental design consideration to provide for the diverse applications in which these units may be employed.



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World Radio History

# HERMETIC AUDIO COMPONENTS

Hermetically sealed to MIL-T-27A Specs.

For twenty-five years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to MIL-T-27A specifications, which are now catalogued as UTC stock items. All units employ glass bead headers or terminals. For printed circuit use, wire terminals on glass header units can be straightened out without injury. Straight wire terminals available on production orders as well as flat (7/8 x 23/32 x 5/16) case for SM units.

The frequency response ratings are based on military requirements. Actually, most of the units that do not carry DC are appreciably better in response than the range shown. For example; H-1, H-3, H-5, H-8 are within 2db from 30 to 20,000 cycles.

The level ratings are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible. For example, the H-3 will handle +21dbm at 400 cycles.

The Impedance ratings are listed in standard manner. Transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source impedance reduces them. Units may also be used reversed, input to secondary.

## MINIATURE AUDIO UNITS . . . RC-25 CASE

**RC-25 CASE**

Length ..... 1 13/32"
Width ..... 9/16
Height ..... 19/16"
Mounting (slot centers) 1 1/8 to 1 7/32"
Screws ..... 4-40 Fil.
Cutout ..... 7/8 Dia.
Unit Weight ..... 1.5 oz.

| Type No | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|---|---|---|---|---|---|---|---|
| H-1 | Mike, pickup. line to grid | TF4RX10YY | 50, 200CT, 500CT* | 50,000 | 0 | 50-10,000 | + 5 |
| H-2 | Mike to grid | TF4RX11YY | 82 | 135,000 | 50 | 250-8,000 | +18 |
| H-3 | Single plate to single grid, | TF4RX15YY | 15,000 | 60,000 | 0 | 50-10,000 | + 6 |
| H-4 | Single plate to single grid, DC in Pri. | TF4RX15YY | 15,000 | 60,000 | 4 | 200-10,000 | +14 |
| H-5 | Single plate to P.P. grids | TF4RX15YY | 15,000 | 95,000 CT | 0 | 50-10,000 | + 5 |
| H-6 | Single plate to P.P. grids, DC in Pri. | TF4RX15YY | 15,000 | 95,000 split | 4 | 200-10,000 | +11 |
| H-7 | Single or P.P. plates to line | TF4RX13YY | 20,000 CT | 150/600 | 4 | 200-10,000 | +21 |
| H-8 | Mixing and matching | TF4RX16YY | 150/600 | 600 CT | 0 | 50-10,000 | + 8 |
| H-9* | 82/41:1 input to grid | TF4RX10YY | 150/600 | 1 meg. | 0 | 200-3,000 (4 db.) | +10 |
| H-10 | 10:1 single plate to 1 grid. | TF4RX15YY | 10,000 | 1 meg. | 0 | 200-3,000 (4 db.) | +10 |
| H-11 | Reactor | TF4RX20YY | 300 Henries-0 DC, 50 Henries-3 Ma. DC, 6,000 Ohms. | | | | |
| H-12 | Mike, line to PP grids | TF4RX10YY | 50,200 CT, 500 CT* | 50,000 CT | 0 | 50-10,000 | + 5 |
| H-13 | Trasistor Interstage | TF4RX13YY | 10K/2.5K, Split | 2K/.5K split | 4 | 100-10,000 | +20 |
| H-14 | Transistor Interstage | TF4RX13YY | 10K/2.5K, Split | 4K/1K split | 4 | 100-10,000 | +20 |
| H-15 | Transistor to line | TF4RX13YY | 1,500 CT | 500/125 split | 8 | 100-10,000 | +20 |
| H-16 | Transistor to V.C. | TF4RX13YY | 2,000 CT<br>4,000 CT | 8<br>16 | 4 | 100-10,000 | +20 |

## COMPACT AUDIO UNITS . . . RC-50 CASE

**C-50 CASE**

Length ..... 1 5/8
Width ..... 1 5/8
Height ..... 2 9/16
Mounting ..... 1 9/16
Screws ..... #6-32
Cutout ..... 1 1/2 Dia.
Unit Weight ..... 8 oz.

| Type No. | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|---|---|---|---|---|---|---|---|
| H-19A | Line to grid, Balanced, 1:14 ratio. Multiple hi-permalloy (75 DB) shielding | TF4RX10YY | 250 CT<br>500 CT | 50,000<br>100,000 CT | 0 | 30-20,000 | + 6 |
| H-20 | Single plate to 2 grids, can also be used for P.P. plates | TF4RX15YY | 15,000 split | 80,000 split | 0 | 30-20,000 | +12 |
| H-21 | Single plate to P.P. grids, DC in Pri. | TF4RX15YY | 15,000 | 80,000 split | 8 | 100-20,000 | +23 |
| H-22 | Single plate to multiple line | TF4RX13YY | 15,000 | 50/200, 125/500** | 8 | 50-20,000 | +23 |
| H-23 | P.P. plates to multiple line | TF4RX13YY | 30,000 split | 50/200, 125/500** | 8 BAL. | 30-20,000 | +19 |
| H-24 | Reactor | TF4RX20YY | 450 Hys.-0 DC, 250 Hys.-5 Ma. DC, 6000 ohms<br>65 Hys.-10 Ma. DC, 1500 ohms | | | | |
| H-25 | Mixing of transistors to line | TF4RX17YY | 500 CT | 500/125 split | 20 | 40-10,000 | +30 |
| H-26 | Transistor Interstage | TF4RX13YY | 10,000/2,500 (split) | 2,000/500 split | 8 | 40-10,000 | +30 |
| H-27 | Transistor to V.C. | TF4RX17YY | 500 CT | 16/4 split | 20 | 40-10,000 | +30 |
| H-280 | Transistor driver | TF4RX17YY | 200 CT | 400 Split | 20 | 40-20,000 | +30 |
| H-281 | Transistor to V.C. | TF4RX17YY | 48 CT | 16, 8, 4 | 750 BAL | 40-20,000 | 5 WATTS |
| H-282 | Transistor to V.C. RC-62 case, Pg. 29. | TF4RX17YY | 20 CT | 16, 8, 4 | 1000 BAL | 40-20,000 | 10 WATTS |
| H-290 | Chopper transf., electrost. & triple mag. shld. | TF4RX10YY | 2,500 e.s. (1/2 Pri.) | 100 K ratio 1:6.4 | 0 | 60-400 | + 5 |
| H-291 | Chopper transf., higher gain, 20 db better shielding. RC-62 case, Pg. 29. | TF4RX10YY | 2,000/500 e.s. (1/2 Pri.) | 312K ratio 1:25/12.5 | 0 | 60-400 | +10 |

## SUBMINIATURE AUDIO UNITS . . . SM CASE

**SM CASE**

Length ..... 11/16
Width ..... 1/2
Height ..... 23/32
Screw ..... 4-40 Fil.
Unit Weight ..... .8 oz.

| Type No. | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|---|---|---|---|---|---|---|---|
| H-30 | Inqut to grid | TF4RX10YY | 50*** | 62,500 | 0 | 150-10,000 | +13 |
| H-31 | Single plate to 1 grid, 3:1 | TF4RX15YY | 10,000 | 90,000 | 0 | 300-10,000 | +13 |
| H-32 | Single plate to line | TF4RX13YY | 10,000**** | 200 | 3 | 300-10,000 | +13 |
| H-33 | Single plate to low imp. | TF4RX13YY | 30,000 | 50 | 1 | 300-10,000 | +15 |
| H-35 | Reactor | TF4RX20YY | 100 Henries-0 DC, 50 Henries-1 Ma. DC, 4,400 ohms. | | | | |
| H-36 | Transistor Interstage | TF4RX15YY | 25,000 (DCR800) | 1,000 (DCR110) | .5 | 300-10,000 | +10 |
| H-37A | Transistor output | TF4RX15YY | 500 (DCR50) CT | 50 (DCR5) | 3.5 | 300-10,000 | +15 |
| H-38 | Transistor Interstage | TF4RX13YY | 10,000 CT (DCR600) | 1,200 CT | 2 | 300-10,000 | +15 |
| H-39 | Transistor Interstage | TF4RX13YY | 10,000 CT (DCR600) | 2,000 CT | 2 | 300-10,000 | +15 |
| H-40A | Transistor output | TF4RX17YY | 500 CT (DCR26) | 600 CT | 10 | 300-10,000 | +15 |
| H-41A | Transistor output | TF4RX13YY | 1,500 CT (DCR71) | 600 CT | 7 | 300-10,000 | +15 |

* 200 ohm termination can be used for 150 ohms or 250 ohms. 500 ohm termination can be used for 600 ohms
** 200 ohm termination can be used for 150 ohms or 250 ohms, 125/500 ohm termination for 150/600 ohms.
*** Can be used with higher source impedances, with corresponding reduction in frequency range. With 200 ohm source, impedance becomes 250,000 ohms . . . loaded response is –4 db at 300 cycles.
**** Can be used for 500 ohm load . . . 25,000 ohm primary impedance . . . 1.5 Ma. DC.


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(Refer to Page N-749 for UTC Prices)
World Radio History

# UTC DO-T and DI-T TRANSFORMERS

REVOLUTIONARY TRANSISTOR TRANSFORMERS, hermetically sealed to MIL-T-27A Specs.

To fully appreciate DO-T transistor transformers, the curves below indicate their performance compared to that of similar size units now on the market. DI-T transformers are still smaller in size. Power rating and other characteristics are identical to DO-T, but low frequency response (3 db down point) is 30% higher in frequency.

Units can be used for different impedances than those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source will reduce them. Units may be used reversed input to secondary. Available with leads at both ends on production order. If clip mounted, use Augat #5009-8A clip.

| DO-T No. | MIL Type | Application | Pri. Imp. | D.C. Ma.‡ in Pri. | Sec. Imp. | Pri. Res. | Level Mw. | DI-T No. |
|---|---|---|---|---|---|---|---|---|
| DO-T1 | TF4RX13YY | Interstage | 20,000<br>30,000 | .5<br>.5 | 800<br>1200 | 850 | 50 | |
| DO-T2 | TF4RX17YY | Output | 500<br>600 | 3<br>3 | 50<br>60 | 60 | 100 | DI-T2 |
| DO-T3 | TF4RX13YY | Output | 1000<br>1200 | 3<br>3 | 50<br>60 | 115 | 100 | DI-T3 |
| DO-T4 | TF4RX17YY | Output | 600 | 3 | 3.2 | 60 | 100 | |
| DO-T5 | TF4RX13YY | Output | 1200 | 2 | 3.2 | 115 | 100 | |
| DO-T6 | TF4RX13YY | Output | 10,000 | 1 | 3.2 | 1000 | 100 | |
| DO-T7 | TF4RX16YY | Input | 200,000 | 0 | 1000 | 8500 | 25 | |
| DO-T8 | TF4RX20YY | Reactor 3.5 Hys. @ 2 Ma. DC, 1 Hy @ 5 Ma. DC (DI-T8 is 2.5 Hy @ 2 Ma.) | | | | 630 | | DI-T8 |
| DO-T9 | TF4RX13YY | Output or Driver | 10,000<br>12,500 | 1<br>1 | 500 CT<br>600 CT | 800 | 100 | DI-T9 |
| DO-T10 | TF4RX13YY | Driver | 10,000<br>12,500 | 1<br>1 | 1200 CT<br>1500 CT | 800 | 100 | DI-T10 |
| DO-T11 | TF4RX13YY | Driver | 10,000<br>12,000 | 1<br>1 | 2000 CT<br>2500 CT | 800 | 100 | DI-T11 |
| DO-T12 | TF4RX17YY | Single or PP output | 150 CT<br>200 CT | 10<br>10 | 12<br>16 | 11 | 500 | |
| DO-T13 | TF4RX17YY | Single or PP output | 300 CT<br>400 CT | 7<br>7 | 12<br>16 | 20 | 500 | |
| DO-T14 | TF4RX17YY | Single or PP output | 600 CT<br>800 CT | 5<br>5 | 12<br>16 | 43 | 500 | |
| DO-T15 | TF4RX17YY | Single or PP output | 800 CT<br>1070 CT | 4<br>4 | 12<br>16 | 51 | 500 | |
| DO-T16 | TF4RX13YY | Single or PP output | 1000 CT<br>1330 CT | 3.5<br>3.5 | 12<br>16 | 71 | 500 | |
| DO-T17 | TF4RX13YY | Single or PP output | 1500 CT<br>2000 CT | 3<br>3 | 12<br>16 | 108 | 500 | |
| DO-T18 | TF4RX13YY | Single or PP output | 7500 CT<br>10,000 CT | 1<br>1 | 12<br>16 | 505 | 500 | |
| DO-T19 | TF4RX17YY | Output to line | 300 CT | 7 | 600 | 19 | 500 | DI-T19 |
| DO-T20 | TF4RX17YY | Output or matching to line | 500 CT | 5.5 | 600 | 31 | 500 | DI-T20 |
| DO-T21 | TF4RX17YY | Output to line | 900 CT | 4 | 600 | 53 | 500 | |
| DO-T22 | TF4RX13YY | Output to line | 1500 CT | 3 | 600 | 86 | 500 | DI-T22 |
| DO-T23 | TF4RX13YY | Interstage | 20,000 CT<br>30,000 CT | .5<br>.5 | 800 CT<br>1200 CT | 850 | 100 | DI-T23 |
| DO-T24 | TF4RX16YY | Input (usable for chopper service) | 200,000 CT | 0 | 1000 CT | 8500 | 25 | |
| DO-T25 | TF4RX13YY | Interstage | 10,000 CT<br>12,000 CT | 1<br>1 | 1500 CT<br>1800 CT | 800 | 100 | |
| DO-T26 | TF4RX20YY | Reactor 3 Hy @ 2 Ma. DC, 1.5 Hy. @ 5 Ma. DC | | | | 2100 | | |
| DO-T27 | TF4RX20YY | Reactor 1.25 Hy @ 2 Ma. DC, .5 Hy. @ 11 Ma. DC | | | | 100 | | |
| DO-TSH | Drawn Hipermalloy shield and cover for DO-T's, provides 25 to 30 db shielding. | | | | | | | |

‡DCMA shown is for single ended useage (under 5% distortion—100MW—1KC) . . . for push pull, DCMA can be any balanced value taken by .5W transistors (under 5% distortion—500MW—1KC)

**High Power Rating** . . . up to 100 times greater.

**Excellent Response** . . . twice as good at low end.

**Low Distortion** . . . reduced 80%.

**High Efficiency** . . . up to 30% better.

**Moisture Proof** . . . hermetically sealed to MIL-T-27A.

**Rugged** . . . completely cased.

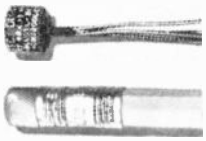
**Anchored Leads** . . . will withstand 10 pound pull test.

**Printed Circuit Use** . . . (solder melting) plastic insulated leads.

ACTUAL SIZE

**DO-T CASE**

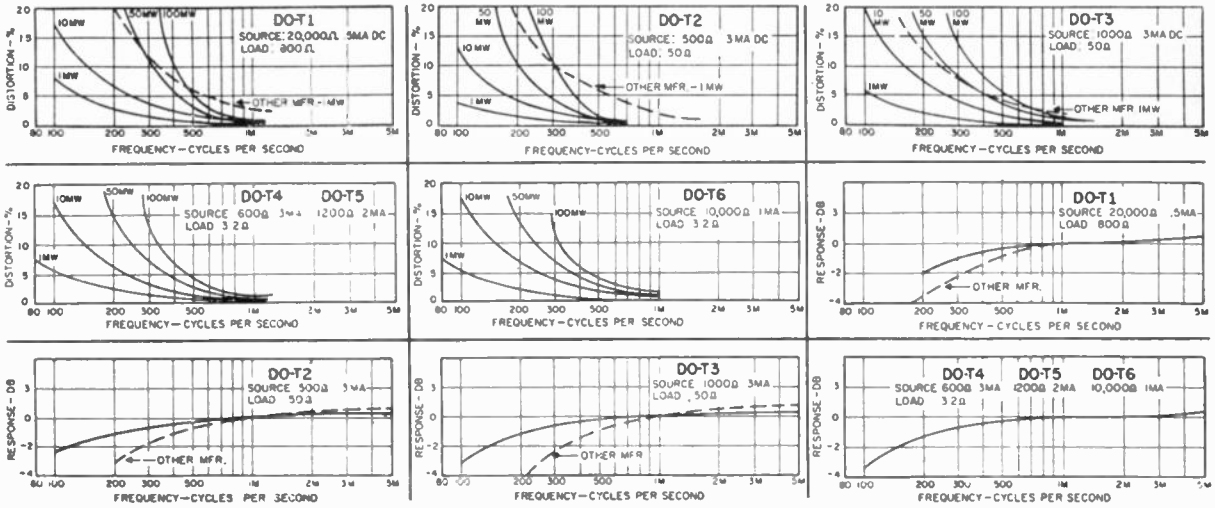
Dia. . . . 5/16"
Length . . 13/32"
Weight . . 1/10th oz.



**DI-T CASE**

Dia. . . . . 5/16"
Length . . . 1/4"
Weight . . .06 oz.

Power curves based on setting output power at 1 KC, then maintaining same input level over frequency range.




*DO-T and DI-T units have been designed for transistor application only . . . not for vacuum tube service, Pats. Pending

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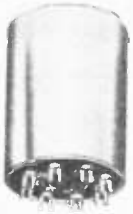
World Radio History

# OUNCER AUDIO UNITS STANDARD AND PLUG-IN TYPES

Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform within approximately 1 DB from 30 to 20,000 cycles, except for 0-14, 0-15, and units carrying DC which are intended for voice frequencies. Maximum level +8 dbm. ⅞" dia., 1 oz.

"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug-in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.



OUNCER CASE

Dia. ⅞"
Ht. 1 3/16"
Mtg. 11/16"
Scr. 2-56
Wt. 1 oz.

Ouncer chassis mount bracket available on production orders

PLUG-IN CASE

Dia. 1 3/32"
Ht. 1 13/32"
Skt. St. Oct.
Wt. 2 oz.

| OUNCER Type No. | Application | Pri. Imp. | Sec. Imp. | PLUG-IN Type No. |
|---|---|---|---|---|
| 0-1 | Mike, pickup or line to 1 grid | 50, 200/250, 500/600 | 50,000 | P-1 |
| 0-2 | Mike, pickup or line to 2 grids | 50, 200/250, 500/600 | 50,000 CT | P-2 |
| 0-3 | Dynamic mike to 1 grid | 7.5/30 | 50,000 | P-3 |
| 0-4 | Single plate to 1 grid | 15,000 | 60,000 | |
| 0-5 | Single plate to 1 grid, D.C. in Pri. | 15,000 | 60,000 | |
| 0-6 | Single plate to 2 grids | 15,000 | 95,000 CT | P-6 |
| 0-7 | Single plate to 2 grids, D.C. in Pri. | 15,000 | 95,000 CT | P-7 |
| 0-8 | Single plate to line | 15,000 | 50, 200/250, 500/600 | P-8 |
| 0-9 | Single plate to line, D.C. in Pri. | 15,000 | 50, 200/250, 500/600 | P-9 |
| 0-10 | Push pull plates to line | 30,000 ohms plate to plate | 50, 200/250, 500/600 | P-10 |
| 0-11 | Crystal mike or pick-up to line | 50,000 | 50, 200/250, 500/600 | P-11 |
| 0-12 | Mixing and matching | 50, 200/250 | 50, 200/250, 500/600 | P-12 |
| 0-13 | Reactor, 300 Hys.—no D.C.; 50 Hys.—3 MA. D.C., 6000 ohms | | | |
| 0-14 | 50:1 mike or line to 1 grid | 200 | ½ megohm | |
| 0-15 | 10:1 single plate to 1 grid | 15,000 | 1 megohm | P-15 |
| 0-16 | Mike or line to grid | 250 C.T. | 50,000 | |
| This transformer provides very low hum pickup . . . employs two heavy gauge hipermalloy shields plus orientable mounting. Primary centertap is balanced to 1%. Can be used for 150, 200, 250, 500, or 600 ohm sources . . . 200:1 impedance ratio. | | | | |
| Same as 0-16 but with nine pin plug in socket. 1 3/16 Dia. x 2¾ high, 4 oz. | | | | P-16 |
| 0-17 | Hipermalloy shield, slip fit over ouncer, 1" O.D., provides 25 db shielding. | | | |
| 0-18 | Transistor interstage | 10,000/2,500 (split) | 2,000/500 (split) | |
| 0-19 | Transistor interstage | 10,000/2,500 (split) | 4,000/1,000 (split) | |
| 0-20 | Transistor to line | 1,500 CT | 500/125 (split) | |
| 0-21 | Transistor to voice coil Imp. ratio 250:1 | 2,000 CT<br>4,000 CT | 8<br>16 | |

P-16 CASE

Dia. 1 3/16
Ht. 2¾
Wt. 4 oz.

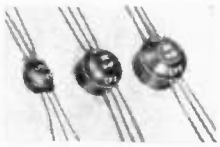
0-16 CASE

Dia. 1 7/16"
Ht. 1½"
Mtg. 1½"
Scr. 6-32
Wt. 3 oz.
Clamp 1 3/16" x 1⅞"

# MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-27A Specs. . . . all units MIL type TF5SX36ZZ

UTC miniature, wound core, pulse transformers are precision, high reliability units, hermetically sealed by vacuum molding and suited for service from −70° C. to +130° C. Wound core structure provides excellent temperature stability (unlike ferrite). Designs are **high inductance type** to provide **minimum of droop** and assure **true pulse width**, as indicated on chart below. If used for coupling circuit where **minimum rise time** is important, use next lowest type number. Rise time will be that listed for this lower type number . . . droop will be that listed multiplied by ratio of actual pulse width to value listed for this type number. block oscillator data listed is obtained in **standard test circuit** shown. Coupling data was obtained with H. P. 212A generator (correlated for H-55, 56, 57) and source/load impedances shown. Three windings, 1; 1; 1.



| | APPROX. DCR, OHMS | | | BLOCKING OSCILLATOR PULSE | | | | | COUPLING CIRCUIT CHARACTERISTICS | | | | | | | DIMENSIONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type No. | 1-2 | 3-4 | 4-5 | Width μ Sec. | Rise Time | % Over Shoot | Droop % | % Back Swing | P. Width μ Sec. | Volts Out | Rise Time | % Over Shoot | Droop % | % Back Swing | Imp. in, out, ohms | L In. | W In. | Wt. Grams |
| H-45 | 3 | 3.5 | 4 | .05 | .022 | 0 | 20 | 10 | .05 | 17 | 01 | 20 | 0 | 35 | 250 | ⅜ | ⅜ | 1 |
| H-46 | 5.5 | 6.5 | 7 | .10 | .024 | 0 | 25 | 10 | .10 | 19 | 01 | 30 | 10 | 50 | 250 | ⅜ | ⅜ | 1 |
| H-47 | 3.7 | 4.0 | 4 | .20 | .026 | 0 | 25 | 8 | .20 | 18 | 01 | 30 | 15 | 65 | 500 | 9/16 | ⅝ | 4 |
| H-48 | 5.5 | 5.8 | 6 | .50 | .03 | 0 | 20 | 5 | .50 | 20 | 01 | 30 | 20 | 65 | 500 | 9/16 | ⅝ | 4 |
| H-49 | 8 | 8.5 | 9 | 1 | .04 | 0 | 20 | 10 | 1 | 24 | 02 | 15 | 15 | 65 | 500 | 9/16 | ⅝ | 4 |
| H-50 | 20 | 21 | 22 | 2 | .05 | 0 | 20 | 10 | 2 | 27 | 05 | 10 | 15 | 35 | 500 | 9/16 | ⅝ | 4 |
| H-51 | 28 | 31 | 33 | 3 | .10 | 1 | 20 | 8 | 3 | 26 | 07 | 10 | 10 | 35 | 500 | 9/16 | ⅝ | 4 |
| H-52 | 36 | 41 | 44 | 5 | 13 | 1 | 25 | 8 | 5 | 23 | 15 | 10 | 10 | 45 | 1000 | 9/16 | ⅝ | 4 |
| H-53 | 37 | 44 | 49 | 7 | 28 | 0 | 25 | 8 | 7 | 24 | 20 | 10 | 10 | 50 | 1000 | ⅝ | ⅝ | 6 |
| H-54 | 50 | 58 | 67 | 10 | .30 | 0 | 20 | 8 | 10 | 24 | .25 | 10 | 10 | 50 | 1000 | ⅝ | ⅝ | 6 |
| H-55 | 78 | 96 | 112 | 16 | .75 | 0 | 20 | 10 | 16 | 23 | .40 | 5 | 15 | 20 | 1000 | ⅝ | ⅝ | 6 |
| H-56 | 93 | 116 | 138 | 20 | 1.25 | 0 | 25 | 10 | 20 | 23 | 6 | 5 | 10 | 10 | 1000 | ⅝ | ⅝ | 6 |
| H-57 | 104 | 135 | 165 | 25 | 2.0 | 0 | 30 | 10 | 25 | 24 | 1 5 | 5 | 10 | 10 | 1000 | ⅝ | ⅝ | 6 |
| H-58 | Pulse transformer kit. Consists of one of each of the above units in a partitioned plastic case. Ideal for the laboratory. | | | | | | | | | | | | | | | | | |



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(Refer to Page N-749 for UTC Prices)

World Radio History

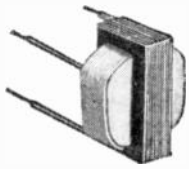
# SUB-SUBOUNCER UNITS

## FOR HEARING AIDS AND ULTRA-MINIATURE EQUIPMENT

**UTC-Sub-Sub-Ouncer** units fulfill an essential requirement for ultra-miniaturized components having high efficiency and wide frequency response. Through the use of special nickel iron core materials and winding methods, these miniature units have superior performance and dependability characteristics. The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location. Units are vacuum processed and double (water proof) sealed. The curves below indicate the excellent frequency response available.

| Type | Application | Max. Level dbm | Pri. Imp. ohms | Unbal. MA D.C. in Pri. | Sec. Imp. ohms | Pri. Res. ohms | Sec. Res. ohms |
|---|---|---|---|---|---|---|---|
| *SSO-1 | Input | + 7 | 200<br>50 | 0 | 250.000<br>62,500 | 13.5 | 3600 |
| SSO-2 | Interstage/3:1 | +15 | 10,000 | 0-.25 | 90,000 | 710 | 3150 |
| *SSO-3 | Plate to Line | +20 | 10,000<br>25,000 | 3<br>1.5 | 200<br>500 | 2500 | 34 |
| SSO-4 | Output | +20 | 30,000 | 1.0 | 50 | 2875 | 4.6 |
| SSO-5 | Reactor 50 HY at 1 mil. D.C. 4400 ohms D.C. Res. | | | | | | |
| SSO-6 | Output | +20 | 100,000 | .5 | 60 | 3500 | 3.3 |
| *SSO-7 | Transistor Interstage | +20 | 20,000<br>30,000 | .5<br>.5 | 800<br>1,200 | 800 | 110 |
| SSO-8 | Transistor to PP Sec. | +20 | 10,000 | 1 | 2,000 ct. | 1200 | 45 |
| SSO-9 | Transistor to V.C. | +20 | 10,000 | 2 | 16 | 800 | 2.7 |
| SSO-10 | Transistor to V.C. | +20 | 10,000 | 2 | 3.2 | 800 | .65 |
| *SSO-11 | Transistor Output | +20 | 500<br>600 | 3.5<br>3.5 | 50<br>60 | 50 | 5 |
| *SSO-12 | Transistor Output | +20 | 1,000<br>1 200 | 3<br>3 | 50<br>60 | 90 | 5 |
| SSO-13 | Crystal to Transistor | + 7 | 200,000 | 0 | 1,000 | 4000 | 190 |
| *SSO-14 | Transistor Interstage | +20 | 10,000 ct.<br>25,000 ct. | 2<br>1 | 200 ct.<br>500 ct. | 650 | 22 |
| *SSO-15 | Transistor Interstage | +20 | 20,000 ct.<br>30,000 ct. | 1<br>1 | 800 ct.<br>1,200 ct. | 800 | 110 |

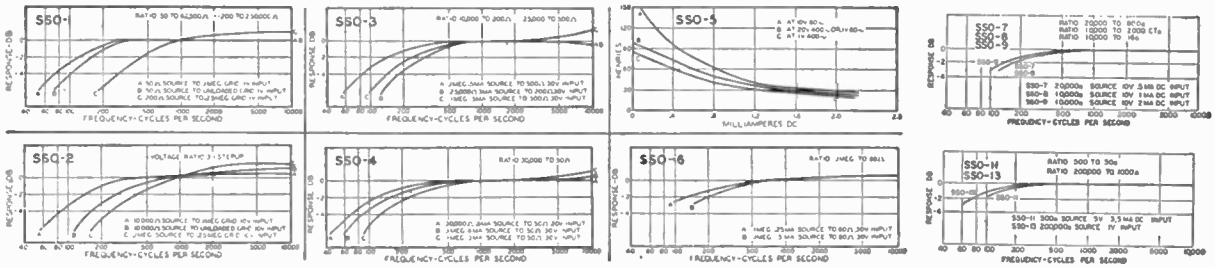
*Impedance ratio is fixed, 1:1250 for SSO-1, etc. Any impedance between the values shown may be employed.



**SUB-SUBOUNCER UNIT**

Dimensions.....7/16" x 3/4" x 43/64"

Weight .....02 lb.

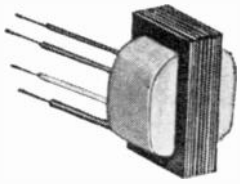



# SUBOUNCER UNITS

**UTC Sub-Ouncer** units have exceptionally high efficiency and frequency range in their miniature size, will handle somewhat higher level than SSO units above. The constructional details are identical to those of the Sub-Sub-Ouncer units. Available hermetically sealed on production orders (SOM case 11/16 x 13/16 x 1 1/16)

| Type | Application | Max. Level dbm | Pri. Imp. ohms | Unbal. MA D.C. in Pri. | Sec. Imp. ohms | Pri. Res. ohms | Sec. Res. ohms |
|---|---|---|---|---|---|---|---|
| *SO-1 | Input | +10 | 200<br>50 | 0 | 250,000<br>62,500 | 16 | 2500 |
| SO-2 | Interstage/3:1 | +20 | 10,000 | 0-.25 | 90,000 | 215 | 1850 |
| *SO-3 | Plate to Line | +23 | 10,000<br>25,000 | 3<br>1.5 | 200<br>500 | 1225 | 30 |
| SO-4 | Output | +23 | 30,000 | 1.0 | 50 | 1850 | 3.8 |
| SO-5 | Reactor 50 HY at 1 mil. D.C. 2675 ohms D.C. Res. | | | | | | |
| SO-6 | Output | +23 | 100,000 | .5 | 60 | 3400 | 3.7 |
| *SO-7 | Transistor Interstage | +23 | 20,000<br>30,000 | .5<br>.5 | 800<br>1,200 | 450 | 32 |
| SO-8 | Transistor to PP Sec. | +23 | 10,000 | 1 | 2,000 ct. | 1,000 | 40 |
| SO-9 | PP Transistor to V.C. | +24 | 500 ct. | 0 | 3.2 | 15 | .35 |
| *SO-10 | Transistor output to voice coil | +24 | 2,000 ct.<br>4,000 ct. | 4<br>2 | 8<br>16 | 290 | 2 |

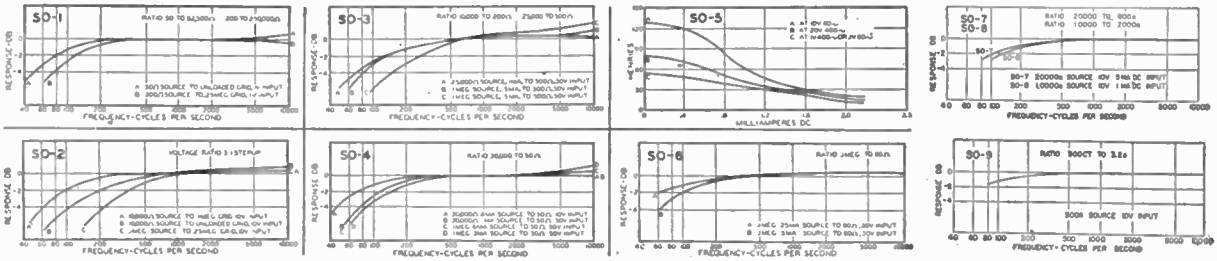
*Impedance ratio is fixed, 1:1250 for SO-1, etc. Any impedance between the values shown may be employed.



**SUBOUNCER UNIT**

Dimensions.....1 9/32" x 43/64" x 7/8"

Weight .....03 lb.

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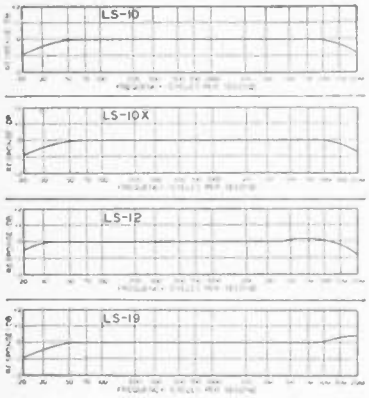
World Radio History

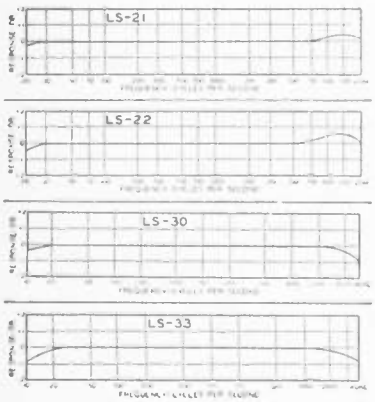
# LINEAR STANDARD AUDIO TRANSFORMERS

The ever increasing use of wide range equipment for broadcast service has reached the point where the major limiting factor is the frequency range of the transformers employed. UTC Linear Standard components represent the closest approach to the ideal transformer from the standpoint of uniform frequency response, low wave form distortion, high efficiency, thorough shielding, and dependability.




## LOW IMPEDANCE TO GRID TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|---|---|---|---|---|---|---|---|---|
| LS-10 | Low impedance mike, pickup, or multiple line to grid | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 60,000 ohms in two sections | 20-20,000 | +19 | −74 DB | .5 MA | LS-1 |
| LS-10X | As above | As above | 50,000 ohms | 20-20,000 | +17 | −92 DB-Q | .5 MA | LS-1 |
| LS-12 | Low impedance mike, pickup or multiple line to push pull grids | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 120,000 ohms overall, in two sections | 20-20,000 | +19 | −74 DB | .5 MA | LS-1 |
| LS-12X | As above | As above | 80,000 ohms overall, split | 20-20,000 | +17 | −92 DB-Q | .5 MA | LS-1 |
| LS-14X | As above | As above | 50,000 ohms | 20-20,000 | +17 | −92 DB-Q | .5 MA | LS-1 |
| LS-15X | Three isolated lines or pads to one or two grids | 30, 50, 200, 250 ohms each primary | 60,000 ohms overall, in two sections | 20-20,000 | +17 | −92 DB-Q | .5 MA | LS-1 |
| LS-18 | High level multiple line to push pull grids | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 50,000 ohms overall, in two sections | 20-20,000 | +28 | −50 DB | .5 MA | LS-2 |
| LS-26 | Bridging line to single or push pull grids | 5,000 ohms | 60,000 ohms in two sections | 15-20,000 | +23 | −74 DB | 0 MA | LS-1 |

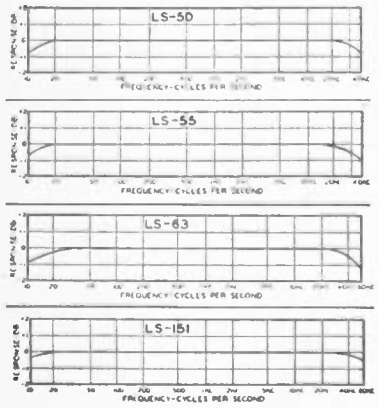



## MIXING TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|---|---|---|---|---|---|---|---|---|
| LS-30 | Mixing, low impedance mike, pickup, or multiple line to multiple line | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 7-50,000 | +23 | −74 DB | .5 MA | LS-1 |
| LS-30X | As above | As above | As above | 20-20,000 | +20 | −92 DB-Q | .3 MA | LS-1 |
| LS-31 | Three isolated lines or pads to multiple line | 30, 50, 200, 250 ohms each primary | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 20-20,000 | +23 | −74 DB | .5 MA | LS-1 |
| LS-32 | Mixing, low impedance mike, pickup or parallel mixer to multiple line | 2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms | 50, 125, 150, 200, 250, 333, 500, 600 ohms | 20-20,000 | +23 | −74 DB | .5 MA | LS-1 |

## INTERSTAGE AUDIO TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|---|---|---|---|---|---|---|---|---|
| LS-19 | Single plate to push pull grids like 2A3, 6L6, 5881 Split secondary | 15,000 ohms | 55,000 ohms 1.25:1 each side | 20-20,000 | +20 | −50 DB | 0 MA | LS-1 |
| LS-21 | Single plate to push pull grids. Split pri. and sec | 15,000 ohms | 135,000 ohms; 5:1 overall | 10-20,000 | +20 | −74 DB | 0 MA | LS-1 |
| LS-40 | Single plate to push pull grids. Split secondary | 15,000 ohms | 135,000 ohms; 3:1 overall | 30-20,000 | +20 | −74 DB | 8 MA | LS-1 |
| LS-25 | Push pull plates to push pull grids. Medium level. Split primary and sec | 30,000 ohms plate to plate | 50,000 ohms; turn ratio 1.3:1 overall | 20-20,000 | +23 | −74 DB | 1 MA | LS-1 |




## PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|---|---|---|---|---|---|---|---|---|
| LS-27 | Single plate to multiple line | 15,000 ohms | 50, 125, 150, 200, 250, 333, 500/600 | 30-15,000 cycles | +23 | −74 DB | 8 MA | LS-1 |
| LS-50 | Single plate to multiple line | 15,000 ohms | 50, 125, 150, 200, 250, 333, 500/600 | 10-40,000 | +23 | −74 DB | 0 MA | LS-1 |
| LS-51 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125, 150, 200, 250, 333, 500/600 | 10-40,000 | +24 | −74 DB | 1 MA | LS-1 |
| LS-150 | Bridging from 50 to 500 ohm line to line | 4,000 ohms, bridging | 50, 125, 150, 200, 250, 333, 500/600 | 7-50,000 | +23 | −74 DB | 1 MA | LS-1 |
| LS-151 | Bridging from 50 to 500 ohm line to line | 16,000 ohms, bridging | 50, 125, 150, 200, 250, 333, 500/600 | 7-50,000 | +26 | −74 DB | 1 MA | LS-1 |

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles
* Comparison of hum balanced unit with shielding to normal uncased type.
Q Multiple alloy magnetic shield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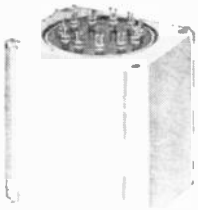
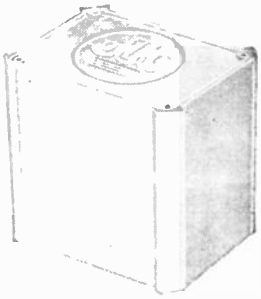
World Radio History

# LINEAR STANDARD



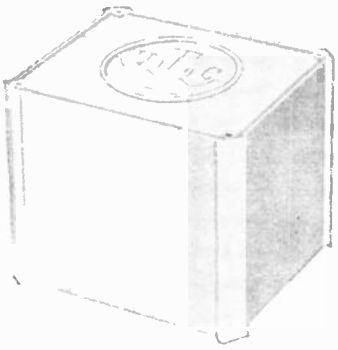
LS-1 CASE

| | |
|---|---|
| Length | 3 1/3" |
| Width | 2 5/8" |
| Height | 3 1/4 |
| Mounting | 1 15/16" x 2 7/16 |
| Screws | 6-32 |
| Cutout | 1 7/8 dia. |
| Unit Weight | 3 lbs. |



LS-2 CASE

| | |
|---|---|
| Length | 4 7/32" |
| Width | 3 1/2" |
| Height | 4 3/16" |
| Mounting | 2 11/16" x 3 11/16" |
| Screws | 8-32 |
| Cutout | 2 3/4 dia. |
| Unit Weight | 7.5 lbs. |



LS-3 CASE

| | |
|---|---|
| Length | 5 13/16" |
| Width | 5" |
| Height | 4 11/16" |
| Mounting | 4 9/16" x 5 1/32" |
| Screws | 10-24 |
| Cutout | 3 3/4" dia. |
| Unit Weight | 15 lbs. |

## HYBRID AND REPEAT COILS

| Type No. | Application | Pri. and Sec. Impedances | ± 1 db from | Max. Level dbm | Relative * hum | Max. Unbal. DC in Pri. | Case No. |
|---|---|---|---|---|---|---|---|
| LS-140 | Line to line for isolating balanced and unbalanced circuits; balanced for maximum reduction cross talk (70 DB) | 500 600 ohms split 500 600 ohms split | 30-20,000 | +18 | −92 DB-Q | 0 MA | LS-1 |
| LS-141 | Three sets of balanced windings for hybrid service, centertapped | 500 600 ohms 500 600 ohms | 30-15,000 | +18 | −74 DB | 0 MA | LS-1 |

## DRIVER TRANSFORMERS

| Type No. | Application | Primary Impedance | Refl. Sec. Impedance | ± 1 db from | Max. Level | Max. Unbal. DC in Pri. | Case No. |
|---|---|---|---|---|---|---|---|
| LS-6 | Driver, push pull 2A3's, etc., to push pull 845 or 211D grids | 5,000 ohms plate to plate | 2:25 primary impedance; turns ratio 1.5:1 overall | 20-20,000 | 15 watts | 5 MA | LS-2 |
| LS-47 | Driver from push pull 2A3's, or similar to class B 838's, 805's, or ZB120's | 5,000 ohms plate to plate | .1 pri. impedance turns ratio, Pri./½ Sec. 3.2:1 | 20-20,000 | 20 watts | 5 MA | LS-2 |
| LS-48 | Driver transformer push pull 845's to 805 grids in class B | 12,000 ohms plate to plate | .038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1 | 20-20,000 | 40 watts | 15 MA | LS-3 |

## HIGH LEVEL MATCHING TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level | Case No. |
|---|---|---|---|---|---|---|
| LS-33 | High level line matching | 50, 125, 200, 250, 333, 500/600 ohms | 1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50 125, 200, 250, 333, 500/600 | 10-40,000 | 20 watts | LS-2 |
| LS-34 | High level line matching | 50, 125, 200, 250, 333, 500/600 ohms | 1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600 | 10-40,000 | 40 watts | LS-3 |

## OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

| Type No. | Primary will match following typical tubes | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level | Case No. |
|---|---|---|---|---|---|---|
| LS-52 | Push pull 6AQ5, 6V6, 6L6, 5881 | 8,000 ohms | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-54 | Same as above | 8,000 ohms | 30, 20, 15, 10 7.5, 5, 2.5 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-55 | Push pull 2A3's, 300B, 6L6's, 6AS7G, 6080, 350B | 5,000 ohms plate to plate and 3 000 ohms plate to plate | 500, 333, 250 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1 2 | 7-50,000 | 20 watts | LS-2 |
| LS-57 | Same as above | 5,000 ohms plate to plate and 3,000 ohms plate to plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-58 | Push pull parallel as above. | 2,500 ohms plate to plate and 1,500 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2 5, 1 2 | 10-50,000 | 40 watts | LS-3 |
| LS-61 | Push pull triode- 6AS7G, 6080, 6L6, 5881, KT-66, 807, 1614 | 10,000 ohms plate to plate and 6,000 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2 5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-63 | Same as above | 10,000 ohms plate to plate and 6,000 ohms plate to plate | 30, 20, 15, 10 7.5, 5, 2 5, 1 2 | 7-50,000 | 20 watts | LS-2 |
| LS-6L1 | Self bias push pull 6L6's, 5881, KT-66, 6146 triode, 6159 triode | 9,000 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2 5, 1 2 | 7-50,000 | 30 watts | LS-3 |
| LS-6L4 | Push pull 6146, 6159, 6L6's fixed bias or push pull parallel 6L6's self bias | 4,500 ohms plate to plate and 3,800 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 12-50,000 | 55 watts | LS-3 |
| **LS-35** | **EL-34 in AB-feedback** | **5,000 ohms CT 43% screen taps** | **4, 8, 16** | **7-50,000** | **35 watts** | **LS-3** |
| **LS-65** | **6550's in $AB_1$ feedback** | **3,300 ohms CT 40% screen taps** | **4, 8, 16** | **7-50,000** | **60 watts** | **LS-3** |

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.

* Comparison of hum balanced unit with shielding to normal uncased type.

Q Multiple alloy magnetic shield.

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(Refer to Page N-749 for UTC Prices)



World Radio History

# HIPERM ALLOY TRANSFORMERS

The UTC Hiperm alloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.

## LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

| Type No. | Application | Primary Imp. (ohms) | Secondary Impedance | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|---|---|---|---|---|---|---|---|
| HA-100 | Low impedance mike, pickup, or multiple line to grid | 50, 125, 150, 200, 250, 333, 500, 600 | 60,000 ohms in two sections | 30-20,000 | +18 | .5 MA | H-1 |
| HA-100X | Same as above but with multiple alloy shield to effect very low hum pickup | | | | +16 | | H-1 |
| HA-101 | Low impedance mike, pickup, or multiple line to P.P. grids | 50, 125, 150, 200, 250, 333, 500, 600 | 120,000 ohms overall, split | 30-20,000 | +18 | .5 MA | H-1 |
| HA-101X | As above but with multiple alloy shield to effect very low hum pickup | | 80,000 ohms overall, split | 30-20,000 | +16 | .5 MA | H-1 |
| HA-103A | Low impedance mike, pickup, or parallel mixer to grid | 2.5, 5.5, 10, 15, 22, 30, 38, 60 | 60,000 ohms in two sections | 30-20,000 | +18 | .5 MA | H-1 |
| HA-108 | Mixing, low impedance mike, pickup, or multiple line | 50, 125, 150, 200, 250, 333, 500, 600 | 50, 125, 150, 200, 250, 333, 500, 600 | 20-50,000 | +20 | .5 MA | H-1 |
| HA-108X | Same as above but with multiple alloy shield to effect very low hum pickup | | | | +18 | | H-1 |
| HA-130X | Three isolated lines or pads to one or two grids with tri-alloy internal shield | 30, 50, 200, 250 each primary | 60,000 ohms overall, in two sections | 30-20,000 | +18 | .5 MA | H-1 |

## INTERSTAGE AUDIO TRANSFORMERS

| Type No. | Application | Primary Imp. | Secondary Impedance | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|---|---|---|---|---|---|---|---|
| HA-104 | Single plate to P.P. grids like 2A3, 6L6 (split secondary) | 15,000 ohms (split) | 95,000 ohms 2.5:1 | 30-20,000 | +20 | 0 MA | H-1 |
| HA-105 | Single plate to single grid (split secondary) | 15,000 ohms | 60,000 ohms 2:1 turn ratio | 30-20,000 | +20 | 0 | H-1 |
| HA-106 | Single plate to push pull grids (split secondary) | 15,000 ohms (split) | 135,000 ohms 3:1 ratio overall | 30-20,000 | +20 | 0 | H-1 |
| HA-107 | Push pull plates to push pull grids (split primary and secondary) | 30,000 ohms plate to plate | 80,000 ohms 1.6:1 turn ratio overall | 30-20,000 | +28 | .25 MA | H-2 |
| HA-137 | Push pull plates to push pull grids (split Pri. and Sec.) | 30,000 ohms plate to plate | 68,000 ohms 1.5:1 turn ratio | 30-20,000 | +20 | 0 | H-1 |

TYPE H-1 CASE

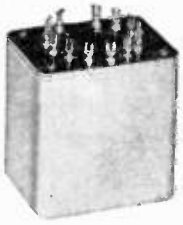
| | |
|---|---|
| Length | 2⅜" |
| Width | 1 15/16" |
| Height | 3⅛" |
| Mounting | 1⅜" x 1 13/16" |
| Screws | 6-32 |
| Cutout | 1 13/16" dia. |
| Unit Weight | 2 lbs. |

## PLATE AND CRYSTAL TO LINE TRANSFORMERS

| Type No. | Application | Primary Imp. | Secondary Imp. ohms | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|---|---|---|---|---|---|---|---|
| HA-111 | Crystal microphone or pickup, to multiple line | 100,000 ohms (split) | 50, 125, 150, 200, 250, 333, 500, 600 | 30-20,000 measured with resistive source | +18 | 0 | H-1 |
| HA-113 | Single plate to multiple line | 15,000 ohms (split) | 50, 125, 150, 200, 250, 333, 500, 600 | 30-40,000 | +21 | 0 MA | H-1 |
| HA-133 | Single plate to multiple line (D.C. in Pri.) | 15,000 ohms (split) | 50, 125, 150, 200, 250, 333, 500, 600 | 30-40,000 | +22 | 8 MA | H-1 |
| HA-114 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125, 150, 200, 250, 333, 500, 600 | 30-40,000 | +23 | 1 MA | H-1 |

## OUTPUT TRANSFORMERS

| | | | | | | |
|---|---|---|---|---|---|---|
| HA-134 | Push pull, 6L6, or 2A3's to line | 5000/9400 ohms plate to plate | 50, 125/150, 200, 250, 333, 500/600 | 10-50,000 | 15 watts | H-2 |
| HA-135 | Push pull 2A3's, etc. to voice coil | 3000/5000 ohms plate to plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 10-50,000 | 18 watts | H-2 |
| HA-136 | 5881's (KT-66's) in AB-feed back | 6,600 ohms CT 43% screen taps | 4, 8, 16 | 10-50,000 | 20 watts | H-2 |



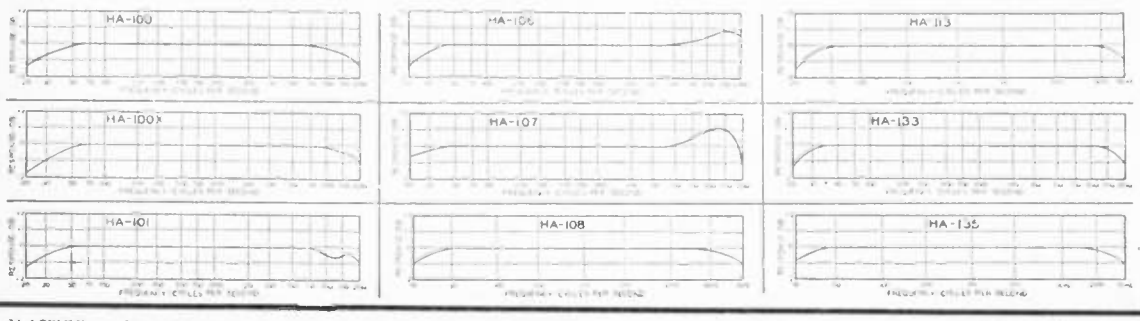
TYPE H-2 CASE

| | |
|---|---|
| Length | 3 5/16" |
| Width | 2 13/16" |
| Height | 3½" |
| Mounting | 2" x 2¾" |
| Screws | 8-32 |
| Cutout | 2 11/16" dia. |
| Unit Weight | 5 lbs. |

## POWER TRANSFORMERS AND CHOKES

| Type No. | Application | Primary Voltage 50/60 cycles | High Voltage | Filament Windings | Case No. |
|---|---|---|---|---|---|
| HP-122 | Pre-amp. power supply using 6X4, 6X5GT rectifier | 115 | 220-0-220 15 MA | 6.3 V.C.T.-.6A 6.3 V.C.T.-1.2A | H-1 |
| HP-123 | Pre-amp. or tuner power supply using 6X4, 6X5GT rectifier | 115 | 275-0-275 35 MA | 6.3 V.C.T.-.6A 6.3 V.C.T.-2A | H-2 |

| Type No. | Application | Inductance | DC Current | DC Resistance | Test Voltage | Case No. |
|---|---|---|---|---|---|---|
| HC-115 | Parallel feed and filter choke | Series-400 hy Parallel-100 hy | 2.5 MA 5 MA | 6000 ohms 1500 ohms | 1500 | H-1 |
| HC-116 | Parallel feed and filter choke | Series-600 hy Parallel-150 hy | 8 MA 16 MA | 3400 ohms 850 ohms | 1500 | H-2 |
| HC-117 | Parallel feed and filter choke | Series-200 hy Parallel-40 hy | 15 MA 35 MA | 3200 ohms 800 ohms | 1500 | H-1 |



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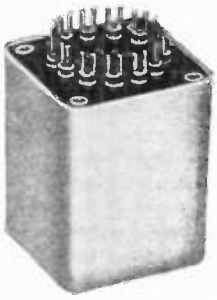
World Radio History

# ULTRA COMPACT AUDIO UNITS

The **UTC Ultra compact** audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles.

All units except those carrying DC in Primary employ a true hum balancing coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level +7 DB.



## LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|---|---|---|---|---|
| A-10 | Low impedance mike, pickup, or multiple line to grid | 50, 125/150, 200/250, 333, 500/600 ohms | 50,000 ohms | 20-20,000 |
| A-11 | Low impedance mike, pickup, or line to 1 or 2 grids | 50, 200, 500 | 50,000 ohms | 50-20,000 multiple alloy shield for extremely low hum pickup |
| A-12 | Low impedance mike, pickup, or multiple line to push pull grids | 50, 125/150, 200/250, 333, 500/600 ohms | 80,000 ohms overall, in two sections | 20-20,000 |
| A-14 | Dynamic microphone to one or two grids | 30 ohms | 50,000 ohms overall, in two sections | 20-20,000 |
| A-20 | Mixing, low impedance mike, pickup, or multiple line to multiple line | 50, 125/150, 200/250, 333, 500/600 ohms | 50, 125/150, 200/250, 333, 500/600 ohms | 10-50,000 |
| A-21 | Mixing, low impedance mike, pickup, or line to line | 50, 200/250, 500/600 | 50, 200/250, 500/600 | 30-30,000 multiple alloy shield for extremely low hum pickup |

**TYPE A CASE**

| | |
|---|---|
| Length | 1½" |
| Width | 1½" |
| Height | 2" |
| Mounting | 1 5/32" sq. |
| Screws | 4-40 |
| Cutout | 1⅜" dia. |
| Unit Weight | ½ lb. |

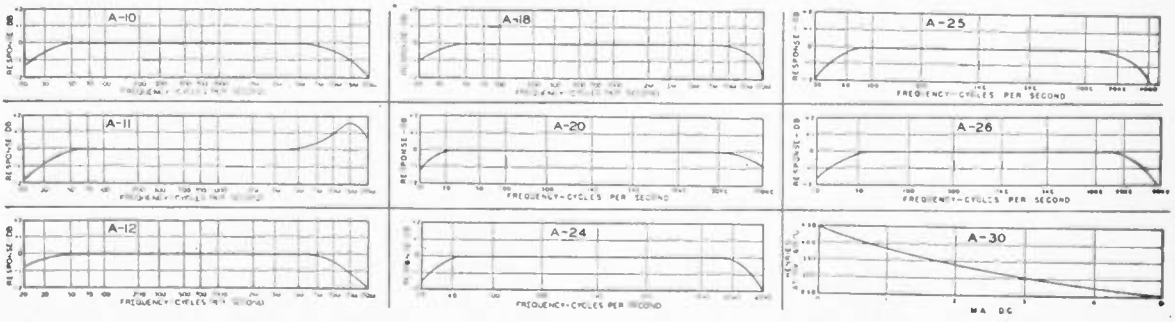
## INTERSTAGE AUDIO TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|---|---|---|---|---|
| A-15 | Transistor Interstage Max. level +30 dbm | 10,000/2,500 (split) | 2,000/500 (split) | 40-10,000 |
| A-16 | Single plate to single grid | 15,000 ohms | 60,000 ohms, 2:1 turn ratio | 20-20,000 |
| A-17 | Single plate to single grid 8 MA unbalanced D.C. | As above | As above | 40-20,000 |
| A-18 | Single plate to two grids. Split primary, can also be used for P.P. plates | 15,000 ohms (split) | 80,000 ohms overall, 2.3:1 turn ratio overall | 20-20,000 |
| A-19 | Single plate to two grids 8 MA unbalanced D.C. | 15,000 ohms | 80,000 ohms overall, 2.3:1 turn ratio overall | 40-20,000 |

A-33 SHIELD

## PLATE AND CRYSTAL TO LINE TRANSFORMERS

| Type | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|---|---|---|---|---|
| A-22 | Transistor to line Max. level +30 dbm | 500 CT | 500/125 (split) | 40-10,000 |
| A-23 | Transistor to voice coil Max. level +30 dbm | 500 CT | 16/4 (split) | 40-10,000 |
| A-24 | Single plate to multiple line | 15,000 ohms (split) | 50, 125/150, 200/250, 333, 500/600 ohms | 20-40,000 |
| A-25 | Single plate to multiple line 8 MA unbalanced D.C. | 15,000 ohms | 50, 125/150, 200/250, 333, 500/600 ohms | 40-20,000 |
| A-26 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125/150, 200/250, 333, 500/600 ohms | 20-40,000 |
| A-27 | Crystal microphone to multiple line | 100, 000 ohms (split) | 50, 125/150, 200/250, 333, 500/600 ohms | 30-20,000 measured with non-inductive source |
| A-30 | Audio choke, 250 henrys @ 5 MA 6000 ohms D.C., 65 henrys @ 10 MA 1500 ohms D.C. 450 henrys @ 0 MA | | | |
| A-32 | Filter choke 60 henrys @ 15 MA 2000 ohms D.C., 15 henrys @ 30 MA 500 ohms D.C. | | | |
| A-33 | Hipermalloy shield, slip fit over A case, provides approximately 20 db shielding . . . 1 13/32 x 13/32 x 2 1/32. | | | |

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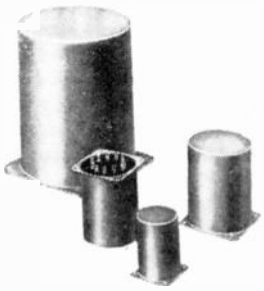
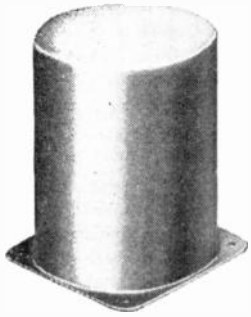
World Radio History

# UTC COMMERCIAL GRADE COMPONENTS



The commercial grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service operation in industrial and commercial grade communication equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coil structures.

CG-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear ±1½ DB from 40 to 10,000 cycles (no unbalanced D.C.), except CVL and CVM units . . . 40 to 6000 cycles. Parallel feed low level interstage units with 50,000 ohms and .25 mfd. 200 ohm windings on input transformers are balanced and may be used for 150 to 250 ohm circuits.



## INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

| Type No. | Application | Primary Impedance Ohms | Max. Level dbm | Secondary Impedance Ohms | Case No. |
|---|---|---|---|---|---|
| CG-131 | 1 plate to 1 grid | 15,000 | +28 | 135,000 3:1 ratio | RC-50 |
| CG-132 | 1 plate to 2 grids | 15,000 | +30 | 135,000 C.T. 3:1 ratio overall | RC-62 |
| CG-133 | 2 plates to 2 grids | 30,000 P to P | +32 | 80,000 overall 1.6:1 ratio ovarall | RC-75 |
| CG-134 | Line to 1 grid hum-bucking | 50, 200, 500 | +30 | 80,000 | RC-50 |
| CG-135 | Line to 2 grids hum-bucking | 50, 200, 500 | +30 | 120,000 overall | RC-50 |
| CG-235 | Line to 1 or 2 grids, hum-bucking; multi-ple alloy shielded for low hum pickup | 50, 200, 500 ohms | +28 | 80,000 overall | RC-75 |
| CG-136 | Single plate and low impedance mike or line to 1 or 2 grids hum-bucking | 15,000, 50, 200 | +30 | 80,000 overall | RC-62 |
| CG-137 | Mixing | 50, 200, 500 | +28 | 50, 200, 500 | RC-50 |
| CG-140 | Triode plate to line | 15,000 | +30 | 50, 200, 500 | RC-50 |
| CG-141 | PP triode plates to line | 30,000 P to P | +32 | 50, 200, 500 | RC-50 |
| CG-233 | PP 6C5, 12AU7, sim-ilar triodes to AB 45's, 2A3's, 6L6's, etc. | 30,000 P to P | +35 | 25,000 overall .9:1 ratio overall | RC-87 |
| CG-333 | PP 6C5, 12AU7, sim-ilar triodes to fixed bias 6L6's | 30,000 P to P | +35 | 5,000 overall 4:1 ratio overall | RC-87 |
| CG-433 | PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's | 5,000 P to P | 10W. | 1,250 overall .5 1 ratio overall | RC-100 |

## ULTRASONIC TRANSFORMERS

**Frequency Range 10 KC to 50 KC**

| Type No. | Application | Pri. Imp. PP Ohms | Max. Watts | Sec. Imp. Ohms | Case No. |
|---|---|---|---|---|---|
| CGU-1 | Driver, PP 5881's to PP 6156's | 7000 | 25 | 4150 G-G | RC-62 |
| CGU-2 | Driver, PP 6550's to PP 5868's | 5000 | 100 | 2400 G-G | RC-62 |
| CGU-3 | Output, PP 6550's | 5000 | 100 | 300/170/75/18.75 | RC-62 |
| CGU-4 | Output, PP 6155's, 4-125's | 7200 | 300 | 300/170/75/18.75 | RC-112 4⅝ high |
| CGU-5 | Output, PP 6155's, 4-125's | 7200 | 300 | 30/17/7.5/1.88 | RC-112 4⅝ high |
| CGU-6 | Output, PP 6156's, 250TH's | 4500 | 600 | 300/170/75/18.75 | RC-135 |
| CGU-7 | Output, PP 6156's, 250TH's | 4500 | 600 | 30/17/7.5/1.88 | RC-125 |
| CGU-8 | Output, PP 6156's | 9200 | 1000 | 300/170/75/18.75 | RC-175 |
| CGU-9 | Output, PP 5868's | 10200 | 2000 | 300/170/75/18.75 | 5¼x5 5/16x8 |

## COMMERCIAL GRADE CASE

| Case No. | Base Dim. (Sq.) | Mounting Dim. (Sq.) | Mounting Screw | Height +⅛, −1/16 | Cutout Dia. | Unit Weight Lbs. |
|---|---|---|---|---|---|---|
| RC-37 | 1⅜ | 1⅛ | 4-40 | 1⅝ | 1¼ | .35 |
| RC-50 | 1⅝ | 1 9/16 | 6-32 | 2¼ | 1½ | ½ |
| RC-62 | 1 13/16 | 1½ | 6-32 | 2½ | 1½ | 1 |
| RC-75 | 2 9/16 | 1 13/16 | 8-32 | 2⅞ | 1⅞ | 1½ |
| RC-87 | 2 9/16 | 2 3/32 | 8-32 | 3¼ | 2 | 2½ |
| RC-100 | 3 | 2⅜ | 8-32 | 3¾ | 2⅝ | 3½ |
| RC-112 | 3 7/16 | 2 11/16 | 10-32 | 4⅛ | 2⅞ | 5 |
| RC-125 | 3¾ | 3 | 10-32 | 4½ | 3 | 6½ |
| RC-150 | 4½ | 3 9/16 | 12-28 | 5½ | 3¾ | 11 |
| RC-152 | 5⅛ | 4⅛ | 12-28 | 5½ | 4 | 15½ |
| RC-175 | 5¾ | 4⅞ | ¼-20 | 7⅛ | 4 | 22 |

## OUTPUT TRANSFORMERS

**Secondary Impedances: 500, 200, 16, 8, 5, 3, 1.5 ohms**

| Type No. | Imped. P. P. Ohms, Overall | Typical Tubes | Max. Watts | Case No. |
|---|---|---|---|---|
| CG-15 | 8,000 | 6F6 triode, 6V6, 6AQ5 | 20 | RC-100 |
| CG-16 | 3,000/5,000 | 2A3, 6AS7G, 6L6, 6080 | 20 | RC-100 |
| CG-19 | 6,000/10,000 | 6V6, Triode: 6L6, 5881 | 20 | RC-100 |
| CG-710 | 14,000/20,000 | 7B5, 6AK6, 6K6GT | 20 | RC-100 |
| CG-2L6 | 9,000 | 6L6's, AB1, 5881 | 30 | RC-125 |

## FEEDBACK OUTPUT TRANSFORMERS

(See page 25 for typical circuit)

**Secondary Impedances: 4, 8, 16 ohms and 70 Volt line.**

| Type No. | Primary Impedance | Typical Tubes | Audio Watts | Case No. |
|---|---|---|---|---|
| CG-20 | 5,000 CT, 43% screen taps | EL-34 in AB | 25 | RC-125 |
| CG-21 | 3,300 CT, 40% screen taps | 6550's in AB1 | 50 | RC-150 |

## CG VARIMATCH OUTPUTS FOR P. A.

Universal units designed to match any tubes within the rated output power, to line or voice coil. Output impedance 500, 200, 50, 16, 8, 5, 3, 1.5 ohms. Primary impedance 3000, 5000, 6000, 7000, 8000, 10,000, 14,000 ohms.

| Type No. | Audio Watts | Typical Tubes | Case No. |
|---|---|---|---|
| CVP-1 | 12 | 2A3, 25L6, 6V6, 6AQ5 | RC-100 |
| CVP-2 | 30 | 2A3, 6L6, 6V6, 807, 5881 | RC-125 |
| CVP-3 | 60 | 300B's, 6L6's, 807, 1614, 5881, 1625 | RC-150 |
| CVP-4 | 125 | 807's, 4-6L6's, 845's, 4-1614's, 6146, 6159 | RC-152 |
| CVP-5 | 300 | 242A's, 838's, 4-845's, ZB-120's | RC-175 |

## CG VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained, as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Where speakers are to be connected in groups to one transformer, it is preferable that parallel connection be used to eliminate the possibility of multiple resonance. If two speakers of different impedances are connected in parallel, the lower impedance speaker will develop greater power. If connected in series, the higher impedance speaker will develop greater power.

| Type No. | Audio Watts | Primary Impedance | Secondary Impedance | Case No. |
|---|---|---|---|---|
| CVL-1 | 15 | 500 ohms | .2 to 75 ohms | RC-87 |
| CVL-2 | 40 | 500 ohms | .2 to 75 ohms | RC-125 |
| CVL-3 | 75 | 500 ohms | 2 to 75 ohms | RC-150 |



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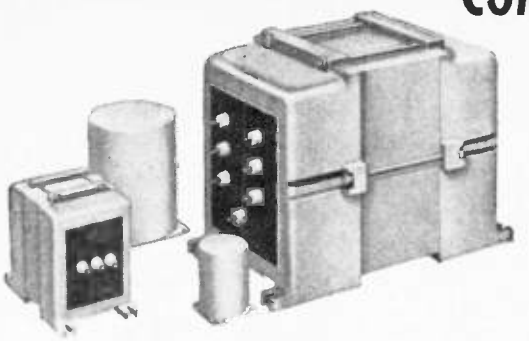
(Refer to Page N-749 for UTC Prices)

World Radio History

# COMMERCIAL GRADE COMPONENTS



UTC CG power transformers, Varimatch units and chokes are designed to A.I.E.E. commercial standards. Ratings are conservative for continuous duty. Units are tested for breakdown at twice maximum working voltage plus 1000 volts and surge tested at 250% normal voltage. All items are vacuum impregnated and sealed with special insulating compound. The conservative design and manufacturing procedure of these units make them suitable for virtually all types of commercial equipment as well as ideally suited for quality amateur and public address service.

## CG VARIMATCH MODULATION UNITS

Will match any modulator tubes to any RF load.
The ever increasing number of vacuum tubes available for audio and RF applications has increased the difficulty of obtaining transformers suitable for matching to the various correct tube loads. If a standard transformer having a limited impedance range is purchased and used for a specific purpose as the "nearest thing" available, comparatively high distortion is inevitable. While a 20% mismatch caused by such an occurrence does not represent a serious loss in power, it greatly reduces the undistorted power available from a class B modulator because optimum plate load is not reflected to the tubes. The UTC Varimatch transformer eliminates this difficulty through the use of a combination of tapped winding affording an extremely wide range in impedance matching. Designs provide that for any load impedance employed, full class C plate current can be carried by secondary winding.

Primary impedances from 500 to 20,000 ohms
Secondary impedances from 30,000 to 300 ohms

| Type No. | Max. Audio Watts | Max. Class C Input | Typical Modulator Tubes | Case No. |
|---|---|---|---|---|
| CVM-0 | 12 | 25 | 2A3 | RC-100 |
| CVM-1 | 30 | 60 | 6V6, 2A3, 6L6, 807, 5881 | RC-125 |
| CVM-2 | 60 | 125 | 801A, 6L6, 809, T-20, 1608, 6159 | RC-150 |
| CVM-3 | 125 | 250 | 800, 807, 845, TZ-20, RK-30, 35-T | RC-152 |
| CVM-4 | 300 | 600 | 50-T, 805, 838, T-55, ZB-120, 4-65A | RC-175 |
| CVM-5 | 600 | 1200 | 805, HF-300, HK-354, 250TH, 810, 4-125A | 7x12x9H 60 lbs. |

## CG VARIMATCH DRIVER TRANSFORMERS

| Type No. | Primary | Typical Output Tubes | Max. Level Watts | Case No. |
|---|---|---|---|---|
| CG-51AX | All single tubes like: 6C5, 6C4, 12AU7, 2A3, 5814A Ratios 2.8:1, 3.1:1 | 2A3, 6L6 | 5 | RC-87 |
| CG-53AX | P. P. tube like: 2A3, 6L6, Ratios 2:1, 3:1, Pri. to ½ sec. | 841, 801A, 800, 838, 805, 50T | 20 | RC-112 |

## VARIPOWER AUTO-FORMERS

| Type No. | Watts Output | Case No. |
|---|---|---|
| CVA-1 | 150 | RC-112 |
| CVA-2 | 250 | RC-125 |
| CVA-3 | 500 | RC-150 |
| CVA-4 | 1000 | RC-152 |
| CVA-5 | 2000 | RC-175 |

Designed for line voltage control, filament control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the tube socket to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

## POWER AND BIAS TRANSFORMERS

Primary 115 volts 50/60 cycles
(DC MA is for choke input. Reduce to 70% for condenser input.)

| Type No. | High Voltage | DC MA. | Fil. 1 | Fil. 2 | Fil. 3 | Fil. 4 | Case No. |
|---|---|---|---|---|---|---|---|
| CG-422 | 435-365-0-365-435 125-0-125 | 125 25 | 5V-3A | 5V-2A | 6.3 VCT-3A | 2.5 VCT-5A | RC-150 |
| CG-428 | 500-0-500 80-0-80 | 250 100 | 5V-3A | 5V-2A | 6.3 VCT-4A | 6.3 VCT-3A, tapped 2.5 VCT-3A | RC-152 |
| CG-429 | 600-525-0-525-600 | 250 | 5V-3A | 6.3 VCT-3-A | 7.5 VCT-3A, tapped 6.3 VCT-4A | | RC-152 |
| CG-431 | 500-400-0-400-500 80-0-80 | 500 100 | 5V-6A | 5V-2A | 6.3 VCT-5A | 6.3 VCT-3A | RC-175 |
| CG-315 | Tapped for any DC voltage from 15 to 100 volts within 6%—250 MA | | | | | | RC-125 |
| CG-316 | Tapped for any DC voltage from 75 to 400 volts within 6%—250 MA | | | | | | RC-152 |

## CG PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power, secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts. Secondary voltage is simultaneously halved.

| Type No. | High Voltage | DC Voltage | DC MA | Case No. |
|---|---|---|---|---|
| CG-300 | 625-515-0-515-625 | 500/400 | 200 | RC-150 |
| CG-301 | 580-530-300-0-300-530-580 | 475/425/250 | 420 | RC-152 |
| CG-302 | 950-750-0-750-950 | 760/610 | 360 | RC-175 |
| CG-303 | 1500-1235-400-0-400-1235-1500 | 1250/1000 300 | 260* 175 | RC-175 |

* 300MA, if used without load on low voltage winding.

### TYPE EC CASE UNITS

| Type No. | High Voltage | DC Voltage | DC MA | L | W | H | Mtg. Dim. | Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|
| CG-305 | 2400-1750-0-1750-2400 | 2000/1500 | 300 | 10½ | 4¾ | 6⅞ | 3⅞x9 9/16 | 50 |
| CG-306 | 2400-1750-0-1750-2400 | 2000/1500 | 500 | 15 | 8½ | 10⅜ | 7¼x13⅜ | 100 |
| CG-307 | 3500-3000-2400-0-2400-3000-3500 | 3000/2500 2000 | 300 | 14½ | 8½ | 10⅜ | 7¼x12⅜ | 90 |
| CG-308 | 3500-3000-2400-0-2400-3000-3500 | 3000/2500 2000 | 500 | 16½ | 8½ | 10⅜ | 7¼x14⅛ | 125 |
| CG-309 | 3500-3000-2400-0-2400-3000-3500 | 3000/2500 2000 | 1000 | 21 | 10 | 13¼ | 8½x19 | 185 |
| CG-311 | 1500-1235-0-1235-1500 | 1250/1000 | 500 | 10½ | 4¾ | 6⅞ | 3⅞x9 9/16 | 50 |
| CG-312 | 1800-1500-0-1500-1800 | 1500/1250 | 400 | 10½ | 4¾ | 6⅞ | 3⅞x9 9/16 | 50 |

## FILTER CHOKES

INDUCTANCE SHOWN IS AT RATED DC MA

| Type No. | Inductance Henrys | DC MA | DC Res. Ohms | Test Volts RMS | Case No. |
|---|---|---|---|---|---|
| CG-40 | 10 | 200 | 110 | 1750 | RC-112 |
| CG-44 | 30 | 100 | 400 | 1750 | RC-100 |
| CG-45 | 250 | 15 | 5000 | 1750 | RC-87 |
| CG-48C | 75 | 50 | 2200 | 1750 | RC-87 |
| CG-100 | 12 | 150 | 110 | 2500 | RC-125 |
| CG-102 | 12 | 250 | 100 | 3000 | RC-150 |
| CG-104 | 10 | 350 | 90 | 5000 | RC-152 |
| CG-108 | 10 | 500 | 52 | 7000 | RC-175 |
| CG-1S | 10 | 1000 | 40 | 9000 | 11½x4¾x 6⅞ H, 40 lb |

## SWINGING INPUT CHOKES

INDUCTANCE SHOWN IS FROM 100% TO 10% OF RATED DC MA

| Type No. | Inductance Henrys | DC MA | DC Res. Ohms | Test Volts RMS | Case No. |
|---|---|---|---|---|---|
| CG-101 | 5-25 | 150 | 110 | 2500 | RC-125 |
| CG-103 | 5-25 | 250 | 100 | 3000 | RC-150 |
| CG-105 | 5-25 | 350 | 90 | 5000 | RC-152 |
| CG-109 | 5-25 | 500 | 52 | 7000 | RC-175 |
| CG-1C | 5-25 | 1000 | 40 | 9000 | 11½x4¾x 6⅞ H, 40 lb. |

## FILAMENT TRANSFORMERS

Primary 105, 115, 210, 220, 230 volts, 50/60 cycles, except CG-34 . . . 105, 115, 220, 230. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

| Type No. | Sec. Volts C. T. | Sec Amps. | Working Voltage | Test Volts RMS | Case No. |
|---|---|---|---|---|---|
| CG-33 | 6.3 | 4 | 500 | 2000 | RC-75 |
| CG-34 | 2½ | 10 | 2500 | 6000 | RC-112 |
| CG-120 | 2½ | 10 | 5000 | 11000 | RC-125 |
| CG-121 | 5 | 25 | 5000 | 11000 | RC-150 |
| CG-122 | 7.5/6.3 | 10 | 1500 | 4000 | RC-125 |
| CG-124 | 10 | 10 | 1500 | 4000 | RC-150 |
| CG-125 | 14/12/11 | 10 | 1500 | 4000 | RC-150 |
| CG-126 | 14/11/10 14/11/10 Two Windings. | 10 10 | 1500 | 4000 | RC-152 |

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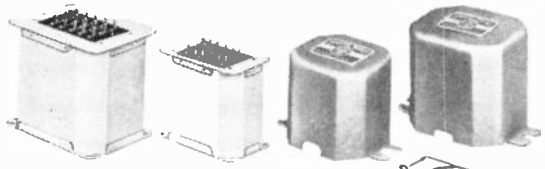
(Refer to Page N-749 for UTC Prices)



World Radio History

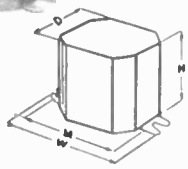
# SPECIAL SERIES AUDIO & POWER COMPONENTS

UTC Special Series units are specifically designed for amateur and popular-priced PA service. They are finished in a rich, commercial type medium gray enamel. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated—compound filled, recommended for ICAS use.



## CASE SIZES

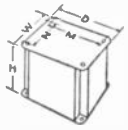
| Type No. | H | W | D | M | Wt. Lbs. |
|---|---|---|---|---|---|
| G-1 | 1⅞ | 2 13/16 | 1¾ | 2⅜ | 1 |
| G-2 | 2 9/16 | 3⅜ | 1 15/16 | 2⅞ | 1½ |
| G-3 | 2½ | 3¾ | 2 9/32 | 3¼ | 2 |
| G-4 | 2 15/16 | 4⅛ | 2 9/16 | 3⅝ | 3 |




## CASE SIZES

(Will take 12-28 Mtg. Screw)

| Type No. | H | W | D | M | N | Wt. Lbs. |
|---|---|---|---|---|---|---|
| G-5 | 3¾ | 3⅛ | 4½ | 3⅞ | 2 7/16 | 4½ |
| G-7 | 4⅝ | 4⅝ | 5½ | 4 27/32 | 3 25/32 | 8 |
| G-8 | 4⅝ | 5⅜ | 5⅜ | 4 25/32 | 4¾ | 12 |
| G-9 | 5⅞ | 5⅜ | 6¾ | 6 1/32 | 4 19/32 | 21 |
| G-10 | 5⅞ | 6⅛ | 6⅝ | 5 15/16 | 5 13/32 | 24 |
| G-11 | 5⅞ | 6½ | 7⅜ | 6 21/32 | 5 29/32 | 31 |
| G-12 | 10¼ | 7⅜ | 9¼ | 8½ | 6⅝ | 52 |




## CLASS A INPUT TRANSFORMERS

| Type No. | Application | Ratio | Case |
|---|---|---|---|
| S-1 | 1 plate* to 1 grid | 3½:1 | G-2 |
| S-2 | 1 plate* to 2 grids | 2:1<br>4:1 | G-2 |
| S-3 | 1 plate* to 1 or 2 grids compact type | 4:1 | G-1 |
| S-5 | Single or double button mike or line to 1 grid hum-bucking type | 16:1 | G-2 |
| S-6 | Single or double button mike or line to 1 grid, compact type | 16:1 | G-1 |

* Will match tubes like 6J5, 6C4, 12AU7. etc. Can be used with high mu triodes with loss in low frequencies.

## UNIVERSAL DRIVER TRANSFORMERS

(See Modulator chart for tube types, ratios are Pri. to ½ sec.)

| Type No. | Application | Max. Watts | Case |
|---|---|---|---|
| S-8 | Single driver plate to pushpull grids, 2.66:1, 5:1 ratios | 5 | G-3 |
| S-9 | Pushpull driver plates to grids of class B tubes up to 400 watts output, 2.25:1, 3.6:1, 5:1 ratios | 20 | G-4 |
| S-10 | 12AU7 or similar plates to 5881 or 6L6's, self or fixed bias, 2.25:1 ratio | 5 | G-3 |

## MATCHING TRANSFORMERS

| Type No. | Application | Pri. Ohms | Sec. Ohms | Case |
|---|---|---|---|---|
| S-11 | Single 6J5, 6C4, 12AU7 or similar tube to line | 15,000 | 200/500 | G-2 |
| S-12 | Line to speaker 15 watts | 500, 2000, 4000 | 2, 4, 8, 15 | G-2 |
| S-13 | Line to speaker 30 watts | 500, 2000, 4000 | 2, 4, 8, 15 | G-4 |

## UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

(Secondary Impedances: 500, 15, 8, 2 ohms)

| Type No. Max. Watts | Primary Impedance | Typical Tubes | Class | Case |
|---|---|---|---|---|
| | Single Tubes: | | | |
| S-14 10 W. | 2500 ohms | 2A3, 6B4, 6L6, 6Y6, 25L6GT, 35L6GT | A | G-2 |
| | 4000 ohms | 6V6, 12A6 | A | |
| | 7000 ohms | 6AC5, 6F6, 7B5, 6K6GT | A | |
| | 10,000 ohms | 1G5, 3C5, 6A4, 6N7 | A | |
| | P. P. Tubes: | | | |
| S-15 12 W. | 4000 ohms | 6Y6, 25L6GT | AB | G-2 |
| | 5000 ohms | 2A3, 6AS7G | AB | |
| | 10,000 ohms | 6080 | B | |
| S-16 30-W. | 3000 ohms | 2A3, 25L6GT | AB | G-4 |
| | 6000 ohms | 6F6 triodes, 6AS7G | AB | |
| | 9000/10000 ohms | 2A5, 6F6, 6L6, 6V6, 807-triode | AB | |
| S-17 55 W. | 3800 ohms | 6L6's | AB2 | G-5 |
| | 4500/5000 ohms | 4—6L6's | AB1 | |
| | | 809, 6146 | B | |

## UNIVERSAL MODULATION TRANSFORMERS

Secondary carries class C current
Any modulator tubes to any RF load. (See chart)

| Type No. | Audio Power | Case |
|---|---|---|
| S-18 | 12 watts | G-3 |
| S-19 | 30 watts | G-4 |
| S-20 | 55 watts | G-5 |
| S-21 | 110 watts | G-7 |
| S-22 | 250 watts | G-9 |

## FILTER, SWINGING, AND AUDIO CHOKES

| Type No. | Service | Inductance | Current | Resistance | Test Volts Rms | Case No. |
|---|---|---|---|---|---|---|
| S-23 | Audio | 300 Hy. | 5 Ma. | 5000 ohms | 1500 V. | G-2 |
| S-24 | P. P. Choke | 500 Hy. C. T. | 3 Ma. | 6000 ohms | 1500 V. | G-2 |
| S-25 | Filter | 30 Hy. | 30 Ma. | 800 ohms | 1500 V. | G-2 |
| S-26 | Filter | 12 Hy. | 60 Ma | 250 ohms | 1500 V. | G-2 |
| S-27 | Filter | 25 Hy. | 75 Ma. | 350 ohms | 1500 V. | G-4 |
| S-28 | Filter | 20 Hy. | 100 Ma. | 350 ohms | 1500 V. | G-4 |
| S-29 | Filter | 6 Hy. | 175 Ma. | 90 ohms | 1500 V. | G-4 |
| S-30 | Swinging | 4/20 Hy. | 175 Ma | 90 ohms | 1500 V. | G-4 |
| S-31 | Filter | 6 Hy. | 225 Ma. | 100 ohms | 2700 V. | G-5 |
| S-32 | Swinging | 4/20 Hy. | 225 Ma. | 100 ohms | 2700 V. | G-5 |
| S-33 | Filter | 8 Hy. | 300 Ma. | 100 ohms | 4000 V. | G-7 |
| S-34 | Swinging | 4/20 Hy. | 300 Ma. | 100 ohms | 4000 V. | G-7 |
| S-35 | Filter | 8 Hy | 400 Ma. | 60 ohms | 5000 V. | G-8 |
| S-36 | Swinging | 4/20 Hy. | 400 Ma. | 60 ohms | 5000 V. | G-8 |
| S-37 | Filter | 8 hy. | 550 Ma | 60 ohms | 6000 V | G-8 |
| S-38 | Swinging | 4/20 Hy. | 550 Ma. | 60 ohms | 6000 V | G-8 |

## COMBINED PLATE AND FILAMENT UNITS

Primary 115 V.—50/60 Cycles

| Type No. | Voltage | D. C. Voltages* | Rectifier Fil. | Fil. No. 1 | Fil. No. 2 | Case No. |
|---|---|---|---|---|---|---|
| S-39 | 490-400-0-400-490 175 Ma. | 400/310 | 5 V.-3A | 2.5 V.C.T -6A | 6 3 V C T. 4A | G-7 |
| S-40 | 525-425-0-425-525 250 Ma. | 400/310 | 5 V.-3A | 6.3 V.C.T. -3A | 6 3 V.C.T. 3A | G-7 |
| S-41 | 600-0-600 200 Ma. | 475 | 5 V.-3A | 7.5 V. tapped 6 3 V.-3A | 6 3 V C.T. 2A | G-7 |
| S-42 | 600-525-0-525-600 300 Ma. | 480/400 | 5 V.-6A | 7.5 V. tapped 6.3 V.-3A | 6 3 V.C.T. 3A | G-8 |
| S-43 | 525-0-525 450 Ma. 40-0-40 200 Ma. | 400 | 5 V.-3A<br>5 V.-6A | 6.3 V.-2A | 6.3 V.C.T. 5A | G-9 |

* Based on two section filter, choke input.

## PLATE TRANSFORMERS — BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles

| Type No. | High Voltage | DC Voltages* | DC Current | Case No. |
|---|---|---|---|---|
| S-44 | 575-525-0-525-575 | 470 430 | 500 Ma. | G-9 |
| S-45 | 900-750-0-750-900 | 750 620 | 200 Ma. | G-8 |
| S-46 | 1000-750-0-750-1000 | 3.5 600 | 300 Ma. | G-9 |
| S-47 | 1500-1250-1000-0-1000-1250-1500 | 1275/1050/825 | 300 Ma | G-10 |
| S-48 | 1500-1250-1000-0-1000-1250-1500 | 1300/1075/850 | 500 Ma. | G-11 |
| S-49 | 2100-1800-1500-0-1500-1800-2100 | 1815/1540/1275 | 300 Ma. | G-11 |
| S-50 | 3000-2500-0-2500-3000 | 2625/2175 | 300 Ma. | G-12 |
| S-51 | Will supply any bias voltage from 15 to 100 volts DC within approximately 6% of desired value. | | 200 Ma. | G-5 |
| S-52 | will supply any bias voltage from 75 to 400 volts DC within approximately 6% of desired value. | | 200 Ma. | G-7 |

* Based on two section filter for 200 Ma and 300 Ma units, single section filter for 500 Ma. units, both choke input.
‡ 200 Ma. if used alone. ‡ 300 Ma if used alone.

## FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycles

| Type No. | Secondary Volts | Secondary Current | Test Volts Rms | Case No. |
|---|---|---|---|---|
| S-53 | 2.5 VCT | 10 A | 1500 V | G-3 |
| S-54 | 5 VCT | 4 A | 2500 V | G-3 |
| S-55 | 6.3 VCT | 3 A | 1500 V | G-3 |
| S-57 | 2.5 VCT | 10 A | 10,000 V | G-5 |
| S-58 | 2.5 VCT | 20 A | 10,000 V. | G-5 |
| S-59 | 5 to 5.25 VCT | 13 A | 5000 V. | G-5 |
| S-60 | 5 to 5.25 VCT | 22 A | 10,000 V. | G-7 |
| S-61 | 7.5 VCT tapped 6.3 VCT | 10 A | 3000 V | G-5 |
| S-62 | 10 VCT | 10 A | 3000 V | G-5 |
| S-63 | 14 VCT tapped 12 VCT and 11 VCT | 10 A. | 5000 V. | G-7 |

| Type No. | Fil. 1 | Fil. 2 | Fil. 3 | Test Volts | Case No. |
|---|---|---|---|---|---|
| S-64 | 2.5 VCT-5A | 2.5 VCT-5A | 5 VCT-6A | 3000 V. | G-5 |
| S-65 | 2.5 VCT-5A | 5 VCT-4A | 6.3 VCT-3A | 3000 V. | G-5 |
| S-67 | 5 VCT-6A | 6.3 VCT-5A | | 3000 V. | G-5 |
| S-68 | 5 VCT-3A | 6.3 VCT-4A | 7 5 VCT-5A | 3000 V. | G-5 |
| S-70 | 6.3 VCT-5A | 6.3 VCT-5A | | 3000 V | G-5 |
| S-71 | 2.5 VCT-6A | 2.5 VCT-6A | 2.5 VCT-12A | 10000 V. | G-7 |
| S-72 | 5 VCT-3A | 5 VCT-3A | 5 VCT-6A | 5000 V. | G-5 |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World Radio History

# REPLACEMENT TYPE COMPONENTS

## STEP DOWN AUTO-TRANSFORMERS

220/240 Volt to 110/120 Volts, 50/60 Cycles.
All units have 6 foot cord and female receptacle, except R-64.

| Type No. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|
| R-41 | 85 | 3 | 2⅝ | 3⅛ | 2 x1⅞ | 4 |
| R-42 | 125 | 3¹⁄₁₆ | 3 | 3½ | 2¼x2¹⁄₁₆ | 5 |
| R-43 | 175 | 3¹⁄₁₆ | 3¼ | 3⅞ | 2½x2¼ | 5½ |
| R-44 | 250 | 4¹⁄₁₆ | 3¼ | 3⅞ | 2½x2⅞ | 6½ |
| R-45 | 500 | 4¹⁄₁₆ | 3⅞ | 4⅝ | 3 x3¼ | 12 |
| R-46 | 1200 | 6⅝ | 3⅞ | 4⅝ | 3 x5½ | 18 |
| R-64 | 2500 | 10½ | 4¾ | 6¾ | 3⅞x9⅞ | 30 |

## ISOLATION TRANSFORMERS

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding. 1500 volt breakdown test. Six foot cord and female receptacle, except R-77.

Primary 110-120 volts, 50/60 cycles—Secondary 110-120 volts
Except R-97 220 volt Primary—120 volt Sec.

| Type No. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|
| R-72 | 40 | 2¾ | 2⅝ | 3⅛ | 2 x1⅞ | 4 |
| R-73 | 100 | 3⅜ | 3¼ | 3⅞ | 2½x2⅜ | 6 |
| R-74 | 250 | 4⅝ | 3⅞ | 4⅝ | 3 x3½ | 12 |
| R-75 | 600 | 6⅞ | 3⅞ | 4⅝ | 3 x6 | 20 |
| R-76 | 1200 | 8⅜ | 4½ | 5⅞ | 3⅝x6⅝ | 30 |
| R-77 | 2500 | 12 | 7 | 9 | 6 x12 | 70 |
| R-97 | 250 | 4⅝ | 3⅞ | 4⅝ | 3 x3½ | 12 |

## EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

| Type No. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|
| R-47 | 85 | 4⅜ | 3 | 3½ | 2¼x2¼ | 4½ |
| R-48 | 150 | 4⅜ | 3¼ | 4 | 2½x2¼ | 5½ |

## TV VOLTAGE REGULATOR

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 cycle TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

| Type No. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|
| R-49 | 350 | 5 | 3¼ | 4 | 2½x2¼ | 5 |

## LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

The nine tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output model.

All units are designed for 50/60 cycle service and come complete with 6 foot input cord and plug and outlet receptacle.

| Type No. | Primary Voltages | Sec. Volts | Rating Watts | L | W | H | Wgt. Lbs. |
|---|---|---|---|---|---|---|---|
| R-78 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 150 | 7 | 4 | 4¾ | 6 |
| R-79 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 300 | 7 | 4 | 4¾ | 9 |
| R-80 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 600 | 10¼ | 4 | 4¾ | 13 |
| R-81 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 1200 | 10¼ | 4 | 4¾ | 21 |
| R-86 | 160, 170, 180, 190, 200, 210, 220, 230, 240 | 230 | 1200 | 10¼ | 4 | 4¾ | 21 |

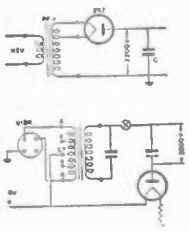
## PHOTO FLASH TRANSFORMERS

Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3* case 2⅛ x 2¾ (3¾ including flanges) x 2½ inches high. Weight 2 lbs.

PF-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. Compound sealed in G-3* case. Weight 2 lbs.

PF-3 Trigger Transformer 15 kV peak. ⅞ O.D. x 3" long. Weight 2 Oz.

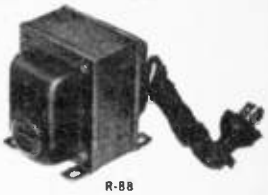


## VOLTAGE BOOSTERS

The constantly increasing appliance load in home and office presents a serious low line voltage problem to which the UTC voltage booster is a perfect answer. These autotransformers are designed to operate from a 95 to 110 V. 50/60 cycle line. They boost the voltage 10%. The two ratings shown are ideal for TV sets and air conditioners. Complete with line cord and receptacle.

R-87

| Type No. | Rating Amp. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|---|
| R-87 | 3 | 350 | 3⅜ | 2 | 2¾ | 2⅞ | 2 |
| R-88 | 18 | 2000 | 3⅞ | 4⅛ | 4⅝ | 3x3 | 12 |



R-88

## VARITRAN VOLTAGE ADJUSTERS

Input 115 volts 50/60 cycles. Output continually adjustable from 0-130 Volts through roller contact on exposed autotransformer winding. Regulation and efficiency are excellent, no wave form distortion. Output voltage is independent of load. Complete with line cord, switch, and receptacle . . . for loads up to 570 Watts . . . 5 A.

| Type | | L | W | H | Wt. Lbs. |
|---|---|---|---|---|---|
| V-1-M | with meter | 4⅞ x 9⅞ | x 3⅝ | | 14 |
| V-1 | without meter | 4⅞ x 8 | x 3⅝ | | 12 |

## SIGNALLING AND CONTROL TRANSFORMERS

Primary 110-120 volts, 50/60 cycles—Secondary 4/8/12/16/20/24 volts

High power transformers suitable for operating relays, sirens, horns, gongs, etc. from 115 V. 50/60 cycle line. These units have four secondary terminals providing 4, 8, 12, 16. 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

| Type No. | Rating Watts | L | W | H | Mtg. Dim. | Wgt. Lbs. |
|---|---|---|---|---|---|---|
| SC-3 | 50 | 3 | x 3½ | x 3¹⁄₁₆ | 1⅞ x 2¼ | 3 |
| SC-4 | 100 | 3¼ x 4 | | x 4 | 2⅛ x 2½ | 5 |
| SC-5 | 250 | 4 | x 5 | x 4¾ | 3¼ x 3 | 10 |

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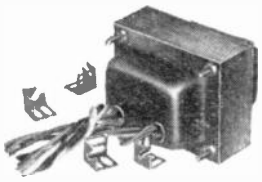
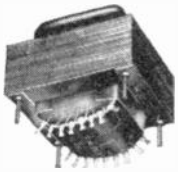
World Radio History

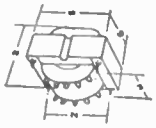
# REPLACEMENT TYPE COMPONENTS

UTC replacement type transformers (Pri. 117 V. 50/60 cycles) represent the culmination of years of development in this field. All units are low temperature rise, vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells are finished in attractive high lustre black enamel.

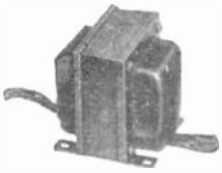


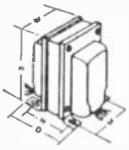
DOUBLE SHELL TYPE



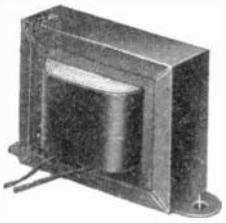


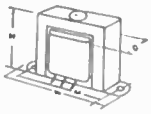
SINGLE SHELL TYPE





VERTICAL SHELL TYPE





CHANNEL FRAME TYPE

## DOUBLE SHELL POWER TRANSFORMERS

| Type No. | High V. | DC MA. | Rec. Fil. | Amp. Fil. | W | D | H | M | N | Wt. Lb. |
|---|---|---|---|---|---|---|---|---|---|---|
| R-101 | 275-0-275 | 50 | 5V-2A. | 6.3V CT-2.7A | 3 | 2½ | 2⅞ | 2½ | 2 1/16 | 2½ |
| R-102 | 350-0-350 | 70 | 5V-3A. | 6.3V CT-3A | 3 | 2½ | 3½ | 2½ | 2 1/16 | 3½ |
| R-103 | 350-0-350 | 90 | 5V-3A. | 6.3V CT-3.5A | 3⅜ | 2⅞ | 3¾ | 2 13/16 | 2¼ | 4½ |
| R-104 | 350-0-350 | 120 | 5V-3A. | 6.3V CT-5A | 3¾ | 3⅛ | 3¾ | 3⅛ | 2½ | 5½ |
| R-105 | 385-0-385 | 160 | 5V-3A. | 6.3V CT-5A | 3¾ | 3⅛ | 4 3/16 | 3⅛ | 2½ | 7 |

## SINGLE SHELL POWER TRANSFORMERS

| Type No. | High V. | DC MA. | Rec. Fil. | Amp. Fil. | W | G | H | M | N | Wt. Lb. |
|---|---|---|---|---|---|---|---|---|---|---|
| R-106 | 300-0-300 | 50 | 5V-2A. | 6.3V CT-2.7A | 3 | 2½ | 3 | 2½ | 2 1/16 | 2½ |
| R-107 | 350-0-350 | 70 | 5V-3A. | 6.3V CT-3A | 3 | 2½ | 3⅝ | 2½ | 2 1/16 | 3½ |

## VERTICAL SHELL POWER TRANSFORMERS

| Type No. | High V. | DC MA. | Rec. Fil. | Amp. Fil. | W | D | H | M | N | Wt. Lb. |
|---|---|---|---|---|---|---|---|---|---|---|
| R-110 | 300-0-300 | 50 | 5V-2A. | 6.3V CT-2.7A | 2½ | 2 11/16 | 3¼ | 2 | 1¾ | 2½ |
| R-111 | 350-0-350 | 70 | 5V-3A. | 6.3V CT-3A | 2½ | 3 5/16 | 3¼ | 2 | 2⅜ | 3½ |
| R-112 | 350-0-350 | 120 | 5V-3A. | 6.3V CT-5A | 3¼ | 3⅝ | 4 | 2½ | 2 5/16 | 5½ |
| R-113 | 400-0-400 | 200 | 5V-3A. | 6.3V CT-6A | 3⅞ | 4¼ | 4⅝ | 3 | 3⅛ | 8 |

## CHANNEL FRAME FILTER CHOKES

Inductance Shown Is at Rated D.C.M.A.—Test Volts RMS: 1500

| Type No. | Induct. Hys. | Current | Resistance Ohms | W | D | H | M | Lbs. |
|---|---|---|---|---|---|---|---|---|
| R-55 | 6 | 40MA | 300 | 2½ | 1⅜ | 1⅞ | 2 | ½ |
| R-14 | 8 | 40MA | 250 | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| R-15 | 12 | 30MA | 450 | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| R-16 | 15 | 30MA | 630 | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| R-17 | 20 | 40MA | 850 | 3 5/16 | 1⅝ | 2 | 2 13/16 | 1 |
| R-18 | 8 | 80MA | 250 | 3 5/16 | 1⅝ | 2 | 2 13/16 | 1 |
| R-19 | 14 | 100MA | 450 | 3¾ | 1¾ | 2 5/16 | 3⅛ | 1½ |
| R-20 | 5 | 200MA | 90 | 4⅛ | 2 | 2⅝ | 3 9/16 | 2½ |
| R-21 | 3/15 | 200MA | 90 | 4⅛ | 2 | 2⅝ | 3 9/16 | 2½ |

## CHANNEL FRAME AUDIO TRANSFORMERS

| Type No. | Application | Description | W | D | H | M | Lbs. |
|---|---|---|---|---|---|---|---|
| | | | Dimen., Ins. | | | | |
| R-34 | 1 plate to 2 grids | 2:1 ratio | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| R-35 | Mike to 1 grid | 17:1 ratio to Pri. C.T | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| R-58 | 5 watt Universal output | Any single tube to any voice coil, .1 to 30 ohms | 2½ | 1⅜ | 1⅜ | 2⅛ | ½ |
| R-38A | 6 watt Universal | Any tubes up to 6 watts to any voice coil, .1 to 30 ohms | 2½ | 1⅜ | 1⅜ | 2⅛ | ½ |
| R-59 | 10 watt Universal | Any tubes up to 10 watts to any voice coil, .1 to 30 ohms | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ½ |
| R-60 | 15 watt Universal | Any tubes up to 15 watts to any voice coil, .1 to 30 ohms | 3 5/16 | 1⅝ | 2 | 2 13/16 | 1 |
| R-39 | 10 watt line Matching Transformer | 250, 500, 1,500 ohms to 2, 8, 15 ohms | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |

## FILAMENT TRANSFORMERS

CHANNEL FRAME TYPE

Pri. 115 V. 50/60 Cycles—Test Volts RMS: 1500

| Type No. | Secondary | W | D | H | M | Wt. Lbs. |
|---|---|---|---|---|---|---|
| | | Dimensions, Inches | | | | |
| FT-1 | 2.5 V.C.T.-3A | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| FT-2 | 6.3 V.C.T.-1.2A | 2⅞ | 1⅜ | 1 11/16 | 2⅜ | ¾ |
| FT-3 | 2.5 V.C.T.-6A | 3 5/16 | 1⅝ | 2 | 2 13/16 | 1 |
| FT-4 | 6.3 V.C.T.-2.5A | 3 5/16 | 1⅝ | 2 | 2 13/16 | 1 |
| FT-5 | 2.5-V.C.T.-10A | 3¾ | 1¾ | 2 5/16 | 3⅛ | 1½ |
| FT-6 | 5 V.C.T.-3A | 3¾ | 1¾ | 2 5/16 | 3⅛ | 1½ |
| FT-7 | 7.5 V.C.T.-3A | 3¾ | 1¾ | 2 5/16 | 3⅛ | 1½ |
| FT-8 | 6.3 V.C.T.-5A | 4⅛ | 2¼ | 2⅝ | 3 9/16 | 2½ |
| FT-10 | 24V CT-2A or 12V-4A | 4⅛ | 2¼ | 2⅝ | 3 9/16 | 2½ |



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World Radio History

# NORTH HILLS ELECTRIC CO., INC.

MINEOLA, LONG ISLAND, NEW YORK

nh

# ADJUSTABLE COILS and COIL FORMS

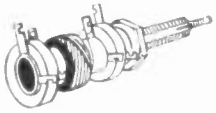
## Cover Every Frequency Range from Audio to 200mc

These high quality coils enable engineers and experimenters to save valuable development time by filling a vast number of requirements with standard components from stock. All coils have the following features:

- *All metal parts plated to MIL specifications.*
- *Built-in "perma-tune" tension for smooth "stay-put" tuning.*
- *Litz wound higher inductance ranges.*
- *Two extra terminals for tie points or additional winding.*
- *Moisture and fungus resistant impregnant per MIL-V-173-A.*
- *Color coded ranges.*

## COILS ON CERAMIC FORM PER JAN-I-10

### Subminiature 1100 Series



- 5/8" above mounting surface
- Mounting — 11/64" hole
- For R.F. and I.F. applications

| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| 1100-A | 0.9- 1.4 | 45 @ 7.9 mc |
| 1100-B | 1.4- 1.9 | 50 @ 7.9 mc |
| 1100-C | 1.9- 2.6 | 55 @ 7.9 mc |
| 1100-D | 2.6- 3.7 | 65 @ 7.9 mc |
| 1100-E | 3.7- 5.5 | 65 @ 7.9 mc |
| 1100-F | 5.5- 7.4 | 70 @ 7.9 mc |
| 1100-G | 7.4-12.5 | 64 @ 5.0 mc |
| 1100-H | 12.5-18.0 | 72 @ 5.0 mc |
| 1100-I | 18.0-28.0 | 74 @ 5.0 mc |
| 1100-J | 28.0-38.0 | 72 @ 5.0 mc |
| 1100-K | 38.0-55.0 | 75 @ 2.5 mc |

### Miniature 1000 Series

- 7/8" above mounting surface
- Mounting — #10 hole
- For R.F. and I.F. applications

| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| 1000-A | 1.0- 1.6 | 70 @ 7.9 mc |
| 1000-B | 1.6- 2.7 | 80 @ 7.9 mc |
| 1000-C | 2.7- 4.5 | 85 @ 7.9 mc |
| 1000-D | 4.5- 8.5 | 85 @ 7.9 mc |
| 1000-E | 8.5-14.5 | 75 @ 2.5 mc |
| 1000-F | 14.5-22 | 65 @ 2.5 mc |
| 1000-G | 22-29 | 65 @ 2.5 mc |
| 1000-H | 29-55 | 85 @ 2.5 mc |
| 1000-I | 55-110 | 80 @ 2.5 mc |
| 1000-J | 110-185 | 85 @ .79 mc |
| 1000-K | 185-305 | 85 @ .79 mc |
| 1000-L | 305-515 | 85 @ .79 mc |
| 1000-M | 515-820 | 85 @ .79 mc |
| 1000-N | 820-1100 | 75 @ .79 mc |

### Transmitter 1300 Series

- 1 3/4" above mounting surface
- Mounting — 1/4" hole
- For low power tansmitters and high Q receiver circuits

| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| 1300-A | | For use from 90-200 mc |
| 1300-B | | For use from 40-90 mc |
| 1300-C | | For use from 20-40 mc |
| 1300-D | 0.7- 1.1 | 130 @ 20 mc |
| 1300-E | 1.1- 1.7 | 150 @ 18 mc |
| 1300-F | 1.7- 2.7 | 150 @ 16 mc |
| 1300-G | 2.7- 4.5 | 150 @ 14 mc |
| 1300-H | 4.5- 6.8 | 150 @ 12 mc |
| 1300-I | 6.8-10.8 | 150 @ 10 mc |
| 1300-J | 10.8-17.0 | 150 @ 7 mc |
| 1300-K | 17.0-29.0 | 125 @ 5 mc |
| 1300-L | 29.0-45.0 | 125 @ 4 mc |
| 1300-M | 45.0-75.0 | 125 @ 3 mc |

## COILS ON MICA FILLED FORMS PER MIL-P-14-D

### Standard 120 Series

- 1 1/4" above mounting surface
- Mounting #10 hole
- For R.F. and I.F. applications

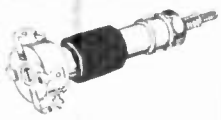
| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| 120-A | 2-3 | 75 @ 7.9 mc |
| 120-B | 3-5 | 85 @ 7.9 mc |
| 120-C | 5-9 | 90 @ 7.9 mc |
| 120-D | 9-18 | 75 @ 7.9 mc |
| 120-E | 18-36 | 75 @ 2.5 mc |
| 120-F | 36-64 | 75 @ 2.5 mc |
| 120-G | 64-105 | 90 @ 2.5 mc |
| 120-H | 105-200 | 90 @ 2.5 mc |
| 120-I | 200-500 | 90 @ .79 mc |
| 120-J | 500-1000 | 90 @ .79 mc |
| 120-K | 1000-2000 | 70 @ .79 mc |

### Printed Circuit P-120 Series

- Snaps into single 0.4" hole for dip soldering
- 1 1/4" long

| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| P-120-A | 2-3 | 75 @ 7.9 mc |
| P-120-B | 3-5 | 85 @ 7.9 mc |
| P-120-C | 5-9 | 90 @ 7.9 mc |
| P-120-D | 9-18 | 75 @ 7.9 mc |
| P-120-E | 18-36 | 75 @ 2.5 mc |
| P-120-F | 36-64 | 75 @ 2.5 mc |
| P-120-G | 64-105 | 90 @ 2.5 mc |
| P-120-H | 105-200 | 90 @ 2.5 mc |
| P-120-I | 200-500 | 90 @ .79 mc |
| P-120-J | 500-1000 | 90 @ .79 mc |
| P-120-K | 1000-2000 | 70 @ .79 mc |

### Shielded, Encapsulated SE-120



- Magnetic shielding cup
- Ruggedized construction
- 1 1/4" long

| Part No. | Nominal Microhenries | Average Q |
|---|---|---|
| SE-120-A | 2-3 | 75 @ 7.9 mc |
| SE-120-B | 3-5 | 85 @ 7.9 mc |
| SE-120-C | 5-9 | 90 @ 7.9 mc |
| SE-120-D | 9-18 | 75 @ 7.9 mc |
| SE-120-E | 18-36 | 75 @ 2.5 mc |
| SE-120-F | 36-64 | 75 @ 2.5 mc |
| SE-120-G | 64-105 | 90 @ 2.5 mc |
| SE-120-H | 105-200 | 90 @ 2.5 mc |
| SE-120-I | 200-500 | 90 @ .79 mc |
| SE-120-J | 500-1000 | 90 @ .79 mc |

## ENCAPSULATED CUP-CORE COILS

### Audio and Ultrasonic 700 Series

- 1 1/2" above mounting surface
- Mounting Centers — Two #6 holes spaced 1 1/4"
- Magnetically shielded — High Q
- For standard or printed circuits

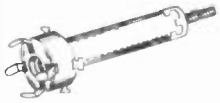
| Part No. | Nominal Millihenries | Average Q |
|---|---|---|
| 700-A | 1.5-3 | 120 @ 200 kc |
| 700-B | 3-7 | 120 @ 150 kc |
| 700-C | 7-13 | 110 @ 100 kc |
| 700-D | 13-25 | 110 @ 60 kc |
| 700-E | 25-50 | 110 @ 40 kc |
| 700-F | 50-100 | 125 @ 20 kc |
| 700-G | 100-250 | 125 @ 20 kc |
| 700-H | 250-500 | 125 @ 5 kc |
| 700-I | 500-1000 | 125 @ 5 kc |

## COIL FORMS

### F-120

- Mica filled MIL-P-14-D forms
- All metal parts MIL spec. plated
- For use at .2 mc to 30 mc
- 1 1/4" above mounting surface

### PF-120



- Similar to above except for printed circuitry

## TOROID COILS AND TRANSFORMERS

•

**Please send for data sheets describing our toroidal coils and wide band video or R F transformers.**

**DISTRIBUTOR INQUIRIES INVITED • SPECIAL COILS WOUND TO SPECIFICATIONS**

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World Radio History

# TRIAD TRANSFORMER CORP.

## MINIATURES

### †† JAF SERIES — Hermetically Sealed

| Type No. | Primary Impedance | Secondary Impedance | Max. Level-DBM | Freq. Resp. | Case |
|---|---|---|---|---|---|
| JAF-1 | 600/250/50 | 50000 | 0 | 60-15000 | AF |
| JAF-2 | 600/250/50 | 25000 | 0 | 150-7000 | AF |
| JAF-3 | 600/250/50 | 60000 CT. | 0 | 60-15000 | AF |
| JAF-5 | 30/12/4 | 50000 | 0 | 60-12000 | AF |
| JAF-11 | 15000 | 50000 | 10 | 60-15000 | AF |
| JAF-12 | 15000 | 60000 CT. | 10 | 60-15000 | AF |
| JAF-13 | 15000 | 95000 CT. | 10 | 350-7000 | AF |
| JAF-14 | 200 | ½ megohm | 0 | 350-5000 | AF |
| JAF-15 | 15000 | 1 megohm | 10 | 350-5000 | AF |
| JAF-21 | 15000 | 600/250/50 | 10 | 60-5000 | AF |
| JAF-22 | 15000 | 600/250/50 | 10 | 350-7000 | AF |
| JAF-23 | 20000 CT. | 600/250/50 | 10 | 60-15000 | AF |
| JAF-31 | 600/250/50 | 600/250/50 | 10 | 60-15000 | AF |
| JAF-33 | 5000 CT. | 5000 CT. | 10 | 60-15000 | AF |
| JAF-101 | 50 h.-.75 Ma. | | | | AF |

JZ

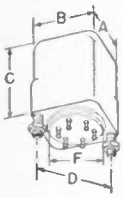
### SUB-MINIATURE AUDIO — Hermetically Sealed

| Type No. | Primary Impedance | Secondary Impedance | DC Res. Ohms (Approx.) Pri. | Sec. | Case |
|---|---|---|---|---|---|
| JZ-1 | 30/12/4 | 60000 | 555 | 4100 | JZ |
| JZ-5 | 600/250/50 | 50000 | 11.5 | 3800 | JZ |
| JZ-7 | 30/12/4 | 1000 | 20 | 335 | JZ |
| JZ-13 | 15000 (1 Ma.) | 135000 CT. | 1570 | 4700 | JZ |
| JZ-15 | 20000 (.5 Ma.) | 1200/600/100 | 2150 | 300 | JZ |
| JZ-25 | 10000 (1 Ma.) | 200 | 1500 | 120 | JZ |
| JZ-26 | 1000 (5 Ma.) | 50 | 365 | 23.5 | JZ |

TZ

### SUB-MINIATURE AUDIO — Open Frame

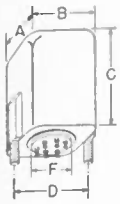
| Type No. | Primary Impedance | Secondary Impedance | DC Res. Ohms (Approx.) Pri. | Sec. |
|---|---|---|---|---|
| TZ-1 | 600/250/50 | 60000 | 555 | 4100 |
| TZ-5 | 30/12/14 | 50000 | 11.5 | 3800 |
| TZ-7 | 30/12/4 | 1000 | 20 | 335 |
| TZ-13 | 15000 (1 Ma.) | 135000 CT. | 1570 | 4700 |
| TZ-15 | 20000 (.5 Ma.) | 1200/600/100 | 2150 | 300 |
| TZ-25 | 10000 (1 Ma.) | 200 | 1500 | 120 |
| TZ-26 | 1000 (5 Ma.) | 50 | 365 | 23.5 |
| •TZ-28 | 600 | 50 | 95 | 11 |
| T-41X | 1000 (10 Ma.) | 200 CT. | 430 | 130 |
| T-42X | 9800 (2 Ma.) | 16 | 855 | 1.7 |
| TY-44X | 1000 (10 Ma.) | 16/8/4 | 180 | 3.8 |
| TY-47X | 2000 CT | 16/8/4 | 260 | 4 |




AF
AJ

### POWER OUTPUT to Line and VC. Hermetically Sealed

| Type No. | Primary Impedance | Secondary Impedance | Max. Level-Watts | Freq. Resp. | Case |
|---|---|---|---|---|---|
| HS-71 | 10000 (10 Ma.) | 600/150 | 2 | 150-15000 | AH |
| HS-73 | 5000 (40 Ma.) | 500/250/16/8/4 | 5 | 150-15000 | AJ |
| HS-75 | 10000 CT. (50 Ma. bal.) | 500/250/16/8/4 | 10 | 150-15000 | EB |
| HS-77 | 9000 CT. (102 Ma. bal.) | 500/250/16/8/4 | 25 | 150-15000 | GA |

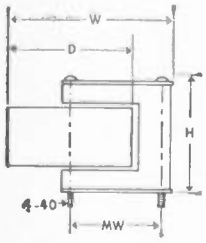



AG
AH

### 12 VOLT TRANSISTOR POWER SUPPLY TRANSFORMERS

| Type No. | D.C. Volts Out of Rect. | D.C. Ma. Max. | Dimensions—Inches H | W | D | MW |
|---|---|---|---|---|---|---|
| •TY-68S | 250 | 65 | 1-3/4 | 1-3/4 | 1-11/32 | 1-1/2 |
| •TY-69S | 300 | 100 | 1-7/8 | 2-3/8 | 1-7/8 | 1-1/2 |
| •TY-70S | 325 | 150 | 2 | 2-3/8 | 2-7/16 | 1-1/2 |
| •TY-71S | 375 | 200 | 2 | 2-3/8 | 2-7/16 | 1-1/2 |
| •TY-74S | 600 | 200 | 2 | 4-1/8 | 3 | 3-3/4 |

| | AF | AG | AH | AJ | JZ*† |
|---|---|---|---|---|---|
| A | 3/4 | 1 | 1-5/16 | 1-5/8 | 9/16 dia. |
| B | 3/4 | 1 | 1-5/16 | 1-5/8 | Round |
| Bw | 1-3/64 | 1-3/32 | 1-11/32 | | |
| C | 1-1/8 | 1-3/8 | 1-3/4 | 2-3/8 | 25/32 |
| D | *27/32 | *1-1/32 | *1-11/32 | *1-5/8 | |
| F | 5/8 | 3/4 | 7/8 | 7/8 | |
| I | 4/40 | 6/32 | 6/32 | 6/32 | |
| Unit | 1-1/4 | 2-1/2 | 5-1/4 | 11 | .5 |
| Wt. | oz. | oz. | oz. | oz. | oz. |




TY

| | JOA | JOB |
|---|---|---|
| A | 15/16 dia. | 15/16 dia. |
| B | Round | Round |
| C | 1 13/32 | 1 25/32 |
| D | 9/16 | 9/16 |
| F | 7/8 | 7/8 |
| Unit Wt. | 2 oz. | 2½ oz. |

## MINIATURES

### TRANSISTOR Transformers

| Type No. | Primary Impedance | Secondary Impedance | Maximum Level |
|---|---|---|---|
| JZ-7 | 30/12/4 | 1000 | —10DBM |
| TZ-7 | 30/12/4 | 1000 | —10DBM |
| •TY-66A | 6 CT. (5A.) | 6000/4000/3000 | 40W |
| •TY-67A | 6 CT. (5A.) | 16/8/4 | 40W |
| TY-64X | 32 CT. (575 Ma.) | 16/8/4 | 10W |
| TY-65Z | 32 CT. (575 Ma.) | 6000/4000/3000 | 10W |
| TY-63X | 48 CT. (550 Ma. bal.) | 16/8 | 5W |
| TY-48X | 100 CT. (40 Ma.) | 8/4 | 500MW |
| TY-61X | 100 (100 Ma.) | 100 CT. | 500MW |
| •TY-46X | 100 (100 Ma.) | 1000 CT. | 250MW |
| TY-58X | 125 CT. (15 Ma.) | 8/4 | 200MW |
| •TY-53X | 200 CT. (10 Ma.) | 400 CT. | 600MW |
| TY-57X | 250 CT. (10 Ma.) | 16/8/4 | 200MW |
| TY-27XT | 500 CT. (2 Ma.) | 500 CT. | 10DBM |
| TY-28XT | 500 CT. (2 Ma.) | 200 CT. | 10DBM |
| TY-45X | 500 CT. (5 Ma.) | 16/8/4 | 200MW |
| •TY-49X | 500 CT. (12 Ma.) | 5000 CT. | 30MW |
| JZ-26 | 1000 (5 Ma.) | 50 | —10DBM |
| TZ-26 | 1000 (5 Ma.) | 50 | —10DBM |
| T-41X | 1000 (10 Ma.) | 200 CT. | 0DBM |
| TY-44X | 1000 (10 Ma.) | 16/8/4 | 200MW |
| TY-47X | 2000 CT. (10 Ma.) | 16/8/4 | 200MW |
| TY-55X | 2000 CT. (2 Ma.) | 500 CT. | 200MW |
| •TY-51X | 2000 CT. (10 Ma.) | 200 CT. | 50MW |
| JAF-33 | 5000 CT. | 5000 CT. | 10DBM |
| T-33X | 5000 CT. | 5000 CT. | 10DBM |
| TY-59X | 5000 CT. (1 Ma.) | 50000 CT. | 200MW |
| T-42X | 9800 (2 Ma.) | 16 | 20DBM |
| •TY-62X | 10000 (2 Ma.) | 4 | 20DBM |
| TY-56X | 10000 (1 Ma.) | 2000 CT. | 200MW |
| TY-54X | 15000 (1.5 Ma.) | 200 CT. | 200MW |
| JZ-15 | 20000 (.5 Ma.) | 1200/600/100 | —10DBM |
| TZ-15 | 20000 (.5 Ma.) | 1200/600/100 | —10DBM |
| TY-52X | 20000 CT. (1 Ma.) | 2000 CT. | 200MW |
| TY-50X | 125000 | 2000 CT. | 200MW |
| •TY-60X | 200000 | 1000 | —10DBM |

### †† MINIATURE AUDIO — "Trijets"

| Type No. | Primary Impedance | Secondary Impedance | Max. Level-DBM | Freq. Resp. |
|---|---|---|---|---|
| T-1X | 600/250/50 | 50000 | 0 | 60-15000 |
| T-2X | 600/250/50 | 250000 | 0 | 100-5000 |
| T-3X | 600/250/50 | 60000 CT. | 0 | 60-15000 |
| T-5X | 30/12/4 | 50000 | 0 | 60-15000 |
| T-11X | 15000 | 50000 | 10 | 60-15000 |
| T-12X | 15000 | 60000 CT. | 10 | 60-15000 |
| T-13X | 15000 | 95000 CT. | 10 | 350-7000 |
| T-20X | 15000 | 600/250/50 | 10 | 60-15000 |
| T-21X | 30000 | 50 | 10 | 60-15000 |
| T-22X | 15000 | 600/250/50 | 10 | 350-7000 |
| T-23X | 20000 CT. | 600/250/50 | 10 | 60-15000 |
| T-31X | 600/250/50 | 600/250/50 | 10 | 60-15000 |
| T-33X | 5000 CT. | 5000 CT. | 10 | 60-15000 |
| T-101X | 50 henries @ .75 Ma. | | | |

### JO SERIES — Hermetically Sealed

| Type No. | Primary Impedance | Secondary Impedance | Max. Level-DBM | Freq. Resp. | Case |
|---|---|---|---|---|---|
| JO-1 | 600/250/50 | 50000 | 0 | 50-15000 | JOA |
| JO-2 | 600/250/50 | 250000 | 0 | 150-7000 | JOA |
| JO-3 | 600/250/50 | 60000 CT. | 0 | 50-15000 | JOA |
| JO-5 | 30/12/24 | 50000 | 0 | 50-12000 | JOA |
| JO-11 | 15000 | 60000 | 10 | 50-15000 | JOB |
| JO-12 | 15000 | 60000 Ct. | 10 | 50-15000 | JOB |
| JO-13 | 15000 | 95000 CT. | 10 | 300-7000 | JOB |
| JO-21 | 15000 | 600/250/50 | 10 | 50-15000 | JOB |
| JO-22 | 15000 | 600/250/50 | 10 | 300-7000 | JOB |
| JO-23 | 20000 CT. | 600/250/50 | 10 | 50-15000 | JOB |
| JO-31 | 600/250/50 | 600/250/50 | 10 | 50-15000 | JOB |
| JO-101 | 50 h.-2 Ma. | | | | JOB |

*Not in conformance with MIL-T-27A
†Not in conformance with MIL-T-27

††Low frequency loss will result from DC in windings other than where specified.

**Note: Last Letter of Type No. denotes case style.**

•New Item



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SEE TRIAD PRICE LIST ON PAGES N-781, N-782

World Radio History

# TRIAD TRANSFORMER CORP.

## POWER COMPONENTS

### Combined PLATE and FILAMENT Transformers
**Primary 115V — 50/60 cycle**

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filaments | F Dim. (Min.) Inches | Case |
|---|---|---|---|---|---|
| †HSM-201 | 500 CT. | 20 | 6.3 CT.-2A. | 1⅜ | GA |
| HSM-203 | 600 CT. | 50 | 6.3 CT.-2.5A.<br>5 -2A. | 1⅜ | JB |
| HSM-205 | 700 CT. | 70 | 6.3 CT.-3A.<br>5 -3A. | 1⅜ | JA |
| HSM-207 | 700 CT. | 120 | 6.3 CT.-5A.<br>5 -3A. | 1⅜ | KA |
| •HSM-241<br>Note 1 bias tap. | 700 CT.-70V. | 150 | 6.3 CT.-6A.<br>6.3-V. -2A.<br>5 -3A. | 1⅜ | LA |
| HSM-212 | 1000/800 CT. | 150 (ch. in.)<br>117 (cd. in.) | 6.3/5.4A.<br>6.3 CT.-4A.<br>6.3-V-4A. | 1⅜ | LA |
| •HSM-245<br>Note 2 bias tap. | 800<br>700 CT.<br>70 V. | | 6.3 CT.-6A.<br>6.3-V. -4A.<br>5 -6A. | 1⅜ | MA |
| HSM--216 | 1000<br>800 CT. | 200 (ch. in.)<br>157 (cd. in.) | 6.3/5-4A.<br>6.3 CT.-5A.<br>6.3-5A. | 1⅜ | MA |
| •HS-247<br>Note 3 bias tap. | 800/<br>700 CT.<br>70 V. | | 6.3 CT.-8A.<br>6.3-V. -4A.<br>5 -6A. | 1⅜ | GP-15 |
| HSM-218 | 1000<br>800 CT. | 300 (ch. in.)<br>235 (cd. in.) | 6.3/5-6A.<br>6.3 CT.-6A. | 1⅜ | GP-15 |
| HSM-219 | (115/<br>230 pri.)<br>760<br>1600 CT. | 40 230<br>(ch. input) | | Spcl. | GP-15 |

† Low flux density—for pre-amplifier service. All types electrostatically shielded.
GP-15 dimens. 4¾" x 5⅞" x 6⅝" high. Wt. approx. 22 lbs. Mtg. centers 3¾" x 4⅞".
•New Items (1) Replaces HSM-211
(2) Replaces HSM-215 (3) Replaces HS-217

### Combined PLATE and FILAMENT Transformers
**Primary 115V—400 cycle to operate 380 to 1500 cycles**

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filaments | Insul. Test Volt. | F Dim. (Min.) Inches | Case |
|---|---|---|---|---|---|---|
| HS-402 | 475 CT. | 20 | 6.3 CT.-1.5A. | 1500 | 23/32 | AJ |
| HS-401 | 500 CT. | 40 | 6.3 CT.-1A.<br>6.3-1A | 1500 | ⅞ | EB |
| HS-405 | 600 CT. | 70 | 6.3 CT.-2A.<br>6.3-2A.<br>*6.3/5-2A. | 1500 | 1⅜ | GA |
| HS-407 | 600 CT. | 120 | 6.3 CT.-3.5A.<br>6.3-3.5A.<br>*6.3 5-3A. | 1500 | 1⅜ | JB |
| HS-409 | 700 CT. | 150 | 6.3 CT.-4A.<br>6.3 5-3A. | 1500 | 1⅜ | HA |
| HS-413 | 450 CT. | 200 | 6.3 CT.-6A.<br>6.3 -6A.<br>*6.3 5-4A. | 1500 | 1⅜ | JA |
| HS-415 | 800<br>600 CT. | 200 | 6.3 CT.-6A.<br>6.3-6A.<br>*6.3 5-6A. | 2500 | 1⅜ | KB |
| HS-417 | 800/<br>600 CT. | 300 | 6.3 CT.-6A.<br>6.3-6A.<br>*6.3 5-6A. | 2500 | 1⅜ | LA |

* Tapped for 5 volt rectifier use. All types electrostatically shielded.

### ISOLATION Transformers
**Primary 115V—400 cycle to operate 380 to 1500 cycles**

| Type No. | Secondary Volts | Secondary Amp. | V. A. | F Dim. (Min.) Inches | Case |
|---|---|---|---|---|---|
| HS-470 | 115 | .35 | 40 | ⅞ | EA |
| HS-472 | 115 | 1.4 | 160 | ⅞ | GA |
| HS-474 | 115 | 2.6 | 300 | ⅞ | JA |

All isolation transformers electrostatically shielded.

## LOW LEVEL AUDIO

### HERMETICALLY SEALED AUDIO INPUT Transformers

| Type No. | Primary Imped. | Turn Ratio | Freq. Resp. | Max. Level DBM | Shld'g | Case |
|---|---|---|---|---|---|---|
| HS-1 | 600*/250*/150/62.5 | 1:11.3 | 20-20000 | 10 | P-5 | GP-4 |
| HS-11 | Same as above | | | | P-1 | GP-2 |
| HS-3 | 600* 250*/150/62.5 | 1:14 overall | 20-20000 | 10 | P-5 | GP-5 |
| HS-4 | Same as above | | | | P-3 | GP-4 |
| HS-14 | Same as above | | | | P-1 | GP-3 |
| HS-15 | 600*/250*/150/62.5 (10 Ma.) | 1:8 overall | 30-20000 | 20 | P-3 | GP-5 |
| HS-5 | 30-50 | 1:65.7 | 50-10000 | 0 | P-5 | GP-4 |
| HS-8 | 600*,250*/150/62.5 | 1:14 overall | 20-20000 | 20 | P-1 | GP-4 |

* Balanced center tap.
Low frequency loss will result from use of unbalanced DC in windings other than where specified.

### AUDIO INTERSTAGE Transformers

| Type No. | Primary Imped. | Turn Ratio | Freq. Resp. | Max. Level Pri. Volts | Shld'g | Case |
|---|---|---|---|---|---|---|
| HS-23 | 15000 | 1:2.7 | 20-20000 | 15 | P-3 | GP-4 |
| HS-25 | 15000 | 1:2.72 overall | 20-20000 | 25 | P-1 | GP-4 |
| HS-35 | 15000 | 1:2.72 overall | 20-20000 | 20 | P-1 | GP-2 |
| HS-27 | 20000/5000 | 1:1.72 overall | 20-20000 | 50 | P-1 | GP-4 |
| HS-29 | 20000/5000 | 1:2 overall | 20-20000 | 20 | P-5 | GP-4 |
| HSM-31 | 20000/5000 | 1:1 or 2:1 | 20-20000 | 240 | | FA |
| HS-32 | 15000 (6 Ma.) | 1:2 overall | 20-15000 | 20 | P-1 | GP-5 |

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

### AUDIO LOW LEVEL OUTPUT, MIXING, MATCHING, BRIDGING

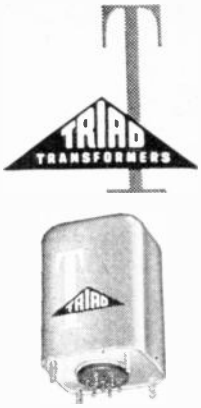
| Type No. | Primary Imped. | Secondary Impedance | Freq. Resp. | Max. Level DBM | Shld'g | Case |
|---|---|---|---|---|---|---|
| HS-50 | 15000 | 600* 250*/150 62.5 | 20-20000 | 26 | P-3 | GP-4 |
| HS-60 | 15000 | 600* 250*/150 62.5 | 20-20000 | 10 | P-1 | GP-2 |
| HS-61 | 15000 (5 Ma.) | 600*/250*/150/6.25 | 50-15000 | 20 | P-1 | GP-5 |
| HS-52 | 20000 5000 | 600*,250*/150 62.5 | 20-20000 | 26 | P-1 | GP-4 |
| HS-54 | 20000/5000 | 600* 250*/150/62.5 | 20-20000 | 10 | P-5 | GP-4 |
| HS-56 | 600* 250*/150/62.5 | 600*/250*/150/6.25 | 10-30000 | 20 | P-3 | GP-4 |
| HS-66 | 600* 250*/150/62.5 | 600*/250*/150/6.25 | 10-30000 | 20 | P-1 | GP-3 |
| HS-58 | 600* 250*/150/62.5 | 600*/250*/150/6.25 | 20-30000 | 15 | P-3H | GP-5 |

* Balanced center tap.
Low frequency loss will result from use of unbalanced DC in windings other than where specified.
**See table at right for shielding data.**

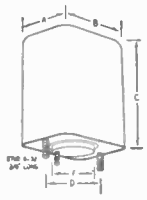
| | GP-1 | GP-2 | GP-3 | GP-4 | GP-5 |
|---|---|---|---|---|---|
| A | ⅞ | 1 1/16 | 1 1/1 | 1 7/16 | 1⅝ |
| B | 1 7/16 | 1 1/4 | 1 1/2 | 1 3/4 | 2 |
| Bw | 1 1/8 | 1 11/32 | 1 9/16 | | |
| C | 1 11/16 | 2 1/4 | 2 3/8 | 2 1/2 | 2¾ |
| D | 1 1/2 | 1 13/16 | 1 15/32 | 1 1/2 | 1 1/2 |
| F | ¾ | ¾ | 15/16 | 15/16 | 15/16 |
| Wt. | 3 oz. | 5½ oz. | 8 oz. | 12 oz. | 17 oz. |

### SHIELDING

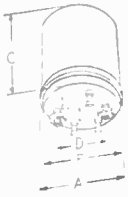
P-1—One nickel alloy high permeability shield — 45db. reduction in pickup.
P-3—Two nickel alloy shields interleaved with one heavy copper shading ring — 70db. reduction in pickup.
P-5—Three nickel alloy shields interleaved with two heavy copper shading rings— 95 db. reduction in pickup.




HS Series



JO Series




| | AH | AJ | EA | EB | FA | FB | GA | | GB | HA | HB | JA | JB | KA | KB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 5/16 | 1⅝ | 1 13/16 | 1 13/16 | 2 1/16 | 2 1/16 | 2⅜ | A | 2⅜ | 2⅝ | 2⅝ | 3 1/16 | 3 1/16 | 3⅜ | 3⅜ |
| B | 1 5/16 | 1⅝ | 1 15/16 | 1 15/16 | 2 5/16 | 2 5/16 | 2¾ | B | 2¾ | 3 1/16 | 3 1/16 | 3 9/16 | 3 9/16 | 3 13/16 | 3 15/16 |
| C | 1¾ | 2⅜ | 2¾ | 2 7/16 | 3⅛ | 2½ | 3 11/16 | C | 2 13/16 | 4¼ | 3 1/16 | 4⅞ | 3⅞ | 5¼ | 4 5/16 |
| D | 1¼ | 1 3/16 | 1⅜ | 1⅜ | 1 11/16 | 1 11/16 | 2⅛ | D | 2⅛ | 2 19/64 | 2 19/64 | 2⅝ | 2⅝ | 3 | 3 |
| E | | 1 3/16 | 1¼ | 1¼ | 1 7/16 | 1 7/16 | 1¾ | E | 1¾ | 1 55/64 | 1 55/64 | 2⅛ | 2⅛ | 2 7/16 | 2 7/16 |
| G | ⅜ | ⅜ | ⅜ | ⅜ | ⅜ | ⅜ | ⅜ | G | ⅜ | ⅜ | ⅜ | ⅜ | ⅜ | ½ | ½ |
| I | 6-32 | 6-32 | 6-32 | 6-32 | 6-32 | 6-32 | 6-32 | I | 6-32 | 8-32 | 8-32 | 8-32 | 8-32 | 10-32 | 10-32 |
| Wt. lbs. | 4 oz. | 9 oz. | 1 | 15 oz. | 1¾ | 1½ | 2 | Wt. lbs | 1¾ | 2½ | 2¼ | 4½ | 4 | 7¾ | 7 |

| | LA | LB | MA | MB | NA | NB |
|---|---|---|---|---|---|---|
| A | 3 11/16 | 3 11/16 | 4 | 4 | 4 5/16 | 4 5/16 |
| B | 4 5/16 | 4 5/16 | 4 11/16 | 4 11/16 | 5 1/16 | 5 1/16 |
| C | 5 9/16 | 4½ | 6 | 4 15/16 | 6 13/16 | 5½ |
| D | 3 5/16 | 3 5/16 | 3 11/16 | 3 11/16 | 4 1/16 | 4 1/16 |
| E | 2 11/16 | 2 11/16 | 3 | 3 | 3 5/16 | 3 5/16 |
| G | ½ | ½ | ⅝ | ⅝ | ⅝ | ⅝ |
| I | 10-32 | 10-32 | ¼-20 | ¼-20 | ¼-20 | ¼-20 |
| Wt. lbs. | 9¼ | 8½ | 13½ | 12½ | 18 | 16 |

•New Item

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World Radio History

# TRIAD TRANSFORMER CORP.

## POWER COMPONENTS

### HERMETICALLY SEALED

### FILAMENT Transformers, 50/60 cycle

| Type No. | Primary Volts | Secondary Volts | Secondary Amperes | Insulation Test Voltage | Case |
|---|---|---|---|---|---|
| HSM-223 | 115 | 6.3 | 0.6 | 1500 | **AJ |
| HSM-225 | 105-115-125 | 6.3 CT. | 2 | 1500 | EA |
| HSM-226 | 105-115-125 | 6.3 CT. | 3.6 | 1500 | FA |
| HSM-234 | 105-115-125 | 6.3 CT.<br>6.3 | 10<br>10 | 2500 | KA |
| HSM-227 | 105-115-125 | †6.3 CT.<br>6.3 | 3<br>3 | 2500 | GA |
| HSM-229 | 105-115-125 | 6.3 CT. | 8 | 2500 | JB |
| HSM-230 | 105-115-125 | 24 CT. | 0.8 | 1500 | FA |
| HSM-236 | 105-115-125 | †12.6 CT.<br>12.6 | 2<br>2 | 2500 | JB |
| HSM-228 | 105-115-125 | †6.3 CT.<br>6.3 | 6<br>6 | 2500 | JA |
| HSM-231 | 105-115-125 | 6.3 CT.<br>5 CT. | 5<br>3 | 2500 | JB |
| HSM-232 | 105-115-125 | 2.5 CT. | 10 | 7500 | HA |
| HSM-235 | 105-115-125 | 2.5 CT.<br>10 CT. | 10<br>10 | 7500<br>2500 | MA |

† Series or parallel connections.
** See case chart page N-885.

### FILAMENT Transformers, 380/1500 cycle

| Type No. | Primary Volts | Secondary Volts | Secondary Amperes | Insulation Test Voltage | Case |
|---|---|---|---|---|---|
| HS-436 | 115 | 6.3 CT. | 1 | 1500 | **AH |
| HS-425 | 105-115-125 | 6.3 CT. | 2 | 1500 | **AJ |
| HS-427 | 105-115-125 | 6.3 CT. | 5 | 1500 | EA |
| HS1-438 | 105-115-125 | 24 CT. | 1.5 | 1500 | EA |
| HS-433 | 105-115-125 | *6.3 CT.<br>6.3 | 5<br>5 | 2500 | FA |
| HS-435 | 105-115-125 | *6.3 CT.<br>6.3<br>‡6.3/5 | 3.5<br>3.5<br>3 | 2000 | FA |
| HS-441 | 105-115-125 | *5 CT.<br>5<br>2.5 CT. | 10<br>10<br>10 | 2000<br><br>7500 | HA |
| HS-443 | 105-115-125 | *12.6 CT.<br>12.6 | 0.8<br>0.8 | 1500 | **AJ |
| HS-442 | 57.5-99.7-115-120 Single phase. | 12.6 CT.<br>12.6 | 2<br>2 | 1500 | EA |

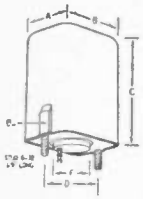
Two HS-442's can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected.

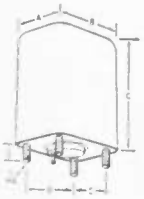
* Series or parallel connection.
‡ 5 volt tap for filament type rectifiers.
** See case chart page N-885.

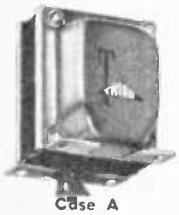
### FILTER REACTORS

| Type No. | Current DC Ma. | Inductance Henries | Resistance Ohms | Insulation Test Voltage |
|---|---|---|---|---|
| HSM-301 | 20 | 30 | 1000 | 1500 |
| HSM-302 | 20 | 14 | 550 | 1500 |
| HS-331 | 40 | 4 | 375 | 1500 |
| HS-303 | 50 | 12 | 385 | 1500 |
| HS-333 | 70 | 3 | 225 | 1500 |
| HSM-305 | 70 | 15 | 300 | 2500 |
| HS-335 | 120 | 3 | 150 | 1500 |
| HSM-307 | 120 | 15 | 185 | 2500 |
| HSM-309 | 150 | 9 | 115 | 2500 |
| HS-339 | 200 | 3 | 105 | 2000 |
| HSM-315 | 200 | 10 | 100 | 2500 |
| HS-341 | 300 | 2 | 48 | 2000 |
| HSM-319 | 300 | 10 | 85 | 2500 |

•New Item







Case A

PL-4

PL-5

PL-6

Case X

Case SC

## HIGH FIDELITY OUTPUT

### HIGH LEVEL OUTPUT — Hermetically Sealed

| Type No. | Primary Impedance | Secondary Impedance | Freq. Resp. | Max. Level Watts | F Di. Min. In. | Case |
|---|---|---|---|---|---|---|
| HSM-79 | 20000 CT. (20 Ma.) or 5000 (40 Ma.) | 16/8/4 | 50-25000 | 5 | 1⅜ | FA |
| HSM-80 | 20000 CT. (20 Ma.) or 5000 (40 Ma.) | 500/250 CT. or 125/62.5 | 50-25000 | 5 | 1⅜ | FA |
| HSM-81 | 8000 CT. Split primary. | 16/8/4 | 7-50000 | 15 | 1⅜ | JB |
| HSM-82 | 8000 CT. | 500/250/125 | 7-50000 | 15 | 1⅜ | JB |
| †HSM-181 | 8000/2000 CT. Split primary. | 16/8/4 | 7-50000 | 15 | 1⅜ | JB |
| †HSM-182 | 8000/2000 CT. Split primary. | 500/250/125 | 7-50000 | 15 | 1⅜ | JB |
| HSM-84 | 5000 CT. | 16/8/4 | 7-50000 | 20 | 1⅜ | JB |
| HSM-85 | 5000 CT. | 500/250/125 | 7-50000 | 20 | 1⅜ | JB |
| †HSM-189 | 10000/2500 CT. Split primary. | 16/8/4 | 7-50000 | 25 | 1⅜ | KB |
| †HSM-190 | 10000/2500 CT. Split primary. | 500/250/125 | 7-50000 | 25 | 1⅜ | KB |
| †HSM-186 | 6600 CT. Split primary. | 16/8/4 | 7-50000 | 25 | 1⅜ | KB |
| †HSM-187 | 6600 CT. Split primary. | 500/250/125 | 7-50000 | 25 | 1⅜ | KB |
| HSM-91 | 2500 CT. | 16/8/4 | 7-50000 | 50 | 1⅜ | LA |
| HSM-94 | 4500 CT. | 16/8/4 | 7-50000 | 55 | 1⅜ | LA |
| HSM-95 | 4500 CT. | 500/250/125 | 7-50000 | 55 | 1⅜ | LA |
| †HSM-192 | 4000 CT. Split primary. | 16/8/4 | 7-50000 | 65 | 1⅜ | LA |
| †HSM-193 | 4000 CT. Split primary. | 500/250/125 | 7-50000 | 65 | 1⅜ | LA |
| HS-97 | 6600 CT. | 500/250/125 | 10-30000 | 125 | Spcl. | Spcl. |

† Williamson type circuit.
Proper taps on primary for screen operation.

### HIGH LEVEL OUTPUT

| Type No. | Primary Impedance | Secondary Impedance | Output Watts |
|---|---|---|---|
| •S-34X | 4000 CT. | 32/16/8 | 7.5 |
| S-31A | 8000 CT. | 16/8/4 | 15 |
| S-32A | 8000 CT. | 500/250/125 | 15 |
| †S-142A | 8000 CT. | 16/8/4 | 15 |
| S-33A | 3000 CT. | 16/8/4 | 15 |
| S-35A | 5000 CT. | 16/8/4 | 20 |
| S-36A | 5000 CT. | 500/250/125 | 20 |
| †S-146A | 6600 CT. | 16/8/4 | 25 |
| †S-148A | 10000 CT. | 16/8/4 | 25 |
| S-38A | 9000 CT. | 16/8/4 | 25 |
| S-39A | 9000 CT. | 500/250/125 | 25 |
| S-40A | 2500 CT. | 16/8/4 | 30 |
| S-42A | 4500 CT. | 16/8/4 | 50 |
| †S-152A | 4000 CT. | 16/8/4 | 65 |
| S-45Z | 4000/2000/1000/500 | 8/4 | 10 |
| S-46A | 2000/1000/500/250 | 16/8/4 | •20 |

† Williamson type circuit. Proper taps on primary for screen operation, leads out both end bells.

**Note: Last letter of Type No. denotes case style**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SEE TRIAD PRICE LIST ON PAGES N-781, N-782
World Radio History

# TRIAD TRANSFORMER CORP.

## PULSE

| Type No. | Pulse Voltage per Winding | Pulse Duration—us | Load Impedance —Ohms | Ultrad or Utah Equiv. |
|---|---|---|---|---|
| PL-4 | 100-100 | .35 to 1.2 | 500* | |
| PL-5 | 100-100-100 | .35 to 1.2 | 2000* | |
| PL-6 | 100-100-100 | .35 to 1.2 | 2000* | |
| PL-124E<br>PL-124H<br>PL-124M | 300-300-300 | .6 to 5 | 150 | X-124F<br>X-124H-2<br>X-124H-6‡ |
| PL-143E<br>PL-143H<br>PL-143M | 100-100-100 | .3 to 1.5 | 200 | X-143F<br>X-143-H-2<br>X-143H-6‡ |
| PL-140E<br>PL-140H<br>PL-140M | 100-400-100 | .6 to 5 | 175 | X-140F<br>X-140H-2<br>X-140H-6‡ |
| PL-139E<br>PL-139H<br>PL-139M | 100-100 | .3 to 1.5 | 250 | X-139F<br>X-139H-2<br>X-139H-6‡ |
| PL-146E<br>PL-146H<br>PL-146M | 300-300 | .6 to 5 | 250 | X-146F<br>X-146H-2<br>X-146H-6‡ |
| PL-148E<br>PL-148H<br>PL-148M | 500-500 | 1 to 10 | 250 | X-148F<br>X-148H-2<br>X-148H-6‡ |
| PL-138E<br>PL-138H<br>PL-138M | 300-600 | .6 to 5 | 250 | X-138F<br>X-138H-2<br>X-138H-6‡ |
| PL-92E<br>PL-92M | 330-1000 | 1 to 5 | 500 | X-92F<br>X-92H‡ |

* As blocking oscillator in Triad circuit. Can be used with lower impedances and higher peak power at lower duty cycle.

‡ Not identical dimensions or mounting.

## LINE POWER

### ISOLATION Transformers, 50/60 cycles

(See page N-772 for 380/1500 cycle isolation transformers)

| Type No. | V. A. Output | Input Volts | Output Volts |
|---|---|---|---|
| N-51X | 35 | 115 | 115 |
| N-68X | 40 | 230/115 | 115 |
| N-53M | 85 | 115 | 115 |
| N-54M | 150 | 115 | 115 |
| N-67A | 150 | 230/115 | 115 |
| N-55M | 250 | 115 | 115 |
| N-66A | 250 | 230/115 | 115 |
| N-57M | 500 | 115 | 115 |
| N-59M | 1000 | 115 | 115 |
| N-52M | 350 | 95 to 130 | 115 |
| •‡N-56M | 150 | 95 to 130 (in 5V. steps) | 115 |

With switch and meter for primary voltage control. Detachable cord.

### For PREAMPLIFIERS, VTVM, etc.

Primary 115 volts — 60 cycles

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filament Windings Volts and Amperes |
|---|---|---|---|
| R-68A | 800 CT. | 30 | 5V.-2A, 6.3-1.2A, 6.3-1.2A. |
| R-2C | 135 | 15 | 6.3V-.9A. |
| R-23B | 250 CT. | 22 | 6.3-.8A. 15.5/12.6-.6A. |
| R-3A | 500 CT. | 20 | 6.3 CT.-2A. |
| R-29A | 230 CT. | 40 | 6.3V.-1.5A. |
| R-30X | 135 | 50 | 6.3V.-1.5A. |
| R-54X | 115 | 15 | 6.3V.-.6A. |
| R-56A | 130 | 20 | 0/15/22.5/30-.6A. |
| R-73B | 135 | 200 | 6.3 CT.-5.5A. |

### UNIVERSAL

Isolation, Autoformer, Voltage Control

| Type No. | V.A. (Isolation) | V.A. (Autoformer) |
|---|---|---|
| N-64AC | 500 | 1000 |
| N-62AC | 1000 | 2000 |
| N-60SC | 2000 | 4000 |

### STEPDOWN Autoformers, 50 60 cycles

| Type No. | V. A. Output | Input Volts | Output Volts |
|---|---|---|---|
| N-1X | 50 | 230 | 115 |
| N-3M | 85 | 230 | 115 |
| N-4M | 150 | 230 | 115 |
| N-5M | 250 | 230 | 115 |
| N-7M | 600 | 230 | 115 |
| N-9M | 1250 | 230 | 115 |
| N-11M | 2000 | 230 | 115 |
| N-34X | 150 | 95 105 115 125 135 | 115 |
| ‡N-35M | 350 | 95 to 130 (in 5V. steps) | 115 |
| ‡N-50M | 500 | 95 to 130 (in 5V. steps) | 115 |

With switch and meter.

‡ M case with switch for primary voltage control and detachable cord.

### For REGULATED POWER SUPPLIES

Primary 115 volts — 60 cycles

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filament Windings Volts and Amperes | |
|---|---|---|---|---|
| R-70A | 880 CT. | 75 | 6.3V.-.6A.<br>6.3V.-.3A. | 6.3V.-.9A.<br>6.3V.-3A. |
| R-26A | 880-720 CT. | 200 | 6.3 CT.-8A.<br>6.3V.-1A. | 6.3V.-3A.<br>5V.-3A. |
| R-28A | 1250 CT. | 300 | 6.3 CT.-8A.<br>6.3V.-.3A. | 6.3V.-3A<br>5V.-6A. |
| R-46A | 1250 CT.<br>130<br>(Bias winding) | 350<br>50 | 5V.-4A. | 6.3V.-4A.<br>6.3V.-1A.<br>6.3V.-1A. |

R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenuim rectifier. Sufficient filament windings to regulate screen voltages. See page 10, HF-40 diagram.

| | | | | |
|---|---|---|---|---|
| R-27A | 1500 CT. | 400 | 5V.-6A. | 6.3V.-3A.<br>6.3V.-8A. |

Note: Last letter of Type No. denotes case style

## INSTRUMENT POWER

### Instrument POWER SUPPLY Transformers

Intelligent design and construction of measuring instruments involves consideration of many factors normally neglected in electronic circuits. Regulation of power supply voltages, limitation of external magnetic fields by minimum flux density, multiple static shields to limit capacitive coupling, multiple filaments where tubes must operate at different pot nt als, all become necessary to obtain peak performance. The transformers on this page are a series of special designs which have been developed for instrument design.

### CATHODE RAY Tubes

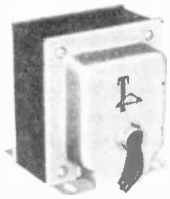
Primary 115 volts — 60 cycles

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filament Windings Volts and Amperes | |
|---|---|---|---|---|
| R-41C | 440-0-440-1250. | 125/5 | *6.3V.-.6A.<br>‡2.5V.-1.75A. | ‡2.5V.-1.75A.<br>5V.-3A. |
| R-45C | 400-0-400-800. | 30/5 | *6.3V.-.6A.<br>6.3 CT.-3A.<br>‡5V.-2A | 6.3V.-1A.<br>5V.-2A. |
| R-43C | 1600 | 3 | *6.3 5 2.5V.-1A.<br>‡6.3 5 2.5V.-3A. | |

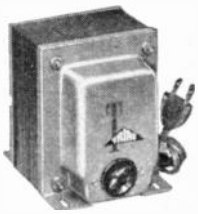
* Statically shielded and insulated for full plate voltage.

‡ Insulated for full plate voltage.

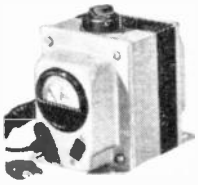
•New Item



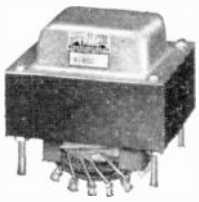
Case AC



Case M

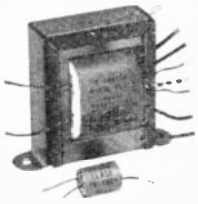


Case M with Meter



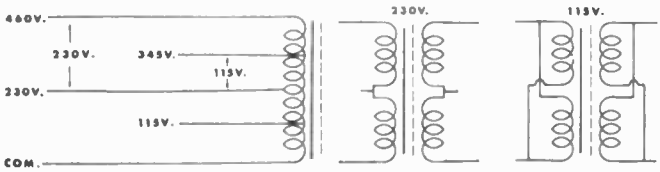
Case C

Case B



V-30Z and PL-10

**Connection as Autoformer**




**Connection as Isolation Transformer**

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World Radio History

# TRIAD TRANSFORMER CORP.

## TOROIDS

Triad Torodial inductors are designed and manufactured using the latest materials and techniques. The types listed below are representative of those most in use. Special types are available not only with respect to particular values of inductance or types of winding, but also to obtain the maximum performance under a given set of requirements such as:

**STABILITY OF INDUCTANCE IN A GIVEN FREQUENCY AND TEMPERATURE RANGE.**
**OPTIMUM Q UNDER VARIOUS CONDITIONS OF OPERATION.** **MINIMUM DISTRIBUTED CAPACITANCE.**
**HIGH RESISTANCE TO SHOCK AND VIBRATION.** **HIGH INDUCTANCE VALUES.**

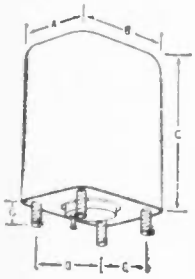
Standard coils are adjusted to the rated inductance value with 2%. Closer tolerances are available on request. Stock coils are encapsulated in a strong plastic material. Coils are also available in molded type (Fig. A,B,C) or metal case units, hermetically sealed and capable of withstanding high mechanical and thermal shock. When ordering the metal cased coils, add "HS" after the catalog number. EXAMPLE: (EA-1000-HS)
For "HS" types, add to the list prices of uncased Toroids, the following additional list prices:

**LIST PRICE ADDITION FOR HS TOROIDS. EA and EC ☐ $5.55 — EF and ES ☐ $5.85 — EH ☐ $5.95**

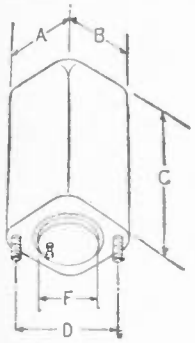
A

B

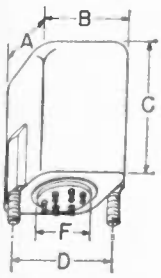
TOROIDS




EH

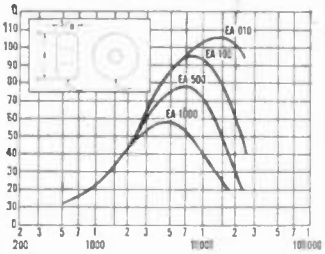



EF-ES



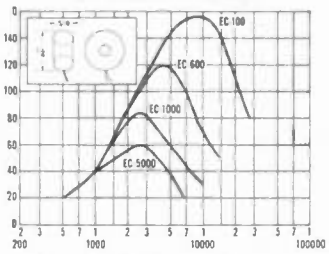

EA-EC

### EA SERIES TOROIDS



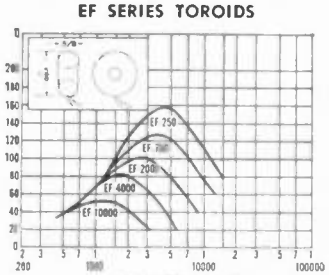

| Type No. | Ind. | Res-Ohms Average | D.C.-Ma. for 5% Ind. drop |
|---|---|---|---|
| EA-005 | 5 mh | 1.5 | 91 |
| EA-007 | 7 mh | 2.1 | 77 |
| EA-010 | 10 mh | 2.7 | 65 |
| EA-015 | 15 mh | 3.3 | 54 |
| EA-020 | 20 mh | 4.8 | 46 |
| EA-040 | 40 mh | 8.6 | 32 |
| EA-050 | 50 mh | 11.8 | 29 |
| EA-070 | 70 mh | 17.5 | 24 |
| EA-100 | 100 mh | 19.7 | 20 |
| EA-200 | 200 mh | 45.8 | 14 |
| EA-250 | 250 mh | 64.6 | 13 |
| EA-500 | 500 mh | 116.0 | 9 |
| EA-600 | 600 mh | 153.2 | 8.3 |
| EA-700 | 700 mh | 173.2 | 7.7 |
| EA-1000 | 1000 mh | 261.8 | 6.5 |

### EC SERIES TOROIDS



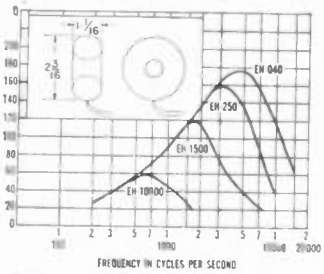

| Type No. | Ind. | Res-Ohms Average | D.C.-Ma. for 5% Ind. drop |
|---|---|---|---|
| EC-001 | 1 mh | 0.3 | 392 |
| EC-002 | 2 mh | 0.42 | 276 |
| EC-005 | 5 mh | 0.72 | 175 |
| EC-007 | 7 mh | 1.2 | 148 |
| EC-010 | 10 mh | 1.7 | 124 |
| EC-015 | 15 mh | 2.1 | 101 |
| EC-020 | 20 mh | 3.75 | 88 |
| EC-040 | 40 mh | 4.4 | 62 |
| EC-050 | 50 mh | 6.1 | 55 |
| EC-070 | 70 mh | 7.2 | 47 |
| EC-100 | 100 mh | 10.9 | 39 |
| EC-200 | 200 mh | 24.3 | 28 |
| EC-250 | 250 mh | 25.8 | 25 |
| EC-500 | 500 mh | 61.8 | 17.5 |
| EC-600 | 600 mh | 66.5 | 16 |
| EC-700 | 700 mh | 94.7 | 15 |
| EC-1000 | 1000 mh | 107.5 | 12.4 |
| EC-1500 | 1500 mh | 158.0 | 10 |
| EC-2000 | 2000 mh | 228.5 | 8.8 |
| EC-4000 | 4000 mh | 450.5 | 6.2 |
| EC-5000 | 5000 mh | 591.0 | 5.5 |

### EF SERIES TOROIDS



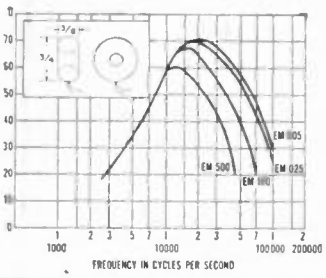

| Type No. | Ind. | Res-Ohms Average | D.C.-Ma. for 5% Ind. drop |
|---|---|---|---|
| EF-005 | 5 mh | 0.61 | 172 |
| EF-007 | 7 mh | 0.72 | 145 |
| EF-010 | 10 mh | 0.88 | 122 |
| EF-015 | 15 mh | 1.4 | 99 |
| EF-020 | 20 mh | 1.7 | 86 |
| EF-040 | 40 mh | 3.6 | 61 |
| EF-050 | 50 mh | 3.6 | 54 |
| EF-070 | 70 mh | 4.9 | 46 |
| EF-100 | 100 mh | 7.6 | 38 |
| EF-200 | 200 mh | 16.0 | 27 |
| EF-250 | 250 mh | 16.0 | 24 |
| EF-500 | 500 mh | 34.3 | 17 |
| EF-600 | 600 mh | 41.2 | 16 |
| EF-700 | 700 mh | 52.0 | 14.5 |
| EF-1000 | 1000 mh | 62.6 | 12.2 |
| EF-1500 | 1500 mh | 116.5 | 9.9 |
| EF-2000 | 2000 mh | 136.5 | 8.6 |
| EF-4000 | 4000 mh | 237.0 | 6.1 |
| EF-5000 | 5000 mh | 356.3 | 5.4 |
| EF-6000 | 6000 mh | 376.3 | 5.0 |
| EF-7000 | 7000 mh | 479.0 | 4.6 |
| EF-10000 | 10000 mh | 630.0 | 3.8 |

### EH SERIES TOROIDS



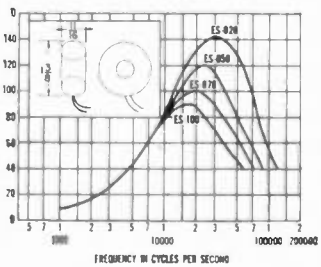

| Type No. | Ind. | Res-Ohms Average | D.C.-Ma. for 5% Ind. drop |
|---|---|---|---|
| EH-015 | 15 mh | 0.93 | 161 |
| EH-040 | 40 mh | 1.2 | 98 |
| EH-100 | 100 mh | 3.5 | 62 |
| EH-250 | 250 mh | 8.6 | 39 |
| EH-600 | 600 mh | 21.9 | 25 |
| EH-1500 | 1500 mh | 51.4 | 16 |
| EH-4000 | 4000 mh | 139.4 | 9.8 |
| EH-10000 | 10000 mh | 334.2 | 6.2 |
| EH-25000 | 25000 mh | 882.7 | 3.9 |

### EM SERIES TOROIDS




| Type No. | Ind. | D.C.-Ma. Max. | D.C.-Ma. for 5% Ind. drop |
|---|---|---|---|
| EM-001 | 1 mh | 250 | 150 |
| EM-002 | 2 mh | 200 | 108 |
| EM-005 | 5 mh | 125 | 68 |
| EM-007 | 7 mh | 100 | 57 |
| EM-010 | 10 mh | 79 | 48 |
| EM-020 | 20 mh | 62 | 34 |
| EM-050 | 50 mh | 40 | 22 |
| EM-070 | 70 mh | 31 | 18 |
| EM-100 | 100 mh | 25 | 15 |
| EM-200 | 200 mh | 20 | 11 |
| EM-500 | 500 mh | 12.5 | 7 |

### ES SERIES TOROIDS




| Type No. | Ind. | D.C.-Ma. Max. | Res.-Ohms Average |
|---|---|---|---|
| ES-001 | 1 mh | 1000 | 0.84 |
| ES-002 | 2 mh | 640 | 1.6 |
| ES-005 | 5 mh | 400 | 4.0 |
| ES-007 | 7 mh | 320 | 5.9 |
| ES-010 | 10 mh | 250 | 8.7 |
| ES-020 | 20 mh | 250 | 13.6 |
| ES-050 | 50 mh | 160 | 34.5 |
| ES-070 | 70 mh | 125 | 47.5 |
| ES-100 | 100 mh | 125 | 62.4 |

Core material in the ES series is such that no drop in Inductance occurs at maximum D. C.

**CONTACT TRIAD FILTER DEPARTMENT FOR SPECIAL DESIGNS.**



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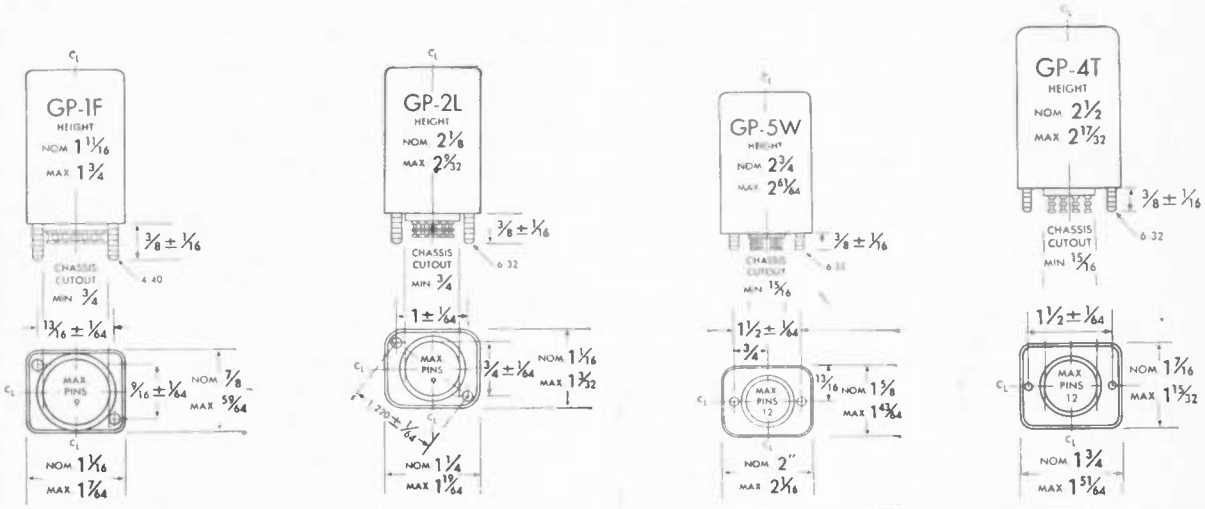
SEE TRIAD PRICE LIST ON PAGES N-781, N-782

World Radio History

# TRIAD TRANSFORMER CORP.

# GEOFORMERS

For Geophysical and Low Frequency Instrumentation.




## LOW FREQUENCY TRANSISTOR TRANSFORMERS

| Type No. | Impedance Ohms Pri. | Impedance Ohms Sec. | Turns Ratio | Min. pri. Ind. @ 100MV—60 cy. With No Unbalanced D.C. Current | D. C. Resistance (Ohms) Pri. | D. C. Resistance (Ohms) Sec | Frequency Response in Cycles Primary Signal of 1 Volt Unbalanced D.C. Secondary Current of 1 Ma. −3DB | 1 Ma. −1DB | 2 Ma. −3DB | 2 Ma. −1DB | 3 Ma. −3DB | 3 Ma. −1DB | 5 Ma. −3DB | 5 Ma. −1DB | Shielding | Case Mtg. | Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| •G-18 | 1000 or 250 | 125 or 31 | 2:83:1 | 60. | 500 | 44 | 5 to 20000 | 8 to 7000 | 5 to 20000 | 8 to 7000 | 6 to 20000 | 9 to 7000 | 7 to 20000 | 10 to 7000 | P1-H | GP-1F | 3.2 oz. |
| •G-19 | 1000 or 250 | 1000 or 250 | 1:1 | 65. | 540 | 230 | 12 to 7000 | 15 to 3800 | 12 to 7000 | 15 to 3800 | 12 to 7000 | 15 to 3800 | 20 to 7000 | 40 to 3800 | P1-H | GP-1F | 5¼ oz. |
| •G-30 | 1000 CT. | 2500 CT. | 1:1.58 | 20. | 350 | 1800 | 20 to 8000 | 40 to 4200 | 22 to 8000 | 45 to 4200 | 40 to 8000 | 75 to 4200 | 70 to 8000 | 160 to 4200 | P1 | GP-1F | 3.2 oz. |

## CHOPPER INPUT TRANSFORMERS - 30 to 500 cycle

Triad's new Chopper Input Transformers are manufactured under the same rigid high quality control standards as the Triad Input Transformers, plus the addition of an extremely close balance between the two halves of the primary winding. One half of the primary is balanced to the other half in both inductance and "Q". Cores are specially treated to eliminate noise in the microvolt range of input signals. Adjustment is at 60 cycles and, since input impedances are kept extremely high and the windings are not tuned, the chopper frequency may be 30 to 500 cycles. Magnetic and electrostatic shielding can be varied to meet customer's requirements.

Types for tube or transistor input are available. In addition to the standard types listed below, many types are currently being supplied to customer's specifications. We invite your inquiry on your special requirements.

| Type No. | Primary Impedance in Ohms | Secondary Impedance in Ohms | Turns Ratio Full Pri. to Full Sec. | Turns Ratio ½ Pri. to Full Sec. | Minimum Pri. Ind. (of Full Pri.) @ 1.V-60— | Maximum Pri. Volts (Full Pri.) @ 60— | D.C. Resistance Full Primary | D.C. Resistance Secondary | Magnetic Shielding | Case | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| •G-20 | 10000 CT. or 2500 | 640000 CT. | 1:8 | 1:16 | 120 | 25. | 370 | 21000 | P5-H | GP-4T | 11½ oz |
| •G-21 | 200000 CT. | 12500 CT. | 4:1 | 2:1 | 1200 | 84. | 4000 | 1300 | P1-H | GP-2L | 5¼ oz. |
| •G-22 | 50000 CT. | 800000 CT. | 1:4 | 1:8 | 1000 | 90. | 2200 | 19000 | P5-H | GP-5W | 1 lb. |
| •G-23 | 40000 CT. | 1000 CT. | 6.32:1 | 3.16:1 | 1000 | 75. | 4400 | 160 | P1-H | GP-2L | 5¼ oz. |
| •G-25 | 40000 CT. or 10000 CT. | 10000 CT. | 2:1 | 1:1 | 800 | 70. | 3200 | 2200 | P1-H | GP-2L | 5¼ oz. |

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World Radio History

# TRIAD TRANSFORMER CORP.

## RECTIFIER POWER

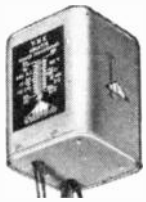
### SELENIUM RECTIFIER Transformers

**Primary 60 cycles**

**These transformers are for use with Selenium rectifiers. Rectifiers not included.**

| Type No. | Primary Volts | Secondary AC Volts | Secondary Amperes RMS | Rectifier Circuit A Volts DC | Rectifier Circuit B Volts DC |
|---|---|---|---|---|---|
| F-47U | 115 | 17-18 | 3 | 6-7 | 13-14 |
| F-48U | 115 | 17-18 | 6 | 6-7 | 13-14 |
| F-49U | 115 | 36<br>36 | 3<br>3 | 13 | 26 |
| F-60U | 115 | 6.5-13-<br>19.5-26 | 3 (int.) | 9 | 18 |
| F-61U | 115 | 24-27-30<br>33-36 | 3 | 13 | 26 |
| F-67U | 110-120 | 24-27-30-<br>33-36 | 8 | 13 | 26 |
| F-63U | 115 | 8-9<br>8-9 | 2<br>2 | | 6-7 |
| F-64U | 115 | 7-8-9 | 7 | | 6-7 |
| F-62U | 105-115-<br>125 | 9-9-9-9 | 10<br>ea.<br>wdg. | | 6-7<br>ea.<br>wdg. |
| F-68U | 115 | 9 CT.<br>9<br>9<br>9 | 3.5<br>3.5<br>3.5<br>3.5 | | 6-7<br>ea.<br>wdg. |
| F-65U | 110-120 | 140-150-160 | .75 | 60 | 115 |
| F-66U | 110-120 | 140-150-160 | 2.5 | 60 | 115 |
| •F-69U | 115 | 24-26-28-30 | 15 | — | 22.8 |

Case U



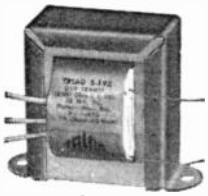
Case K

## CHOKES SWINGING Filter REACTORS

| Type No. | Inductance Henries | Current Ma. | Resistance Ohms | Test Volts RMS |
|---|---|---|---|---|
| C-31A | 25/5 | 20/200 | 150 | 2500 |
| C-33A | 25/5 | 30/300 | 105 | 3000 |
| C-32AL | 20/4 | 35/350 | 105 | 5000 |
| 3-35A | 20/4 | 40/400 | 60 | 3000 |
| C-39A | 25/5 | 50/500 | 65 | 3000 |
| C-38AL | 25/5 | 50/500 | 65 | 5000 |

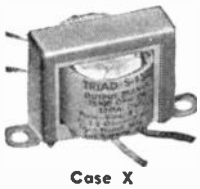
### SMOOTHING Filter REACTORS

| Type No. | Inductance Henries | Current Ma. | Resistance Ohms | Test Volts RMS |
|---|---|---|---|---|
| C-30X | 50 | 15 | 3500 | 1500 |
| C-2X | 2 | 15 | 70 | 1500 |
| C-1X | 15 | 20 | 1000 | 1500 |
| C-3X | 10 | 50 | 500 | 1500 |
| C-4X | 4 | 50 | 360 | 1500 |
| C-6X | 5 | 65 | 330 | 1500 |
| C-5X | 12 | 75 | 390 | 1500 |
| C-8X | 7 | 75 | 240 | 1500 |
| C-7X | 10 | 90 | 270 | 1500 |
| C-9X | 4 | 90 | 100 | 1500 |
| C-11X | 6 | 110 | 160 | 1500 |
| C-10X | 9 | 125 | 250 | 1500 |
| C-12X | 6 | 160 | 165 | 1500 |
| C-12A | 6 | 160 | 165 | 1500 |
| C-13X | 3 | 160 | 75 | 1500 |
| C-14X | 6 | 200 | 150 | 1500 |
| C-14A | 6 | 200 | 150 | 1500 |
| C-16A | 10 | 200 | 150 | 2500 |
| C-21X | 1.5 | 225 | 65 | 1500 |
| C-15X | 4 | 250 | 100 | 1500 |
| C-15A | 4 | 250 | 100 | 1500 |
| C-23X | 1.2 | 260 | 45 | 1500 |
| C-24X | 1 | 240 | 50 | 1500 |
| C-27X | .7 | 290 | 25 | 1500 |
| C-17X | 1.5 | 300 | 40 | 1500 |
| C-18A | 8 | 300 | 90 | 2500 |
| C-19A | 10 | 300 | 105 | 3000 |
| C-25A | 2.6 | 310 | 60 | 1500 |
| C-42AL | 8 | 350 | 105 | 5000 |
| C-20A | 6 | 400 | 60 | 3000 |
| C-22A | 10 | 500 | 65 | 3000 |
| C-45AL | 10 | 500 | 65 | 5000 |
| C-40X | .32 | 600 | 10 | 1500 |
| C-47 | .3-075 | 1A-2A | 3-.75 | 1500 |
| C-48U | .08-.02 | 2.5A-5A | .57-.143 | 1500 |
| •C-49U | .032-.008 | 5A-10A | .19.05 | 1500 |



Case Z

Case AL



Case X

## VIBRATOR POWER

### VIBRATOR POWER SUPPLY TRANSFORMERS

| Type No. | Primary Volts | AC Volts | DC Ma. | Case Dim.-Inches H | Case Dim.-Inches W | Case Dim.-Inches D | Mtg. Dim.-Inches MW | Mtg. Dim.-Inches MD | Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|
| V-1K | 6-8 | 450 CT. | 40 | 3 | 2 3/16 | 2 3/8 | 1 1/2 | 1 1/2 | 2 1/4 |
| V-3K | 6-8 | 500 CT. | 50 | 3 | 2 3/8 | 2 1/2 | 1 1/2 | 1 1/2 | 2 1/2 |
| V-5A | 6-8 | 600 CT. | 75 | 3 3/16 | 2 5/8 | 2 7/8 | 2 | 1 7/8 | 2 1/2 |
| V-7A | 6-8 | 600 CT. | 100 | 3 3/16 | 3 | 3 1/4 | 2 1/4 | 2 | 3 1/2 |

### Automobile Radio REPLACEMENT Transformers

**K Cases have 7 Holes for Mtg. Purposes**

| Type No. | Primary Volts | DC Volts Filter Input | Secondary AC Volts CT. | Rec. Buffer | Max. DC Ma. |
|---|---|---|---|---|---|
| V-21 | 6-8 | 140 or 170 | 365/430 | .005 | 62 |
| V-21B | 6-8 | 140 or 170 | 365/430 | .005 | 62 |
| V-21K | 6-8 | 140 or 170 | 365/430 | .005 | 62 |
| V-21Z | 6-8 | 140 or 170 | 365/430 | .005 | 62 |
| V-23 | 6-8 | 215 or 250 | 530/605 | .003 | 79 |
| V-23B | 6-8 | 215 or 250 | 530/605 | .003 | 79 |
| V-23K | 6-8 | 215 or 250 | 530/605 | .003 | 79 |
| V-23Z | 6-8 | 215 or 250 | 530/605 | .003 | 79 |
| V-31 | 12-16 | 240 | 575 | .003 | 79 |
| V-31K | 12-16 | 240 | 575 | .003 | 79 |

## FILAMENT

### FILAMENT Transformers, Single Secondary

**Primary 115 volts — 60 cycles**

| Type No. | Secondary Volts | Secondary Amperes | Test Volts |
|---|---|---|---|
| F-1X | 2.5 CT. | 3 | 1500 |
| F-72Z | 2.5 CT. | 5 | 7500 |
| F-6X | 2.5 CT. | 6 | 2500 |
| F-3X | 2.5 CT. | 10 | 3000 |
| F-5U | 2.5 CT. | 10 | 7500 |
| F-71U | 2.5 CT. | 10 | 10000 |
| F-7X | 5 CT. | 3 | 1500 |
| F-8X | 5 CT. | 6 | 1500 |
| F-9A | 5.2 CT. | 13 | 1500 |
| F-10U | 5 CT. | 14 | 10000 |
| F-9U | 5.2 CT. | 13 | 1500 |
| F-11U | 5.2 CT. | 24 | 1500 |
| F-13X | 6.3 | .6 | 1500 |
| F-14X | 6.3 CT. | 1.2 | 1500 |
| †F-52X | 6.3 | 1.2 | 5000 |
| †F-51X | 6.3/5 | 2 | 5000 |
| †F-53X | 6.3 | 4 | 5000 |
| F-16X | 6.3 CT. | 3 | 1500 |
| F-18X | 6.3 CT. | 6 | 1500 |
| F-18A | 6.3 CT. | 6 | 1500 |
| F-21A | 6.3 CT. | 10 | 1500 |
| F-22A | 6.3 CT. | 20 | 2000 |
| F-23U | 10 CT. | 7 | 1500 |
| F-25X | 12.6 CT. | 1.5 | 1500 |
| •F-44X | 12.6 CT. | 2 | 1500 |
| F-26X | 12.6 CT. | 2.5 | 1500 |
| F-40X | 24 CT. | 1 | 1500 |
| F-41X | 25.2 CT. | 2.2 | 1500 |
| F-50X | Filament line transformer<br>Pri. 6.3V/5V Sec. 6.3/5V 2A | | 5000 |

† Low capacity—High voltage for damper tube operation.

### FILAMENT Transformers, Multiple Secondary

**Primary 115 volts — 60 cycles**

| Type No. | Secondary Volts and Amperes | | Test Volts RMS |
|---|---|---|---|
| F-27U | 10 CT.-10A.<br>2.5 CT.-10A. | | 1500<br>7500 |
| F-30A | 5 CT.-3A.<br>6.3 CT.-8A. | | 1500 |
| F-32A | 6.3 CT.-3A. | 6.3 CT.-3A. | 1500 |
| F-34A | 6.3 CT.-1.75A.<br>6.3V.-1.75A. | 6.3V.-1.75A.<br>6.3V.-1.75A. | 1500 |
| F-36A | 6.3 CT.-3.5A.<br>6.3V.-3.5A. | 6.3V.-3.5A.<br>6.3V.-3.5A. | 1500 |
| F-38A | 6.3 CT.-5A.<br>6.3V.-1A.<br>5V.-4A. | 6.3V.-5A.<br>5 CT.-2A. | 1500 |
| F-42A | 12.6 CT.-2.5A.<br>12.6-2.5A. | | 1500 |

•New Item



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SEE TRIAD PRICE LIST ON PAGES N-781, N-782

World Radio History

# TRIAD TRANSFORMER CORP.

# REPLACEMENT POWERS

## Combined PLATE and FILAMENT Transformers

## New "100" Series

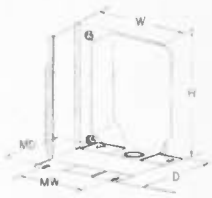
Primary 115 volts 60 cycles

Triad power components are liberally designed to best meet average design specifications and to ensure maximum utility for each design. All units are beautifully finished in baked grey enamel and have all connection data permanently marked on the case.

All types are "Climatite" treated, both coil and core, for protection against moisture and for elimination of lamination chatter. Although they are small in size, the high quality materials used keep losses to a minimum. The temperature rise design is 55°C. Only copper foil static shields, grounded to the case and core, are used. Leads are of a type approved by UL for high temperature operation.

Case A

| Type No. | Plate Supply | | Rect. Fil. | | Other Fil. | | Case Dim.-Inches | | | Mtg. Dim.-Inches | | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AC Volts | DC Ma | Volts | Amp. | Volts | Amp. | H | W | D | MW | MD | | |
| R-104A | 500 CT. | 40 | | | 6.3 CT. | 2 | 2 3/4 | 2 3/8 | 2 1/4 | 1 13/16 | 1 1/2 | 1.55 | 7.30 |
| R-105A | 600 CT. | 65 | | | 6.3 CT. | 2.7 | 3 1/8 | 2 5/8 | 2 3/8 | 2 | 1 5/8 | 2. | 8.15 |
| R-106A | 480 CT. | 50 | 5 | 2 | 6.3 CT. | 2 | 3 1/8 | 2 5/8 | 2 3/8 | 2 | 1 5/8 | 2.05 | 8.15 |
| R-107A | 600 CT. | 50 | 5 | 2 | 6.3 CT. | 2 | 3 1/8 | 2 5/8 | 2 5/8 | 2 | 1 7/8 | 2.35 | 8.75 |
| R-108A | 500 CT. | 75 | 5 | 2 | 6.3 CT. | 2.5 | 3 1/8 | 2 5/8 | 2 3/4 | 2 | 2 | 2.4 | 9.55 |
| R-109A | 600 CT. | 75 | 5 | 2 | 6.3 CT. | 3 | 3 1/2 | 3 | 2 7/8 | 2 1/4 | 1 3/4 | 2.9 | 10.50 |
| R-110A | 525 CT. | 90 | 5 | 2 | 6.3 CT. | 5 | 3 1/2 | 3 | 3 1/8 | 2 1/4 | 2 | 3.25 | 10.85 |
| R-111A | 700 CT. | 90 | 5 | 3 | 6.3 CT. | 3.5 | 3 1/2 | 3 | 3 1/8 | 2 1/4 | 2 1/8 | 3.55 | 10.95 |
| R-112A | 550 CT. | 110 | 5 | 2 | 6.3 CT. | 5 | 3 1/2 | 3 | 3 1/8 | 2 1/8 | 2 1/4 | 3.7 | 11.95 |
| R-114A | 700 CT. | 125 | 5 | 3 | 6.3 CT. | 4.5 | 3 7/8 | 3 1/4 | 3 1/4 | 2 1/2 | 2 3/8 | 4.7 | 12.45 |
| R-116A | 700 CT. | 160 | 5 | 3 | 6.3 CT. | 5 | 3 7/8 | 3 1/4 | 3 5/8 | 2 1/2 | 2 3/4 | 5.65 | 14.60 |
| R-118A | 750 CT. | 175 | 5 | 3 | 6.3 CT. | 8 | 4 1/4 | 3 5/8 | 4 | 2 3/4 | 2 7/8 | 7.45 | 15.45 |
| R-120A | 700 CT. | 200 | 5 | 3 | 6.3 CT. | 8 | 4 1/4 | 3 5/8 | 4 1/8 | 2 3/4 | 3 | 7.7 | 15.55 |
| R-121A | 800 CT. | 200 | 5 | 3 | 6.3 CT. | 6 | 4 1/4 | 3 5/8 | 4 3/8 | 2 3/4 | 3 1/4 | 8.25 | 16.00 |




Triad's "know-how" has made the production of these items possible together with new materials now available and new manufacturing techniques employed at Triad.

The items listed above are designed to meet the competitive market price-wise and still perform in the 55°C. heat rise region. Look to Triad for quality, performance and reliability.

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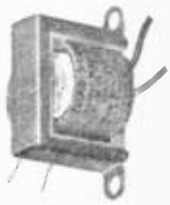
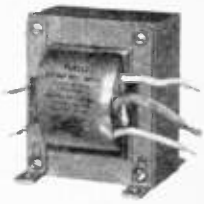
A cross reference chart is listed below to the nearest electrical specifications. For replacement purposes, please check both mechanical and electrical specifications of the original unit against the specifications listed above.



Case X

| Triad 100 Series | Triad | Merit | Stancor | Thordarson |
|---|---|---|---|---|
| R-104A | R-4A | P-3147 | PC-8418 | |
| R-105A | A-5A | | | |
| R-106A | R-6A | P-3149 | PC-8402 | 24R00U |
| R-107A | R-7A | P-3154 | PC-8407 | 24R01U |
| R-108A | R-8A | P-3051 | PC-8403 | |
| R-109A | R-9A | P-3151 | P-8175 | |
| R-110A | R-10A | | PC-8404 | |
| R-111A | R-11A | P-3152 | PC-8409 | 24R04U |
| R-112A | R-12A | | PC-8405 | 22R05 |
| R-114A | R-14A | P-3153 | PC-8410 | 24R05U |
| R-116A | R-16A | P-3173 | PC-8422 | 24R06U |
| R-118A | R-18A | P-3173 | | 22R33 |
| R-120A | R-20A | | | |
| R-121A | R-21A | P-3155 | PC-8412 | 24R07U |



Case U

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SEE TRIAD PRICE LIST ON PAGES N-781, N-782

World Radio History

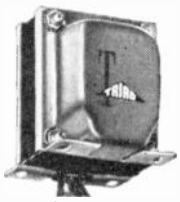
# TRIAD TRANSFORMER CORP.

## POWER

### Combined PLATE and FILAMENT Transformers

**Primary 115 volts — 60 cycles**

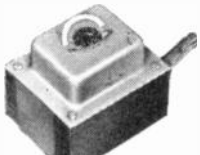
| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Rect. Fil. Volts | Rect. Fil. Amp. | Other Fil. Volts | Other Fil. Amp. |
|---|---|---|---|---|---|---|
| R-22A | 380/320 CT. | 70 | 6.3 | .6 | 6.3 CT. | 3 |
| R-22B | 380/320 CT. | 70 | 6.3 | .6 | 6.3 CT. | 3 |
| R-4A | 500 CT. | 40 | | | 6.3 CT. | 2 |
| R-4B | 500 CT. | 40 | | | 6.3 CT. | 2 |
| R-5A | 600 CT. | 65 | | | 6.3 CT. | 2.7 |
| R-5B | 600 CT. | 65 | | | 6.3 CT. | 2.7 |
| R-6A | 480 CT. | 50 | 5 | 2 | 6.3 CT. | 2 |
| R-6B | 480 CT. | 50 | 5 | 2 | 6.3 CT. | 2 |
| R-7A | 600 CT. | 50 | 5 | 2 | 6.3 CT. | 2 |
| R-7B | 600 CT. | 50 | 5 | 2 | 6.3 CT. | 2 |
| R-8A | 500 CT. | 75 | 5 | 2 | 6.3 CT. | 2.5 |
| R-8B | 500 CT. | 75 | 5 | 2 | 6.3 CT. | 2.5 |
| R-9A | 600 CT. | 75 | 5 | 2 | 6.3 CT. | 3 |
| R-9B | 600 CT. | 75 | 5 | 2 | 6.3 CT. | 3 |
| R-10A | 525 CT. | 90 | 5 | 2 | 6.3 CT. | 5 |
| R-10B | 525 CT. | 90 | 5 | 2 | 6.3 CT. | 5 |
| R-11A | 700 CT. | 90 | 5 | 3 | 6.3 CT. | 3.5 |
| R-11B | 700 CT. | 90 | 5 | 3 | 6.3 CT. | 3.5 |
| R-12A | 550 CT. | 110 | 5 | 2 | 6.3 CT. | 5 |
| R-12B | 550 CT. | 110 | 5 | 2 | 6.3 CT. | 5 |
| R-14A | 700 CT. | 125 | 5 | 3 | 6.3 CT. | 4.5 |
| R-14B | 700 CT. | 125 | 5 | 3 | 6.3 CT. | 4.5 |
| R-16A | 700 CT. | 160 | 5 | 3 | 6.3 CT. | 5 |
| R-16B | 700 CT. | 160 | 5 | 3 | 6.3 CT. | 5 |
| R-17A | 750 CT.<br>80 Tap | 160 | 5 | 3 | 6.3 CT.<br>2.5 CT. | 5<br>5 |
| R-18A | 750 CT. | 175 | 5 | 3 | 6.3 CT. | 8 |
| R-18B | 750 CT. | 175 | 5 | 3 | 6.3 CT. | 8 |
| R-19A | 750 CT.<br>80 Tap | 200 | 5 | 3 | 6.3 CT.<br>2.5 CT. | 6<br>10 |
| R-20A | 700 CT. | 200 | 5 | 3 | 6.3 CT. | 8 |
| R-20B | 700 CT. | 200 | 5 | 3 | 6.3 CT. | 8 |
| R-72A | 800 CT. | 140 | 5 | 3 | 6.3 | 4 |
| R-21A | 800 CT. | 200 | 5 | 3 | 6.3 CT. | 6 |
| R-21B | 800 CT. | 200 | 5 | 3 | 6.3 CT. | 6 |
| R-24A | 800 CT. | 300 | 5 | 6 | 6.3 CT. | 6 |
| R-24B | 800 CT. | 300 | 5 | 6 | 6.3 CT. | 6 |
| R-25A | 800 CT. | 500 | 5 | 6 | 6.3 CT.<br>6.3 | 3<br>7 |
| R-58A | 875 CT. | 185 | 5 | 3 | 6.3<br>6.3 | 4<br>3 |
| R-71A | 900 CT. | 250 | 5 CT. | 4 | 6.3 CT.<br>6.3 | 2<br>4 |



Case A

Case B

Case BC



Case BS

### PLATE POWER Transformers

**Primary 115 volts — 60 cycles**

| Type No. | Secondary Volts AC | Secondary Volts DC | Sec. D.C. Ma. CCS | Sec. D.C. Ma. ICAS | Rect. Fil. |
|---|---|---|---|---|---|
| P-1A | 440/220 CT. | 180/90 | 160 | 190 | 5V-3A |
| P-3A | 600/300 CT. | 250/125 | 300 | 360 | 5V-4A |
| P-5A | 1100 CT. | 400 | 300 | 360 | 5V-4A |
| P-7A | 1235 CT. | 500 | 250 | 310 | 5V-4A |
| P-9A | 1235 CT. | 500 | 500 | 600 | 5V-6A |
| P-11A | 1455 CT. | 600 | 250 | 310 | |
| §P-14A | 1780 CT. | 750/600 | 250 | 310 | |
| †P-15AL | 2340 CT. | 1000 | 250 | 310 | |
| †P-16AL | 2430 CT. | 1000 | 500 | 600 | |
| †P-17AL | 2880 CT. | 1250 | 250 | 310 | |
| †P-18AL | 2800 CT. | 1250 | 500 | 600 | |
| †P-20AL | 3300 CT. | 1500 | 350 | 425 | |

† Plate leads out side of case for 866 rectifiers.
§ Tapped Pri. to produce the lower D.C. voltage.
• New Item

**Note: Last letter of Type No. denotes case style.**

## TELEVISION COMPONENTS

### Replacement POWER Transformers, Combined Plate and Filament

**Electrostatically shielded. Primary 115 volts 60 cycles.**

| Type No. | Plate Supply AC Volts | Plate Supply DC Ma. | Filaments — Volts and Amperes | |
|---|---|---|---|---|
| R-31A<br>R-31BC | 760 V.C.T. | 320 | 5V.—6A.<br>5V.—2A. | 12.6 C.T.—5A. |
| R-32A | 760 V.C.T. | 320 | 5V.—6A. | 12.6 V.C.T.—5A<br>6.3V.—1.2A. |
| R-33A<br>R-33BC | 775 V.C.T. | 230 | 5V.—3A. | 6.3V.—9A.<br>6.3V./5V.—2A.* |
| R-34A | 750 V.C.T. | 230 | 5V.—3A. | 6.3V.—8.5A.<br>6.3V.—1.2A. |
| R-35A<br>R-35BC | 725/340 V.C.T. | 250 | 5V.—3A.<br>5V.—2A. | 6.3V.—8A.<br>6.3V.—2.5A. |
| R-36A<br>R-36BC | 775 V.C.T. | 275 | 5V.—6A. | 6.3V.—8.5A.<br>6.3V.—1.2A.* |
| R-37BC | 735 V.C.T. | 275 | 5V.—6A. | 6.3V.—8.5A.<br>6.3V./5V.—2A.* |
| R-38A<br>R-38BC | 750 V.C.T. | 225 | 5V.—3A. | 6.3V.—10A.<br>6.3V.—1.2A.*<br>6.3V.—2.5A. |
| R-39A<br>R-39BC | 640 V.C.T. | 225 | 5V.—3A. | 6.3V.—10A.<br>6.3V.—1.2A.* |
| R-40A<br>R-40BC | 780/440 V.C.T. | 300 | 5V.—3A.<br>5V.—3A.<br>5V.—2A. | 6.3A.—8.5A.<br>6.3A.—3.5A. |
| R-42A<br>R-42BC | 675 V.C.T. | 185 | 5V.—3A. | 6.3V.—7A.<br>6.3V.—2A.* |
| R-44BS | 525 V.C.T. | 240 | 5V.—3A. | 6.3V.—8A.<br>6.3V.—1.2A* |
| R-47BS | 725 V.C.T. | 225 | 5V.—3A. | 6.3V.—10A.<br>6.3V.—2.7A.* |
| R-48BS | 750 V.C.T. | 180 | 5V.—3A. | 6.3V.—9A.<br>6.3V.—2.7A.* |
| R-49BS<br>R-49BC | 650 V.C.T. | 240 | 5V.—3A. | 6.3V.—9A.<br>6.3V.—9A.<br>6.3V.—1.2A.* |
| R-50A<br>R-50BC | 790/650 V.C.T. | 310 | 5V.—3A.<br>5V.—3A.<br>5V.—2A. | 6.3V.—5A.<br>6.3V.—5A.<br>6.3V.—2.6A. |
| R-51BC | 505 V.C.T. | 320 | 5V.—6A. | 6.3V.—5A.<br>6.3V.—5A.<br>6.3V.—1.2A.* |
| R-52BC | 600 V.C.T. | 270 | 5V.—3A. | 6.3V.—5A.<br>6.3V.—5A.<br>6.3V.—1.2A.* |
| R-60BC | 460 V.C.T. | 300 | 5V.—6A. | 6.3V.—10A.<br>6.3V.—1.2A.*<br>6.3V.—2.5A. |
| R-61BC | 560 V.C.T. | 275 | 5V.—6A. | 6.3V.—6A.<br>6.3V.—6A.<br>6.3V.—1.2A.* |
| R-62BC | 680 V.C.T. | 290 | 5V.—6A. | 6.3V.—10A.<br>6.3V.—1.5A.<br>6.3V.—1.2A.* |
| R-63BC | 131 V. | 980 | | 6.3V.—9A.<br>6.3V.—6A.<br>6.3V.—1.2A.* |
| R-64BC | 520 V.C.T. | 270 | 5V.—3A. | 6.3V.—10A. |
| R-65BC | 550 V.C.T. | 270 | 5V. —3A. | 6.3V. —10A. |
| R-66BC | 580 V.C.T. | 270 | 5V. —3A. | 6.3V. —10A. |
| •R-67BC | 600 V.C.T. | 250 | 5V. —3A. | 6.3V. —9A. |
| •R-69BC | 550 V.C.T. | 270 | 5V. —3A. | 6.3V. —10A. |

* Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.
Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.



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SEE TRIAD PRICE LIST ON PAGES N-781, N-782

World Radio History

# TRIAD TRANSFORMER CORP.

## TELEVISION COMPONENTS

### VERTICAL OUTPUT Transformers

| Type No. | Application | Turns Ratio |
|---|---|---|
| A-99X | Transformer type, 4 leads. | 10:1 |
| A-101U | Same as above, except upright universal mtg. | 10:1 |
| A-102X | Autoformer type, 3 leads. | 11.4:1 |
| A-103X | Transformer type, 4 leads. For low inductance yokes. | 49:1 |
| A-104X | Autoformer type, 3 leads. | 18:1 |
| A-105X | Transformer type, 4 leads. | 25:1 |
| A-107X | Transformer type, 4 leads. Heavy duty. | 10:1 |
| A-108X | Transformer type, 4 leads. | 8:1 |
| A-109X | Transformer type, 4 leads. | 15:1 |
| A-110X | Autoformer type, 3 leads. | 44:1 |
| A-111X | Transformer type, 4 leads. Small size. | 10:1 |
| †A-112X | Autoformer and Blank Winding | 15:1 |
| •A-113X | Transformer type, 4 leads. | 12:1 |
| •A-113Z | Transformer type, 4 leads. | 12:1 |
| •A-114X | Transformer type, 4 leads. | 25:1 |
| •A-115X | Autoformer type, 3 leads. | 15:1 |
| •A-115Z | Autoformer type, 3 leads. | 15:1 |
| A-118X | Autoformer type, 4 leads. | 8:1/5.5:1 |
| A-119X | Autoformer type, 3 leads. | 15:1 |

### HORIZONTAL BLOCKING OSCILLATOR

| Type No. | Application |
|---|---|
| A-98X | Generates 15750 pulse. |
| A-98K | Generates 15750 pulse. |

### VERTICAL BLOCKING OSCILLATOR

| Type No. | Application | Ratio |
|---|---|---|
| A-96X | Dumont type. 3 windings. | 1:0.5 1:1 |
| A-97X | Std. Mtg. | 1:4.14 |
| •A-97Z | Same—Small Mtg. Dim. | 1:4.14 |
| •A-122X | Std. Mtg. | 1:3.5 |
| A-122Z | Same—Small Mtg. Dim. | 1:3.5 |
| A-97K | Same—Case K. | 1:4.14 |
| A-97Y | Same—Case Y. | 1:4.14 |
| A-95X | Blocking oscillator transformer for vertical sweep. | 1:4.14 |
| A-120Z | Philco replacement | 1:1.5 |

### Width and Linearity COILS

All WLC units feature dual mounting, for 5/16" and 7/16" mounting holes. Units are assembled with the 5/16" mounting clip in place. To use the 7/16" mounting remove the 5/16" clip, cut off the tubing, thread the 7/16" clip to the core and install.

| Type No. | Inductance MH Min. | Max. | Resist. | Application |
|---|---|---|---|---|
| WLC-3 | 4.00 | 28.00 | 17. | wid or lin |
| WLC-4 | .05 | .5 | .5 | width D11 211T3 Color conv cont |
| WLC-5 | 1.00 | 8.00 | 8.00 | wid or lin |
| WLC-6 | 2.00 | 18.00 | 14.00 | wid or lin |
| †WLC-7 | .60 | 4.30 | 3.90 | Tapped wid or lin |
| WLC-8 | .30<br>4.00 | 2.80<br>28.00 | 5.00<br>26.00 | Series Coil<br>Par. Coil |
| WLC-8A | .20<br>4.00 | 1.90<br>26.00 | 4.00<br>23.00 | Series Coil<br>Par. Coil |
| WCL-9 | .10<br>4.00 | .19<br>16.00 | .90<br>25.00 | pri width<br>Sec AFC AGC |
| WCL-11 | 4.00<br>.60 | 28.00<br>8.30 | 27.00<br>24.00 | pri or sec<br>Tapped pri or sec |
| WC-12 | .9 | 16.00 | 9.00 | wid or lin tapped |
| WC-13 | .30 | 3.30 | 7.00 | wid or lin Color conv cont |
| •WLC-21 | .10 | 1.00 | 1.00 | wid or lin |
| •WLC-23 | .40 | 3.00 | 3.00 | wid or lin |

## A U D I O

### OUTPUT Transformers
Line to Voice Coil

| Type No. | Primary Impedance | Output Imped. | Output Watts | Freq. Resp. |
|---|---|---|---|---|
| S-23X | 50 (autoformer). | 3.2 | 3 | 300-3000 |
| S-26X | 500/50 (autoformer). | 3.2 | 3 | 300-3000 |
| S-66X | 500 (autoformer). | 16/8/4 | 3 | 100-5000 |
| S-76Z | 250/125/62.5/31 | 16/8/4 | 10 | 40-15000 |
| S-77U | 500 CT./125 | 32/16/8/4/2 | 30 | 40-15000 |

### OUTPUT Transformers
Tube to Voice Coil and Line

| Type No. | Tubes | Pri. Imped. | Sec. Imped. | DC Pri. | Audio Watts |
|---|---|---|---|---|---|
| S-27A | 2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5. | 2500 | 500/16/8/4 | 80 | 8 |
| S-28X | 2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5. | 7500 | 500/16/8/4 | 40 | 5 |
| S-29X | 6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6. | 5000 | 500/16/8/4 | 45 | 5 |
| S-22A | P.p. 2A3, 6B4, 6A5, 6L6, etc. | 5000 CT. | 500/16/8/4 | 100 (bal.) | 15 |
| S-24A | P.p. 6V6, 7C5, 6K6, 6F6, etc. | 8000 CT. | 500/16/8/4 | 80 (bal.) | 15 |
| S-60A | P.p. 6L6, 5881, 807, etc. | 6600 CT. | 500/250/16/8/4 | 120 (bal.) | 30 |

### OUTPUT Transformers
70.7 volt Line to Voice Coil

| Type No. | Primary Impedance | Sec. Imped. | Output Watts | Freq. Resp. |
|---|---|---|---|---|
| S-70Z | Autoformer 16000/8000/4000/2000/1000. | 8/4 | 5 | 100-5000 |
| S-71Z | Autoformer 4000/2000/1000/500. | 16/8/4 | 10 | 100-5000 |
| S-25Z | Autoformer 4000/2000/1000/500. | 8/4 | 10 | 70-7000 |
| S-45Z | Autoformer 4000/2000/1000/500. | 8/4 | 10 | 20-20000 |
| S-74K | Weatherproof autoformer 4000/2000/1000/500. | 8/4 | 10 | 20-20000 |
| S-72Z | Autoformer 2000/1000/500/250. | 16/8/4 | 20 | 100-5000 |
| S-46A | Autoformer 2000/1000/500/250. | 16/8/4 | 20 | 20-20000 |
| S-75K | Weatherproof autoformer 2000/1000/500/250. | 16/8/4 | 20 | 20-20000 |
| S-78Z | Isolation 4000/2000/1000/500. | 16/8/4 | 10 | 100-5000 |
| S-79Z | Isolation 2000/1000/500/250. | 16/8/4 | 20 | 100-5000 |

Ask for the Triad publication "Sound distribution using the 70 volt line." Free from your distributor.

## AUDIO COMPONENTS

### INPUT Transformers
Line or Microphone to Grid

| Type No. | Application | Frequency Response | Primary Impedance | Turn Ratio |
|---|---|---|---|---|
| A-1X | Line or single button mike to grid. | 300-3000 | 100 | 31.4 |
| A-3X | Line or D.B. mike to grid. | 300-3000 | 400 CT. | 15.8 |
| A-4X | Line to grid. | 300-3000 | 500/200/67.5 CT. | 12 |
| A-5X | Single button mike to p.p. grids—Hi-gain. | 300-3000 | 100 | 84 |
| A-6X | Speaker V.C. to grid. | 300-3000 | 8/3.2 | 79 |
| A-7J | Spkr. V.C. (3.2 ohms) to grid. 45 db. shldg. | 300-3000 | 3.2 | 124 |
| A-9J | Line or mike to grid. 45 db. shielding. | 30-15000 | 600/250/50 | 12 |
| A-10J | Line to grid. 45 db. shielding. | 30-15000 | 600/150 Split windings | 10.1 |

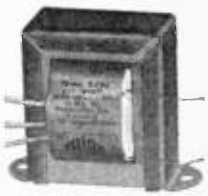
### Special TRANSCEIVER Transformers
(Voice Frequencies)

| Type No. | Application | Primary Impedance | Secondary Impedance |
|---|---|---|---|
| A-21X | S.B. mike or plate to grid (2 primaries) | 100<br>10000 | 100000 |
| A-23X | Tube to line and hi-impedance phones. | 10000 | 50 and 2000 |

•New Item †Crosley 728256-2 and others.

Case K

Case K


Case Z

WC

Case J

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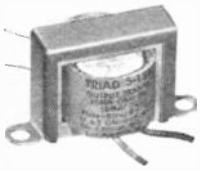
SEE TRIAD PRICE LIST ON PAGES N-781, N-782

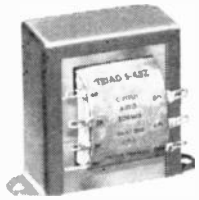


World Radio History

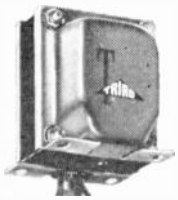
# TRIAD TRANSFORMER CORP.



Case X



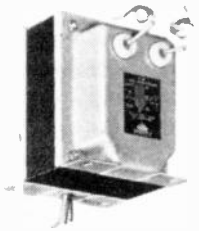
Case Z



Case A

Case J

Case P



## A U D I O

### REPLACEMENT OUTPUT Transformers
### STANDARD OUTPUT Transformers
Tube to Standard Voice Coil (3-4 ohms)

| Type No. | Primary Tubes Used | Primary Impedance | Primary DC-Ma. | Audio Watts |
|---|---|---|---|---|
| S-12X | 25L6, 50L6, 35A5, 50B5, etc. | 2500 | 50 | 2 |
| S-1X | 25L6, 50L6, 35A5, 50B5, 2A3, 6B4, etc. | 2500 | 60 | 3 |
| S-2X | 2A3, 6A3, 6B4, 6Y6, 7A5, 25B6, 50L6. | 2000 | 55 | 4 |
| S-3X | 6V6, 7C5, 6AQ5, 25A6, 71, etc. | 5000 | 40 | 3 |
| S-16X | 25L6, 50L6, 35A5, 50B5, etc. | 3000 (5% tap) | 60 | 3 |
| S-4X | 2A3, 6B4, 6L6, 6U6, 12A5, 25L6, 50A5, 117N7. | 3000 | 70 | 5 |
| S-5Z | 6V6, 7C5, 6AQ5, 25A6, 71, etc. | 5000 | 50 | 5 |
| S-5X | 6V6, 7C5, 6AQ5, 25A6, 71, etc. | 5000 | 50 | 5 |
| S-6X | 3B5, 6AQ5, 6AS5, 25A6, 25A7, 35L6, 43, 117L7. | 5000 | 35 | 2 |
| S-7X | 6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc. | 7500 | 40 | 3 |
| S-8X | 1C5, 1H4, 1Q5, 1S4, 3Q5, 3S4, 14A5, 25AC5. | 8000 | 30 | 2 |
| S-9Z | 6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc. | 7500 | 50 | 5 |
| S-9X | 6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc. | 7500 | 50 | 5 |
| S-11X | 1J6, 3Q4, 3V4, 6AK6, 6AG7, etc. | 10000 | 30 | 2 |
| S-11Z | 1J6, 3Q4, 3V4, 6AK6, 6AG7, etc. | 10000 | 30 | 2 |
| S-17X | 1J6, 3Q4, 3V4, 6AK6, 6AG7, etc. | 10000 | 30 | 2 |
| S-13X | 1A5, 1N6, 1LA4. | 25000 | 10 | 2 |
| S-15X | P.p.—6V6, 7C5, 6K6, 6F6, etc. | 10000 CT. | 40 | 7 |
| S-19Z | P.p.—6V6, 7C5, 6K6, 6F6, etc. | 10000 CT. | 50 | 10 |
| S-21A | P.p.—6V6, 7C5, 45, 6L6, etc. | 8000 CT. | 50 | 15 |

### LOW LEVEL OUTPUT Transformers

| Type No. | Application | Freq. Resp. | Pri. Imped. | Second. Imped. |
|---|---|---|---|---|
| A-51X | Tube to line. | 300-3000 | 7000 | 50 |
| A-53X | Single or p.p. tubes to line. | 70-7000 | 18000 CT. | 600 250 50 |
| A-54X | P.P. Tubes to V.C. | | 7700 CT. | 8 4 |
| A-55J | Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding | 30-15000 | 15000 | 600 250 50 |
| A-65J | Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding. | 30-15000 | 15000 | 600 150 Split winding |
| S-58X | Line to line. | 300-3000 | 600 150 | 600 150 —Split windings— |
| A-57J | Line to line. 45 db. shielding. | 30-15000 | 600 250 50 | 600 250 50 |
| A-67J | Line to line. 45 db. shielding. | 30-15000 | 600 150 | 600 150 —Split windings— |

### "SPLATTER" Chokes

| Type No. | Inductance Henries | Current Ma. | Res. Ohms | H |
|---|---|---|---|---|
| C-26X | Tapped .2 to 1.5 | 100 | 95 | $1^{13}/_{16}$ |
| C-43X | Tapped .05 to 1 | 300 | 40 | $2^{19}/_{32}$ |

### UNIVERSAL OUTPUT Transformers
Any Tube to Any Voice Coil

| Type No. | Application | Pri. DC Ma. | Audio Watts |
|---|---|---|---|
| S-51X | Single or p.p. plates (4,000 to 14,000 ohms) to V.C. | 35 | 5 |
| S-53X | Single or p.p. plates (4,000 to 14,000 ohms) to V.C. | 40 | 8 |
| S-55Z | Push-pull plates (4,000 to 14,000 ohms) to V.C. | 40 ea. side | 10 |
| S-55X | Push-pull plates (4,000 to 14,000 ohms) to V.C. | 40 ea. side | 10 |
| S-57Z | Push-pull plates (4,000 to 14,000 ohms) to V.C. | 50 ea. side | 15 |

### PLUG-IN INPUT Transformers

| Type No. | Application | Pri. Imped. | Second Imped. | Freq. Resp. | Shld'g |
|---|---|---|---|---|---|
| A-200P | Line or mike to grid. | 200 50 CT. | 36,000 | 50-15000 | 70 db. |
| A-202P | Same as above. | 200 50 CT. | 36,000 | 30-15000 | 90 db. |
| •HS-273P | Same as above. | 200 50 CT. | 80,000 | 30-30000 | 70 db. |

### INTERSTAGE Transformers
Plate to Grid

| Type No. | Application | Freq. Resp. | Pri. Imped. | Second Imped. | Ratio |
|---|---|---|---|---|---|
| A-31X | Plate to single or p.p. grids | 300-3000 | 10000 | 90000 | 1 : 3 |
| A-33X | Plate to single or p.p. grids | 70-7000 | 10000 | 90000 | 1 : 3 |
| A-42Z | Multi-ratio single or p.p. plates to single or p.p. grids | 70-7000 | 15000 CT. | 135000C.T. or 33750 | 1 : 1.5 1 : 3 1 : 6 |
| A-35A | Plate to single or p.p. grids | 50-10000 | 10000 | 90000 | 1 : 3 |
| A-39A | P.p. plates to p.p. grids | 50-10000 | 20000 CT. | 45000 | 1 : 1.5 |
| A-40J | Parallel-fed 6J5 or 6SN7. Plate to p.p. grid 45 db. shielding. | 30-15000 | 15000 | 86000 | 1 : 2.76 |

### MODULATION Transformers — Tube to RF Load

| Type No. | Primary | Freq. Resp. | Secondary Impedance | Secondary Ma. | Aud Watts. |
|---|---|---|---|---|---|
| •TY-65Z | 32 CT. (575 Ma.) (Transistor use) | 70-15000 | 3000-4000-6000 | 100 | 10 |
| M-4Z | 5000 (Auto-former). | 300-3000 | 6750 4 | 120 (total) | 10 |
| M-5Z | 5000 (Auto-former). | 300-3000 | 6750 4 | 165 (total) | 20 |
| M-1X | 10000 CT. for 19, 1J6, 6N7, 6A6, etc. | 300-3000 | 5000-8000-10000 | 50 | 5 |
| M-3X | 10000 CT. for 6N7, 6NF, 6A6, 6F6's, etc. | 300-3000 | 3000-5000-8000 | 100 | 20 |
| •TY-66A | 6 CT. (5A) (Transistor use, | 300-3000 | 3000-4000-60000 | 200 | 40 |
| †M-7AL | 4250 CT. for 807's | 300-3000 | 3000-5000-8000 | 200 | 60 |
| M-15A | Multi-match | 300-3000 | 4000 to 20000 | 150 | 30 |
| M-16AL | Multi-match | 300-3000 | 4000 to 20000 | 180 | 60 |
| †M-8AL | Multi-match | 300-3000 | 4000 to 20000 | 200 | 80 |
| †M-12AL | Multi-match | 300-3000 | 4000 to 20000 | 300 | 125 |

### DRIVER Transformers

| Type No. | Driver Tubes | Output Tubes | Frequency Response | Ratio Primary ½ Sec. | Primary D.C. Ma. |
|---|---|---|---|---|---|
| A-81X | 30, 1H4, etc. | P.p. 19, 30's, 1J6, etc. | 300-3000 | 2.66:1 | 15 |
| A-83X | 6F6, 42, 45, etc. | P.p. 6L6, 6F6, 6V6, 807, etc. | 70-7000 | 1.33:1 | 40 |
| A-85X | 6F6, 42, 45, etc. | P.p. 6L6, 6F6, 6V6, 807, etc. | 50-10000 | 2.66:1 | 40 |
| A-89A | P.p. plates to class B or AB grids—Universal 15 watt. | Any class B or AB tubes. 100-500 watts output | 50-10000 | 3.1 or 1.8:1 | 100 per side |
| A-91A | P.p. plates to Class B or AB grids—Universal 30 watt. | Any class B or AB tubes. 400-1500 watts output | 50-10000 | 3.1 or 1.88:1 | 160 per side |
| •TY-61X | Transistor use | | 70-10000 | 1:0.5 | 100 |

•New Item †Plate leads out side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World Radio History

# TRIAD TRANSFORMER CORP.

# PRICE LIST BY TYPE NUMBER

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

## RIQAP (REDUCED INSPECTION QUALITY ASSURANCE PLAN)

All TRIAD transformers are manufactured under a Signal Corps approved plan intended to assure quality in the product. The system includes approved procedures for incoming inspection of material, process controls in the plant, and final inspection. Transformers passed are approved for shipment for military use.

RIQAP applies to all Triad transformers, military or otherwise. Why not take advantage of the exhaustive quality control at Triad and eliminate or reduce the costs of your incoming inspection.

*All of the transformers listed on the preceeding pages are currently available from stock at the four plants of Triad and from better distributors in all the purchasing centers of the United States.*

*Triad transformers are continually being revised and improved to use the best available materials. For this reason, the Triad Transformer Corporation reserves the right to modify existing mechanical construction or electrical characteristics of any catalog item without notice.*

**TRIAD transformer numbers** are so arranged as to indicate the type of transformer and type of mounting. The prefix letter indicates the type of transformer as follows: **A**—Audio **C**—Choke **D**—High voltage horizontal output transformer **E**—High "Q" Toroidal coils **F**—Filament **G**—Geoformer **M**—Modulation **N**—Isolation or Stepdown autoformer **NW**—Yoke Networks **P**—Plate power transformer **PL**—Pulse transformer **R**—Power transformer, combined plate and filament **S**—Speaker coupling or output transformer **T, TZ**—Miniatures **TY**—Transistor transformer **V**—Vibrator power **WC, WLC**—Width and Linearity coils **Y**—Yokes. Hermetically sealed units bear the prefix **HS** and **HSM**; hermetically sealed "Trijets" **JZ, JO** and **AF**. Type of mounting is indicated by the suffix letter which refers to the illustrations in the catalog.

| Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-1X | 3.30 | •A-115Z | 6.15 | D-1 | 10.70 | D-77 | 11.90 | •D-130 | 11.00 | EF-020 | 11.80 | F-9A | 13.10 |
| A-3X | 3.60 | A-118X | 5.95 | D-2 | 10.70 | D-78 | 11.60 | •D-131 | 13.00 | EF-040 | 12.00 | F-9U | 11.40 |
| A-4X | 3.75 | A-119X | 6.15 | D-11 | 11.50 | D-79 | 12.35 | •D-132 | 10.50 | EF-050 | 12.30 | F-10U | 15.00 |
| A-5X | 4.95 | A-120Z | 3.85 | D-14R | 12.45 | D-80 | 12.35 | •D-133 | 12.00 | EF-070 | 12.30 | F-11U | 14.25 |
| A-6X | 3.60 | •A-122X | 3.60 | D-15 | 12.45 | D-81 | 11.35 | •D-134 | 11.00 | EF-100 | 12.50 | F-13X | 3.40 |
| A-7J | 8.35 | A-122Z | 3.60 | D-19 | 12.45 | D-82 | 13.40 | •D-135 | 4.00 | EF-200 | 13.00 | F-14X | 3.70 |
| A-9J | 15.50 | A-200P | 24.00 | DA-20 | 8.35 | D-83 | 11.80 | •D-136 | 4.50 | EF-250 | 13.35 | F-16X | 5.30 |
| A-10J | 15.50 | A-202P | 31.70 | D-22 | 12.45 | D-84 | 13.90 | •D-137 | 13.00 | EF-500 | 14.00 | F-18A | 9.40 |
| A-21X | 3.85 | C-1X | 2.50 | D-24 | 12.45 | D-85 | 12.70 | •D-138 | 12.00 | EF-600 | 14.50 | F-18X | 7.50 |
| A-23X | 4.25 | C-2X | 2.40 | D-26 | 11.90 | D-86 | 15.50 | •D-139 | 10.50 | EF-700 | 14.75 | F-21A | 11.60 |
| A-31X | 3.60 | C-3X | 3.25 | D-28 | 11.90 | D-87 | 12.70 | •D-141 | 10.50 | EF-1000 | 15.40 | F-22A | 16.50 |
| A-33X | 4.95 | C-4X | 2.80 | D-31 | 13.20 | D-88 | 13.40 | •D-142 | 12.00 | EF-1500 | 16.30 | F-23U | 11.45 |
| A-35A | 9.25 | C-5X | 3.75 | D-32 | 12.80 | D-89 | 12.20 | •D-143 | 12.00 | EF-2000 | 16.80 | F-25X | 5.85 |
| A-39A | 9.40 | C-6X | 3.25 | D-33 | 11.90 | D-90 | 15.75 | EA-005 | 10.45 | EF-4000 | 19.35 | F-26X | 6.60 |
| A-40J | 15.50 | C-7X | 4.20 | D-35 | 13.20 | D-91 | 11.65 | EA-007 | 10.45 | EF-5000 | 20.25 | F-27U | 14.60 |
| A-42Z | 5.75 | C-8X | 3.90 | DA-36 | 4.15 | D-92 | 12.00 | EA-010 | 10.45 | EF-6000 | 20.90 | F-30A | 12.80 |
| A-51X | 3.20 | C-9X | 3.90 | DA-37 | 4.15 | D-93 | 12.00 | EA-015 | 10.60 | EF-7000 | 21.00 | F-32A | 10.10 |
| A-53X | 4.60 | C-10X | 5.00 | D-40 | 12.20 | D-94 | 11.90 | EA-020 | 10.60 | EF-10000 | 22.50 | F-34A | 12.00 |
| A-54X | 3.50 | C-11X | 5.00 | D-41 | 12.20 | D-95 | 12.00 | EA-040 | 10.90 | EH-015 | 27.90 | F-36A | 15.60 |
| A-55J | 15.50 | C-12A | 7.35 | D-42 | 12.20 | D-96 | 12.50 | EA-050 | 10.90 | EH-040 | 28.60 | F-38A | 17.25 |
| A-57J | 15.30 | C-12X | 5.50 | D-43 | 12.20 | D-97 | 14.00 | EA-070 | 11.20 | EH-100 | 29.00 | F-40X | 5.65 |
| A-65J | 15.70 | C-13X | 5.30 | D-44 | 12.20 | D-98 | 15.50 | EA-100 | 11.25 | EH-250 | 29.50 | F-41X | 8.00 |
| A-67J | 15.70 | C-14A | 8.35 | D-45 | 11.90 | D-99 | 10.00 | EA-200 | 11.75 | EH-600 | 30.00 | F-42A | 12.25 |
| A-75J | 13.75 | C-14X | 6.05 | D-46 | 12.50 | D-100 | 11.00 | EA-250 | 12.40 | EH-1500 | 31.00 | •F-44X | 5.90 |
| A-81X | 3.45 | C-15A | 8.35 | D-47 | 12.50 | •D-101 | 11.00 | EA-500 | 13.35 | EH-4000 | 32.00 | F-47U | 10.10 |
| A-83X | 4.30 | C-15X | 6.05 | D-48 | 10.40 | •D-102 | 12.00 | EA-600 | 13.60 | EH-10000 | 33.00 | F-48U | 15.15 |
| A-85X | 4.90 | C-16A | 10.90 | D-49 | 10.15 | •D-103 | 12.00 | EA-700 | 13.85 | EH-25000 | 37.50 | F-49U | 23.30 |
| A-89A | 11.00 | C-17X | 5.00 | D-50 | 13.70 | •D-104 | 9.50 | EA-1000 | 14.50 | EM-001 | 14.30 | F-50X | 5.25 |
| A-91A | 15.00 | C-18A | 15.00 | D-52 | 8.50 | •D-105 | 11.00 | EC-001 | 11.40 | EM-002 | 14.30 | F-51X | 5.70 |
| A-95X | 3.55 | C-19A | 17.10 | D-53 | 8.90 | •D-106 | 11.00 | EC-002 | 11.40 | EM-005 | 14.50 | F-52X | 5.00 |
| A-96X | 4.90 | C-20A | 19.65 | D-54 | 7.75 | •D-107 | 11.50 | EC-005 | 11.40 | EM-007 | 14.70 | F-53X | 7.00 |
| A-97K | 4.90 | C-21X | 4.45 | D-55 | 11.90 | •D-108 | 12.00 | EC-007 | 11.45 | EM-010 | 15.00 | F-60U | 11.40 |
| A-97X | 3.60 | C-22A | 34.00 | D-56 | 11.30 | •D-109 | 11.00 | EC-010 | 11.50 | EM-020 | 15.25 | F-61U | 16.90 |
| A-97Y | 4.95 | C-23X | 4.45 | D-57 | 10.70 | •D-110 | 10.50 | EC-015 | 11.50 | EM-050 | 15.50 | F-62U | 32.00 |
| •A-97Z | 3.45 | C-24X | 3.25 | D-58 | 10.70 | •D-111 | 12.00 | EC-020 | 11.50 | EM-070 | 15.75 | F-63U | 9.65 |
| A-98K | 5.50 | C-25A | 10.00 | D-59 | 10.70 | •D-112 | 11.00 | EC-040 | 11.50 | EM-100 | 16.50 | F-64U | 11.60 |
| A-98X | 3.45 | C-26X | 6.95 | D-60 | 10.70 | •D-113 | 11.00 | EC-050 | 11.60 | EM-200 | 16.75 | F-65U | 18.65 |
| A-99X | 5.75 | C-27X | 3.40 | D-61 | 8.65 | •D-114 | 12.00 | EC-070 | 11.75 | EM-500 | 17.00 | F-66U | 45.00 |
| A-101U | 8.25 | C-30X | 3.35 | D-62 | 9.25 | •D-115 | 13.75 | EC-100 | 11.90 | ES-001 | 18.00 | F-67U | 24.50 |
| A-102X | 5.15 | C-31A | 11.20 | D-63 | 9.80 | •D-116 | 13.00 | EC-200 | 12.30 | ES-002 | 18.10 | F-68U | 16.50 |
| A-103X | 5.75 | C-32AL | 20.50 | D-64 | 12.50 | •D-117 | 10.00 | EC-250 | 12.50 | ES-005 | 18.30 | •F-69U | 37.50 |
| A-104X | 6.35 | C-33A | 17.25 | D-65 | 12.35 | •D-118 | 12.00 | EC-500 | 13.00 | ES-007 | 18.40 | F-71U | 10.40 |
| A-105X | 6.55 | C-35A | 21.40 | D-66 | 12.50 | •D-119 | 12.00 | EC-600 | 13.60 | ES-010 | 18.60 | F-72Z | 6.30 |
| A-107X | 7.75 | C-38AL | 35.00 | D-67 | 15.50 | •D-120 | 11.00 | EC-700 | 14.00 | ES-020 | 18.90 | G-2 | 38.90 |
| A-108X | 5.95 | C-39A | 34.50 | D-68 | 15.50 | •D-121 | 10.50 | EC-1000 | 15.00 | ES-050 | 19.60 | G-4 | 38.90 |
| A-109X | 6.15 | C-40X | 4.20 | D-69 | 12.50 | •D-122 | 11.00 | EC-1500 | 16.90 | ES-070 | 20.30 | G-5 | 33.60 |
| A-110X | 5.95 | C-42AL | 20.00 | D-70 | 13.20 | •D-123 | 11.00 | EC-2000 | 17.85 | ES-100 | 20.80 | G-7 | 33.60 |
| A-111X | 5.25 | C-43X | 10.00 | D-71 | 12.35 | •D-124 | 11.00 | EC-4000 | 18.40 | F-1X | 3.60 | G-8 | 44.50 |
| A-112X | 5.95 | C-45AL | 35.00 | D-72 | 12.80 | •D-125 | 11.00 | EC-5000 | 18.80 | F-3X | 5.50 | G-9 | 33.60 |
| •A-113X | 6.15 | C-47U | 13.40 | D-73 | 11.60 | •D-126 | 13.00 | EF-005 | 11.60 | F-5U | 8.00 | G-10 | 44.50 |
| •A-113Z | 6.15 | C-48U | 15.50 | D-74 | 11.90 | •D-127 | 12.00 | EF-007 | 11.60 | F-6X | 5.10 | G-12 | 31.70 |
| •A-114X | 6.25 | •C49U | 18.25 | D-75 | 11.90 | •D-128 | 4.75 | EF-010 | 11.60 | F-7X | 5.70 | | |
| •A-115X | 6.15 | CL-1 | .60 | D-76 | 11.60 | •D-129 | 10.00 | EF-015 | 11.75 | F-8X | 6.60 | •New Item | |

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World Radio History

# TRIAD TRANSFORMER CORP.

# PRICE LIST BY TYPE NUMBER

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

| Type No. | List Price |
|---|---|
| G-14 | 31.10 |
| G-15 | 51.00 |
| G-16 | 32.80 |
| G-17 | 34.50 |
| •G-18 | 31.70 |
| •G-19 | 31.70 |
| •G-20 | 45.85 |
| •G-21 | 37.50 |
| •G-22 | 49.50 |
| •G-23 | 37.50 |
| •G-25 | 37.50 |
| •G-30 | 28.50 |
| G-31 | 31.10 |
| G-32 | 38.90 |
| G-33 | 33.60 |
| G-34 | 44.50 |
| G-36 | 26.70 |
| G-40 | 33.60 |
| G-48 | 26.00 |
| G-51 | 31.10 |
| G-51A | 31.10 |
| G-52 | 33.00 |
| G-53 | 33.00 |
| G-53A | 33.00 |
| G-54 | 33.00 |
| G-57 | 26.70 |
| G-58 | 41.00 |
| G-64 | 26.00 |
| G-65 | 26.00 |
| G-72 | 33.60 |
| G-80 | 39.00 |
| G-84 | 33.60 |
| G-85 | 33.60 |
| G-92 | 35.00 |
| G-101 | 31.10 |
| G-135 | 31.10 |
| G-150 | 31.10 |
| G-155 | 31.10 |
| G-183 | 39.50 |
| G-201 | 31.10 |
| •G-202 | 31.70 |
| G-235 | 31.10 |
| G-250 | 31.10 |
| G-255 | 31.10 |
| G-266 | 32.50 |
| G-274 | 32.50 |
| G-275 | 32.50 |
| G-276 | 32.50 |
| G-283 | 39.50 |
| G-284 | 31.70 |
| G-285 | 31.70 |
| G-301 | 30.60 |
| G-306 | 30.60 |
| G-313 | 30.60 |
| G-315 | 30.60 |
| G-335 | 30.00 |
| G-336 | 30.00 |
| G-350 | 30.00 |
| G-388 | 30.60 |
| G-389 | 30.60 |
| G-391 | 30.00 |
| G-394 | 30.00 |
| G-401 | 31.10 |
| G-435 | 31.10 |
| G-437 | 31.10 |
| G-455 | 31.10 |
| G-475 | 32.50 |
| G-493 | 28.00 |
| HF-3 | 43.75 |
| HF-12 | 64.60 |
| HF-12A | 89.60 |
| HF-12B | 65.30 |
| HF-12C | 89.60 |
| HF-18 | 77.95 |
| HF-18A | 97.35 |
| HF-18C | 97.35 |
| HF-40 | 96.75 |
| HF-40A | 142.45 |
| HF-40C | 142.45 |
| HS-1 | 47.60 |
| HS-3 | 51.80 |
| HS-4 | 47.30 |
| HS-5 | 45.90 |
| HS-8 | 47.60 |

| Type No. | List Price |
|---|---|
| HS-11 | 35.20 |
| HS-14 | 35.70 |
| HS-15 | 43.50 |
| HS-23 | 35.10 |
| HS-25 | 35.70 |
| HS-27 | 32.50 |
| HS-29 | 45.80 |
| HSM-31 | 35.10 |
| HS-32 | 45.80 |
| HS-35 | 32.50 |
| HS-50 | 38.70 |
| HS-52 | 40.00 |
| HS-54 | 47.60 |
| HS-56 | 41.60 |
| HS-58 | 48.00 |
| HS-60 | 32.50 |
| HS-61 | 33.50 |
| HS-66 | 38.10 |
| HS-71 | 23.20 |
| HS-73 | 25.00 |
| HS-75 | 29.75 |
| HS-77 | 34.50 |
| HSM-79 | 32.00 |
| HSM-80 | 34.90 |
| HSM-81 | 39.30 |
| HSM-82 | 39.30 |
| HSM-84 | 39.30 |
| HSM-85 | 39.30 |
| HSM-91 | 65.50 |
| HSM-94 | 72.70 |
| HSM-95 | 72.70 |
| HS-97 | 137.00 |
| HSM-181 | 39.30 |
| HSM-182 | 39.30 |
| HSM-186 | 50.00 |
| HSM-187 | 50.00 |
| HSM-189 | 50.00 |
| HSM-190 | 50.00 |
| HSM-192 | 75.00 |
| HSM-193 | 75.00 |
| HSM-201 | 30.50 |
| HSM-203 | 35.70 |
| HSM-205 | 39.70 |
| HSM-207 | 43.50 |
| HSM-212 | 53.50 |
| HSM-216 | 62.00 |
| HSM-218 | 85.00 |
| HSM-219 | 82.20 |
| HSM-223 | 18.20 |
| HSM-225 | 23.00 |
| HSM-226 | 24.50 |
| HSM-227 | 31.70 |
| HSM-228 | 36.40 |
| HSM-229 | 28.60 |
| HSM-230 | 24.50 |
| HSM-231 | 32.60 |
| HSM-232 | 38.10 |
| HSM-234 | 40.50 |
| HSM-235 | 52.50 |
| HSM-236 | 35.50 |
| •HSM-241 | 51.50 |
| •HSM-245 | 59.65 |
| •HS-247 | 72.00 |
| •HS-273P | 28.00 |
| HSM-301 | 19.10 |
| HSM-302 | 17.00 |
| HS-303 | 19.65 |
| HSM-305 | 20.80 |
| HSM-307 | 27.40 |
| HSM-309 | 26.00 |
| HSM-315 | 27.80 |
| HSM-319 | 41.70 |
| HS-331 | 15.30 |
| HS-333 | 16.20 |
| HS-335 | 19.50 |
| HS-339 | 20.00 |
| HS-341 | 20.80 |
| HS-401 | 26.90 |
| HS-402 | 24.75 |
| HS-405 | 32.50 |
| HS-407 | 38.20 |
| HS-409 | 36.00 |
| HS-413 | 50.00 |
| HS-415 | 51.20 |

| Type No. | List Price |
|---|---|
| HS-417 | 53.60 |
| HS-425 | 19.20 |
| HS-427 | 25.00 |
| HS-433 | 27.90 |
| HS-435 | 31.30 |
| HS-436 | 15.75 |
| HS-438 | 25.00 |
| HS-441 | 42.50 |
| HS-442 | 30.25 |
| HS-443 | 21.90 |
| HS-470 | 25.00 |
| HS-472 | 31.00 |
| HS-474 | 38.10 |
| JAF-1 | 21.20 |
| JAF-2 | 21.80 |
| JAF-3 | 21.80 |
| JAF-5 | 21.80 |
| JAF-11 | 21.00 |
| JAF-12 | 21.20 |
| JAF-13 | 21.80 |
| JAF-14 | 21.80 |
| JAF-15 | 21.80 |
| JAF-21 | 21.20 |
| JAF-22 | 21.20 |
| JAF-23 | 21.80 |
| JAF-31 | 21.20 |
| JAF-33 | 21.80 |
| JAF-101 | 20.50 |
| JO-1 | 21.70 |
| JO-2 | 22.30 |
| JO-3 | 22.30 |
| JO-5 | 22.30 |
| JO-11 | 21.50 |
| JO-12 | 21.50 |
| JO-13 | 21.70 |
| JO-21 | 21.50 |
| JO-22 | 21.50 |
| JO-23 | 21.70 |
| JO-31 | 21.50 |
| JO-101 | 21.00 |
| JZ-1 | 19.65 |
| JZ-5 | 20.20 |
| JZ-7 | 19.65 |
| JZ-13 | 19.65 |
| JZ-15 | 19.65 |
| JZ-25 | 19.10 |
| JZ-26 | 19.10 |
| M-1X | 4.50 |
| M-3X | 7.45 |
| M-4Z | 5.00 |
| M-5Z | 6.65 |
| M-7AL | 20.60 |
| M-8AL | 25.50 |
| M-12AL | 31.00 |
| M-15A | 18.80 |
| M-16AL | 20.90 |
| MB-10 | .75 |
| N-1X | 6.15 |
| N-3M | 12.60 |
| N-4M | 15.50 |
| N-5M | 17.60 |
| N-7M | 26.60 |
| N-9M | 55.00 |
| N-11M | 86.50 |
| N-34X | 9.70 |
| N-35M | 22.00 |
| N-50M | 34.00 |
| N-51X | 7.40 |
| N-52M | 44.50 |
| N-53M | 16.00 |
| N-54M | 18.10 |
| N-55M | 31.00 |
| •N-56M | 38.00 |
| N-57M | 55.50 |
| N-59M | 86.50 |
| N-60SC | 185.00 |
| N-62AC | 86.00 |
| N-64AC | 48.40 |
| N-66A | 27.50 |
| N-67A | 18.40 |
| N-68X | 9.10 |
| MW-1 | 1.00 |
| NW-2 | 1.00 |
| NW-3 | 1.00 |

| Type No. | List Price |
|---|---|
| NW-4 | 1.00 |
| NW-5 | 1.00 |
| NW-6 | 1.00 |
| NW-7 | 1.00 |
| NW-8 | 1.00 |
| NW-9 | 1.00 |
| NW-10 | 1.00 |
| NW-11 | 1.00 |
| NW-12 | 1.00 |
| NW-13 | 1.00 |
| NW-14 | 1.00 |
| NW-15 | 1.00 |
| NW-16 | 1.00 |
| NW-17 | 1.00 |
| NW-18 | 1.00 |
| NW-19 | 1.00 |
| NW-20 | 1.00 |
| NW-21 | 1.00 |
| •NW-22 | 1.00 |
| •NW-23 | 1.00 |
| •NW-24 | 1.00 |
| •NW-25 | 1.00 |
| P-1A | 13.60 |
| P-3A | 16.50 |
| P-5A | 21.60 |
| P-7A | 22.70 |
| P-9A | 40.20 |
| P-11A | 25.60 |
| P-14A | 32.50 |
| P-15AL | 36.20 |
| P-16AL | 74.50 |
| P-17AL | 46.70 |
| P-18AL | 84.00 |
| P-20AL | 82.80 |
| PL-4 | 16.65 |
| PL-5 | 19.45 |
| PL-6 | 19.45 |
| PL-10 | 1.95 |
| PL-92E | 30.00 |
| PL-92M | 33.00 |
| PL-124E | 21.00 |
| PL-124H | 23.60 |
| PL-124M | 23.00 |
| PL-138E | 21.00 |
| PL-138H | 23.60 |
| PL-138M | 23.00 |
| PL-139E | 20.00 |
| PL-139H | 22.60 |
| PL-139M | 22.00 |
| PL-140E | 21.00 |
| PL-140H | 23.60 |
| PL-140M | 23.00 |
| PL-143E | 21.00 |
| PL-143H | 23.60 |
| PL-143M | 23.00 |
| PL-146E | 20.00 |
| PL-146H | 22.60 |
| PL-146M | 22.00 |
| PL-148E | 21.00 |
| PL-148H | 23.60 |
| PL-148M | 23.00 |
| R-2C | 6.40 |
| R-3A | 8.25 |
| R-4A | 8.25 |
| R-4B | 8.15 |
| R-5A | 9.55 |
| R-5B | 9.40 |
| R-6A | 9.55 |
| R-6B | 9.40 |
| R-7A | 10.25 |
| R-7B | 10.10 |
| R-8A | 11.00 |
| R-8B | 10.85 |
| R-9A | 11.90 |
| R-9B | 11.75 |
| R-10A | 13.20 |
| R-10B | 13.00 |
| R-11A | 13.45 |
| R-11B | 13.25 |
| R-12A | 13.25 |
| R-12B | 13.10 |
| R-14A | 15.45 |
| R-14B | 15.30 |
| R-16A | 17.70 |

| Type No. | List Price |
|---|---|
| R-16B | 17.55 |
| R-17A | 20.00 |
| R-18A | 20.50 |
| R-18B | 20.35 |
| R-19A | 24.40 |
| R-20A | 20.40 |
| R-20B | 20.25 |
| R-21A | 22.25 |
| R-21B | 22.10 |
| R-22A | 10.70 |
| R-22B | 10.55 |
| R-23B | 9.50 |
| R-24A | 26.80 |
| R-24B | 26.60 |
| R-25A | 42.40 |
| R-26A | 26.90 |
| R-27A | 54.20 |
| R-28A | 41.20 |
| R-29A | 8.25 |
| R-30X | 6.70 |
| R-31A | 33.60 |
| R-31BC | 35.80 |
| R-32A | 32.80 |
| R-33A | 29.80 |
| R-33BC | 31.00 |
| R-34A | 28.60 |
| R-35A | 28.00 |
| R-35BC | 29.80 |
| R-36A | 29.80 |
| R-36BC | 31.40 |
| R-37BC | 29.00 |
| R-38A | 28.00 |
| R-38BC | 30.40 |
| R-39A | 28.00 |
| R-39BC | 29.00 |
| R-40A | 33.70 |
| R-40BC | 35.60 |
| R-41C | 27.70 |
| R-42A | 25.40 |
| R-42BC | 27.10 |
| R-43C | 16.45 |
| R-44BS | 26.40 |
| R-45C | 21.60 |
| R-46A | 41.70 |
| R-47BS | 31.40 |
| R-48BS | 29.40 |
| R-49BC | 29.40 |
| S-25Z | 5.60 |
| S-26X | 2.95 |
| S-27A | 9.75 |
| S-28X | 5.90 |
| S-29X | 5.60 |
| S-31A | 14.30 |
| S-32A | 15.00 |
| R-49BS | 30.60 |
| R-50A | 33.40 |
| R-50BC | 35.20 |
| R-51BC | 28.60 |
| R-52BC | 27.40 |
| R-54X | 5.80 |
| R-56A | 10.10 |
| R-58A | 23.75 |
| R-60BC | 29.30 |
| R-61BC | 32.00 |
| R-62BC | 32.50 |
| R-63BC | 26.90 |
| R-64BC | 22.50 |
| R-65BC | 23.50 |
| R-66BC | 25.00 |
| •R-67BC | 22.00 |
| R-68A | 13.85 |
| •R-69BC | 22.45 |
| R-70A | 18.55 |
| R-71A | 27.50 |
| R-72A | 18.75 |
| R-73B | 12.50 |
| S-1X | 2.60 |
| S-2X | 2.80 |
| S-3X | 3.70 |
| S-4X | 3.90 |
| S-5X | 3.95 |
| S-5Z | 3.95 |
| S-6X | 2.60 |
| S-7X | 2.60 |

| Type No. | List Price |
|---|---|
| S-8X | 2.65 |
| S-9X | 4.05 |
| S-9Z | 4.05 |
| S-11X | 2.75 |
| S-11Z | 2.75 |
| S-12X | 2.35 |
| S-13X | 2.80 |
| S-15X | 4.10 |
| S-16X | 2.85 |
| S-17X | 2.90 |
| S-19Z | 5.50 |
| S-21A | 8.80 |
| S-22A | 10.50 |
| S-23X | 3.00 |
| S-24A | 11.25 |
| S-33A | 14.30 |
| •S-34X | 8.25 |
| S-35A | 15.50 |
| S-36A | 16.10 |
| S-38A | 20.00 |
| S-39A | 20.80 |
| S-40A | 20.00 |
| S-42A | 27.00 |
| S-45Z | 8.25 |
| S-46A | 14.80 |
| S-51X | 3.75 |
| S-53X | 4.25 |
| S-55X | 5.85 |
| S-55Z | 5.85 |
| S-57Z | 7.20 |
| S-58X | 4.00 |
| S-60A | 13.50 |
| S-66X | 3.40 |
| S-70Z | 4.90 |
| S-71Z | 5.30 |
| S-72Z | 6.75 |
| S-74K | 14.50 |
| S-75K | 22.00 |
| S-76Z | 8.40 |
| S-77U | 21.00 |
| S-78Z | 5.80 |
| S-79Z | 6.90 |
| •S-125X | 4.80 |
| •S-126X | 5.50 |
| •S-127X | 7.75 |
| S-142A | 21.40 |
| S-146A | 30.60 |
| S-148A | 30.60 |
| S-152A | 44.60 |
| T-1X | 7.65 |
| T-2X | 7.75 |
| T-3X | 7.75 |
| T-5X | 7.65 |
| T-11X | 7.55 |
| T-12X | 7.65 |
| T-13X | 7.75 |
| T-20X | 7.55 |
| T-21X | 7.55 |
| T-22X | 7.55 |
| T-23X | 7.75 |
| T-31X | 7.75 |
| T-33X | 7.75 |
| T-41X | 8.10 |
| T-42X | 8.10 |
| T-101X | 7.15 |
| TY-27XT | 8.35 |
| TY-28XT | 8.35 |
| TY-44X | 8.95 |
| TY-45X | 9.00 |
| •TY-46X | 3.90 |
| TY-47X | 9.55 |
| TY-48X | 9.75 |
| •TY-49X | 5.60 |
| TY-50X | 9.75 |
| •TY-51X | 6.90 |
| TY-52X | 9.55 |
| •TY-53X | 6.45 |
| TY-54X | 9.55 |
| TY-55X | 9.55 |
| TY-56X | 9.55 |
| TY-57X | 9.00 |
| TY-58X | 9.00 |
| TY-59X | 9.55 |
| •TY-60X | 7.85 |
| TY-61X | 6.55 |
| •TY-62X | 6.50 |

| Type No. | List Price |
|---|---|
| TY-63X | 10.10 |
| TY-64X | 9.00 |
| TY-65Z | 7.50 |
| •TY-66A | 14.50 |
| •TY-67A | 15.25 |
| •TY-68S | 13.90 |
| •TY-69S | 17.50 |
| •TY-70S | 19.00 |
| •TY-71S | 20.50 |
| •TY-74S | 25.00 |
| TZ-1 | 8.35 |
| TZ-5 | 8.95 |
| TZ-7 | 8.35 |
| TZ-13 | 8.35 |
| TZ-15 | 8.35 |
| TZ-25 | 7.75 |
| TZ-26 | 7.75 |
| •TZ-28 | 6.50 |
| V-1K | 10.95 |
| V-3K | 11.50 |
| V-5A | 11.50 |
| V-7A | 13.95 |
| V-21 | 7.00 |
| V-21B | 7.90 |
| V-21K | 10.10 |
| V-21Z | 7.15 |
| V-23 | 8.20 |
| V-23B | 9.70 |
| V-23K | 12.10 |
| V-23Z | 7.90 |
| V-30Z | 7.75 |
| V-31 | 7.45 |
| V-31K | 11.60 |
| WC-13 | 1.90 |
| WLC-3 | 2.10 |
| WLC-4 | 1.95 |
| WLC-5 | 1.95 |
| WLC-6 | 1.95 |
| WLC-7 | 2.45 |
| WLC-8 | 3.00 |
| WLC-8A | 3.00 |
| WLC-9 | 3.00 |
| WLC-11 | 2.65 |
| WLC-12 | 1.95 |
| •WLC-21 | 1.75 |
| •WLC-23 | 1.75 |
| Y-11-1 | 10.40 |
| Y-12 | 11.30 |
| Y-12-1 | 12.20 |
| Y-12-3 | 12.20 |
| Y-17 | 11.30 |
| Y-17-1 | 12.20 |
| Y-17-3 | 12.20 |
| Y-19 | 11.30 |
| Y-19-1 | 12.20 |
| Y-19-3 | 12.20 |
| Y-20 | 11.30 |
| Y-20-2 | 12.80 |
| Y-20-3 | 12.20 |
| Y-21 | 11.30 |
| Y-21-1 | 12.20 |
| Y-21-3 | 12.20 |
| Y-22 | 11.30 |
| Y-22-1 | 12.20 |
| Y-22-3 | 12.20 |
| Y-24 | 11.30 |
| Y-25 | 11.30 |
| Y-25-1 | 11.90 |
| Y-25-3 | 11.90 |
| Y-26-2 | 12.80 |
| •Y-28 | 11.30 |
| Y-40 | 12.80 |
| Y-40-3 | 13.70 |
| Y-41 | 12.80 |
| Y-41-3 | 13.70 |
| Y-42-2 | 14.70 |
| •Y-44 | 12.80 |
| •Y-45 | 12.80 |
| •Y-46 | 12.80 |
| •Y-47 | 12.80 |
| •Y-48 | 12.80 |
| Y-50 | 21.45 |
| Y-50-3 | 22.60 |
| YC-1 | 1.00 |

•New Item



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World Radio History

All Switches UL Approved 125-250 VAC

All switches single pole—double throw except 3D05-5P and 3D05-8P which are STNO or SPNC.

O.F.—Operating Force

ACRO DIVISION

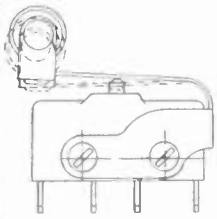
# Robertshaw-Fulton

CONTROLS COMPANY

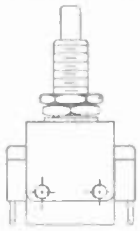
COLUMBUS 16, OHIO

## *The Biggest Line of Little Switches*

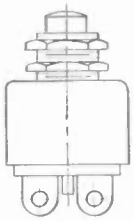
260-0001-00
O.F. 9 oz.



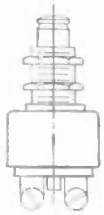
260-0008-00
O.F. 14-20 oz.



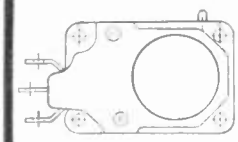
260-0003-00
O.F. 9 oz.



3D05-5P
O.F. 10-15 oz.

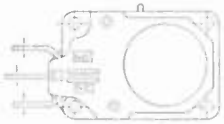


3D05-8P
O.F. 10-15 oz.

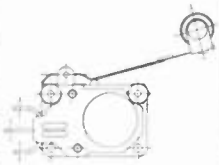


1CMD1-2AXX
O.F. 20-27 GM

1CMD1-2AXX-A22
O.F. 2.5 GM

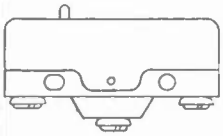


1MD1-1A
O.F. 3-6 oz.

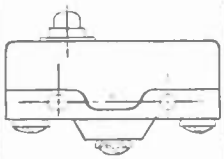


1MD1-1A-A18M
O.F. 2 oz.

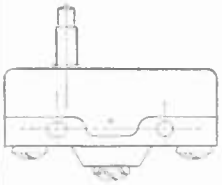
E-S1POBD-R
O.F. 3-6 oz.



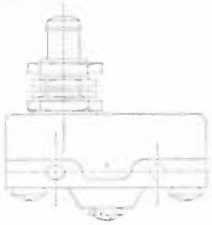
RD-1A-1S
O.F. 9-13 oz.



RD-70-1S
O.F. 9-13 oz.



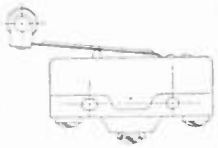
RD-10-1S
O.F. 9-13 oz.



RD-1P-1S
O.F. 9-13 oz.

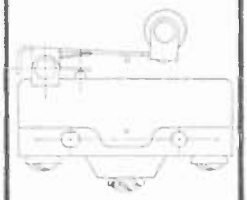
RD-22P-1S
O.F. 9-13 oz.

RD-5L-1S
O.F. 4-5 oz.

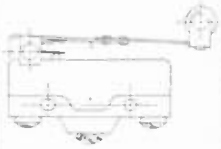


RD-2M-1S
O.F. 5 oz.

RD-LW-1S
O.F. 1-2½ oz.

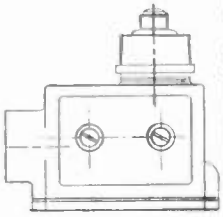


RD-LW22-1S
O.F.2½-6½ oz.

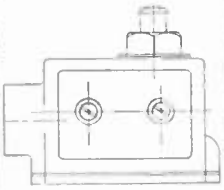


RD-LW28-1S
O.F. 3½ oz.

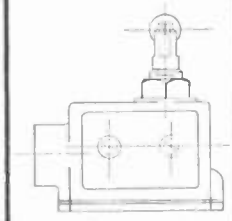
242-0003-00
O.F. 3 lbs.



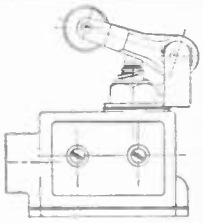
S/FRD6PQ-1S
O.F. 9-13 oz.



S/FRD7PN-1S
O.F. 9-24 oz.



S/FRD-9PR-1S
O.F. 9-13 oz.



S/FRD-8PQ-1S
O.F. 10-18 oz.

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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

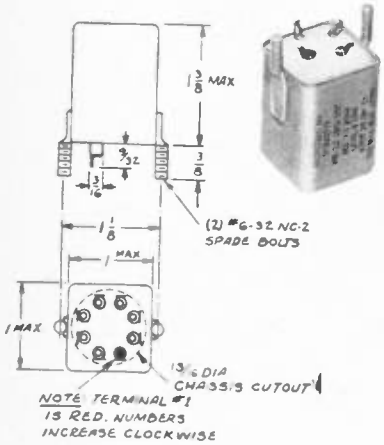
## HERMETICALLY SEALED MINIATURE TRANSFORMERS

The ruggedized military type units shown on this and the accompanying page were developed to meet the demands of a growing miniaturization program. The various types shown are available from stock for immediate delivery. For use in miniaturized vacuum tube and Transistor circuitry.

### MIL CASE
**M-AG**

Grey Enamel Finish. Weight 2⅜ oz. Supplied with compression sealed ceramic terminals in MIL-T-27 AG case.

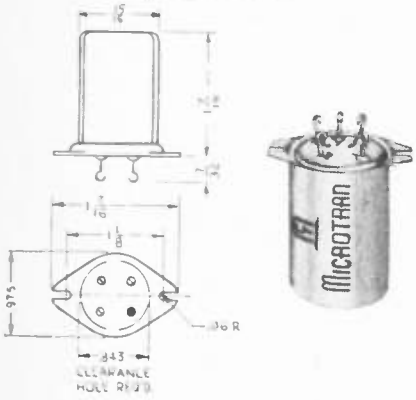
To order add -AG to Part Number. i.e. M2-AG, MT3-AG




### HERMETIC
**M-H**

Grey Enamel Finish. Weight 1¼ oz. High Compression Glass Terminals. .120 holes instead of slots, available on special order.

To order add -H to Part Number. i.e. M2-H, MT3-H




### MINIATURE AUDIO TRANSFORMERS ("M" SERIES)

| Part No.* | Application | Primary Impedance | Secondary Impedance | Pri. D.C. Unbalance Ma. | Operating Level DBM | Frequency Response ±2 db. |
|---|---|---|---|---|---|---|
| M1-(*) | Mike or line to 1 grid | 50/250/600 C.T. | 50,000 | 0 | 5 | 20-20,000 |
| M2-(*) | Mike or line to 2 grids | 50/250/600 C.T. | 50,000 C.T. | 0 | 5 | 20-20,000 |
| M3-(*) | Dynamic mike to 1 grid | 7.5/30 | 50,000 | 0 | 5 | 20-20,000 |
| M4-(*) | Single plate to 1 grid | 15,000 | 60,000 | 0 | 6 | 20-15,000 |
| M5-(*) | Single plate to 1 grid | 15,000 | 60,000 | 4 | 14 | 200-20,000 |
| M6-(*) | Single plate to 2 grids | 15,000 | 95,000 C.T. | 0 | 5 | 20-15,000 |
| M7-(*) | Single plate to 2 grids | 15,000 | 95,000 C.T. | 4 | 11 | 200-20,000 |
| M8-(*) | Single plate to line | 15,000 | 50/250/600 C.T. | 0 | 8 | 20-20,000 |
| M9-(*) | Single plate to line | 15,000 | 50/250/600 C.T. | 4 | 21 | 150-20,000 |
| M10-(*) | Push pull plates to line | 30,000 P.-P. | 50/250/600 C.T. | 0 | 8 | 30-50,000 |
| M11-(*) | Crystal mike to line | 50,000 | 50/250/600 C.T. | 0 | 5 | 20-20,000 |
| M12-(*) | Mixing and matching | 50/250 C.T. | 50/250/600 C.T. | 0 | 8 | 20-20,000 |
| M13-(*) | Reactor | 300 hy. 0 d.c. | 50 hy. @ 3 ma. | | | 6000 Ω D.C.R. |
| M14-(*) | 50: 1 mike to grid | 200 | ½ Megohm | 0 | 9 | 80-3,000 |
| M15-(*) | 10: 1 plate to grid | 10,000 | 1 Megohm | 0 | 11 | 100-2,500 |

### MINIATURE TRANSISTOR TRANSFORMERS ("MT" SERIES)

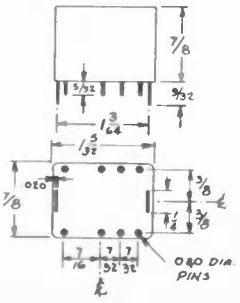
| Part No.* | Application | Primary Impedance | Secondary Impedance | Pri. D.C. Unbalance Ma. | Operating Level DBM | Frequency Response ±2 db. |
|---|---|---|---|---|---|---|
| MT1-(*) | Line to emitter | 600 | 600 | 10 | 23 | 200-15,000 |
| MT2-(*) | Coll. to P.P. Emitt. 2N57 | 100 | 10 C.T. 40 C.T. | 100 | 27 | 200-20,000 |
| MT3-(*) | Collector to emitter or line | 50,000 | 600 | 3 | 20 | 300-15,000 |
| MT5-(*) | Collector to speaker | 50,000 | 6 | 3 | 20 | 300-15,000 |
| MT6-(*) | Collector to P.P. emitter | 100,000 | 1200 C.T. | 1.4 | 17 | 200-15,000 |
| MT7-(*) | Collector to P.P. emitter | 25,000 | 1200 C.T. | 3 | 22 | 200-15,000 |
| MT8-(*) | P.P. Collector to P.P. emitter | 50,000 C.T. | 1200 C.T. | 3 | 20 | 300-15,000 |
| MT9-(*) | Line to P.P. emitter | 600 C.T. | 1200 C.T. | 4 | 23 | 200-15,000 |
| MT10-(*) | Collector to emitter | 25,000 | 600 | 3 | 22 | 200-15,000 |
| MT11-(*) | P.P. Coll. to P.P. Emitt. | 4,000 C.T. | 600 C.T. | 3 | 32 | 200-15,000 |
| MT12-(*) | Output collector to speaker | 2,000 | 3.4 | 10 | 32 | 200-15,000 |
| MT13-(*) | P.P. Coll. to speaker | 4,000 C.T. | 3.4 | 3 | 32 | 200-15,000 |
| MT14-(*) | Coll. to Spkr. 2N179 | 400 | 10 | 50 | 25 | 200-20,000 |
| MT15-(*) | P.P. Servo Output 2N57 | 500 C.T. | 210 | 30 | 27 | 300-20,000 |
| MT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T. | 1,200 C.T. | 6 | 22 | 200-15,000 |
| MT20-(*) | P.P. Coll. to P.P. Emitt. | 50,000 C.T. | 1200/300 Split | 3 | 20 | 300-15,000 |
| MT21-(*) | P.P. Coll. to P.P. Emitt. | 4,000 C.T. | 600/150 Split | 3 | 32 | 200-15,000 |
| MT22-(*) | Line to P.P. Emitt. | 600/150 Split | 1,200 C.T. | 4 | 23 | 200-15,000 |
| MT23-(*) | P.P. coll. to Servo | 250 C.T. | 1000 | 10 | 30 | 300-15,000 |

*Add either -AG, or -H, or -M to part No. to designate construction. See Photos

### MOLDED
**M-M**

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1¾ oz.

To order add -M to Part Number. i.e. M2-M, MT3-M



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

The units shown on this page are suitable for rigid sub-miniaturization applications where the highest resistance to extremes of ambients must still be maintained. Available from stock for immediate delivery.

## HERMETICALLY SEALED SUB-MINIATURE TRANSFORMERS

### SUB-MINIATURE AUDIO TRANSFORMERS ("SM" SERIES)

| Part No. | Application | Primary Impedance | Secondary Impedance | Pri D.C. Unbalance Ma | Operating Level DBM | Freq. Response ±2 db. |
|---|---|---|---|---|---|---|
| SM1-(*) | Input | 200/50 | 250,000 62,500 | 0 | 6 | 80-10,000 |
| SM2-(*) | Interstage 3:1 | 10,000 | 90,000 | 0 | 8 | 100-10,000 |
| SM3-(*) | Plate to line | 10,000 | 200 | 3 | 21 | 150-10,000 |
| SM4-(*) | Output | 30,000 | 50 | 1 | 21 | 150-10,000 |
| SM5-(*) | Reactor 50 HY at 1 MIL. D.C. | 3,000 ohms D.C. Res. | | | | |
| SM6-(*) | Output | 100,000 | 60 | 0.5 | 21 | 150-10,000 |

### SUB-MINIATURE TRANSISTOR TRANSFORMERS ("SMT" SERIES)

| Part No.* | Application | Primary Impedance | Secondary Impedance | Pri D.C. Unbalance Ma | Operating Level DBM | Frequency Response ±2 db. |
|---|---|---|---|---|---|---|
| SMT1-(*) | Line to emitter | 600 | 600 | 9 | 23 | 200-15,000 |
| SMT3-(*) | Collector to emitter or line | 50,000 | 600 | 1 | 20 | 300-15,000 |
| ● SMT4 (*) | P.P. Coll. to P.P. Emitt | 50,000 C.T. | 600 C.T. | 2 | 20 | 200-15,000 |
| SMT5-(*) | Collector to speaker | 50,000 | 6 | 1 | 20 | 300-15,000 |
| SMT7-(*) | Collector to P.P. emitter | 25,000 | 1200 C.T. | 1.5 | 20 | 200-15,000 |
| ● SMT8-(*) | P.P. Coll to P.P. Emitt. | 50,000 C.T. | 1,200 C.T. | 2 | 20 | 200-15,000 |
| ● SMT9-(*) | Line to P.P. Emitt. | 600 C.T. | 1,200 C.T. | 18 | 23 | 200-15,000 |
| SMT10-(*) | Collector to emitter | 25,000 | 600 | 2 | 20 | 200-15,000 |
| SMT12-(*) | Output collector to speaker | 2,000 | 3.4 | 5 | 30 | 200-15,000 |
| SMT13-(*) | Output P.P. collector to spkr. | 4,000 C.T. | 3.4 | 5 | 30 | 200-15,000 |
| SMT16 (*) | Collector to P.P. Emitt. | 10,000 | 1,500 C.T. | 1 | 23 | 200-15,000 |
| ● SMT17-(*) | P.P. Coll. to P.P. Emitt. | 10,000 C.T. | 200 C.T. | 3 | 20 | 200-15,000 |
| ● SMT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T. | 1,200 C.T. | 3 | 20 | 200-15,000 |
| SMT19 (*) | Collector to P.P. Emitt. | 2,500 | 2,500 C.T. | 2.5 | 26 | 200-15,000 |

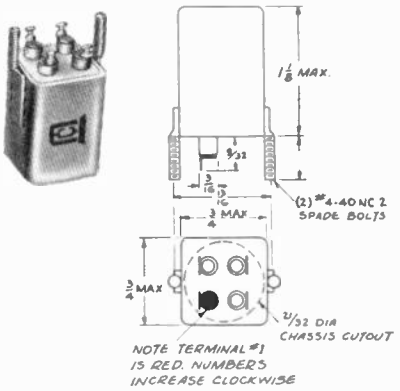
* Add either - F, or - FB, or - FPB to part No. to designate construction. See Photos

● These items not available in—AF Case.

### MIL CASE
**SM-AF**

Grey Enamel Finish. Weight 1⅛ oz. Supplied with compression sealed ceramic terminals in MIL-T-27 AF case.

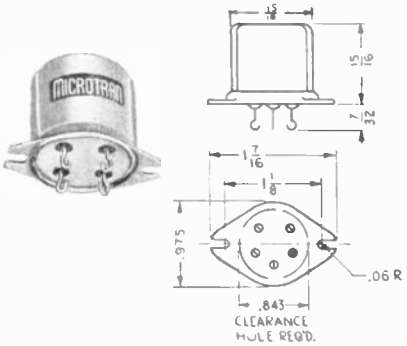
To order add -AF to Part Number. i.e. SM2-AF, SMT3-AF

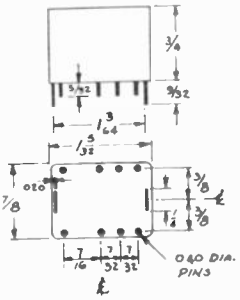



### HERMETIC
**SM-H**

Grey Enamel Finish. Weight 1 oz. High Compression Glass Terminals.

To order add -H to Part Number. i.e. SM2-H, SMT3-H



### MOLDED
**SM-M**

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1 1/2 oz.

To order add -M to Part Number. i.e. SM5-M, SMT5-M

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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

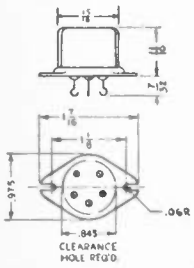
## HERMETICALLY SEALED MICRO-MINIATURE TRANSFORMERS

The units shown on this page are suitable for rigid sub-miniaturization applications where the highest resistance to extremes of ambients must still be maintained. Available from stock for immediate delivery.

### HERMETIC
**MM-H**

Grey Enamel Finish. High Compression Glass Terminals. Weight ¾ oz.

To order add -H to Part Number. i.e. MM2-H, MMT3-H



### MICRO-MINIATURE AUDIO TRANSFORMERS ("MM" SERIES)

| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. DC. Unbalance Ma. | Operating Level DBM | Freq. Response ±2 db. |
|---|---|---|---|---|---|---|
| MM1-(*) | Input | 200/50 | 250,000/62,500 | 0 | 4 | 200-10,000 |
| MM2-(*) | Interstage 3:1 | 10,000 | 90,000 | 0 | 4 | 150-10,000 |
| MM3-(*) | Plate to line | 10,000 | 200 | 3 | 20 | 150-10,000 |
| MM4-(*) | Output | 30,000 | 50 | 1 | 20 | 150-10,000 |
| MM5-(*) | Reactor 50 HY at 1 MIL. D.C. | 4,700 ohms D.C. Res. | | | | |
| MM6-(*) | Output | 100,000 | 60 | 0.5 | 20 | 250-10,000 |
| MM7-(*) | Output | 30,000 | 1200 | 0.5 | 20 | 200-10,000 |

### MICRO-MINIATURE TRANSISTOR SERIES ("MMT" SERIES)

| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. DC. Unbalance Ma. | Operating Level DBM | Freq. Response ±2 db. |
|---|---|---|---|---|---|---|
| MMT1-(*) | Line to emitter | 600 | 600 | 8 | 22 | 200-15,000 |
| MMT3-(*) | Collector to emitter or line | 50,000 | 600 | 0.7 | 20 | 200-15,000 |
| MMT4-(*) | P.P. collector to P.P. emitter | 50,000 C.T. | 600 C.T. | 1.4 | 20 | 200-15,000 |
| MMT5-(*) | Collector to speaker | 50,000 | 6 | 1 | 20 | 200-15,000 |
| MMT7-(*) | Coll. to P.P. emitter | 25,000 | 1200 C.T. | 1 | 20 | 200-15,000 |
| MMT8-(*) | P.P. collector to P.P. emitter | 50,000 C.T. | 1200 C.T. | 1.4 | 20 | 200-15,000 |
| MMT9-(*) | Line to P.P. emitter | 600 C.T. | 1200 C.T. | 16 | 22 | 200-15,000 |
| MMT10-(*) | Collector to emitter | 25,000 | 600 | 1 | 20 | 200-15,000 |
| MMT11-(*) | P.P. col. to P.P. emit. or line | 4,000 C.T. | 600 C.T. | 5 | 28 | 200-15,000 |
| MMT12-(*) | Coll. to Spkr. | 2,000 | 3.4 | 5 | 28 | 200-15,000 |
| MMT13-(*) | Output P.P. collector to spkr. | 4,000 C.T. | 3.4 | 5 | 28 | 200-15,000 |
| MMT16-(*) | Collector to P.P. Emitt. | 10,000 | 1,500 C.T. | 1 | 20 | 200-15,000 |
| MMT17-(*) | P.P. Coll. to P.P. Emitt. | 10,000 C.T. | 200 C.T. | 3 | 20 | 200-15,000 |
| MMT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T. | 1,200 C.T. | 2 | 20 | 200-15,000 |
| MMT19-(*) | Collector to P.P. Emitt. | 2,500 | 2,500 C.T. | 2 | 23 | 200-15,000 |

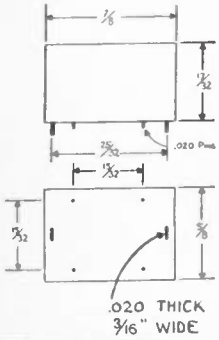
*Add either -M, or -H to Part No. to designate construction. See Photos.

### MOLDED
**MM-M**

**Micro-Miniature Size**

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight ½ oz.

To order add -M to Part Number. i.e. MM2-M, MMT2-M.



### SPECIAL STOCK UNITS

On special order, Catalog items on pages N-785 through N-794 are available with modified electrical characteristics such as extra taps, impedance changes, or High Temperature construction. Shown below are the typical special mechanical constructions that are available on special order.

Epoxy Encapsulation with solder lug terminals (on special order only)

Hermetic Construction with terminals opposite from mounting surface (on special order only)



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

Designed specifically for Transistor, Servo and Audio applications. All units shown are of MIL-T-27A construction and are available from stock. On special order may be obtained in alternate constructions such as Epoxy molded, or open frame. Also available with modified electrical specifications.

## HERMETICALLY SEALED TRANSISTOR DRIVER OUTPUT AND POWER SUPPLY TRANSFORMERS

### TRANSISTOR DRIVER TRANSFORMERS

| Part Number | Application | Pri. Imp. | Sec. Imp. | Pri. D.C. Unbal. Ma. | Level Watts | Frequency Response ±2 Db. | Size D | Size W | Size H | Mounting Centers Md | Mounting Centers Mw | Mil Case |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M8002* | Collector to P.P. Emit. | 560 | 400 C.T. | 18 | .15 | 200-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8003* | Collector to P.P. Emit. | 625 C.T. | 100 C.T. | 20 | 1.5 | 200-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8004 | Collector to P.P. Emit. | 5,400 | 600 C.T. | 15 | .075 | 200-15,000 | 1 5/16 | 1 5/16 | 1 3/4 | 1 1/4 Diag. | | AH |
| M8005 | Collector to P.P. Emit. | 7,000 | 320 C.T. | 7 | .040 | 70-15,000 | 1 5/16 | 1 5/16 | 1 3/4 | 1 1/4 Diag. | | AH |
| M8006 | Collector to P.P. Emit. | 10,000 | 6,500 C.T. | .75 | .005 | 200-15,000 | 3/4 | 3/4 | 1 1/8 | 27/32 Diag. | | AF Mod. |

*Bi-Filar wound to minimize switching transients.

### TRANSISTOR OUTPUT TRANSFORMERS

| Part Number | Application | Pri. Imp. | Sec. Imp. | Pri. D.C. Unbal. Ma. | Level Watts | Frequency Response ±2 Db. | Size D | Size W | Size H | Mounting Centers Md | Mounting Centers Mw | Mil Case |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M8007* | P.P. Auto Transformer | 9 C.T. | 3-4 | 200 | 2 | 100-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8008 | P.P. Output to Spkr. | 25 | 3-4 | 600 | 3 | 200-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8009 | P.P. Output to Spkr. | 48 C.T. | 3.2/8 | 50 | 5 | 200-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8010 | P.P. Col. to Servo | 120 C.T. | 1,000 | 40 | 6 | 300-15,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8011 | P.P. Output to Spkr. | 125 C.T. | 3-4 | 20 | 1.5 | 200-15,000 | 1 5/16 | 1 5/16 | 1 3/4 | 1 1/4 Diag. | | AH |
| M8012* | P.P. Col. to Servo | 140 C.T. | 500 | 50 | 6 | 300-15,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8013* | P.P. Output to Spkr. | 250 C.T. | 3-4 | 20 | .4 | 70-15,000 | 1 5/16 | 1 5/16 | 1 3/4 | 1 1/4 Diag. | | AH |
| M8014 | P.P. Output to Spkr. | 400 C.T. | 11 | 2 | .25 | 300-15,000 | 3/4 | 3/4 | 1 1/8 | 27/32 Diag. | | AF Mod. |
| M8015 | P.P. Col. to Servo | 1,600 C.T. | 800 | 5 | 2.5 | 150-20,000 | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | AJ |
| M8016 | P.P. Output to Spkr. | 2,550 C.T. | 12 | 4 | .10 | 300-15,000 | 3/4 | 3/4 | 1 1/8 | 27/32 Diag. | | AF Mod. |

*Bi-Filar wound to minimize switching transients.

### POWER SUPPLY TRANSFORMERS

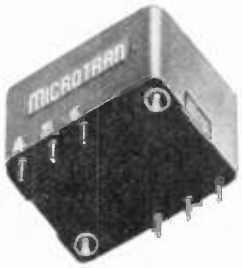
**Designed for Silicon Rectifier Circuitry Primary 105/115/125 Volts**

| Part Number | Frequency Cycles | Secondary AC Volts | Secondary RMS Amperes | Rectifier Circuit C.T. Full Wave D.C. Volts** | Rectifier Circuit F.W. Bridge D.C. Volts** | Size D | Size W | Size H | Mounting Centers Md | Mounting Centers Mw | Mil Case |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M8018 | 380-1600 | 18.5 C.T. | 1 | 7 | 14 | 1 15/16 | 1 13/16 | 2 3/4 | 1 3/8 | 1 1/4 | EA |
| M8019 | 380-1600 | 18.5 C.T. | 3 | 7 | 14 | 2 5/16 | 2 1/16 | 3 1/8 | 1 11/16 | 1 7/16 | FA |
| M8020 | 380-1600 | 35 C.T. | 3 | 14.5 | 29 | 2 3/4 | 2 3/8 | 3 13/16 | 2 1/8 | 1 3/4 | GA |
| M8021 | 380-1600 | 70 C.T. | 1 | 30 | 60 | 2 5/16 | 2 1/16 | 3 1/8 | 1 11/16 | 1 7/16 | FA |
| M8022 | 50/60 | 18.5 C.T. | 3 | 7 | 14 | 3 9/16 | 3 1/16 | 3 7/8 | 2 5/8 | 2 1/8 | JB |
| M8023 | 50/60 | 35 C.T. | 3 | 14.5 | 29 | 3 15/16 | 3 3/8 | 4 1/2 | 3 | 2 7/16 | KB |
| M8024 | 50/60 | 70 C.T. | 1 | 30 | 60 | 3 9/16 | 3 1/16 | 4 7/8 | 2 5/8 | 2 1/8 | JA |

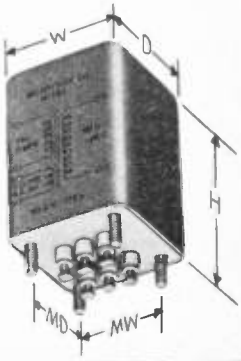
**D.C. Output voltages stated for resistive or inductive rectifier loads.

**EPOXY MOLDED**
**(On Special Order Only)**

Inserts or studs or tabs for mounting, leads terminated with .040 pins for printed circuit applications.




**HERMETICALLY SEALED**
**PER MIL-T-27A**

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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

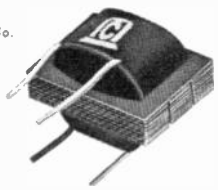
## INDUSTRIAL GRADE MINIATURE CASED and OPEN FRAME TRANSFORMERS

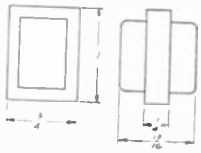
These miniature units are suitable for use in high fidelity amplifiers, broadcast equipment, and portable applications. Thorough baking and resin impregnation assure reliable life. Open frame units supplied with 4 inch #27 color coded vinyl leads. Available from stock for immediate delivery.

### OPEN FRAME
**M-F**

Weight 1 oz.

To order add -F to Part No. i.e. MT3-F, M1-F

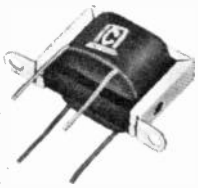


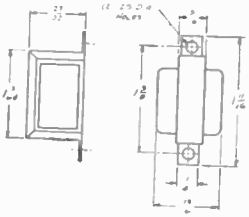


### OPEN FRAME WITH CHANNEL
**M-FB**

Weight 1.13 oz.

To order add -FB to Part No. i.e. MT3-FB, M1-FB



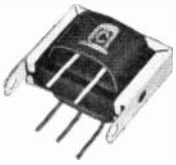


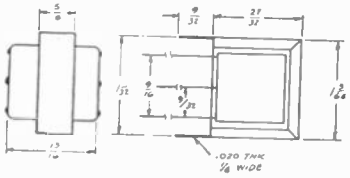
### PLUG-IN TAB MOUNTED CHANNEL
**M-FPB**

Designed for Printed Circuit Applications

Weight 1.13 oz.

To order add -FBP to Part No. i.e. MT3-FPB, M1-FPB





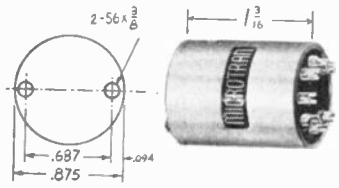

### MINIATURE AUDIO TRANSFORMERS ("M" SERIES)

| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. D.C. Unbalance Ma. | Operating Level DBM | Freq Response ±2 db |
|---|---|---|---|---|---|---|
| M1-(*) | Mike or line to 1 grid | 50/250/600 C.T. | 50,000 | 0 | 5 | 20-20,000 |
| M2-(*) | Mike or line to 2 grids | 50/250/600 C.T. | 50,000 C.T. | 0 | 5 | 20-20,000 |
| M3-(*) | Dynamic mike to 1 grid | 7.5/30 | 50,000 | 0 | 5 | 20-20,000 |
| M4-(*) | Single plate to 1 grid | 15,000 | 60,000 | 0 | 6 | 20-15,000 |
| M5-(*) | Single plate to 1 grid | 15,000 | 60,000 | 4 | 14 | 200-20,000 |
| M6-(*) | Single plate to 2 grids | 15,000 | 95,000 C.T. | 0 | 5 | 20-15,000 |
| M7-(*) | Single plate to 2 grids | 15,000 | 95,000 C.T. | 4 | 11 | 200-20,000 |
| M8-(*) | Single plate to line | 15,000 | 50/250/600 C.T. | 0 | 8 | 20-20,000 |
| M9-(*) | Single plate to line | 15,000 | 50/250/600 C.T. | 4 | 21 | 150-20,000 |
| M10-(*) | Push pull plates to line | 30,000 P.-P. | 50/250 600 C.T. | 0 | 8 | 30-50,000 |
| M11-(*) | Crystal mike to line | 50,000 | 50/250 600 C.T. | 0 | 5 | 20-20,000 |
| M12-(*) | Mixing and matching | 50/250 C.T. | 50/250 600 C.T. | 0 | 8 | 20-20,000 |
| M13-(*) | Reactor | 300 hy. 0 d.c. | 50 hy. @ 3 ma. | | | 6000 Ω D.C.R. |
| M14-(*) | 50: 1 mike to grid | 200 | ½ Megohm | 0 | 9 | 80-3,000 |
| M15-(*) | 10: 1 plate to grid | 10,000 | 1 Megohm | 0 | 11 | 100-2,500 |

### MINIATURE TRANSISTOR TRANSFORMERS ("MT" SERIES)

| | | | | | | |
|---|---|---|---|---|---|---|
| MT1-(*) | Line to emitter | 600 | 600 | 10 | 23 | 200-15,000 |
| MT2-(*) | Coll. to P.P. Emitt. 2N57 | 100 | 10 C.T. 40 C.T | 100 | 27 | 200-20,000 |
| MT3-(*) | Collector to emitter or line | 50,000 | 600 | 3 | 20 | 300-15,000 |
| MT5-(*) | Collector to speaker | 50,000 | 6 | 3 | 20 | 300-15,000 |
| MT6-(*) | Collector to P.P. emitter | 100,000 | 1200 C.T. | 1.4 | 17 | 200-15,000 |
| MT7-(*) | Collector to P.P. emitter | 25,000 | 1200 C.T. | 3 | 22 | 200-15,000 |
| MT8-(*) | P.P. Collector to P.P. emitter | 50,000 C.T. | 1200 C.T. | 3 | 20 | 300-15,000 |
| MT9-(*) | Line to P.P. emitter | 600 C.T. | 1200 C.T | 4 | 23 | 200-15,000 |
| MT10-(*) | Collector to emitter | 25,000 | 600 | 3 | 22 | 200-15,000 |
| MT11-(*) | P.P Coll. to P.P. Emitt. | 4,000 C.T. | 600 C.T. | 3 | 32 | 200-15,000 |
| MT12-(*) | Output collector to speaker | 2,000 | 3.4 | 10 | 32 | 200-15,000 |
| MT13-(*) | P.P. Coll. to speaker | 4,000 C.T. | 3.4 | 3 | 32 | 200-15,000 |
| MT14-(*) | Coll. to Spkr. 2N179 | 400 | 10 | 50 | 25 | 200-20,000 |
| MT15-(*) | P.P. Servo Output 2N57 | 500 C.T. | 210 | 30 | 27 | 300-20,000 |
| MT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T | 1,200 C.T. | 6 | 22 | 200-15,000 |
| MT20-(*) | P.P. Coll. to P.P. Emitt. | 50,000 C.T. | 1200/300 Split | 3 | 20 | 300-15,000 |
| MT21-(*) | P.P. Coll. to P.P. Emitt. | 4,000 C.T. | 600/150 Split | 3 | 32 | 200-15,000 |
| MT22-(*) | Line to P.P. Emitt. | 600/150 Split | 1,200 C.T | 4 | 23 | 200-15,000 |
| MT23-(*) | P.P. coll. to Servo | 250 C.T. | 1000 | 10 | 30 | 300-15,000 |

*Add either - F, or - FB, or - FPB, or - A, or -P to part No. to designate construction. See Photos




### ALUMINUM CASED
**M-A**

Supplied with 2-56 Screws

Weight 1.25 oz.

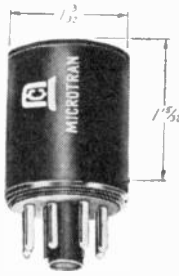
To order add -A to Part No. i.e. MT3A-, M1-A

### OCTAL PLUG-IN
**M-P**

Sealed Plastic Housing

Weight 2 oz.

To order add -P to Part No. i.e. MT3-P, M1-P



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

These units are designed for use in Airborne Equipment, Missile Devices and Miniature Amplifiers. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Supplied with 4 inch #27 color coded vinyl leads. Available from stock.

## OPEN FRAME SUB-MINIATURE TRANSFORMERS

### SUB-MINIATURE AUDIO TRANSFORMERS ("SM" SERIES)

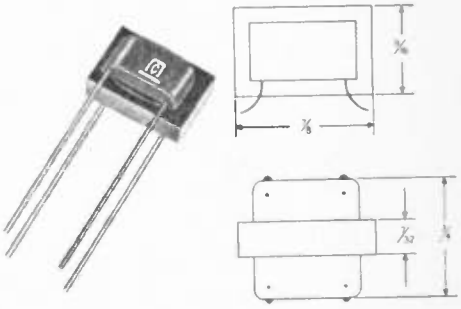
| Part No.* | Application | Primary Impedance | Secondary Impedance | Pri. D.C. Unbalance Ma | Operating Level DBM | Frequency Response ±2 db. |
|---|---|---|---|---|---|---|
| SM1-(*) | Input | 200/50 | 250,000/62,500 | 0 | 6 | 80-10,000 |
| SM2-(*) | Interstage 3:1 | 10,000 | 90,000 | 0 | 8 | 100-10,000 |
| SM3-(*) | Plate to line | 10,000 | 200 | 3 | 21 | 150-10,000 |
| SM4-(*) | Output | 30,000 | 50 | 1 | 21 | 150-10,000 |
| SM5-(*) | Reactor 50 HY at 1 MIL. D.C. | 3,000 ohms D.C. Res. | | | | |
| SM6-(*) | Output | 100,000 | 60 | 0.5 | 21 | 150-10,000 |

### SUB-MINIATURE TRANSISTOR TRANSFORMERS ("SMT" SERIES)

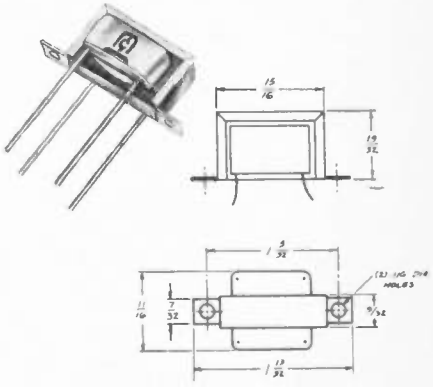
| Part No.* | Application | Primary Impedance | Secondary Impedance | Pri. D.C. Unbalance Ma | Operating Level DBM | Frequency Response ±2 db. |
|---|---|---|---|---|---|---|
| SMT1-(*) | Line to emitter | 600 | 600 | 9 | 23 | 200-15,000 |
| SMT3-(*) | Collector to emitter or line | 50,000 | 600 | 1 | 20 | 300-15,000 |
| SMT4-(*) | P.P. Coll. to P.P. Emitt | 50,000 C.T. | 600 C.T. | 2 | 20 | 200-15,000 |
| SMT5-(*) | Collector to speaker | 50,000 | 6 | 1 | 20 | 300-15,000 |
| SMT7-(*) | Collector to P.P. emitter | 25,000 | 1200 C.T. | 1.5 | 20 | 200-15,000 |
| SMT8-(*) | P.P. Coll. to P.P. Emitt. | 50,000 C.T. | 1,200 C.T. | 2 | 20 | 200-15,000 |
| SMT9-(*) | Line to P.P. Emitt. | 600 C.T. | 1,200 C.T. | 18 | 23 | 200-15,000 |
| SMT10-(*) | Collector to emitter | 25,000 | 600 | 2 | 20 | 200-15,000 |
| SMT12-(*) | Output collector to speaker | 2,000 | 3.4 | 5 | 30 | 200-15,000 |
| SMT13-(*) | Output P.P. collector to spkr. | 4,000 C.T. | 3.4 | 5 | 30 | 200-15,000 |
| SMT16-(*) | Collector to P.P. Emitt. | 10,000 | 1,500 C.T. | 1 | 23 | 200-15,000 |
| SMT17-(*) | P.P. Coll. to P.P. Emitt. | 10,000 C.T. | 200 C.T. | 3 | 20 | 200-15,000 |
| SMT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T. | 1,200 C.T. | 3 | 20 | 200-15,000 |
| SMT19-(*) | Collector to P.P. Emitt. | 2,500 | 2,500 C.T. | 2.5 | 26 | 200-15,000 |

* Add either - F, or - FB, or - FPB to part No. to designate construction. See Photos

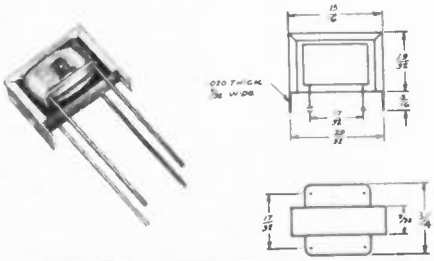
### OPEN FRAME
**SM-F**
SUB-MINIATURE SIZE
Weight .665 oz.
To order add -F to Part No.
i.e. SMT3-F, SM1-F



### OPEN FRAME WITH CHANNEL
**SM-FB**
SUB-MINIATURE SIZE
Weight .710 oz.
To order add -FB to Part No.
i.e. SMT3-FB, SM1-FB



### PLUG-IN TAB MOUNTED CHANNEL
**SM-FPB**
SUB-MINIATURE SIZE
Weight .710 oz.
To order add -FBP to Part No.
i.e. SMT3-FPB, SM1-FPB



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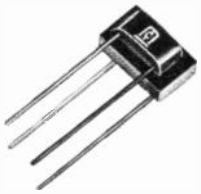
World Radio History

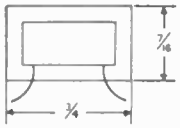
# MICROTRAN company, inc., VALLEY STREAM, N. Y.

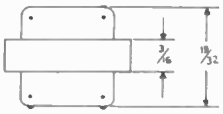
## OPEN FRAME MICRO-MINIATURE TRANSFORMERS

These units are designed for use in Airborne Equipment, Missile Devices and Miniature Amplifiers. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Supplied with 4 inch #27 color coded vinyl leads. Available from stock.

### OPEN FRAME
**MM-F**
MICRO-MINIATURE SIZE
Weight .375 oz.
To order add -F to Part No. i.e. MMT3-F, MM1-F






### MICRO-MINIATURE AUDIO TRANSFORMERS ("MM" SERIES)

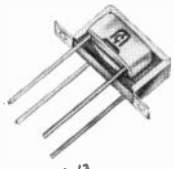
| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. DC. Unbalance Ma. | Operating Level DBM | Freq. Response ±2 db. |
|---|---|---|---|---|---|---|
| MM1-(*) | Input | 200/50 | 250,000/62,500 | 0 | 4 | 200-10,000 |
| MM2-(*) | Interstage 3:1 | 10,000 | 90,000 | 0 | 4 | 150-10,000 |
| MM3-(*) | Plate to line | 10,000 | 200 | 3 | 20 | 150-10,000 |
| MM4-(*) | Output | 30,000 | 50 | 1 | 20 | 150-10,000 |
| MM5-(*) | Reactor 50 HY at 1 MIL. D.C. | 4,700 ohms D.C. Res. | | | | |
| MM6-(*) | Output | 100,000 | 60 | 0.5 | 20 | 250-10,000 |
| MM7-(*) | Output | 30,000 | 1200 | 0.5 | 20 | 200-10,000 |

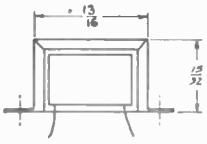
### MICRO-MINIATURE TRANSISTOR SERIES ("MMT" SERIES)

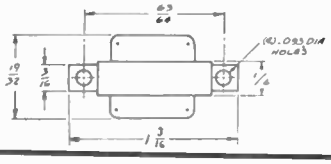
| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. DC. Unbalance Ma. | Operating Level DBM | Freq. Response ±2 db. |
|---|---|---|---|---|---|---|
| MMT1-(*) | Line to emitter | 600 | 600 | 8 | 22 | 200-15,000 |
| MMT3-(*) | Collector to emitter or line | 50,000 | 600 | 0.7 | 20 | 200-15,000 |
| MMT4-(*) | P.P. collector to P.P. emitter | 50,000 C.T. | 600 C.T. | 1.4 | 20 | 200-15,000 |
| MMT5-(*) | Collector to speaker | 50,000 | 6 | 1 | 20 | 200-15,000 |
| MMT7-(*) | Coll. to P.P. emitter | 25,000 | 1200 C.T. | 1 | 20 | 200-15,000 |
| MMT8-(*) | P.P. collector to P.P. emitter | 50,000 C.T. | 1200 C.T. | 1.4 | 20 | 200-15,000 |
| MMT9-(*) | Line to P.P. emitter | 600 C.T. | 1200 C.T. | 16 | 22 | 200-15,000 |
| MMT10-(*) | Collector to emitter | 25,000 | 600 | 1 | 20 | 200-15,000 |
| MMT11-(*) | P.P. col. to P.P. emit. or line | 4,000 C.T. | 600 C.T. | 5 | 28 | 200-15,000 |
| MMT12-(*) | Coll. to Spkr. | 2,000 | 3.4 | 5 | 28 | 200-15,000 |
| MMT13-(*) | Output P.P. collector to spkr. | 4,000 C.T. | 3.4 | 5 | 28 | 200-15,000 |
| MMT16-(*) | Collector to P.P. Emitt. | 10,000 | 1,500 C.T. | 1 | 20 | 200-15,000 |
| MMT17-(*) | P.P. Coll. to P.P. Emitt. | 10,000 C.T. | 200 C.T. | 3 | 20 | 200-15,000 |
| MMT18-(*) | P.P. Coll. to P.P. Emitt. | 25,000 C.T. | 1,200 C.T. | 2 | 20 | 200-15,000 |
| MMT19-(*) | Collector to P.P. Emitt. | 2,500 | 2,500 C.T. | 2 | 23 | 200-15,000 |

*Add either -F, or -FB, or -FPB to Part No. to designate construction. See Photos.

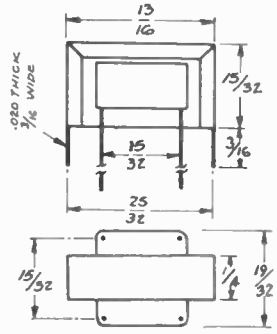
### OPEN FRAME WITH CHANNEL
**MM-FB**
MICRO-MINIATURE SIZE
Weight .415 oz.
To order add -FB to Part No. i.e. MMT3-FB, MM1-FB






### PLUG-IN TAB MOUNTED CHANNEL
**MM-FPB**
MICRO-MINIATURE SIZE
Weight .415 oz.
To order add -FBP to Part No. i.e. MMT3-FPB, MM1-FPB



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

On this page are listed units designed for the extremes in miniaturization. The 4 inch #27 color coded leads supplied are suitable for dip soldering in printed circuits. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Highest efficiency—space factor obtained by use of high permeability Nickel-Alloy Cores, Nylon Bobbins, Formvar Wire. Available from stock.

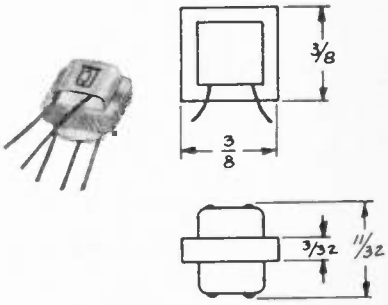
## OPEN FRAME ULTRA and VERI-MINIATURE TRANSFORMERS

### ULTRA-MINIATURE TRANSISTOR TRANSFORMERS ("UM" SERIES)

**Frequency Response ±2 db. 300 to 10,000 Cycles**

| Part No. | Application | Primary Impedance | Secondary Impedance | Unbal. Pri. D.C. Ma. | Pri. D.C.R. | Sec. D.C.R. | Level MW. |
|---|---|---|---|---|---|---|---|
| UM21-F | Input | 100,000 | 1,000 | 0 | 1,700 | 135 | 8 |
| UM22-F | Driver | 20,000 | 1,000 | .5 | 1,000 | 90 | 2.5 |
| UM23-F | Driver | 20,000 | 1,200 C.T. | .5 | 1,000 | 100 | 2.5 |
| UM24-F | Output | 1,000 | 50 | 3 | 60 | 8.5 | 3 |
| UM25-F | Output | 400 | 50 | 3 | 30 | 4.5 | 4 |
| UM26-F | Output | 400 | 11 | 3 | 30 | 1.5 | 4 |
| UM27-F | Output | 400 C.T. | 11 | 6 | 30 | 1.5 | 4 |
| UM28-F | Choke | 10 hy. (0 dc) | | 8 hy.(.5ma) | 650 | | |

### OPEN FRAME
**UM-F**
ULTRA MINIATURE SIZE
Weight .08 oz.




### VERI-MINIATURE TRANSISTOR TRANSFORMERS ("VM" SERIES)

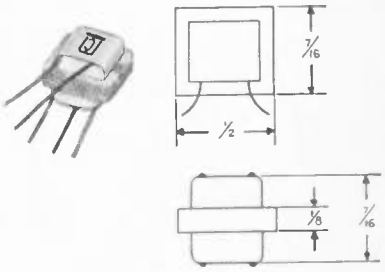
**Frequency Response ±2 db. 200 to 10,000 Cycles**

| Part No. | Application | Primary Impedance | Secondary Impedance | Pri. D.C.R. | Sec. D.C.R. | Level MW. |
|---|---|---|---|---|---|---|
| VM1-(*) | Input | 50 | 600 (1.5ma) | 6 | 70 | 15 |
| VM2-(*) | Input or Interstage | 200,000 | 600 (1.0ma) | 2650 | 80 | 5 |
| VM3-(*) | Interstage | 25,000 | 600 (1 ma) | 675 | 45 | 5 |
| VM4-(*) | Input or Interstage | 200,000 | 1200 (.72ma) | 2650 | 160 | 5 |
| VM5-(*) | Interstage | 50,000 | 600 (1.0ma) | 1500 | 60 | 5 |
| VM6-(*) | Interstage | 100,000 | 1,200 C.T. (.72 ma) | 2K | 140 | 5 |
| VM7-(*) | Output | 500 (3.5ma) | 3.4 | 60 | .5 | 15 |
| VM8-(*) | Output | 1250 (2.0ma) | 3.4 | 115 | .5 | 15 |
| VM9-(*) | Output | 1250 (2.0ma) | 50 | 115 | .6 | 15 |
| VM10-(*) | Interstage | 2,500 (1.5 ma) | 2,500 C.T. | 225 | 225 | 3 |
| VM11-(*) | Choke | 20 hy. (0ma) | 12 hy. (.5ma) | 1000 | — | — |
| VM12-(*) | Interstage | 20,000 (.75 ma) | 1,000 | 650 | 100 | 5 |
| VM13-(*) | Interstage | 20,000 (.72 ma) | 1,000 C.T. | 650 | 100 | 5 |

*Add either -F, or -M, or -FPB to Part No. to designate construction. See Photos.

### OPEN FRAME
**VM-F**
VERI-MINIATURE SIZE
Weight .16 oz.

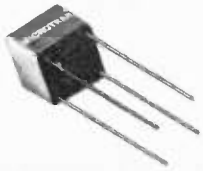
To order add -F to Part Number. i.e. VM2-F

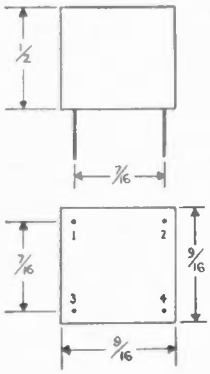



### MOLDED
**VM-M**
VERI-MINIATURE SIZE

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight ¼ oz.

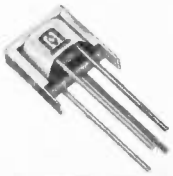
To order add -M to Part Number. i.e. VM2-M, VM9-M

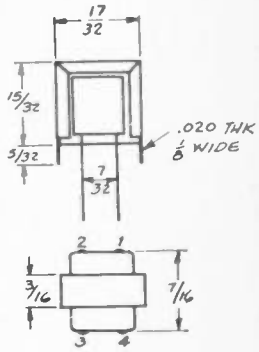





### PLUG-IN TAB MOUNTED CHANNEL
**VM-FPB**
VERI-MINIATURE SIZE
Weight .2 oz.

To order add -FPB to Part Number. i.e. VM2-FPB



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SEE PAGE N-795 FOR MICROTRAN PRICES

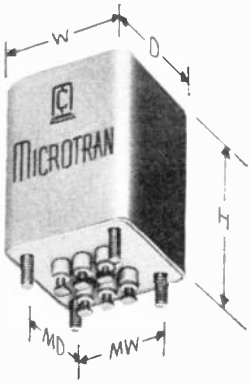


World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

## D. C. TO D. C. CONVERTER TRANSFORMERS

Permits conversion of low voltage direct current to high voltage for operating mobile and military electronic equipment. These miniaturized high efficiency transformers used in transistor switching circuits provide greatly improved reliability, efficiency, ruggedness, over vibrator and rotary power converters.




All transformers shown are hermetically sealed and constructed in accordance with MIL-T-27A Grade 4, Class R, 10,000 hour minimum life. Unique construction eliminates the difficulties usually experienced with high voltage random wound torroidal transformers and mechanical fragility of ferrite cores. On special order obtainable with modified electrical or mechanical specifications. Available from franchised stocking distributors.

## D. C. TO D. C. CONVERTER TRANSFORMERS

| Part Number | Nominal D.C. Input Volts | Total V.A. Output* | Typical** Transistors | D.C. Output* F.W. Bridge Volts | F.W. Bridge Ma. | C.T. Full wave Volts | C.T. Full wave Ma. | Size D | Size W | Size H | Mounting Centers MD | Mounting Centers MW | MIL Case |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M8034 | 28 | 125 | Delco 2N174 | 500 | 250 | 250 | 420 | 2¾ | 2⅜ | 3 13/16 | 2⅛ | 1¾ | GA |
| M8035 | 13.6 | 125 | Delco 2N442 | 500 | 250 | 250 | 420 | 2¾ | 2⅜ | 3 13/16 | 2⅛ | 1¾ | GA |
| M8036 | 13.6 | 40 | CBS 2N256 | 450 | 90 | 225 | 155 | 2 5/16 | 2 1/16 | 3⅛ | 1 11/16 | 1 7/16 | FA |
| M8037 | 13.6 | 22.5 | Clevite 2N257 | 250 | 90 | 125 | 155 | 1 15/16 | 1 13/16 | 2¾ | 1⅜ | 1¼ | EA |

*Full wave and C.T. loads may be simultaneously drawn. However, for continuous duty operation, Total V.A. ouput shown should not be exceeded.

**Typical transistors suggested are for reference only, as user must verify that maximum transistor ratings will not be exceeded for the particular application.

## TYPICAL DC-DC CONVERTER CIRCUIT

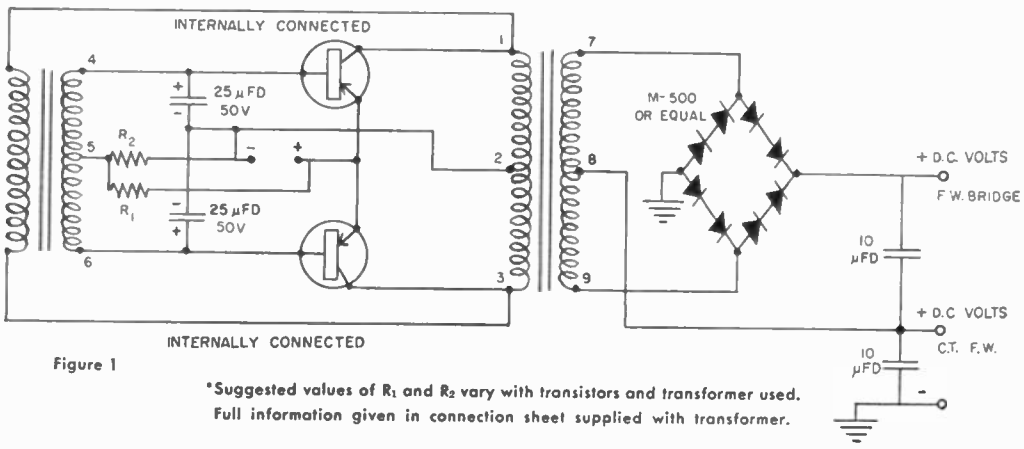



Figure 1

*Suggested values of $R_1$ and $R_2$ vary with transistors and transformer used. Full information given in connection sheet supplied with transformer.

Overall DC to DC full load efficiency 80% to 90% when used in circuit similar to Fig. 1. Output voltage to input of rectifier is a 1600 nominal cycle square wave permitting ease of filtering.



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

Professional quality cased input Transformers for connection to low level chopper, microphone, pick up, tape heads, or lines. All units are magnetically shielded to improve signal to noise ratio.

# CHOPPER AND INPUT TRANSFORMERS

## CHOPPER TRANSFORMERS

Efficiently transfers 30 to 500 cps. Transducer or Thermocouple signals to instrument amplifiers. Signal level range from .5μV. to .5 volts. Resin impregnated to minimize mechanical vibration noise signal. Low hum pick up assured by 3 mu-metal and 2 copper shields. Accurate center taps and external electrostatic shield connection improve low-level operation.

| Part Number | Turns Ratio Full Pri. To Full Sec. | Turns Ratio ½ Pri. To Full Sec. | Ind. of Full Pri. @ .5V. 60~ | Imped. of Full Pri. @ .5V. 60~ | D.C. Resistance Full Pri. | D.C. Resistance Sec. | Magnetic Shielding | Hght. | Dia. | Wght. Oz. | Fig. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M8025 | 1:7.7 | 1:15.4 | 17.5 | 6,600 | 365 | 4140 | 90 DB. | 1 25/32 | 1⅜ D. | 4.5 | A |
| M8026 | 1:3.2 | 1:6.4 | 60 HY. | 22,500 | 455 | 3500 | 90 DB. | 1 25/32 | 1⅜ D. | 4.5 | A |

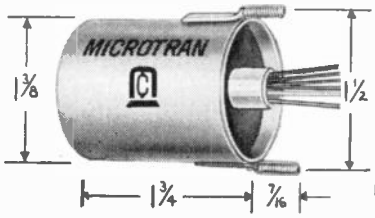


FIGURE A

### LOW LEVEL CHOPPER INPUT

6-32 x 7/16" Mounting studs on 1½" centers. Available on special order with Plug-in header and hermetically sealed.

## PLUG-IN INPUT TRANSFORMERS

These Broadcast fidelity input transformers are double mu-metal shielded. Plug-in feature permits simple installation.

| Part Number | Pri. Imp. | Sec. Imp. | Magnetic Shielding | Level DBM | Frequency Resp. ±2 db. | Height | Width or Diameter | Weight Oz. | Figure |
|---|---|---|---|---|---|---|---|---|---|
| M8027 | 250/50 C.T. | 50,000 | 65 DB. | +5 | 20-20,000 | 2⅜ | 1⅛ D. | 11 | B |
| M8028 | 170 | 50,000 | 65 | +5 | 20-20,000 | 1¾ | 1 D. | 4 | C |
| M8029 | 600 | 50,000 | 65 | +5 | 20-20,000 | 2 11/16 | 2 | 16 | D |
| M8030* | 200/50 C.T. | 50,000 | 65 | +5 | 20-20,000 | 2⅛ | 1⅛ D. | 6 | E |
| M8031 | 600 C.T./150 | 50,000 | 65 | +5 | 30-20,000 | 2⅛ | 1⅛ D. | 6 | E |
| M8032† | 250 C.T. | 50,000 | 65 | +5 | 20-20,000 | 2⅛ | 1⅛ D. | 6 | E |
| M8033† | 50 C.T. | 50,000 | 65 | +5 | 20-20,000 | 2⅛ | 1⅛ D. | 6 | E |

*M8030 is designed as a replacement for Ampex No. 1733-1.

†M8032 and M8033 mates with sockets on many RCA amplifiers.

FIGURE C

### PHONO INPUT
**Auto Transformer**

Designed to step up voltage of low level high fidelity phono pickups Case may be rotated for minimum hum pickup. Supplied with 28" shielded cable terminated with standard phono plug. Standard phono receptacle mounted on can.

FIGURE E

### MIKE INPUT
**Plug-in Base**

M8030 and M8031 has an 8 pin Octal plug. M8032 and M8033 has a 9 pin Octal Type plug.
Matches the sockets on many commercial Public Address and Tape Recorder amplifiers.
Available on special order with alternate plug-in headers or hermetically sealed.

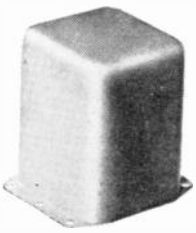

FIGURE D

### PHONO INPUT
**Auto Transformer**
**Drawn Steel Case**

Designed to step-up voltage of low level high fidelity phono pickups. Supplied with phono receptacle on case and with 28" shielded cable terminated with standard phono plug.

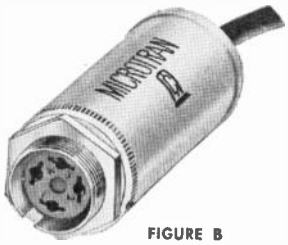


FIGURE B

### MIKE INPUT
**In-line**

Designed for insertion in mike cable circuit. Supplied with 6" microphone cable. Input receptacle mates with Amphenol 91-PC4F Plug, (not supplied.)

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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

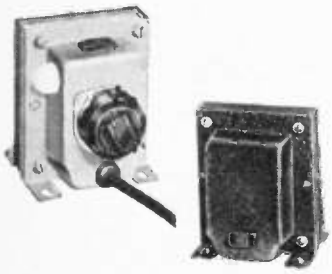
## LINE VOLTAGE ACCESSORIES

### LVS-153 line voltage stabilizer

A popularly priced quality automatic voltage regulator. Stabilizes line for TV, radio or industrial use where load is constant. Input may vary between 95-130 volts, 60 cycles, nominal output voltage regulated ±3%. One model covers 125 to 300 watt range. Built-in automatic relay turns stabilizer on with equipment.

Waveshape is free from distortions and frequency sensitivity of resonant type regulators. 50 cycle units available on special order.

Size: 10" x 5" x 9 1/2" Weight: 10 lbs. Finish: Mahogany Wrinkle



### LVB-117 line voltage booster

Multi-tap selector switch restores line voltages of 90 thru 135 volts to 117 volts output. Calibrated neon indicator permits exact voltage adjustment. Automatic — turns on and off with set. Overload fuse protects against unsafe line increases.

Watts: 350 Weight: 4 lbs. Mtg. Centers: 2 3/16" x 2 1/2"
Size: 4 3/8" x 3 1/4" x 3 7/8" Finish: Mahogany Wrinkle

### LVB "Jr" up-down voltage booster

Reliable, budget-priced unit. Single switch provides 10 volt boost or drop, or straight-through line.

Watts: 350 Weight: 3 lbs. Mtg. Centers: 1 11/16" x 2 1/2"
Size: 2 7/8" x 3 1/4" x 3 7/8" Finish: Mahogany Wrinkle

### LVB-10 voltage booster

Miniaturized plug-in unit with 4 position switch that provides an "off" position not previously obtainable Insures maximum performance of TV set when low or high line voltages distort picture or cause synch or oscillator drift.

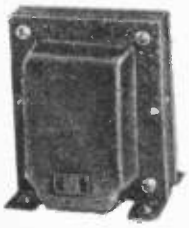
Input: 100 to 130 volts
Output: 10 v. boost, 10 v. drop, line, off.
Watts: 250 w. 50/60 cycles

Size: 2 1/4" x 3 1/4" x 3 1/4"
Finish: Baked Enamel
Weight: 2 lbs.

### cathode ray tube rejuvenator

Boosts CRT brightness. Units are resin treated; new design insures cool and buzz-free operation; 5 lead units for magnetic focus tubes only. 6 lead for both magnetic and electrostatic. Weight 8 oz.

#48B: Parallel sets, 6 leads
#49C: Parallel sets, 5 leads
#50D: Series sets, 6 leads
#51E: Parallel, isolation, 6 leads
#52: Parallel, 2-step boost, 6 leads
#53: Universal, isolation & boost



### step down auto transformers

240/220V. to 120/110V. 50/60 cycle. Equipped with secondary standard receptacle and primary 6' U.L. approved line cord. Baked wrinkle finish.

| Part No. | Application | DIMENSIONS L | W | H | Mtg. Ctrs. | Weight |
|---|---|---|---|---|---|---|
| M1552 | 65 Watt capacity | 3 23/32 | 2 1/2 | 2 9/32 | 3 1/8 | 3.5 lbs. |
| M1556 | 100 Watt capacity | 3 1/8 | 2 7/8 | 3 1/2 | 1 3/4 x 2 1/4 | 4 lbs. |
| M1553 | 150 Watt capacity | 3 1/4 | 2 7/8 | 3 1/2 | 2 1/4 x 2 3/8 | 5 lbs. |
| M1555 | 250 Watt capacity | 3 7/8 | 3 1/4 | 3 7/8 | 2 11/16 x 2 1/2 | 6 lbs. |
| M1559 | 300 Watt capacity | 3 3/4 | 3 7/8 | 4 5/8 | 2 7/16 x 3 | 7 lbs. |
| M1558 | 500 Watt capacity | 4 7/8 | 3 7/8 | 4 5/8 | 3 9/16 x 3 | 12 lbs. |
| M1551 | 750 Watt capacity | 5 1/2 | 4 1/2 | 5 3/8 | 3 1/4 x 3 1/2 | 16 lbs. |
| M1557 | 1000 Watt capacity | 7 | 4 1/2 | 5 3/8 | 5 1/4 x 3 1/2 | 25 lbs. |
| M1554 | 1500 Watt capacity | 8 | 4 1/2 | 5 3/8 | 6 1/4 x 3 1/2 | 29 lbs. |
| M1550 | 2000 Watt capacity | Available on request | | | | 37 lbs. |



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World Radio History

# MICROTRAN company, inc., VALLEY STREAM, N. Y.

Prices, Mechanical Construction, or Electrical Characteristics Subject to Modification without notice.

## PRICE LIST

**Effective Date 1/1/59**

| Part No. | List Price |
|---|---|
| **MINIATURE TRANSFORMERS** | |
| M1-A | $11.75 |
| M1-AG | 16.50 |
| M1-FB | 6.25 |
| M1-H | 15.00 |
| M1-M | 17.00 |
| M1-P | 14.25 |
| M2-A | 11.75 |
| M2-AG | 16.75 |
| M2-FB | 6.50 |
| M2-H | 15.25 |
| M2-M | 17.25 |
| M2-P | 14.25 |
| M3-A | 10.75 |
| M3-AG | 15.75 |
| M3-FB | 6.00 |
| M3-H | 14.25 |
| M3-M | 16.25 |
| M3-P | 13.25 |
| M4-A | 10.00 |
| M4-AG | 13.25 |
| M4-FB | 5.75 |
| M4-H | 11.75 |
| M4-M | 13.75 |
| M4-P | 12.50 |
| M5-A | 10.00 |
| M5-AG | 13.25 |
| M5-FB | 5.75 |
| M5-H | 11.75 |
| M5-M | 13.75 |
| M5-P | 12.50 |
| M6-A | 10.75 |
| M6-AG | 15.75 |
| M6-FB | 6.00 |
| M6-H | 14.25 |
| M6-M | 16.25 |
| M6-P | 13.25 |
| M7-A | 10.75 |
| M7-AG | 17.25 |
| M7-FB | 6.25 |
| M7-H | 15.75 |
| M7-M | 17.75 |
| M7-P | 13.25 |
| M8-A | 11.75 |
| M8-AG | 16.50 |
| M8-FB | 6.25 |
| M8-H | 15.00 |
| M8-M | 17.00 |
| M8-P | 14.25 |
| M9-A | 11.75 |
| M9-AG | 16.50 |
| M9-FB | 6.25 |
| M9-H | 15.00 |
| M9-M | 17.00 |
| M9-P | 14.25 |
| M10-A | 12.50 |
| M10-AG | 17.00 |
| M10-FB | 6.50 |
| M10-H | 15.50 |
| M10-M | 17.50 |
| M10-P | 15.00 |
| M11-A | 11.75 |
| M11-AG | 16.50 |
| M11-FB | 6.25 |
| M11-H | 15.00 |
| M11-M | 17.00 |
| M11-P | 14.25 |
| M12-A | 12.50 |
| M12-AG | 17.00 |
| M12-FB | 6.25 |
| M12-H | 15.50 |
| M12-M | 17.50 |
| M12-P | 15.00 |
| M13-A | 9.25 |
| M13-AG | 12.25 |
| M13-FB | 5.50 |
| M13-H | 10.75 |
| M13-M | 12.75 |
| M13-P | 11.75 |
| M14-A | 11.75 |
| M14-AG | 16.50 |
| M14-FB | $ 6.50 |
| M14-H | 15.00 |
| M14-M | 17.00 |
| M14-P | 14.25 |
| M15-A | 11.75 |
| M15-AG | 14.00 |
| M15-FB | 6.00 |
| M15-H | 12.50 |
| M15-M | 14.50 |
| M15-P | 14.25 |
| **TRANSISTOR DRIVER** | |
| M8002 | 17.50 |
| M8003 | 18.50 |
| M8004 | 17.00 |
| M8005 | 17.00 |
| M8006 | 15.75 |
| **TRANSISTOR OUTPUT** | |
| M8007 | 17.00 |
| M8008 | 16.50 |
| M8009 | 18.00 |
| M8010 | 17.50 |
| M8011 | 17.00 |
| M8012 | 17.50 |
| M8013 | 17.00 |
| M8014 | 14.00 |
| M8015 | 17.50 |
| M8016 | 14.25 |
| **TRANSISTOR POWER** | |
| M8018 | 25.00 |
| M8019 | 26.50 |
| M8020 | 30.00 |
| M8021 | 26.50 |
| M8022 | 27.00 |
| M8023 | 31.50 |
| M8024 | 30.50 |
| **CHOPPER TRANSFORMERS** | |
| M8025 | 23.00 |
| M8026 | 23.00 |
| **INPUT TRANSFORMERS** | |
| M8027 | 19.25 |
| M8028 | 19.75 |
| M8029 | 21.75 |
| M8030 | 22.50 |
| M8031 | 22.25 |
| M8032 | 21.75 |
| M8033 | 21.75 |
| **DC to DC CONVERTER** | |
| M8034 | 44.50 |
| M8035 | 44.50 |
| M8036 | 41.50 |
| M8037 | 37.50 |
| **MICRO-MINIATURE TRANSFORMERS** | |
| MM1-FB | 7.50 |
| MM1-H | 12.25 |
| MM1-M | 14.25 |
| MM2-FB | 8.00 |
| MM2-H | 12.50 |
| MM2-M | 14.50 |
| MM3-FB | 6.75 |
| MM3-H | 11.75 |
| MM3-M | 13.75 |
| MM4-FB | 6.75 |
| MM4-H | 11.75 |
| MM4-M | 13.75 |
| MM5-FB | 6.75 |
| MM5-H | 11.50 |
| MM5-M | 13.50 |
| MM6-FB | 6.75 |
| MM6-H | 11.75 |
| MM6-M | 13.75 |
| MM7-FB | 5.50 |
| MM7-H | $10.75 |
| MM7-M | 12.75 |
| **MICRO-MINIATURE TRANSISTOR TRANSFORMERS** | |
| MMT1-FB | 6.50 |
| MMT1-H | 12.25 |
| MMT1-M | 14.25 |
| MMT3-FB | 6.75 |
| MMT3-H | 12.50 |
| MMT3-M | 14.50 |
| MMT4-FB | 8.00 |
| MMT4-H | 14.25 |
| MMT4-M | 16.25 |
| MMT5-FB | 7.25 |
| MMT5-H | 13.25 |
| MMT5-M | 15.25 |
| MMT7-FB | 7.50 |
| MMT7-H | 14.00 |
| MMT7-M | 16.00 |
| MMT8-FB | 7.75 |
| MMT8-H | 14.25 |
| MMT8-M | 16.25 |
| MMT9-FB | 7.00 |
| MMT9-H | 12.75 |
| MMT9-M | 14.75 |
| MMT10-FB | 5.75 |
| MMT10-H | 12.00 |
| MMT10-M | 14.00 |
| MMT11-FB | 7.25 |
| MMT11-H | 13.00 |
| MMT11-M | 15.00 |
| MMT12-FB | 6.50 |
| MMT12-H | 12.25 |
| MMT12-M | 14.25 |
| MMT13-FB | 6.75 |
| MMT13-H | 12.50 |
| MMT13-M | 14.50 |
| MMT16-FB | 7.50 |
| MMT16-H | 14.00 |
| MMT16-M | 16.00 |
| MMT17-FB | 7.50 |
| MMT17-H | 13.50 |
| MMT17-M | 15.50 |
| MMT18-FB | 7.75 |
| MMT18-H | 14.25 |
| MMT18-M | 16.25 |
| MMT19-FB | 6.75 |
| MMT19-H | 12.50 |
| MMT19-M | 14.50 |
| **MINIATURE TRANSISTOR TRANSFORMERS** | |
| MT1-A | 12.00 |
| MT1-AG | 14.50 |
| MT1-FB | 6.00 |
| MT1-H | 13.00 |
| MT1-M | 15.00 |
| MT1-P | 12.25 |
| MT2-A | 13.50 |
| MT2-AG | 16.00 |
| MT2-FB | 7.00 |
| MT2-H | 14.50 |
| MT2-M | 16.50 |
| MT2-P | 13.75 |
| MT3-A | 13.00 |
| MT3-AG | 15.50 |
| MT3-FB | 6.50 |
| MT3-H | 14.00 |
| MT3-M | 16.00 |
| MT3-P | 13.25 |
| MT5-A | 13.00 |
| MT5-AG | 15.50 |
| MT5-FB | 6.50 |
| MT5-H | 14.00 |
| MT5-M | 16.00 |
| MT5-P | 13.25 |
| MT6-A | 13.25 |
| MT6-AG | 15.75 |
| MT6-FB | 6.75 |
| MT6-H | 14.25 |
| MT6-M | 16.25 |
| MT6-P | $13.50 |
| MT7-A | 13.25 |
| MT7-AG | 15.75 |
| MT7-FB | 6.75 |
| MT7-H | 14.25 |
| MT7-M | 16.25 |
| MT7-P | 13.50 |
| MT8-A | 13.50 |
| MT8-AG | 16.00 |
| MT8-FB | 7.00 |
| MT8-H | 14.50 |
| MT8-M | 16.50 |
| MT8-P | 13.75 |
| MT9-A | 13.50 |
| MT9-AG | 16.00 |
| MT9-FB | 7.00 |
| MT9-H | 14.50 |
| MT9-M | 16.50 |
| MT9-P | 13.00 |
| MT10-A | 13.00 |
| MT10-AG | 15.50 |
| MT10-FB | 6.50 |
| MT10-H | 14.00 |
| MT10-M | 16.00 |
| MT10-P | 13.25 |
| MT11-A | 13.50 |
| MT11-AG | 16.00 |
| MT11-FB | 7.00 |
| MT11-H | 14.50 |
| MT11-M | 16.50 |
| MT11-P | 13.75 |
| MT12-A | 13.00 |
| MT12-AG | 15.50 |
| MT12-FB | 6.50 |
| MT12-H | 14.00 |
| MT12-M | 16.00 |
| MT12-P | 13.25 |
| MT13-A | 13.25 |
| MT13-AG | 15.75 |
| MT13-FB | 6.75 |
| MT13-H | 14.25 |
| MT13-M | 16.25 |
| MT13-P | 13.50 |
| MT14-A | 12.00 |
| MT14-AG | 14.50 |
| MT14-FB | 6.00 |
| MT14-H | 13.00 |
| MT14-M | 15.00 |
| MT14-P | 12.25 |
| MT15-A | 13.00 |
| MT15-AG | 15.50 |
| MT15-FB | 6.50 |
| MT15-H | 14.00 |
| MT15-M | 16.00 |
| MT15-P | 13.25 |
| MT18-A | 13.50 |
| MT18-AG | 16.00 |
| MT18-FB | 7.00 |
| MT18-H | 14.50 |
| MT18-M | 16.50 |
| MT18-P | 13.75 |
| MT20-A | 14.00 |
| MT20-AG | 16.50 |
| MT20-FB | 7.50 |
| MT20-H | 15.00 |
| MT20-M | 17.00 |
| MT20-P | 14.25 |
| MT21-A | 13.75 |
| MT21-AG | 16.25 |
| MT21-FB | 7.25 |
| MT21-H | 14.75 |
| MT21-M | 16.75 |
| MT21-P | 14.00 |
| MT22-A | 13.75 |
| MT22-AG | 16.25 |
| MT22-FB | 7.25 |
| MT22-H | 14.75 |
| MT22-M | 16.75 |
| MT22-P | 14.00 |
| MT23-A | 13.00 |
| MT23-AG | 15.50 |
| MT23-FB | 6.50 |
| MT23-H | 14.00 |
| MT23-M | $16.00 |
| MT23-P | 13.25 |
| **SUB-MINIATURE TRANSFORMERS** | |
| SM1-AF | 15.00 |
| SM1-FB | 7.25 |
| SM1-H | 12.00 |
| SM2-AF | 14.50 |
| SM2-FB | 6.50 |
| SM2-H | 11.50 |
| SM2-M | 15.00 |
| SM3-AF | 14.50 |
| SM3-FB | 6.50 |
| SM3-H | 11.50 |
| SM3-M | 15.00 |
| SM4-AF | 14.50 |
| SM4-FB | 6.50 |
| SM4-H | 11.50 |
| SM4-M | 15.00 |
| SM5-AF | 13.50 |
| SM5-FB | 5.00 |
| SM5-H | 10.50 |
| SM5-M | 14.00 |
| SM6-AF | 14.50 |
| SM6-FB | 7.25 |
| SM6-H | 11.75 |
| SM6-M | 15.00 |
| **SUB-MINIATURE TRANSISTOR TRANSFORMERS** | |
| SMT1-AF | 11.25 |
| SMT1-FB | 6.50 |
| SMT1-H | 10.00 |
| SMT1-M | 12.00 |
| SMT3-AF | 12.25 |
| SMT3-FB | 7.50 |
| SMT3-H | 11.00 |
| SMT3-M | 13.00 |
| SMT4-FB | 8.25 |
| SMT4-H | 11.75 |
| SMT4-M | 13.75 |
| SMT5-AF | 12.00 |
| SMT5-FB | 7.25 |
| SMT5-H | 10.75 |
| SMT5-M | 12.75 |
| SMT7-AF | 12.50 |
| SMT7-FB | 7.75 |
| SMT7-H | 11.25 |
| SMT7-M | 13.25 |
| SMT8-FB | 8.25 |
| SMT8-H | 11.75 |
| SMT8-M | 13.75 |
| SMT9-FB | 7.00 |
| SMT9-H | 10.50 |
| SMT9-M | 12.50 |
| SMT10-AF | 11.75 |
| SMT10-FB | 7.00 |
| SMT10-H | 10.50 |
| SMT10-M | 12.50 |
| SMT12-AF | 11.25 |
| SMT12-FB | 6.50 |
| SMT12-H | 10.00 |
| SMT12-M | 12.00 |
| SMT13-AF | 11.50 |
| SMT13-FB | 6.75 |
| SMT13-H | 10.25 |
| SMT13-M | 12.25 |
| SMT16-AF | 12.50 |
| SMT16-FB | 7.75 |
| SMT16-H | 11.25 |
| SMT16-M | 13.25 |
| SMT17-FB | 8.00 |
| SMT17-H | 11.50 |
| SMT17-M | 13.50 |
| SMT18-FB | 8.25 |
| SMT18-H | 11.75 |
| SMT18-M | 13.75 |
| SMT19-AF | 12.50 |
| SMT19-FB | 7.75 |
| SMT19-H | 11.25 |
| SMT19-M | 13.25 |
| **ULTRA-MINIATURE TRANSFORMERS** | |
| UM21-F | $10.00 |
| UM22-F | 7.25 |
| UM23-F | 7.75 |
| UM24-F | 6.50 |
| UM25-F | 6.50 |
| UM26-F | 6.50 |
| UM27-F | 7.00 |
| UM28-F | 6.25 |
| **VERI-MINIATURE TRANSFORMERS** | |
| VM1-FPB | 7.00 |
| VM1-M | 8.75 |
| VM2-FPB | 9.50 |
| VM2-M | 11.25 |
| VM3-FPB | 7.50 |
| VM3-M | 9.25 |
| VM4-FPB | 9.50 |
| VM4-M | 11.25 |
| VM5-FPB | 7.75 |
| VM5-M | 9.50 |
| VM6-FPB | 9.75 |
| VM6-M | 11.50 |
| VM7-FPB | 7.00 |
| VM7-M | 8.75 |
| VM8-FPB | 7.25 |
| VM8-M | 9.00 |
| VM9-FPB | 7.25 |
| VM9-M | 9.00 |
| VM10-FPB | 7.75 |
| VM10-M | 11.50 |
| VM11-FPB | 6.75 |
| VM11-M | 8.50 |
| VM12-FPB | 7.50 |
| VM12-M | 9.25 |
| VM13-FPB | 7.75 |
| VM13-M | 11.50 |
| ***STEP DOWN TRANSFORMERS** | |
| M1550 | 80.00 |
| M1551 | 26.75 |
| M1552 | 9.75 |
| M1553 | 12.50 |
| M1554 | 55.00 |
| M1555 | 13.25 |
| M1556 | 10.50 |
| M1557 | 40.00 |
| M1558 | 21.00 |
| M1559 | 14.25 |
| ***LINE VOLTAGE BOOSTERS** | |
| LVB-10 | 7.50 |
| LVB-117 | 17.95 |
| LVB-Jr | 7.95 |
| LVB-153 | 34.95 |
| ***CRT REJUVENATOR** | |
| 48-B | 1.75 |
| 49-C | 1.50 |
| 50-D | 2.00 |
| 51-E | 2.25 |
| 52 | 3.75 |
| 53 | 4.25 |
| ***HI-FI ACCESSORIES** | |
| HD-11 | 27.50 |
| HD-11-AD | 2.70 |
| HM-80 | 21.75 |
| HP-61 | 7.95 |
| ***VARIABLE INDUCTANCES** | |
| 200-K | 7.75 |
| 200-1 thru 200-8 | 1.00 |

**NOTE:** To determine pricing of Part Nos. with -F Suffix (i.e. MT1-F) deduct $.50 from list price of equivalent -FB item (i.e. MT1-FB). List price of Part No. with -FPB is same as equivalent -FB item.

**TERMS:**
1% 10, Net 30
F.O.B. Valley Stream, New York
Minimum Billing **$5.00**

**INDUSTRIAL DISCOUNT**
1-9 — 40%; 10-49 — 40/10%; 50-99 — 50%; 100-200 — 60%. May not be intermixed.
*Discount shown does not apply.

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**SEE PAGE N-795 FOR MICROTRAN PRICES**



World Radio History

# Merit power TRANSFORMERS

C

CS

CSS

D

| Merit No. | Sugg. List Price | Plate Supply | | Rectifier | | Filament Wdgs. | | Mtg. Type | Dimensions—Inches | | | | Shpg. Wt. Lbs.-Oz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volts | DCMA | Volts | Amps | Volts | Amps | | Mtg. Centers | H | W | D | |
| P-3044 | $14.00 | 96 | 145 | | | 6.3 | 6.45 | C | 2 3/16 | 2 1/2 | 3 | 3 3/4 | 3- 0 |
| ★P-2880 | 15.00 | 117 | 240 | | | 6.3<br>6.3 | 7.0<br>1.2 | C | 3 3/16 x 4 1/16 | 3 3/4 | 4 5/8 | 4 5/8 | 8- 0 |
| ★P-2871 | 10.00 | 119.5 | 380 | | | 6.3<br>6.3 | 6.5<br>6.35 | D | 2 1/4 x 2 1/2 | 3 1/2 | 2 15/16 | 3 5/8 | 5- 0 |
| ★P-3045 | 5.70 | 120 | 50 | | | 6.3 | 2.0 | A | 3 1/8 | 2 3/16 | 3 11/16 | 2 1/8 | 1- 7 |
| ★P-3144 | 10.40 | 123★★ | 200 | | | 6.3 | 10.3 | D | 2 x 2 11/16 | 3 1/8 | 2 1/2 | 3 3/4 | 4- 0 |
| P-3079 | 20.15 | 140<br>117 tap | 300 | | | 6.3<br>6.3<br>6.3 | 9<br>2<br>1 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 3 3/4 | 8- 0 |
| P-3046 | 4.45 | 150 | 25 | | | 6.3 c.t. | .5 | B | 2 | 2 | 2 1/2 | 1 3/4 | 0-12 |
| P-2892 | 15.00 | 210-210 | 240 | 5 | 3.0 | 6.3 | 8.0 | C | 3 5/16 x 4 1/16 | 3 3/4 | 4 1/2 | 3 7/8 | 8- 6 |
| P-3062 | 16.95 | 230-230 | 240 | 5 | 6.0 | 6.3 | 8.8 | C | 2 3/4 x 3 7/16 | 3 7/16 | 4 1/8 | 4 3/4 | 10- 0 |
| P-2949 | 8.35 | 240-240 | 40 | 5 | 2.0 | 6.3 c.t. | 2.0 | C | 2 x 2 1/2 | 2 1/2 | 3 | 2 1/2 | 2- 6 |
| P-3149 | 8.35 | 240-240 | 40 | 5 | 2.0 | 6.3 c.t. | 2.0 | D | 2 x 1 11/16 | 3 1/8 | 2 5/8 | 2 5/8 | 2- 7 |
| P-3047 | 8.05 | 240-240 | 50 | | | 6.3 | 2.5 | C | 2 x 2 1/2 | 2 1/2 | 3 | 2 | 2- 0 |
| P-3147 | 7.65 | 240-240 | 50 | | | 6.3 | 2.5 | D | 2 x 1 9/16 | 3 1/8 | 2 5/8 | 2 1/2 | 2- 4 |
| P-2958 | 9.70 | 240-240 | 50 | 5 | 2.0 | 6.3 | 2.6 | C | 2 x 2 1/2 | 2 1/2 | 3 | 3 | 2-10 |
| P-2830 | 25.25 | 253-253 | 300 | 5 | 6.0 | 6.3•<br>6.3•<br>6.3 | 6.0<br>6.0<br>1.25 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 4 7/8 | 11- 0 |
| P-3051 | 9.70 | 260-260 | 70 | 5 | 2.0 | 6.3 | 3.0 | C | 2 x 2 1/2 | 2 1/2 | 3 | 3 1/8 | 3- 0 |
| P-3048 | 9.50 | 260-260 | 90 | | | 6.3 | 4.7 | C | 2 x 2 1/2 | 2 1/2 | 3 | 3 3/16 | 3- 2 |
| P-3148 | 8.90 | 260-260 | 90 | | | 6.3 | 4.7 | D | 2 x 2 3/16 | 3 1/8 | 2 5/8 | 3 1/4 | 3- 6 |
| P-2870 | 18.00 | 262-262 | 250 | 5 | 3.0 | 6.3 | 10.0 | C | 2 11/16 x 3 5/16 | 3 1/8 | 3 3/4 | 4 3/8 | 5- 8 |
| P-3060 | 12.25 | 265-265 | 260 | 5 | 3.0 | | | C | 2 11/16 x 3 5/16 | 3 1/8 | 3 3/4 | 4 | 11- 0 |
| P-2873 | 18.00 | 265-265 | 265 | 5 | 3.0 | 12.6 c.t. | 5.1 | C | 2 1/2 x 3 1/8 | 3 1/8 | 3 3/4 | 4 | 6- 8 |
| P-3135 | 30.00 | 265-265 | 300 | 5 | 6.0 | 12.6 c.t. | 5.5 | D | 3 x 4 7/8 | 5 1/2 | 3 7/8 | 4 3/4 | 11- 6 |
| P-3083 | 33.50 | 265-265 | 300 | 5 | 6.0 | 12.6 c.t. | 4.7 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 4 7/8 | 11-14 |
| P-2841 | 30.50 | 265-265 | 320 | 5 | 6.0 | 12.6 c.t. | 4.9 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 4 3/4 | 10- 0 |
| P-2883 | 31.00 | 265-265 | 380 | 5 | 6.0 | 12.6 c.t. | 6.4 | CSS | 3 x 4 1/8 | 5 3/4 | 3 3/4 | 4 5/8 | 12- 6 |
| P-2872 | 18.00 | 268-268 | 260 | 5 | 3.0 | 6.3 | 10.6 | C | 2 1/2 x 3 1/8 | 3 1/8 | 3 3/4 | 3 5/8 | 7- 0 |
| P-2885 | 18.00 | 268-268 | 260 | 5 | 3.0 | 6.3 | 8.0 | D | 2 3/4 x 2 15/16 | 4 3/16 | 3 7/16 | 4 | 7- 6 |
| P-2869 | 18.00 | 270-270 | 200 | 5 | 3.0 | 6.4 | 8.4 | C | 2 11/16 x 3 5/16 | 3 1/8 | 3 3/4 | 4 | 7- 0 |
| P-3076 | 27.10 | 270-270<br>180-180 | †300<br>200 | 5 | 3.0 | 6.3•<br>6.3• | 6.5<br>6.5 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 | 13- 8 |
| P-3136 | 22.75 | 270-270 | 270 | 5 | 3.0 | 12.6 c.t. | 4.4 | D | 3 x 4 1/4 | 4 5/8 | 3 3/4 | 4 1/2 | 8- 0 |
| P-3154 | 10.40 | 275-275 | 50 | 5 | 2.0 | 6.3 | 2.6 | D | 2 x 2 3/16 | 3 1/8 | 2 5/8 | 3 1/8 | 3- 5 |
| P-2832 | 20.00 | 275-275 | 220 | 5 | 3.0 | 7.0<br>6.3▲ | .475<br>8.5 | C | 3 x 3 5/8 | 3 3/4 | 4 1/8 | 3 1/2 | 11- 0 |
| ★P-2879 | 28.85 | 117 | 280 | 5 | 4.8 | 6.3<br>6.3<br>6.3 | 9.6<br>1.2<br>0.8 | C | 3 3/16 x 4 1/16 | 3 3/4 | 4 5/8 | 5 | 9- 0 |
| P-3049 | 20.15 | 275-275 | 310 | 5 | 3.0 | 6.3 | 12.6 | CS | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 | 13- 8 |
| P-2839 | 30.55 | 276-276 | 290 | 5 | 6.0 | 6.3<br>6.3 | 11.5<br>3.6 | CSS | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 1/2 | 14- 8 |
| P-2874 | 18.75 | 277-277 | 210 | 5 | 3.0 | 13.3 c.t. | 4.0 | C | 2 1/2 x 3 1/8 | 3 1/8 | 3 3/4 | 3 1/4 | 6- 8 |
| P-2876 | 20.65 | 277-277 | 305 | 5 | 5.0 | 6.3<br>6.3 | 8.5<br>1.2 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 4 15/16 | 12- 0 |
| P-3084 | 24.50 | 278-278 | 220 | 5 | 3.0 | 6.3 | 8.0 | C | 2 3/4 x 3 7/16 | 3 7/16 | 4 1/8 | 4 5/16 | 9- 8 |
| P-2878 | 29.00 | 279-279 | 265 | 5 | 5.0 | 6.3<br>6.3<br>6.3 | 7.1<br>1.2<br>0.9 | C | 3 3/16 x 4 1/16 | 3 3/4 | 4 5/8 | 5 1/4 | 12- 0 |
| P-3052 | 11.65 | 280-280 | 90 | 5 | 2.0 | 6.3 | 5.0 | C | 2 1/4 x 2 13/16 | 2 13/16 | 3 3/8 | 3 1/2 | 4- 2 |
| P-2849 | 20.80 | 280-280 | 205 | 5 | 3 | 6.3 | 9 | C | 3 x 3 11/16 | 3 7/16 | 4 1/8 | 3 3/4 | 9- 0 |
| P-3058 | 27.00 | 280-280 | 315 | 5 | 6.0 | 6.3 | 11.5 | C | 3 3/16 x 4 1/16 | 3 3/4 | 4 1/2 | 5 1/2 | 12- 0 |
| P-2882 | 20.00 | 281-281 | 250 | 5 | 3.0 | 6.3 | 9.5 | D | 2 1/2 x 2 1/2 | 3 7/16 | 4 1/8 | 4 1/16 | 8- 0 |
| P-3056 | 23.75 | 282-282 | 240 | 5 | 3.0 | 6.3 | 8.7 | C | 3 3/16 x 4 1/16 | 3 3/4 | 4 1/2 | 4 1/8 | 10- 0 |
| P-2837 | 28.90 | 282-282 | 250 | 5 | 3.0 | 6.3<br>6.3 | 9.3<br>1.25 | CS | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 1/16 | 12- 0 |
| P-2881 | 20.00 | 280-280 | 250 | 5.0 | 3.0 | 6.3 | 9.5 | D | 1 3/16 x 2 1/2 | 3 3/4 | 3 1/8 | 3 7/16 | 8- 0 |
| P-2842 | 22.50 | 286-286 | 210 | 5 | 3.0 | 6.3 | 8.0 | C | 2 3/4 x 3 1/2 | 4 1/8 | 4 1/8 | 3 1/2 | 7- 0 |
| P-2867 | 27.00 | 290-290 | 230 | 5 | 3 | 6.3 | 12 | C | 3 7/16 x 2 3/4 | 4 1/8 | 3 7/16 | 4 3/4 | 11- 0 |
| P-3134 | 22.50 | 290-290 | 270 | 5 | 3.0 | 12.6 c.t. | 4.8 | D | 3 x 3 7/8 | 4 5/8 | 3 3/4 | 4 1/8 | 8- 4 |
| P-3064 | 33.50 | 290-290<br>275-275 | 340<br>310 | 5 | 6.0 | 12.6 c.t. | 6.1 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 1/4 | 13- 0 |
| P-2844 | 24.95 | 292-292 | 285 | 5 | 3.0 | 6.3 | 8.5 | C | 2 3/4 x 3 1/2 | 4 1/4 | 3 1/2 | 4 3/4 | 8-14 |
| P-2836 | 25.00 | 300-300 | 250 | 5 | 4.0 | 6.3<br>6.3 | 11.7<br>1.2 | C | 2 3/4 x 3 7/16 | 3 7/16 | 4 1/8 | 4 7/8 | 10- 0 |
| P-3077 | 22.20 | 300-300 | 250 | 5 | 3.0 | 6.3 | 9.0 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 4 1/4 | 10- 2 |
| P-3055 | 28.60 | 300-300 | 400 | 5 | 6.0 | 6.3<br>6.3 | 10.0<br>4.5 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 5/8 | 14- 4 |
| P-2833 | 29.45 | 305-305 | 300 | 5 | 6.0 | 6.3<br>6.3<br>6.3•<br>6.3• | .9<br>1.95<br>6.4<br>6.4 | C | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 3/8 | 13- 5 |
| P-2847 | 21.85 | 306-306 | 460 | 5 | 6.0 | 6.3<br>46.0 | 11.4<br>.15 | C | 3 1/2 x 4 3/8 | 4 3/8 | 5 1/4 | 4 15/16 | 14- 0 |
| P-2840 | 34.00 | 312-312 | 340 | 5 | 6.0 | 6.3•<br>6.3•<br>6.3•<br>6.3• | 5.1<br>5.1<br>1.5<br>1.5 | CSS | 3 x 3 3/4 | 6 1/4 | 4 1/2 | 3 3/4 | 14- 0 |
| P-2884 | 27.00 | 320-320 | 270 | 5 | 3.0 | 12.6 c.t. | 5.2 | D | 3 x 3 1/2 | 4 9/16 | 3 3/4 | 4 | 9- 0 |
| P-3073 | 30.45 | 322-322<br>205-205 | †180<br>70 | 5 | 3.0 | 6.3<br>6.3 | 10.0<br>2.7 | CS | 3 x 3 3/4 | 3 3/4 | 4 1/2 | 5 | 12- 5 |
| P-2950 | 8.60 | 325-325 | 40 | 5 | 2.0 | 6.3 | 2.0 | C | 2 x 2 1/2 | 2 1/2 | 3 | 2 7/8 | 2-14 |

★Can be used as Isolation Transformer by ignoring filament windings

*Quality In Production—Speed In Delivery*



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

## Plate and Filament

# Merit power TRANSFORMERS

| Merit No. | Surg. List Price | Plate Supply Volts | Plate Supply DCMA | Rectifier Volts | Rectifier Amps | Filament Wdgs. Volts | Filament Wdgs. Amps | Mtg. Type | Dimensions—Inches Mtg. Centers | H | W | D | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P-3150 | 8.60 | 325-325 | 40 | 5 | 2.0 | 6.3 c.t. | 2.0 | D | 2 x 1⅞ | 3⅛ | 2⅝ | 2 13/16 | 2-13 |
| P-2951 | 10.00 | 325-325 | 70 | 5 | 3.0 | 6.3 | 3.5 | C | 2 x 2½ | 2½ | 3 | 3⅜ | 3- 6 |
| P-3151 | 9.85 | 325-325 | 70 | 5 | 3.0 | 6.3 c.t. | 3.5 | D | 2½ x 1 15/16 | 3⅞ | 3 3/16 | 3 3/16 | 4- 2 |
| P-2831 | 28.20 | 331-331<br>211-211 | †250<br>90 | 5<br>5 | 3.0<br>2.0 | 6.3 | 13.0 | C | 3 x 3¾ | 3¾ | 4½ | 5⅜ | 13- 0 |
| P-2838 | 30.55 | 333-333 | 250 | 5 | 3.0 | 6.3•<br>6.3•<br>6.3<br>6.3 | 5.8<br>5.8<br>3.3<br>.85 | CS | 3 x 3¾ | 3¾ | 4½ | 5½ | 15- 0 |
| P-2877 | 51.60 | 338-338 | 300 | 5 | 6.0 | 6.3<br>6.3 | 10.1<br>2.4 | C | 3 3/16 x 4 1/16 | 3¾ | 4⅝ | 5¾ | 13- 0 |
| P-2887♦ | 27.50 | 342-342<br>260-260 | 180<br>148 | 5<br>5 | 3.0<br>3.0 | 12.6 c.t. | 6.0 | D | 4 x 3 | 4¾ | 3⅞ | 5 | 13- 0 |
| P-2957 | 10.85 | 350-350 | 50 | 5 | 2.0 | 6.3 c.t. | 2.6 | C | 2¼ x 2 13/16 | 3 5/16 | 2 13/16 | 2¾ | 3- 0 |
| P-3160 | 9.60 | 350-350 | 50 | 5 | 2.0 | 6.3 c.t. | 2.6 | D | 2¼ x 2 | 3½ | 2 15/16 | 3 1/16 | 3- 2 |
| P-2966 | 12.75 | 350-350 | 70 | 5 | 3.0 | 2.5 c.t.<br>2.5 c.t. | 9.0<br>3.5 | C | 2¼ x 2 13/16 | 2 13/16 | 3⅜ | 3⅝ | 4-10 |
| P-2967 | 15.15 | 350-350 | 90 | 5 | 3.0 | 2.5 c.t. | 12.5 | C | 2½ x 3⅛ | 3⅛ | 3¾ | 4 1/16 | 6-12 |
| P-2952 | 10.85 | 350-350 | 90 | 5 | 3.0 | 6.3 c.t. | 3.5 | C | 2¼ x 2 13/16 | 2 13/16 | 3⅜ | 3¾ | 4-10 |
| P-3152 | 10.85 | 350-350 | 90 | 5 | 3.0 | 6.3 c.t. | 3.5 | D | 2¾ x 2 5/16 | 4¼ | 3 9/16 | 3⅜ | 5- 0 |
| P-3153 | 12.50 | 350-350 | 110 | 5 | 3.0 | 6.3 c.t. | 4.5 | D | 3 x 2¼ | 4⅝ | 3 13/16 | 3 7/16 | 5-12 |
| P-2953 | 12.50 | 350-350 | 120 | 5 | 3.0 | 6.3 c.t. | 4.7 | C | 2¼ x 3⅛ | 3⅛ | 3¾ | 3 13/16 | 5-14 |
| P-3173 | 15.00 | 350-350 | 150 | 5 | 3.0 | 6.3 | 6.5 | D | 2½ x 2⅞ | 3⅞ | 3¼ | 4⅛ | 6-12 |
| P-3054 | 24.85 | 350-350<br>220-220 | †180<br>70 | 5 | 6.0 | 6.3<br>6.3 | 10.2<br>2.7 | C | 3 x 3¾ | 3¾ | 4½ | 5⅜ | 13- 4 |
| P-3165 | 23.90 | 350-350 | 200 | 5<br>5 | 2.0<br>3.0 | 6.3<br>6.3 | 0.6<br>7.0 | D | 3 x 3⅞ | 4⅝ | 3¾ | 5 | 11-10 |
| P-3069 | 25.00 | 350-350 | 225 | 5 | 3.0 | 6.3<br>6.3 | 10.0<br>2.7 | CS | 3 x 3¾ | 3¾ | 4½ | 4¼ | 9- 8 |
| P-3070 | 23.60 | 350-350 | 225 | 5 | 3.0 | 6.3<br>6.3 | 10.0<br>2.7 | C | 3 x 3¾ | 3¾ | 4½ | 4 | 9- 0 |
| P-3057 | 30.65 | 350-350 | 290 | 5 | 6.0 | 6.3<br>6.3<br>6.3 | 9.5<br>2.4<br>1.5 | C | 3 3/16 x 4 1/16 | 3¾ | 4½ | 6¼ | 15- 0 |
| P-3071 | 25.00 | 360-360 | 180 | 5 | 3.0 | 6.3 | 9.0 | CS | 2¾ x 3 7/16 | 3 7/16 | 4⅛ | 4 9/16 | 9-10 |
| P-3072 | 23.60 | 360-360 | 180 | 5 | 3.0 | 6.3 | 9.0 | C | 2¾ x 3 7/16 | 3 7/16 | 4⅛ | 4 5/16 | 9- 6 |
| P-2834 | 27.75 | 360-360 | 225 | 5 | 6.0 | 6.3<br>6.3<br>6.3 | 1.2<br>3.0<br>9.0 | C | 3 x 3¾ | 3¼ | 4½ | 4⅞ | 11-14 |
| P-3059 | 27.75 | 360-360 | 250 | 5<br>5 | 2.0<br>3.0 | 6.3<br>6.3 | 2.7<br>9.0 | C | 3 x 3¾ | 3¼ | 4½ | 5⅛ | 11- 5 |
| P-3063 | 28.45 | 360-360 | 250 | 5<br>5 | 3.0<br>2.0 | 6.3<br>6.3 | 9.0<br>1.2 | C | 3 3/16 x 4 1/16 | 3 13/16 | 4⅝ | 5½ | 11-10 |
| P-3078 | 26.10 | 360-360 | 275 | 5 | 3.0 | 6.3<br>6.3<br>6.3 or 5 | 9.0<br>1.5<br>2.7 | C | 3 x 3¾ | 3¼ | 4½ | 5¼ | 11- 8 |
| P-3179 | 26.10 | 362-362<br>210-210 | 210<br>120 | 5<br>5 | 3.0<br>2.0 | 12.6 c.t. | 6.0 | D | 3 x 3 11/16 | 4⅝ | 3 13/16 | 5⅛ | 11- 2 |
| P-3061 | 35.00 | 362-362 | 295 | 5<br>5 | 6.0<br>2.0 | 12.6 c.t. | 5.0 | C | 3 3/16 x 4 1/16 | 3 13/16 | 4⅝ | 6⅝ | 15- 0 |
| P-2875 | 24.00 | 373-373 | 190 | 5 | 3.0 | 6.3<br>6.3 | 7.8<br>1.2 | C | 3 x 3¾ | 3¼ | 4½ | 4 11/16 | |
| P-2954 | 16.00 | 375-375 | 150 | 5 | 3.0 | 6.3 c.t. | 5.0 | C | 2½ x 3⅛ | 3⅛ | 3¾ | 4 5/16 | 7- 6 |
| P-2886 | 27.00 | 375-375<br>220-220 | 190<br>100 | 5<br>5 | 3.0<br>2.0 | 12.6 c.t. | 6.0 | D | 3 x 3 9/16 | 4 9/16 | 3¾ | 4⅝ | 11- 6 |
| P-3053 | 31.50 | 375-375<br>325-325 | †170<br>130 | 5<br>5 | 3.0<br>3.0 | 6.3•<br>6.3•<br>6.3 or 5 | 7.0<br>7.0<br>2.7 | C | 3 x 3¾ | 3¾ | 4½ | 5⅝ | 14- 8 |
| P-3066 | 31.40 | 375-375<br>325-325 | †170<br>130 | 5<br>5<br>5 | 3.0<br>3.0<br>2.0 | 12.6 c.t.<br>6.3 | 5.0<br>2.6 | C | 3 x 3¾ | 3¾ | 4½ | 5⅜ | 13- 2 |
| P-3169 | 30.00 | 390-390<br>325-325 | 160<br>130 | 5<br>5<br>5 | 3.0<br>3.0<br>2.0 | 6.3<br>6.3 | 8.4<br>4.0 | D | 3 x 3⅝ | 4⅝ | 3 13/16 | 4 13/16 | 10-10 |
| P-2968 | 17.50 | 400-400 | 110 | 5 | 3.0 | 2.5 c.t.<br>2.5 c.t. | 15.0<br>3.5 | C | 3 x 3¾ | 3¾ | 4½ | 3 13/16 | 7-12 |
| P-2955 | 18.00 | 400-400 | 200 | 5 | 3.0 | 6.3 c.t. | 5.0 | C | 3 x 3¾ | 4½ | 4⅛ | 9- 0 | |
| P-3155 | 17.75 | 400-400 | 200 | 5 | 3.0 | 6.3 c.t. | 5.0 | D | 3 x 3 5/16 | 4⅝ | 3 15/16 | 4¼ | 9- 6 |
| P-3067 | 30.25 | 400-400<br>212-212 | †220<br>90 | 5<br>5<br>5 | 3.0<br>3.0<br>2.0 | 6.3<br>6.3 | 10.0<br>2.6 | C | 3 x 3¾ | 3¾ | 4½ | 5⅜ | 13- 9 |
| P-3166 | 35.00 | 400-400 | 300 | 5<br>5 | 3.0<br>6.0 | 12.6 c.t. | 10. | D | 3½ x 4¼ | 5⅜ | 4½ | 5¾ | 18- 3 |
| P-3174 | 46.50 | †405-405<br>325-325 | 240<br>200 | 5<br>5<br>5 | 3.0<br>3.0<br>3.0 | 6.3<br>6.3<br>6.3 | 6.0<br>6.0<br>2.6 | D | 3⅜ x 3⅞ | 5 15/16 | 4 7/16 | 5⅝ | 17- 4 |
| P-2835 | 27.75 | 420-420 | 250 | 5 | 3.0 | 6.3<br>6.3<br>6.3 | 8.0<br>3.0<br>1.2 | C | 3 x 3¾ | 3¾ | 4½ | 5⅛ | 12- 0 |
| P-2956 | 25.00 | 435-435<br>80 volt<br>Bias Tap | 250 | 5<br>2.5 | 3.0<br>10.0 | 6.3 c.t.<br>6.3 or 5 | 3.0<br>3.0 | C | 3 x 3¾ | 3¾ | 4½ | 4¾ | 11- 8 |
| P-3156 | 25.95 | 435-435<br>80 volt<br>Bias Tap | 250 | 5<br>2.5 | 3.0<br>10.0 | 6.3 c.t.<br>6.3 or 5 | 3.0<br>3.0 | D | 3 x 3 13/16 | 4⅝ | 3 13/16 | 4⅞ | 11-14 |
| P-3170 | 14.00 | 1750 | 2 | 2.5 | 2.0 | 6.3 or<br>2.5 | .9<br>2.0 | D | 2 x 2 1/16 | 3⅛ | 2⅝ | 2⅞ | 2-12 |
| P-3171 | 16.10 | 2500 | 5 | 2.5 | 2.0 | 6.3 or<br>2.5 | 3.0<br>3.0 | D | 2½ x 2 13/16 | 3⅞ | 3 3/16 | 3⅜ | 4- 4 |

▲ Tapped
● Can be used in Series for 12.6 v c.t.
★ For use with half wave rectifier.

★★ Tapped primary
• Primary taps

| †Max. MA High Tap Only. | P-3053 | P-2831 | P-3054 | |
|---|---|---|---|---|
| Max. MA Low Tap Only. | P-3066 | P-3067 | P-3073 | P-3076 |
| | 320 | 300 | 220 | 435 |
| | 340 | 340 | 325 | 500 |

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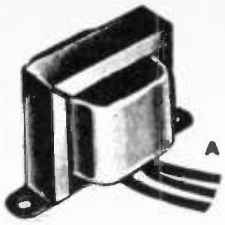
World Radio History

MERIT
UTC
Since 1924
BETTER ELECTRONIC COMPONENTS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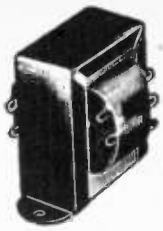
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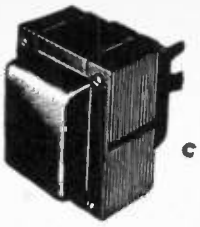
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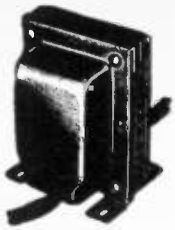
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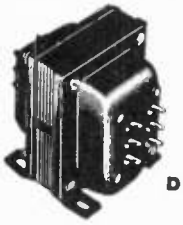
# FILAMENT power TRANSFORMERS


DL

EH

EV

| Merit No. | Sugg. List Price | Sec. Volts | Sec. Amp. | Insulation Volts RMS | Mtg. Centers | Dimensions—Inches H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| P-2939 | $4.60 | 2.5 c.t. | 5 | 2500 | 2 13/16 | 2 | 3 1/4 | 1 5/8 | A | 1- 4 |
| P-2940 | 7.10 | 2.5 c.t. | 10 | 7500 | 3 1/8 | 3 | 3 5/8 | 2 1/4 | B | 2- 2 |
| P-3042 | 8.75 | 2.5 c.t. | 10 | 10000 | 2 13/16 x 2 | 2 7/8 | 3 3/8 | 2 3/4 | EH | 2- 8 |
| P-3040 | 5.00 | 5.0 c.t. | 3 | 2500 | 2 13/16 | 2 | 3 1/4 | 2 1/8 | A | 1- 4 |
| P-2941 | 5.95 | 5.0 c.t. | 6 | 2500 | 3 1/8 | 2 1/4 | 3 11/16 | 1 7/8 | A | 1-12 |
| P-2942 | 13.60 | 5.0 c.t. | 15 | 10000 | 3 x 2 1/2 | 4 1/2 | 3 3/4 | 3 1/2 | EV | 6-12 |
| P-2943 | 19.45 | 5.0 c.t. | 30 | 2500 | 2 1/2 x 3 1/8 | 3 7/8 | 3 3/16 | 4 7/8 | DL | 6- 4 |
| P-2964 | 3.35 | 6.3 | 0.5 | 1500 | 2 | 1 3/8 | 2 3/8 | 1 1/4 | A | 0- 6 |
| P-2888 | 3.50 | 6.3 | .85 | 1500 | 2 3/8 | 1 5/8 | 2 13/16 | 1 7/16 | A | 1- 0 |
| P-2944 | 3.90 | 6.3 c.t. | 1 | 2500 | 2 3/8 | 1 5/8 | 2 13/16 | 1 1/2 | A | 0-12 |
| P-3074 | 4.85 | 6.3 | 1.2 | 5000 | 2 13/16 | 2 | 3 1/4 | 2 | A | 1- 4 |
| P-2945 | 4.30 | 6.3 c.t. | 2 | 2500 | 2 13/16 | 2 | 3 1/4 | 1 5/8 | A | 1- 0 |
| P-2946 | 5.00 | 6.3 c.t. | 3 | 2500 | 2 13/16 | 2 | 3 1/4 | 1 7/8 | A | 1- 6 |
| P-3050 | 9.35 | 6.3 | 8.8 | 1500 | 2 x 2 1/16 | 3 1/8 | 2 1/2 | 3 | D | 3- 0 |
| P-2947 | 6.40 | 6.3 c.t. | 6 | 2500 | 3 1/8 | 3 | 3 5/8 | 2 1/4 | B | 2- 4 |
| P-2846 | 3.50 | 6.3 | .7 | 1500 | 2 | 1 3/8 | 2 3/8 | 1 5/8 | A | 1- 0 |
| P-2948 | 9.45 | 6.3 c.t. | 10 | 2500 | 2 13/16 x 2 3/8 | 3 7/16 | 2 13/16 | 2 7/8 | EV | 3-10 |
| P-3141 | 8.05 | 6.3 | 10.3 | 1500 | 2 x 2 3/16 | 3 1/8 | 2 1/2 | 3 1/8 | D | 3- 5 |
| P-2845 | 9.55 | 6.3 | 1.3 | 1500 | 2 1/4 x 2 3/8 | 3 1/2 | 2 15/16 | 3 1/8 | D | 5- 0 |
| P-2890* | 12.00 | 6.3*<br>6.3<br>6.3 | 7.2<br>1.2<br>.6 | 1500 | 2 x 2 1/4 | 3 | 2 1/2 | 3 1/8 | D | 4- 0 |
| P-3041 | 7.95 | 5.0 c.t.<br>6.3 c.t. | 3<br>3.6 | 2500 | 3 9/16 | 2 1/2 | 4 | 2 1/8 | A | 2- 2 |
| P-3043 | 15.00 | 5.0<br>6.3<br>6.3 | 3<br>3.5<br>10 | 3000 | 2 1/2 x 3 1/8 | 3 1/8 | 3 3/4 | 4 1/16 | C | 6-12 |
| P-2961 | 7.95 | 6.3 c.t.<br>6.3 c.t. | 3<br>3 | 2500 | 3 1/8 | 3 | 3 5/8 | 2 1/4 | B | 2- 6 |
| P-3082 | 8.05 | 6.3<br>6.3 | 8<br>.3 | 5000<br>2500 | 3 1/8 | 3 1/16 | 3 9/16 | 2 1/2 | D | 2- 8 |
| P-2868 | 7.50 | 6.3<br>6.3 | 5.1<br>3.6 | 1500 | 2 1/4 x 1 7/8 | 3 1/8 | 2 5/8 | 2 7/8 | D | 4- 0 |
| P-2864 | 7.50 | 6.7 | 9.6 | 2500 | 2 1/4 x 2 1/8 | 3 1/16 | 2 1/2 | 3 3/16 | D | 3-10 |
| P-2863 | 10.00 | 6.7<br>6.7 | 4.1<br>6.6 | 1500 | 2 1/4 x 2 3/8 | 3 1/2 | 2 15/16 | 3 1/8 | D | 5- 6 |
| P-2866 | 18.75 | 6.7<br>6.7<br>25.2 | 6.4<br>6<br>.003 | 2500 | 2 1/2 x 2 5/16 | 3 7/8 | 3 1/4 | 3 9/16 | D | 4- 8 |
| P-2960 | 6.10 | 7.5 c.t. | 4 | 2500 | 2 13/16 | 2 5/8 | 3 1/8 | 1 7/8 | B | 1-12 |
| P-3143 | 10.00 | 7.5 c.t. | 8 | 2500 | 2 1/4 x 2 | 3 1/2 | 2 15/16 | 3 1/8 | D | 3- 8 |
| P-3145 | 10.00 | 10.0 c.t. | 5 | 2500 | 2 1/4 x 2 | 3 1/2 | 2 15/16 | 3 | D | 3- 1 |
| P-3146 | 11.95 | 10.0 c.t. | 10 | 3000 | 2 1/2 x 2 7/16 | 3 7/8 | 3 3/16 | 3 5/8 | D | 5- 6 |
| P-2959 | 5.30 | 12.6 c.t. | 2 | 2500 | 2 13/16 | 2 | 3 1/4 | 1 7/8 | A | 1- 4 |
| P-2889 | 11.10 | 12.6 c.t. | 5.7 | 2500 | 2 3/8 x 2 3/4 | 3 1/2 | 2 15/16 | 3 5/8 | D | 5- 0 |
| P-3142 | 9.85 | 12.6<br>6.3<br>6.3 | .6<br>7.8<br>1.2 | 2500 | 2 3/8 x 2 3/4 | 3 1/2 | 2 15/16 | 3 5/8 | D | 4- 0 |
| P-2865 | 13.50 | 25V<br>6.3 | .005<br>11.9 | 1500 | 2 1/2 x 2 3/16 | 3 7/8 | 3 1/4 | 3 1/2 | D | 4- 4 |
| P-2848 | 7.25 | 25.8<br>6.3<br>6.3 | .3<br>6.5<br>.9 | 1500 | 2 x 1 15/16 | 3 1/8 | 2 1/2 | 3 | D | 2-15 |
| P-2962 | 5.30 | 25.2 | 1 | 2500 | 2 13/16 | 2 | 3 1/4 | 1 7/8 | A | 1- 6 |
| P-2963 | 12.10 | #12.6 | 7 | 2500 | 2 1/4 x 2 1/2 | 3 1/2 | 2 15/16 | 3 5/8 | D | 4-10 |

#Or 12.6V @ 3.5A, 12.6V @ 3.5A or 25.2V C.T. @ 3.5A. Primary 117V, 60 cycles * Primary taps.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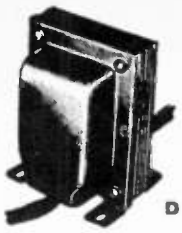
# Merit power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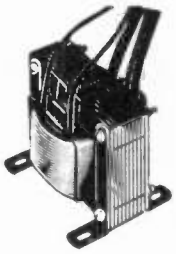
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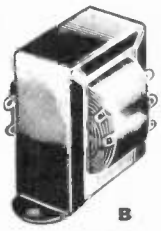
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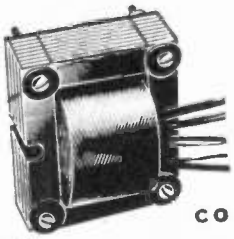
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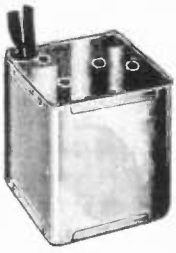
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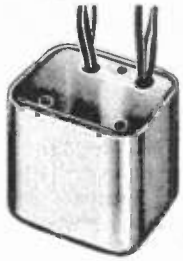
JT

## Plate Transformers

| Merit No. | Sugg. List Price | Sec. Rms. Volts | Sec. DC Volts | Sec. DC MA | Dimensions—Inches: Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| P-3178 | $12.50 | 415-415 | 300 | 200 | 2½x2¼ | 3⅞ | 3 3/16 | 3⅝ | D | 4-15 |
| P-3175 | 12.50 | 550-550 | 400 | 150 | 2¼x2¾ | 3 9/16 | 3 | 3⅞ | D | 5- 4 |
| P-3157 | 18.45 | 660-660 †<br>550-550 | 500<br>400 | 250 | 3 x3 5/16 | 4⅝ | 3 13/16 | 4⅜ | D | 9- 2 |
| P-3158 | 22.90 | 1080-1080<br>500-500 | 1000 ‡<br>400 | 125<br>150 | 3 x3 15/16 | 4⅝ | 3 13/16 | 5 | D | 11-12 |
| P-3159 | 21.95 | 900-900<br>800-800 | 750<br>600 | 225 | 3 x4 1/16 | 4⅝ | 3 13/16 | 5⅛ | D | 12- 6 |
| P-3167 | 47.75 | 1450-1450<br>1175-1175 | 1200<br>1000 | 300 | 5¼x3 | 5¾ | 6⅛ | 5 | EH | 24-10 |
| P-3168 | 61.10 | 2100-2100<br>1800-1800 | 1750<br>1500 | 300 | 5¼x3¾ | 5¾ | 6⅛ | 6 | EH | 29- 0 |
| P-4062 | 88.85 | 2900-2900<br>2385-2385 | 2500<br>2000 | 300 | 5¼x5¾ | 8¼ | 6 9/16 | 6 1/16 | H | 43-13 |

†Has 40V. Bias Tap. ‡For dual operation with simultaneous use of both sec. ratings. Max. one winding only 275 M.A.

## Rectifier Transformers

| Merit No. | Sugg. List Price | Secondary Volts | Secondary Amps. | Insulation Volts RMS | Mtg. Centers | Dimensions—Inches: H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| P-3088 | $13.75 | 13 | 12 | 2000 | 3½x2⅝ | 3 7/16 | 4⅛ | 3¼ | EH | 6- 3 |
| P-3085 | 9.70 | #26 c.t. | 3 | 2000 | 2 13/16x2⅛ | 2 13/16 | 3⅜ | 2¾ | EH | 3- 4 |
| *P-3093 | 31.10 | 36 c.t. | 10 | 2000 | 4⅜x3½ | 4⅜ | 5¼ | 4¾ | EH | 18-10 |
| *P-3094 | 55.55 | 72 ct. | 10 | 2000 | 5 13/16x3¼ | 6 1/32 | 7 1/16 | 5¾ | EH | 30- 2 |
| P-3087 | 52.20 | 78 tapped @26 and 52 | 6 | 2000 | 5¼x3¼ | 5 11/16 | 6⅛ | 5⅞ | EH | 26- 6 |
| P-3086 | 25.54 | 104 c.t. | 3 | 2000 | 4⅜x3 | 4⅜ | 5¼ | 4¼ | EH | 15- 0 |
| P-3089 | 50.40 | 104 c.t. | 6 | 2000 | 5¼x4 | 5 11/16 | 6⅛ | 6⅝ | EH | 32- 5 |
| P-3091 | 144.40 | 130 tapped @104 | 12 | 2000 | 8 5/16x4¼ | 7 1/16 | 9 17/32 | 7½ | EH | 71- 8 |
| P-3092 | 77.75 | 156 | 6 | 2000 | 5 13/16x4¼ | 6 1/32 | 7 1/16 | 7 | EH | 40-11 |
| P-3090 | 45.40 | 156 tapped @ 130 | 3 | 2000 | 5¼x3¼ | 5 11/16 | 6⅛ | 5⅜ | EH | 25- 6 |

## Vibrator Transformers

| Merit No. | Sugg. List Price | Sec. Rms. Volts | Sec. DC Volts to Filter | Sec DC MA | Dimensions—Inches: Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| *For operation from 6V battery & vibrator.* | | | | | | | | | | |
| P-2969 | $ 5.85 | 160-160 | 150 | 40 | 2⅜ | 2¼ | 2⅞ | 1¾ | B | 1- 1 |
| P-2970 | 6.65 | 235-235 | 225 | 40 | 2 13/16 | 2⅝ | 3 5/16 | 2⅛ | B | 1- 7 |
| P-2971 | 7.20 | 260-260 | 250 | 50 | 2 13/16 | 2⅝ | 3⅛ | 2¼ | B | 1-12 |
| P-4071 | 8.60 | 260-260 | 250 | 50 | | 3 | 2⅜ | 2 3/16 | JT | 2- 0 |
| P-2972 | 7.80 | 265-265 | 260 | 60 | 3⅛ | 3 | 3⅝ | 2⅛ | B | 2- 4 |
| P-3068 | 6.40 | 275-275 | 260 | 60 | 1¾ x 2 3/16 | 2 3/16 | 2⅝ | 1⅞ | CO | 1- 6 |
| P-4076* | 9.60 | 280-280 | 265 | 55 | | 3¼ | 2⅝ | 2⅝ | JG | 2- 8 |
| P-4078 | 8.35 | 285-285 | 270 | 60 | | 2⅞ | 2 3/16 | 2¾ | JT | 1-15 |
| P-4079 | 9.15 | 275-275 | 270 | 75 | | 3 1/32 | 2⅜ | 2½ | JT | 2- 4 |
| P-4077* | 10.25 | 290-290 | 280 | 65 | | 3⅞ | 2¼ | 2⅜ | JT | 2- 7 |
| *For operation from 12V battery & vibrator.* | | | | | | | | | | |
| P-2860 | $ 6.10 | 235-235 | 225 | 50 | 2 13/16 | 2 11/16 | 3⅛ | 1 15/16 | B | 2- 0 |
| P-2861 | 7.10 | 260-260 | 250 | 60 | 1¾ x 2 3/16 | 2 3/16 | 2⅝ | 2⅛ | CO | 2- 0 |
| P-2978 | 6.10 | 275-275 | 260 | 60 | 1¾ x 2 3/16 | 2 3/16 | 2⅝ | 1⅞ | CO | 1- 8 |
| P-4051* | 8.90 | 280-280 | 265 | 65 | | 3¼ | 2⅝ | 2⅝ | JG | 2- 9 |
| P-4052* | 9.60 | 290-290 | 280 | 65 | | 3⅞ | 2¼ | 2⅜ | JT | 2- 6 |

* Built-in hash filter.

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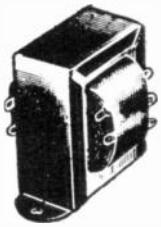
World Radio History

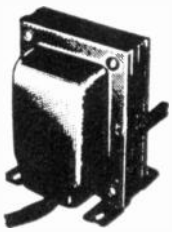
# Merit power

## STEP-UP, STEP-DOWN TRANSFORMERS

| Merit No. | Sugg. List Price | Input Voltage | Output Voltage* | Watts | Dimensions—Inches Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| ★P 3138 | $31.95 | Dependent on Line Voltage | Dependent on Line Voltage and Position of Switch | 350 | 3 x 5 7/16 | 4 7/8 | 3 13/16 | 7 1/2 | DEM | 10-10 |
| ★P-3139 | 50.00 | | | 750 | 3 1/2 x 6 7/8 | 5 7/8 | 4 1/2 | 9 1/2 | DEM | 19- 8 |

Equipped with voltmeter, line cord, and plug, variable primary switch, indicator light and output receptacle.
*See detailed instruction sheet packed with unit.


B


D

## Step-Down Auto- Transformers

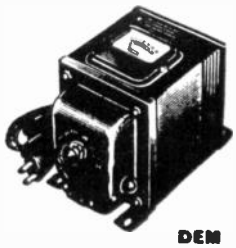
| Merit No. | Sugg. List Price | Primary Volts | Secondary Volts | Output Watts | Dimensions—Inches Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| P-3161 | $11.40 | 220-250 | 110-125 | 80 | 2 1/4 x 1 7/8 | 3 1/2 | 2 15/16 | 3 | DE | 3- 6 |
| P-3162 | 15.25 | 220-250 | 110-125 | 150 | 2 1/2 x 2 7/16 | 3 7/8 | 3 3/16 | 3 5/8 | DE | 5- 3 |
| P-3163 | 19.70 | 220-250 | 110-125 | 250 | 3 x 2 15/16 | 4 5/8 | 3 13/16 | 4 | DE | 8- 7 |
| P-3164 | 25.00 | 220-250 | 110-125 | 500 | 3 x 3 5/16 | 4 5/8 | 3 13/16 | 4 3/8 | DE | 10- 2 |
| P-4065 | 61.10 | 220-250 | 110-125 | 1000 | 4 7/8 x 5 3/4 | 7 1/4 | 6 5/8 | 5 5/8 | H | 35- 8 |

Statically shielded, conservatively rated, equipped with cord plug and receptacle.

DE

## Photo-Flash Transformer

| Merit No. | Sugg. List Price | Secondary AC Volts | Secondary DCMA | Dimensions—Inches Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|
| P-3065 | $8.90 | 1100 | 1.5 | 2 11/16 | 2 5/8 | 3 1/8 | 2 | B | 1-12 |


DEM

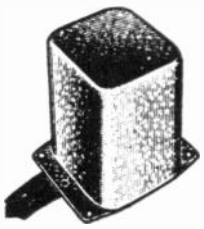
## ISOLATION TRANSFORMERS

| Merit No. | Sugg. List Price | Shpg. Wt. Lbs.-Oz. | Primary Volts | Secondary Volts | Output Watts | Mtg. Centers Inches | Mtg. Type | Dimensions—Inches H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|
| P-3096 | $ 8.05 | 2- 4 | 117 | 117 | 40 | 3 1/8 | B | 3 1/8 | 2 5/8 | 2 5/8 |
| P-3197 | 11.50 | 5- 0 | 117 | 117 | 80 | 2 1/2x2 5/16 | D | 3 7/8 | 3 3/16 | 3 1/2 |
| P-3177 | $34.70 | 15-10 | 117 | 105-115-125 | 350 | 3 1/2x3 3/4 | DE | 5 5/16 | 4 1/2 | 5 1/4 |
| P-3198 | $20.85 | 6- 6 | 117 | 117 | 100 | 3 3/4x2 11/16 | DE | 4 1/4 | 3 9/16 | 3 3/4 |
| P-3202 | 28.75 | 7- 0 | 117 | 117 | 175 | 2 3/4x3 7/8 | J | 4 1/4 | 4 7/16 | 3 5/8 |
| P-3199 | 38.90 | 12- 2 | 117 | 117 | 250 | 3 x3 13/16 | DE | 4 5/8 | 3 13/16 | 4 7/8 |
| P-3172 | 41.65 | 21- 4 | 117 | 117 | 500 | 3 1/2x4 7/8 | DE | 5 3/8 | 4 5/8 | 6 1/2 |

H

## Step Down Type

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P-3116 | $21.10 | 5- 0 | 230 | 115 | 100 | 2 3/4x2 5/16 | DE | 4 1/4 | 3 9/16 | 3 3/8 |
| P-3117 | 34.70 | 9-10 | 230 | 115 | 250 | 3 x3 5/16 | DE | 4 5/8 | 3 13/16 | 4 3/8 |
| P-3118 | 60.00 | 21- 7 | 230 | 115 | 500 | 3 1/2x4 7/8 | DE | 5 7/16 | 4 9/16 | 6 3/8 |



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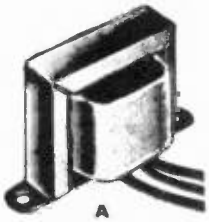
World Radio History

# AUDIO

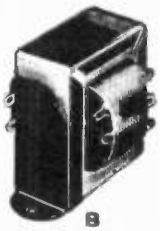
## DRIVER AND MODULATION TRANSFORMERS

***"COMPARE IT WITH MERIT!"***

## Driver Transformers



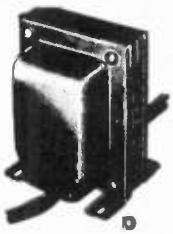
A



B

| Merit No. | Sugg. List Price | Driver | Typical Outputs | Turn Ratio Pri. to ½ Sec. | Pri. MA | Dimensions—Inches: Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-3009 | $ 3.35 | 30, 1H4, etc. | PP19, 30's, 1J6, etc. | 2.5:1 | 15 | 1¾ | 1 3/16 | 2 1/16 | ⅞ | A | 0- 4 |
| A-2920 | 3.75 | 6C5, 1H4. 30, 49, etc. | 1J6, 19, PP30, 49, etc. | 2.5:1 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | A | 0-10 |
| A-2921 | 5.15 | 6F6, 2A5, 42. etc. | PP6F6, 2A5, 6L6. etc. | 1.7:1, 1.5:1, 1.3:1 | 35 | 2 13/16 | 2 | 3¼ | 1⅝ | A | 1- 0 |
| A-2922 | 5.85 | 6A6, 6C5, 6N7, 46, etc. | 6A6, 6N7, PP46, etc. | 5:1, 4:1, 3:1, 2.5:1 | 20 | 2 11/16 | 2 | 3¼ | 1⅝ | A | 1- 0 |
| A-3120 | 15.00 | 500 ohm line | Class B Grids 15 Watt Capacity | 1:.75, 1:.85, 1:1, 1:1.25, 1:1.45 | | 2 3/16 x 2 | 3 3/16 | 2⅝ | 3⅜ | DL | 3- 1 |
| A-3121 | 16.95 | 500 ohm line | Class B Grids 30 Watt Capacity | 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3 | | 2¼ x 2¼ | 3 9/16 | 3 | 3¾ | DL | 4- 2 |
| A-3123 | 9.15 | PP6A6, 6C5, 53. etc. | PP6A6, 6N7, 6L6. T21 | 5:1† | 15 | 2 x 1 11/16 | 3⅛ | 2⅝ | 2⅝ | D | 2- 7 |
| A-3124 | 8.05 | 6F6, 46, 59, 42. etc. | PP46, 59, 6L6. 807 | 2.2:1 | 30 | 2 x 1 11/16 | 3⅛ | 2⅝ | 2⅝ | D | 2- 7 |
| A-3125 | 10.25 | 6F6, 2A5, 47, 42, etc. | PP6L, 800, 812, 203A | 1.4:1† | 40 | 2¼ x 2 | 3½ | 2 15/16 | 3⅛ | D | 3- 4 |
| A-3126 | 8.90 | PP6L6, 6F6, 6V6, etc. | RK18, RK58, T20, 807 | 2:1 | 40 | 2 x 1 11/16 | 3⅛ | 2⅝ | 2⅝ | D | 2- 7 |

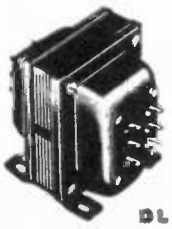
## Modulation Transformers



D

| Merit No. | Sugg. List Price | Class B Outputs | Ohms Impedance: Pri. | Ohms Impedance: Sec. | Max. MA: Pri. | Max. MA: Sec. | Watts | Dimensions—Inches: Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-3007 | $4.15 | 19.1J6,6A6, 6N7,PP1H4 | 10000 c.t. | 5000 8000 10000 | 70 | 50 | 5 | 1¾ | 1 3/16 | 2 1/16 | ⅞ | A | 0- 4 |
| A-3008 | 6.10 | PP6AV5,6V6, 6F6 Sgl. 6A6, 6N7,53 | 10000 c.t. | 4000-5000 7500-10000 12000 | 70 | 60 | 10 | 2⅜ | 2¼ | 2⅞ | 2⅛ | B | 1- 5 |
| A-3109 | 11.40 | PP2A3,6A3, 6B4,6L6,45, 46, 59 | 6000 c.t. 3800 c.t. 3000 c.t. | 5000 8000 10000 | 80 | 100 | 25 | 2x1 13/16 | 3⅛ | 2⅝ | 2¾ | D | 2- 8 |
| A-3110 | 16.65 | PP6L6,807 PPRK41, HY56 PP HY61, HK24 | 6600-3800 c.t. | 4000-5000 7500-10000 12000 | 175 | 150 | 60 | 2¾x2 11/16 | 4¼ | 3½ | 3¾ | D | 6- 3 |
| A-3113 | 28.60 | PP800,809, TZ40,T55, HK54,RK31, HY40,811A, 807,812A | 15000-6900 c.t. | 3000-4000 5000-6000 | 250 | 300 | 175 | 3x4 7/16 | 4⅝ | 3 13/16 | 5⅝ | D | 14-10 |

## Universal Modulation



DL

| Type No. | List Price | Pri. Impedance | Pri. MA Per Side | Sec. Impedance | Max. Sec. MA‡ | Watts | Dimensions—Inches: Mtg. Centers | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-3104 | $12.75 | 2000-20000 | 50 | 2000-20000 | 50/100 | 15 | 2 x1 11/16 | 3 3/16 | 2½ | 2⅝ | DL | 2-4 |
| A-3105 | 19.85 | 2000-20000 | 150 | 2000-20000 | 150/300 | 60 | 2½x2 15/16 | 3⅞ | 3⅛ | 4⅛ | DL | 6-12 |
| A-3106 | 25.00 | 2000-20000 | 220 | 2000-2000C | 220/440 | 125 | 3 x3 9/16 | 4⅝ | 3¾ | 4⅝ | DL | 10- 1 |

‡Series/Parallel.

## Transistor Transformers

Actual size

| Merit No. | Sugg. List Price | Function | Impedance in Ohms: Pri. | Impedance in Ohms: Sec. | DC Resistance: Pri. | DC Resistance: Sec. | DC Pri. MA | Power MW |
|---|---|---|---|---|---|---|---|---|
| A-2705 | $ 5.55 | Output | 250 c.t. | 11 | 20 | .80 | 0 | 175 |
| A-2702 | 5.55 | Output | 450 c.t. | 3.2 | 40 | .40 | 2 | 100 |
| A-2706 | 5.55 | Output | 500 | 12 | 50 | 2.7 | 15 | 175 |
| A-2701 | 5.55 | Output | 725 c.t. | 3.2 | 57 | .34 | 0 | 175 |
| A-2760 | 6.50 | Output | 1000 | 50/60 | 116 | 7 | 3 | 50 |
| A-2704 | 6.00 | Driver or Interstage | 5000 | 2500c.t. | 230 | 39 | 1.5 | 350 |
| A-2700 | 3.60 | Driver or Output | 10,000 | 16 | 640 | 2.7 | 2 | 150 |
| A-2703 | 5.55 | Driver or Interstage | 10,000 | 2000 | 370 | 198 | 2 | 100 |
| A-2740 | 9.00 | Input or Interstage | 20,000 | 1000 | 1400 | 210 | .5 | 150 |
| A-2741 | 7.00 | Input or Interstage | 20,000 | 1000 | 1100 | 109 | .5 | 150 |
| A-2720 | 10.00 | Input | 200,000 | 1000 | 2800 | 145 | 0 | 150 |

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# AUDIO

## OUTPUT TRANSFORMERS

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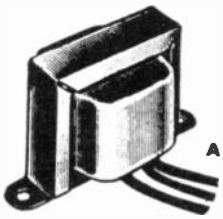
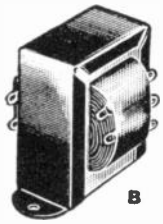

A

## Standard Type

*Type "B" mounting. Mounting Type "A"

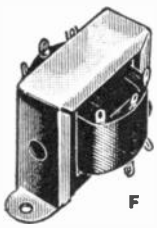
| Merit No. | Sugg. List Price | Tube | Ohms Impedance Primary | Ohms Impedance Sec. | Pri. Ma. | Max. Watts | Dimensions—Inches Mtg. Centers | H | W | D | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-2928 | $ 2.50 | Single | 2000 | 3-4 | 60 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3025 | 2.10 | Single | 2500 | 3-4 | 50 | 3 | 1¾ | 1 3/16 | 2 1/16 | ⅞ | 0- 4 |
| A-3018 | 3.35 | Single | 3500 | 3-4 | 60 | 8 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-3026 | 2.10 | Single | 5000 | 3-4 | 40 | 3 | 1¾ | 1 3/16 | 2 1/16 | ⅞ | 0- 4 |
| A-2930 | 2.60 | Single | 5000 | 3-4 | 40 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3019 | 3.35 | Single | 5000 | 3-4 | 50 | 8 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-2935 | 4.30 | Single or Push-Pull | 5000 c.t. | 3-4 | 150 | 18 | 2 13/16 | 2 | 3¼ | 1⅝ | 1- 0 |
| A-2931 | 2.60 | Single | 7000 | 3-4 | 30 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3020 | 3.35 | Single | 7000 | 3-4 | 40 | 8 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-2927* | 2.20 | Single | 8000 | 3-4 | 20 | 3 | 1½ | 1⅜ | 1⅞ | 1 | 0- 4 |
| A-2932 | 2.60 | Single | 10000 | 3-4 | 30 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-2938 | 3.20 | Single or Push-Pull | 10000 c.t. | 3-4 | 40 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-2936 | 3.60 | Single or Push-Pull | 10000 c.t. | 3-4 | 75 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-2933 | 2.80 | Single | 12000 | 3-4 | 10 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3021 | 4.30 | Single or Push-Pull | 14000 c.t. | 3-4 | 35 | 12 | 2 13/16 | 2 | 3¼ | 1⅝ | 1- 0 |
| A-2934 | 2.65 | Single | 15000 | 3-4 | 10 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-2937 | 3.20 | Single or Push-Pull | 25000 c.t. | 3-4 | 10 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3012 | 4.00 | Single or Push-Pull | 10000 c.t. | 3-4 | 25 | 10 | 1 23/32 | 1 11/16 | 2 | 1½ | 0-10 |
| A-3017 | 3.45 | Single or Push-Pull | 50000 c.t. | 3-4 | 10 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3010 | 3.35 | | Exact for Delco 6061 | | | | | 1⅝ | 1⅜ | 1¼ | 0- 6 |


B

## Universal Type

Mounting Type "F" except *Type "G" mounting.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-2900 | $ 3.35 | Single or Push-Pull | 4000- 7000- 8000-10000- 14000 c.t. | .17 to 32 | 35 | 4 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-2901 | 3.75 | Single or Push-Pull | 4000- 7000- 8000-10000- 14000 c.t. | .17 to 32 | 40 | 8 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-2902 | 3.75 | Single | 1500- 2000- 4000- 5000- 7000-10000 | .1 to 40 | 55 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | 0-10 |
| A-2903 | 3.35 | Single | 2000- 4500- 7000-10000 | 3.2 | 30 | 4 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-2904* | 4.70 | Single or Push-Pull | 4000- 7000- 8000-10000- 14000 c.t. | .17 to 32 | 40 | 18 | 2⅜ | 2¼ | 2⅞ | 1⅞ | 1- 1 |
| A-2905 | 6.10 | Single or Push-Pull | 3000- 5000- 7000- 8000- 10000 c.t. | .17 to 32 | 70 | 24 | 3⅛ | 2¼ | 3 11/16 | 2⅛ | 1-10 |
| A-2998 | 2.90 | Single | 3500- 5000- 7000-10000 | 3.2 | 35 | 3 | 1¾ | 1⅛ | 2⅛ | 1⅛ | 0- 4 |
| A-2999 | 3.05 | Single | 12000-15000- 18000-25000 | 3.2 | 10 | 3 | 1¾ | 1⅛ | 2⅛ | 1⅛ | 0- 4 |

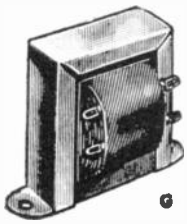

F

## Filter Tapped

Mounting Type "A"

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-3031 | $ 3.05 | Single | 3000 | 3-4 | 50 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |
| A-3032 | 3.05 | Single | 6000 | 3-4 | 40 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | 0- 6 |

*Primary has 30% and 6% humbucking taps. Secondary to match 3-4 ohm speaker.


G

## Special Type

Mounting Type "F"

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-3027 | $ 7.35 | PP6F6, 6V6, etc. | 10000 c.t. | ‡ | 45* | 15 | 2 13/16 | 2 | 3¼ | 1¾ | 1- 0 |
| A-3028 | 8.35 | PP6L6, etc. | 5000 c.t. | ‡ | 70* | 20 | 3⅛ | 2 3/16 | 3 11/16 | 2 | 1- 8 |

‡ Sec. Impedance 2-4-8-15-250-500 Ohms. * Pri. M.A. Per Side.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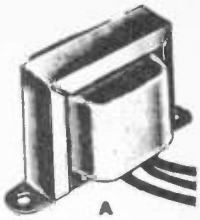
World Radio History

# AUDIO

## LINE TRANSFORMERS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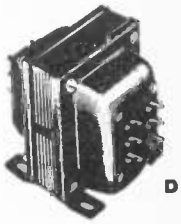
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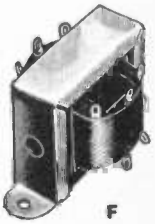
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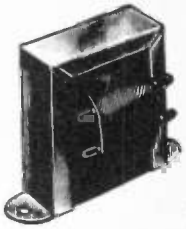
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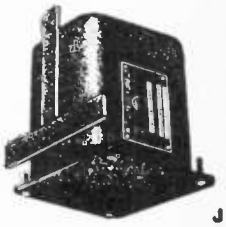
JO

## Constant Voltage Line Transformers

| Merit No. | Sugg. List Price | Ohms Impedance Pri. | Ohms Impedance Sec. | Watts | Dimensions—Inches Mtg. Ctrs. | H | W | D | Mtg. Type | Shpg. Wt. Lbs.-Oz. |
|---|---|---|---|---|---|---|---|---|---|---|
| A-2800 | $4.45 | 1000-1250-1667-2500-5000 | 3.2, 8 | 1- 5 | 2 | 1⅜ | 2⅜ | 1⅜ | F | 0- 7 |
| A-2801 | 4.30 | 500-555-625-715-833 | 3.2, 8 | 6-10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | F | 0-10 |
| A-2802 | 4.70 | 333-357-384-417-455 | 8, 16 | 11-15 | 2 13/16 | 2 | 3¼ | 1⅝ | F | 1- 0 |
| A-2803 | 5.15 | 250-263-278-294-312 | 8, 16 | 16-20 | 2⅜ | 2¼ | 2 13/16 | 2⅞ | G | 1- 4 |
| A-2804 | 5.55 | 200-208-217-227-238 | 8, 16 | 21-25 | 2⅝ | 2⅝ | 3 5/16 | 1⅞ | G | 1- 6 |
| A-3013 | $4.25 | 1000-2000-4000-8000-16000 | 3.5, 7 | 5 | 2 | 1 5/16 | 2⅜ | 1½ | F | 0- 7 |
| A-3014 | 4.60 | 500-1000-2000-4000-8000 | 4-8-16 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | F | 0- 7 |
| A-3015 | 6.40 | 275-550-1100-2200-4400-8800 | 4-8-16 | 18 | 2⅜ | 2¼ | 2⅞ | 1⅞ | G | 1- 0 |
| A-3016 | 6.95 | 210-420-840-1680-3360-6720 | 4-8-16 | 24 | 3⅛ | 2¼ | 3 11/16 | 2⅛ | F | 1-10 |
| *A-2805 | 4.00 | 125-250-500-1000-2000 | 3.5,-7 | 5 | 2 | 1 5/16 | 2⅜ | 1½ | F | 0- 7 |
| *A-2806 | 6.10 | 62.5-125-250-500-1000 | 4-8-16 | 10 | 2⅜ | 1⅞ | 2 13/16 | 1½ | F | 0- 7 |
| *A-2807 | 6.40 | 34.5-68.75-137.5-275-, 550-1100 | 4-8-16 | 18 | 2⅜ | 2¼ | 2⅞ | 1⅞ | G | 1- 0 |
| *A-2808 | 7.40 | 26-52-104-208-416-832 | 4-8-16 | 24 | 2⅜ | 2¼ | 2⅞ | 1⅞ | F | 1-10 |

*Used to match speaker to 25V constant voltage line.

## Universal Line Transformers

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A-2810 | $4.70 | 500-1000-1500-2000 | 3.2,4.8,6.8 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | F | 0-10 |
| A-2811 | 5.40 | 500-1000-1500-2000 | 3.2,4.8,6.8 | 18 | 2⅜ | 2¼ | 2 13/16 | 1⅝ | G | 1- 0 |
| A-2812 | 5.95 | 500-1000-1500-2000 | 3.2,4.8,6.8 | 25 | 2 13/16 | 2⅝ | 3 5/16 | 1⅞ | G | 1- 6 |
| A-2813 | 4.15 | 2500-5000-7000-10000 | 4.8, 6, 8 | 5 | 2 | 1⅜ | 2¾ | 1⅜ | F | 1- 7 |
| A-2814 | 5.00 | 31-62-125-250 | 4.8, 6, 8 | 20 | 2⅜ | 2¼ | 2 13/16 | 1⅞ | G | 1- 4 |
| A-2906 | $3.90 | 500-1000-1500-2000 | 3.2, 6-8 | 10 | 2⅜ | 1⅝ | 2 13/16 | 1½ | F | 0-10 |
| A-2907 | 5.85 | 500-1000-1500-2000 | 3.2, 6-8 | 18 | 2⅜ | 2¼ | 2⅞ | 1⅞ | G | 1- 0 |
| A-2908 | 6.25 | 500-1000-1500-2000 | 6-8, 16 | 24 | 3⅛ | 2¼ | 3 11/16 | 2⅛ | F | 1- 8 |
| A-2909 | 3.35 | 45-50 | 3.2, 6-8 | 8 | 2 | 1⅝ | 2 13/16 | 1½ | G | 0-10 |
| A-3005 | 3.05 | 500 | 3.2, 6-8 | 5 | 2 | 1⅜ | 2⅜ | 1¼ | A | 0- 6 |
| A-4040 | $19.45 | 250-500-1000-1500-2000 | 4-8-16 | 8 | 2¾x3⅞ | 4¼ | 4 7/16 | 3 9/16 | JO | 4- 0 |
| A-4041 | 19.45 | 250-500-1000-1500-2000 | 4-8-16 | 12 | 2¾x3⅞ | 4¼ | 4 7/16 | 3 9/16 | JO | 4- 4 |
| A-4042 | 20.85 | 250-500-1000-1500-2000 | 4-8-16 | 25 | 2¾x3⅞ | 4¼ | 4 7/16 | 3 9/16 | JO | 5- 6 |

## Tube to Line Transformers

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| A-2925 | $5.55 | 20000 c.t. | 500-125 | 10 | 2 13/16 | 2 | 3¼ | 1⅝ | A | 1- 0 |
| A-2926 | 5.55 | 20000 c.t. | 200-50 | 10 | 2 13/16 | 2 | 3¼ | 1⅝ | A | 1- 0 |
| †A-3023 | 5.55 | 5000-10000-20000 c.t. | 500-333-200-125-50 | 15 | 2 13/16 | 2 | 3¼ | 1¾ | F | 1- 0 |
| †A-3024 | 12.20 | 5000-10000-20000 c.t. | 500-333-200-125-50 | 50 | 2x1 11/16 | 3 3/16 | 2⅝ | 2¾ | DL | 2- 8 |

†20000 Ohm Center Tapped

### ATTENTION!

THE MERIT LINE INCLUDES FLYBACKS, YOKES, WIDTH AND LINEARITY COILS, VERTICAL OUTPUTS, VERTICAL BLOCKING OSCILLATORS, PEAKING COILS AND MANY OTHER TV AND RADIO COMPONENTS NOT LISTED IN THIS EDITION OF THE RADIO-ELECTRONIC MASTER.

THE MERIT LINE IS AVAILABLE AT LEADING DISTRIBUTORS. CONTACT YOUR FAVORITE DISTRIBUTOR FOR ANY INFORMATION ABOUT MERIT PRODUCTS NOT LISTED HEREIN.

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**Merit** ***COIL AND TRANSFORMER CORPORATION***

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World Radio History

# BROADCAST QUALITY COMPONENTS

Modern high fidelity broadcasting and transcription equipment requires the use of "Audio" — transformers of utmost quality and reliability in performance. Freed broadcast quality components have been designed to meet these requirements. They are wide band, high fidelity components with low distortion throughout the audio range and beyond. Frequency response for most units is in the order of ± 1DB from 20 to 20,000 cps and for high level output transformers in the order of ± 0.5 DB from 20 to 30,000 cps.

These units feature astatic construction, longitudinal balance, high efficiency, uniform response, and constant impedance match throughout the audio frequency spectrum. Maximum neutralization of stray fields is accomplished through the use of hum balanced coil structures and multiple alloy shielding. Equal high fidelity response is assured on every tap of any universal impedance winding without line reflection of transverse coupling.

All broadcast quality components are thoroughly impregnated in a special non-hygroscopic varnish and fully encapsulated with a moisture proof, high melting compound.

All broadcast quality components are **hermetically sealed**.

All units are tested in accordance with and meet "RETMA" standards.

Almost all units are designed with universal impedance windings to insure greatest versatility.

A full line of high Q reactors complements this series of audio transformers.

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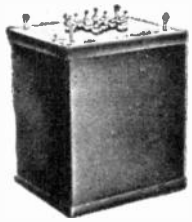
World Radio History

# BROADCAST QUALITY COMPONENTS

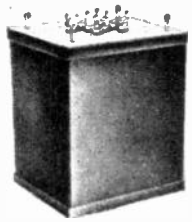
## CASE DIMENSIONS

### DC-2B CASE



Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½" dia

### DC-4A CASE



Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen.: 2½"x2½"
Studs: 4 8-32
Knockout: 2" dia.

## INPUT TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level DBM | Ratio | Equivalent Shielding D.B. | Maximum Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| QGA 1 | Universal 500 ohm line to push-pull grids | U-500 | 100,000 split | +10 | 1:14.1 | 70 | 0 | 0 | DC-2B |
| QGA 2 | Universal 500 ohm line to push-pull grids | U-500 | 100,000 split | +10 | 1:14.1 | 90 | 0 | 0 | DC-2B |
| QGA 3 | Universal 500 ohm line to single or push-pull grids | U-500 | 60,000 split | +10 | 1:11 | 70 | 0 | 0 | DC-2B |
| QGA 4 | Universal 500 ohm line to single or push-pull grids | U-500 | 60,000 split | +10 | 1:11 | 90 | 0 | 0 | DC-2B |
| QGA 5 | Universal low impedance microphone, pickup or line to single or push-pull grids | U-60 | 60,000 split | +10 | 1:31.6 | 70 | 0 | 0 | DC-2B |
| QGA 6 | Universal low impedance microphone, pickup or line to single or push-pull grids | U-60 | 60,000 split | +10 | 1:31.6 | 90 | 0 | 0 | DC-2B |

U-60 IMPEDANCES IN OHMS:
2.5, 5, 10, 15, 20, 30, 40, 60

U-500 IMPEDANCES IN OHMS:
50, 125, 200 CT, 250, 330, 500 CT.
125 and 500 ohms can be used for 150 and 600 ohms.

## HYBRID AND REPEAT COILS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level D.B.M. | Ratio | Equivalent Shielding D.B. | Maximum Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| QGA 7 | Hybrid. Unbalanced 500/600 ohm lines to 600 ohms. | Total Pri 1200/1000 split 300/250 300/250 | 600/150 or 500/125 split | +10 | 1.41:1 | 70 | 0 | 0 | DC-2B |
| QGA 8 | Hybrid. Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB | Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T. | 600/150 or 500/125 split | +10 | 1.41:1 | 70 | 0 | 0 | DC-2B |
| QGA 9 | Hybrid. Unbalanced 500/600 ohm lines to triode plate. No. D.C. in secondary. | Total Pri 1200/1000 split 300/250 300/250 | 15,000 or 12,500 | +10 | 1:3.54 | 70 | 0 | 0 | DC-2B |
| QGA 10 | Hybrid. Balanced 500/600 ohm lines to triode plate. No. D.C. in secondary. Longitudinal balance 70 DB. | Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T. | 15,000 or 12,500 | +10 | 1:3.54 | 70 | 0 | 0 | DC-2B |
| QGA 11 | Repeat coil for low frequency ringing. Longitudinal balance 70 DB. | 600/500 split | 600/500 split Balanced | | 1:1 | 90 | 0 | 0 | DC-A4 |

## INTERSTAGE TRANSFORMERS

Frequency Response 20-20,000 C.P.S ±1 0 D.B.
*50-20,000 C P.S. ±1.0 D.B.

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level D.B.M. | Ratio | Equivalent Shielding D.B. | Maximum Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| QGA 12 | Bridging line to single or push-pull grids. | 10,000 | 60,000 split | +10 | 1:2.45 | 70 | 0 | 0 | DC-2B |
| QGA 13 | Single 6C4, 6J5 ½ 6SN7 triode to push-pull grids. Shunt feed. | 15,000 | 60,000 split | +18 | 1:2 | 45 | 0 | 0 | DC-2B |
| QGA 14* | Single 6C4, 6J5, ½ 6SN7 triode to push-pull grids. | 15,000 | 60,000 split | +18 | 1:2 | 45 | 8 | 8 | DC-2B |
| QGA 15 | Push-pull triode plates to push-pull class A grids. | 20,000 split | 45,000 split | +25 | 1:1.5 | 30 | 8 | 0.5 | DC-4A |

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# BROADCAST QUALITY COMPONENTS

## LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB
*50-20,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level D.B.M. | Ratio | Equivalent Shielding D.B. | Max. Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| QGA 16 | Single plate or bridging line to Universal 500 ohm line. Shunt feed. | 15,000 | U-500 | +18 | 5.5:1 | 70 | 0 | 0 | DC-2B |
| QGA 17* | Single plate to Universal 500 ohm line. | 15,000 | U-500 | +18 | 5.5:1 | 70 | 8 | 8 | DC-2B |
| QGA 18 | Push-pull triode plates to Universal 500 ohm line. | 20,000 C.T. | U-500 | +25 | 6.3:1 | 70 | 8 | 0.5 | DC-2B |
| QGA 19 | Mixing, low impedance microphone or line to Universal 500 ohm line. | U-500 | U-500 | +12 | 1:1 | 70 | 0 | 0 | DC-2B |
| QGA 20 | Line level mixing and matching. | U-500 | U-500 | +30 | 1:1 | 70 | 0 | 0 | DC-2B |
| QGA 21 | High mu triode photo-cell to Universal 500 ohm line. | 100,000 | U-500 | +12 | 14.1:1 | 70 | 0 | 0 | DC-2B |

## DRIVER TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Primary Impedance Ohms | Maximum Power Level D.B.M. | Turn Ratio Pri.: ½ Sec. | Max. Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|
| QGA 22 | Universal 500 ohm line to Class B grids. | U-500 | +40 | 1:1 | 0 | 0 | DC-4A |
| QGA 23 | Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc. | 20,000 C.T. | +30 | 3.2:1 | 8 | 0.5 | DC-2B |
| QGA 24 | Push-pull 2A3, 6B4 to push-pull 809, T2-40, 4/125A. | 5,000 C.T. | +40 | 3.1:1 | 50 | 5 | DC-4A |

## HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 20-30,000 C.P.S. ±0.5 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level DBM | Maximum Power Level Watts | Ratio | Max. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| QGA 25 | PP 5881, 6B4, 6L6, 300A, 275A to Universal 500 ohm line. | 5,000 split | U-500 | +42 | 15 | 3.16:1 | 70 | 7 | DC-5B |
| QGA 26 | As above to Universal voice coil. | 5,000 split | U-16 | +42 | 15 | 17.7:1 | 70 | 7 | DC-5B |
| QGA 27 | Push-pull 6V6, 6AQ5, 7C5, 6N7 to Universal 500 ohm line. | 8,000 split | U-500 | +42 | 15 | 4:1 | 50 | 5 | DC-5B |
| QGA 28 | As above to Universal voice coil. | 8,000 split | U-16 | +42 | 15 | 22.4:1 | 50 | 5 | DC-5B |
| QGA 29 | P.P. 6F6, 6V6, 6AQ5, 7C5, 7B5, 6AR5, 6K6, 6L6 to Universal 500 ohm line. | 10,000 split | U-500 | +42 | 15 | 4.47:1 | 40 | 4 | DC-5B |
| QGA 30 | As above to Universal voice coil. | 10,000 split | U-16 | +42 | 15 | 25:1 | 40 | 4 | DC-5B |
| QGA 31* | PP. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line. | 10,000 split | U-500 | +45.5 | 36 | 4.47:1 | 60 | 6 | DC-6A |
| QGA 32* | As above to Universal voice coil. | 10,000 split | U-16 | +45.5 | 36 | 25:1 | 60 | 6 | DC-6A |
| QGA 33 | P.P. Parallel, 6A5G, 300A to Universal 500 ohm line. | 2,500 split | U-500 | +45.5 | 36 | 2.24:1 | 100 | 10 | DC-6A |
| QGA 34 | As above to Universal voice coil. | 2,500 split | U-16 | +45.5 | 36 | 12.5:1 | 100 | 10 | DC-6A |
| QGA 35 | P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line. | 3,800 split | U-500 | +47 | 50 | 2.75:1 | 140 | 14 | DC-6B |
| QGA 36 | As above to Universal voice coil. | 3,800 split | U-16 | +47 | 50 | 15.4:1 | 140 | 14 | DC-6B |
| QGA 37 | High level multiple line to Universal voice coil. | U-500 | U-16 | +42 | 15 | 5.6:1 | 0 | 0 | DC-5B |
| QGA 38 | High level multiple line to Universal voice coil. | U-500 | U-16 | +47 | 50 | 5.6:1 | 0 | 0 | DC-6B |
| QGA 39* | 5881 or 6146 Class AB1 to Universal 500 ohm line. | 6,600 split | U-500 | +45.5 | 36 | 3.64:1 | 70 | 7 | DC-6A |
| QGA 40* | 5881 or 6146 Class AB1 to Universal voice coil. | 6,600 split | U-16 | +45.5 | 36 | 20:1 | 70 | 7 | DC-6A |
| QGA 41 | 6550 AB1 or 6146 AB2. to Universal 500 ohm line. | 5,000 split | U-500 | +50 | 100 | 3.16:1 | 140 | 14 | DC-7A |
| QGA 42 | 6550AB1 or 6146AB2 to Universal voice coil. | 5,000 split | U-16 | +50 | 100 | 17.7:1 | 140 | 14 | DC-7A |

*These units supplied with taps for applying screen feedback. U-500 IMPEDANCES IN OHMS. 50, 125, 200 C.T., 250, 330, 500 C.T. 125 and 500 ohms can be used for 150 and 600 ohms.
U-16 IMPEDANCES IN OHMS: 2, 4, 8, 12, 16.

### CASE DIMENSIONS

**DC-2B CASE**
Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½" dia.

**DC-4A CASE**
Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen.: 2½"x2½"
Studs: 4 8-32
Knockout: 2" dia.

**DC-5B CASE**
Height: 4½"
Width: 4⅛"
Depth: 3½"
Mtg. Cen.: 3⅛"x2⅝"
Studs: 4 10-32
Knockout: 2½" dia.

**DC-6A CASE**
Height: 4⅞"
Width: 5"
Depth: 4⅛"
Mtg. Cen.: 3¾"x3"
Studs: 4 10-32
Knockout: 3" dia.

**DC-6B CASE**
Height: 6"
Width: 5"
Depth: 4⅛"
Mtg. Cen.: 3¾"x3"
Studs: 4 10-32
Knockout: 3" dia.

**DC-7A CASE**
Height: 5⅜"
Width: 5½"
Depth: 5"
Mtg. Cen.: 4⅜"x3¾"
Studs: 4 ¼"-20
Knockout: 3" dia.


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# MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetically sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27A Specifications.

**Frequency response:** ± 2DB 30-20,000 CPS.
*± 2DB 200-10,000 CPS.

**CASE DIMENSIONS**

**DM-20 CASE**

Height: 1 9/16"
Dia.: 15/16"
Mtg. Cen.: 1 1/8" to 1 7/32"
Mtg. 2 holes: .147" wide
Flange Lgth.: 1 13/32"
Flange D.: .975"

| Catalog No. | Application | MIL Type | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Max. Power Level DBM | Ratio | Equivalent Shielding D.B. | Max. Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|---|
| PMA 1 | Line or microphone to single or push-pull grids. | TF4RX10YY | 50/200/500 | 60,000 C.T. | +8 | 1:11 | | 0 | 0 | DM-20 |
| PMA 2 | Dynamic microphone or speaker voice coil to single or P.P. grid. | TF4RX10YY | 4 8 | 60,000 C.T. | +8 | 1:86.6 | | 0 | 0 | DM-20 |
| PMA 3 | Line or microphone to single or push-pull grids. Magnetically shielded. | TF4RX10YY | 50/200/500 | 60,000 C.T. | +8 | 1:11 | 30 | 0 | 0 | DM-20 |
| PMA 4 | Single triode plate to single or push-pull grids. | TF4RX10YY | 15,000 | 60,000 C.T. | +8 | 1:2 | | 0 | 0 | DM-20 |
| PMA 5* | Single triode plate to push-pull grids. | TF4RX15YY | 15,000 | 60,000 C.T. | +8 | 1:2 | | 2 | 2 | DM-20 |
| PMA 6 | Single triode plate to multiple line. | TF4RX16YY | 15,000 | 50/200/500 | +8 | 5.48:1 | | 0 | 0 | DM-20 |
| PMA 7* | Single triode plate to multiple line. | TF4RX13YY | 15,000 | 50/200/500 | +8 | 5.48:1 | | 2 | 2 | DM-20 |
| PMA 8 | Push-pull triode plates to multiple line. | TF4RX13YY | 30,000 C.T. | 50 200 500 | +8 | 7.75:1 | | 2 | 0.25 | DM-20 |
| PMA 9 | Crystal mike or pickup to multiple line. | TF4RX13YY | 60,000 C.T. | 50 200 500 | +8 | 11:1 | | 0 | 0 | DM-20 |
| PMA 10 | Mixing or matching. | TF4RX16YY | 50 200 | 50 200 500 | +8 | 1:1.50 | | 0 | 0 | DM-20 |
| PMA 11 | Parallel Feed Reactor. | TF4RX20YY | 40 hy, 3 ma dc, 3500 ohms d. c. resistance. | | | | | | | DM-20 |

**CASE DIMENSIONS**

**DM-O1 CASE**

Height: 2"
Width: 1 1/2"
Depth: 1 1/2"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout: 1 3/8" dia.

**UNCASED DIMENSIONS**

**TMO 1 TO 14**

Height: 13/16"
Width: 1 1/16"
Depth: 21/32"
Mtg. Cen.: 1 3/8"
2 Mtg. Holes: .120 dia.
Flange Lght.: 1 5/8"

**TMO 15 TO 18**

Height: 21/32"
Width: 9/16"
Depth: 13/16"

**TMO-19**

Height: 13/16"
Width: 1 15/32"
Depth: 1 1/4"
Mtg. Cen.: 1 3/4"
2 Mtg. Holes: 3/16" dia.
Flange Lgth.: 2 1/16"

# MINIATURE TRANSISTOR TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetically sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications.

Transistor Transformers can also be supplied in an open or encapsulated type of construction

| Catalog No. | MIL Type | Impedance Ohms Pri. | Ct. | Sec. | Ct. | Frequency Response ±D.B. | C.P.S. | Unbalanced Primary Current M.A./D.C. | D.C. Resistance Ohms Pri. | Sec. | Max. Power Output M.W. | Case No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TMA 1* | TF4RX16YY | 500 | | 500 | | 1 | 200 to 15,000 | 0 | 18 | 24 | 250 | M D-20 |
| TMA 2* | TF4RX13YY | 50K | | 500 | | 2 | 300 to 15,000 | 3 | 2,200 | 49 | 250 | DM-20 |
| TMA 3* | TF4RX13YY | 50K | | 6 | | 2 | 300 to 15,000 | 3 | 2,200 | .55 | 250 | DM-20 |
| TMA 4* | TF4RX13YY | 100K | | 1.2K | √ | 3 | 300 to 15,000 | 1 | 2,790 | 95 | 100 | DM-20 |
| TMA 5* | TF4RX13YY | 25K | | 1.2K | √ | 2 | 200 to 15,000 | 3 | 1,740 | 110 | 250 | DM-20 |
| TMA 6* | TF4RX13YY | 50K | | 1.2K | √ | 2 | 300 to 15,000 | 3 | 2,200 | 106 | 250 | DM-20 |
| TMA 7* | TF4RX17YY | 600/150 | | 1.2K | √ | 1 | 200 to 15,000 | 4 | 30 | 95 | 250 | DM-20 |
| TMA 8* | TF4RX13YY | 25K | | 600 | | 2 | 200 to 15,000 | 3 | 1,740 | 61 | 250 | DM-20 |
| TMA 9* | TF4RX13YY | 4K | √ | 600/150 | √ | 1 | 200 to 15,000 | 1 | 274 | 43 | 250 | DM-20 |
| TMA 10* | TF4RX13YY | 2K | | 3.2 | | 2 | 200 to 15,000 | 10 | 160 | .28 | 250 | DM-20 |
| TMA 11* | TF4RX13YY | 4K | √ | 3.2 | | 1 | 200 to 15,000 | 1 | 274 | .26 | 250 | DM-20 |
| TMA 12* | TF4RX13YY | 20K | | 50 | | 2 | 300 to 15,000 | 4 | 1,340 | 2.9 | 250 | DM-20 |
| TMA 13* | TF4RX17YY | 1K | | 50 | | 2 | 300 to 15,000 | 8 | 42.6 | 2.5 | 250 | DM-20 |
| TMA 14* | TF4RX16YY | 100K | | 1K | | 2 | 300 to 15,000 | 0 | 1,550 | 16.8 | 100 | DM-2 |
| TMO 15 | TF4RX16YY | 20K | | 50 | | 2 | 300 to 15,000 | 1 | 2,215 | 7.25 | 40 | open |
| TMO 16 | TF4RX16YY | 20K | | 600 | | 2 | 300 to 15,000 | 1 | 2,215 | 202 | 40 | open |
| TMO 17 | TF4RX16YY | 1K | | 50 | | 2 | 300 to 15,000 | 3 | 93 | 5.6 | 60 | open |
| TMO 18 | TF4RX16YY | 100K | | 1K | | 2 | 300 to 15,000 | 0 | 3,000 | 57.5 | 100 | open |
| TMA 19* | TF4RX13YY | 1K | | 3.2 | | 2 | 200 to 15,000 | 20 | 38 | .19 | 1000 | DM-01 |

*When ordering open units specify TMO — when ordering encapsulated units specify TMC.

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CASE DIMENSIONS

**DM-01A CASE**

Height: 2½"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout: 1 3/8" dia.

**DM-01B CASE**

Height: 2¼"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 2 6-32
Knockout: 1 3/8" dia.

**DM-01C CASE**

Height: 2"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 2 6-32
Knockout: 1 3/8" dia.

**DM-01D CASE**

Height: 2½"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 2 6-32
Knockout: 1 3/8" dia.

# PROFESSIONAL GRADE COMPONENTS

This group of components has been designed for use in high fidelity and professional equipment and for public address service. Freed has developed this series of units employing the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current the frequency response is ± 1 DB from 30 to 15,000 cps All units feature excellent performance characteristics combined with minimum size and weight.

All units are vacuum varnished and then potted in compound to insure long life and trouble free performance

Professional Grade components are supplied cased Upon request these units can be supplied open or in shell type construction

All cased Professional Grade Components supplied with terminals meet "RETMA" standards

## INPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level DBM | Ratio | Equivalent Shielding D.B. | Max. Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| PGA 1 | Universal 500 ohm line to single grid. | U-500 | 50,000 | +12 | 1:10 | 50 | 0 | 0 | DM-01A |
| PGA 2 | Universal 500 ohm line to push-pull grids. | U-500 | 60,000 split | +12 | 1:11 | 50 | 0 | 0 | DM-01B |
| PGA 3 | Universal 500 ohm line to push-pull grids. | U-500 | 100,000 split | +12 | 1:14.1 | 50 | 0 | 0 | DM-01C |
| PGA 4 | Bridging line to single grid. | 10,000 | 60,000 | +12 | 1:2.45 | 50 | 0 | 0 | DM-01 |
| PGA 5 | Bridging line to push-pull grids. | 10,000 | 60,000 center tap | +12 | 1:2.45 | 50 | 0 | 0 | DM-01 |
| PGA 6 | Low level line matching. | U-500 | U-500 | +18 | 1:1 | 50 | 0 | 0 | DM-01C |

## LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level DBM | Ratio | Max. Pri. D.C. Per Side Ma. | D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|---|
| PGA 7 | Single triode plate to Universal 500 ohm line. Shunt feed. | 15,000 | U500 | +18 | 5.48:1 | 0 | 0 | DM-01D |
| PGA 8 | Single triode plate to Universal 500 ohm line. | 15,000 | U500 | +18 | 5.48:1 | 8 | 8 | DM-01A |
| PGA 9 | Push-pull triode plates to Universal 500 ohm | 20,000 CT | U500 | +30 | 6.32:1 | 8 | 0.5 | DM-01A |
| PGA 10 | Low level line matching. | U500 | U500 | +18 | 1.1 | 0 | 0 | DM-01C |

All units supplied with terminals.

U-500 IMPEDANCES IN OHMS: 50, 125, 200 CT, 250, 330, 500 CT. 125 and 500 ohms can be used for 150 and 600 ohms.



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World Radio History

# PROFESSIONAL GRADE COMPONENTS

## CASE DIMENSIONS

**DC-1A CASE**
Height: 2½"
Width: 2 1/16"
Depth: 1 13/16"
Mtg. Cen. 1½"x1¼"
Studs: 4 8-32
Knockout: 1¼" dia.

**DC-2A CASE**
Height: 3"
Width: 2⅝"
Depth. 2¼"
Mtg. Cen.. 2"x1¾"
Studs: 4 8-32
Knockout: 1½"x1⅜"

**DC-2B CASE**
Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen. 2"x1¾"
Studs: 4 8-32
Knockout: 1½"x1⅜"

**DC-4A CASE**
Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen 2½"x2½"
Studs: 4 8-32
Knockout: 2"x1¾"

**DC-5A CASE**
Height: 3⅞"
Width: 4⅛"
Depth: 3½"
Mtg. Cen.. 3⅛"x2⅝"
Studs: 4 10-32
Knockout: 2½"x2"

**DC-6A CASE**
Height· 4⅞"
Width: 5"
Depth: 4⅛"
Mtg. Cen.: 3¾"x3"
Studs: 4 10-32
Knockout: 3"x2½"

## DRIVER TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Primary Impedance Ohms | Turn Ratio Pri: ½ Sec. | Max. Level DBM | Max. Pri. D.C. Per Side Ma. | Max. D.C. Unbalance Ma. | Case Number |
|---|---|---|---|---|---|---|---|
| PGA 11 | Universal 500 ohm line to push-pull grids. | U500 | 1:1 | +40 | 0 | 0 | DC-2A |
| PGA 12 | Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids. | 20,000 C.T. | 3.0:1 | +30 | 10 | 1 | DC-1A |
| PGA 13 | Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4.125A | 5,000 C.T. | 3.2:1 | +40 | 50 | 5 | DC-2A |

All units supplied with leads.

## HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Maximum Power Level DBM | Maximum Power Level Watts | Ratio | Max. Pri. D.C. Per Side Ma | DC Unbalance Ma | Case Number |
|---|---|---|---|---|---|---|---|---|---|
| PGA 14 | P.P. 6K6, 6AR5, 7B5 Class A to Universal voice coil. | 12,000 C.T. | U16 | +40 | 10 | 27.4:1 | 40 | 4 | DC-2B |
| PGA 15 | P.P. 6F6 Cl. AB₂, P.P. 6V6, 6AQ5, 7C5, Cl. AB₁, 6L6 or 5881 Triode to Universal voice coil. | 10,000 C.T. | U16 | +43 | 20 | 25:1 | 50 | 5 | DC-4A |
| PGA 16 | P.P. 6L6 Cl. AB₂, self bias to Universal 500 ohm line. | 9,000 | U500 | +44.8 | 30 | 4.23:1 | 50 | 5 | DC-4A |
| PGA 17 | As above to Universal voice coil. | 9,000 | U16 | +44.8 | 30 | 23.7:1 | 50 | 5 | DC-4A |
| PGA 18 | P.P. 6N7 Cl. B, P.P. 6V6, 6AQ5, 7C5, Cl. AB₁ to Universal voice coil. | 8,000 C.T. | U16 | +41.8 | 15 | 22.3:1 | 45 | 5 | DC-4A |
| PGA 19† | P.P. 6L6, fixed bias, Cl. AB₁, to Universal 500 ohm line. | 6,600 C.T. | U500 | +44.8 | 30 | 3.63:1 | 70 | 7 | DC-4A |
| PGA 20 | As above to Universal voice coil. | 6,600 C.T. | U16 | +44.8 | 30 | 20.3:1 | 70 | 7 | DC-4A |
| PGA 21 | P.P. 6L6 Cl. A, P.P. 2A3, 6A5G, 6B4 self bias P.P. Par. 6V6 Cl. AB₁ to Universal voice coil. | 5,000 C.T. | U16 | +43 | 20 | 17.7:1 | 80 | 8 | DC-4A |
| PGA 22 | P.P. Par 6L6 Cl. AB₁, self bias P. P. 6L6 Cl. AB₂ fixed bias PP807 Cl. AB₂ to Universal 500 ohm line. | 4000 C.T. | U500 | +47 | 50 | 2.83:1 | 100 | 10 | DC-5A |
| PGA 23 | As above to Universal voice coil. | 4000 C.T. | U16 | +47 | 50 | 15.8:1 | 100 | 10 | DC-5A |
| PGA 24 | P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil. | 3000 C.T. | U16 | +41.8 | 15 | 13.7:1 | 75 | 7.5 | DC-4A |
| PGA 25 | P.P. Par. 807 Cl. AB₂ to Universal 500 ohm line. | 2100 C.T. | U500 | +51.8 | 150 | 2.05:1 | 240 | 12 | DC-6A |
| PGA 26 | P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB₁, P.P. Par 6L6 Cl. A to Universal 500 ohm line. | 1500 C.T. | U500 | +44.8 | 30 | 1.73:1 | 150 | 15 | DC-4A |
| PGA 27 | As above to Universal voice coil. | 1500 C.T. | U16 | +44.8 | 30 | 9.7:1 | 150 | 15 | DC-4A |
| PGA 28 | Matching line to Universal voice coil. | U500 | U16 | +44.8 | 30 | 5.6:1 | 0 | 0 | DC-4A |
| PGA 29 | Matching line to Universal voice coil. | U500 | U16 | +47 | 50 | 5.6:1 | 0 | 0 | DC-5A |
| PGA 30 | Matching line to Universal voice coil. | U500 | U16 | +50 | 100 | 5.6:1 | 0 | 0 | DC-6A |

†Available with taps to apply screen feedback.

U-16 IMPEDANCES IN OHMS:
2, 4, 8, 12, 16

U-500 IMPEDANCES IN OHMS:
50, 125, 200 C.T., 250, 330, 500 C.T., 125 and 500 ohms can be used for 150 and 600 ohms.

A 70 volts level can be obtained for the following impedances:

500 ohms — 10 watts + 40 DBM
330 ohms — 15 watts + 42 DBM
250 ohms — 20 watts + 43 DBM
200 ohms — 25 watts + 44 DBM
125 ohms — 40 watts + 46 DBM
50 ohms — 100 watts + 50 DBM

*PGA 28, 29 & 30 supplied with terminals, all other units with leads.

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World Radio History

**CASE DIMENSIONS**

**DM-01 CASE**
Height: 2"
Width: 1½"
Depth: 1½"
Mtg. Cen.. 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout· 1 3/8" dia.

**DC-1A**
Height: 2½"
Width: 2 1/16"
Depth: 1 13/16"
Mtg. Cen.: 1½"x1¼"
Studs: 4 8-32
Knockout: 1¼" dia.

**DC-2A**
Height: 3"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½"x1⅜"

**DC-2B**
Height: 3½"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1½"x1⅜"

**DC-4A**
Height: 3¾"
Width: 3⅛"
Depth: 3"
Mtg. Cen. 2½"x2½"
Studs: 4 8-32
Knockout: 2"x1⅜"

**DC-5A CASE**
Height: 3⅞"
Width: 4⅛"
Depth: 3½"
Mtg. Cen.: 3⅛"x2⅝"
Studs: 4 10-32
Knockout: 2½" x 2"

**DC-5B**
Height: 4½"
Width: 4⅛"
Depth: 3½"
Mtg. Cen. 3⅛"x2⅝"
Studs: 4 10-32
Knockout· 2⅛" dia.

**DC-6A CASE**
Height: 4⅞"
Width: 5"
Depth: 4⅛"
Mtg. Cen. 3¾"x3"
Studs: 4 10-32
Knockout· 3" dia

**7B CASE**
Height: 6¾"
Width: 5½"
Depth: 5"
Mtg. Cen. 4⅜"x3¾"
Studs: 4¼-20
Knockout: 3"x2½"

# PROFESSIONAL GRADE COMPONENTS

## FILTER REACTORS

Inductance measured at 50V, 60 cycles with rated direct current in the winding.

| Catalog No. | Inductance in Henries | Rated Current D.C. Ma. | D.C. Resistance Ohms | Dielectric Test Voltage VRMS | Case Number |
|---|---|---|---|---|---|
| PGC 1 | 40 | 15 | 2000 | 1000 | DM-01 |
| PGC 2 | 12 | 40 | 400 | 1000 | DC-1A |
| PGC 3 | 8 | 50 | 300 | 1000 | DC-1A |
| PGC 4 | 20 | 50 | 425 | 2500 | DC-2A |
| PGC 5 | 10 | 70 | 250 | 2500 | DC-2A |
| PGC 6 | 6 | 100 | 160 | 2500 | DC-2A |
| PGC 7 | 6 | 150 | 115 | 2500 | DC-2B |
| PGC 8 | 10 | 150 | 160 | 2500 | DC-4A |
| PGC 9 | 5.5 | 200 | 95 | 2500 | DC-4A |
| PGC 10 | 10 | 200 | 150 | 2500 | DC-4A |
| PGC 11 | 10 | 250 | 135 | 2500 | DC-5B |
| PGC 12 | 8 | 300 | 95 | 2500 | DC-5B |
| PGC 13 | 7 | 400 | 60 | 2500 | DC-5B |
| | | PARALLEL FEED | AUDIO CHOKES | | |
| PGC 14 | 100 | 10 | 3500 | 1000 | DM-01 |
| PGC 15 | 30 | 50 | 650 | 1500 | DC-2A |
| PGC 16 | 400 | 1 | 6000 | 1000 | DM-01 |

## SWINGING INPUT REACTORS

| Catalog No. | Inductance in Henries * | Rated Current D.C. Ma. | D.C. Resistance Ohms | Dielectric Test Voltage VRMS | Case Number |
|---|---|---|---|---|---|
| PGC 17 | 5-20 | 150 | 160 | 1500 | DC-4A |
| PGC 18 | 5-20 | 250 | 135 | 1500 | DC-5B |
| PGC 19 | 3-15 | 300 | 95 | 1500 | DC-5B |
| PGC 20 | 3-15 | 400 | 60 | 1500 | DC-5B |

* Inductance values for 100% and 10% of rated Direct Current

## POWER TRANSFORMERS

ALL PRIMARIES ARE FOR 115V., 50/60 c.p.s.

Temperature rises range from 45° to 50°C.

| Catalog No. | Py Va | Hi Volt | Choke Input D.C.V. | Choke Input D.C. Ma | Cond. Input D.C.V. | Cond. Input D.C. Ma. | Bias Tap. | Rectifier | Fil. No. 1 | Fil. No. 2 | Fil. No. 3 | Case No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PGP 1 | 15 | 440V C.T. | Low flux density, hum-bucking. For Preamplifier service. | | 270 | 15 | | 6X4 | 6.3VCT@0.6A | 6.3V @ 0.3A | | DC-2B |
| PGP 2 | 30 | 550V C.T. | Low flux density, hum-bucking. For Preamplifier service. | | 310 | 35 | | 6X4 | 6.3VCT@0.6A | 6.3VCT@0.9A | | DC-4A |
| PGP 3 | 45 | 500V C.T. | | | 270 | 40 | | 6X4, 5Y3 | 5/6.3V @ 2A | 6.3V @ 2A | | DC-4A |
| PGP 4 | 57 | 600V C.T. | | | 330 | 50 | | 6X4, 5Y3 | 5/6.3V @ 2A | 6.3V @ 2.5A | | DC-4A |
| PGP 5 | 64 | 650V C.T. | | | 370 | 50 | | 6X4, 5Y3 | 5/6.3V @ 2A | 6.3V @ 3A | | DC-4A |
| PGP 6 | 73 | 600V C.T. | | | 320 | 70 | | 6X4, 5Y3 | 5/6.3V @ 2A | 6.3V @ 3A | | DC-4A |
| PGP 7 | 110 | 650V C.T. | 225 | 140 | 330 | 100 | | 5Y3, 5U4 | 5V @ 3A | 6.3V @ 5A | | DC-5B |
| PGP 8 | 76 | 700V C.T. | 260 | 100 | 385 | 70 | | 5Y3 | 5V @ 2A | 6.3V @ 2.5A | | DC-5A |
| PGP 9 | 108 | 700V C.T. | 250 | 125 | 370 | 90 | | 5Y3, 5U4 | 5V @ 3A | 6.3V @ 5A | | DC-5B |
| PGP 10 | 127 | 700V C.T. | 260 | 170 | 350 | 120 | | 5U4 | 5V @ 3A | 6.3V @ 5A | | DC-5B |
| PGP 11 | 146 | 700V C.T. | 260 | 210 | 350 | 150 | | 5U4 | 5V @ 3A | 6.3V @ 5A | 6.3V @ 1A | DC-6A |
| PGP 12 | 207 | 800V C.T. | 295 | 280 | 400 | 200 | | 5U4, 2-5Y3 | 5V @ 4A | 6.3V @ 6A | | DC-6A |
| PGP 13 | 225 | 800V C.T. | 295 | 280 | 400 | 200 | 80 | 5U4, 2-5Y3 | 5V @ 4A | 6.3V @ 6A | 5/6.3V @ 2A | DC-6A |
| PGP 14 | 268 | 840V C.T. | 330 | 350 | 450 | 250 | 80 | 2-5U4 | 5V @ 6A | 6.3V @ 6A | 5/6.3V @ 2A | DC-6A |
| PGP 15 | 320 | 900V C.T. | 340 | 420 | 490 | 300 | 80 | 2-5U4 | 5V @ 6A | 6.3V @ 6A | 5/6.3V @ 2A | DC-7B |
| PGP 16 | 127 | 900V C.T. | 360 | 150 | | | | 5U4 | 5V @ 3A | 6.3V @ 5A | | DC-6A |
| PGP 17 | 150 | 900V C.T. | 350 | 200 | | | | 5U4 | 5V @ 3A | 6.3V @ 5A | | DC-6A |
| PGP 18 | 203 | 1100V C.T. | 400 | 250 | | | | 5R4GY | 5V @ 3A | 6.3V @ 5A | | DC-6A |
| PGP 19 | 248 | 1100V C.T. | 420 | 300 | | | | 2-5R4GY | 5V @ 4A | 6.3V @ 7A | | DC-6A |
| PGP 20 | 310 | 1280V C.T. | 480 | 350 | | | | 2-5R4GY | 5V @ 4A | 6.3V @ 7A | | DC-7B |

All units supplied with leads.



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World Radio History

# HIGH Q REACTORS

## PQC HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.

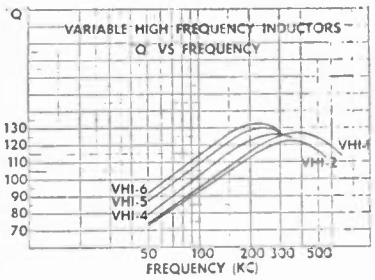
**CASE DIMENSIONS**

**DM-02 CASE**

Height: $1\frac{21}{32}$"
Width: $1\frac{21}{32}$"
Depth: $1\frac{13}{32}$"
Flange L: $2\frac{3}{8}$"
Mtg. Cen.: 2"

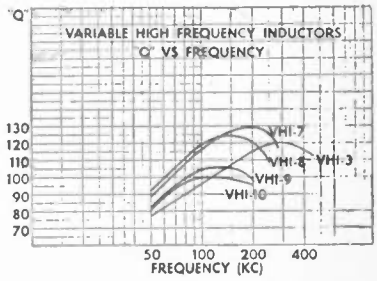
| Catalog No. | Application | Rated Ind. in Henries | Q | Tuning Capacitor (Mf) | Case Size |
|---|---|---|---|---|---|
| PQC 1 | 60 cps resonant trap | 14.00 | 10 | .5 | DM-02 |
| PQC 2 | 400 cps resonant trap | 1.58 | 15 | .1 | DM-02 |
| PQC 3 | 1000 cps resonant trap | 1.00 | 20 | .025 | DM-02 |
| PQC 4 | Dynamic noise suppression inductor | 2.40 | 20 @ 4 KC | | DM-02 |
| PQC 5 | Dynamic noise suppression inductor | 2.00 | 20 @ 4 KC | | DM-02 |
| PQC 6 | Dynamic noise suppression inductor | 1.30 | 20 @ 4 KC | | DM-02 |
| PQC 7 | Dynamic noise suppression inductor | .80 | 20 @ 4 KC | | DM-02 |
| PQC 8 | Dynamic noise suppression inductor | .60 | 20 @ 4 KC | | DM-02 |
| PQC 9 | Dynamic noise suppression inductor | .40 | 20 @ 4 KC | | DM-02 |

# MINIATURE VARIABLE HIGH FREQUENCY INDUCTORS




- VARIABLE for ± 20% of its median inductance.
- FREQUENCY RANGE: 20 to 500 Kilocycles.
- Q practically constant over whole range of inductance variation.
- Miniature size.
- Hermetically sealed.

Variable high frequency inductors with any inductance from 1 to 50 mhy with a variation of appr. ± 20% can be made on special order.




**CASE DIMENSIONS**

**VI-1**

Height: $1\frac{3}{16}$"
Diameter: $\frac{3}{4}$"
2 Studs: 4-40
Mtg. Cen.: $\frac{3}{8}$"

| Catalog No. | Nominal Inductance* MHY @ 100 KC | | Variation of Q @ 100 KC | | RDC ohms ±15% | Max. Non-destructive Current MA | Self-resonant Freq. MC | Case Des. |
|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | Min. | Max. | | | | |
| VHI-1 | 1.1 | 1.75 | 93.5 | 100.5 | .75 | 250 | 2.2 | VI-1 |
| VHI-2 | 1.7 | 2.5 | 94.5 | 96.2 | 1.1 | 200 | 1.9 | VI-1 |
| VHI-3 | 2.3 | 3.7 | 94.5 | 97.2 | 1.4 | 200 | 1.6 | VI-1 |
| VHI-4 | 3. | 4.5 | 100.75 | 101.75 | 1.9 | 160 | 1.4 | VI-1 |
| VHI-5 | 4. | 5.7 | 107. | 108. | 2.2 | 160 | 1.3 | VI-1 |
| VHI-6 | 5.5 | 7.5 | 112. | 119. | 3.1 | 130 | 1. | VI-1 |
| VHI-7 | 7. | 10.5 | 116. | 120.5 | 4.5 | 100 | .9 | VI-1 |
| VHI-8 | 10. | 15. | 106. | 109. | 6.6 | 80 | .85 | VI-1 |
| VHI-9 | 14.5 | 20.5 | 101. | 101.5 | 9.2 | 60 | .6 | VI-1 |
| VHI-10 | 20. | 30. | 105. | 115. | 13.7 | 50 | .55 | VI-1 |

## QGC HIGH Q REACTORS

QGC-Reactors are designed for low audio frequency application requiring very high Q and inductance stability. These units are impregnated with a special compound and mounted in **hermetically sealed** cases. A hum reducing lamination structure used in these reactors results in an extremely low pickup of extraneous stray fields. A very low temperature coefficient is achieved by a specially developed impregnation and assembly process. All QGC High Q Reactors have an extremely low voltage coefficient.

All Resistance values are nominal and can vary by ±20%.

Inductance values are given within ±2%.

**Closer Tolerances and Inductances other than the standard Catalog items can be supplied on special orders.**

**Inductance Values up to 400 Henries can be supplied.**

The graphs showing the coil characteristics make use of the following formulas:

1. "Q" versus frequency was measured with voltages given by the expression:

$$V = K\frac{\sqrt{LH}}{1H} \times \frac{FKC}{1KC}$$

K—a constant listed in every chart
LH—inductance in Henries
FKC—frequency in kilocycles at which the measurements were made.

2. Variation of inductance versus normalized Direct Current.
The normalized DC is given by

$$In = Idc\sqrt{LH}$$

where Idc is the dc current in MA and LH the inductance in Henries.

3. Variation of Inductance versus normalized AC voltage.
The normalized AC voltage is given by

$$Vn = \frac{V}{\sqrt{LH}} \times \frac{60}{Fcps}$$

Vn—normalized AC voltage
V—voltage across the coil
LH—inductance in Henries
F—frequency of measurement in cps

* ± 5%

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World Radio History

**CASE DIMENSIONS**

**DC-2A CASE**

Height: 3"
Width: 2⅝"
Depth: 2¼"
Mtg. Cen.: 2"x1¾"
Studs: 4 8-32
Knockout: 1"

**AJ CASE**

Height: 2⅜"
Width: 1⅝"
Depth: 1⅝"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32

**AH CASE**

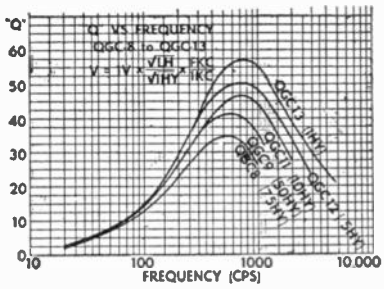
Height: 1¾"
Width: 1 5/16"
Depth: 1 5/16"
Mtg. Cen.: 1¼" dia.
Studs: 2 6-32

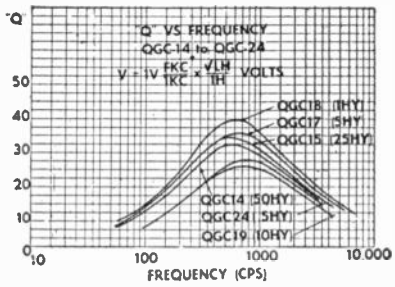
**DM-20 CASE**

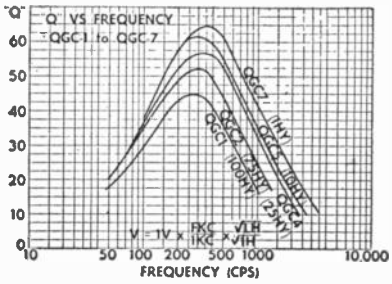
Height: 1 9/16"
Dia.: 15/16"
Flange L.: 1 13/32"
Flange D.: 0.975"
Mtg. Cen.: 1⅛" to 1 7/32"
2 Holes: .147 wide
Knockout: .875

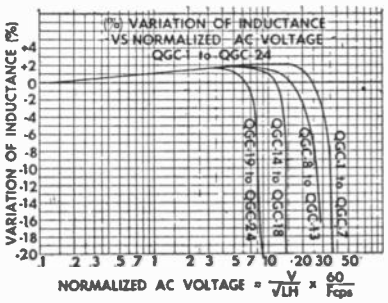
# QUALITY GRADE HIGH Q REACTORS

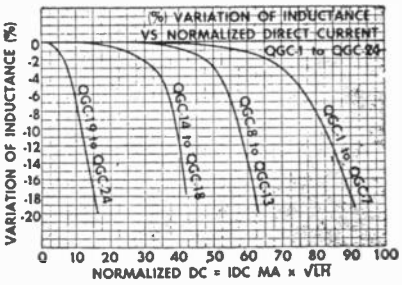
| Catalog No. | Inductance Hy. | RDC Ohms Tolerance ± 20% | Self-resonant Frequency KC | Current Capacity MA | Case No. |
|---|---|---|---|---|---|
| QGC-1 | 100 | 1,611 | 2.2 | 40 | DC-2A |
| QGC-2 | 75 | 1,054 | 2.6 | 50 | DC-2A |
| QGC-3 | 50 | 878 | 3.2 | 50 | DC-2A |
| QGC-4 | 25 | 378 | 4.5 | 80 | DC-2A |
| QGC-5 | 10 | 117 | 7.2 | 160 | DC-2A |
| QGC-6 | 5 | 78 | 10.2 | 160 | DC-2A |
| QGC-7 | 1 | 15 | 22.6 | 400 | DC-2A |
| QGC-8 | 75 | 3,400 | .82 | 16 | AJ |
| QGC-9 | 50 | 2,050 | 1.00 | 20 | AJ |
| QGC-10 | 25 | 1,250 | 1.41 | 25 | AJ |
| QGC-11 | 10 | 460 | 2.25 | 40 | AJ |
| QGC-12 | 5 | 210 | 3.20 | 65 | AJ |
| QGC-13 | 1 | 40 | 7.20 | 160 | AJ |
| QGC-14 | 50 | 2,900 | 4.60 | 13 | AH |
| QGC-15 | 25 | 1,300 | 6.60 | 20 | AH |
| QGC-16 | 10 | 570 | 10.70 | 25 | AH |
| QGC-17 | 5 | 280 | 15.20 | 40 | AH |
| QGC-18 | 1 | 50 | 35.00 | 100 | AH |
| QGC-19 | 10 | 760 | 10.70 | 20 | DM-20 |
| QGC-20 | 7.5 | 700 | 12.20 | 20 | DM-20 |
| QGC-21 | 5 | 450 | 15.20 | 25 | DM-20 |
| QGC-22 | 2.5 | 235 | 22.00 | 32 | DM-20 |
| QGC-23 | 1 | 90 | 35.00 | 63 | DM-20 |
| QGC-24 | 0.5 | 45 | 51.00 | 80 | DM-20 |



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World Radio History

**CASE DIMENSIONS**

**AJ CASE**
Height: $2\frac{3}{8}$"
Width: $1\frac{5}{8}$"
Depth: $1\frac{5}{8}$"
Mtg. Cen.: $1\frac{1}{16}$"x$1\frac{1}{16}$"
Studs: 4 6-32

**EB CASE**
Height: $2\frac{7}{16}$"
Width: $1\frac{15}{16}$"
Depth: $1\frac{13}{16}$"
Mtg. Cen.: $1\frac{3}{8}$"x$1\frac{1}{4}$"
Studs: 4 6-32

**FB CASE**
Height: $2\frac{1}{2}$"
Width: $2\frac{5}{16}$"
Depth: $2\frac{1}{16}$"
Mtg. Cen.: $1\frac{11}{16}$"x$1\frac{7}{16}$"
Studs: 4 6-32

**GB CASE**
Height: $2\frac{13}{16}$"
Width: $2\frac{3}{4}$"
Depth: $2\frac{3}{8}$"
Mtg. Cen.: $2\frac{1}{8}$"x$1\frac{3}{4}$"
Studs: 4 6-32

**HA CASE**
Height: $4\frac{1}{4}$"
Width: $3\frac{1}{16}$"
Depth: $2\frac{5}{8}$"
Mtg. Cen.: $2\frac{19}{64}$"x$1\frac{55}{64}$"
Studs: 4 8-32

**HB CASE**
Height: $3\frac{3}{16}$"
Width: $3\frac{1}{16}$"
Depth: $2\frac{5}{8}$"
Mtg. Cen.: $2\frac{19}{64}$"x$1\frac{55}{64}$"
Studs: 4 8-32

**JB CASE**
Height: $3\frac{7}{8}$"
Width: $3\frac{9}{16}$"
Depth: $3\frac{1}{16}$"
Mtg. Cen.: $2\frac{5}{8}$"x$2\frac{1}{8}$"
Studs: 4 8-32

**KB CASE**
Height: $4\frac{5}{16}$"
Width: $3\frac{15}{16}$"
Depth: $3\frac{3}{8}$"
Mtg. Cen.: 3"x$2\frac{7}{16}$"
Studs: 4 10-32

**LB CASE**
Height: $4\frac{1}{2}$"
Width: $4\frac{5}{16}$"
Depth: $3\frac{11}{16}$"
Mtg. Cen.: $3\frac{5}{16}$"x$2\frac{11}{16}$"
Studs: 4 10-32

**MB CASE**
Height: $4\frac{15}{16}$"
Width: $4\frac{11}{16}$"
Depth: 4"
Mtg. Cen.: $3\frac{11}{16}$"x3"
Studs: 4 $\frac{1}{4}$-20

**NB CASE**
Height: $5\frac{1}{2}$"
Width: $5\frac{1}{16}$"
Depth: $4\frac{5}{16}$"
Mtg. Cen.: $4\frac{1}{16}$"x$3\frac{5}{16}$"
Studs: 4 $\frac{1}{4}$-20

# STANDARD MILITARY TRANSFORMERS

This group comprises audio and power units designed to meet MIL-T-27 A specifications.
The functional characteristics of these transformers were established by the Armed Service Standardization Program. These units are supplied in standard MIL cases.

**Transformers meeting MIL-T-27A specifications Grade 1 through 6 with temperature characteristics of Class S, T, or U can be supplied on special order.**

**Encapsulated units using either Epoxy-Resins or Fosterite can be supplied for Grade 2 and 5.**

**Class U components can be supplied molded in special high temperature Freed resin.**

## STANDARD MILITARY AUDIO TRANSFORMERS

Frequency Response 300-10,000 C.P.S. ±2 DB

| Catalog No. | Application | Type Designation | Impedance Level in Ohms Primary | Secondary | Ratio | Max. Power Level DBM | Pri. D.C. Per Side in Ma | Max. D.C. unbalance | Case |
|---|---|---|---|---|---|---|---|---|---|
| MGA 1 | Transformer; interstage, single or P.P. plates to single or P.P. grids. | TF4RX15AJ | 10,000 C.T. | 90,000 split and C.T. | 1:3 overall | +15 | 10 | 10 | AJ |
| MGA 2 | Transformer; matching 600 ohm line to voice coil. | TF4RX16AJ | 600 split | 4, 8, 16 | 6.12:1 overall | +33 | 0 | 0 | AJ |
| MGA 3 | Transformer; input, 600 ohm line to single or P.P. grids. | TF4RX10AJ | 600 split | 135,000 C.T. | 1:15 | +15 | 0 | 0 | AJ |
| MGA 4 | Transformer; matching, 600 ohm line to 600 ohm line. | TF4RX16AJ | 600 split | 600 split | 1:1 | +15 | 0 | 0 | AJ |
| MGA 5 | Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line. | TF4RX13AJ | 7,600 tap @ 4,800 | 600 split | 3.56:1 | +33 | 40 | 40 | AJ |
| MGA 6 | Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil. | TF4RX13AJ | 7,600 tap @ 4,800 | 4, 8, 16 | 21.8:1 | +33 | 40 | 40 | AJ |
| MGA 7 | Transformer; output, single or P.P. plates to 600 ohm line. | TF4RX13AJ | 15,000 C.T. | 600 split | 5:1 | +33 | 10 | 10 | AJ |
| MGA 8 | Transformer; output, P.P. plates to 600 ohm line. | TF4RX13AJ | 24,000 C.T. | 600 split | 6.32:1 | +30 | 10 | 1 | AJ |
| MGA 9 | Transformer; output, P.P. plates to 600 ohm line. | TF4RX13AJ | 60,000 C.T. | 600 split | 10:1 | +27 | 10 | 1 | AJ |

## STANDARD MILITARY POWER TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

| Catalog No. | MIL-T-27 Type Designation | Hi Volt. | D.C. Volts | D.C. Amps. | Fil. No. 1 | Fil. No. 2 | Case |
|---|---|---|---|---|---|---|---|
| MGP 1 | TF1RX03HA001 | 200/100/0/100/200 | 185 | .070 | 5/6. 3V @ 2A | 6. 3V @ 3A | HA |
| MGP 2 | TF1RX03JB002 | 650 C.T. | 260 | .070 | 5/6. 3V @ 2A | 6. 3V @ 4A | JB |
| MGP 3 | TF1RX03KB006 | 650 C.T. | 243 | .150 | 6. 3V @ 5A | 5V @ 3A | KB |
| MGP 4 | TF1RX03LB003 | 800 C.T. | 318 | .175 | 5V @ 3A | 6. 3V @ 8A | LB |
| MGP 5 | TF1RX03MB004 | 900 C.T. | 345 | .250 | 5V @ 3A | 6. 3V @ 8A | MB |
| MGP 6 | TF1RX02KB001 | 700 C.T. | 255 | .250 | | | KB |
| MGP 7 | TF1RX02LB002 | 1100 C.T. | 419 | .250 | | | LB |
| MGP 8 | TF1RX02NB003 | 1600 C.T. | 640 | .250 | | | NB |

## STANDARD MILITARY FILAMENT TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER

| Catalog No. | MIL-T-27 Type Designation | Secondary Volts | Secondary Current Amps | Secondary Test Volts RMS | Case |
|---|---|---|---|---|---|
| MGF 1 | TF1RX01EB002 | 2.5 | 3.0 | 2,500 | EB |
| MGF 2 | TF1RX01GB003 | 2.5 | 10.0 | 2,500 | GB |
| MGF 3 | TF1RX01FB004 | 5.0 | 3.0 | 2,500 | FB |
| MGF 4 | TF1RX01HB005 | 5.0 | 10.0 | 2,500 | HB |
| MGF 5 | TF1RX01FB006 | 6.3 | 2.0 | 2,500 | FB |
| MGF 6 | TF1RX01GB007 | 6.3 | 5.0 | 2,500 | GB |
| MGF 7 | TF1RX01JB008 | 6.3 | 10.0 | 2,500 | JB |
| MGF 8 | TF1RX01KB009 | 6.3 | 20.0 | 2,500 | KB |
| MGF 9 | TF1RX01JB012 | 2.5 | 10.0 | 10,000 | JB |
| MGF 10 | TF1RX01KB013 | 5.0 | 10.0 | 10,000 | KB |

*Standard Military Filament and Power Transformers are also available in Grade 4.

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World Radio History

# HERMETICALLY SEALED PULSE TRANSFORMERS

Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 A specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

## CASE DIMENSIONS

**DM-8 CASE**
Height: 1½"
Width: 1 3/32"
Flange D.: 1¼"

**DM-01 CASE**
Height: 2"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 1 1/16"x1 1/16"
Studs: 4 6-32
Knockout: 1 3/8" dia.

**DM-20 CASE**
Height: 1 9/16"
Diameter: 15/16"
Flange L.: 1 13/32"
Flange D.: 0.975"
Mtg. Cen.: 1 1/8" to 1 7/32
2 Holes: .147 wide
Knockout: .875

**DM-18 CASE**
Height: 1"
Width: 2¼"
Depth: 1⅛"
Mtg. Cen.: 9/16"
Studs: 2 6-32

**MM-1**
Length: ¾"
Diameter: ½"

**MM-2**
Length: 23/32"
Width: 23/32"
Height: ½"

**MM-3**
Length: 1¼"
Width: 1¼"
Height: ½"
Mtg. Cen.: 1½"
Mtg. Flange: 1 11/16"

**MM-4**
Length: 1 13/16"
Depth: 1¼"
Height: ½"
Mtg. Cen.: 2¼"
Mtg. Flange: 2½"

## MOLDED DIMENSIONS

**MMO-1**
Diameter: 11/16"
Thickness: 29/64"

**MMO-2**
Diameter: 13/16"
Thickness: 15/32"

## PULSE TRANSFORMERS

| Catalog No. | MIL Type | Blocking Osc. | Inter-stage Coupling | Low Power Output | Pulse Voltage Kilovolts | Pulse Duration Micro-seconds | Duty Rate | No. of Windings | Test Voltage KV. RMS | Character-istic Impedance Ohms | Case No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MPT-1 | TF4RX35YY | √ | √ | | 0.25 0.25 0.25 | 0.2-1.0 | .004 | 3 | 0.7 | 250 | DM-20 |
| MPT-2 | TFR4X35YY | √ | √ | | 0.25 0.25 | 0.2-1.0 | .004 | 2 | 0.7 | 250 | DM-20 |
| MPT-3 | TF4RX35YY | √ | √ | | 0.5 0.5 0.5 | 0.2-1.5 | .002 | 3 | 1.0 | 250 | DM-18 |
| MPT-4 | TF4RX35YY | √ | √ | | 0.5, 0.5 | 0.2-1.5 | .002 | 2 | 1.0 | 250 | DM-18 |
| MPT-5 | TF4RX35YY | √ | √ | | 0.5, 0.5, 0.5 | 0.5-2.0 | .002 | 3 | 1.0 | 500 | DM-20 |
| MPT-6 | TF4RX35YY | √ | √ | | 0.5 0.5 | 0.5-2.0 | .002 | 2 | 1.0 | 500 | DM-20 |
| MPT-7 | TF4RX35YY | √ | √ | √ | 0.7, 0.7, 0.7 | 0.5-1.5 | .002 | 3 | 1.5 | 200 | DM-18 |
| MPT-8 | TF4RX35YY | √ | √ | √ | 0.7 0.7 | 0.5-1.5 | .002 | 2 | 1.5 | 200 | DM-18 |
| MPT-9 | TF4RX35YY | √ | √ | √ | 1.0, 1.0 1.0 | 0.7-3.5 | .002 | 3 | 2.0 | 200 | DM-18 |
| MPT-10 | TF4RX35YY | √ | √ | √ | 1.0, 1.0 | 0.7-3.5 | .002 | 2 | 2.0 | 200 | DM-18 |
| MPT-11 | TF4RX35YY | √ | √ | √ | 1.0, 1.0, 1.0 | 1.0-5.0 | .002 | 3 | 2.0 | 500 | DM-01 |
| MPT-12 | TF4RX35YY | √ | √ | √ | 0.15 0.15 0.3 0.3 | 0.2-1.0 | .004 | 4 | 0.7 | 700 | DM-8 |

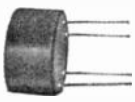
## ULTRA MINIATURE PULSE TRANSFORMERS

- Meet all requirements of MIL-T-27 A.
- Negligible weight.
- Exceedingly small size.
- Encapsulated or hermetically sealed.

MM-1

MM-2

MM-3
MM-4



MMO-1
MMO-2

| Catalog No. | MIL Type | Application | Pulse Volts | Pulse Width usec | Rise time usec | Inductance Prin. uhy | Inductance Leakage uhy | PPS. Mcs | Turns Ratio | Zo ohms | Case Des. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EPT-1 | TF4RX31YY | Impedance matching & Interstage coupling | 20 | .07 | .03 | 125 | 12 | 2 | 1:1 | 200 | MM-1 |
| EPT-2 | TF4RX31YY | | 20 | .07 | .03 | 150 | 15 | 2 | 2.1 | 200 | MM-1 |
| EPT-3 | TF4RX31YY | | 20 | .07 | .03 | 160 | 15 | 2 | 3.1 | 100 | MM-1 |
| EPT-4 | TF4RX31YY | | 20 | .07 | .03 | 200 | 20 | 2 | 4.1 | 100 | MM-1 |
| EPT-5 | TF4RX31YY | | 17 | .10 | .04 | 200 | 6 | 2 | 4.1 | 100 | MM-1 |
| EPT-6 | TF4RX31YY | | 15 | .10 | .04 | 200 | 5 | 2 | 5:1 | 100 | MM-1 |
| EPT-7 | TF4RX31YY | | 25 | .50 | .05 | 1,200 | 20 | 1 | 7:1:1 | | MM-1 |
| EPT-8 | TF4RX31YY | | 10 | 10 | .04 | 12,000 | 70 | .01 | 5:1 | | MM-2 |
| EPT-9 | TF4RX31YY | | 10 | 5 | .04 | 7,500 | 22 | .01 | 3:1 | 100 | MM-2 |
| EPT-11 | TF4RX35YY | Blocking oscillator | 100 | .25 | .02 | 200 | 2 | .012 | 1:1 | | MM-1 |
| EPT-12 | TF4RX35YY | | 50 | .33 | .07 | 240 | 2 | .002 | 1:1 | | MM-1 |
| EPT-13 | TF4RX35YY | | 40 | .5 | .07 | 6,000 | 15 | | 2:1 | | MM-2 |
| EPT-14 | TF4RX35YY | | 15 | 6 | .1 | 16,000 | 15 | .0004 | 1:1.4 | | MM-2 |
| EPT-15 | TF4RX36YY | Memory core & Current driver | 5 | 1.5 | .25 | 4,000 | 300 | | 5 5.1PP | 10 | MM-4 |
| EPT-16 | TF4RX36YY | | 2.5 | 2.4 | .2 | 2,800 | 200 | | 3.3:3.3:1PP | 6 | MM-4 |
| EPT-17 | TF4RX36YY | Current driver | 21 | 1-4 | .22 | 18,000 | 800 | .250 | 6:1 | 200 | MM-3 |
| EPT-18 | TF4RX36YY | Current transformer | 10 | 6 | .2 | 90,000 | 200 | .05 | 11:1 | 75 | MM-3 |
| EPT-19 | TF4RX36YY | Pulse inversion | 22 | 1-7 | .25 | 55,000 | 300 | .05 | 6:1:1 | 400 | MM-3 |

When ordering encapsulated units add "M" to the catalog number.



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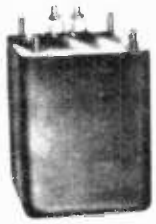
World Radio History

# HERMETICALLY SEALED FILTER REACTORS



| Case | Height | Depth | Width | Mtg. Centers | Studs |
|---|---|---|---|---|---|
| AJ | 2 1/8 | 1 1/8 | 1 1/8 | 1 1/16 x 1 1/16 | 4 6-32 |
| EB | 2 7/16 | 1 15/16 | 1 11/16 | 1 5/8 x 1 11/16 | 4 6-32 |
| FA | 3 1/8 | 2 1/16 | 2 5/16 | 1 15/16 x 1 7/16 | 4 6-32 |
| GA | 3 15/16 | 2 1/8 | 2 3/4 | 2 1/8 x 1 7/8 | 4 6-32 |
| HB | 3 3/4 | 3 1/16 | 2 1/8 | 2 11/64 x 1 29/64 | 4 8-32 |
| JA | 3 3/4 | 3 1/16 | 4 3/4 | 1 2 1/8 x 2 1/8 | 4 8-32 |
| JB | 3 3/8 | 3 1/16 | 3 3/16 | 2 1/8 x 2 1/8 | 4 8-32 |
| KB | 4 5/16 | 3 1/8 | 3 11/16 | 3 x 2 7/8 | 4 10-32 |
| LA | 5 3/16 | 3 11/16 | 4 5/16 | 3 5/16 x 2 11/16 | 4 10-32 |
| LB | 4 1/2 | 3 11/16 | 4 5/16 | 3 5/16 x 2 11/16 | 4 10-32 |
| MB | 4 13/16 | 4 | 4 5/16 | 3 11/16 x 3 | 4 1/4-20 |

Cutout for AJ & EB 7/16 x 3/4
Cutout for FA & GA 1/2 x 11/16
Cutout for all others 11/16 x 1 3/16

MEET MIL-T-27A SPECIFICATIONS

| Catalog No. | MIL Type | Inductance Henry | Rat. Current DC Ma. | DC Res. Ohms | Test Volt Kilovoltas | Case No. |
|---|---|---|---|---|---|---|
| MGC 1 | TF1RX04AJ | 100 | 10 | 3,500 | 1. | AJ |
| MGC 2 | TF1RX04AJ | 4 | 50 | 230 | 1. | AJ |
| MGC 3 | TF1RX04EB | 10 | 50 | 325 | 1. | EB |
| MGC 4 | TF1RX04FA | 20 | 50 | 475 | 1.5 | FA |
| MGC 5 | TF1RX04FA | 30 | 50 | 650 | 1.5 | FA |
| MGC 6 | TF1RX04AJ | 3 | 75 | 175 | 1. | AJ |
| MGC 7 | TF1RX04EB | 6 | 75 | 235 | 1.5 | EB |
| MGC 8 | TF1RX04FA | 12 | 75 | 265 | 1.5 | FA |
| MGC 9 | TF1RX04EB | 3.5 | 100 | 145 | 1. | EB |
| MGC 10 | TF1RX04FA | 8 | 100 | 180 | 1.5 | FA |
| MGC 11 | TF1RX04GA | 12 | 100 | 190 | 2. | GA |
| MGC 12 | TF1RX04EB | 2 | 150 | 92 | 1.5 | EB |
| MGC 13 | TF1RX04FA | 4 | 150 | 115 | 1.5 | FA |
| MGC 14 | TF1RX04GA | 8 | 150 | 125 | 2. | GA |
| MGC 15 | TF1RX04JB | 11 | 150 | 120 | 2.5 | JB |
| MGC 16 | TF1RX04FA | 2.5 | 200 | 70 | 1.5 | FA |
| MGC 17 | TF1RX04GA | 4 | 200 | 80 | 2. | GA |
| MGC 18 | TF1RX04HB | 7 | 200 | 135 | 2. | HB |
| MGC 19 | TF1RX04JA | 10 | 200 | 125 | 2.5 | JA |
| MGC 20 | TF1RX04GA | 2.5 | 300 | 50 | 2. | GA |
| MGC 21* | TF1RX04HB | 4 | 300 | 62 | 2.5 | HB |
| MGC 22 | TF1RX04JB | 6 | 300 | 85 | 2.5 | JB |
| MGC 23* | TF1RX04KB | 8 | 300 | 65 | 2.5 | KB |
| MGC 24 | TF1RX04LA | 10 | 300 | 100 | 2.5 | LA |
| MGC 25* | TF1RX04HB | 2 | 400 | 37 | 2.5 | HB |
| MGC 26 | TF1RX04KB | 6 | 400 | 60 | 2.5 | KB |
| MGC 27* | TF1RX04JA | 2 | 500 | 35 | 2.5 | JA |
| MGC 28 | TF1RX04KB | 4 | 500 | 45 | 2.5 | KB |
| MGC 29* | TF1RX04MB | 7 | 500 | 50 | 2.5 | MB |
| MGC 30* | TF1RX04LB | 2 | 700 | 20 | 2.5 | LB |
| MGC 31* | TF1RX04MB | 1.75 | 1,000 | 12.5 | 2.5 | MB |

*Not stocked, available on short delivery.
Above units available in Grade 4.

# SERIES 1950 NULL "T" FILTERS

The Freed Series 1950 Null T networks consist of two resistance capacitance networks, whose outputs completely cancel each other at the balance frequency. They may be used as rejection networks particularly at low frequencies where LC filters become excessively large and unstable.

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network will give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of ±2%.

All Null T Filters are hermetically sealed.

Prices on request.

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# TOROIDAL INDUCTORS

Using the latest developments in the field of magnetic materials and new impregnation and molding techniques the Freed Transformer Co. makes available to the industry the most extensive line of toroidal inductors.

Freed toroids are available in three types of constructions. Open units coated with a special high temperature extremely low loss compound, hermetically sealed in metal cases or molded in special **Freed Epoxy Resin.** Both hermetically sealed and molded units meet the latest military specification MIL-T-27A (graded 1 or 4 and 2 or 5 respectively). Freed toroidal inductors are supplied with either molypermalloy or carbonyl iron powder cores.

**1. Temperature Stabilization:**

The molypermalloy and carbonyl iron powder cores have a temperature coefficient of inductance. Depending upon the degree of temperature stabilization the cores have different temperature coefficients. The degree of stabilization is denoted by a two-letter code.

SN Nom-stabilized cores, inductance variations ± 2% from −55°C to + 85°C
SE Temperature-stabilized cores, inductance variations + .1% to − .4% from −1.5°C to +54°C
SB Temperature-stabilized cores, inductance variations ± .1% to 13°C to 35°C
SD Temperature-stabilized cores, inductance variations ± .1% − 1.5°C to +54°C
SW Temperature-stabilized cores, inductance variations ± 25% −54°C to 85°C
SP Temperature stable carbonyl iron cores, inductance variations ± .3% −55°C to +85°C

The temperature (stabilization) coefficient of an inductor will depend upon the nominal inductance value, operating frequency and A.C. voltage across the coil. Therefore some coils may have a lower temperature coefficient than the one corresponding to the core stability characteristic. Under some unfavorable working conditions the temperature coefficient of inductance corresponding to a given stability characteristic may be exceeded.

**2. Self Resonant Frequency $F_o$:**

This frequency is defined as the resonant frequency of L — Inductance and $C_d$ — distributed capacity of the winding.

**3. Adjustment Accuracy ± 1% or 1 Turn Whichever Is Greater:**

The apparent inductance at any frequency F is given by the expression

$$L\ app = \frac{L}{1-\left(\frac{f}{f_0}\right)^2}$$

Where L is the nominal inductance. For frequencies "F" well below the self resonant frequency "$F_o$" the fractional increase of inductance due to the self resonant frequency is

$$\frac{\Delta L}{L} = \left(\frac{f}{f_0}\right)^2 = w^2 L C_d$$

All toroidal inductors are adjusted at a frequency well below the self resonant frequency "$F_o$." Since all toroids have a voltage coefficient of inductance they are adjusted with a low A.C. voltage in the region of the initial permeability of the core material.

**4. "Q":**

The "Q" or quality factor of the coil is shown for every toroid type. Since the "Q" depends both upon the frequency and the A.C. voltage across the coil, the "Q" vs. frequency graphs show the "Q" variations for a given voltage applied across the coil. This voltage is defined by the expression,

$$V = K_Q \sqrt{L_H} \times \frac{F_{KC}}{1_{KC}}$$

Where $K_q$ is a constant listed on every chart, $L_h$ — inductance in henries F KC — frequency in kilocycles (or megacycles where indicated) at which the measurements were made. When the "Q" of the coil is measured by a standard "Q" meter method and the measurements are made at a frequency close to the self resonant frequency of the coil,

$$Q\ effective = Q\ apparent \left(1 + \frac{C_d}{C_o}\right)$$

$$= Q\ apparent \left[1 + \left(\frac{F}{F_o}\right)^2\right]$$

Where "Q" apparent is to "Q" measured on the "Q" meter, $C_d$ — distributed capacity of the coil, $C_o$ — tuning capacity of the "Q" meter. F and $F_o$ are respectively the measurement frequency and self resonant frequency.


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**5. Variations of Inductance vs Normalized A.C. Voltage:**

All toroidal inductors have an A.C. voltage coefficient. The variations of inductance vs applied A C voltage can be computed from the expression of normalized voltage.

$$V_{norm.} = \frac{V}{\sqrt{L_H}} \times \frac{60 \text{ cps.}}{F \text{ cps.}} \times K_V$$

V — A.C. voltage across the coil
$L_h$ — Inductance in henries.
F — Measurement frequency in cycles.
$K_v$ — is the voltage coefficient (a variable parameter for different coils) listed in the graph. For high frequency toroids the expression for normalized voltage is changed to,

$$V_{norm.} = \frac{V}{\sqrt{L_H}} \times \frac{1K_C}{F_{KC}} \times K_V$$

**6. Variations of Inductance vs Normalized D.C. Current:**

The incremental permeability of the coil and consequently the inductance depends upon the magnetizing D C ampere turns The variations of inductance vs D.C. current can be computed from the expression for the normalized D.C current

$$I_{norm.} = I_{dc} \sqrt{L_H} \times K_I$$

Where $I_{dc}$ — current in M.A. thru the coil
$L_h$ — inductance in henries.
$K_I$ — current coefficient (a variable parameter for different coils) listed in the graph.

**7. Maximum Current:**

This is the maximum non-destructive current that a coil can tolerate without overheating and consequent failure It is defined as

$$I_{mas} = \sqrt{I^2_{RMS} + I^2_{dc}}$$

The maximum current is listed for each type of toroidal inductors and is computed by dividing the parameter of the numerator by the square root of the inductance in millihenries. This current will affect the inductance value and may partially or completely saturate the inductor. The inductances variations due to $I_{dc}$ and $V_{ac}$ must be computed from the expressions of paragraphs 5 and 6.

Toroids with special requirements such as tapped toroids, toroidal transformers, molded and cased units with dimensions other than standard sizes and high temperature toroids can be supplied upon request. Our engineering and laboratory facilities are available for consultation, research and development.

## CASE DIMENSIONS

### DT-1 CASE

| | |
|---|---|
| Height: | 1 7/32" |
| Width: | 1/2" |
| Length: | 1 1/16" |
| Mounting: | 2 4-40 inserts |
| Mtg. Centers: | 3/4" |
| Cutout: | 5/16" x 1/2" |

### DT-2 CASE

| | |
|---|---|
| Height: | 1 3/4" |
| Width: | 13/16" |
| Length: | 1 7/16" |
| Mounting: | 2 6-32 studs |
| Mtg. Centers: | 7/8"x9/32" |
| Cutout: | 3/8"x11/16" |

### DT-3 CASE

| | |
|---|---|
| Height: | 2" |
| Width: | 7/8" |
| Length: | 1 25/32" |
| Mounting: | 2 6-32 studs |
| Mtg. Centers: | 1 1/4"x3/8" |
| Cutout: | 3/8"x3/4" |

### DT-4 CASE

| | |
|---|---|
| Height: | 3 1/8" |
| Width: | 1 5/16" |
| Length: | 2 3/4" |
| Mounting: | 4 8-32 studs |
| Mtg. Centers: | 2 1/16"x11/16" |
| Cutout: | 3/4"x3/8" |

### DST-1 CASE

| | |
|---|---|
| Height: | 25/32" |
| Width: | 11/32" |
| Length: | 3/4" |
| Pins: | 1/4" long |
| To fit: | 1/2" crystal socket |

### DT-5 CASE

| | |
|---|---|
| Height: | 1 3/16" |
| Diameter: | 1 13/16" |
| Mounting: | 2 6-32 inserts |
| Mtg. Centers: | 1 1/8" |
| Cutout: | 3/8"x1" |

### DM-2 CASE

| | |
|---|---|
| Height: | 1" |
| Diameter: | 1 1/8" |
| Mounting: | 2 4-40 inserts |
| Mtg Centers: | 5/8" |
| Cutout: | 3/8"x7/8" |

### DM-11 CASE

| | |
|---|---|
| Height: | 1 1/2" |
| Diameter: | 1 3/8" |
| Mounting: | 2 6-32 inserts |
| Mtg. Centers: | 7/8" |
| Cutout: | 3/8"x7/8" |

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# TOROIDAL INDUCTORS
## FREQUENCY RANGE: UP TO 15 Kc

| TYPE | TI-16 | | TI-5 | | TI-4 | | TI-1 | | TI-1A | | TI-12 | | TI-11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature Stabilization | SN | | SN, SE, SD | | SN, SD, SW | | SN, SD | | SN, SD, SW | | SN, SD, SW | | SN, SD, SW | |
| L 1H (±20%) | 650 | | 260 | | 110 | | 70 | | 68 | | 45 | | 29 | |
| I Max (Amp) | .32 / √LMH | | .85 / √LMH | | 2 / √LMH | | 4.5 / √LMH | | 4 / √LMH | | 8 / √LMH | | 13 / √LMH | |
| Nominal Inductance | Catalog No | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc |
| 1 MH | F2050 | 650 | | | | | | | F1500 | 350 | F1655 | 500 | F1747 | 1100 |
| 2 MH | | | | | | | | | F1501 | 250 | F1656 | 380 | F1748 | 740 |
| 3 MH | F2051 | 410 | | | | | | | F1502 | 200 | F1657 | 300 | F1749 | 560 |
| 4 MH | | | | | | | | | F1503 | 180 | F1658 | 250 | F1750 | 470 |
| 5 MH | F2052 | 330 | F1700 | 420 | F850 | 170 | F800 | 270 | F1504 | 150 | F1659 | 220 | F1751 | 410 |
| 7.5MH | | | | | | | | | F1505 | 120 | F1660 | 180 | | |
| 10 MH | F2053 | 240 | F1701 | 270 | F851 | 130 | F801 | 192 | F1506 | 100 | F1661 | 150 | F1752 | 260 |
| 15 MH | F2054 | 200 | F1702 | 215 | F852 | 110 | F802 | 155 | F1507 | 90 | F1662 | 120 | F1753 | 200 |
| 30 MH | F2055 | 150 | F1703 | 140 | F853 | 83 | F803 | 109 | F1508 | 60 | F1663 | 80 | F1754 | 130 |
| 50 MH | F2056 | 122 | F1704 | 105 | F854 | 67 | F804 | 82 | F1509 | 50 | F1664 | 60 | F1755 | 95 |
| 75 MH | F2057 | 105 | F1705 | 81 | F855 | 57 | F805 | 66 | F1510 | 40 | F1665 | 47 | F1756 | 75 |
| 100 MH | F2058 | 90 | F1706 | 68 | F856 | 51 | F806 | 56 | F1511 | 33 | F1666 | 40 | F1757 | 64 |
| 150 MH | F2059 | 80 | F1707 | 54 | F857 | 43 | F807 | 45 | F1512 | 29 | F1667 | 31 | F1758 | 48 |
| 200 MH | F2060 | 70 | F1708 | 40 | F858 | 38 | F808 | 39 | F1513 | 23 | F1668 | 27 | F1759 | 40 |
| 300 MH | F2061 | 60 | F1709 | 35 | F859 | 32 | | | F1514 | 20 | F1669 | 21 | F1760 | 31 |
| 400 MH | F2062 | 52 | F1710 | 29 | F860 | 28 | | | F1515 | 18 | F1670 | 18 | F1761 | 26 |
| 500 MH | F2063 | 48 | F1711 | 26 | F861 | 26.5 | F809 | 24 | F1516 | 15 | F1671 | 16 | F1762 | 22 |
| 600 MH | | | F1712 | 22 | F862 | 24 | | | F1517 | 14 | F1672 | 14 | | |
| 700 MH | | | F1713 | 21 | F863 | 23 | | | | | | | | |
| 750 MH | F2064 | 40 | | | | | F810 | 19 | F1518 | 12 | F1673 | 12.5 | F1763 | 17.5 |
| 800 MH | | | F1714 | 19 | F864 | 22 | | | | | | | | |
| 900 MH | | | F1715 | 17.5 | F865 | 21 | | | | | | | | |
| 1 Hy | F2065 | 36 | F1716 | 16.5 | F866 | 20 | F811 | 16.5 | F1519 | 10 | F1674 | 10.6 | F1764 | 14.5 |
| 1.25 Hy | F2066 | 33 | F1717 | 15 | F867 | 18.5 | F812 | 15 | | | | | | |
| 1.5 Hy | F2067 | 30 | F1718 | 13.5 | F868 | 17 | F813 | 13 | F1520 | 9 | F1675 | 8.5 | F1765 | 11.5 |
| 1.75 Hy | F2068 | 28 | F1719 | 12.2 | F869 | 16 | F814 | 12.2 | | | | | | |
| 2 Hy | F2069 | 27 | F1720 | 11 | F870 | 15.5 | F815 | 11 | F1521 | 8 | F1676 | 8.2 | F1766 | 9.6 |
| 2.25 Hy | | | | | F871 | 14.5 | F816 | 10.5 | | | | | | |
| 2.5 Hy | | | | | F872 | 14 | F817 | 10.3 | F1522 | 7 | F1677 | 6.3 | F1767 | 8.2 |
| 2.75 Hy | | | | | F873 | 13.5 | F818 | 9.8 | | | | | | |
| 3 Hy | | | | | F874 | 12.5 | F819 | 9.2 | F1523 | 6.2 | F1678 | 5.7 | F1768 | 7.4 |
| 3.5 Hy | | | | | F875 | 12 | F820 | 8.5 | F1524 | 5.8 | F1679 | 5.2 | F1769 | 6.6 |
| 4 Hy | | | | | F876 | 11.5 | F821 | 8 | F1525 | 5.5 | F1680 | 4.8 | F1770 | 6.1 |
| 4.5 Hy | | | | | F877 | 11 | F822 | 7.5 | F1526 | 5.1 | F1681 | 4.5 | F1771 | 5.7 |
| 5 Hy | | | | | F878 | 10.5 | F823 | 7 | F1527 | 4.9 | F1682 | 4.2 | F1772 | 5.3 |
| 6 Hy | | | | | | | F824 | 6.4 | F1528 | 4.5 | F1683 | 3.8 | | |
| 7 Hy | | | | | | | F825 | 5.9 | F1529 | 4.1 | F1684 | 3.5 | | |
| 7.5 Hy | | | | | | | | | | | | | F1773 | 4.1 |
| 8 Hy | | | | | | | F826 | 5.5 | F1530 | 3.9 | F1685 | 3.25 | | |
| 9 Hy | | | | | | | F827 | 5 | F1531 | 3.7 | F1686 | 3 | | |
| 10 Hy | | | | | | | F828 | 4.8 | F1532 | 3.4 | F1687 | 2.9 | F1774 | 3.4 |
| 12 Hy | | | | | | | | | F1533 | 3.1 | F1688 | 2.6 | | |
| 15 Hy | | | | | | | F829 | 3.9 | F1534 | 2.8 | F1689 | 2.3 | F1775 | 2.6 |
| 17 Hy | | | | | | | | | F1535 | 2.6 | F1690 | 2.1 | | |
| 20 Hy | | | | | | | F830 | 3.9 | F1536 | 2.4 | F1691 | 1.95 | F1776 | 2.2 |
| 25 Hy | | | | | | | | | F1537 | 2.2 | F1692 | 1.75 | F1777 | 1.9 |
| 30 Hy | | | | | | | | | F1538 | 2 | F1693 | 1.5 | F1778 | 1.7 |
| 40 Hy | | | | | | | | | | | | | F1779 | 1.4 |
| 50 Hy | | | | | | | | | | | | | F1780 | 1.25 |



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## FREQUENCY RANGE: 10 Kc TO 50 Kc

| TYPE | TI-17 | | TI-7 | | TI-6 | | TI-2 | | TI-13 | | TI-15 | | TI-14 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature Stabilization | SN | | SN | | SN, SD, SW | | SD | | SN | | SN | | SN | |
| Ω/1 MH (±20%) | 1.2 | | .48 | | .23 | | .16 | | .055 | | 1.0 | | .3 | |
| I Max. (Amp.) | .25 / √LMH | | .7 / √LMH | | 2 / √LMH | | 2.5 / √LMH | | 5.8 / √LMH | | .5 / √LMH | | 1.3 / √LMH | |
| Nominal Inductance (MH) | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc |
| .100 | F2100 | 4300 | | | | | | | | | F1870 | 1800 | | |
| .200 | F2101 | 2800 | | | | | | | | | F1871 | 1300 | | |
| .300 | F2102 | 2200 | | | | | | | | | F1872 | 1100 | | |
| .400 | F2103 | 1800 | | | | | | | | | F1873 | 940 | | |
| .500 | F2104 | 1600 | F1781 | 1300 | | | | | | | F1874 | 850 | | |
| 1 | F2105 | 1000 | F1782 | 880 | F1726 | 820 | F1800 | 550 | F1629 | 400 | F1875 | 620 | F1920 | 560 |
| 2 | F2106 | 670 | F1783 | 600 | F1727 | 550 | F1801 | 400 | F1630 | 280 | F1876 | 450 | F1921 | 390 |
| 3 | F2107 | 520 | F1784 | 470 | F1728 | 450 | F1802 | 320 | F1631 | 230 | F1877 | 370 | F1922 | 310 |
| 4 | F2108 | 440 | | | F1729 | 380 | F1803 | 280 | F1632 | 200 | F1878 | 320 | F1923 | 270 |
| 5 | F2109 | 380 | F1785 | 350 | F1730 | 330 | F1804 | 250 | F1633 | 180 | F1879 | 290 | F1924 | 240 |
| 7.5 | F2110 | 290 | F1786 | 280 | F1731 | 260 | | | F1634 | 145 | F1880 | 240 | F1925 | 200 |
| 10 | F2111 | 250 | F1787 | 240 | F1732 | 220 | F1805 | 170 | F1635 | 130 | F1881 | 210 | F1926 | 170 |
| 15 | F2112 | 190 | F1788 | 190 | F1733 | 180 | F1806 | 140 | F1636 | 105 | F1882 | 175 | F1927 | 140 |
| 20 | F2113 | 160 | F1789 | 165 | F1734 | 150 | | | | | F1883 | 150 | F1928 | 120 |
| 25 | | | F1790 | 145 | | | | | | | F1884 | 140 | | |
| 30 | F2114 | 120 | F1791 | 135 | F1735 | 115 | F1807 | 100 | F1637 | 73 | F1885 | 125 | F1929 | 96 |
| 40 | | | F1792 | 110 | | | | | | | F1886 | 110 | | |
| 50 | F2115 | 90 | F1793 | 100 | F1736 | 86 | F1808 | 76 | F1638 | 57 | F1887 | 100 | F1930 | 74 |
| 75 | F2116 | 70 | F1794 | 80 | F1737 | 68 | F1809 | 62 | F1639 | 47 | F1888 | .082 | F1931 | 60 |
| 100 | F2117 | 58 | F1795 | 68 | F1738 | 58 | F1810 | 53 | F1640 | 40 | F1889 | .072 | F1932 | 52 |
| 150 | | | F1796 | 55 | F1739 | 46 | F1811 | 43 | F1641 | 33 | | | F1933 | 42 |
| 200 | | | F1797 | 47 | F1740 | 40 | F1812 | 37 | F1642 | 28 | | | F1934 | 36 |
| 250 | | | | | F1741 | 35 | | | | | | | F1935 | 32 |
| 300 | | | | | F1742 | 31 | F1813 | 30 | F1643 | 23 | | | F1936 | 30 |
| 400 | | | | | F1743 | 23.5 | F1814 | 26 | F1644 | 20 | | | | |
| 500 | | | | | | | F1815 | 23 | F1645 | 18 | | | | |

## 10 Kc TO 100 Kc

## 30 Kc TO 75 Kc

| TYPE | TI-18 | | TI-8 | | TI-10 | | TI-9 | | TI-19 | | TI-3 | | TI-3A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature Stabilization | SN | | SN, SD | | SB | | SB | | SN | | SD | | SB | |
| Ω/1 MH (±20%) | 2.6 | | 1.5 | | .43 | | .15 | | 4.5 | | .6 | | .31 | |
| I Max. (Amp.) | .15 / √LMH | | .4 / √LMH | | 2 / √LMH | | 5 / √LMH | | .12 / √LMH | | 1.3 / √LMH | | 2.5 / √LMH | |
| Nominal Inductance (MH) | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc | Catalog No. | Fo Kc |
| .1 | F2140 | 2500 | F1821 | 5600 | | | | | F2180 | 4000 | F1846 | 2150 | | |
| .2 | F2141 | 1700 | F1822 | 3600 | | | | | F2181 | 2500 | F1847 | 1500 | | |
| .3 | F2142 | 1400 | F1823 | 2800 | | | | | F2182 | 1900 | F1848 | 1250 | | |
| .4 | F2143 | 1200 | F1824 | 2300 | | | | | F2183 | 1550 | F1849 | 1070 | | |
| .5 | F2144 | 1050 | F1825 | 2000 | | | | | F2184 | 1350 | F1850 | 960 | | |
| .6 | | | | | | | | | F2185 | 1200 | | | | |
| .7 | | | | | | | | | F2186 | 1070 | | | | |
| .8 | | | | | | | | | F2187 | 1000 | | | | |
| .9 | | | | | | | | | F2188 | 900 | | | | |
| 1 | F2145 | 700 | F1826 | 1250 | F1579 | 500 | F1554 | 500 | F2189 | 850 | F1851 | 680 | | |
| 2 | F2146 | 500 | F1827 | 800 | F1580 | 350 | F1555 | 350 | F2190 | 540 | F1852 | 480 | | |
| 3 | F2147 | 400 | F1828 | 600 | F1581 | 300 | F1556 | 290 | F2191 | 400 | F1853 | 390 | | |
| 4 | F2148 | 340 | F1829 | 500 | F1582 | 260 | F1557 | 250 | F2192 | 340 | F1854 | 330 | | |
| 5 | F2149 | 300 | F1830 | 440 | F1583 | 240 | F1558 | 220 | F2193 | 290 | F1855 | 300 | | |
| 7.5 | F2150 | 240 | F1831 | 330 | F1584 | 200 | F1559 | 175 | | | F1845 | 210 | | |
| 10 | F2151 | 200 | F1832 | 280 | F1585 | 170 | F1560 | 150 | | | F1844 | 250 | F1856 | 190 |
| 15 | F2152 | 160 | F1833 | 210 | F1586 | 140 | F1561 | 120 | | | | | F1857 | 150 |
| 20 | F2153 | 140 | F1834 | 175 | | | | | | | | | F1858 | 125 |
| 25 | | | F1835 | 150 | | | | | | | | | | |
| 30 | F2154 | 110 | F1836 | 135 | F1587 | 105 | F1562 | 82 | | | | | F1859 | 96 |
| 40 | | | F1837 | 110 | | | | | | | | | F1860 | 80 |
| 50 | F2155 | 85 | F1838 | 95 | F1588 | 82 | F1563 | 62 | | | | | F1861 | 70 |
| 75 | F2156 | 65 | F1839 | 75 | F1589 | 68 | F1564 | 50 | | | | | F1862 | 54 |
| 100 | F2157 | 58 | F1840 | 60 | F1590 | 60 | F1565 | 42 | | | | | F1863 | 45 |
| 150 | | | | | F1591 | 50 | F1566 | 34 | | | | | | |
| 200 | | | | | F1592 | 43 | F1567 | 29 | | | | | | |
| 250 | | | | | | | | | | | | | | |
| 300 | | | | | | | F1568 | 23.5 | | | | | | |
| 400 | | | | | | | F1569 | 20 | | | | | | |
| 500 | | | | | | | F1570 | 18 | | | | | | |

## 50 Kc TO 200 Kc

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World Radio History

# TOROIDAL INDUCTORS

## FREQUENCY RANGE:

| 100Kc TO 10Mc | 50Kc TO 5 Mc | 50Kc TO 5 Mc | 20Kc TO 2 Mc |
|---|---|---|---|

| TYPE | TI-21 | | TI-22 | | TI-23 | | TI-20 | |
|---|---|---|---|---|---|---|---|---|
| Temperature Stabilization | SP | | SP | | SP | | SP | |
| Q@1 MH (±20%) | 12 | | 5.6 | | 7 | | 2.75 | |
| I Max. (Amp.) | $\frac{.05}{\sqrt{LMH}}$ | | $\frac{.11}{\sqrt{LMH}}$ | | $\frac{.11}{\sqrt{LMH}}$ | | $\frac{.2}{\sqrt{LMH}}$ | |
| Nominal Inductance (MH) | Catalog No. | Fo Mc | Catalog No. | Fo Mc | Catalog No. | Fo Mc | Catalog No. | Fo Mc |
| .010 | F2240 | 17.0 | F2270 | 13.5 | F2301 | 11.5 | | |
| .015 | F2241 | 13.5 | F2271 | 10.5 | F2302 | 9.2 | | |
| .020 | F2242 | 11.5 | F2272 | 9.0 | F2303 | 8.0 | | |
| .030 | F2243 | 8.8 | F2273 | 7.0 | F2304 | 6.3 | | |
| .040 | F2244 | 7.4 | F2274 | 6.0 | F2305 | 5.4 | | |
| .050 | F2245 | 6.5 | F2275 | 5.3 | F2306 | 4.8 | F2201 | 4.3 |
| .075 | F2246 | 5.0 | F2276 | 4.1 | F2307 | 3.8 | | |
| .100 | F2247 | 4.2 | F2277 | 3.5 | F2308 | 3.2 | F2202 | 3.0 |
| .125 | F2248 | 3.6 | | | | | | |
| .150 | F2249 | 3.2 | F2278 | 2.8 | F2309 | 2.7 | | |
| .200 | | | F2279 | 2.4 | F2310 | 2.3 | F2203 | 2.1 |
| .300 | | | F2280 | 1.9 | F2311 | 1.8 | F2204 | 1.7 |
| .400 | | | F2281 | 1.6 | F2312 | 1.5 | | |
| .500 | | | F2282 | 1.4 | F2313 | 1.4 | F2205 | 1.3 |
| .600 | | | F2283 | 1.3 | | | | |
| .700 | | | F2284 | 1.1 | | | | |
| .750 | | | | | | | F2206 | 1.1 |
| 1 | | | | | | | F2207 | .9 |
| 1.5 | | | | | | | F2208 | .75 |
| 2 | | | | | | | F2209 | .65 |
| 2.5 | | | | | | | F2210 | .55 |
| 3 | | | | | | | F2211 | .52 |
| 3.5 | | | | | | | F2212 | .48 |
| 4 | | | | | | | F2213 | .45 |
| 4.5 | | | | | | | F2214 | .42 |
| 5 | | | | | | | F2215 | .4 |

### MOLDED DIMENSIONS

| Molded Coil Code No. | OD" | H" | Clearance Hole H-Mounting |
|---|---|---|---|
| MR-1 | 7/8 | 13/32 | Pig tails |
| MR-2 | 1 1/16 | 1/2 | 4-40 |
| MR-3 | 1 3/16 | 11/16 | 6-32 |
| MR-4 | 1 1/2 | 3/4 | 8-32 |
| MR-5 | 1 7/8 | 1 | 8-32 |
| MR-6 | 2 1/8 | 7/8 | 8-32 |
| MR-7 | 2 3/8 | 1 5/16 | 10-32 |
| MR-8 | 2 1/2 | 1 3/8 | 10-32 |
| MR-9 | 2 5/8 | 1 7/16 | 10-32 |
| MR-10 | 2 7/8 | 1 3/8 | 10-32 |
| MS-1 | 25/32 x 25/32 x 13/32 | | Pig tails |

### OPEN DIMENSIONS

| Open Coil Code No. | OD" | H" | |
|---|---|---|---|
| OS-1 | 5/8 | 5/16 | All OS Units supplied with 4" long leads |
| OS-2 | 7/8 | 3/8 | |
| OS-3 | 1 | 3/8 | |
| OS-4 | 1 | 9/16 | |
| OS-5 | 1 5/16 | 5/8 | |
| OS-6 | 1 5/8 | 7/8 | |
| OS-7 | 1 11/16 | 5/8 | |
| OS-8 | 1 7/8 | 11/16 | |
| OS-9 | 2 1/4 | 1 1/8 | |
| OS-10 | 2 3/8 | 1 1/4 | |
| OS-11 | 2 5/8 | 1 1/8 | |

### CASE AND DIMENSION CODE

| Toroid Type | Case | Mold | Uncased Dimensions | Toroid Type | Case | Mold | Uncased Dimensions |
|---|---|---|---|---|---|---|---|
| TI-1 | DT-3, DT-5 | MR-6 | OS-8 | TI-12 | DT-4 | MR-8 | OS-9 |
| TI-1A | DT-4 | MR-7 | OS-9 | TI-13 | DT-4 | MR-7 | OS-9 |
| TI-2 | DT-3, DT-5 | MR-5 | OS-6 | TI-14 | DT-2, DM-11 | MR-4 | OS-5 |
| TI-3 | DT-3, DT-5 | MR-5 | OS-6 | TI-15 | DT-1, DM-2 | MR-3 | OS-3 |
| TI-3A | DT-4 | MR-8 | OS-10 | TI-16 | DST-1 | MR-1, MS-1 | OS-1 |
| TI-4 | DT-2, DM-11 | MR-4 | OS-5 | TI-17 | DST-1 | MR-1, MS-1 | OS-1 |
| TI-5 | DT-1, DM-2 | MR-3 | OS-3 | TI-18 | DST-1 | MR-1, MS-1 | OS-1 |
| TI-6 | DT-2, DM-11 | MR-4 | OS-5 | TI-19 | DST-1 | MR-1, MS-1 | OS-1 |
| TI-7 | DT-1, DM-2 | MR-3 | OS-3 | TI-20 | DT-2 | MR-4 | OS-4 |
| TI-8 | DT-1, DM-2 | MR-3 | OS-3 | TI-21 | DT-1 | MR-1, MS-1 | OS-1 |
| TI-9 | DT-4 | MR-9 | OS-10 | TI-22 | DT-1 | MR-2 | OS-2 |
| TI-10 | DT-3, DT-5 | MR-5 | OS-7 | TI-23 | DT-1 | MR-2 | OS-2 |
| TI-11 | DT-4 | MR-10 | OS-11 | | | | |


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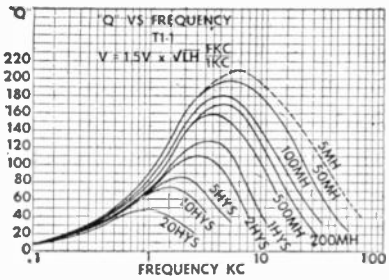
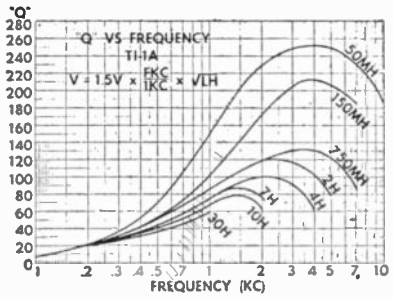
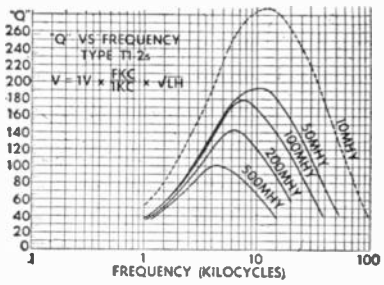
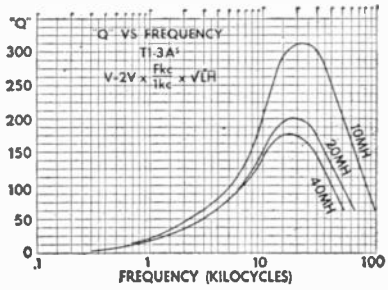
World Radio History

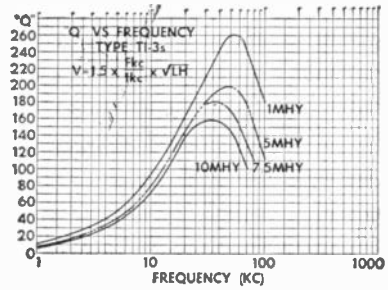
# TOROIDAL INDUCTORS

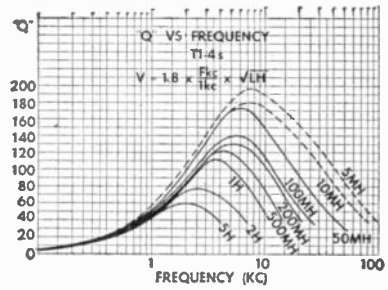


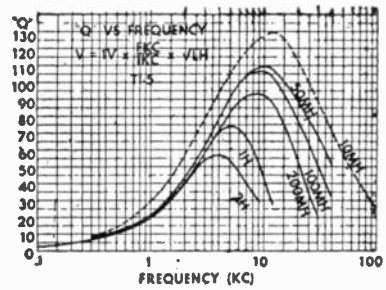



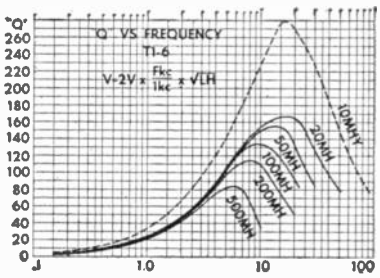



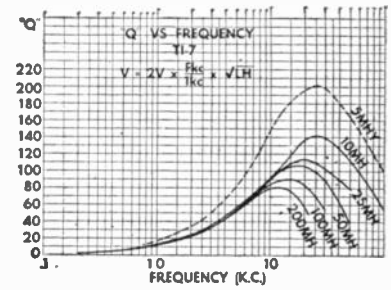



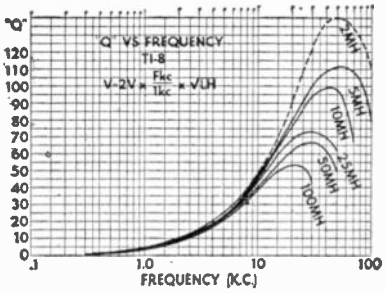



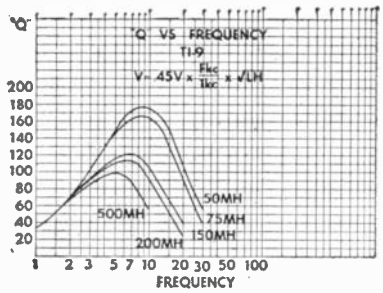



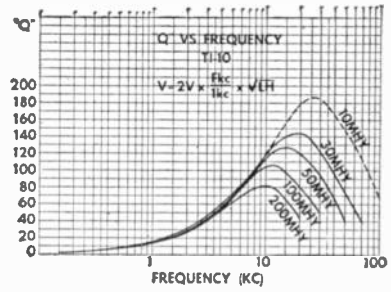



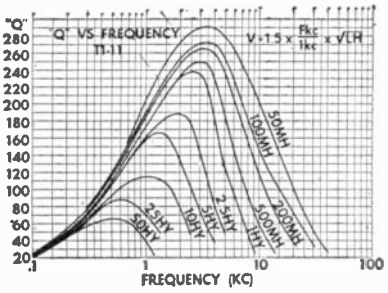



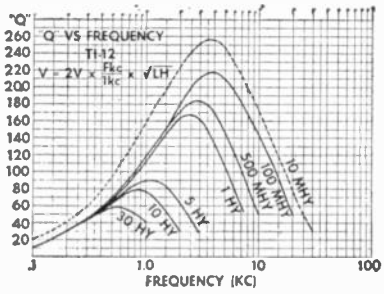



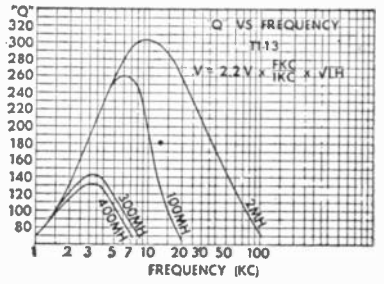

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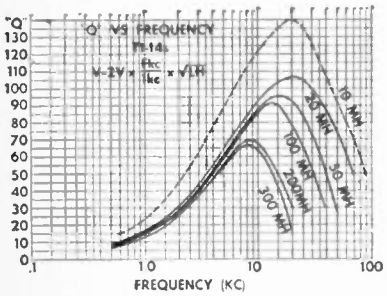
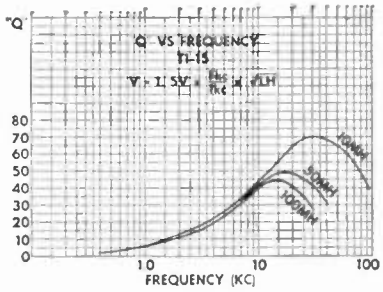
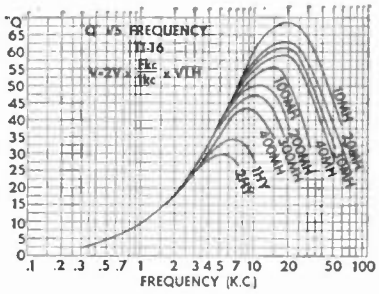
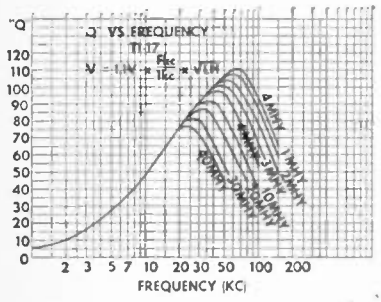
World Radio History

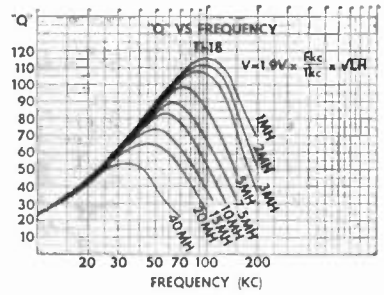
# TOROIDAL INDUCTORS

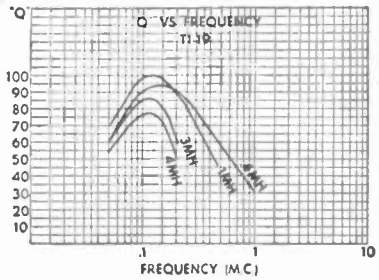


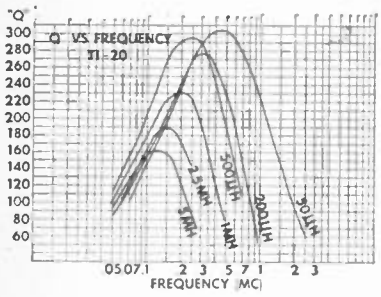



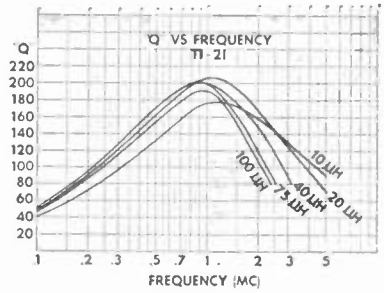



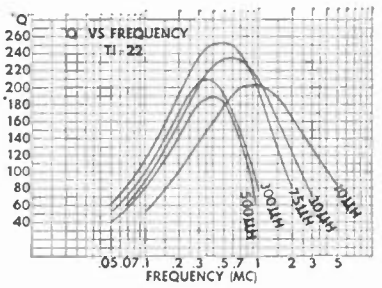



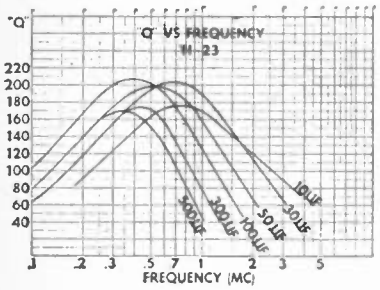



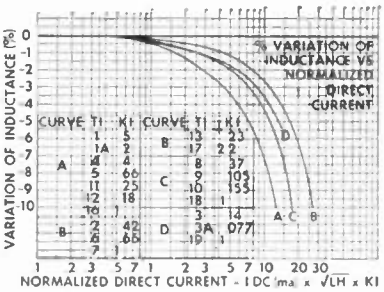



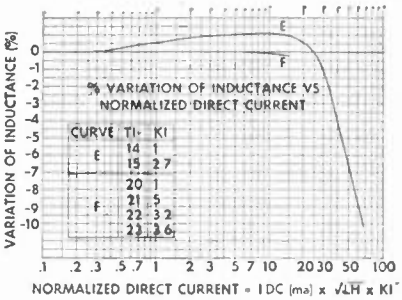



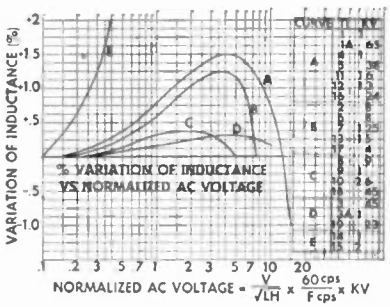



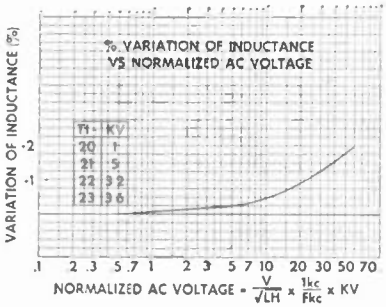



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# MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

The ever increasing demand for reliability, ruggedness, miniaturization and high performance has made the magnetic amplifier an indispensable component of many military and industrial automatic control and servo systems. Recent advances in materials and techniques permit an even greater utilization of the well-known inherent advantages of magnetic amplifiers such as direct operation from line voltage, no warm-up time, long-life components, ease of signal mixing, and hermetic sealing.

Freed Transformer Co. manufactures an extensive line of magnetic amplifiers, ranging from saturable transformers to half-wave type, fast-response servo amplifiers. Choice of catalog amplifiers assures standardization, lowest possible cost and rapid delivery.

The MAO line of single-ended magnetic amplifiers provides a single stage of DC controlled amplification, utilizing positive feedback to obtain a gain much higher than that of a saturable reactor.

The MAP line of push-pull magnetic amplifiers features high gain, polarity-sensitive amplification, and a phase-reversible output.

The MAF type of fast response magnetic amplifiers combines high power gain, ruggedness, and reliability with a maximum 2 cycle response. All MAF units are phase-reversible.

The MAS line of saturable transformers, commonly controlled by dual-triodes or transistors, emphasises low cost, small size, extreme reliability (no rectifiers), and phase-reversable output.

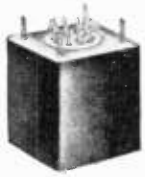
All standard units are designed for continuous operation and will operate in an ambient temperature range of −55°C to +75°C.

Vacuum tube and transistor preamplifiers can be supplied if very high impedance inputs are required.

In addition to standard items, Freed Transformer Co. has extensive facilities for the design and production of special amplifiers, saturable reactors, and magnetic components.

Complete, comprehensive Engineering Data for Magnetic Amplifiers, Saturable Transformers and Transverters, including most recent developments is available on request. Send for catalog.

## CASE DIMENSIONS



| Case No. | Height | Width | Depth | Mtg. Centers | Mounting Studs | Knockout |
|---|---|---|---|---|---|---|
| MA 202 | 5½" | 4⅛" | 3½" | 3¼"x2½" | (4) 10.32 | (2)2¼"x¾" |
| MA 203 | 2⅞" | 2⅝" | 1¾" | 2⅛"x1⅜" | (4) 6 32 | 1½" D |
| MA 204 | 2¼" | 2¼" | 2⅛" | 1⅞"x1⅜" | (4) 6 32 | 1½" D |
| MA 205 | 4" | 3¾" | 3⅜" | 3¼"x3¾" | (4) 8 32 | 1½" D |

## SATURABLE TRANSFORMERS
designed for 115V-AC operation

| Catalog No. | Supply Frequency C.P.S. | Rated Power Output—W. | Rated Voltage Output—V.-AC | †Signal Req'd for Full Output MA-DC | Total Res. of Control Wdgs. K Ω | ‡Response Time On | ‡Response Time Off | Typical Motor Load | Case No. |
|---|---|---|---|---|---|---|---|---|---|
| MAS-1 | 60 | 15 | 115 | 6.0 | 27 | 2 | 5 | Diehl FPE 25-11 | MA 202 |
| MAS-2 | 400 | 6 | 115 | 4.0 | 4 | 3 | 6 | Kearfott R 110-2 | MA 203 |
| MAS-5 | 400 | 2.7 | 26 | 4.0 | 3.3 | 8 | 2 | Kearfott R 118 | MA 204 |
| MAS-6 | 400 | 30.0 | 115 | 4.0 | 8 | 11 | 9 | Diehl FPE 49-13-1 | MA 205 |
| MAS-7 | 400 | 40.0 | 115 | 5.5 | 8 | 12 | 9 | Bendix CK 3000-1-A | MA 205 |

†Coils connected in series.
‡Response time measured in cycles supply frequency necessary to obtain 63% (On) or 37% (Off) of steady state output in response to a DC step input.

NOTE: ALL SATURABLE TRANSFORMERS ARE HERMETICALLY SEALED.

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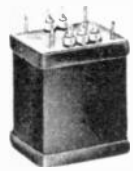
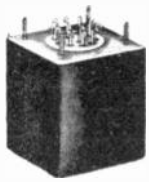
# MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

DESIGNED FOR 115V-AC OPERATION

## CASE DIMENSIONS



MA 101 through 104



MA 201

| Case No. | Height | Width | Depth | Mtg. Centers | Mounting Studs | Knockout |
|---|---|---|---|---|---|---|
| MA 101 | 3" | 2 [illegible] | 2 [illegible] | 1 [illegible]"x1 [illegible]" | (4) 6 32 | 2 1[illegible]"x3/[illegible]" |
| MA 102 | 3[illegible] | [illegible] | [illegible] | 2"x1 [illegible]" | (4) 8 32 | (2) 1[illegible]"x3/4" |
| MA 103 | 4 [illegible]" | [illegible] | 3 3/8" | 3 [illegible]"x2 [illegible]" | (4) 8 32 | (2) 1[illegible]"x3/4" |
| MA 104 | 3 [illegible] | 4 [illegible] | 3[illegible]" | 3[illegible]"x2 1/8" | (4) 10 32 | 1[illegible]"x [illegible]" |
| MA 105 | 8" | 5[illegible] | 5 1/4" | 3[illegible]"x2 [illegible]" | (4) 8 32 | (2) 1[illegible]"x3[illegible] |
| MA 201 | 2[illegible] | 1 [illegible] | 4[illegible]" | 3 [illegible]"x3[illegible]" | (4) 8 32 | 1[illegible]" D |

MA 301 through 310

MA 401 through 404

| | | | | | | |
|---|---|---|---|---|---|---|
| MA 301 | 7 1/2" | 7" | 5 1/4" | 6 1/4"x3 1/2" | (4) 1/4".20 | (4) 1 1/8"x7/8" |
| MA 302 | 5 7/8" | 3 1/8" | 3 1/4" | 2 7/8"x2 [illegible]" | (4) 8:32 | (2) 2 1/4"x3/4" |
| MA 303 | 7" | 4 [illegible]" | 3 [illegible]" | 3 7/8"x2 1/8" | (4) 10 32 | (2) 2"x1/4" |
| MA 304 | 8" | [illegible] | 5[illegible]" | 6"x3 1/8" | (4) 1/4" 20 | (2) 2 1/4"x3/4" |
| MA 305 | 8" | 5[illegible] | 5 1/4" | 4 5/8"x3 1/4" | (4) 1/4".20 | (2) 2 5/8"x3/4" |
| MA 306 | 7" | 3 [illegible]" | 3[illegible]" | 3"x2 1/4" | (4) 10 32 | (2) 2"x3/4" |
| MA 307 | 7 [illegible]" | 3 [illegible]" | 3 [illegible]" | 3"x3" | (4) 10.32 | 2 7/8" D |
| MA 308 | 3[illegible]" | 4" | 3[illegible]" | 2 [illegible]"x3 3/8" | (4) 10 32* | (2) 2 1/2"x[illegible] |
| MA 309 | 6[illegible]" | 4[illegible]" | 3[illegible]" | 2[illegible]"x3 5/8" | (4) 10 32 | (2) 2 1/2"x3/4" |
| MA 310 | 5[illegible]" | 3[illegible]" | 4[illegible]" | 2[illegible]"x3 1/8" | (4) 10 32 | (2) 2"x[illegible] |

*Mtg Dim not centrally located around center line

| | | | | | | |
|---|---|---|---|---|---|---|
| MA 401 | 8" | 7[illegible]" | 5[illegible]" | 6[illegible]"x4 1/8" | [illegible]"x[illegible]" | — |
| MA 402 | 6" | 7[illegible]" | 5" | 5 1/2"x4" | [illegible]" D | — |
| MA 403 | 4[illegible]" | 3 7/8" | 3 7/8" | 5"x3 1/8" | 1/4"x1/8" | — |
| MA 404 | 6" | 5[illegible]" | 4 1/8" | 3[illegible]"x3" | 1/4" D | — |

| Case No. | Base | Height | Mounting Centers | Mounting Holes |
|---|---|---|---|---|
| MA 501 | 2 7/8 sq. | 2 7/8 | 1 13/16 sq. | (4). 187" dia. |
| MA 502 | 2 1/4 sq. | 2 7/8 | 2 3/32 sq. | (4) 213" dia. |

## FAST RESPONSE MAGNETIC AMPLIFIERS

| Catalog No. | Stages of Amplification | Supply Frequency C.P.S. | Rated Power Output—Watts | Rated Voltage Output—V.R.M.S. | Signal Req'd. for Full Output VAC or VDC | Typical Motor Load | Case No. Mag. Amp. | Case No. Supply Transf. |
|---|---|---|---|---|---|---|---|---|
| MAF-1 | 3 | 60 | 13 | 110 – | 1 —10K Ω | Diehl FPE 25-11 | MA301 | MA104 |
| MAF-4 | 1 | 400 | 5 | 57.5 | * | Kearfott R110-2 | MA501 | ——— |
| | 1 | 400 | 10 | 57.5 | * | Kearfott R111-2 | MA501 | ——— |
| MAF-5 | 1 | 400 | 13 | 54 – | * | Kearfott R112-2 | MA502 | ——— |
| MAF-6 | 2 | 400 | 5 | 57.5 | 1.2–10K Ω 0.4—1K Ω | Kearfott R110-2 | MA201 | ——— |
| | 2 | 400 | 10 | 57.5 | 1.6–10K Ω 0.6—1K Ω | Kearfott R111-2 | MA201 | ——— |
| MAF-7 | 2 | 400 | 15 | 57.5 | 2.5–10K Ω 1.0 –1K Ω | Kearfott R112-2 | MA201 | ——— |

*Designed to be driven from vacuum tube or transistor preamplifier. Less than 30mv input signal required when operated with FREED MAT-1 silicon transistor preamplifier (case size 2 [illegible]w x 1 7/8d x 2 11/16h. weight ap. 13 ounces.) Standard unit designed to work directly from 115V, 400cps line up to 85°C.

## PUSH-PULL MAGNETIC AMPLIFIERS

| Catalog No. | Supply Frequency C.P.S. | Rated Power Output—W. | Rated Voltage Output—V.-AC | Signal Required for Full Output MA/D.C. | Total Res. of Control Wdg. K-Ω | ‡Response Time †(Rs=O) On | ‡Response Time †(Rs=O) Off | ‡Response Time †(Rs=20K) On | ‡Response Time †(Rs=20K) Off | Typical Motor Load | Case No. Mag. Amp. | Case No. Supply Transf. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAP-1 | 60 | 5 | 115 | 1.2 | 1.24 | 15 | 60 | 4 | 8 | Koilsman 951-0160 | MA 302 | MA 101 |
| MAP-2 | 60 | 15 | 115 | 1.6 | 2.4 | 12 | 17 | 7 | 7 | Diehl FPE-25-11 | MA 303 | MA 102 |
| MAP-3 | 60 | 50 | 115 | 2.0 | 0.5 | 1-2 sec | 3-4 sec | 3 | 15 | Diehl FPF-49-9 | MA 304 | MA 103 |
| MAP-3A | 60 | 50 | 115 | 7.0 | 2.9 | 1.3 sec | 1.7 sec | 5 | 20 | Diehl FPF-49-9 | MA 305 | MA 105 |
| MAP-4 | 60 | 175 | 115 | 8.0 | 6.0 | 17 | 66 | 5 | 40 | Diehl FPF-85-18-1 | MA 401 | MA 404 |
| MAP-7 | 400 | 15 | 115 | 0.5 | 8.8 | .75 sec | 2 sec | 5 | 15 | Kearfott R 112-2 | MA 306 | ——— |
| MAP-8 | 400 | 50 | 115 | 1.75 | 0.6 | 45 | 60 | 9 | 12 | Bendix CK 3000-1-A | MA 307 | MA 102 |
| MAP-11 | 400 | 10 | 115 | .7 | 6.6 | 6 | 1-2 sec | 4 | 75 | Kearfott R 111-2A | MA 310 | ——— |

## SINGLE-ENDED MAGNETIC AMPLIFIERS

| Catalog No. | Supply Frequency C.P.S. | Rated Power Output—W. | Rated Voltage Output—V.-AC | Load Resistance for Max. Power Output—Ohms | Resist. of Control Wdg. K—Ω (both wdgs.) | Resist. of Bias Wdg. K—Ω | ‡Response Time †(Rs=5K) On | ‡Response Time †(Rs=5K) Off | Control Signal for Full Output MA.DC. | Bias Signal for Minimum Output MA.DC. | Case No. Mag. Amp. | Case No. Supply Transf. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAO-1 | 60 | 4.5 | 130 | 3,800 | .685 | .8 | 3 | 8 | 3.0 | 1.0 | MA 308 | ——— |
| MAO-2 | 60 | 20 | 120 | 700 | 1.3 | 1.35 | 3 | 19 | 1.8 | 0.7 | MA 309 | ——— |
| MAO-4 | 60 | 400 | 100 | 25 | 10.0 | 10.0 | 9 | 25 | 9.0 | 1.6 | MA 402 | ——— |
| MAO-5 | 60 | 575 | 120 | 25 | 10.0 | 10.0 | 15 | 90 | 6.0 | 2.7 | MA 402 | MA 403 |

† Rs=Forcing Resistor in series with control wdg.

‡Response time measured in cycles of supply frequency necessary to obtain 63% (On) or 37% (Off) of steady state output in response to a DC step input.

NOTE: MAF-4, MAF-5, MAF-6, MAF-7 & MAT-1 ARE HERMETICALLY SEALED.



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World Radio History

# TRANSVERTERS

Freed Transformer Co now makes available from stock a line of reliable, highly efficient* static DC to DC converters in hermetically sealed cans Filters sufficient for RF are included in the converter can

Hermetically sealed filters that reduce the ripple content of the converter output to as low as .01% are available †

**DC-2B CASE**

| | |
|---|---|
| Height: | 3 1/2" |
| Width: | 2 5/8" |
| Depth: | 2 1/4" |
| Mtg. Cen.: | 2"x1 3/4" |
| Studs: | 4 8-32 |
| Knockout: | 1 1/2" dia. |

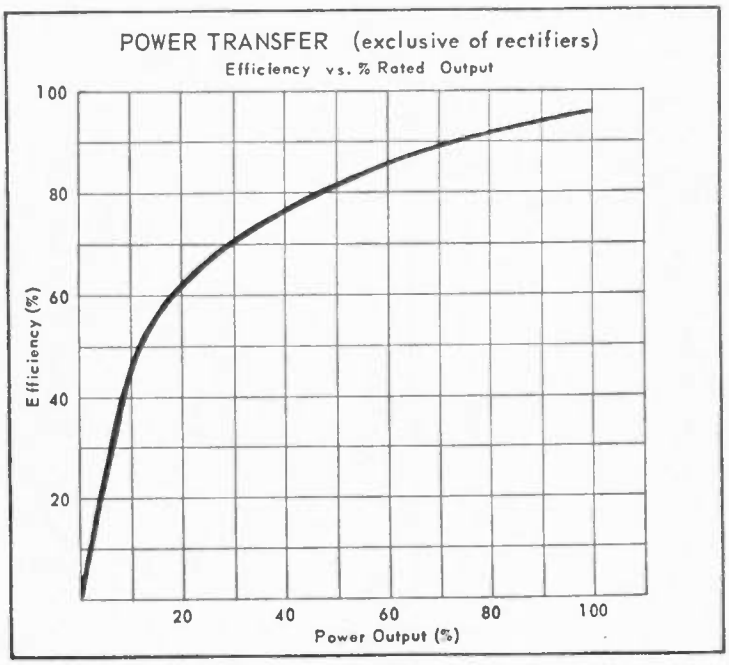
**JB CASE**

| | |
|---|---|
| Height: | 3 7/8" |
| Width: | 3 9/16" |
| Depth: | 3 1/16" |
| Mtg. Cen.: | 2 5/8"x2 1/8" |
| Studs: | 4 8-32 |

| Freed No. | Input VDC | Output VDC | Output IDC | Size |
|---|---|---|---|---|
| MAC- 6.2.1 | 6.3 | 150 | .049 | 2 5/8 W x 2 1/4 D x 3 1/2 H = DC2B |
| MAC- 6.3.1 | 6.3 | 195 | .080 | 3 7/8 H x 3 9/16 x 3 1/16 = JB |
| MAC-12.2.1 | 12.6 | 300 | .043 | DC2B |
| MAC-12.2.2 | 12.6 | 180 | .072 | DC2B |
| MAC-12.4.1 | 12.6 | 390 | .100 | JB |
| MAC-12.4.2 | 12.6 | 245 | .170 | JB |
| MAC-12.4.3 | 12.6 | 350 | .120 | JB |
| MAC-12.4.4 | 12.6 | 225 | .218 | JB |
| MAC-26.2.1 | 26 | 250 | .100 | DC2B |
| MAC-26.2.2 | 26 | 600 | .043 | DC2B |
| MAC-26-2.3 | 26 | 360 | .072 | DC2B |
| MAC-26.4.1 | 26 | 600 | .140 | JB |
| MAC-26.4.2 | 26 | 450 | .190 | JB |
| MAC-26.4.3 | 26 | 450: | .190 | JB |

*See Curve.
†Add F after converter number
:Tap at 225 Volts.

Also available for AC Square wave output at slightly higher ratings.

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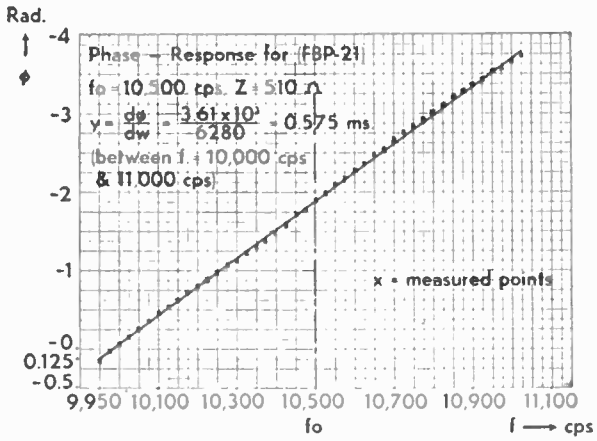
World Radio History

# TELEMETERING COMPONENTS

A complete line of Band Pass Filters, Low Pass Filters and Discriminators is available for multi-channel telemetering applications. These components cover the frequency range from 400 cps to 70,000 cps. The filters feature linear phase response, excellent selectivity characteristics and plug-in construction. The Discriminators, either fixed or slug tuned, have exceptional linearity, high amplification, and utmost stability.




## CASE DIMENSIONS

### FA-5 CASE

Height: 4½"
Width: 3½"
Depth: 2¼"
Mtg. Cen.: 2 7/16" x 1 3/16"
Studs: 5—8-32 x ½"
Octal Header

### FA-10 CASE

Height: 4½"
Width: 3½"
Depth: 2¼"
Mtg. Cen.: 1 11/16" x 1 9/16"
Studs: 4—8-32 x ½"
Knockout: 1½" dia.

### FA-15 CASE

Height: 4½"
Width: 2⅞"
Depth: 2¼"
Mtg. Cen.: 1 11/16" x 1 9/16"
Studs: 4—8-32 x ½"
Knockout: 1½" dia.

## TELEMETERING BAND PASS FILTERS

These filters cover the frequencies from 400 c.p.s. to 70KC. Narrow frequency B.P.F. have a band width of ±9¾% of center frequency and 45 DB (minimum) points at ±7½% of center frequency of higher or lower adjacent channels. Wide frequency B.P.F. have a band width of ±19½% of center frequency and 50 D.B. points at ±15% of center frequencies of higher or lower second adjacent channels.

| Characteristic Impedance 500 Ω | | | |
|---|---|---|---|
| Catalog No. | Center Frequency c.p.s. | 3 DB Band Width % of C.F. | Case No. |
| FBP-10 | 400 | ± 9¾ | FA-10 |
| FBP-11 | 560 | ± 9¾ | FA-10 |
| FBP-12 | 730 | ± 9¾ | FA-10 |
| FBP-13 | 960 | ± 9¾ | FA-10 |
| FBP-14 | 1,300 | ± 9¾ | FA-10 |
| FBP-15 | 1,700 | ± 9¾ | FA-10 |
| FBP-16 | 2,300 | ± 9¾ | FA-10 |
| FBP-17 | 3,000 | ± 9¾ | FA-15 |
| FBP-18 | 3,900 | ± 9¾ | FA-15 |
| FBP-19 | 5,400 | ± 9¾ | FA-15 |
| FBP-20 | 7,350 | ± 9¾ | FA-15 |
| FBP-21 | 10,500 | ± 9¾ | FA-15 |
| FBP-22 | 12,300 | ± 9¾ | FA-15 |
| FBP-23 | 14,500 | ± 9¾ | FA-15 |
| FBP-24 | 22,000 | ± 9¾ | FA-15 |
| FBP-25 | 22,000 | ±19½ | FA-15 |
| FBP-26 | 30,000 | ± 9¾ | FA-15 |
| FBP-27 | 30,000 | ±19½ | FA-15 |
| FBP-28 | 40,000 | ± 9¾ | FA-15 |
| FBP-29 | 40,000 | ±19½ | FA-15 |
| FBP-30 | 52,500 | ± 9¾ | FA-15 |
| FBP-31 | 52,500 | ±19½ | FA-15 |
| FBP-32 | 70,000 | ± 9¾ | FA-15 |
| FBP-33 | 70,000 | ±19½ | FA-15 |

| Characteristic Impedance 2,500 Ω | | | |
|---|---|---|---|
| Catalog No. | Center Frequency c.p.s. | 3 DB Band Width % of C.F. | Case No. |
| FBP-34 | 400 | ± 9¾ | FA-5 |
| FBP-35 | 560 | ± 9¾ | FA-5 |
| FBP-36 | 730 | ± 9¾ | FA-5 |
| FBP-37 | 960 | ± 9¾ | FA-5 |
| FBP-38 | 1,300 | ± 9¾ | FA-5 |
| FBP-39 | 1,700 | ± 9¾ | FA-5 |
| FBP-40 | 2,300 | ± 9¾ | FA-5 |
| FBP-41 | 3,000 | ± 9¾ | FA-5 |
| FBP-42 | 3,900 | ± 9¾ | FA-5 |
| FBP-43 | 5,400 | ± 9¾ | FA-5 |
| FBP-44 | 7,350 | ± 9¾ | FA-5 |
| FBP-45 | 10,500 | ± 9¾ | FA-5 |
| FBP-46 | 12,300 | ± 9¾ | FA-5 |
| FBP-47 | 14,500 | ± 9¾ | FA-5 |
| FBP-48 | 22,000 | ± 9¾ | FA-5 |
| FBP-49 | 22,000 | ±19½ | FA-5 |
| FBP-50 | 30,000 | ± 9¾ | FA-5 |
| FBP-51 | 30,000 | ±19½ | FA-5 |
| FBP-52 | 40,000 | ± 9¾ | FA-5 |
| FBP-53 | 40,000 | ±19½ | FA-5 |
| FBP-54 | 52,500 | ± 9¾ | FA-5 |
| FBP-55 | 52,500 | ±19½ | FA-5 |
| FBP-56 | 70,000 | ± 9¾ | FA-5 |
| FBP-57 | 70,000 | ±19½ | FA-5 |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## CASE DIMENSIONS

### FA-1 CASE

Height: 4½"
Width: 1⅛"
Depth: 1⅛"
Mtg. Cen.: 15/32" sq.
4 Inserts 6-32
Knockout: 1"

### FA-185 CASE

Height: 4½"
Width: 1⅞"
Depth: 1⅝"
Mtg. Cen.: 1 15/16"x1 1/16"
4 Inserts: 6-32
Knockout: 1½"

### FA-190 CASE

Height: 4½"
Width: 2¼"
Depth: 1⅝"
Mtg. Cen.: 1 7/32"x1 1/16"
4 Inserts: 6-32
Knockout: 1½"

### FA-410 CASE

Height: 4½"
Width: 6"
Depth: 4"
Mtg. Cen.: 5¼"x3¼"
5 Studs: 10-32
Octal Header

## DISCRIMINATOR INPUT LOW PASS FILTER

| Catalog No. | Fo Center Freq. in c.p.s. | Characteristic Impedance Ohms | Case No. |
|---|---|---|---|
| LPI-10 | 400 | 30,000 | FA-1 |
| LPI-11 | 560 | 30,000 | FA-1 |
| LPI-12 | 730 | 30,000 | FA-1 |
| LPI-13 | 960 | 30,000 | FA-1 |
| LPI-14 | 1,300 | 30,000 | FA-1 |
| LPI-15 | 1,700 | 30,000 | FA-1 |
| LPI-16 | 2,300 | 30,000 | FA-1 |
| LPI-17 | 3,000 | 30,000 | FA-1 |
| LPI-18 | 3,900 | 30,000 | FA-1 |

| Catalog No. | Fo Center Freq. in c.p.s. | Characteristic Impedance Ohms | Case No. |
|---|---|---|---|
| LPI-19 | 5,400 | 30,000 | FA-1 |
| LPI-20 | 7,350 | 30,000 | FA-1 |
| LPI-21 | 10,500 | 30,000 | FA-1 |
| LPI-22 | 12,300 | 30,000 | FA-1 |
| LPI-23 | 14,500 | 30,000 | FA-1 |
| LPI-24 | 22,000 | 5,100 | FA-1 |
| LPI-25 | 30,000 | 5,100 | FA-1 |
| LPI-26 | 40,000 | 5,100 | FA-1 |
| LPI-27 | 52,500 | 5,100 | FA-1 |
| LPI-28 | 70,000 | 5,100 | FA-1 |

Pass Band Attenuation: 0.05 DB at ± 9¼% of center frequency
30 DB at third harmonic of Pass Band Frequencies
50 DB at fifth harmonic of Pass Band Frequencies

## DISCRIMINATOR OUTPUT LOW PASS FILTER

| Catalog No. | Fo c. p. s. | Characteristic Impedance Ohms | Case No. |
|---|---|---|---|
| LPO-10 | 6 | 330 | FA-410 |
| LPO-11 | 8 | 330 | FA-410 |
| LPO-12 | 11 | 330 | FA-410 |
| LPO-13 | 14 | 330 | FA-410 |
| LPO-14 | 20 | 330 | FA-410 |
| LPO-15 | 25 | 330 | FA-410 |
| LPO-16 | 35 | 330 | FA-410 |
| LPO-17 | 45 | 330 | FA-410 |
| LPO-18 | 60 | 330 | FA-410 |
| LPO-19 | 81 | 330 | FA-410 |
| LPO-20 | 110 | 330 | FA-410 |
| LPO-21 | 160 | 330 | FA-410 |
| LPO-22 | 185 | 330 | FA-410 |

| Catalog No. | Fo c. p. s. | Characteristic Impedance Ohms | Case No. |
|---|---|---|---|
| LPO-23 | 220 | 330 | FA-410 |
| LPO-24 | 330 | 330 | FA-410 |
| LPO-25 | 450 | 330 | FA-410 |
| LPO-26 | 600 | 330 | FA-410 |
| LPO-27 | 660 | 330 | FA-410 |
| LPO-28 | 790 | 330 | FA-410 |
| LPO-29 | 900 | 330 | FA-410 |
| LPO-30 | 1,050 | 330 | FA-410 |
| LPO-31 | 1,200 | 330 | FA-410 |
| LPO-32 | 1,600 | 330 | FA-410 |
| LPO-33 | 2,100 | 330 | FA-410 |
| LPO-34 | 7,200 | 330 | FA-410 |
| LPO-35 | 10,000 | 330 | FA-410 |

Attenuation: < 0.2 DB up to 0.5 times Fo
< 0.7 DB from 0.5 to 1. times Fo
> 20 DB at 2 Fo to 2.5 Fo
> 30 DB from 2.5 times Fo to 100 Kc.

## SLUG TUNED DISCRIMINATORS

| Catalog No. | Center Frequency (Kc.) | % Deviation of Fo | Linearity | D.C. Output Volts | Case No. |
|---|---|---|---|---|---|
| DST-17 | 3.0 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-18 | 3.9 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-19 | 5.4 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-20 | 7.35 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-21 | 10.5 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-22 | 12.3 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-23 | 14.5 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-24 | 22.0 | ±8½ | ±0.5% | 32.5 | FA-190 |
| DST-25 | 30.0 | ±8½ | ±0.5% | 32.5 | FA-190 |

| Catalog No. | Center Frequency (Kc.) | % Deviation of Fo | Linearity | D.C. Output Volts | Case No. |
|---|---|---|---|---|---|
| DST-26 | 40.0 | ± 8½ | ±0.5% | 32.5 | FA-190 |
| DST-27 | 52.5 | ± 8½ | ±0.5% | 32.5 | FA-190 |
| DST-28 | 70.0 | ± 8½ | ±0.5% | 32.5 | FA-190 |
| DST-29 | 22.0 | ±15 | ±1.0% | 26.0 | FA-190 |
| DST-30 | 30.0 | ±15 | ±1.0% | 26.0 | FA-190 |
| DST-31 | 40.0 | ±15 | ±1.0% | 26.0 | FA-190 |
| DST-32 | 52.5 | ±15 | ±1.0% | 26.0 | FA-190 |
| DST-33 | 70.0 | ±15 | ±1.0% | 26.0 | FA-190 |

## FIXED DISCRIMINATORS

| Catalog No. | Center Frequency (cps) | % Deviation of Fo | Linearity | D.C. Output Volts | Case No. |
|---|---|---|---|---|---|
| DST-10 | 400 | ±8½ | ±0.5% | 32.5 | FA-185 |
| DST-11 | 560 | ±8½ | ±0.5% | 32.5 | FA-185 |
| DST-12 | 730 | ±8½ | ±0.5% | 32.5 | FA-185 |
| DST-13 | 960 | ±8½ | ±0.5% | 32.5 | FA-185 |

| Catalog No. | Center Frequency (cps) | % Deviation of Fo | Linearity | D.C. Output Volts | Case No. |
|---|---|---|---|---|---|
| DST-14 | 1,300 | ±8½ | ±0.5% | 32.5 | FA-185 |
| DST-15 | 1,700 | ±8½ | ±0.5% | 32.5 | FA-185 |
| DST-16 | 2,300 | ±8½ | ±0.5% | 32.5 | FA-185 |

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World Radio History

# FREED FILTERS

Freed Standard Filters are **Hermetically Sealed Miniature** high performance components designed for both production and laboratory applications in the Communications and Electronic industry. In order to achieve attenuation requirements not obtainable with one single filter, one can combine several standard filters of different transmission characteristics. Wide Band Pass characteristics are obtainable by combining low and high Pass Units. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters.

The standard filters are available in Low Pass, High Pass and Band Pass Filters.

**Low Pass Filters:** The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 35db or more at 1.5 cut-off frequency and 40 db or more at 2 cut-off frequency.

**ILP Interstage Low Pass Filter.** Characteristic impedance 10,000 ohms.

**LLP Line Low Pass Filter.** Characteristic Impedance 500/600 ohms.

**High Pass Filters:** The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 35db and 40db or more at 0.67 and 0.5 cut-off frequency.

**IHP Interstage High Pass Filter.** Characteristic Impedance 10,000 ohms.

**LHP Line High Pass Filter.** Characteristic Impedance 500/600 ohms.

**Band Pass Filters:** The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 40db or more at 0.5 and 2 center frequency.

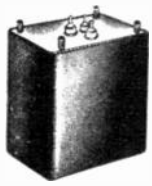
**IBP Interstage Band Pass Filter.** Nominal input impedance — 10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1 (Output voltage to source voltage.)

**LBP Line Band Pass Filter.** Nominal input impedance 500/600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 9:1 (Output voltage to source voltage).

**Special filters in all six types are available for any frequency from 300 to 20,000 cycles.**

**CASE DIMENSIONS**

**DF-1 CASE**

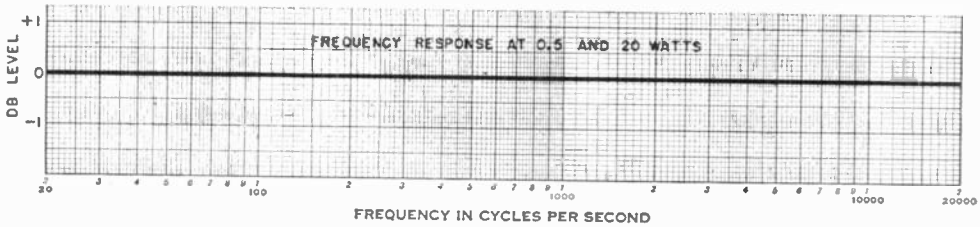


Height: 2½"
Width: 1 11/16"
Depth: 1 3/16"
Mtg. Cen.: 1¼"x¾"
Studs: 4—6-32x⅜"
Knockout: ⅞" dia.

| Catalog No. | Cut-off Frequency c.p.s. |
|---|---|
| ILP- 500 | 500 |
| ILP- 750 | 750 |
| ILP- 1,500 | 1,500 |
| ILP- 1,600 | 1,600 |
| ILP- 2,000 | 2,000 |
| ILP- 2,500 | 2,500 |
| ILP- 3,000 | 3,000 |
| ILP- 15,000 | 15,000 |
| ILP- 20,000 | 20,000 |
| LLP- 1,500 | 1,500 |
| LLP- 1,600 | 1,600 |
| LLP- 2,000 | 2,000 |
| LLP- 2,500 | 2,500 |
| LLP- 3,000 | 3,000 |
| IHP- 300 | 300 |
| IHP- 400 | 400 |
| IHP- 1,000 | 1,000 |
| IHP- 2,000 | 2,000 |
| LHP- 300 | 300 |
| LHP- 400 | 400 |
| LHP- 1,000 | 1,000 |

| Catalog No. | Center Frequency |
|---|---|
| IBP - 200 | 200 |
| IBP - 250 | 250 |
| IBP - 400 | 400 |
| IBP - 800 | 800 |
| IBP - 1,000 | 1,000 |
| IBP - 1,500 | 1,500 |
| IBP - 2,000 | 2,000 |
| IBP - 3,000 | 3,000 |
| IBP - 5,600 | 5,600 |
| IBP -10,000 | 10,000 |
| IBP -15,000 | 15,000 |
| LBP- 300 | 300 |
| LBP- 400 | 400 |
| LBP- 600 | 600 |
| LBP- 1,000 | 1,000 |
| LBP- 1,500 | 1,500 |
| LBP- 2,000 | 2,000 |
| LBP- 3,000 | 3,000 |
| LBP-10,000 | 10,000 |
| LBP-20,000 | 20,000 |

## NEW CIRCUIT REVISES WILLIAMSON HI-FIDELITY AMPLIFIER FOR IMPROVED PERFORMANCE.




- Frequency response: .1DB from 20 to 30,000 cps. at 20W.
- Harmonic distortion: .4DB from 20 to 30,000 cps. at 20W.
- Two section L-C filter for improved stable performance.
- 20 Watt output connected as Williamson amplifier
- 10 Watt output connected as ultra linear amplifier

**FREED supplies the following parts from stock.**

| Catalog No. | Application | Rating | Case No. |
|---|---|---|---|
| KA-10 | output transf. | Prim: 10,000 Ω ct. Sec. 16/8 Ω | VS-506 |
| KC-10 | filter reactor | 12Hy at 165MA, RDC 180 Ω | VS-304 |
| KC-11 | filter reactor | 20Hy at 30MA, RDC 1,250 Ω | CH-40 |
| KP-10 | power transf. | Pri: 115V 60cps; Sec. 1: 1100 Vct at 150MA; Sec. 2:6.3Vct at 4A; Sec. 3: 5V at 3A. | VS-606 |
| PCB-10 | Printed circuit board | | 6"x9" |

For case dimensions VS-304, VS-506, VS-606 see page N-831, and CH-40 see page N-832.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World Radio History

## CASE DIMENSIONS

### DC-4 CASE

Height: 4 3/4"
Width: 3 1/8"
Length: 3"
Mounting: 4 8-32 Studs
Mtg. Cen.: 2 1/2" x 2 1/2"
Cutout: (2)1 3/8" x 5/8"

### DC-6B CASE

Height: 6"
Width: 5"
Length: 4 1/8"
Mounting: 4 10-32 Sds
Mtg. Cen.: 3 3/4" x 3"
Cutout: 3" Dia.

### OL-MA-2 CASE

Height: 4"
Width: 4 5/8"
Length: 3 15/16"
Mounting: 4 10 32 Sds
Mtg. Cen.: 2 1/2" x 3 3/4"
Cutout: (2)2 [illegible]" x [illegible]"

### OL-112-1 CASE

Height: 6"
Width: 5 7/8"
Length: 4 3/4"
Mounting: 4 1/4-20 Sds
Mtg. Cen.: 4 3/4"x3 5/8"
Cutout: 3" dia.

### FH-EA CASE

Height: 2 11/16"
Width: 1 7/8
Length: 1 3/4"
Mounting: 4 6-32 Studs
Mtg. Cen.: 1 3/8" x 1 1/4"
Cutout: 1 3/16"

### DM-03 CASE

Height: 2 1/2"
Width: 1 1/2"
Length: 1 1/2"
Mounting: 4 6-32 Studs
Mtg. Cen.: 1 1/16" x 1 1/16"
Cutout: 1 1/4" Dia.

# ULTRASONICS

New developments and applications of ultrasonics for industrial cleaning soldering, welding, and mixing have created a demand for generators and components specifically designed for ultrasonic applications.

Using the latest developments in the field of special magnetic materials the FREED ultrasonic transformers are designed for greatest efficiency and maximum reliability. They feature small size, excellent performance and long life under continuous duty operation.

**Transformers with an extended frequency range (frequencies up to 2 MC) can be supplied upon request.**

## ULTRASONIC DRIVER AND INPUT TRANSFORMERS

**Frequency response: ± 1 DB 10 KC to 60 KC.**

| Catalog No. | Application | Primary Impedance Ohms | Ratio | Maximum Power Watts | Maximum Primary D.C. per Side Ma. | Case Size |
|---|---|---|---|---|---|---|
| ULI-20 | Transducer to PP 811A | 1, 2, 4 | 1:17.3 | 5 | | DM-03 |
| ULD-20 | PP 6CM6 to PP 811A | 10,000 | 4.4 1 | 5 | 50 | DM-03 |
| ULD-50 | PP 5881 to PP 8000 | 7,200 | 1 7:1 | 25 | 90 | FH-EA |

## ULTRASONIC OUTPUT TRANSFORMERS

**Frequency response: ± 1 DB 20 KC to 60 KC.**

| Catalog No. | Application | Impedance in Ohms Primary | Impedance in Ohms Secondary | Maximum Power Watts | Maximum Primary D.C. per Side Ma. | Case Size |
|---|---|---|---|---|---|---|
| ULO-10 | PP 6083 to transducer | 7,600 | 1/4 | 100 | 120 | DC-4B |
| ULO-11 | Same | 7,600 | 2/8 | 100 | 120 | DC-4B |
| ULO-12 | Same | 7,600 | 4 16 | 100 | 120 | DC-4B |
| ULO-13 | Same | 7,600 | 7.5 30 | 100 | 120 | DC-4B |
| ULO-30 | PP 811A to transducer | 12,400 | 1 4 | 300 | 170 | DC-4B |
| ULO-31 | Same | 12,400 | 2 8 | 300 | 170 | DC-4B |
| ULO-32 | Same | 12,400 | 4 16 | 300 | 170 | DC-4B |
| ULO-33 | Same | 12,400 | 7.5/30 | 300 | 170 | DC-4B |
| ULO-34 | Same | 12,400 | 25 | 300 | 170 | DC-4B |
| ULO-35 | Same | 12,400 | 125/500 | 300 | 170 | DC-4B |
| ULO-36 | Same | 12,400 | 250 1000 | 300 | 170 | DC-4B |
| ULO-37 | Same | 12,400 | 75 300 | 300 | 170 | DC-4B |
| ULO-52 | PP 8000 to transducer | 10,800 | 4/16 | 500 | 230 | OL-MA-2 |
| ULO-53 | Same | 10,800 | 7.5/30 | 500 | 230 | OL-MA-2 |
| ULO-54 | Same | 10,800 | 25/100 | 500 | 230 | OL-MA-2 |
| ULO-55 | Same | 10,800 | 125/500 | 500 | 320 | OL-MA-2 |
| ULO-56 | Same | 10,800 | 250 1000 | 500 | 230 | OL-MA-2 |
| ULO-101 | PP. Par. 8000 to transducer | 5,400 | 25/100 | 1000 | 430 | DC-6B |
| ULO-104 | Same | 5,400 | 75/300 | 1000 | 430 | DC-6B |
| ULO-110 | Same | 5,400 | 18.8/75 300 | 1000 | 430 | OL-112-1 |

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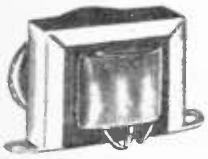
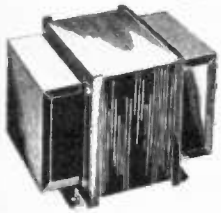
World Radio History

CASE DIMENSIONS

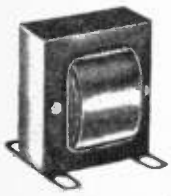


CH

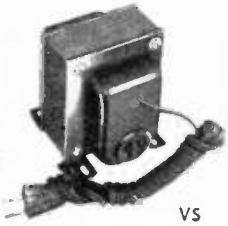
DC



HB



FV



VS

| Case No | Height | Width | Depth | Mtg. Centers | Mtg. Studs |
|---|---|---|---|---|---|
| DC2B | 3 1/8 | 2 5/8 | 2 1/4 | 2x1 3/4 | (4)8-32 |
| DC4A | 3 1/4 | 3 1/8 | 3 | 2 1/2x2 1/2 | (4)8-32 |
| DC5C | 4 7/8 | 4 1/8 | 3 1/2 | 3 1/4x2 5/8 | (4)10-32 |
| DC6A | 4 7/8 | 5 | 4 1/8 | 3 3/4x3 | (4)10-32 |
| CH50 | 1 11/16 | 2 15/16 | 1 3/4 | 2 3/8 | (2) 3/16 |
| CH60 | 2 | 3 1/4 | 2 | 2 15/16 | (2) 3/16 |
| CH62 | 2 | 3 1/8 | 2 1/8 | 2 15/16 | (2) 3/16 |
| CH70 | 2 5/16 | 3 11/16 | 2 1/8 | 3 1/4 | (2) 3/16 |
| CH80 | 2 3/4 | 4 | 2 5/8 | 3 5/16 | (2) 3/16 |
| FV10 | 3 1/16 | 2 1/8 | 2 9/16 | 2x2 | (4) 13/64x21/64 |
| FV12 | 3 1/4 | 2 1/2 | 2 11/16 | 2x2 1/8 | (4) 13/64x21/64 |
| FV22 | 3 7/16 | 2 15/16 | 2 7/8 | 2 1/4x2 1/4 | (4) 3/16x3/16 |
| FV30 | 4 1/4 | 3 1/8 | 3 | 2 1/2x2 1/4 | (4) 13/64x21/64 |
| HB718 | 6 1/4 | 6 1/2 | 8 1/8 | 4 3/4x4 1/2 | (4) 3/32x21/64 |
| HB728 | 6 1/4 | 6 1/4 | 9 1/8 | 4 3/4x5 3/4 | (4) 3/32x21/64 |
| HB828 | 6 5/8 | 7 3/16 | 9 7/8 | 5 3/4x5 3/4 | (4) 3/32x21/64 |
| HB920 | 6 5/8 | 7 7/8 | 10 1/4 | 6 1/2x7 5/8 | (4) 3/32x21/64 |
| VS300 | 3 1/32 | 2 5/8 | 3 | 2x2 | (4) 3/16x3/8 |
| VS401 | 3 3/8 | 2 15/16 | 3 1/4 | 2 1/4x1 15/16 | (4) 3/16x3/8 |
| VS501 | 3 29/32 | 3 1/4 | 3 3/8 | 2 1/2x2 1/16 | (4) 3/16x3/8 |
| VS503 | 3 29/32 | 3 1/4 | 3 5/8 | 2 1/2x2 5/16 | (4) 3/16x3/8 |
| VS601 | 4 21/32 | 3 7/8 | 3 5/8 | 3x2 7/16 | (4) 3/16x3/8 |
| VS604 | 4 21/32 | 3 7/8 | 4 | 3x2 7/8 | (4) 3/16x3/8 |
| VS611 | 4 21/32 | 3 7/8 | 4 7/8 | 3x3 11/16 | (4) 3/16x3/8 |
| VS612 | 4 21/32 | 3 7/8 | 5 | 3x3 13/16 | (4) 3/16x3/8 |
| VS700 | 5 7/16 | 3 7/8 | 5 | 3 1/2x3 1/4 | (4) 3/16x3/8 |
| VS706 | 5 7/16 | 4 9/16 | 5 1/2 | 3 1/2x3 3/4 | (4) 3/16x3/8 |
| VS714 | 5 7/16 | 4 9/16 | 6 1/2 | 3 1/2x4 3/4 | (4) 3/16x3/8 |
| VS718 | 5 7/16 | 4 9/16 | 7 | 3 1/2x5 1/4 | (4) 3/32x21/32 |
| VS728 | 5 7/16 | 4 9/16 | 8 1/4 | 3 1/2x6 1/2 | (4) 3/16x3/8 |

# REPLACEMENT GRADE COMPONENTS

## FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

| Catalog No. | Secondary Voltage | Secondary Current Amps. | Secondary Test Voltage RMS | Case Size |
|---|---|---|---|---|
| TF 1 | 2.5 (C.T.) | 7.5 | 1500 | CH60 |
| TF 2 | 2.5 (C.T.) | 10 | 1500 | CH70 |
| TF 3 | 2.5 (C.T.) | 5 | 7500 | DC2B |
| TF 4 | 2.5 (C.T.) | 10 | 7500 | DC4A |
| TF 5 | 5.0 (C.T.) | 4 | 1500 | CH60 |
| TF 6 | 5.0 (C.T.) | 6 | 1500 | CH70 |
| TF 7 | 5.0 (C.T.) | 10 | 1500 | CH80 |
| TF 8 | 5.0 (C.T.) | 10 | 1500 | FV10 |
| TF 9 | 5.0 (C.T.) | 20 | 2500 | FV30 |
| TF 10 | 5.0 (C.T.) | 20 | 10,000 | DC6A |
| TF 11 | 6.3 (C.T.) | 1.35 | 1500 | CH50 |
| TF 12 | 6.3 (C.T.) | 3 | 1500 | CH60 |
| TF 13 | 6.3 (C.T.) | 5 | 1500 | CH70 |
| TF 14 | 6.3 (C.T.) | 7 | 1500 | FV12 |
| TF 15 | 6.3 (C.T.) | 10 | 1500 | FV22 |
| TF 16 | 10 (C.T.) | 5 | 2500 | CH80 |
| TF 17 | 10 (C.T.) | 5 | 2500 | FV10 |
| TF 18 | 10 (C.T.) or 11 (C.T.) (tapped primary) | 12 or 11 | 7500 | DC-5C |
| TF 19 | 12.6 (C.T.) | 2 | 1500 | CH62 |

TF 3, 4 & 10 supplied with terminals. All others with leads.

## AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

| Catalog No. | Transformation | VA Rating | Weight (lbs.) | Case Size |
|---|---|---|---|---|
| SDT 1* | 230/115 V. 50/60 c.p.s. | 25 | 1 | CH-60 |
| SDT 2* | 230/115 V. 50/60 c.p.s. | 50 | 1 1/4 | CH-62 |
| SDT 3 | 230/115 V. 50/60 c.p.s. | 50 | 2 1/2 | VS-300 |
| SDT 4 | 230/115 V. 50/60 c.p.s. | 100 | 3 | VS-401 |
| SDT 5 | 230/115 V. 50/60 c.p.s. | 200 | 5 | VS-501 |
| SDT 6 | 230/115 V. 50/60 c.p.s. | 300 | 6 1/2 | VS-601 |
| SDT 7 | 230/115 V. 50/60 c.p.s. | 400 | 8 | VS-604 |
| SDT 8 | 230/115 V. 50/60 c.s.p. | 500 | 11 | VS-611 |
| SDT 9 | 230/115 V. 50/60 c.p.s. | 750 | 15 | VS-706 |
| SDT 10 | 230/115 V. 50/60 c.p.s. | 1000 | 23 | VS-718 |
| SDT 11 | 230/115 V. 50/60 c.p.s. | 1500 | 29 1/2 | VS-728 |
| SDT 12* | 230/115 V. 50/60 c.p.s. | 2000 | 37 | HB-718 |
| SDT 13* | 230/115 V. 50/60 c.p.s. | 2500 | 47 | HB-728 |
| SDT 14* | 230/115 V. 50/60 c.p.s. | 3000 | 58 | HB-828 |
| SDT 15* | 230/115 V. 50/60 c.p.s. | 5000 | 72 | HB-920 |

*Supplied with leads without line cord and receptacle.

## ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

| Catalog Number | Primary Voltage 50/60 c.p.s | Secondary Voltage | VA Rating | Case Size |
|---|---|---|---|---|
| IT 1 | 115 | 115 | 50 | VS-401 |
| IT 2 | 115 | 115 | 100 | VS-503 |
| IT 3 | 115 | 115 | 300 | VS-700 |
| IT 4 | 115 | 115 | 500 | VS-714 |
| IT 5* | 220/440 | 110/220 | 250 | VS-612 |
| IT 6* | 220/440 | 110/220 | 500 | VS-714 |

*Supplied with leads without line cords and receptacle.

## LINE BOOSTER TRANSFORMERS

Operates from 90 to 110 volts input to provide 10% step-up.

| Catalog Number | Primary Voltage | Secondary Voltage | VA Rating | Case Size |
|---|---|---|---|---|
| LB-1 | 90-110 | 1.1 x input | 350 | VS-300 |
| LB-2 | 90-110 | 1.1 x Input | 2000 | VS-611 |



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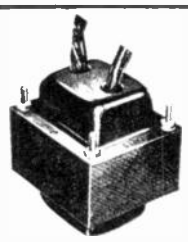
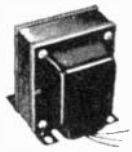
World Radio History

## CASE DIMENSIONS



| Case No. | Height | Width | Depth | Mtg Centers | Mtg Studs |
|---|---|---|---|---|---|
| HS300 | 2 5/16 | 3 | 2 1/4 | 2 1/2 x 2 | (4) 3/16 x 1/4 |
| HS303 | 2 7/8 | 3 | 2 1/2 | 2 1/2 x 2 | (4) " |
| HS306 | 3 1/4 | 3 | 2 1/4 | 2 1/4 x 2 | (4) " |
| HS307 | 3 3/16 | 3 | 2 1/2 | 2 1/2 x 2 | (4) " |
| HS503 | 3 1/2 | 3 3/4 | 3 1/16 | 3 1/16 x 2 1/2 | (4) " |
| HS505 | 3 5/8 | 3 3/4 | 3 1/16 | 3 1/8 x 2 1/4 | (4) " |
| HS603 | 3 3/4 | 4 1/2 | 3 3/4 | 3 3/4 x 3 | (4) " |
| HS605 | 4 | 4 1/2 | 3 3/4 | 3 3/4 x 3 | (4) " |
| HS606 | 4 3/16 | 4 1/2 | 3 3/4 | 3 3/4 x 3 | (4) " |
| HS610 | 4 5/16 | 4 1/2 | 3 3/4 | 3 3/4 x 3 | (4) " |
| HS612 | 4 7/16 | 4 1/2 | 3 3/4 | 3 3/4 x 3 | (4) " |
| HS708 | 5 7/16 | 5 1/4 | 4 3/16 | 4 3/16 x 3 1/2 | (4) 5/16 x 21/32 |
| HS709 | 6 | 5 1/4 | 4 3/16 | 4 3/16 x 3 1/2 | (4) " |



| Case No. | Height | Width | Depth | Mtg. Centers | Mtg Holes |
|---|---|---|---|---|---|
| VS300 | 3 9/32 | 2 5/16 | 2 3/4 | 2x1 11/16 | (4) 3/16 x 3/8 |
| VS303 | 3 9/32 | 2 5/16 | 3 | 2x1 15/16 | (4) " |
| VS304 | 3 9/32 | 4 1/4 | 3 1/4 | 2 1/2 x 3 | (4) " |
| VS306 | 3 9/32 | 2 7/8 | 3 3/4 | 2x2 1/16 | (4) " |
| VS307 | 3 9/32 | 2 7/8 | 3 1/2 | 2x2 7/16 | (4) " |
| VS503 | 3 29/32 | 3 1/4 | 3 7/16 | 2 1/2x2 5/16 | (4) " |
| VS505 | 3 29/32 | 3 1/4 | 3 7/16 | 2 1/2x2 5/8 | (4) " |
| VS506 | 3 7/32 | 3 1/4 | 4 1/4 | 2 1/4x3 | (4) 3/16 |
| VS508 | 3 5/16 | 2 7/16 | 3 1/16 | 2x2 1/16 | (4) " |
| VS603 | 4 21/32 | 3 7/16 | 3 7/16 | 3x2 11/16 | (4) " |
| VS605 | 4 21/32 | 3 7/16 | 4 1/4 | 3x2 15/16 | (4) " |
| VS606 | 4 21/32 | 3 7/16 | 4 1/4 | 3x3 1/16 | (4) " |
| VS610 | 4 21/32 | 3 7/16 | 4 1/4 | 3x3 9/16 | (4) " |
| VS612 | 4 21/32 | 3 7/16 | 5 | 3x3 15/16 | (4) " |
| VS708 | 5 7/16 | 4 9/16 | 5 3/4 | 3 1/2x4 | (4) 5/16 x 21/32 |
| VS709 | 5 7/16 | 4 9/16 | 5 7/16 | 3 1/2x4 1/16 | (4) " |

# REPLACEMENT GRADE COMPONENTS

These components are designed to meet the demand for low-cost replacement parts for commercial electronic equipment.

The best commercially available materials have been utilized in the design of these units, to insure reliability and excellent performance characteristics. Vacuum impregnation with a non-hygroscopic varnish to prevent penetration of humidity are employed to give these units long life and trouble-free performance.

230-115 V, 50-60 C. P. S. Stepdown Transformers rated from 25 V A up to 5,000 V A Rating and line booster transformers are included in this series.

All units, with only a few exceptions, are uncased or of shell-type construction.

Isolation transformers and Stepdown transformers are equipped with line cord and receptacle

## POWER TRANSFORMERS

**All primaries designed for 115-volt, 50-60 cycle operation.**

| Catalog No. | Py Va | Hi Volt | Choke Input D.C.V. | Choke Input D.C.Ma. | Cond. Input D.C.V. | Cond. Input D.C.Ma. | Bias Tap | Rectifier | Fil. No. 1 | Fil. No. 2 | Fil. No. 3 | Case No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP 1<br>RGP 2 | 45<br>" | 500V CT<br>" | | | 270<br>" | 40<br>" | | 6X4, 5Y3<br>" | 5/6.3V @ 2A<br>" | 6.3V @ 2A<br>" | | VS300<br>HS300 |
| RGP 3<br>RGP 4 | 57<br>" | 600V CT<br>" | | | 330<br>" | 50<br>" | | 6X4, 5Y3<br>" | 5/6.3V @ 2A<br>" | 6.3V @ 2.5A<br>" | | VS303<br>HS303 |
| RGP 5<br>RGP 6 | 64<br>" | 650V CT<br>" | | | 370<br>" | 50<br>" | | 6X4, 5Y3<br>" | 5/6.3V @ 2A<br>" | 6.3V @ 3A<br>" | | VS303<br>HS303 |
| RGP 7<br>RGP 8 | 73<br>" | 600V CT<br>" | | | 320<br>" | 70<br>" | | 6X4, 5Y3<br>" | 5/6.3V @ 2A<br>" | 6.3V @ 3A<br>" | | VS306<br>HS306 |
| RGP 9<br>RGP 10 | 110<br>" | 650V CT<br>" | 225<br>" | 140<br>" | 330<br>" | 100<br>" | | 5Y3, 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS503<br>HS503 |
| RGP 11<br>RGP 12 | 76<br>" | 700V CT<br>" | 260<br>" | 100<br>" | 385<br>" | 70<br>" | | 5Y3<br>" | 5V @ 2A<br>" | 6.3V @ 2.5A<br>" | | VS307<br>HS307 |
| RGP 13<br>RGP 14 | 108<br>" | 700V CT<br>" | 250<br>" | 125<br>" | 370<br>" | 90<br>" | | 5Y3, 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS503<br>HS503 |
| RGP 15<br>RGP 16 | 127<br>" | 700V CT<br>" | 260<br>" | 170<br>" | 350<br>" | 120<br>" | | 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS505<br>HS505 |
| RGP 17<br>RGP 18 | 146<br>" | 700V CT<br>" | 260<br>" | 210<br>" | 350<br>" | 150<br>" | | 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | 6.3V @ 1A<br>" | VS603<br>HS603 |
| RGP 19<br>RGP 20 | 207<br>" | 800V CT<br>" | 295<br>" | 280<br>" | 400<br>" | 200<br>" | | 5U4, 2-5Y3<br>" | 5V @ 4A<br>" | 6.3V @ 6A<br>" | | VS606<br>HS606 |
| RGP 21<br>RGP 22 | 225<br>" | 800V CT<br>" | 295<br>" | 280<br>" | 400<br>" | 200<br>" | 80<br>" | 5U4, 2-5Y3<br>" | 5V @ 4A<br>" | 6.3V @ 6A<br>" | 5/6.3V @ 2A<br>" | VS606<br>HS606 |
| RGP 23<br>RGP 24 | 268<br>" | 840V CT<br>" | 330<br>" | 350<br>" | 450<br>" | 250<br>" | 80<br>" | 2-5U4<br>" | 5V @ 6A<br>" | 6.3V @ 6A<br>" | 5/6.3V @ 2A<br>" | VS612<br>HS612 |
| RGP 25<br>RGP 26 | 320<br>" | 900V CT<br>" | 340<br>" | 420<br>" | 490<br>" | 300<br>" | 80<br>" | 2-5U4<br>" | 5V @ 6A<br>" | 6.3V @ 6A<br>" | 5, 6.3V @ 2A<br>" | VS708<br>HS708 |
| RGP 27<br>RGP 28 | 127<br>" | 900V CT<br>" | 360<br>" | 150<br>" | | | | 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS603<br>HS603 |
| RGP 29<br>RGP 30 | 150<br>" | 900V CT<br>" | 350<br>" | 200<br>" | | | | 5U4<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS605<br>HS605 |
| RGP 31<br>RGP 32 | 203<br>" | 1100V CT<br>" | 400<br>" | 250<br>" | | | | 5R4GY<br>" | 5V @ 3A<br>" | 6.3V @ 5A<br>" | | VS610<br>HS610 |
| RGP 33<br>RGP 34 | 248<br>" | 1100V CT<br>" | 420<br>" | 300<br>" | | | | 2-5R4GY<br>" | 5V @ 4A<br>" | 6.3V @ 7A<br>" | | VS612<br>HS612 |
| RGP 35<br>RGP 36 | 310<br>" | 1280V CT<br>" | 480<br>" | 350<br>" | | | | 2-5R4GY<br>" | 5V @ 4A<br>" | 6.3V @ 7A<br>" | | VS709<br>HS709 |

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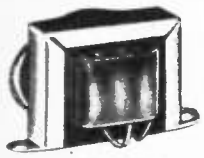
World Radio History

# REPLACEMENT GRADE COMPONENTS

CASE DIMENSIONS



**CH-40 CASE**
Height: 1 7/16"
Width: 2 3/4"
Depth: 1 5/8"
Mtg. Cen.: 9"

**CH-50 CASE**
Height: 1 11/16"
Width: 2 11/16"
Depth: 1 3/4"
Mtg. Cen.: 2 3/4"

**CH-60 CASE**
Height: 2"
Width: 3 1/4"
Depth: 2 1/4"
Mtg. Cen.: 2 13/16"

**CH-80 CASE**
Height: 2 3/4"
Width: 4"
Depth: 2 5/8"
Mtg. Cen.: 3 1/2"

**VS-100 CASE**
Height: 2 11/32"
Width: 1 7/8"
Depth: 2 1/4"
Mtg. Cen.: 1 1/2"x1 7/16"

**VS-300 CASE**
Height: 3 1/32"
Width: 2 5/8"
Depth: 2 3/4"
Mtg. Cen.: 2"x1 11/16"

**VS-303 CASE**
Height: 3 5/16"
Width: 2 5/8"
Depth: 3"
Mtg. Cen.: 2x1 5/8
Mtg. Hole (4) 5/16x3/8

**VS-306 CASE**
Height: 3 5/16"
Width: 2 5/8"
Depth: 3 3/4"
Mtg. Cen.: 2x2 5/8
Mtg. Hole (4) 5/16x3/8

**VS-308 CASE**
Height: 3 21/64"
Width: 2 27/32"
Depth: 3 3/8"
Mtg. Cen.: 2"x2 9/16"

## AUDIO TRANSFORMERS

| Catalog No. | Application | Impedance Level Ohms Primary | Impedance Level Ohms Secondary | Max. Power Level DBM or Power in Watts | Ratio | Max. Pri. D.C. per Side Ma. | D.C. Unbalance Ma. | Freq. Response C.P.S. | Case No. |
|---|---|---|---|---|---|---|---|---|---|
| RGA 1 | Input: multiple line or double button mike to single or push-pull grids. | 500 CT<br>200 CT | 100,000 CT | +20 | 1:14.1 | 50 | 5 | ±2DB<br>200-5000 | CH-40 |
| RGA 2 | Input; single button mike to single or push-pull grids. | 100 | 100,000 CT | +20 | 1:31.6 | 50 | | ±2DB<br>200-5000 | CH-40 |
| RGA 3 | Input; voice coil to grid. Intercom | 3.2 | 100,000 | +20 | 1:179 | | | ±2DB<br>200-5000 | CH-40 |
| RGA 4 | Mixing and matching line to line. | 600 CT<br>500 CT<br>200 CT<br>150/125/50 | 600 CT<br>500 CT<br>200 CT<br>150/125/50 | +20 | 1:1 | | | ±2DB<br>100-5000 | CH-40 |
| RGA 5 | Interstage; single triode plate to single or P.P. grids. | 10,000 | 90,000 CT | +30 | 1:3 | 10 | | ±2DB<br>200-5000 | CH-40 |
| RGA 6 | Output; single plate to line or mixer. | 10,000 | 600 CT<br>500 CT<br>200 CT<br>150/125/50 | +30 | 4.8:1 | 10 | | ±2DB<br>200-5000 | CH-40 |
| RGA 7 | Output; Push-pull plate to line or mixer. | 20,000 CT | 600 CT<br>500 CT<br>200 CT<br>150/125/50 | +30 | 6.32:1 | 10 | 1 | ±2DB<br>200-5000 | CH-40 |
| RGA 8 | Output; plate to V.C. 6AL6, 6L6, 6V6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117N7. | 2500 | 3.2 | 5W | | 70 | | ±3DB<br>200-10000 | CH-40 |
| RGA 9 | Output; plate to V.C. 6V6, 6AQ5, 6AS5, 7C5. | 5000 | 3.2 | 5W | | 50 | | ±3DB<br>200-10000 | CH-40 |
| RGA 10 | Output; plate to V.C. 6AR5, 6K6, 6V6, 7B5, 14A5, 3S4, 3U4, 3Q4, 3Q5, 3C5, 3A4. | 10,000 or 7500 | 3.2 | 5W | | 30 | | ±3DB<br>200-10000 | CH-40 |
| RGA 11 | Output; P.P. plate to V.C. P.P. 6V6, PP6K6. | 12,000 CT or 8000 CT | 3.2 | 15W | | 50 | 5 | ±2DB<br>200-8000 | CH-60 |
| RGA 12 | Output: TP to V.C. 6V6, 6AQ5, 7C5, C1AB. | 10,000 CT | 3.2 | 10W | 5.6:1 | 40 | 4 | ±3DB<br>200-10000 | CH-60 |

## REPLACEMENT GRADE CHOKES

| Catalog No. | Inductance in Henries | Rated Current D.C. Ma. | D.C. Resistance | Dielectric Test Voltage | Case Number |
|---|---|---|---|---|---|
| RGC 17 | 40 | 15 | 2000 | 1000 | CH-40 |
| RGC 1 | 4 | 40 | 200 | 1000 | CH-40 |
| RGC 2 | 9 | 40 | 400 | 1000 | CH-40 |
| RGC 3 | 6 | 50 | 400 | 1000 | CH-40 |
| RGC 18 | 20 | 50 | 425 | 1500 | CH-60 |
| RGC 4 | 10 | 55 | 400 | 1500 | CH-50 |
| RGC 19 | 3 | 75 | 200 | 1500 | CH-40 |
| RGC 5 | 10 | 75 | 250 | 1500 | CH-60 |
| RGC 6 | 10 | 75 | 250 | 1500 | VS-100 |
| RGC 7 | 6 | 100 | 150 | 1500 | CH-60 |
| RGC 8 | 6 | 100 | 150 | 1500 | VS-100 |
| RGC 9 | 3.5 | 150 | 100 | 1500 | CH-60 |
| RGC 10 | 3.5 | 150 | 100 | 1500 | VS-100 |
| RGC 20 | 12 | 160 | 180 | 2500 | VS-306 |
| RGC 11 | 2 | 200 | 60 | 1500 | CH-60 |
| RGC 12 | 2 | 200 | 60 | 1500 | VS-100 |
| RGC 13 | 3.7 | 200 | 65 | 1500 | CH-80 |
| RGC 21 | 7 | 200 | 100 | 2500 | VS-303 |
| RGC 14 | 3.7 | 200 | 65 | 1500 | VS-300 |
| RGC 15 | 2.8 | 300 | 65 | 1500 | CH-80 |
| RGC 16 | 2.8 | 300 | 65 | 1500 | VS-300 |
| RGC 22 | 5 | 300 | 65 | 2500 | VS-308 |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| Catalog No. | List Price |
|---|---|
| IT-1 | 11.00 |
| IT-2 | 16.00 |
| IT-3 | 40.00 |
| IT-4 | 48.50 |
| IT-5 | 40.00 |
| IT-6 | 53.00 |

| | |
|---|---|
| KA 10 | 27.50 |
| KA 11 | 15.10 |
| KC 10 | 7.15 |
| KC 11 | 2.40 |
| Printed Circuit Board for Hi Fi Kit | $4.95 Net |

| | |
|---|---|
| LB-1 | 11.00 |
| LB-2 | 32.00 |

| | |
|---|---|
| MAC-6-2-1 | 58.00 |
| MAC-6-3-1 | 73.50 |
| MAC-12-2-1 | 58.00 |
| MAC-12-2-2 | 58.00 |
| MAC-12-4-1 | 84.00 |
| MAC-12-4-2 | 73.00 |
| MAC-12-4-3 | 73.00 |
| MAC-12-4-4 | 73.00 |
| MAC-26-2-1 | 71.00 |
| MAC-26-2-2 | 59.00 |
| MAC-26-2-3 | 59.00 |
| MAC-26-4-1 | 103.00 |
| MAC-26-4-2 | 103.00 |
| MAC-26-4-3 | 103.00 |

| | |
|---|---|
| MAF-1 | 209.00 |
| MAF-4 | 78.00 |
| MAF-5 | 80.00 |
| MAF-6 | 180.00 |
| MAF-7 | 180.00 |
| MAO-1 | 70.00 |
| MAO-2 | 102.00 |
| MAO-4 | 155.00 |
| MAO-5 | 175.00 |
| MAP-1 | 90.00 |
| MAP-2 | 150.00 |
| MAP-3 | 225.00 |
| MAP-3A | 175.00 |
| MAP-4 | 280.00 |
| MAP-7 | 105.00 |
| MAP-8 | 133.00 |
| MAP-11 | 95.00 |
| MAS-1 | 55.00 |
| MAS-2 | 37.00 |
| MAS-5 | 33.00 |
| MAS-6 | 50.00 |
| MAS-7 | 60.00 |
| MAS-8 | 24.00 |

| | |
|---|---|
| MAT-1 | 167.00 |

| Catalog No. | Net Price |
|---|---|
| VHI-1 | 9.50 |
| VHI-2 | 9.50 |
| VHI-3 | 9.50 |
| VHI-4 | 9.50 |
| VHI-5 | 9.50 |
| VHI-6 | 9.50 |
| VHI-7 | 9.50 |
| VHI-8 | 9.50 |
| VHI-9 | 9.50 |
| VHI-10 | 9.50 |

| | |
|---|---|
| MGA-1 | 12.50 |
| MGA-2 | 12.50 |
| MGA-3 | 16.50 |
| MGA-4 | 15.00 |
| MGA-5 | 12.50 |
| MGA-6 | 12.50 |
| MGA-7 | 12.50 |
| MGA-8 | 12.50 |
| MGA-9 | 12.50 |

| | |
|---|---|
| MGC-1 | 7.50 |
| MGC-2 | 6.15 |
| MGC-3 | 6.50 |
| MGC-4 | 7.25 |
| MGC-5 | 7.50 |
| MGC-6 | 6.15 |
| MGC-7 | 6.50 |
| MGC-8 | 7.00 |
| MGC-9 | 6.50 |

| Catalog No. | Net Price |
|---|---|
| MGC-10 | 7.00 |
| MGC-11 | 8.75 |
| MGC-12 | 6.50 |
| MGC-13 | 7.00 |
| MGC-14 | 8.75 |
| MGC-15 | 9.50 |
| MGC-16 | 7.00 |
| MGC-17 | 8.75 |
| MGC-18 | 10.00 |
| MGC-19 | 12.50 |
| MGC-20 | 8.75 |
| MGC-21 | * |
| MGC-22 | 9.50 |
| MGC-23 | * |
| MGC-24 | 18.00 |
| MGC-25 | * |
| MGC-26 | 16.00 |
| MGC-27 | * |
| MGC-28 | 16.00 |
| MGC-29 | * |
| MGC-30 | * |
| MGC-31 | * |

*Not stocked, available on short delivery. Prices on request.

| Catalog No. | List Price |
|---|---|
| MGF-1 | 14.75 |
| MGF-2 | 23.50 |
| MGF-3 | 16.25 |
| MGF-4 | 25.50 |
| MGF-5 | 15.50 |
| MGF-6 | 21.50 |
| MGF-7 | 29.50 |
| MGF-8 | 36.50 |
| MGF-9 | 27.50 |
| MGF-10 | 35.00 |

| | |
|---|---|
| MGP-1 | 27.00 |
| MGP-2 | 28.00 |
| MGP-3 | 32.50 |
| MGP-4 | 38.00 |
| MGP-5 | 49.00 |
| MGP-6 | 32.50 |
| MGP-7 | 39.00 |
| MGP-2 | 54.50 |

| Catalog No. | List Price |
|---|---|
| MPT-1 | 17.50 |
| MPT-2 | 15.00 |
| MPT-3 | 22.50 |
| MPT-4 | 20.00 |
| MPT-5 | 17.50 |
| MPT-6 | 15.00 |
| MPT-7 | 17.50 |
| MPT-8 | 15.00 |
| MPT-9 | 22.50 |
| MPT-10 | 20.00 |
| MPT-11 | 17.50 |
| MPT-12 | 27.50 |

| | |
|---|---|
| EPT-1 | 7.50 |
| EPT-2 | 7.50 |
| EPT-3 | 7.50 |
| EPT-4 | 7.50 |
| EPT-5 | 7.50 |
| EPT-6 | 7.50 |
| EPT-7 | 7.50 |
| EPT-8 | 9.50 |
| EPT-9 | 9.50 |
| EPT-11 | 7.50 |
| EPT-12 | 7.50 |
| EPT-13 | 9.50 |
| EPT-14 | 9.50 |
| EPT-15 | 12.50 |
| EPT-16 | 12.50 |
| EPT-17 | 11.50 |
| EPT-18 | 11.50 |
| EPT-19 | 11.50 |

(Note—Molded Units $1.00 additional)

| Catalog No. | List Price |
|---|---|
| PGA-1 | 22.50 |
| PGA-2 | 25.00 |
| PGA-3 | 25.00 |
| PGA-4 | 21.25 |
| PGA-5 | 21.25 |
| PGA-6 | 21.25 |
| PGA-7 | 18.75 |
| PGA-8 | 18.75 |

| Catalog No. | List Price |
|---|---|
| PGA-9 | 18.75 |
| PGA-10 | 20.00 |
| PGA-11 | 21.25 |
| PGA-12 | 21.25 |
| PGA-13 | 25.00 |
| PGA-14 | 25.00 |
| PGA-15 | 31.25 |
| PGA-16 | 31.25 |
| PGA-17 | 31.25 |
| PGA-18 | 28.75 |
| PGA-19 | 31.25 |
| PGA-20 | 31.25 |
| PGA-21 | 31.25 |
| PGA-22 | 34.25 |
| PGA-23 | 34.25 |
| PGA-24 | 31.25 |
| PGA-25 | 55.00 |
| PGA-26 | 31.25 |
| PGA-27 | 31.25 |
| PGA-28 | 31.25 |
| PGA-29 | 31.25 |
| PGA-30 | 55.00 |

| | |
|---|---|
| PGC-1 | 7.00 |
| PGC-2 | 7.50 |
| PGC-3 | 7.50 |
| PGC-4 | 8.25 |
| PGC-5 | 8.25 |
| PGC-6 | 8.25 |
| PGC-7 | 9.00 |
| PGC-8 | 10.00 |
| PGC-9 | 10.00 |
| PGC-10 | 10.50 |
| PGC-11 | 11.50 |
| PGC-12 | 14.50 |
| PGC-13 | 17.50 |
| PGC-14 | 11.00 |
| PGC-15 | 12.00 |
| PGC-16 | 11.50 |
| PGC-17 | 10.00 |
| PGC-18 | 11.50 |
| PGC-19 | 14.50 |
| PGC-20 | 17.50 |

| Catalog No. | Net Price |
|---|---|
| PGP-1 | 14.00 |
| PGP-2 | 20.50 |
| PGP-3 | 10.00 |
| PGP-4 | 10.50 |
| PGP-5 | 11.00 |
| PGP-6 | 12.00 |
| PGP-7 | 14.00 |
| PGP-8 | 13.00 |
| PGP-9 | 14.00 |
| PGP-10 | 15.50 |
| PGP-11 | 21.00 |
| PGP-12 | 25.00 |
| PGP-13 | 27.50 |
| PGP-14 | 33.00 |
| PGP-15 | 38.50 |
| PGP-16 | 17.50 |
| PGP-17 | 20.50 |
| PGP-18 | 27.50 |
| PGP-19 | 33.00 |
| PGP-20 | 41.00 |

| | |
|---|---|
| PMA-1 | 16.50 |
| PMA-2 | 13.50 |
| PMA-3 | 19.00 |
| PMA-4 | 13.50 |
| PMA-5 | 13.50 |
| PMA-6 | 16.50 |
| PMA-7 | 16.50 |
| PMA-8 | 16.50 |
| PMA-9 | 16.50 |
| PMA-10 | 15.50 |
| PMA-11 | 12.00 |

| Catalog No. | List Price |
|---|---|
| PQC-1 | 10.00 |
| PQC-2 | 10.00 |
| PQC-2 | 10.00 |
| PQC-3 | 10.00 |
| PQC-4 | 10.00 |
| PQC-5 | 10.00 |
| PQC-6 | 10.00 |
| PQC-7 | 10.00 |
| PQC-8 | 10.00 |
| PQC-9 | 10.00 |

| | |
|---|---|
| QGA-1 | 31.00 |
| QGA-2 | 38.50 |
| QGA-3 | 27.50 |

| Catalog No. | List Price |
|---|---|
| QGA-4 | 38.50 |
| QGA-5 | 35.00 |
| QGA-6 | 40.50 |
| QGA-7 | 27.50 |
| QGA-8 | 38.50 |
| QGA-9 | 38.50 |
| QGA-10 | 44.00 |
| QGA-11 | 33.00 |
| QGA-12 | 33.00 |
| QGA-13 | 27.50 |
| QGA-14 | 28.50 |
| QGA-15 | 35.00 |
| QGA-16 | 28.50 |
| QGA-17 | 28.50 |
| QGA-18 | 30.50 |
| QGA-19 | 28.50 |
| QGA-20 | 36.50 |
| QGA-21 | 33.00 |
| QGA-22 | 55.00 |
| QGA-23 | 38.50 |
| QGA-24 | 38.50 |
| QGA-25 | 38.50 |
| QGA-26 | 38.50 |
| QGA-27 | 38.50 |
| QGA-28 | 38.50 |
| QGA-29 | 38.50 |
| QGA-30 | 38.50 |
| QGA-31 | 49.50 |
| QGA-32 | 49.50 |
| QGA-33 | 49.50 |
| QGA-34 | 49.50 |
| QGA-35 | 54.50 |
| QGA-36 | 54.50 |
| QGA-37 | 33.00 |
| QGA-38 | 54.50 |
| QGA-39 | 38.50 |
| QGA-40 | 38.50 |
| QGA-41 | 54.50 |
| QGA-42 | 54.50 |

| Catalog No. | Net Price |
|---|---|
| QGC-1 | 22.50 |
| QGC-2 | 22.50 |
| QGC-3 | 22.50 |
| QGC-4 | 22.50 |
| QGC-5 | 22.50 |
| QGC-6 | 22.50 |
| QGC-7 | 22.50 |
| QGC-8 | 15.00 |
| QGC-9 | 15.00 |
| QGC-10 | 15.00 |
| QGC-11 | 15.00 |
| QGC-12 | 15.00 |
| QGC-13 | 15.00 |
| QGC-14 | 13.50 |
| QGC-15 | 13.50 |
| QGC-16 | 13.50 |
| QGC-17 | 13.50 |
| QGC-18 | 13.50 |
| QGC-19 | 11.50 |
| QGC-20 | 11.50 |
| QGC-21 | 11.50 |
| QGC-22 | 11.50 |
| QGC-23 | 11.50 |
| QGC-24 | 11.50 |

| Catalog No. | List Price |
|---|---|
| RGA-1 | 5.50 |
| RGA-2 | 4.40 |
| RGA-3 | 4.40 |
| RGA-4 | 7.75 |
| RGA-5 | 4.40 |
| RGA-6 | 5.25 |
| RGA-7 | 5.50 |
| RGA-8 | 2.50 |
| RGA-9 | 2.50 |
| RGA-10 | 3.00 |
| RGA-11 | 5.50 |
| RGA-12 | 4.40 |

| Catalog No. | List Price |
|---|---|
| RGC-1 | 2.20 |
| RGC-2 | 2.20 |
| RGC-3 | 2.20 |
| RGC-4 | 2.50 |
| RGC-5 | 3.00 |
| RGC-6 | 4.50 |
| RGC-7 | 3.00 |
| RGC-8 | 4.50 |
| RGC-9 | 3.00 |
| RGC-10 | 4.50 |
| RGC-11 | 3.00 |
| RGC-12 | 4.50 |
| RGC-13 | 4.75 |

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| Catalog No. | List Price |
|---|---|
| RGC-14 | 6.00 |
| RGC-15 | 4.75 |
| RGC-16 | 6.00 |
| RGC-17 | 2.75 |
| RGC-18 | 3.00 |
| RGC-19 | 2.20 |
| RGC-20 | 7.75 |
| RGC-21 | 7.75 |
| RGC-22 | 11.00 |

| Catalog No. | List Price |
|---|---|
| RGP-1 | 8.75 |
| RGP-2 | 8.75 |
| RGP-3 | 8.75 |
| RGP-4 | 8.75 |
| RGP-5 | 9.25 |
| RGP-6 | 9.25 |
| RGP-7 | 10.25 |
| RGP-8 | 10.25 |
| RGP-9 | 11.50 |
| RGP-10 | 11.50 |
| RGP-11 | 10.25 |
| RGP-12 | 10.25 |
| RGP-13 | 11.50 |
| RGP-14 | 11.50 |
| RGP-15 | 12.75 |
| RGP-16 | 12.75 |
| RGP-17 | 15.50 |
| RGP-18 | 15.50 |
| RGP-19 | 15.75 |
| RGP-20 | 15.75 |
| RGP-21 | 21.25 |
| RGP-22 | 21.25 |
| RGP-23 | 28.75 |
| RGP-24 | 28.75 |
| RGP-25 | 34.50 |
| RGP-26 | 34.50 |
| RGP-27 | 12.75 |
| RGP-28 | 12.75 |
| RGP-29 | 15.50 |
| RGP-30 | 15.50 |
| RGP-31 | 23.00 |
| RGP-32 | 23.00 |
| RGP-33 | 28.75 |
| RGP-34 | 28.75 |
| RGP-35 | 37.50 |
| RGP-36 | 37.50 |

| Catalog No. | List Price |
|---|---|
| SDT-1 | 3.25 |
| SDT-2 | 3.75 |
| SDT-3 | 7.50 |
| SDT-4 | 10.20 |
| SDT-5 | 11.55 |
| SDT-6 | 14.70 |
| SDT-7 | 18.40 |
| SDT-8 | 20.05 |
| SDT-9 | 26.75 |
| SDT-10 | 37.60 |
| SDT-11 | 55.00 |
| SDT-12 | 65.00 |
| SDT-13 | 89.35 |
| SDT-14 | 140.00 |
| SDT-15 | 187.50 |

| Catalog No. | List Price |
|---|---|
| TF-1 | 4.40 |
| TF-2 | 5.00 |
| TF-3 | 15.00 |
| TF-4 | 18.50 |
| TF-5 | 4.40 |
| TF-6 | 6.00 |
| TF-7 | 6.60 |
| TF-8 | 7.00 |
| TF-9 | 11.50 |
| TF-10 | 24.00 |
| TF-11 | 3.00 |
| TF-12 | 4.40 |
| TF-13 | 6.00 |
| TF-14 | 7.25 |
| TF-15 | 7.75 |
| TF-16 | 6.60 |
| TF-17 | 7.00 |
| TF-18 | 24.00 |
| TF-19 | 5.00 |

| Catalog No. | List Price |
|---|---|
| TMA-1 | 12.50 |
| TMA-2 | 16.00 |
| TMA-3 | 13.00 |
| TMA-4 | 16.50 |
| TMA-5 | 16.50 |
| TMA-6 | 16.50 |
| TMA-7 | 13.50 |
| TMA-8 | 16.00 |
| TMA-9 | 13.00 |
| TMA-10 | 12.50 |
| TMA-11 | 13.00 |
| TMA-12 | 16.50 |
| TMA-13 | 12.50 |
| TMA-14 | 16.50 |
| TMO-15 | 6.50 |
| TMO-16 | 6.50 |
| TMO-17 | 5.50 |
| TMO-18 | 6.50 |
| TMA-19 | 12.50 |

## Filters and Discriminators

| Catalog No. | Net Price |
|---|---|
| IBP* | 25.00, 35.00 |
| IHP* | 25.00, 35.00 |
| ILP* | 25.00, 35.00 |
| LBP* | 25.00, 35.00 |
| LHP* | 25.00, 35.00 |
| LLP* | 25.00, 35.00 |

*Stock Frequencies are $25.00 Net.
*Special Frequencies are $35.00 Net.

| Catalog No. | Net Price |
|---|---|
| DST-10 | 50.00 |
| DST-11 | 50.00 |
| DST-12 | 50.00 |
| DST-13 | 50.00 |
| DST-14 | 50.00 |
| DST-15 | 50.00 |
| DST-16 | 60.00 |
| DST-17 | 50.00 |
| DST-18 | 50.00 |
| DST-19 | 50.00 |
| DST-20 | 50.00 |
| DST-21 | 50.00 |
| DST-22 | 50.00 |
| DST-23 | 50.00 |
| DST-24 | 60.00 |
| DST-25 | 60.00 |
| DST-26 | 60.00 |
| DST-27 | 50.00 |
| DST-28 | 60.00 |
| DST-29 | 60.00 |
| DST-30 | 60.00 |
| DST-31 | 60.00 |
| DST-32 | 60.00 |
| DST-33 | 60.00 |
| FBP-10 | 86.00 |
| FBP-11 | 86.00 |
| FBP-12 | 86.00 |
| FBP-13 | 86.00 |
| FBP-14 | 70.80 |
| FBP-15 | 70.80 |
| FBP-16 | 70.80 |
| FBP-17 | 70.80 |
| FBP-18 | 70.80 |
| FBP-19 | 70.80 |
| FBP-20 | 70.80 |
| FBP-21 | 70.80 |
| FBP-22 | 70.80 |
| FBP-23 | 70.80 |
| FBP-24 | 86.00 |
| FBP-25 | 70.80 |
| FBP-26 | 86.00 |
| FBP-27 | 86.00 |
| FBP-28 | 86.00 |
| FBP-29 | 86.00 |
| FBP-30 | 86.00 |
| FBP-31 | 86.00 |
| FBP-32 | 86.00 |
| FBP-33 | 86.00 |
| FBP-34 | 73.00 |
| FBP-35 | 73.00 |
| FBP-36 | 73.00 |
| FBP-37 | 73.00 |
| FBP-38 | 73.00 |
| FBP-39 | 80.00 |
| FBP-40 | 88.00 |
| FBP-41 | 88.00 |
| FBP-42 | 88.00 |
| FBP-43 | 88.00 |
| FBP-44 | 88.00 |
| FBP-45 | 88.00 |
| FBP-46 | 88.00 |
| FBP-47 | 88.00 |

| Catalog No. | Net Price |
|---|---|
| FBP-48 | 88.00 |
| FBP-49 | 88.00 |
| FBP-50 | 88.00 |
| FBP-51 | 88.00 |
| FBP-52 | 88.00 |
| FBP-53 | 88.00 |
| FBP-54 | 88.00 |
| FBP-55 | 88.00 |
| FBP-56 | 88.00 |
| FBP-57 | 88.00 |
| LPI-10 | 43.25 |
| LPI-11 | 43.25 |
| LPI-12 | 43.25 |
| LPI-13 | 43.25 |
| LPI-14 | 43.25 |
| LPI-15 | 43.25 |
| LPI-16 | 43.25 |
| LPI-17 | 43.25 |
| LPI-18 | 43.25 |
| LPI-19 | 43.25 |
| LPI-20 | 43.25 |
| LPI-21 | 43.25 |
| LPI-22 | 43.25 |
| LPI-23 | 43.25 |
| LPI-24 | 43.25 |
| LPI-25 | 43.25 |
| LPI-26 | 43.25 |
| LPI-27 | 43.25 |
| LPI-28 | 43.25 |
| LPO-10 | 93.10 |
| LPO-11 | 85.50 |
| LPO-12 | 81.30 |
| LPO-13 | 85.00 |
| LPO-14 | 72.00 |
| LPO-15 | 68.85 |
| LPO-16 | 64.50 |
| LPO-17 | 62.50 |
| LPO-18 | 61.60 |
| LPO-19 | 62.80 |
| LPO-20 | 61.15 |
| LPO-21 | 55.60 |
| LPO-22 | 55.60 |
| LPO-23 | 48.20 |
| LPO-24 | 47.10 |
| LPO-25 | 47.10 |
| LPO-26 | 47.10 |
| LPO-27 | 48.20 |
| LPO-28 | 47.10 |
| LPO-29 | 47.10 |
| LPO-30 | 47.10 |
| LPO-31 | 48.20 |
| LPO-32 | 47.10 |
| LPO-33 | 47.10 |
| LPO-34 | 47.10 |
| LPO-35 | 47.10 |

## Toroidal Inductors

Prices shown are Net for Hermatically Sealed. Deduct $1.50 from Net for Uncased units. Add $1.00 to Net for Encapsulated units.

## Type TI - 1

| Catalog No. | Net Price |
|---|---|
| F-800 | 6.65 |
| F-801 | 6.65 |
| F-802 | 6.65 |
| F-803 | 7.10 |
| F-804 | 6.60 |
| F-805 | 6.60 |
| F-806 | 8.50 |
| F-807 | 8.50 |
| F-808 | 8.50 |
| F-809 | 9.50 |
| F-810 | 9.50 |
| F-811 | 10.50 |
| F-812 | 10.50 |
| F-813 | 10.50 |
| F-814 | 10.50 |
| F-815 | 10.50 |
| F-816 | 11.00 |
| F-817 | 11.50 |
| F-818 | 12.00 |
| F-819 | 12.35 |
| F-820 | 12.65 |
| F-821 | 12.75 |

| Catalog No. | Net Price |
|---|---|
| F-822 | 13.00 |
| F-823 | 13.30 |
| F-824 | 13.75 |
| F-825 | 14.25 |
| F-826 | 14.50 |
| F-827 | 14.80 |
| F-828 | 15.20 |
| F-829 | 16.15 |
| F-830 | 17.10 |

## Type TI - 4 and 4s

| Catalog No. | Net Price |
|---|---|
| F-850 | 7.90 |
| F-851 | 7.90 |
| F-852 | 7.90 |
| F-853 | 7.90 |
| F-854 | 7.90 |
| F-855 | 7.90 |
| F-856 | 8.25 |
| F-857 | 8.60 |
| F-858 | 8.80 |
| F-859 | 8.95 |
| F-860 | 9.05 |
| F-861 | 9.20 |
| F-862 | 9.35 |
| F-863 | 9.50 |
| F-864 | 9.80 |
| F-865 | 10.35 |
| F-866 | 10.65 |
| F-867 | 10.65 |
| F-868 | 10.65 |
| F-869 | 11.15 |
| F-870 | 11.15 |
| F-871 | 11.15 |
| F-872 | 11.50 |
| F-873 | 11.50 |
| F-874 | 12.00 |
| F-875 | 12.45 |
| F-876 | 12.90 |
| F-877 | 13.40 |
| F-878 | 13.90 |

## Type TI - 1A and AS

| Catalog No. | Net Price |
|---|---|
| F-1500 | 7.50 |
| F-1501 | 7.50 |
| F-1502 | 7.50 |
| F-1503 | 7.50 |
| F-1504 | 7.50 |
| F-1505 | 7.50 |
| F-1506 | 7.50 |
| F-1507 | 7.75 |
| F-1508 | 7.75 |
| F-1509 | 7.75 |
| F-1510 | 7.75 |
| F-1511 | 7.75 |
| F-1512 | 7.75 |
| F-1513 | 7.90 |
| F-1514 | 7.90 |
| F-1515 | 7.90 |
| F-1516 | 8.10 |
| F-1517 | 8.10 |
| F-1518 | 8.10 |
| F-1519 | 8.35 |
| F-1520 | 8.35 |
| F-1521 | 8.55 |
| F-1522 | 8.55 |
| F-1523 | 8.75 |
| F-1524 | 8.75 |
| F-1525 | 9.05 |
| F-1526 | 9.05 |
| F-1527 | 9.25 |
| F-1528 | 9.75 |
| F-1529 | 10.10 |
| F-1530 | 10.10 |
| F-1531 | 10.35 |
| F-1532 | 10.75 |
| F-1533 | 11.25 |
| F-1534 | 11.75 |
| F-1535 | 11.75 |
| F-1536 | 12.75 |
| F-1537 | 13.10 |
| F-1538 | 13.60 |

## Type TI - 9s

| Catalog No. | Net Price |
|---|---|
| F-1554S | 16.60 |
| F-1555S | 16.80 |
| F-1556S | 17.00 |
| F-1557S | 17.30 |
| F-1558S | 17.40 |
| F-1559S | 17.50 |
| F-1560S | 17.60 |
| F-1561S | 17.80 |
| F-1562S | 18.05 |
| F-1563S | 18.30 |
| F-1564S | 18.50 |
| F-1565S | 18.50 |
| F-1566S | 19.00 |
| F-1567S | 19.50 |
| F-1568S | 19.95 |
| F-1569S | 20.40 |
| F-1570S | 21.40 |

## Type TI - 10s

| Catalog No. | Net Price |
|---|---|
| F-1579S | 14.15 |
| F-1580S | 14.15 |
| F-1581S | 14.35 |
| F-1582S | 14.45 |
| F-1583S | 14.50 |
| F-1584S | 14.60 |
| F-1585S | 14.70 |
| F-1586S | 14.80 |
| F-1587S | 14.90 |
| F-1588S | 15.00 |
| F-1589S | 15.10 |
| F-1590S | 15.30 |
| F-1591S | 15.40 |
| F-1592S | 15.60 |

## Type TI - 13

| Catalog No. | Net Price |
|---|---|
| F-1629 | 16.60 |
| F-1630 | 16.80 |
| F-1631 | 17.00 |
| F-1632 | 17.30 |
| F-1633 | 17.40 |
| F-1634 | 17.50 |
| F-1635 | 17.60 |
| F-1636 | 17.80 |
| F-1637 | 18.05 |
| F-1638 | 18.30 |
| F-1639 | 18.50 |
| F-1640 | 18.50 |
| F-1641 | 19.00 |
| F-1642 | 19.50 |
| F-1643 | 19.95 |
| F-1644 | 20.40 |
| F-1645 | 21.40 |

## Type TI - 12 and 12s

| Catalog No. | Net Price |
|---|---|
| F-1655 | 13.60 |
| F-1656 | 13.60 |
| F-1657 | 13.60 |
| F-1658 | 14.05 |
| F-1659 | 14.05 |
| F-1660 | 14.05 |
| F-1661 | 14.65 |
| F-1662 | 14.65 |
| F-1663 | 15.10 |
| F-1664 | 15.10 |
| F-1665 | 13.75 |
| F-1666 | 13.75 |
| F-1667 | 14.15 |
| F-1668 | 14.15 |
| F-1669 | 14.65 |
| F-1670 | 14.65 |
| F-1671 | 14.65 |
| F-1672 | 15.10 |
| F-1673 | 15.60 |


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| Catalog No. | Net Price |
|---|---|
| F-1674 | 16.05 |
| F-1675 | 16.05 |
| F-1676 | 16.50 |
| F-1677 | 16.50 |
| F-1678 | 17.00 |
| F-1679 | 17.00 |
| F-1680 | 17.50 |
| F-1681 | 17.50 |
| F-1682 | 17.50 |
| F-1683 | 17.95 |
| F-1684 | 17.95 |
| F-1685 | 17.95 |
| F-1686 | 18.45 |
| F-1687 | 18.90 |
| F-1688 | 19.50 |
| F-1689 | 19.95 |
| F-1690 | 20.40 |
| F-1691 | 20.90 |
| F-1692 | 21.40 |
| F-1693 | 21.85 |

### Type TI - 5

| Catalog No. | Net Price |
|---|---|
| F-1700 | 5.70 |
| F-1701 | 5.70 |
| F-1702 | 5.70 |
| F-1703 | 6.20 |
| F-1704 | 6.65 |
| F-1705 | 6.90 |
| F-1706 | 7.10 |
| F-1707 | 7.35 |
| F-1708 | 7.60 |
| F-1709 | 7.85 |
| F-1710 | 8.05 |
| F-1711 | 8.30 |
| F-1712 | 9.00 |
| F-1713 | 9.60 |
| F-1714 | 9.80 |
| F-1715 | 10.25 |
| F-1716 | 10.60 |
| F-1717 | 10.95 |
| F-1718 | 11.20 |
| F-1719 | 11.50 |
| F-1720 | 11.90 |

### Type TI - 5s

| Catalog No. | Net Price |
|---|---|
| F-1700S | 7.90 |
| F-1701S | 7.90 |
| F-1702S | 7.90 |
| F-1703S | 7.90 |
| F-1704S | 7.90 |
| F-1705S | 8.15 |
| F-1706S | 8.25 |
| F-1707S | 8.50 |
| F-1708S | 8.80 |
| F-1709S | 8.95 |
| F-1710S | 9.05 |
| F-1711S | 9.20 |
| F-1712S | 9.30 |
| F-1713S | 9.60 |
| F-1714S | 9.80 |
| F-1715S | 10.25 |
| F-1716S | 10.95 |
| F-1717S | 10.95 |
| F-1718S | 11.20 |
| F-1719S | 11.50 |
| F-1720S | 11.90 |

### Type TI - 6 and 6s

| Catalog No. | Net Price |
|---|---|
| F-1726 | 8.15 |
| F-1727 | 8.15 |
| F-1728 | 8.15 |
| F-1729 | 8.15 |
| F-1730 | 8.15 |
| F-1731 | 8.15 |
| F-1732 | 8.45 |
| F-1733 | 8.45 |
| F-1734 | 8.55 |
| F-1735 | 8.55 |
| F-1737 | 9.00 |
| F-1738 | 10.00 |
| F-1739 | 10.00 |
| F-1740 | 10.00 |
| F-1741 | 10.00 |
| F-1742 | 10.45 |
| F-1743 | 11.90 |

### Type TI - 11s

| Catalog No. | Net Price |
|---|---|
| F-1747S | 14.20 |
| F-1748S | 14.20 |
| F-1749S | 14.20 |
| F-1750S | 14.20 |
| F-1751S | 14.20 |
| F-1752S | 15.20 |
| F-1753S | 15.20 |
| F-1754S | 15.20 |
| F-1755S | 15.20 |
| F-1756S | 15.20 |
| F-1757S | 14.20 |
| F-1758S | 14.20 |
| F-1759S | 14.65 |
| F-1760S | 14.65 |
| F-1761S | 15.20 |
| F-1762S | 15.85 |
| F-1763S | 16.15 |
| F-1764S | 16.60 |
| F-1765S | 17.10 |
| F-1766S | 17.60 |
| F-1767S | 17.80 |
| F-1768S | 18.05 |
| F-1769S | 18.45 |
| F-1770S | 18.45 |
| F-1771S | 18.45 |
| F-1772S | 19.00 |
| F-1773S | 19.50 |
| F-1774S | 19.95 |
| F-1775S | 20.40 |
| F-1776S | 20.90 |
| F-1777S | 21.85 |
| F-1778S | 22.80 |
| F-1779S | 23.75 |
| F-1780S | 24.70 |

### Type TI - 7

| Catalog No. | Net Price |
|---|---|
| F-1781 | 7.90 |
| F-1782 | 7.90 |
| F-1783 | 7.90 |
| F-1784 | 7.90 |
| F-1785 | 7.90 |
| F-1786 | 7.90 |
| F-1787 | 8.05 |
| F-1788 | 8.05 |
| F-1789 | 8.25 |
| F-1790 | 8.25 |
| F-1791 | 8.45 |
| F-1792 | 8.65 |
| F-1793 | 8.65 |
| F-1794 | 8.65 |
| F-1795 | 9.00 |
| F-1796 | 9.45 |
| F-1797 | 10.00 |

### Type TI - 2s

| Catalog No. | Net Price |
|---|---|
| F-1800S | 14.20 |
| F-1801S | 14.20 |
| F-1802S | 14.20 |
| F-1803S | 14.20 |
| F-1804S | 14.20 |
| F-1805S | 14.65 |
| F-1806S | 14.65 |
| F-1807S | 14.65 |
| F-1808S | 14.65 |
| F-1809S | 14.65 |
| F-1810S | 14.65 |
| F-1811S | 14.90 |
| F-1812S | 14.90 |
| F-1813S | 14.90 |
| F-1814S | 14.90 |
| F-1815S | 14.90 |

### Type TI - 8 and 8s

| Catalog No. | Net Price |
|---|---|
| F-1821 | 8.65 |
| F-1822 | 8.65 |
| F-1823 | 8.65 |
| F-1824 | 8.65 |
| F-1825 | 8.65 |
| F-1826 | 8.65 |
| F-1827 | 8.65 |
| F-1828 | 8.65 |
| F-1829 | 8.65 |
| F-1830 | 8.65 |
| F-1831 | 8.65 |
| F-1832 | 8.75 |
| F-1833 | 8.85 |
| F-1834 | 9.00 |
| F-1835 | 9.00 |
| F-1836 | 9.00 |
| F-1837 | 9.10 |
| F-1838 | 9.40 |
| F-1839 | 9.50 |
| F-1840 | 9.90 |

### Type TI - 3s

| Catalog No. | Net Price |
|---|---|
| F-1844S | 14.25 |
| F-1845S | 14.25 |
| F-1846S | 14.25 |
| F-1847S | 14.25 |
| F-1848S | 14.25 |
| F-1849S | 14.25 |
| F-1850S | 14.25 |
| F-1851S | 14.25 |
| F-1852S | 14.25 |
| F-1853S | 14.25 |
| F-1854S | 14.25 |
| F-1855S | 14.25 |

### Type TI - 3As

| Catalog No. | Net Price |
|---|---|
| F-1856S | 20.00 |
| F-1857S | 20.50 |
| F-1858S | 20.50 |
| F-1859S | 22.30 |
| F-1860S | 22.80 |
| F-1861S | 22.80 |
| F-1862S | 23.30 |
| F-1863S | 23.30 |

### Type TI - 15

| Catalog No. | Net Price |
|---|---|
| F-1870 | 7.25 |
| F-1871 | 7.25 |
| F-1872 | 7.25 |
| F-1873 | 7.25 |
| F-1874 | 7.25 |
| F-1875 | 7.25 |
| F-1876 | 7.25 |
| F-1877 | 7.25 |
| F-1878 | 7.25 |
| F-1879 | 7.25 |
| F-1880 | 7.25 |
| F-1881 | 7.45 |
| F-1882 | 7.45 |
| F-1883 | 7.65 |
| F-1884 | 7.65 |
| F-1885 | 7.85 |
| F-1886 | 8.05 |
| F-1887 | 8.05 |
| F-1888 | 8.05 |
| F-1889 | 8.45 |

### Type TI - 14

| Catalog No. | Net Price |
|---|---|
| F-1920 | 7.40 |
| F-1921 | 7.40 |
| F-1922 | 7.40 |
| F-1923 | 7.40 |
| F-1924 | 7.40 |
| F-1925 | 7.40 |
| F-1926 | 7.85 |
| F-1927 | 7.85 |
| F-1928 | 7.95 |
| F-1929 | 7.95 |
| F-1930 | 7.95 |
| F-1931 | 8.40 |
| F-1932 | 8.75 |
| F-1933 | 8.75 |
| F-1934 | 9.00 |
| F-1935 | 9.25 |
| F-1936 | 9.75 |

### Type TI - 16

| Catalog No. | Net Price |
|---|---|
| F-2050 | 6.05 |
| F-2051 | 6.05 |
| F-2052 | 6.05 |
| F-2053 | 5.85 |
| F-2054 | 5.85 |
| F-2055 | 6.30 |
| F-2056 | 6.80 |
| F-2057 | 7.05 |
| F-2058 | 7.25 |
| F-2059 | 7.35 |
| F-2060 | 7.70 |
| F-2061 | 8.00 |
| F-2062 | 8.20 |
| F-2063 | 8.45 |
| F-2064 | 9.75 |
| F-2065 | 10.80 |
| F-2066 | 11.00 |
| F-2067 | 11.40 |
| F-2068 | 11.65 |
| F-2069 | 12.00 |

### Type TI - 17

| Catalog No. | Net Price |
|---|---|
| F-2100 | 7.90 |
| F-2101 | 7.90 |
| F-2102 | 7.90 |
| F-2103 | 7.90 |
| F-2104 | 7.90 |
| F-2105 | 7.90 |
| F-2106 | 7.90 |
| F-2107 | 7.90 |
| F-2108 | 7.90 |
| F-2109 | 7.90 |
| F-2110 | 7.90 |
| F-2111 | 8.05 |
| F-2112 | 8.05 |
| F-2113 | 8.25 |
| F-2114 | 8.25 |
| F-2115 | 8.65 |
| F-2116 | 8.65 |
| F-2117 | 9.05 |

### Type TI - 18

| Catalog No. | Net Price |
|---|---|
| F-2140 | 8.65 |
| F-2141 | 8.65 |
| F-2142 | 8.65 |
| F-2143 | 8.65 |
| F-2144 | 8.65 |
| F-2145 | 8.65 |
| F-2146 | 8.65 |
| F-2147 | 8.65 |
| F-2148 | 8.65 |
| F-2149 | 8.65 |
| F-2150 | 8.65 |
| F-2151 | 8.75 |
| F-2152 | 8.85 |
| F-2153 | 9.00 |
| F-2154 | 9.00 |
| F-2155 | 9.20 |
| F-2156 | 9.50 |
| F-2157 | 9.70 |

### Type TI - 19

| Catalog No. | Net Price |
|---|---|
| F-2180 | 7.90 |
| F-2181 | 7.90 |
| F-2182 | 7.90 |
| F-2183 | 7.90 |
| F-2184 | 7.90 |
| F-2185 | 7.90 |
| F-2186 | 7.90 |
| F-2187 | 7.90 |
| F-2188 | 7.90 |
| F-2189 | 7.90 |
| F-2190 | 7.90 |
| F-2191 | 7.90 |
| F-2192 | 7.90 |
| F-2193 | 7.90 |

### Type TI - 20s

| Catalog No. | Net Price |
|---|---|
| F-2201S | 6.40 |
| F-2202S | 6.40 |
| F-2203S | 6.95 |
| F-2204S | 6.95 |
| F-2205S | 6.95 |
| F-2206S | 7.15 |
| F-2207S | 7.45 |
| F-2208S | 8.10 |
| F-2209S | 8.10 |
| F-2210S | 8.10 |
| F-2211S | 8.10 |
| F-2212S | 8.10 |
| F-2213S | 8.10 |
| F-2214S | 8.10 |
| F-2215S | 8.10 |

### Type TI - 21s

| Catalog No. | Net Price |
|---|---|
| F-2240S | 6.00 |
| F-2241S | 6.00 |
| F-2242S | 6.00 |
| F-2243S | 6.00 |
| F-2244S | 6.00 |
| F-2245S | 6.00 |
| F-2246S | 6.40 |
| F-2247S | 6.40 |
| F-2248S | 6.40 |
| F-2249S | 6.40 |

### Type TI - 22s

| Catalog No. | Net Price |
|---|---|
| F-2270S | 6.00 |
| F-2271S | 6.00 |
| F-2272S | 6.00 |
| F-2273S | 6.00 |
| F-2274S | 6.00 |
| F-2275S | 6.00 |
| F-2276S | 6.40 |
| F-2277S | 6.40 |
| F-2278S | 6.40 |
| F-2279S | 6.40 |
| F-2280S | 7.15 |
| F-2281S | 7.15 |
| F-2282S | 7.15 |
| F-2283S | 7.15 |
| F-2284S | 7.15 |

### Type TI - 23s

| Catalog No. | Net Price |
|---|---|
| F-2301S | 6.25 |
| F-2302S | 6.25 |
| F-2303S | 6.25 |
| F-2304S | 6.25 |
| F-2305S | 6.25 |
| F-2306S | 6.25 |
| F-2307S | 6.75 |
| F-2308S | 6.75 |
| F-2309S | 6.75 |
| F-2310S | 6.75 |
| F-2311S | 7.50 |
| F-2312S | 7.50 |
| F-2313S | 7.50 |

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World Radio History

# PEERLESS
## ELECTRICAL PRODUCTS

DIVISION ALTEC LANSING CORPORATION

** All primaries are 117 V. 60 cycle.
† All transformers in this group are supplied with electro-static shield.

▼ Maximum operating level. 1 mw reference.
• Impedance is total of two separate windings.

° These units may also be used as bridging transformers. Complete application data in each packing box.

### COMBINATION PLATE AND FILAMENT TRANSFORMERS ** †

| Type Number | High Voltage Secondary AC Volts | DC MA. | Filament Current, Amperes 5 V. | 6.3 V.C.T. | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| R-340-F | 325-0-325 | 100 | 3. | 5. | 4⅝ | 3 1/16 | 2¾ | 4 | $28.00 |
| R-490-F | 350-0-350 | 200 | 3. | 6. | 5 1/16 | 3 13/16 | 3⅜ | 8 | $35.00 |
| R-562-F | 400-0-400 | 220 | 3. | 6. | 5 1/16 | 3 13/16 | 3⅜ | 9 | $45.00 |
| R-631-F | 500-435-0-435-500 (Has 100 V tap for C bias) | 225 (Replaces the R-630-F in a larger case) | 3. | 6. | 6 | 4¾ | 4 1/16 | 11½ | $55.00 |
| R-800-A | 400-0-400 | 300 | 4. | 4.-5. | 4¾ | 5⅛ | 3 13/16 | 12 | $34.00 |
| R-815-S | 550-275-0-275-550 | 280 from 550-0-550<br>40 from 275-0-275 | 6. | 4.-4.2-.9 | 6⅜ | 5⅛ | 5⅛ | 18 | $72.00 |

### FILAMENT TRANSFORMERS

| Type Number | Secondary Current, Amperes 6.3V. C.T. | Test Volts R.M.S. | Primary Volts 60 Cycle | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| F-012-X | 1. | 2000 | 117 | 1⅝ | 2⅞ | 1⅝ | ½ | $6.75 |
| F-139-E | 8 | 2000 | 117 | 3½ | 3⅛ | 2⅞ | 3¼ | $14.00 |

### SMOOTHING CHOKES

| Type Number | Current D.C. MA. | Inductance Henrys | Resistance Ohms | Test Volts R.M.S. | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| C-325-F | 120 | 10 | 240 | 1500 | 3⅞ | 2 13/16 | 2 7/16 | 3 | $13.00 |
| C-390-F | 200 | 10 | 150 | 1500 | 4 13/16 | 3 3/16 | 3 3/16 | 6 | $23.50 |

### STANDARD INPUT TRANSFORMERS

| Type Number | Descriptive Data | Impedance, Ohms Primary | Secondary | Freq. Range ±1 db | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| K-308-D | Line Mixer or Microphone to Sgle. Grid. Max. Level: 0 dbm▼. 60 db magnetic shielding. | 250 C.T. | 50,000 | 30-20,000 when terminated | 1½ | 1 1/16 round | | ¼ | $15.00 |

### STANDARD IMPEDANCE MATCHING TRANSFORMERS

| Type Number | Descriptive Data | Audio Watts Max. | 70 V Line | Impedance, Ohms Primary | Secondary | Freq. Range ±1 db | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E-372-Q Repeat Coil | Electro-static Shield. 60 db Magnetic Shield. | +18 dbm▼ | — | 500 C.T.-333<br>250-200 C.T.<br>125-50 | 500 C.T.-333<br>250-200 C.T.<br>125-50 | 20<br>20,000 | 3½ | 2⅜ | 2½ | 1½ | $35.00 |

### STANDARD OUTPUT TRANSFORMERS

| Type Number | Descriptive Data | Freq. Range ±1 db | Impedance, Ohms Primary | Secondary | Pri. DC MA. Max. | Unbal. | Audio Watts | Dimensions, Inches Height | Depth | Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-448-Q | Single or P-P plates to line. 30 db hum bucking. | 20-20,000 | 20,000 C.T.<br>12,500 C.T.<br>5000-3125 | 500 C.T.<br>200 C.T.-333<br>250-125-50 | 15 | 2 | +18 dbm▼ | 3½ | 2⅜ | 2½ | 1¾ | $32.00 |
| S-510-F | P-P plates to speaker. | 20-30,000 | 10,000 C.T.<br>8000 C.T. | 16-8 | 40 | 4 | 10 | 2⅞ | 2¾ | 2½ | 2 | $23.00 |
| S-526-F | P-P plates to speaker. | 20-30,000 | 6600 C.T.<br>5000 C.T. | 16-8-4 | 60 | 6 | 20 | 4⅜ | 3 1/16 | 2¾ | 3¾ | $27.00 |
| S-542-F | P-P plates to speaker. | 20-30,000 | 5000 C.T.<br>4000 C.T. | 16-8-4 | 140 | 14 | 40 | 5 5/16 | 3 3/16 | 3 1/16 | 6 | $32.00 |



TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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World Radio History

# PEERLESS
## ELECTRICAL PRODUCTS

DIVISION ALTEC® LANSING CORPORATION

**Frequency response is guaranteed on all 20-20 plus transformers**

## INPUT TRANSFORMERS (20-20 PLUS)

| Type Number | Descriptive Data | Max. Level ▼ | Impedance, Ohms Primary | Impedance, Ohms Secondary | Primary DC MA. Max. | Primary DC MA. Unbal. | Dimensions, Inches Height | Dimensions, Inches Depth | Dimensions, Inches Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K-241-D° | Frequency response, ±1 db: 10-25,000 cps. Primary balanced to attenuate longitudinal currents in excess of 50 db. Sec. may be used single ended or in P-P. Has 2 sec. windings with bal. cap. to grnd. Electrostatic shield is provided between pri. and sec. Has 90 db electromagnetic shielding. Insertion loss 1¼ db. Transformer will operate into open circuit or resistive load. Frequency resp. down less than 1 db at 15 KC. when operated into resistive load shunted with 120 MMFD. cap. High power rating makes transf. suitable for use as output transf. | +8 dbm | 500-280-125-31 or 600-340-150-37.5 | 70,000 • or 84,000 • | 0 | — | 2¾ | 1½ | 2 | 1 | $42.00 |

## OUTPUT TRANSFORMERS (20-20 PLUS)

| Type Number | Descriptive Data | Max. Level ▼ | Impedance, Ohms Primary | Impedance, Ohms Secondary | Primary DC MA. Max. | Primary DC MA. Unbal. | Dimensions, Inches Height | Dimensions, Inches Depth | Dimensions, Inches Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S-217-D* Line Level | Frequency response: ±1 db: 5-65,000 cps. Pri. may be used single ended or P-P. Sec. windings have bal. cap. to grnd. Has C.T. tertiary of 24.5 ohms which may be used for feedback or grnded. for electrostatic shield. Parallel feed is required. Astatic balance and electromagnetic shield provide approx. 50 db of shielding. Insertion loss 0.5 db. Transf. may be used as excellent input. transf. to either single or P-P grids. When used this way balanced low impedance winding provides excellent line termination. | +20 dbm | 12,500 3125 | 600-300 150-75 Tert—See Data | 25 | 0 | 3¼ | 1½ | 2 | 1¼ | $64.00 |

## MATCHING TRANSFORMERS (20-20 PLUS)

| Type Number | Descriptive Data | Max. Level ▼ | Impedance, Ohms Primary | Impedance, Ohms Secondary | Primary DC MA. Max. | Primary DC MA. Unbal. | Dimensions, Inches Height | Dimensions, Inches Depth | Dimensions, Inches Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E-204-D Repeat Coil | Frequency response: ±1 db: 5-80,000 cps. Electrostatic shield. Astatic balance and electromagnetic shield provide approx. 50 db magnetic shielding. Attenuates longitudinal currents 80 db in bal. circuit in freq. range up to 70,000 cps. Insertion loss 0.4 db. | +23 dbm | 500 C.T. 125 C.T. or 600 C.T. 150 C.T. | 500 C.T. 125 C.T. or 600 C.T. 150 C.T. | 100 | 0 | 3¼ | 1½ | 2 | 1¼ | $67.00 |

**As a Hybrid Transformer**

This precise matching transf. is an excellent hybrid unit for operation from two 250/300 ohm sources. Balancing resistor of approx. 125/150 ohms required in pri. circuit. For max. attenuation between sources the exact value of resistor should be determined from measurements made in circuit where transf. is used. Correct value will yield average attenuation of 27 to 20 db with a max. attenuation of approx. 50 db at some point between 500 cps and 1,000 cps.

| Total Pri. | Impedances, Ohms Pri. 1 | Impedances, Ohms Pri. 2 | Sec. | Max. Level ▼ |
|---|---|---|---|---|
| 500 or 600 | 250 or 300 | 250 or 300 | 500-125 or 600-150 | +23 dbm |

## HIGH LEVEL OUTPUT TRANSFORMERS (20-20 PLUS)

| Type Number | Descriptive Data | Impedance, Ohms Primary | Impedance, Ohms Secondary | Pri. DC MA Per Winding Max. | Pri. DC MA Per Winding Unbal. | Max. Level ▼ | Dimensions, Inches Height | Dimensions, Inches Depth | Dimensions, Inches Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S-232-Q | Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.6 db. (See descriptive data below) | 6600 C.T. 1650 C.T. | 16, 8, 4, 1. | 70 140 | 7 14 | +43 dbm (20 watts) See Data | 4⅛ | 3 3/16 | 3 1/16 | 3¼ | $44.00 |
| S-238-Q | Frequency response, ±1 db: 10-75,000 cps. Insertion loss 0.6 db. (See descriptive data below) | 10,000 C.T. 2500 C.T. | 16, 8, 4, 1. | 50 100 | 5 10 | +43 dbm (20 watts) See Data | 4⅛ | 3 3/16 | 3 1/16 | 3¼ | $44.00 |
| S-258-Q | Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.4 db. (See descriptive data below) | 5000 C.T. 1250 C.T. | 16, 8, 4, 1. | 120 240 | 12 24 | +46 dbm (40 watts) See Data | 4⅝ | 3⅝ | 3½ | 6½ | $60.00 |
| S-271-S | Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.3 db. (See descriptive data below) | 5000 C.T. 1250 C.T. | 16, 8, 4, 1. | 200 400 | 20 40 | +49 dbm (80 watts) See Data | 6⅜ | 5⅛ | 5⅛ | 18 | $90.00 |
| S-273-S | Frequency response, ±1 db: 10-80,000 cps. Insertion loss 0.3 db. (See descriptive data below) | 8000 C.T. 2000 C.T. | 16, 8, 4, 1. | 125 250 | 12 25 | +49 dbm (80 watts) See Data | 6⅜ | 5⅛ | 5⅛ | 18 | $90.00 |

**DESCRIPTIVE DATA, GENERAL**

Maximum rated operating level ▼ applies to frequency range 20-20,000 cps. Power rating is ½ at 15 cps. ¼ at 10 cps. Full power (60 cps) primary open circuit inductance is approximately 100 Henrys for each 1000 ohms of primary impedance. Leakage inductance, secondary referred to total primary, is approximately 1 mh per 1000 ohms of primary impedance. Leakage inductance, half primary to half primary is approximately 1 mh per 1000 ohms of primary impedance. Can be used between half and double of rated impedances. For halved impedances, power ratings are doubled. For doubled impedances, power ratings are halved. Secondary may be operated with either end, or C.T. grounded.

## IMPEDANCE MATCHING AUTO TRANSFORMER (20-20 PLUS)

| Type Number | Descriptive Data | Impedance, Ohms | Insertion Loss | Max. Level ▼ | Dimensions, Inches Height | Dimensions, Inches Depth | Dimensions, Inches Width | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| A-262-E | Frequency response, ± 1 db: 10-100,000 cps. May be used in any combination of rated impedances, step-up or step-down. | 16, 8, 4 or 8, 4, 2 | .5 db. or 1.0 db. | 48.7 dbm (75 watts) or 44.7 dbm (30 watts) | 4 5/16 | 3 1/16 | 3 7/16 | 5¾ | $31.00 |

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World Radio History

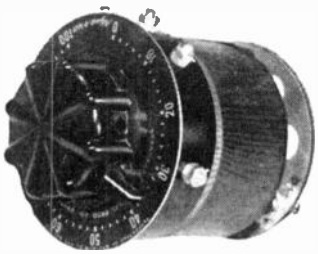
# Adjust-A-Volt
## VARIABLE TRANSFORMER

## AUTO-TRANSFORMERS
## BENCH AND PANEL MOUNTINGS
## GANGED ASSEMBLIES

## FOR CONTROL OF AC LINES POWER, HEAT, SPEED AND LIGHT

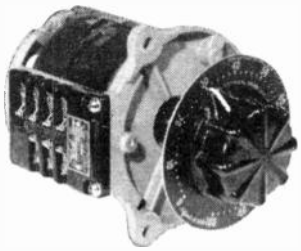
*SPECIFICATIONS FOR THESE MODELS ON OPPOSITE PAGE*

100BU



300BU

500BU



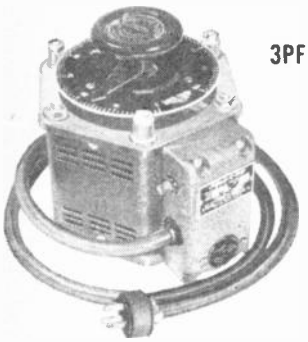
| Type | Input Voltage | Load Rating, Maximum | Output Voltage Over-Voltage | Output Voltage Line Voltage | Output Current, Maximum | Driving Torque in.-oz. |
|---|---|---|---|---|---|---|
| 100BU | 120V | .165KVA | 0-132V | 0-120V | 1.25A | 5-10 |
| 300BU | 115V | 0.4KVA | 0-135V | 0-115V | 3.0A | 15-30 |
| 500BU | 115V | 1.0KVA | 0-135V | 0-115V | 7.5A | 20-40 |

500B

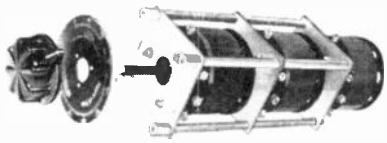
3000B

1500B

| Type | Input Voltage | Load Rating, Maximum | Output Voltage Over-Voltage | Output Voltage Line Voltage | Output Current, Maximum | Driving Torque in.-oz. |
|---|---|---|---|---|---|---|
| 500B | 115V | 1.0KVA | 0-135V | 0-115V | 7.5A | 20-40 |
| 1500B | 115V | 2.0KVA | 0-135V | 0-115V | 15.0A | 30-70 |
| 3000B | 115V | 4.0KVA | 0-135V | 0-115V | 30.0A | 30-70 |



3PF 1500B



300BU-3

### ADJUST-A-VOLT FEATURES

- Smooth, continuous control
- No Waveform distortion
- High efficiency
- Excellent regulation
- 50/60 cycle operation
- Standard mountings
- LoRes Commutator surface on all models

| Type | Input Voltage | Load Rating, Maximum | Output Voltage Over-Voltage | Output Voltage Line Voltage | Output Current, Maximum | Driving Torque in.-oz. |
|---|---|---|---|---|---|---|
| 3PF1500B | 115V | 2.0KVA | 0-135V | 0-115V | 15.0A | 30-70 |
| 300BU-3 | 230V | 1.2KVA | 0-270V | 0-230V | 3.0A | 25-50 |

## STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

SEE NEXT PAGE FOR ALL GANGED MODELS AND THEIR APPLICATIONS



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World Radio History

# ADJUST-A-VOLT SPECIFICATIONS AND APPLICATION INDEX

| | Input Volts | OUTPUT Volts | OUTPUT Amp. Max. | OUTPUT KVA Max. | Type | Description | Code Word | Approx. Wt. Lbs. Net | Approx. Wt. Lbs. Ship. | Net Price |
|---|---|---|---|---|---|---|---|---|---|---|
| SINGLE PHASE | 120 | 0-115 | 1.25A | .165 | 100BU | Uncased with terminal strip. | YOOBU | 2 | 3 | $ 8.50 |
| | 115 | 0-115 | 3.0 | 0.34 | 300BU | Uncased with terminal strip. | TREED | 4 | 6 | $ 12.50 |
| | | 0-135 | 3.0 | 0.40 | | | | | | |
| | 115 | 0-115 | 7.5 | 0.86 | 500B | With case, line cord-plug, input receptacle, switch and fuse. | FEDEN | 11 | 12 | $ 23.00 |
| | | 0-135 | 7.5 | 1.0 | 500BU | Uncased with terminal box. | FIVED | 10 | 11 | 18.00 |
| | | | | | 3PF500B | With case, 3 prong plug-cord, output receptacle, switch and fuse. | PLEAD | 11 | 12 | 30.00 |
| | | | | | 3TF500B | With case, 3 prong twist blade plug-cord, output receptacle and fuse. | TELFE | 11 | 12 | 30.00 |
| | 115 | 0-115* | 15.0 | 1.7 | 1500B | With case and terminal board. | TOODE | 21 | 25 | $ 46.00 |
| | | 0-135 | 15.0 | 2.0 | F1500B | With case, fuse and terminal cover. | FOODE | 21 | 25 | 50.00 |
| | | | | | 2PF1500B | With case, 2 prong plug-line cord, output receptacle and fuse. | POODE | 22 | 26 | 56.00 |
| | | | | | 3PF1500B | With case, 3 prong straight blade plug-cord, output receptacle and fuse. | MOODE | 22 | 26 | 56.00 |
| | | | | | 3TF1500B | With case, 3 prong twist blade plug-cord, output receptacle and fuse. | LOODE | 22 | 26 | 56.00 |
| | 115 | 0-115* | 30.0 | 3.4 | 1500B-2 | 2-gang, Parallel Circuit. | DOUBE | 43 | 50 | $ 96.00 |
| | | 0-135 | 30.0 | 4.0 | 3000B | With case and terminal cover. | THIRT | 23 | 27 | 55.00 |
| | | | | | 3000BU | Without case and terminal cover. | UTAHA | 22 | 26 | 49.00 |
| | 115 | 0-115 | 60.0 | 6.9 | 3000B-2 | 2-gang, Parallel Circuit, requires paralleling Choke, Type 30L-1. | TOUBE | 52 | 62 | $126.00 |
| | | 0-135 | 60.0 | 8.0 | | | | | | |
| | 115 | 0-115 | 90.0 | 10.3 | 3000B-3 | 3-gang, Parallel Circuit, requires paralleling Chokes, 1 ea., Types 30L-1 and 30L-2. | MOUBE | 79 | 83 | $182.00 |
| | | 0-135 | 90.0 | 12.1 | | | | | | |
| | 230 | 0-230 | 3.0 | 0.69 | 520B | With case, line cord-plug, output receptacle, switch and fuse. | CRANY | 11 | 12 | $ 26.00 |
| | | 0-270 | 3.0 | 0.81 | 520BU | Uncased with terminal box. | BRANY | 10 | 11 | 20.00 |
| | 115 | 0-270 | 3.0‡ | 0.35 | 3PF520B | With case, 3 prong straight blade plug-cord, output receptacle and fuse. | PANNY | 11 | 12 | 33.00 |
| | | | | | 3TF520B | With case, 3 prong twist blade plug-cord, output receptacle and fuse. | TANNY | 11 | 12 | 33.00 |
| | 230 | 0-230 | 7.5 | 1.7 | 500B-2 | 2-gang, Series Circuit, cased. | DEBEN | 22 | 25 | $ 49.00 |
| | | 0-270 | 7.5 | 2.0 | 500BU-2 | 2-gang, Series Circuit, uncased. | UBBEN | 21 | 25 | 44.00 |
| | 230 | 0-230* | 9.0 | 2.1 | 1520B | With case and terminal board. | DANNY | 21 | 25 | $ 46.00 |
| | | 0-270 | 9.0 | 2.4 | F1520B | With case, fuse and terminal cover. | FANNY | 21 | 25 | 50.00 |
| | 115 | 0-270 | 9.0‡ | 1.05 | 2PF1520B | With case, 2 prong plug-line cord, output receptacle and fuse—No switch. | MANNY | 21 | 25 | 56.00 |
| | | | | | 3PF1520B | With case, 3 prong straight blade plug-cord, output receptacle and fuse—No switch. | CANNY | 21 | 25 | 56.00 |
| | | | | | 3TF1520B | With case, 3 prong twist blade plug-cord, output receptacle and fuse—No switch. | JANNY | 21 | 25 | 56.00 |
| | 230 | 0-230* | 15.0 | 3.4 | 1500B-2 | 2-gang, Series Circuit. | DOUBE | 43 | 50 | $ 96.00 |
| | | 0-270 | 15.0 | 4.0 | F1500B-2 | 2-gang, Series Circuit, fused output. | JOODE | 43 | 50 | 104.00 |
| | 230 | 0-230* | 18.0 | 4.1 | 1520B-2 | 2-gang, Parallel Circuit. | TWODE | 43 | 50 | $ 96.00 |
| | | 0-270 | 18.0 | 4.8 | | | | | | |
| | 115 | 0-270 | 18.0‡ | 2.1 | | | | | | |
| | 230 | 0-230 | 12.0 | 2.8 | 3020B | With case and terminal cover. | RANNY | 23 | 26 | $ 55.00 |
| | | 0-270 | 12.0 | 3.2 | 3020BU | Without case and terminal cover. | VOLTA | 22 | 26 | 49.00 |
| | 115 | 0-270 | 12.0‡ | 1.4 | | | | | | |
| | 230 | 0-230 | 24.0 | 5.5 | 3020B-2 | 2-gang, Parallel Circuit, requires one paralleling Choke, Type 30L-1. | ZOOAD | 50 | 61 | $126.00 |
| | | 0-270 | 24.0 | 6.5 | | | | | | |
| | 115 | 0-270 | 24.0‡ | 2.8 | | | | | | |
| | 230 | 0-230 | 36.0 | 8.3 | 3020B-3 | 3-gang, Parallel Circuit, requires paralleling Chokes, 1 ea., Types 30L-1 and 30L-2. | ZOOBA | 75 | 88 | $182.00 |
| | | 0-270 | 36.0 | 9.7 | | | | | | |
| | 115 | 0-270 | 36.0‡ | 4.2 | | | | | | |
| | 460 | 0-460 | 3.0 | 1.4 | 520B-2 | 2-gang, Series Circuit. | ZANNY | 22 | 25 | $ 53.50 |
| | | 0-540 | 3.0 | 1.6 | 520BU-2 | 2-gang, Series Circuit. | VANNY | 21 | 25 | 48.50 |
| | 230 | 0-540 | 3.0‡ | 0.7 | | | | | | |
| | 460 | 0-460* | 9.0 | 4.1 | 1520B-2 | 2-gang, Series Circuit. | TWODE | 43 | 50 | $ 96.00 |
| | | 0-540 | 9.0 | 4.9 | | | | | | |
| | 230 | 0-540 | 9.0‡ | 2.1 | | | | | | |
| | 460 | 0-460 | 12.0 | 5.5 | 3020B-2 | 2-gang, Series Circuit. | ZOOAD | 50 | 61 | $126.00 |
| | | 0-540 | 12.0 | 6.5 | | | | | | |
| | 230 | 0-540 | 12.0‡ | 2.8 | | | | | | |
| THREE PHASE | 115 | 0-115 | 3.0 | 0.6 | 300BU-2 | 2-gang, Open Delta Circuit, uncased. | WREED | 10 | 14 | $ 36.50 |
| | | 0-135 | 3.0 | 0.7 | | | | | | |
| | 115 | 0-115 | 7.5 | 1.5 | 500B-2 | 2-gang, Open Delta Circuit, cased. | DEBEN | 22 | 25 | $ 49.00 |
| | | 0-135 | 7.5 | 1.8 | 500BU-2 | 2-gang, Open Delta Circuit, uncased. | UBBEN | 21 | 25 | 44.00 |
| | 115 | 0-115* | 15.0 | 3.0 | 1500B-2 | 2-gang, Open Delta Circuit. | DOUBE | 43 | 50 | $ 96.00 |
| | | 0-135 | 15.0 | 3.5 | | | | | | |
| | 115 | 0-115 | 30.0 | 6.0 | 3000B-2 | 2-gang, Open Delta Circuit. | TOUBE | 50 | 61 | $126.00 |
| | | 0-135 | 30.0 | 7.0 | | | | | | |
| | 230 | 0-230† | 3.0 | 1.2 | 300BU-3 | 3-gang, Wye Circuit, uncased. | MEADE | 14 | 20 | $ 58.75 |
| | 230 | 0-230 | 3.0 | 1.2 | 520B-2 | 2-gang, Open Delta Circuit, cased. | ZANNY | 22 | 25 | $ 53.50 |
| | | 0-270 | 3.0 | 1.4 | 520BU-2 | 2-gang, Open Delta Circuit, uncased. | VANNY | 21 | 25 | 48.50 |
| | 115 | 0-270 | 3.0‡ | 0.6 | | | | | | |
| | 230 | 0-230 | 7.5 | 3.0 | 500B-3 | 3-gang, Wye Circuit, cased. | MEBEN | 35 | 45 | $ 67.25 |
| | | 0-270† | 7.5 | 3.5 | 500BU-3 | 3-gang, Wye Circuit, uncased. | ZUBEN | 34 | 45 | 60.75 |
| | 230 | 0-230* | 9.0 | 3.6 | 1520B-2 | 2-gang, Open Delta Circuit. | TWODE | 43 | 50 | $ 96.00 |
| | | 0-270 | 9.0 | 4.2 | | | | | | |
| | 115 | 0-270 | 9.0‡ | 1.8 | | | | | | |
| | 230 | 0-230* | 15.0 | 6.0 | 1500B-3 | 3-gang, Wye Circuit. | DOODE | 65 | 75 | $147.00 |
| | | 0-270† | 15.0 | 7.0 | | | | | | |
| | 230 | 0-230 | 12.0 | 4.8 | 3020B-2 | 2-gang, Open Delta Circuit. | ZOOAD | 50 | 61 | $126.00 |
| | | 0-270 | 12.0 | 5.6 | | | | | | |
| | 115 | 0-270 | 12.0‡ | 2.4 | | | | | | |
| | 230 | 0-230 | 30.0 | 12.0 | 3000B-3 | 3-gang, Wye Circuit. | MOUBE | 50 | 61 | $182.00 |
| | | 0-270† | 30.0 | 14.0 | | | | | | |
| | 460 | 0-460 | 3.0 | 2.4 | 520B-3 | 3-gang, Wye Circuit, cased. | TURNE | 35 | 45 | $ 75.25 |
| | | 0-540† | 3.0 | 2.8 | 520BU-3 | 3-gang, Wye Circuit, uncased. | YURNE | 34 | 45 | 68.25 |
| | 230 | 0-540† | 3.0‡ | 1.2 | | | | | | |
| | 460 | 0-460* | 9.0 | 7.2 | 1520B-3 | 3-gang, Wye Circuit. | MORKE | 65 | 75 | $147.00 |
| | | 0-540† | 9.0 | 8.4 | | | | | | |
| | 230 | 0-540† | 9.0‡ | 3.6 | | | | | | |
| | 460 | 0-460 | 12.0 | 9.6 | 3020B-3 | 3-gang, Wye Circuit. | ZOOBA | 70 | 82 | $182.00 |
| | | 0-540† | 12.0 | 11.2 | | | | | | |
| | 230 | 0-540† | 12.0‡ | 4.8 | | | | | | |

Over-voltage connection (0 to 17% above line voltage) or line voltage connection is available to the user by the type of connections made, however, line voltage connection on Types 1500B and 1520B must be specified.

† Ganged units of these types when connected for over-voltage operate from 60 cycle service only.

‡ Output current reduces to approx. 44% at full voltage.

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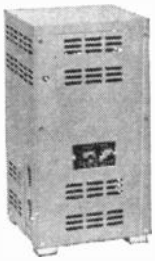
World Radio History

# Adjust-A-Volt
VARIABLE TRANSFORMER

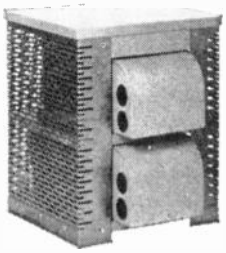
# MOTORIZED
## FOR REMOTE CONTROL OPERATION

**ELECTRICAL SPECIFICATIONS EQUIVALENT TO TYPES LISTED ON SPECIFICATION INDEX PAGE**

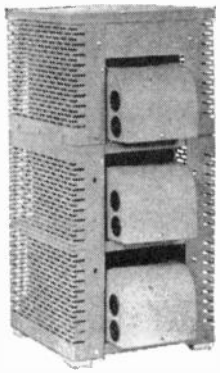
M 0711
M 0721



M 3011
M 3021

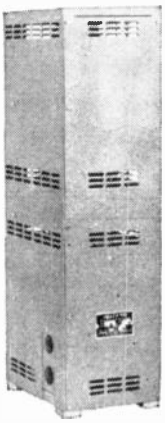


0712
0722

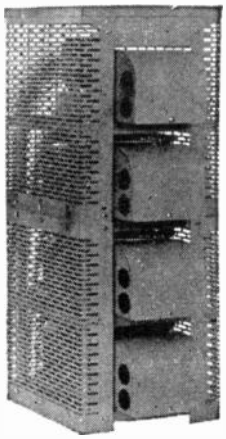


M 3012
M 3022

M 0713
M 0723



M 3013
M 3023



| TYPE | ELECTRICAL EQUIVALENT OF | OVERALL DIMENSIONS (INCHES) | SHIPPING WTS. | NET PRICE |
|---|---|---|---|---|
| M 0711-* | 500B | 7 5/16 x 6 5/16 x 12 5/16 | 22 | 123.00 |
| M 0712-* | 500B-2 | 7 5/16 x 6 5/16 x 17 1/4 | 33 | 149.00 |
| M 0713-* | 500B-3 | 7 5/16 x 6 5/16 x 22 9/16 | 43 | 167.25 |
| M 0721-* | 520B | 7 5/16 x 6 5/16 x 12 11/16 | 22 | 126.00 |
| M 0722-* | 520B-2 | 7 5/16 x 6 5/16 x 17 15/16 | 33 | 153.50 |
| M 0723-* | 520B-3 | 7 5/16 x 6 5/16 x 22 9/16 | 43 | 175.25 |
| M 3011-* | 3000B | 9 7/8 x 8 3/8 x 12 3/8 | 48 | 155.00 |
| M 3012-* | 3000B-2 | 9 7/8 x 8 3/8 x 16 15/16 | 79 | 226.00 |
| M 3013-* | 3000B-3 | 9 7/8 x 8 3/8 x 21 3/4 | 104 | 282.00 |
| M 3021-* | 3020B | 9 7/8 x 8 3/8 x 12 3/8 | 48 | 155.00 |
| M 3022-* | 3020B-2 | 9 7/8 x 8 3/8 x 16 15/16 | 79 | 226.00 |
| M 3023-* | 3020B-3 | 9 7/8 x 8 3/8 x 21 3/4 | 104 | 282.00 |

* Motor Speeds for Full Range Travel are available as follows: 6, 13, 26 and 45 seconds. A speed must be designated after the type number such as M 0711-06 for a 6 second speed, M 3011-45 for a 45 second speed etc.

## STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

**WRITE FOR COMPLETE ADJUST-A-VOLT CATALOG**



Net

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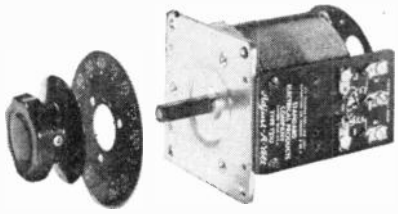
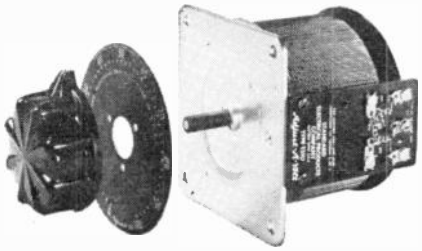
World Radio History

# Adjust-A-Volt
## VARIABLE TRANSFORMER

**NEW PANEL-MOUNTED AUTO-TRANSFORMERS ADDED TO THE LINE IN 1959**

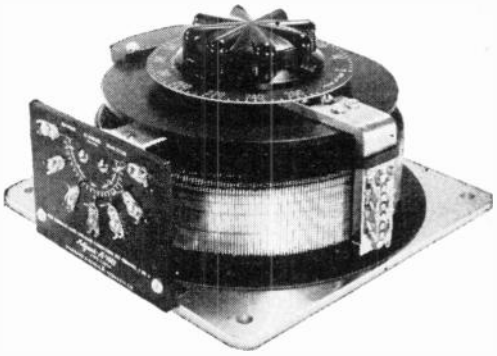


Type T21U



Type T51U

Type T502U



| Type | T21U | T51U | T502U |
|---|---|---|---|
| Equivalent to | W2 Variac | W5 Variac | W50H Variac |
| Input Voltage | 115 | 115 | 230 |
| Load Rating (KVA) | 0.36 | 0.90 | 7.5 |
| Output Voltage | 0-135V | 0-135V | 0-270V |
| Maximum Current (Amp.) | 3.1 | 7.8 | 32.5 |
| Rated Current (Amp.) | 2.4 | 6.0 | 25 |
| Shipping Wgt. | 4.5 lbs. | 7.5 lbs. | 61 lbs. |
| Net Price | $13.50 | $17.00 | $120.00 |

**NEW IMPROVED DESIGN FEATURES**

TERMINAL BOARD—mounted with lock nut on permanently attached aluminum bracket . . . no screws in base to come loose.

Brush Assembly is mechanically tied to rotor plate with 2 screws, can't spring loose under impact. Type T502U has six independently replaceable brushes.

MOUNTING HOLES fully threaded plated steel inserts 5/16" long in aluminum bases gives over twice effective thread length. Ganged units are available.

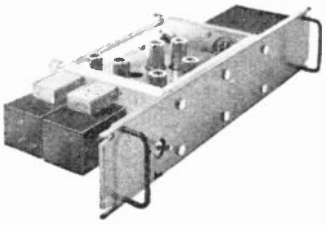
**WRITE FOR COMPLETE ADJUST-A-VOLT CATALOG**

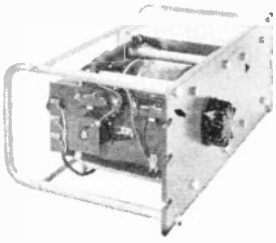
## MILITARIZED AUTOMATIC VOLTAGE REGULATORS

115 and 230 volt models for correction ranges ±10% and ±20% up to ¼% accuracy—No waveform distortion.

Unaffected by frequency deviations. Detailed specifications upon request. We invite your inquiries for commercial automatic voltage regulators.

6 KVA Power Capacity for 115 Volt, 50-60 cycle service.





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World Radio History

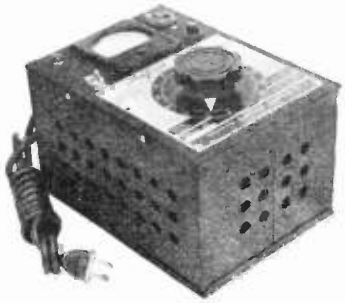
# Adjust-A-Volt
## VARIABLE TRANSFORMER

**VARIABLE ISOLATION**
**ELECTROSTATICALLY SHIELDED**
**METERED • CASED**

LR/NA

LRL

1500BD/1520BD



PAL-7/MAL-7

**UNMETERED ISOLATION TRANSFORMER MODELS**

| Type | Code | Input Voltage | Output Voltage | Amp Max. | Max. (V.A.) | Overall Dimensions | Shipping Weight (1 Unit) | Net Price |
|---|---|---|---|---|---|---|---|---|
| LR-5 | LARKE | 115 | 70-140 | 5.0 | 500 | 6¾"x9⅛"x5" | 27 lbs. | $29.50 |
| LR-10 | LAMBE | 115 | 70-140 | 10.0 | 1000 | 6¾"x9⅛"x9" | 40 lbs. | 57.50 |

**METERED ISOLATION TRANSFORMER MODELS**

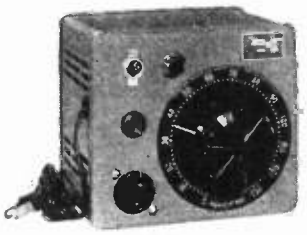
| Type | Code | Input Voltage | Output Voltage | Amp Max. | Max. (V.A.) | Overall Dimensions | Shipping Weight (1 Unit) | Net Price |
|---|---|---|---|---|---|---|---|---|
| LRL-5 | BARKE | 115 | 0-140 | 5.0 | 500 | 6¾"x9⅛"x6⅝" | 29 lbs. | $41.50 |
| LRL-10 | BAMBE | 115 | 0-140 | 10.0 | 1000 | 6¾"x9⅛"x9⅝" | 42 lbs. | 69.50 |

**UNMETERED AUTO-TRANSFORMER MODELS**

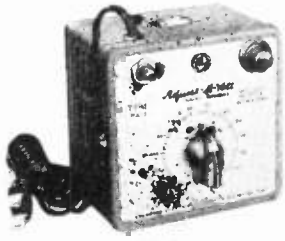
| Type | Code | Input Voltage | Output Voltage | Amp Max. | Max. (V.A.) | Overall Dimensions | Shipping Weight (1 Unit) | Net Price |
|---|---|---|---|---|---|---|---|---|
| PA-3 | NANNE | 115 | 0-135 | 3.0 | 400 | 6½"x6⅛"x5½" | 10 lbs. | $18.75 |
| PA-1 | PANNE | 120 | 0-132 | 1.25 | 165 | 3⅞"x3⅞"x3½" | 3 lbs. | 13.50 |
| NA-10 | NAMMY | 230 | 0-140 | 15.0 | 1500 | 6¾"x9⅛"x9" | 40 lbs. | 65.50 |
| MA-10 | MAMMY | 230 | 0-280 | 7.5 | 1500 | 6¾"x9¼"x6 13/32" | 40 lbs. | 52.50 |

**METERED AUTO-TRANSFORMER MODELS**

| Type | Code | Input Voltage | Output Voltage | Amp Max. | Max. (V.A.) | Overall Dimensions | Shipping Weight (1 Unit) | Net Price |
|---|---|---|---|---|---|---|---|---|
| MAL-7 | QUALM | 230 | 0-270 | 3.0 | 810 | 6¾"x9¼"x6 13/32" | 15 lbs. | $49.50 |
| PAL-7 | PADDE | 115 | 0-135 | 7.5 | 1000 | 6¾"x9¼"x6 13/32" | 15 lbs. | 40.50 |
| 1500BD | LATTE | 115 | 0-135 | 15.0 | 2000 | 8"x10 9/16"x8 3/16" | 35 lbs. | 64.00 |
| 1520BD | RALEN | 230 | 0-270 | 9.0 | 2400 | 8"x10 9/16"x8 3/16" | 35 lbs. | 64.00 |



PA-3



PA-1

# STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

**WRITE FOR COMPLETE ADJUST-A-VOLT CATALOG**



Net

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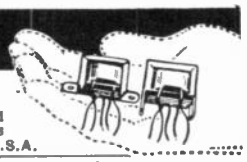
World Radio History

# Argonne TRANSISTOR TRANSFORMERS

LIST PRICE 5.00 ANY TYPE



**CHOOSE FROM 77 TYPES — THE ONLY COMPLETE LINE OF QUALITY TRANSISTOR TRANSFORMERS**

**• NICKEL-STEEL LAMINATIONS • WOUND ON NYLON BOBBINS • MYLAR OUTER WRAP • COLOR CODED LEADS**

Efficiently designed to meet the needs of miniaturization and engineered to provide more power handling capacity and improved frequency response with minimum distortion. All are nickel-steel laminations. Applications under "TYPE" column shows typical use. Many units may be used for other applications as well. Average net weight 1¼ oz.; average shp. wt., 4 oz. MADE IN U.S.A.

| ARGONNE NUMBER | TYPE | IMPEDANCE PRIMARY OHMS | IMPEDANCE SECONDARY OHMS | UNBALANCED CURRENT PRI. D.C. MA | POWER MILLI-WATTS | D.C. RESISTANCE PRI. OHMS | D.C. RESISTANCE SEC. OHMS | OVERALL SIZE |
|---|---|---|---|---|---|---|---|---|
| AR-141 | Input | 500,000 | 1,500 CT | .3 | 350 | 3500 | 60 | 1"x¾"x¾" |
| AR-142 | Input | 500,000 | 200 CT | .3 | 350 | 3500 | 20 | 1"x¾"x¾" |
| AR-143 | Input | 250,000 | 200 CT | .5 | 350 | 3500 | 20 | 1"x¾"x¾" |
| AR-144 | Input | 200,000 | 1,500 CT | .5 | 350 | 3000 | 65 | 1"x¾"x¾" |
| AR-100 | Input | 200,000 | 1,000 | .5 | 100 | 3600 | 90 | 1"x¾"x¾" |
| AR-126 | Input | 150,000 | 1,500 CT | 2. | 100 | 3700 | 55 | 1"x¾"x¾" |
| AR-101 | Input | 100,000 | 3,000 CT | .5 | 100 | 3600 | 60 | 1"x¾"x¾" |
| AR-145 | Input | 100,000 | 2,000 CT | .5 | 350 | 3000 | 50 | 1"x¾"x¾" |
| AR-102 | Input | 100,000 | 1,500 CT | .5 | 100 | 3600 | 40 | 1"x¾"x¾" |
| AR-146 | Input | 100,000 | 50 | .5 | 350 | 3000 | 1.6 | 1"x¾"x¾" |
| AR-127 | Input | 50,000 | 3,000 CT | 1. | 100 | 2000 | 50 | 1"x¾"x¾" |
| AR-128 | Input | 50,000 | 1,500 CT | 2. | 100 | 3000 | 50 | 1"x¾"x¾" |
| AR-129 | Input | 50,000 | 1,000 | 2. | 100 | 2500 | 20 | 1"x¾"x¾" |
| AR-148 | Input | 50,000 | 500 CT | 1. | 175 | 1300 | 20 | ¾"x⅝"x⅝" |
| AR-149 | Input | 50,000 | 200 CT | 1. | 175 | 1300 | 10 | ¾"x⅝"x⅝" |
| AR-147 | Input | 50,000 | 30 CT | 1. | 175 | 1300 | 1.5 | ¾"x⅝"x⅝" |
| AR-150 | Input | 40,000 | 100 | 1. | 175 | 850 | 6 | ¾"x⅝"x⅝" |
| AR-103 | Driver | 20,000 | 2,000 CT | 1. | 100 | 400 | 50 | 1"x¾"x¾" |
| AR-104 | Driver | 20,000 | 1,000 | 1. | 100 | 400 | 50 | ¾"x⅝"x⅝" |
| AR-151 | Driver | 20,000 | 800 CT | 1.5 | 175 | 600 | 60 | ¾"x⅝"x⅝" |
| AR-105 | Driver | 20,000 | 400 | 1. | 100 | 600 | 30 | 1"x¾"x¾" |
| AR-130 | Output | 20,000 | 8 | .5 | 100 | 400 | 0.6 | ¾"x⅝"x⅝" |
| AR-131 | Output | 20,000 | 3.2 | .5 | 100 | 400 | 0.3 | ¾"x⅝"x⅝" |
| AR-106 | Driver | 16,000 | 4,000 | 1. | 100 | 620 | 350 | ¾"x⅝"x⅝" |
| AR-152 | Driver | 15,000 | 200 CT | 1.5 | 175 | 550 | 10 | ¾"x⅝"x⅝" |
| AR-107 | Driver | 15,000 | 200 | 1.5 | 250 | 1000 | 20 | 1"x¾"x¾" |
| AR-108 | Driver | 10,000 | 3,000 CT | 1.5 | 100 | 200 | 100 | ¾"x⅝"x⅝" |
| AR-109 | Driver | 10,000 | 2,000 CT | 1.5 | 100 | 500 | 50 | ¾"x⅝"x⅝" |
| AR-153 | Driver | 10,000 | 200 CT | 2. | 175 | 400 | 10 | ¾"x⅝"x⅝" |
| AR-110 | Output | 10,000 | 16 | 2. | 150 | 600 | 2.5 | ¾"x⅝"x⅝" |
| AR-132 | Output | 10,000 | 8 | 1. | 100 | 600 | .6 | ¾"x⅝"x⅝" |
| AR-133 | Output | 10,000 | 3.2 | 1. | 100 | 600 | .3 | ¾"x⅝"x⅝" |
| AR-158 | Input | 5,000 CT | 80,000 | 2. | 175 | 350 | 1800 | ¾"x⅝"x⅝" |
| AR-157 | Input | 5,000 | 45,000 | 2. | 175 | 250 | 1600 | ¾"x⅝"x⅝" |
| AR-156 | Input | 5,000 | 30,000 | 2. | 175 | 150 | 1300 | ¾"x⅝"x⅝" |
| AR-155 | Input | 5,000 | 10,000 | 2. | 175 | 150 | 450 | ¾"x⅝"x⅝" |
| AR-154 | Input | 5,000 CT | 7,500 CT | 2. | 175 | 150 | 400 | ¾"x⅝"x⅝" |
| AR-173 | Driver | 5,000 | 3,000 CT | 2. | 350 | 200 | 90 | 1"x¾"x¾" |
| AR-111 | Output | 5,000 | 100 | 1. | 100 | 600 | 10 | ¾"x⅝"x⅝" |
| AR-134 | Output | 4,000 CT | 8 | 4. | 250 | 150 | .8 | 1"x¾"x¾" |
| AR-135 | Output | 4,000 CT | 3.2 | 4. | 250 | 150 | .3 | 1"x¾"x¾" |
| AR-112 | Output | 3,500 | 200 | 1. | 150 | 120 | 25 | 1"x¾"x¾" |
| AR-113 | Driver | 3,000 CT | 1,000 | 9. | 150 | 100 | 60 | ¾"x⅝"x⅝" |
| AR-114 | Output | 2,500 | 11 | 10. | 150 | 50 | 1.1 | ¾"x⅝"x⅝" |
| AR-115 | Input | 2,000 CT | 8,000 CT | 2. | 150 | 150 | 660 | 1"x¾"x¾" |
| AR-116 | Output | 2,000 | 200 | 4. | 250 | 120 | 20 | 1"x¾"x¾" |
| AR-175 | Driver | 2,000 | 1,500 CT | 2. | 350 | 150 | 60 | 1"x¾"x¾" |
| AR-159 | Driver | 1,500 | 500 CT | 4. | 175 | 100 | 20 | ¾"x⅝"x⅝" |
| AR-136 | Output | 1,000 CT | 100 | 4. | 250 | 120 | 10 | 1"x¾"x¾" |
| AR-137 | Output | 1,000 CT | 8 | 4. | 250 | 120 | .9 | 1"x¾"x¾" |
| AR-138 | Output | 1,000 CT | 3.2 | 4. | 250 | 120 | .3 | 1"x¾"x¾" |
| AR-160 | Output | 800 CT | 3.2 | 5. | 175 | 40 | .3 | ¾"x⅝"x⅝" |
| AR-161 | Output | 650 CT | 16 | 5. | 175 | 27 | 1.3 | ¾"x⅝"x⅝" |
| AR-162 | Output | 500 CT | 500 CT | 5. | 350 | 18 | 18 | 1"x¾"x¾" |
| AR-163 | Output | 500 CT | 150 CT | 5. | 175 | 18 | 8 | ¾"x⅝"x⅝" |
| AR-165 | Output | 500 CT | 50 | 5. | 175 | 18 | 4 | ¾"x⅝"x⅝" |
| AR-117 | Output | 500 CT | 30 | 5. | 100 | 20 | 1.5 | ¾"x⅝"x⅝" |
| AR-118 | Output | 500 CT | 16 | 5. | 100 | 20 | 1.5 | ¾"x⅝"x⅝" |
| AR-164 | Output | 500 CT | 8 | 5. | 175 | 18 | .8 | ¾"x⅝"x⅝" |
| AR-119 | Output | 500 CT | 3.2 | 5. | 100 | 20 | .3 | ¾"x⅝"x⅝" |
| AR-166 | Output | 400 CT | 16 | 5. | 175 | 16 | 1.3 | ¾"x⅝"x⅝" |
| AR-120 | Output | 400 CT | 11 | 1. | 150 | 20 | .9 | ¾"x⅝"x⅝" |
| AR-167 | Output | 400 CT | 8 or 3.2 | 5. | 175 | 16 | .6/.3 | ¾"x⅝"x⅝" |
| AR-168 | Output | 300 CT | 16 | 6. | 175 | 12 | 1.4 | ¾"x⅝"x⅝" |
| AR-121 | Output | 300 CT | 3.2 | 6. | 150 | 20 | .25 | ¾"x⅝"x⅝" |
| AR-139 | Output | 250 CT | 8 | 2. | 250 | 15 | .7 | 1"x¾"x¾" |
| AR-122 | Output | 250 CT | 3.2 | 2 | 150 | 11 | .3 | 1"x¾"x¾" |
| AR-123 | Input | 200 | 2,000 CT | 2. | 150 | 11 | 50 | 1"x¾"x¾" |
| AR-124 | Output | 200 CT | 16 | 2. | 250 | 20 | 1.3 | ¾"x⅝"x⅝" |
| AR-169 | Output | 200 CT | 8 or 3.2 | 7. | 175 | 9 | .6/.3 | ¾"x⅝"x⅝" |
| AR-140 | Output | 200 CT | 3.2 | 2. | 100 | 10 | .3 | ¾"x⅝"x⅝" |
| AR-170 | Output | 160 CT | 8 or 3.2 | 8. | 350 | 10 | .6/.3 | 1"x¾"x¾" |
| AR-176 | Output | 125 CT | 8 | 8. | 350 | 4 | .7 | 1"x¾"x¾" |
| AR-174 | Output | 125 CT | 3.2 | 8. | 350 | 6 | .3 | 1"x¾"x¾" |
| AR-171 | Output | 100 CT | 10 CT | 10. | 175 | 4 | .8 | ¾"x⅝"x⅝" |
| AR-172 | Output | 48 CT | 8 or 3.2 | 15. | 350 | 2.3 | .6/.3 | 1"x¾"x¾" |
| AR-125 | Input | 3 | 4,000 | 15. | 250 | 14 | 50 | ¾"x⅝"x⅝" |

## HIGH FIDELITY TRANSISTOR TRANSFORMERS

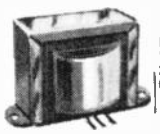
Driver and output transformers, completely encased. Response 20-20,000 cps ± 0.25 db. Output transformer 1.5 watts out 20-20,000 cps ± 2 db. Size 1-5/16" x 1-5/16" x 1¾". Shpg. wt., 9 oz.

**MODEL AR-500 DRIVER TRANSFORMER:** 5000 ohm primary, 3000 ohm CT secondary; dc resistance of primary 50 ohms, secondary 75 ohms; unbalanced primary dc current 20 ma List Price **9.60**

**MODEL AR-501 OUTPUT TRANSFORMER:** Primary 125 ohms CT, secondary 8 ohms; primary dc resistance 4 ohms, secondary 0.8; unbalanced primary current 50 ma. dc.....List Price **9.60**

## HIGH POWER TRANSISTOR AUDIOS

*For the new high-output transistors*



**MODEL AR-503 OUTPUT TRANSFORMER:** 6 watts. 70-20,000 cps ± 2 db. Primary 48 ohms CT, secondary 3.2 ohms; primary dc resistance 1.1 ohms, secondary 0.3; unbalanced primary current 200 ma. dc. Size 1-9/16" x 1⅞" x 1-9/16". Shpg. wt., 1 lb. List Price **2.95**

**MODEL AR-504 INPUT TRANSFORMER:** 2 watts. 70-20,000 cps ± 2 db. Primary 100 ohms, secondary 200 ohms CT. Primary dc resistance 1.8 ohms, secondary 2.7; unbalanced primary current 200 ma. dc .....List Price **2.50**

Write to Factory For Complete Catalog Of Audio & Miniaturization Products

Argonne **ELECTRONICS MFG. CORP.** MANUFACTURERS & IMPORTERS

**OLympia 7-7528**

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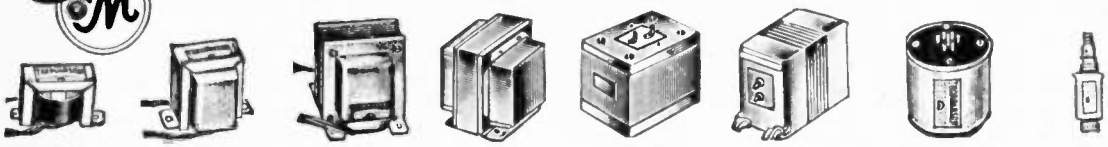
World Radio History

# Thordarson Transformers



BAH-BAV BGH-BGV | FGV | GGV | JUV | KTV | PUV | RAV-RTV | Z

## INPUT-INTERSTAGE TRANSFORMERS

### MICROPHONE, PICKUP OR LINE-TO-GRID

| Thord. No. | Mtg. Type | Turns Ratio | Nom. Impedance Primary | Nom. Impedance Secondary | Mtg. Cntr. | Ht. In. | List Price |
|---|---|---|---|---|---|---|---|
| 20A03† | BAH | 1:3.25<br>1:35 | 10,000<br>200 | 100,000<br>250,000 | 2⅜ | 1⅜ | $ 6.65 |
| 20A00† | BAH | 1:10 | 500/600CT | 60,000CT | 2 | 1⅜ | 5.55 |
| 20A05 | RTV | 1:10 | 500/600CT | 60,000CT | • | 2 | 18.60 |
| 20A31‡ | BHH | 1:13.3 | 500/333/<br>200/125/50 | 89,000CT | 2 13/16 | 2 | 6.70 |
| 20A34 | BAH | 1:15.8 | 400 CT | 100,000 | 1¾ | 1 5/16 | 3.60 |
| 20A32 | BAH | 1:20 | 200/70 | 80,000 | 2 | 1 3/16 | 3.55 |
| 20A33 | BAH | 1:24.5 | 100 | 60,000 | 2 | 1⅜ | 3.60 |
| 20A35 | BAH | 1:31.6 | 50 | 50,000 | 1¾ | 1 5/16 | 3.30 |
| 20A41# | Z | 1:14.2 | 200CT | 40,000 | § | 2 | 31.80 |
| 20A10 | BGH | 1:20 | 500/600CT | 240,000 | 2⅞ | 2 | 5.00 |
| 20A01 | FGV | 1:20 | 500/600CT | 240,000 | 2 5/16 | 2⅜ | 7.25 |
| 20A11† | BGH | 1:20 | 500/600CT | 240,000CT | 2⅞ | 2 | 5.25 |
| 20A02† | FGV | 1:20 | 500/600CT | 240,000CT | 2⅜ | 2⅜ | 8.00 |
| 20A40# | Z | 1:31.6 | 50CT | 50,000 | § | 2 | 30.50 |
| 20A04 | BAH | 1:80 | 3/6 | 38,400 | 2 | 1⅜ | 3.10 |
| 20A30 | BGV | 1:137 | 70 | 1,300,000 | 1½ | 1 7/16 | 4.00 |

†Static Shielded. #Freq. Res., 30-15,000 cps, ±1 db; magnetically shielded. *1 5/16" x 1 5/16". §Cable. ‡Dual primary; when properly connected, 500 and 200 ohm sections CT.

### SINGLE OR PUSH-PULL PLATES TO PUSH-PULL GRIDS

Primary, 10 ma. DC. All have split secondary except 20A19; 20A27 has split primary.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20A25* | RTV | 1:1.41 | 10,000-<br>20,000 CT | 20,000-<br>40,000 CT | † | 2 | $13.65 |
| 20A27* | RTV | 1:2 | 2,500-<br>10,000 CT | 10,000-<br>40,000 CT | # | 3½ | 22.20 |
| 20A19 | BAH | 1:3 | 10,000-<br>20,000 CT | 90,000-<br>180,000 CT | 2⅜ | 1⅜ | 3.30 |
| 20A24 | FGV | 1:3 | 20,000 CT | 180,000 CT | 2⅜ | 2⅜ | 6.80 |

*Fully potted, humbucking coil and core. †1 3/8" x 1 3/8". #2 1/8" x 2 1/8".

### MULTI-PURPOSE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20A06* | RTV | 1:1:1:1 | 35/50 CT<br>200/250CT<br>500/600CT | 35/50 CT<br>200/250CT<br>500/600CT | † | 2 | $14.45 |
| 20A07* | BHH | 1:1:1:1 | 500/333/<br>200/125/50 | 500/333/<br>200/125/50 | 2 13/16 | 2 | 7.20 |
| 20A29# | BAV | 1:1:1:1 | 5,000-<br>15,000 CT | 5,000-<br>15,000 CT | 2 | 1⅞ | 4.00 |

*Low impedance multi-purpose; for line to line or lines, mike to line, mixing low-Z line or mike to pickup. 20A07: Four windings, each tapped; any combination of impedances given may be obtained. #High impedance multi-purpose; for single or push-pull plate to single or push-pull grids, mixing high-Z outputs, driver (2:1). †1 3/8" x 1 3/8".

### SINGLE PLATE TO SINGLE OR PUSH-PULL GRIDS

For 7,000 to 15,000 ohm primary impedance, primary, 10 ma. DC.

| Thord. No. | Mtg. Type | Turns Ratio | Core Center Leg | Mtg. Cntr. | Size, Inches H. x W. x D. | List Price |
|---|---|---|---|---|---|---|
| 20A16 | BAH | 1:2 | ½" x ½" | 2" | 1⅜x2⅛x1¼ | $3.00 |
| 20A17 | RAV | 1:2 | ½" x ½" | * | 2 x1⅝ dia. | 8.90 |
| 20A18 | BAH | 1:3 | ½" x ½" | 2" | 1⅜x2⅛x1¼ | 2.90 |
| 20A22 | BAH | 1:3 | ¾" x 1" | 2 13/16" | 2 x3¼x2⅛ | 4.20 |
| 20A23 | FGV | 1:3 | ¾" x 1" | 2⅜" | 2⅜x2⅞x2⅛ | 8.35 |

*1 3/8" x 1 3/8".

### TUBE TO LINE MIXER

| Thord. No. | Mtg. Type | Primary Impedance | Sec. Imp. | Max. Ma.DC | Watts | List Price |
|---|---|---|---|---|---|---|
| 22S75 | BHH | 7,000 | 50 | 30 | 3 | $3.10 |
| 22S59 | BGH | 15,000 | 500 CT | 10 | 4 | 5.00 |
| 22S77 | BHV | 2500/4000/5000/<br>6000/7000 | 500 | 60 | 10 | 8.30 |
| 22S76 | BHH | 3000/5000/<br>8000/10000/<br>12000/14000 CT | 500 | 60 | 25 | 8.35 |
| 22S90 | FGV | 20000 CT | 125/200<br>500/600 | 25 | 8 | 6.40 |
| 22S92* | RTV | 20000 CT | 125/200<br>500/600 | 10 | 3 | 13.90 |
| 22S91 | BAH | 20000 CT | 125/200<br>500/600 | 25 | 8 | 5.50 |

*Has hum bucking coil and core construction; has a split winding and is applicable to balancing push-pull outputs.

### VARIABLE DC POWER SUPPLY COMPONENT

**Thordarson No. 22R50**—Special phase shift transformer—pri., 117 v. Mtg. type BAH; 3⅛" mtg. cntrs.; 2 3/16" h. x 3 11/16" w. x 2" d. Weight, 1.25 lbs. List Price..... $8.35

## PLATE SUPPLY TRANSFORMERS

### SINGLE HIGH VOLTAGE

Primary 117 v., 50/60 cps. Secondary voltage may be changed by primary tap. Either given voltage available. Static shielded.

| Thord. No. | Mtg. Type | Secondary VAC | Ma. DC | Mtg. Cntrs. | Size, Inches H. x W. x D. | List Price |
|---|---|---|---|---|---|---|
| 21P89 | GGV | 550-0-550 | 175 | 3x2⅛ | 3⅞x3¼x4¼ | $ 16.70 |
| 21P85 | PUV | 855-0-855<br>731-0-731 | 300 | 6⅛x2¼ | 5¼x4⅛x6⅞ | 55.50 |
| 21P87 | GGV | 835-0-835<br>656-0-656 | 220 | 3⅜x3 | 4⅝x3⅞x4½ | 21.65 |
| 21P83 | PUV | 1560-0-1560<br>1250-0-1250 | 200 | 7⅝x2¾ | 6 x4¾x8½ | 69.45 |
| 21P81 | PUV | 1560-0-1560<br>1265-0-1265 | 300 | 10⅛x3⅛ | 6⅞x5⅛x11 | 100.00 |
| 21P82 | PUV | 2335-0-2335<br>1700-0-1700 | 220 | 10⅛x3⅛ | 6⅞x5⅛x11 | 100.00 |

### SINGLE OR MULTIPLE—COMMON CENTER TAP

Primary 117 v., 50/60 cps. Tapped secondary makes possible single rectifier system with choice voltages or a multiple rectifier system with multiple output simultaneously. Static shielded.

| | | | | | | |
|---|---|---|---|---|---|---|
| 21P93 | GGV | 500-0-500<br>1075-0-1075 | 125<br>95 | 3⅝x3 | 4⅝x3⅞x4¾ | $33.30 |
| 21P91 | PUV | 1200-0-1200<br>900-0-900 | 110<br>150 | 6⅞x2¼ | 5¼x4⅛x7⅜ | 83.50 |

Primary 117/230 v., 50/60 cps. Static shielded.

| | | | | | | |
|---|---|---|---|---|---|---|
| 21P79 | PUV | 1875-0-1875<br>1560-0-1560 | 400 | 10⅛x3⅛ | 6⅞x5⅛x11 | $ 97.80 |
| 21P77 | PUV | 3000-0-3000<br>2450-0-2450 | 300 | 10⅛x3⅛ | 9 x6⅜x11 | 152.75 |
| 21P96# | JUV | 3080-0-3080<br>2480-0-2480 | 375 | 6½x5¾ | 9⅞x6¾x8½ | 137.50 |
| 21P75 | PUV | 3000-0-3000<br>2400-0-2400<br>1500-0-1500 | 500 | 12⅛x4¼ | 9⅞x7⅞x13½ | 235.00 |
| 24P79* | CTV | 25,000 (1 kva) | 40 | 3½x4½ | 14x6¾x8½ | 275.00 |

*Plate testing transformer. Pri., 117 v., 60 cps. Has closed core double magnetic circuit; magnetic shunt overload protection; secondary limited to 40 ma at short circuit. Suitable for half-wave rectifiers, testing, air filters, etc. #117 v. primary only.

## MODULATION TRANSFORMERS

### MULTI-MATCH MODULATION TRANSFORMERS

Universal modulation transformers to match any Class B plate load from 2000 to 20,000 ohms to any Class C load from 2000 to 20,000 ohms.

| Thord. No. | Mtg. Type | Ma. DC Pri. | Ma. DC Sec. | Max. Watts | Mtg. Cntrs. | Size, Inches H. x W. x D. | List Price |
|---|---|---|---|---|---|---|---|
| 21M60 | KTV | 50 | 100 | 15 | 2⅛x2½ | 4 x2⅞x3⅞ | $27.75 |
| 21M60A | GTV | 50 | 100 | 15 | 1¾x2 | 3⅛x2⅝x2⅝ | 15.70 |
| 21M61 | PUV | 125 | 250 | 60 | 2⅝x1¾ | 4x3⅛x4⅞ | 39.75 |
| 21M61A | GGV | 125 | 250 | 60 | 2¾x2½ | 3⅞x3¼x4 | 24.45 |
| 21M62 | PUV | 210 | 320 | 125 | 6⅛x2¼ | 5¼x4⅛x6⅞ | 55.00 |
| 21M62A | GGV | 210 | 320 | 125 | 3⅛x3½ | 5¼x4⅛x4¾ | 31.10 |
| 21M64 | PUV | 250 | 500 | 300 | 6⅞x2¾ | 6 x4¾x7¾ | 83.00 |
| 21M65 | PUV | 320 | 640 | 500 | 10x3⅛ | 6⅞x5⅛x11 | 164.00 |

### PLATE MODULATION TRANSFORMERS

| Thord. No. | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Secondary | Ma. DC Pri. | Ma. DC Sec. | Max. Watts | List Price |
|---|---|---|---|---|---|---|---|
| 21M50 | BAH | 10,000CT | 4750 | 30 | 30 | 3 | $ 4.00 |
| 21M52 | FGV | 10,000CT | 3000/3750/<br>4500 | 80 | 80 | 10 | 7.65 |
| 21M53 | BAH | 10,000CT | 3000/3750/<br>4500 | 80 | 80 | 10 | 6.65 |
| 21M68 | BAV | 10,000CT | 4000/5000/<br>7500/10,000/<br>12,000 | 70 | 60 | 10 | 6.10 |
| 21M54 | GGV | 6600CT | 4000 | 100 | 100 | 25 | 11.10 |
| 21M67 | GGV | 10,000CT | 3000/5000/<br>6500/8000 | 100 | 100 | 25 | 9.20 |
| 21M66‡ | KTV | 500 | 5000 to 10,000 | 210 | 200 | 50 | 41.65 |
| 21M56 | GGV | 10,000CT | 3750/6600 | 100 | 200 | 75 | 19.40 |
| 21M58 | KTV | 15,000CT | 6250 | 200 | 200 | 100 | 37.50 |

‡Line modulation.

### HUMBUCKING (3% AND 6% TAPS) SINGLE PLATE TO VOICE COIL (3.5 OHMS)

BAH case, 2" mounting centers, 5 watts. Weight, 0.5 lb.

| Thord. No. | Primary Impedance | Max. Ma. DC | Height Inches | Base Area, Inches | List Price |
|---|---|---|---|---|---|
| 24S50A* | 2000 | 55 | 1⅜ | 2⅛ x 1¼ | $3.05 |
| 24S51A* | 5000 | 40 | 1⅜ | 2⅛ x 1¼ | 3.05 |

*Also for TV replacement.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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

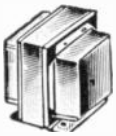
# Thordarson Transformers

BAV-BAH

CAV-LAV

FGV

GGV
GMV-GTV


JUV

PUV

WAV

## FILAMENT TRANSFORMERS

Designed to RETMA standards and color code. 117 v., 50/60 cy.

### WITH SINGLE SECONDARY

| Thord. No. | Mtg. Type | Secondary Volts | Secondary Amps. | RMS Test Volts | Mtg. Ctrs., Inches | List Price |
|---|---|---|---|---|---|---|
| 21F00 | BAV | 2.5 CT | 5 | 2500 | 2⅜ | $ 4.00 |
| 21F31 | BAV | 2.5 CT | 5 | 7500 | 2 13/16 | 5.85 |
| 21F01 | BAV | 2.5 CT | 10 | 2500 | 2¾ | 7.00 |
| 21F02 | CAV | 2.5 CT | 10 | 10000 | 2 x 1¾ | 7.85 |
| 21F02P | WAV | 2.5 CT | 10 | 7500 | 2¾ x 2¾ | 16.70 |
| 21F03* | BAV | 5 CT | 3 | 2500 | 2⅜ | 5.55 |
| 21F05 | CAV | 5 CT | 3 | 10000 | 2 x 1¾ | 9.70 |
| 21F04 | CAV | 5 CT | 8 | 2500 | 2 x 1¾ | 9.45 |
| 21F13 | CAV | 5 CT | 10 | 2500 | 2 x 2⅛ | 8.25 |
| 21F06 | CAV | 5 CT | 13 | 2500 | 2 x 2 | 8.20 |
| 26F66 | LAV | 5 CT | 15 | 2500 | 2 x 2¼ | 11.65 |
| 21F20 | CAV | 5 CT | 15 | 10000 | 2½ x 3 | 13.60 |
| 21F20P | WAV | 5 CT | 15 | 10000 | 3¾ x 4⅝ | 28.85 |
| 21F07 | CAV | 5 CT | 21 | 2500 | 2¼ x 2½ | 15.55 |
| 21F07A | CAV | 5 CT | 29 | 2500 | 2½ x 2½ | 17.75 |
| 21F21* | BAH | 6.3 | 0.6 | 2500 | 2 | 2.75 |
| 21F08* | BAV | 6.3 CT | 1 | 2500 | 2 | 3.20 |
| 21F09* | BAH | 6.3 CT | 1.2 | 2500 | 2¾ | 3.20 |
| 26F60* | BAH | 6.3 | 1.2 | 5000 | 2⅞ | 4.15 |
| 26F65*† | BAH | 6.3 | 1.2 | 5000 | 2⅞ | 4.55 |
| 21F10* | BAH | 6.3 CT | 3 | 2500 | 2⅞ | 5.15 |
| 21F11* | CAV | 6.3 CT | 6 | 2500 | 1¾ x 2 | 6.90 |
| 21F12* | CAV | 6.3 CT | 10 | 2500 | 2 x 2 | 9.45 |
| 21F25‡ | CAV | 6.3 CT | 20 | 2500 | 3 x 2⅜ | 15.75 |
| 21F15 | BAV | 7.5 CT | 4 | 2500 | 2⅞ | 6.95 |
| 21F16 | CAV | 7.5 CT | 8 | 2500 | 2 x 2 | 10.00 |
| 21F17 | CAV | 7.5 CT | 12 | 2500 | 2¼ x 2¼ | 12.75 |
| 21F26♯ | CTH | 7.5 CT | 51 | 8500 | 3⅝ x 4 1/16 | 44.15 |
| 21F18 | CAV | 10 CT | 5 | 2500 | 1¾ x 2 | 10.00 |
| 21F28 | CAV | 10 CT | 8 | 2500 | 2½ x 2⅜ | 10.30 |
| 21F29† | GGV | 10 CT | 8 | 2500 | 2½ x 2⅞ | 11.35 |
| 26F67* | BAH | 12.6 CT | 2 | 2500 | 2⅞ | 5.70 |
| 26F68 | BAH | 24 | 1 | 2500 | 2⅞ | 5.45 |
| 21F27* | BAH | 26.5 CT | 0.6 | 3000 | 2⅞ | 5.55 |

*Also for TV replacement. †6.3 v. primary. ♯117 and 230 v. primary. ‡117/107 v. primary.

### WITH MULTIPLE SECONDARY

| Thord. No. | Mtg. Type | Note | Secondary Volts | Secondary Amps. | Mtg. Cntrs., Inches | Net Each |
|---|---|---|---|---|---|---|
| 21F14 | BAH | 4 | 2.5 or 5 or 6.3 | 2.5 | 2⅞ | $ 3.66 |
| 21F22 | GGV | 1, 4 | 5 7.5-6.3-5 | 3 6 | 2 x 2½ | 8.67 |
| 26F61 | BAH | 3, 4 | 5 CT 6.3 | 3 3.6 | 3⅝ | 4.74 |
| 21F19 | CAV | 2, 4 | 10 CT or 11 CT | 12 11 | 2¼ x 2½ | 9.81 |
| 21F23 | GGV | 4 | 5 CT 6.3 CT | 6 6 | 2¼ x 2½ | 8.34 |
| 21F24 | GGV | 4 | 6.3 6.3 6.3 6.3 | 3 3 3 3 | 2¼ x 2½ | 11.67 |
| 26F69 | HKF | 3, 4 | 6.3 6.3 | 3 6 | 2¼ x 2 13/16 | 6.00 |
| 26F63 | BAV | 3, 5 | 6.3 6.3 | 3 3 | 3⅛ | 4.74 |
| 26F64 | GGV | 3, 6 | 25 6.3 6.3 | .32 6 1.2 | 2 x 1¾ | 7.17 |

1. Only the No. 2 winding is tapped. 2. The secondary voltage can be varied by a primary tap. 3. Also for TV replacement. 4. 2500 rms test volts. 5. 5000 and 5000 rms test volts. 6. 2500 rms test volts, tapped on primary.

## AUTOFORMERS

| Thord. No. | Mtg. Type | Volts Pri. | Volts Sec. | V.A. Rating | Mounting Centers | List Price |
|---|---|---|---|---|---|---|
| 23V21* | GMV | 220/250 | 110/125 | 100 | 1¾" x 2½" | $11.95 |
| 23V22* | GMV | 220/250 | 110/125 | 150 | 2" x 2½" | 15.25 |
| 23V23* | GMV | 220/250 | 110/125 | 250 | 2⅜" x 3" | 19.45 |
| 23V24* | GMV | 220/250 | 110/125 | 500 | 3⅜" x 3" | 25.55 |
| 23V32♯ | JUV | 220/250 | 110/125 | 1000 | 4¼" x 3½" | 59.00 |
| 23V20‡ | GMV | 230 | 115 | 300§ | 3" x 3 1/16" | 20.75 |

*With plug-in receptacle and 6' line cord and plug. ♯With octagon box outlet for house wiring connections. ‡Testing autoformer; tap switch for varying voltage 90-150 v.; primary has 6' cord and plug; secondary connected to female receptacle. §Watts.

## DRIVERS

### SINGLE PLATE TO PUSH-PULL GRIDS

| Thord. No. | Mtg. Type | Pri. Ratio To ½ Sec. | Max. Ma. DC | Mtg. Ctrs. In. | Ht. In. | List Price |
|---|---|---|---|---|---|---|
| 20D75 | BAH | 2.4:1 | 10 | 2 | 1⅜ | $ 4.70 |
| 20D86 | BAH | 2.5:1 | 30 | 2⅞ | 2 | 4.60 |
| 20D77 | FGV | 2.5:1 | 30 | 2⅜ | 2¾ | 7.20 |
| 20D76 | BAH | 5.2:1 | 15 | 2 | 1¾ | 4.70 |

### SINGLE OR PUSH-PULL PLATES TO PUSH-PULL GRIDS

| Thord. No. | Mtg. Type | Pri. Ratio To ½ Sec. | Max. Ma. DC | Mtg. Ctrs. In. | Ht. In. | List Price |
|---|---|---|---|---|---|---|
| 20D85 | BAH | 3:1 | 10 | 2⅜ | 1⅝ | $ 4.70 |
| 20D80 | GGV | 3.2:1, 2:1 | 100 | 1¾x2 | 3⅛ | 8.60 |
| 20D82 | GGV | 3.2:1, 4:1, 5:1 | 100 | 1¾x2 | 3⅛ | 11.10 |
| 20D78 | GGV | 4:1 | 40 | 1¾x2 | 3⅛ | 10.15 |
| 20D81 | GGV | 5:1 | 100 | 2¼x2½ | 3⅞ | 10.55 |
| 20D87 | BAH | 5.2:1 | 30 | 2⅞ | 2 | 8.35 |
| 20D79 | FGV | 5.2:1 | 30 | 2¾ | 2¾ | 8.55 |

### LINE TO PUSH-PULL GRIDS—UNIVERSAL TYPE

Units are for 500 ohm line and are center-tapped.

| | | | | | |
|---|---|---|---|---|---|
| 20D84* | GTV | 1:0.75 to 1:3.15 | 2x2¼ | 3½ | $24.45 |
| 20D83♯ | PUV | 1:0.75 to 1:3.15 | 4⅝x1⅝ | 4 | 42.20 |

*20 watts max.; split windings for balancing and/or inverse feedback use. ♯20 watts max.

## ISOLATION TESTING TRANSFORMER

Used to apply overload to amplifiers, radios, etc., to cause suspected parts to break down during testing. Primary, 117 v.; secondary, 105/115/125 v. 350 watts. 3½" x 3⅞" mtg. centers. Size: 5⅜" h. x 4½" w. x 5¾" d. With 6' cord. GMV mtg. Has electrostatic shield.

**Thordarson No. 23V19—List Price..... $34.75**

## ISOLATION CONTROL 1:1:1:1 MULTI-PURPOSE (MTG. CTH)

Available with single or double fusing. Four isolated windings with seven possible combinations for step-up, step-down, and isolation applications. Suitable for 220 volt line step-down. Primary and Secondary Volts: 115/230.

| Thord. No. | V.A. Rating | Mounting Ctrs., In. | Size, Inches H. x W. x D. | Wt., Lbs. | List Price |
|---|---|---|---|---|---|
| 23V34 | 50 | 2½x2⅛ | 2⅝x3 x2½ | 2.75 | $11.40 |
| 23V35 | 100 | 3⅛x2⅛ | 3¼x3¾x2⅞ | 5.0 | 19.45 |
| 23V36 | 200 | 3¾x2¾ | 2⅞x4½x3⅝ | 9.0 | 24.45 |
| 23V37 | 300 | 4⅛x2⅞ | 4⅛x4⅞x3¾ | 11.0 | 37.50 |
| 23V38 | 500 | 4⅛x4⅛ | 4⅛x4⅞x5 | 17.0 | 44.50 |
| 23V39 | 1000 | 5⅝x4½ | 5⅝x6¾x5½ | 23.0 | 61.05 |

## ISOLATION TRANSFORMERS

Static shielded; 50/60 cps line. Primary: 105/115/125 v. Secondary: 115 v.

| Thord. No. | Mtg. Type | V.A. Rating | Mounting Centers | Size H. x W. x D. | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| 23V25* | GMV | 100 | 2¾" x 2⅝" | 4¼" x 3½" x 3⅞" | 6.25 | $22.20 |
| 23V26* | PUV | 300 | 2¾" x 6¼" | 6" x 4¾" x 7½" | 18.0 | 44.50 |
| 23V28* | GMV | 500 | 4⅜" x 4½" | 7⅝" x 6½" x 7⅝" | 22.0 | 65.75 |
| 23V27♯ | JUV | 1000 | 4⅝" x 5¾" | 9⅞" x 6¾" x 6¼" | 38.0 | 85.60 |
| 23V17† | BAH | 35 | 3⅛" | 2¼" x 3 13/16" x 2¼" | 1.75 | 7.40 |
| 23V18† | GGV | 80 | 2¼" x 2 1/16" | 3⅞" x 3 1/16" x 3½" | 5.0 | 11.50 |
| 23V33† | GGV | 185 | 2¾" x 3 1/16" | 4⅛" x 3 1/16" x 4¼" | 6.2 | 19.50 |

*With plug-in receptacle and 6' line cord and plug. ♯With octagon box outlet for house wiring connections. †Primary, 117 v.; secondary, 117 v.

## CONTROL AND POWER CIRCUIT TRANSFORMERS (MTG. GGV)

For operating relays, sirens, horns, etc., from 115 volt, 50/60 cps line. Secondary Volts: 4, 8, 12, 16, 24.

| Thord. No. | V.A. Rating | Mounting Ctrs., In. | Size, Inches H. x W. x D. | Wt., Lbs. | List Price |
|---|---|---|---|---|---|
| 23V40 | 50 | 1⅞x2¼ | 3 9/16x3 x3½ | 3 | $11.10 |
| 23V41 | 100 | 2⅛x2½ | 4 x3¼x4 | 5 | 14.70 |
| 23V42 | 250 | 3¼x3 | 4⅝x4 x5 | 10 | 23.90 |

## LINE VOLTAGE REGULATORS

Provide 115 v. output for appliances despite great line voltage variations. Also useful for altering 115 v. line. Input Voltage (50/60 cps): 65/75/90/100/115/130/145 v. Output receptacle and voltmeter internally connected to 115 v. tap. GMV mounting type with meter. With 6' cord and plug.

| Thord. No. | V.A. | Mounting Centers | Size H. x W. x D. | Wt., Lbs. | List Price |
|---|---|---|---|---|---|
| 23V11 | 150 | 2¾" x 4¼" | 5⅛" x 3½" x 5½" | 5.5 | $24.00 |
| 23V12 | 350 | 2¾" x 5" | 5⅛" x 3½" x 6⅛" | 8.0 | 30.55 |
| 23V13 | 500 | 3" x 5 13/16" | 5½" x 3⅞" x 6⅞" | 15.0 | 38.50 |
| 23V14 | 750 | 3½" x 6⅝" | 6⅛" x 4½" x 8⅛" | 19.0 | 50.00 |
| 23V09 | 1100 | 3½" x 7¾" | 6 1/16" x 4½" x 10" | 25.0 | 75.00 |

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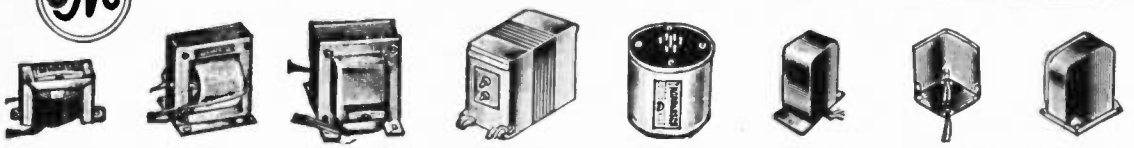
World Radio History

# Thordarson Transformers



BAH-BAV BGH | CAV | GGV | PUV | RAV | TAV | VAV-VIB | WAV-WTV

## AUTO RADIO VIBRATOR TRANSFORMERS

**EXACT REPLACEMENT FOR 6 VOLT BATTERY AND VIBRATOR**

| Thord. No. | Mtg. Type | Original Part No. | VDC-Fltr. | Ma. DC | Mtg. Cntrs. | Ht., In. | List Price |
|---|---|---|---|---|---|---|---|
| 22R55 | BAV | 65-0404 | 150 | 40 | 2⅜ | 2¼ | $5.75 |
| 22R57 | HFF | 25B591533<br>25C500189 | 150 | 50 | 1¾ | 2 | 5.15 |
| 22R61 | BAV | TV-100 | 225 | 50 | 2 13/16 | 2⅝ | 6.65 |
| 22R63 | HFF | 25K512083 | 225 | 50 | 1¾ | 2¼ | 7.25 |
| 22R67 | VIB | 25B472533<br>141-0010 | 250 | 60 | * | 3 1/16 | 8.45 |
| 22R69 | DAF | 32-8313-1 | 260 | 60 | # | 2¼ | 6.40 |
| 22R71† | VIB | 7255881 | 265 | 55 | * | 3¼ | 9.60 |
| 22R73 | VIB | C-217020 | 270 | 60 | * | 2⅝ | 8.35 |
| 22R75 | VIB | 6060 | 270 | 75 | * | 3 1/16 | 9.60 |
| 22R77† | VIB | 7240519 | 280 | 65 | * | 3⅞ | 11.00 |
| 22R89†§ | VIB | 6064, 6066 | 240 | 60 | * | 3⅛ | 8.90 |
| 22R52§ | DAF | 6065, 6067 | 270 | 78 | # | 2¼ | 5.55 |

§Exact replacement for 6 or 12 volt battery and vibrator. †Built-in hash filter. #1¾" x 2 1/16". *Exact.

**6 VOLT BATTERY AND VIBRATOR**

| Thord. No. | Mtg. Type | Secondary AC Volts | VDC-Fltr. | Ma. DC | Mtg. Cntrs. In. | Ht. In. | List Price |
|---|---|---|---|---|---|---|---|
| 22R25 | VIB | 150-0-150 | 150 | 40 | 1½x1½ | 2⅝ | $ 8.35 |
| 22R23 | VAV | 160-0-160 | 160 | 80 | 1 11/16x1⅜ | 2 9/16 | 7.75 |
| 22R29 | VIB | 210-0-210 | 210 | 60 | 1½x1½ | 2⅝ | 8.60 |
| 22R28 | VIB | 240-0-240 | 240 | 80 | 1½x1½ | 2⅝ | 10.00 |
| 22R27 | VIB | 250-0-250 | 250 | 50 | 1½x1½ | 2⅝ | 8.60 |
| 22R20 | CAV | 250-0-250 | 250 | 50 | 1½x1¾ | 2⅝ | 8.90 |
| 22R26 | VIB | 250-0-250 | 250 | 80 | 1½x1½ | 2⅝ | 10.10 |
| 22R18 | CAV | 320-0-320 | 285 | 75 | 1¾x1¾ | 2⅝ | 10.00 |
| 22R22 | CAV | 325-0-325 | 325 | 75 | 2 x2½ | 3⅛ | 10.00 |
| 22R19 | CAV | 330-0-330 | 330 | 100 | 2¼x2¼ | 3½ | 11.00 |
| 22R54#* | VIB | 200-0-200 | 200 | 60 | 1½x1½ | 2⅝ | 8.60 |
| 22R79# | BAV | 225-0-225 | 225 | 50 | 2 13/16 | 2⅝ | 6.10 |
| 22R53#* | VIB | 240-0-240 | 240 | 60 | 1½x1½ | 2⅝ | 9.45 |

#For 12 volt battery and vibrator. *Built-in hash filter.

## SELENIUM RECTIFIER TRANSFORMERS

Full wave. Primary, 117 v., 50/60 cps AC. Mtg. type LHV.

| Thord. No. | Center-Tapped Fed.* No. | Center-Tapped S-T# No. | Center-Tapped R-R† No. | Bridge Fed.* No. | Bridge S-T# No. | Bridge R-R† No. | List Price |
|---|---|---|---|---|---|---|---|
| 23V60 | ..... | D-10 | S1C1S1G | 210 | D-52 | S1B1S1G | $ 8.00 |
| 23V61 | 010<br>011 | D-11 | ..... | 211 | D-17 | U1B1S1G | 10.60 |
| 23V62 | 012<br>013 | D-12<br>D-13 | U1C1S1G<br>T1C1S1G<br>W1C1S1G | 212 | D-18 | U1B1S1G | 13.40 |
| 23V63 | 014 | D-14 | H1C1S1G | 213 | D-19 | W1B1S1G | 17.80 |
| 23V64 | 015 | D-15 | L1C1S1G | 214 | D-20 | H1B1S1G<br>T1B1S1G | 21.10 |
| 23V65 | ..... | ..... | ..... | 216§<br>312<br>313 | D-22§<br>D-26<br>D-27 | L1B1C1G§<br>H2B1S1G<br>T2B1S1G<br>W2B1S1G | 47.10 |
| 23V66 | 016 | D-16 | ..... | 215 | D-21 | ..... | 32.75 |
| 23V67 | ..... | ..... | ..... | 217§<br>314 | D-23§<br>D-28 | L1B2S1G§<br>L2B1S1G | 63.75 |
| 23V68‡ | ..... | ..... | ..... | 413 | D-34 | H4B1S1G | 27.75 |
| 23V69‡ | ..... | ..... | ..... | 814 | D-48 | W6B1S1G | 27.75 |

*Federal Telephone & Radio. #Sarkes-Tarzian. †Radio Receptor. §Parallel secondary windings. ‡Autoformer; GGV mtg. type.

## AUTOMATION CONTROL TRANSFORMERS

For automation equipment relays and pilot lamps. Primary, 115/230 v., 50/60 cps.

| Thord. No. | Mtg. Type | Secondary Parallel | Secondary Series | V.A. | Mounting Centers | List Price |
|---|---|---|---|---|---|---|
| 23V50 | BHV | 6 v. @ 2 a. | 12 v. @ 1 a. | 12 | 2⅜" | $ 6.00 |
| 23V51 | BHV | 6 v. @ 4 a. | 12 v. @ 2 a. | 24 | 2⅞" | 9.00 |
| 23V52 | BHV | 12 v. @ 4 a. | 24 v. @ 2 a. | 48 | 3⅛" | 12.00 |
| 23V53 | CHV | 12 v. @ 8 a. | 24 v. @ 4 a. | 96 | 2⅜" x 2¼" | 16.00 |
| 23V54 | CHV | 12 v. @ 16 a. | 24 v. @ 8 a. | 192 | 2⅞" x 2¾" | 22.00 |

## TUBE CHECKER FILAMENT TRANSFORMER

Multi-tapped. Secondary Volts: 1.1/1.4/1.5/2.0/2.5/3.0/3.3/5.0/6.3/7.0/7.5/12/25/30/35/50/70/85/110/117 v. Primary Volts: 125/115/105 v. Mounting type BHH. 3 1/16" mounting centers. Size: 2⅝" h. x 4" w. x 2" d.

**Thordarson No. 21F30**—List Price..... **$15.75**

## TONE CONTROL UNIT

Write for free literature and circuit diagram. RAV case, 2" high, 1¾" base area.

| Thord. No. | Application | Mtg. Centers, In. | Wt. Lbs. | List Price |
|---|---|---|---|---|
| 20C74 | 22 H Inductance Choke 0 DC Ma. for supplied circuit. | 1⅜ x 1⅜ | 0.5 | $13.50 |
| R-1068X | Dual Tone Potentiometer to accompany 20C74. | | | 7.00 |

## UNIVERSAL CHOKES

Designed for maximum filtering and regulation with minimum size. Rated at 50 volt: 60 cycles at current ratings given.

| Thord. No. | Mtg. Type | Note | Inductance Henries | Inductance At Ma. DC | DC Res., Ohms | Mtg. Centers, Inches | List Price |
|---|---|---|---|---|---|---|---|
| 20C58 | BAH | 1, 2, 4 | 0.75<br>0.75 | 0.5<br>10 | 30 | 2⅜ | $ 4.00 |
| 20C50 | BAH | 1, 4 | 350<br>150 | 5<br>15 | 5500 | 2 13/16 | 5.95 |
| 20C63 | TAV | 1, 4 | 135 | 5 | 6500 | 2⅜ x 1½ | 7.00 |
| 26C40 | BAH | 4 | 1.5 | 10 | 95 | 1¾ | 2.22 |
| 20C51 | BAH | 2, 4 | 35 | 15 | 1850 | 2 | 2.35 |
| 20C52 | BAH | 1, 4 | 12<br>8<br>4 | 20<br>40<br>65 | 450 | 2 | 2.10 |
| 26C42 | BAH | 1,3,4 | 4.5 | 50 | 200 | 2⅜ | 2.30 |
| 20C66 | BAH | 1, 4 | 9 | 50 | 500 | 2⅜ | 2.20 |
| 20C59 | BAH | 1, 4 | 9<br>7<br>5 | 45<br>55<br>65 | 200 | 2⅜ | 2.80 |
| 26C87 | BAH | 4 | 16 | 50 | 580 | 2 13/16 | 2.85 |
| 26C84 | BGH | 3, 4 | 9 | 70 | 270 | 2 13/16 | 4.00 |
| 26C82 | BAH | 3, 4 | 3.2 | 75 | 120 | 2⅜ | 2.85 |
| 26C86 | BAH | 4 | 15 | 75 | 400 | 3⅛ | 3.55 |
| 20C71 | GGV | 4 | 16 | 80 | 360 | 2 x 1 11/16 | 5.95 |
| 20C67 | TAV | 4 | 5 | 100 | 300 | 2⅜ x 1½ | 5.25 |
| 26C85 | BAH | 5 | 10.5 | 110 | 225 | 3 9/16 | 4.85 |
| 26C83 | BAH | 3, 4 | 7 | 125 | 300 | 2 13/16 | 3.85 |
| 26C88 | BAH | 3, 6 | 2.5 | 130 | 100 | 2 13/16 | 3.40 |
| 26C89 | BAH | 3, 4 | 2.3 | 150 | 60 | 2 13/16 | 3.40 |
| 20C68 | BAH | 4 | 7 | 150 | 200 | 3 9/16 | 5.50 |
| 20C65 | BAV | 4 | 6 | 75 | 200 | 2⅜ | 3.30 |
| 20C53 | BAH | 2, 3, 4 | 17<br>12<br>8 | 60<br>80<br>100 | 375 | 2 13/16 | 3.50 |
| 20C64 | BAH | 3, 4 | 7<br>4<br>3 | 100<br>130<br>150 | 100 | 3⅛ | 4.20 |
| 20C54 | GGV | 7 | 12<br>8<br>4 | 100<br>150<br>200 | 145 | 1¾ x 2 | 6.95 |
| 20C54P | WAV | 7 | 12<br>8<br>4 | 100<br>150<br>200 | 145 | 2¾ x 2⅜ | 12.75 |
| 26C41 | BAH | 3, 4 | 1.5 | 200 | 90 | 2⅜ | 2.65 |
| 26C43 | BAH | 3, 4 | 2 | 200 | 50 | 2 13/16 | 4.20 |
| 20C49 | BAH | 3, 7 | 5<br>4.5<br>4 | 150<br>200<br>250 | 58 | 3⅝ | 5.00 |
| 26C90 | GGV | 3, 5 | 4 | 250 | 60 | 2¼ x 2¾ | 11.60 |
| 20C55 | GGV | 3, 7 | 9<br>6<br>2 | 150<br>200<br>300 | 75 | 2 x 2¼ | 8.65 |
| 20C55P | WAV | 7 | 9<br>6<br>2 | 150<br>200<br>300 | 75 | 3⅛ x 3⅜ | 14.45 |
| 26C45 | GGV | 3, 5 | 10 | 200 | 140 | 2⅞ x 2¼ | 9.45 |
| 26C93 | BAH | 4 | 1 | 300 | 43 | 3⅛ | 4.50 |
| 26C91 | BAH | 3, 4 | 2.8 | 300 | 60 | 3 9/16 | 4.70 |
| 20C69 | GGV | 5 | 8 | 300 | 80 | 3 x 2 13/16 | 16.10 |
| 20C70 | CAV | 5 | 8 | 300 | 80 | 3 x 2½ | 15.95 |
| 26C92 | BAH | 3, 4 | 0.8 | 375 | 25 | 3⅛ | 5.60 |
| 26C44 | BAH | 3, 4 | 1 | 300 | 60 | 2 13/16 | 4.70 |
| 20C56 | GGV | 3, 8 | 8 | 250 | 60 | 3 x 2½ | 14.05 |
| 20C56P | WTV | 8 | 8 | 250 | 60 | 3⅛ x 3⅜ | 22.20 |
| 20C57 | PUV | 9 | 10 | 500 | 65 | 7 x 2¾ | 59.75 |

1. Applicable to AC/DC replacement and transformer type power supplies. 2. Has audio reactor applications. 3. Also for TV replacement. **RMS TEST VOLTS:** 4. 2500. 5. 3000. 6. 2000. 7. 2700. 8. 3500. 9. 7500.

## PHOTO FLASH POWER TRANSFORMERS (MTG. BAV)

| Thord. No. | Primary | Secondary Volts | Secondary Ma. DC | Filament | Mtg. Cntrs. In. | Ht., In. | List Price |
|---|---|---|---|---|---|---|---|
| 22R41 | 4 VDC | 450 VDC<br>900 VDC* | 16<br>8 | ..... | 2⅜ | 2⅜ | $ 5.55 |
| 22R42 | 117 v., 60 cps | 1880 AC | 1.5 | 2.5 @ 1.75 | 3⅝ | 2½ | 11.00 |
| 22R43 | 117 v., 60 cps# | 1100 AC<br>2200 AC* | 4<br>2 | ..... | 2 13/16 | 2¾ | 13.90 |
| 22R44 | Discharge from 200 v. cond. | 15 KV Peak | ..... | ..... | † | 1½ | 8.35 |
| 22R24§ | 6 v. VIB or 117 v.* | 350–0–350 | 135 | 6.3 @ 4.7‡ | 3 x 3⅛ | 4⅝ | 18.35 |

*Voltage obtained in voltage doubler circuits. #Or 4 VDC. §Mtg. GGV. †Single hole mounting. ‡With 117 v. only. *60 cps.



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Thordarson Transformers

AGF

BAH-BGV

GGV

WAV

## POWER TRANSFORMERS

All primaries are 117 volt 50/60 cycle. These units are designed to RETMA standards and color code.

### FULL WAVE—SINGLE HIGH VOLTAGE SECONDARY

| Type No. | Mtg. Type | Note | Plate Supply AC Volts | Plate Supply Ma. DC | Rect. Fil. Volts | Rect. Fil. Amps. | Other Fils. Volts | Other Fils. Amps. | Mtg. Centers, In. | Height Inches | Base WxD Inches | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22R38 | AGF | 4, 5 | 180–0–180 | 42 | | | 6.3 CT | 2.8 | 1¾ x 2¼ | 2¾ | 2⅝ x 2¼ | 1.8 | $11.00 |
| 24R10 | GGV | 1 | 220–0–220 | 50 | 6.3 | 0.6 | 25.2 | 0.5 | 2 x 1 9/16 | 3 3/16 | 2⅝ x 2⅝ | 2.2 | 8.20 |
| 24R11U | GGV | 1 | 230–0–230 | 50 | ..... | ..... | 6.3 | 2.5 | 2 x 1 9/16 | 3 3/16 | 2⅝ x 2⅝ | 2.2 | 7.25 |
| 24R11 | AGF | 1, 4 | 230–0–230 | 50 | ..... | ..... | 6.3 | 2.5 | 2 x 2½ | 2⅞ | 2½ x 3 | 2.2 | 7.25 |
| 24R00 | AGF | 4, 6 | 240–0–240 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2 x 2½ | 2⅞ | 3 x 2½ | 2.0 | 7.50 |
| 24R00U | GGV | 6 | 240–0–240 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 1⅝ x 2 | 3⅛ | 2⅝ x 2⅝ | 2.0 | 7.50 |
| 24R12U | GGV | 1 | 240–0–240 | 70 | ..... | ..... | 6.3 | 3.0 | 2 x 1 13/16 | 3 3/16 | 2⅝ x 2⅞ | 2.6 | 8.30 |
| 24R12 | AGF | 1, 4 | 240–0–240 | 70 | ..... | ..... | 6.3 | 3.0 | 2 x 2½ | 2⅞ | 2½ x 3 | 2.6 | 8.30 |
| 22R00 | AGF | 4, 6 | 250–0–250 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2 x 2½ | 2½ | 3 x 2½ | 1.75 | 8.30 |
| 22R08 | AGF | 4, 8 | 250–0–250 | 40 | 5.0 | 2.0 | 2.5 CT | 4.0 | 2 x 2½ | 2½ | 2½ x 3 | 1.75 | 8.30 |
| 24R09U | GGV | 6 | 250–0–250 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2 x 2 1/16 | 3 3/16 | 2⅝ x 3⅛ | 3.2 | 9.30 |
| 24R09 | AGF | 4, 6 | 250–0–250 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2 x 2½ | 3⅛ | 2½ x 3 | 3.2 | 9.30 |
| 24R13 | AGF | 4, 6 | 260–0–260 | 90 | 5.0 | 2.0 | 6.3 CT | 3.0 | 2¼ x 2 13/16 | 3⅜ | 2⅞ x 3⅛ | 4.0 | 10.45 |
| 24R13U | GGV | 6 | 260–0–260 | 90 | 5.0 | 2.0 | 6.3 CT | 3.0 | 2¼ x 2¼ | 3⅜ | 3 x 3½ | 4.0 | 10.45 |
| 26R31U | GGV | 1 | 260–0–260 | 90 | | | 6.3 | 3.5 | 2 x 2¼ | 3⅛ | 2⅝ x 3⅛ | 3.5 | 8.90 |
| 22R01 | AGF | 4, 6 | 275–0–275 | 50 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2 x 2½ | 2½ | 3 x 2½ | 2.25 | 10.00 |
| 22R09 | AGF | 4, 8 | 275–0–275 | 50 | 5.0 | 2.0 | 2.5 CT | 7.5 | 2 x 2½ | 2⅞ | 2½ x 3 | 2.25 | 10.00 |
| 22R30 | GGV | 6 | 275–0–275 | 50 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2 x 2¼ | 3⅛ | 2⅝ x 3⅛ | 2.25 | 10.40 |
| 22R02 | AGF | 4, 7 | 300–0–300 | 70 | 5.0 | 2.0 | 6.3 CT | 3.0 | 2 x 2½ | 3⅛ | 2½ x 3 | 2.75 | 11.95 |
| 22R04 | AGF | 4, 7 | 300–0–300 | 90 | 5.0 | 2.0 | 6.3 CT | 3.5 | 2¼ x 2⅞ | 3¼ | 2⅝ x 3¾ | 3.0 | 11.65 |
| 22R05 | AGF | 4, 7 | 300–0–300 | 120 | 5.0 | 3.0 | 6.3 CT | 5.0 | 2½ x 3⅛ | 3⅝ | 3⅛ x 3¾ | 4.25 | 12.75 |
| 24R01 | AGF | 4, 7 | 325–0–325 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2 x 2½ | 2⅞ | 3 x 2½ | 2.5 | 7.65 |
| 24R01U | GGV | 7 | 325–0–325 | 40 | 5.0 | 2.0 | 6.3 CT | 2.0 | 1¾ x 2 | 3⅛ | 2⅝ x 2⅝ | 2.5 | 7.65 |
| 22R13 | AGF | 4, 8 | 325–0–325 | 40 | 5.0CT | 2.0 | 2.5 CT | 4.0 | 2 x 2½ | 2¾ | 2½ x 3 | 2.5 | 9.98 |
| 24R08U | GGV | 7 | 325–0–325 | 55 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2 x 2 1/16 | 3 3/16 | 2⅝ x 3⅛ | 3.2 | 8.40 |
| 24R08 | AGF | 4, 7 | 325–0–325 | 55 | 5.0 | 2.0 | 6.3 CT | 2.0 | 2 x 2½ | 3⅛ | 2½ x 3 | 3.2 | 8.40 |
| 22R37 | AGF | 4, 8 | 325–0–325 | 80 | 5.0 | 2.0 | 6.3 | 1.2 | 2 x 2½ | 3½ | 2½ x 3 | 3.5 | 12.50 |
| 22R10 | AGF | 4, 8 | 325–0–325 | 85 | 5.0 | 2.0 | 2.5 CT<br>2.5 CT | 9.0<br>3.5 | 2½ x 3⅛ | 3⅜ | 3⅛ x 3¾ | 3.2 | 14.20 |
| 22R11 | AGF | 4, 8 | 325–0–325 | 120 | 5.0 | 3.0 | 2.5 CT<br>2.5 CT | 5.0<br>12.5 | 2½ x 3⅛ | 4⅛ | 3⅛ x 3¾ | 5.5 | 12.75 |
| 22R14 | WAV | 8 | 325–0–325<br>77v.BiasTap | 135 | 5.0<br>5.0 | 3.0<br>2.0 | 6.3 CT<br>6.3 CT | 2.0<br>4.0 | 3¾ x 4⅝ | 5¾ | 4⅝ x 5⅝ | 12.75 | 37.50 |
| 22R06 | AGF | 4, 7 | 325–0–325 | 150 | 5.0 | 3.0 | 6.3 CT | 5.0 | 2½ x 3⅛ | 4⅛ | 3⅛ x 3¾ | 5.5 | 14.90 |
| 24R02 | AGF | 4, 7 | 350–0–350 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2¼ x 2⅞ | 3⅞ | 2⅞ x 3¾ | 3.8 | 9.55 |
| 24R02U | GGV | 7 | 350–0–350 | 70 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2¼ x 2¼ | 3½ | 2⅞ x 3½ | 3.8 | 9.55 |
| 22R16 | WAV | 7 | 350–0–350 | 85 | 5.0 | 2.0 | 6.3 CT | 2.25 | 3⅛ x 3⅝ | 4⅞ | 3¾ x 4¼ | 7.2 | 19.45 |
| 24R04 | AGF | 4, 7 | 350–0–350 | 90 | 5.0 | 3.0 | 6.3 CT | 3.5 | 2¼ x 2⅞ | 4 | 2⅞ x 3⅝ | 4.5 | 11.10 |
| 24R04U | GGV | 7 | 350–0–350 | 90 | 5.0 | 3.0 | 6.3 CT | 3.5 | 2¼ x 2⅝ | 3½ | 2⅞ x 3⅞ | 4.5 | 11.10 |
| 22R32 | GGV | 8 | 350–0–350 | 110 | 5.0 | 2.0 | 6.3 CT<br>6.3 CT | 3.0<br>3.0 | 2½ x 2¾ | 3⅞ | 3¼ x 4 | 5.8 | 18.30 |
| 22R15 | WAV | 8 | 350–0–350 | 110 | 5.0 | 2.0 | 6.3 CT<br>6.3 CT | 3.0<br>3.0 | 3½ x 3⅝ | 5½ | 4⅛ x 4¼ | 8.1 | 27.50 |
| 24R05 | AGF | 4, 7 | 350–0–350 | 120 | 5.0 | 3.0 | 6.3 CT | 4.7 | 2½ x 3⅛ | 4⅛ | 3⅛ x 3¾ | 5.75 | 11.75 |
| 24R05U | GGV | 7 | 350–0–350 | 120 | 5.0 | 3.0 | 6.3 CT | 4.7 | 2¾ x 2½ | 3⅞ | 3¼ x 4 | 5.75 | 11.75 |
| 22R07 | AGF | 4, 7 | 350–0–350 | 200 | 5.0 | 3.0 | 6.3 CT | 6.0 | 3 x 3¾ | 3⅞ | 3¾ x 4½ | 7.5 | 19.45 |
| 22R31 | GGV | 7 | 360–0–360 | 80 | 5.0 | 2.0 | 6.3 CT | 2.5 | 2 x 2¾ | 3⅛ | 2 9/16 x 4 | 4.0 | 14.75 |
| 22R17 | WAV | 7 | 375–0–375 | 160 | 5.0 | 3.0 | 6.3 CT | 3.5 | 3¾ x 4⅝ | 5¾ | 4⅝ x 5⅜ | 12.25 | 30.55 |
| 22R33 | GGV | 7 | 375–0–375 | 160 | 5.0 | 3.0 | 6.3 CT | 5.0 | 2⅞ x 3 | 4⅝ | 3⅞ x 4 | 7.5 | 19.45 |
| 22R34 | GGV | 4, 7 | 385–0–385 | 225 | 5.0 | 3.0 | 6.3 CT | 5.0 | 3 x 3 5/16 | 4⅝ | 3⅞ x 4 1/16 | 11.2 | 22.20 |
| 24R07 | AGF | 4, 7 | 400–0–400 | 200 | 5.0 | 3.0 | 6.3 CT | 5.0 | 3 x 3¾ | 4½ | 3¾ x 4½ | 9.25 | 15.85 |
| 24R07U | GGV | 7 | 400–0–400 | 200 | 5.0 | 3.0 | 6.3 CT | 5.0 | 3 x 3 3/16 | 4⅝ | 3⅞ x 4½ | 9.5 | 15.85 |
| 24R03 | GGV | 7 | 400–0–400 | 250 | 5.0 | 4.0 | 6.3 CT | 5.0 | 3 x 3 5/16 | 4¾ | 4 x 4½ | 10.0 | 19.90 |
| 22R35 | GGV | 7 | 400–0–400 | 340 | 5.0 | 6.0 | 6.3 CT | 7.0 | 3 x 4 | 4⅝ | 3⅞ x 5¼ | 12.5 | 27.20 |
| 22R36 | GGV | 7 | 600–0–600 | 200 | 5.0 | 3.0 | 6.3 | 5.0 | 3 x 3 3/16 | 4⅝ | 3⅞ x 4½ | 9.5 | 20.00 |

### HALF WAVE RECTIFIERS

| Type No. | Mtg. Type | Note | Plate Supply AC Volts | Plate Supply Ma. DC | Rect. Fil. Volts | Rect. Fil. Amps. | Other Fils. Volts | Other Fils. Amps. | Mtg. Centers, In | Height Inches | Base WxD Inches | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26R32 | BGV | 1, 5 | 117 | 20 | ..... | ..... | 6.3 CT | 0.7 | 2 | 2 | 1⅝ x 2½ | 0.75 | $ 5.40 |
| 26R14 | AGF | 4 | 117 | 200 | 6.3 | 4.5 | 6.3<br>6.3 | 4.0<br>2.0 | 2¾ x 2½ | 3½ | 3½ x 4⅛ | 6.2 | 17.50 |
| 26R37 | BAV | 1 | 125 | 15 | ..... | ..... | 6.3 | 0.6 | 2 | 2 | 2⅜ x 1⅜ | 0.7 | 3.50 |
| 26R38 | BAH | 1 | 125 | 50 | ..... | ..... | 6.3 | 2.0 | 3⅛ | 2¼ | 3¾ x 2⅛ | 1.5 | 5.80 |
| 22R12 | BAH | 1, 5 | 150 | 50 | ..... | ..... | 6.3 | 1.5 | 3⅛ | 2¼ | 2 x 3¾ | 1.5 | 6.40 |
| 26R28U | GGV | 2, 3 | 1750 | 2 | 2.5 | 2 | 6.3<br>2.5 | 2 or<br>2 | 2 x 2 | 3⅛ | 2⅝ x 2⅞ | 2.6 | 13.90 |
| 22R40 | GGV | 2, 3 | 1800 | 2 | 2.5 | 1.8 | 6.3 or<br>2.5 | 0.6 or<br>2.2 | 2½ x 2⅞ | 3⅞ | 3¼ x 3¾ | 5 | 22.20 |
| 24R91 | GGV | 2, 3 | 1800 | 4 | 2.5 | 1.75 | ..... | ..... | 2 x 2 | 3⅛ | 2⅝ x 2⅞ | 2.7 | 12.20 |
| 22R42 | BAH | 2, 3 | 1880 | 1.5 | 2.5 | 1.75 | ..... | ..... | 3⅞ | 2½ | 2⅝ x 4 | 2 | 11.00 |
| 24R92 | GGV | 3 | 2400 | 5 | 2.5 | 1.75 | ..... | ..... | 2¾ x 2¾ | 4¼ | 3½ x 3⅞ | 5.6 | 17.75 |
| 26R29U | GGV | 3 | 2500 | 5 | 2.5 | 2 | 6.3 or<br>2.5 | 3.0 or<br>3.0 | 2¼ x 2½ | 3⅞ | 3¼ x 3½ | 4.6 | 17.75 |

**1.** For use with 6AX5, 6X4, 6X5 or selenium rectifiers. **2.** Applicable to photoflash circuits. See the photoflash listings for supplementary units. **3.** May be used in cathode ray tube applications. **4.** Universal mounting brackets provide for flush, vertical or horizontal placement. **5.** May be used as bias supply transformers. **6.** Provides approximately 260 v. to condenser input filter. **7.** Choke input filter, VR-tube regulated supply, speaker field for filter supplies, or condenser input filter. **8.** Special or combination filament windings.

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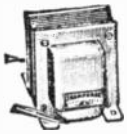
World Radio History

# Thordarson Transformers

BAH-BHH

BHV


GGV

TAV

VAV

WTV

## OUTPUT TRANSFORMERS

### HIGH FIDELITY OUTPUT TRANSFORMERS

| Thord. No. | Mtg. Type | Imp., Ohms Pri. | Imp., Ohms Sec. | Pri. M.. DC/ | W.† | Mtg. Cntrs. | List Price |
|---|---|---|---|---|---|---|---|
| 22S63 | GGV | 5000 CT | 8/16 | 150 | 50 | 2¾x3 1/16 | $22.70 |
| 22S39* | TAV | 6600 CT | 4/8/16 | 100 | 20 | 2¾x3⅛ | 27.75 |
| 22S67 | GGV | 6600 CT | 8/16 | 125 | 50 | 2¾x3 1/16 | 22.70 |
| 22S65* | GGV | 7600 CT | 4/8/16 | 100 | 25 | 2¾x3 1/16 | 27.75 |
| 22S69 | GGV | 9000 CT | 8/16 | 100 | 50 | 2¾x3 1/16 | 22.70 |
| 22S49* | TAV | 9500 CT | 4/8/16 | 100 | 15 | 2¾x3⅞ | 22.70 |

*With ultra-linear screen taps. #Each side C.T. †Watts.

### UNIVERSAL OUTPUT SINGLE OR PUSH-PULL PLATES TO VOICE COIL

| Thord. No. | Mtg. Type | Primary Impedance | Ma. DC | W.† | Mtg. Cntrs. | Ht. In. | List Price |
|---|---|---|---|---|---|---|---|
| 22S86 | BAH | 2000/3500/8000/ 14,000 CT§ | 10 | 3 | 2 | 1⅝ | $3.85 |
| 24S60* | BHH | 4000/7000/8000/ 10,000/14,000 CT# | 35 | 4 | 2 | 1⅜ | 3.20 |
| 22S87* | BAH | 2000/3500/8000/ 14,000 CT§ | 10 | 6 | 2⅜ | 1⅝ | 5.00 |
| 22S88 | BAH | 2000/3500/8000/ 14,000 CT§ | 10 | 8 | 2⅞ | 2 | 5.00 |
| 24S61* | BHH | 4000/7000/8000/ 10,000/14,000 CT# | 40 | 8 | 2⅜ | 1⅝ | 3.75 |
| 22S62* | BHH | 1500/2000/2500/ 3000/4000 CT# | 50 | 8 | 2⅞ | 2 | 5.45 |
| 22S60* | BAH | 2500/4000 CT§ | 60 | 10 | 2⅞ | 2 | 5.25 |
| 24S63 | BHH | 1500 to 4500 to Voice Coil | 75 | 8 | 2 13/16 | 2 | 4.35 |
| 22S58* | BAH | 5000/7000 CT§ | 45 | 10 | 2⅞ | 2 | 3.75 |
| 22S56* | BAH | 8000/10,000 CT§ | 35 | 10 | 2⅞ | 2 | 5.55 |
| 24S64 | BHH | 1500 to 10,000 to Voice Coil | 55 | 10 | 2⅛ | 1⅝ | 3.70 |
| 26S46* | BHV | 4000/7000/8000/ 10,000/14,000 CT# | 40 | 18 | 2¾ | 2⅛ | 4.75 |
| 24S55 | BHV | 3000 to 10,000 CT to 1 to 30 | 60 | 20 | 2 13/16 | 2⅛ | 6.00 |
| 22S74 | BHH | 2500/3000/5000/ 8000/10,000/ 14,000 CT to 1 to 30 | 80 | 25 | 3⅝ | 2½ | 9.25 |

*Also TV replacement. †Watts. SECONDARY IMPEDANCE: §To 3.5/8 ohms. #To 0.1 to 30 ohms.

### PUSH-PULL PLATES TO LINE OR VOICE COIL

| Thord. No. | Mtg. Type | Pri.-Sec. Imp., Ohms | Ma. DC | W.† | Mtg. Cntrs. | Ht. In. | List Price |
|---|---|---|---|---|---|---|---|
| 22S72 | GGV | 3000 CT to 3.5/8/16/250/500 | 90 | 25 | 1¾x2 | 3⅛ | $ 8.90 |
| 22S95 | GGV | 3000/5000 CT to 3.5/8/16 | 60 | 25 | 1¾x2 | 3⅛ | 13.10 |
| 22S96 | WTV | 3000/5000 CT to 3.5/8/16 | 60 | 15 | 2¾x2⅜ | 4⅜ | 17.50 |
| 22S78 | GGV | 3300 CT to 3.5/8/16/250/500 | 180 | 60 | 2½x2½ | 3⅞ | 16.70 |
| 22S70 | GGV | 5000 CT to 3.5/8/16/250/500 | 80 | 25 | 1¾x2 | 3⅛ | 8.90 |
| 22S97 | GGV | 6000 CT to 3.5/8/16/250/500 | 60 | 25 | 1¾x2 | 3⅛ | 12.45 |
| 22S98 | WTV | 6000 CT to 3.5/8/16/250/500 | 60 | 20 | 2¾x2⅛ | 4⅜ | 19.75 |
| 22S47* | BAH | 6000/7000 CT to 3.5 | 30 | 5 | 2 | 1⅜ | 4.45 |
| 22S68 | GGV | 6500 CT to 3.5/8/16/250/500 | 70 | 25 | 1¾x2 | 3⅛ | 11.00 |
| 24S57 | GGV | 6600 CT to 3.5/8/16/250/500 | 150 | 35 | 2½x2 3/16 | 4 | 12.30 |
| 22S66 | GGV | 8000 CT to 3.5/8/16/250/500 | 60 | 25 | 1¾x2 | 3⅛ | 10.45 |
| 22S44 | VAV | 9500 CT to 3.5/8/16 | 35 | 12 | 1⅞x2 | 3 | 9.45 |
| 24S56 | BAH | 10,000 CT to 2/4/8 | 75 | 8 | 2⅜ | 1⅝ | 3.80 |
| 24S93 | BAH | 10,000 CT to 3.5 | 40 | 5 | 2 | 1⅜ | 3.20 |
| 22S93 | GGV | 9500 CT to 3.5/8/16 | 50 | 25 | 1¾x2 | 3⅛ | 11.95 |
| 22S94 | WTV | 9500 CT to 3.5/8/16 | 50 | 20 | 2¾x2⅜ | 4⅜ | 16.10 |
| 26S59* | BAH | 9500 CT to 3.5/8/16 | 30 | 10 | 2 13/16 | 2 | 4.85 |
| 22S64 | GGV | 10,000 CT to 3.5/8/16/250/500 | 50 | 25 | 1¾x2 | 3⅛ | 10.00 |
| 24S58 | GGV | 10,000/7000 CT to 3.5/8/16/500 | 60 | 25 | 2x1 11/16 | 3 1/16 | 10.70 |
| 22S48* | BAH | 12,000/16,000 CT to 3.5 | 8 | 5 | 2 | 1⅜ | 3.30 |
| 24S59 | BAH | 25,000 CT to 3.5 | 10 | 5 | 2 | 1⅜ | 2.80 |

*Also TV replacement. †Watts.

### HYBRID "PATCH" CIRCUIT OUTPUT

**Thordarson No. 22S51**—Imp., ohms: Pri., 10,000; sec., 500 each. 1 15/16" mtg. cntrs. Mtg. Type TAV. List Price..... **$6.50**

### SINGLE PLATE TO VOICE COIL (3.5 OHMS)

| Thord. No. | Mtg. Type | Primary Imp., Ohms | Ma. DC | W.† | Mtg. Cntrs. | H.xW.xD. Inches | List Price |
|---|---|---|---|---|---|---|---|
| 24S53 | BAH | 2000 | 50 | 3 | 1¾ | 1 13/16x2⅛x1 | $1.75 |
| 24S50* | BAH | 2000 | 55 | 5 | 2 | 1⅝x2¾x1¼ | 2.05 |
| 24S45* | BAH | 1500-3000 | 55 | 5 | 2 | 1⅜x2⅜x1¼ | 4.15 |
| 26S58* | BAV | 2500 | 40 | 3 | 1⅜ | 1½x1¼x1⅞ | 2.00 |
| 24S46* | BAH | 2000-3000 | 35 | 5 | 2 | 1⅝x2⅜x1¼ | 4.70 |
| 26S50* | BAH | 3500 | 60 | 8 | 2⅛ | 1⅝x2⅞x1⅞ | 3.30 |
| 24S48 | BAH | 4-5000 | 10 | 5 | 1⅜ | 1¼x2⅛x1 | 2.20 |
| 24S51* | BAH | 5000 | 40 | 5 | 2 | 1⅝x2¾x1¼ | 2.20 |
| 26S49* | BAH | 5000 | 50 | 8 | 2⅛ | 1⅞x2⅞x1⅞ | 3.30 |
| 24S49 | BAH | 7-8000 | 10 | 5 | 1⅜ | 1¼x2⅛x1 | 2.05 |
| 24S52* | BAH | 7-10,000 | 30 | 5 | 2 | 1⅝x2¾x1¼ | 2.15 |
| 26S48* | BAH | 7000 | 40 | 8 | 2⅛ | 1⅞x2⅞x1⅞ | 3.30 |
| 24S81 | BAV | 8000 | 20 | 3 | 1½ | 1⅝x1⅞x1 | 2.20 |
| 24S82 | BAH | 8000 | 30 | 3 | 1¾ | 1 13/16x2⅛x1⅛ | 2.50 |
| 24S83 | BAH | 10,000 | 30 | 3 | 1¾ | 1 13/16x2⅛x1¼ | 2.70 |
| 24S84 | BAV | 10,000 | 30 | 3 | 1½ | 1⅝x1⅞x1¼ | 2.70 |
| 26S47* | BAH | 14,000 | 35 | 12 | 2 13/16 | 2 x3⅛x2 | 3.75 |
| 24S54 | BAH | 15-20,000 | 10 | 5 | 2 | 1⅞x2⅜x1¼ | 2.35 |

†Watts. *Also TV replacement.

### LINE TO VOICE COIL

| Thord. No. | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Sec. | W.† | Mtg. Cntrs. | Ht., In. | List Price |
|---|---|---|---|---|---|---|---|
| 22S81 | BAH | 45/50 | 3.5/8 | 8 | 2⅜ | 1⅞ | $3.30 |
| 24S75 | BHH | 500 | 3.2/8 | 5 | 2 | 1⅝ | 2.60 |
| 24S45 | BHV | 500 | 4/6/8/15 | 15 | 2⅛ | 2 5/16 | 5.20 |
| 22S80 | BHH | 500/600 | 3.5/8/16 | 8 | 3⅛ | 2¼ | 6.65 |
| 22S84 | BAH | 500/1000/ 1500/2000 | 3.5/8/16 | 5 | 2 13/16 | 2 | 5.80 |
| 24S46 | BHH | 500/1000/ 1500/2000 | 3.2/8 | 8 | 2⅛ | 1⅝ | 3.55 |
| 22S85 | BAH | 500/1000/ 1500/2000 | 3.5/8/16 | 8 | 2⅛ | 1⅞ | 6.40 |
| 24S66 | BAV | 500/1000/ 1500/2000 | 3.5/8 | 10 | 2 | 2 | 4.65 |
| 24S47 | BHV | 500/1000/ 1500/2000 | 3.2/8 | 12 | 2⅛ | 2 5/16 | 4.70 |
| 22S83 | BAH | 500/1000/ 1500/2000 | 3.5/8/16 | 15 | 3⅛ | 2¼ | 6.65 |
| 22S82 | BHH | 500/1000/ 1500/2000 | 3.5/8/16 | 25 | 3⅝ | 2½ | 6.00 |
| 24S76* | BHV | 500/1000/1500/ 2000/2500/ 3000 | .06 to 8 / .12 to 16 | 15 | 2⅛ | 2 3/16 | 6.10 |
| 24S62* | BAV | 500/1000/1500/ 2000/2500/ 3000 | .06 to 8 / .12 to 16 | 25 | 3 | 3 | 7.20 |

†Watts. *Line to multiple voice coil.

### 70.7 VOLT LINE TO VOICE COIL (MTG. BHV)

| Thord. No. | Power Steps In Watts | Sec. Ohms | Mtg. Cntrs. | Ht. In. | List Price |
|---|---|---|---|---|---|
| 24S70# | 16/8/4/2/1/0.5 | 4/8/16 | 3½x2 | 3½ | $16.70 |
| 24S71 | 8/4/2/1/0.5 | 4/8/16 | 2 | 2 | 4.85 |
| 24S72 | 16/8/4/2/1/0.5 | 4/8/16 | 2 13/16 | 2⅝ | 6.95 |
| 24S73‡ | 10/5/2.5/1.25 | 4/8 | 2⅛ | 2⅛ | 5.55 |
| 24S74* | 5/2.5/1.25/.62/.31 | 4/8 | 2 | 1⅞ | 3.61 |

### 25 VOLT LINE TO VOICE COIL (MTG. BHV)

| Thord. No. | Power Steps In Watts | Sec. Ohms | Mtg. Cntrs. | Ht. In. | List Price |
|---|---|---|---|---|---|
| 24S21 | 8/4/2/1/0.5 | 4/8/16 | 2 | 2 | $4.85 |
| 24S22 | 16/8/4/2/1/0.5 | 4/8/16 | 2 13/16 | 2⅝ | 6.95 |
| 24S23‡ | 10/5/2.5/1.25 | 4/8 | 2⅛ | 2⅛ | 5.55 |
| 24S24* | 5/2.5/1.25/.625/.312 | 4/8 | 2 | 1⅞ | 3.61 |

#Mtg. TAV; with wattage selection switch. *Mtg. BHH. ‡Autoformer.

### TUBE OR CRYSTAL CUTTER AND VOICE COIL

**Thordarson No. 22S99**—Primary-Secondary Impedance: 5,000 ohm plate to 10,000 ohm crystal and 3.2 ohm. Ma. DC: 50. 4 watts. Mounting type BGH. 2⅞" mounting centers. Size: 2" h. x 3⅛" w. x 1¾" d. Weight, 1¼ lbs. List Price ..... **$5.00**

### SPLATTER SUPPRESSOR FILTERS

Modulation reactor type.

| Thord. No. | Mtg. Type | Inductance Hy. | Inductance at Ma. DC | DC Res. | RMS Test | Mtg. Cntrs. | Ht. In. | List Price |
|---|---|---|---|---|---|---|---|---|
| 20C62 | BAH | 0.2-1.5 | 100 | 95 | 2700 | 2⅞ | 2 | $ 7.00 |
| 20C60* | KTV | 0.2-1.5 | 300 | 470 | 9000 | 3⅛x2⅛ | 4½ | 41.10 |
| 20C61* | KTV | 0.2-1.5 | 500 | 37 | 9000 | 3½x2⅞ | 4⅜ | 45.55 |

*Can be used in special splatter circuit with No. 21F05.



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Thordarson Transformers

## TELEVISION POWER TRANSFORMERS‡

| Thord. No. | Plate Supply Volts | Plate Supply Ma. D.C. | Rectifier Filaments Volts | Rectifier Filaments Amps. | Other Filaments Volts | Other Filaments Amps. | Mtg. Type# | Mtg. Centers, In. | Dimensions, In. H. | Dimensions, In. W. x D. | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26R14 | 117 | 200 | ..... | ..... | 6.3<br>6.3<br>6.3 | 4.5<br>4.0<br>2.0 | AGF | 2¾ x 2½ | 3½ | 3½ x 4⅛ | 6.2 | $17.50 |
| 26R13 | 140 Tap<br>117 | 300 | ..... | ..... | 6.3<br>6.3<br>6.3 | 9.0<br>2.0<br>1.0 | AGF | 3 x 3¾ | 3⅞ | 3¾ x 4½ | 7.5 | 18.60 |
| 26R81 | 220-0-220<br>130-0-130 | 330<br>220 | 5.0 | 3.0 | 6.3<br>6.3<br>or 12.6CT | 6.5<br>6.5<br>6.5 | AGF | 3 x 3¾ | 4⅞ | 3¾ x 4½ | 10.5 | 31.30 |
| 26R36 | 260-0-260 | 150 | 5.0 | 5.0 | 6.3 | 5.0 | AGF | 2½ x 3⅛ | 3¾ | 3⅛ x 3¾ | 4.25 | 10.00 |
| 26R38 | 265-0-265 | 300 | 5.0 | 6.0 | 6.3<br>6.3<br>6.3 | 6.0<br>6.0<br>1.2 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 11 | 26.10 |
| 26R89* | 280-0-280 | 260 | 5.0 | 3.0 | 6.3<br>6.3<br>6.3 | 8.0<br>1.5<br>1.2 | AGF | 3 x 3¾ | 5⅛ | 3¾ x 4½ | 11.25 | 28.75 |
| 26R90 | 280-0-280 | 260 | 5.0 | 3.0 | 6.3<br>6.3<br>6.3 | 8.0<br>1.5<br>1.2 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 11 | 24.45 |
| 26R91 | 300-0-300 | 250 | 5.0 | 3.0 | 6.3<br>6.3 | 11.7<br>1.2 | AGF | 2¾ x 3 7/16 | 5 | 3 7/16 x 4⅛ | 9.5 | 25.00 |
| 26R34† | 300-0-300 | 340 | 5.0 | 6.0 | 6.3<br>6.3<br>6.3 | 1.2<br>1.2<br>10.2 | AGF | 3 x 3¾ | 5½ | 3¾ x 4½ | 11 | 33.85 |
| 26R92 | 300-0-300 | 400 | 5.0 | 6.0 | 6.3<br>6.3<br>6.3 | 10<br>4.5<br>1.2 | AGF | 3 x 3¾ | 5⅜ | 3¾ x 4½ | 13 | 28.30 |
| 26R93 | 315-0-315 | 310 | 5.0 | 6.0 | 6.3<br>6.3<br>6.3<br>6.3 | 6.0<br>6.0<br>1.2<br>1.0 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 11 | 24.45 |
| 26R94 | 340-0-340 | 360 | 5.0 | 6.0 | 6.3<br>6.3<br>6.3 | 2.5<br>5.0<br>5.0 | AGF | 3 x 3¾ | 5⅜ | 3¾ x 4½ | 12.5 | 32.75 |
| 24R98 | 350-0-350 | 175 | 5.0<br>5.0 | 3.0<br>2.0 | 6.3<br>6.3 | 7.0<br>0.9 | AGF | 3 x 3¾ | 4⅛ | 3¾ x 4½ | 8.5 | 22.20 |
| 22R07 | 350-0-350 | 200 | 5.0 | 3.0 | 6.3CT | 6.0 | AGF | 3 x 3¾ | 3⅞ | 3¾ x 4½ | 7.5 | 19.45 |
| 26R25U | 350-0-350 | 200 | 5.0<br>5.0 | 3.0<br>3.0 | 6.3<br>6.3 | 7.0<br>0.6 | GGV | 3 x 3¾ | 4⅝ | 3⅛ x 4⅞ | 11.2 | 23.60 |
| 26R21 | 350-0-350 | 225 | 5.0 | 3.0 | 6.3<br>6.3 | 10.0<br>2.7 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.5 | 23.60 |
| 26R20* | 350-0-350 | 225 | 5.0CT | 3.0 | 6.3<br>6.3 | 10.0<br>2.7 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.5 | 25.00 |
| 26R23 | 360-0-360 | 180 | 5.0 | 3.0 | 6.3 | 9.0 | AGF | 2¾ x 3½ | 4¼ | 3½ x 4⅛ | 8 | 23.60 |
| 26R22* | 360-0-360 | 180 | 5.0CT | 3.0 | 6.3 | 9.0 | AGF | 2¾ x 3½ | 4¼ | 3½ x 4⅛ | 8 | 25.00 |
| 26R82 | 360-0-360<br>165-0-165 | 185<br>65 | 5.0 | 3.0 | 6.45 | 12.0 | AGF | 3 x 3¾ | 4¼ | 3¾ x 4½ | 9.6 | 23.75 |
| 26R17 | 360-0-360 | 250 | 5.0<br>5.0 | 3.0<br>3.0 | 6.3<br>6.3 | 9.0<br>3.0 | AGF | 3 x 3¾ | 5⅛ | 3¾ x 4½ | 11 | 27.90 |
| 26R15 | 360-0-360 | 250 | 5.0<br>5.0 | 3.0<br>3.0 | 6.3<br>6.3 | 9.0<br>3.0 | AGF | 3 x 3¾ | 5⅛ | 3¾ x 4½ | 11 | 27.50 |
| 26R35 | 360-0-360 | 270 | 5.0<br>5.0 | 3.0<br>3.0 | 6.3<br>6.3<br>6.3<br>6.3 | 4.5<br>4.5<br>1.6<br>2.5 | AGF | 3 x 3¾ | 4¼ | 3¾ x 4½ | 10 | 26.00 |
| 26R16 | 362-0-362 | 295 | 5.0<br>5.0 | 6.0<br>2.0 | 12.6CT | 5.0 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 10.7 | 33.90 |
| 26R83 | 370-0-370 | 190 | 5.0 | 3.0 | 6.3<br>6.3 | 7.75<br>1.2 | AGF | 3 x 3¾ | 5 9/16 | 3¾ x 4½ | 10.8 | 28.30 |
| 24R06 | 375-0-375 | 150 | 5.0 | 3.0 | 6.3CT | 4.7 | AGF | 2¾ x 3½ | 3⅞ | 3½ x 4⅛ | 6.25 | 13.90 |
| 24R06U | 375-0-375 | 150 | 5.0 | 3.0 | 6.3CT | 4.7 | GGV | 2¾ x 2⅞ | 4¼ | 3½ x 4 | 6.25 | 13.90 |
| 26R84 | 375-0-375 | 205 | 5.0 | 3.0 | 5.0<br>6.3 | 2.0<br>5.6 | AGF | 3 x 3¾ | 4¼ | 4¾ x 4½ | 9.1 | 21.65 |
| 26R85* | 375-0-375 | 225 | 5.0CT | 3.0 | 6.3<br>6.3 | 2.0<br>9.0 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 10.5 | 26.20 |
| 26R86 | 380-0-380 | 220 | 5.0 | 3.0 | 6.3<br>6.3<br>6.3<br>or 12.6CT | 1.2<br>5.0<br>7.0 | GGV | 3 x 3 9/16 | 4¾ | 4 x 4¾ | 10.5 | 25.50 |
| 26R95 | 380-0-380 | 250 | 5.0 | 3.0 | 6.3<br>6.3<br>6.3 | 5.0<br>7.0<br>1.2 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 11 | 26.10 |
| 26R26U | 400-0-400 | 300 | 5.0<br>5.0 | 3.0<br>6.0 | 12.6CT | 10.0 | GGV | 3½ x 4¼ | 5½ | 4⅝ x 5¾ | 10.2 | 33.90 |
| 26R33 | 300-0-300<br>250-0-250 | 250<br>280 | 5.0<br>5.0 | 3.0<br>3.0 | 6.3<br>6.3 | 5.0<br>5.0 | AGF | 3 x 3¾ | 4½ | 3¾ x 4½ | 11 | 22.20 |
| 26R24* | 322-0-322<br>205-0-205 | 180<br>70 | 5.0CT | 3.0 | 6.3<br>6.3 | 10.0<br>3.0 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.25 | 30.55 |
| 24R94 | 365-0-365<br>200-0-200 | 210<br>90 | 5.0<br>5.0 | 2.0<br>6.0 | 6.3<br>6.3 | 5.0<br>5.0 | AGF | 3 x 3¾ | 5⅛ | 3¾ x 4½ | 16 | 32.75 |
| 26R18 | 375-0-375<br>325-0-325 | 170<br>130 | 5.0<br>5.0<br>5.0 | 3.0<br>3.0<br>2.0 | 12.6CT<br>6.3 | 5.0<br>2.6 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.5 | 31.10 |
| 26R87 | 385-0-385<br>235-0-235 | 195<br>105 | 5.0<br>5.0 | 2.0<br>3.0 | 6.3<br>6.3 | 7.65<br>0.6 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.1 | 29.50 |
| 26R27U | 390-0-390<br>325-0-325 | 160<br>130 | 5.0<br>5.0<br>5.0 | 3.0<br>3.0<br>3.0 | 6.3<br>6.3 | 8.0<br>4.0 | GGV | 3 x 3¾ | 4⅝ | 3⅞ x 4⅞ | 11.25 | 30.00 |
| 26R19 | 400-0-400<br>212-0-212 | 220<br>90 | 5.0<br>5.0 | 3.0<br>2.0 | 6.3<br>6.3 | 10.0<br>2.6 | AGF | 3 x 3¾ | 4¾ | 3¾ x 4½ | 11.7 | 30.00 |
| 26R00 | 420-0-420<br>360-0-360<br>300-0-300 | 295 | 5.0<br>5.0 | 6.0<br>3.0 | 6.3<br>6.3<br>6.3<br>6.3 | 3.0<br>3.0<br>3.0<br>3.0 | AGF | 3 x 3¾ | 5 | 3¾ x 4½ | 11 | 30.55 |
| 26R30U | 450-0-450<br>325-0-325 | 240<br>200 | 5.0<br>5.0<br>5.0 | 3.0<br>3.0<br>3.0 | 6.3<br>6.3<br>6.3 | 6.0<br>6.0<br>2.6 | GGV | 3⅝ x 3⅞ | 6 | 4⅜ x 5⅞ | 16 | 44.50 |

‡Meet RETMA stds.; pri. 117 v., 50/60 cps. *Top mounted tube socket. †Dble mounted tube socket. #AGF have univ. mtg. brackets.

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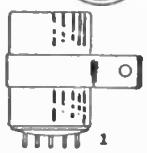
World Radio History

# Thordarson Geophysicals



1

2, 2A, 3, 4

5 & 6

## INPUT TRANSFORMERS

All below have humbucking coil and core construction.

| No. GEO- | Note | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Secondary | DC Ohms† Pri. | DC Ohms† Sec. | List Price |
|---|---|---|---|---|---|---|---|
| 1 | a | 3 | 200# 125*-67½# 500*333-233 50*-17* | 157000# CT | 50 | 10400 | $29.40 |
| 2§ | a | 5 | 500*333-233 200# 125*-67½# 50*-17* | 157000# or 39250* | 50 | 10400 | 36.00 |
| 3 | b | 3 | 60#44-30#25 15*-7½*-5# 1.25 | 157000# CT | 9 | 10400 | 29.40 |
| 4§ | b | 5 | 60#-44-30#-25 15*-7½*-5#-1.25 | 157000# or 39250 | 9 | 10400 | 36.00 |
| 5 | c | 4 | 1000#-666-466 400#-250*-135# 100*-34 | 137000# or 34250* | 225 | 15500 | 31.70 |
| 6 | d | 4 | 500*333-233 200# 125*-67½# 50*-17* | 315000# or 78750* | 58 | 16200 | 31.70 |
| 7§ | d | 6 | 500#333-233 200# 125*-67½# 50*-17* | 315000# or 78750* | 58 | 16200 | 40.50 |
| 8 | e | 4 | 500#333-233 200# 125*-67½# 50*-17* | 712000# or 178000* | 72 | 20000 | 31.70 |
| 9§ | e | 6 | 500#333-233 200# 125*-67½# 50*-17* | 712000# or 178000* | 72 | 20000 | 40.50 |
| 10 | f | 3 | 500# or 125* | 50000# CT | 150 | 20000 | 31.70 |
| 11 | g | 3 | 500#333-233 200# 125*-67½# 50*-17* | 450000# CT | 54 | 12500 | 29.40 |
| 12§ | h | 6 | 500# CT | 200000# CT | 80 | 9800 | 46.50 |
| 13 | f | 4 | 500# or 125* | 50000# CT | 200 | 36000 | 32.80 |
| 14‡ | j | 4 | 200# or 50* | 442000# CT | 17 | 26000 | 33.95 |
| **MINIATURE AND SUBMINIATURE** | | | | | | | |
| 15 | k | 2 | 500#-333-233 200# 125*-67½# 50*-17* | 145000# CT | 100 | 10000 | $29.20 |
| 16 | k | 2 | 500*-125* | 145000# CT | 100 | 10000 | 29.20 |
| 17 | m | 1 | 500#-125* | 145000# CT | 106 | 5860 | 28.90 |
| 18 | n | 1 | 500#-125* | 60000# CT | 140 | 5600 | 28.90 |
| 19 | p | 1 | 500#-125* | 36000# CT | 320 | 5300 | 28.90 |
| 20 | q | 1 | 500#-125* | 114000# CT | 210 | 6200 | 28.90 |
| 21 | r | 2 | 500#-125* | 157000# CT | 100 | 9500 | 29.20 |

†Resistance. #Balanced, two windings. *Balanced, parallel windings. §Five interleaved cases. ‡Three interleaved cases. NOTES: (Indicate Primary Inductance and Turns Ratio): **a.** 8.7 h., 1:17.7; **b.** 0.9 h., 1:51; **c.** 55 h., 1:11.75; **d.** 11.5 h., 1:25; **e.** 8 h., 1:37.7; **f.** 10 h., 1:10; **g.** 6.8 h., 1:30; **h.** 12 h., 1:20; **j.** 4 h., 1:47; **k.** 8.8 h., 1:17; **m.** 3 h., 1:17; **n.** 7 h., 1:11; **p.** 10.5 h., 1:8.5; **q.** 5.2 h., 1:15.1; **r.** 8 h., 1:17.7.

## INTERSTAGE TRANSFORMERS

All units have humbucking core and coil construction. Primary Impedance: 10,000# or 2,500* ohms.

| Thord. No. | Note | Mtg. Type | Secondary Impedance, Ohms | DC Ohms† Pri. | DC Ohms† Sec. | List Price |
|---|---|---|---|---|---|---|
| GEO-22 | a | 3 | 100,000# or 25,000* | 1540 | 10,000 | $29.40 |
| GEO-23§ | a | 5 | 100,000# or 25,000* | 1540 | 10,000 | 36.10 |
| GEO-24 | b | 4 | 9,000# or 25,000* | 2100 | 14,000 | 31.70 |
| GEO-25§ | b | 6 | 9,000# or 22,500* | 2100 | 14,000 | 40.50 |
| GEO-26 | c | 4 | 483,000# or 120,700* | 1100 | 17,000 | 31.70 |
| **MINIATURE AND SUBMINIATURE** | | | | | | |
| GEO-27‡ | d | 2 | 22,500* or 5,625* | 1600 | 2,350 | $23.90 |
| GEO-28‡ | e | 2 | 250# or 62½* | 165 | 40 | 24.20 |
| GEO-29 | f | 2 | 75,000# or 18,750* | 2500 | 8,500 | 29.20 |
| GEO-30 | g | 1 | 75,000# CT | 1700 | 5,400 | 27.80 |
| GEO-31 | h | 1 | 22,500# CT | 2600 | 3,900 | 27.80 |
| GEO-32 | j | 2 | 90,000# CT | 2600 | 9,500 | 29.20 |
| GEO-33 | k | 2 | 22,500* CT | 2000 | 3,650 | 31.10 |

†Resistance. #Balanced, two windings. *Balanced, parallel windings. §Five interleaved cases. ‡Single coil. NOTES: (Indicate Primary Inductance and Turns Ratio): **a.** 350 h., 1:3.16; **b.** 725 h., 1:3; **c.** 230 h., 1:7; **d.** 135 h., 1:1.5; **e.** 18 h., 2:1; **f.** 300 h., 1:2.75; **g.** 80 h., 1:2.72; **h.** 160 h., 1:1.5; **j.** 285 h., 1:3; **k.** 375 h., 1:1.5.

## AVC OUTPUT TRANSFORMERS

For automatic volume control circuits. All units have humbucking core and coil construction.

| Thord. No. | Note | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Secondary | DC Ohms† Pri. | DC Ohms† Sec. | List Price |
|---|---|---|---|---|---|---|---|
| GEO-49 | a | 4 | 16,000# or 4,000* | 256,000# or 64,000* and 150# or 37½* | 1900 | 16000 32 | $31.70 |
| GEO-50 | b | 3 | 15,000# | 240,000# CT & 140# or 35* | 2100 | 12000 35 | 31.70 |

†Resistance. #Balanced, two windings. *Balanced, parallel windings. NOTES: (Indicate Primary Inductance and Turns Ratio): **a.** 500 h., 1:4 & 10.3:1; **b.** 300 h., 1:4 & 10.2:1.

## MINIATURE AVC OUTPUT

For automatic volume control circuits. All units have humbucking core and coil construction.

| Thord. No. | Note | Case | Impedance, Ohms Primary | Impedance, Ohms Secondary | DC Ohms† Pri. | DC Ohms† Sec. | List Price |
|---|---|---|---|---|---|---|---|
| GEO-51 | a | 2 | 10,000# or 2,500* | 10,000# CT & 10,000# | 700 | 1220 1440 | $32.50 |
| GEO-52 | b | 2 | 15,000# | 240,000# CT & 140# or 35* | 2000 | 9800 55 | 30.60 |
| GEO-53 | c | 2 | 15,000# CT | 240,000# CT & 35 | 2000 | 9800 13.5 | 30.60 |
| GEO-54 | d | 2 | 20,000# CT | 240,000# CT & 24#CT | 2400 | 10000 5 | 30.60 |
| GEO-55 | e | 2 | 15,000# CT | 240,000# CT & 35* | 2400 | 11000 10 | 30.60 |

†Resistance. #Balanced, two windings. *Balanced, parallel windings. NOTES: (Indicate Primary Inductance and Turns Ratio): **a.** 150 h., 1:13; **b.** 200 h., 1:4 & 10.3:1; **c.** 200 h., 1:4 & 20.6:1; **d.** 230 h., 1:3.46 & 28.8:1; **e.** 230 h., 1:4 & 20.6:1.

## OUTPUT TRANSFORMERS

All units have humbucking core and coil construction.

| Thord. No. | Note | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Secondary | DC Ohms† Pri. | DC Ohms† Sec. | List Price |
|---|---|---|---|---|---|---|---|
| GEO-34 | a | 3 | 15,000# or 3,750* | 500#-125* | 2600 | 80 | $29.40 |
| GEO-35 | b | 3 | 15,000# or 3,750* | 500#-125* Hi-Level | 2600 | 80 | 29.40 |
| GEO-36 | c | 4 | 20,000# or 5,000* | 16#-12-8#-6½ 4*-2*-1-1½#-.35* | 4000 | 3.2 | 31.10 |
| GEO-37 | d | 4 | 16,000# or 4,000* | 500#-333-233 200#-125*-67½ 50*-17* | 3500 | 100 | 31.10 |
| GEO-38 | e | 4 | 16,000# or 4,000* | 500#-333-233 200#-125*-67½ 50*-17* Hi-Lv | 3500 | 100 | 31.10 |
| GEO-39 | f | 4 | 20,000# or 5,000* | 60#-45-30#-24 15* 7½* -5#-1.3* | 4000 | 12.5 | 31.10 |
| GEO-40§ | g | 4 | 600*-150* | 600*-150* | 36 | 52 | 39.00 |
| **MINIATURE AND SUBMINIATURE** | | | | | | | |
| GEO-41‡ | h | 2 | 18,000 CT | 500#-333-233 200#-125* -67½# 50*-17* | 2500 | 137 | $24.90 |
| GEO-42‡ | j | 2 | 500 or 125 | 500 or 125 | 70 | 70 | 24.40 |
| GEO-43‡ | k | 2 | 500 or 125 | 16 or 4 | 72 | 3.9 | 24.40 |
| GEO-44 | m | 2 | 15,000# CT | 16#-12-8#-6½ 4*-2*-1½#-.35* | 5000 | 4 | 29.20 |
| GEO-45 | n | 2 | 15,000# CT | 60#-45-30#-24 15*-7½*-5#-1.3* | 5000 | 18 | 29.20 |
| GEO-46 | p | 1 | 15,000# CT | 16# or 4* | 3800 | 7 | 27.80 |
| GEO-47 | q | 1 | 15,000# CT | 45# or 11* | 3800 | 11 | 27.80 |
| GEO-48 | r | 2 | 20,000# or 50,000* | 50#-25-12.5-3 | 4000 | 20 | 29.20 |

†Resistance. #Balanced, two windings. *Balanced, parallel windings. ‡Single coil. §Three interleaved cases. NOTES: (Indicate Primary Inductance and Turns Ratio): **a.** 915 h., 5.5:1; **b.** 65 h., 5.5:1; **c.** 1750 h., 35.5:1; **d.** 1600 h., 5.65:1; **e.** 94 h., 5.65:1; **f.** 1750 h., 18.25:1; **g.** 15 h. @ 1 v., 1:1 or 2:1 or 1:2; **h.** 280 h., 6:1; **j.** 3 h., 1:1; **k.** 3 h., 5.6:1; **m.** 1000 h., 30.5:1; **n.** 1000 h., 15.8:1; **p.** 400 h., 30.6:1; 400 h., 18.25:1; **r.** 1450 h., 20:1.

## REACTORS

All units have humbucking core and coil construction.

| Thord. No. | Mtg. Type | Inductance, Henries | DC Ohms† | Low % Taps | List Price |
|---|---|---|---|---|---|
| GEO-56 | 3 | 1050#-800# 550#-400# 280# | 13,000 | None | $35.60 |
| GEO-57 | 4 | 1000# 250* | 10,000 | 4-2½% 2-5% | 31.70 |
| GEO-58 | 4 | 500# 125* | 6,000 | 4-3% 2-6% | 31.70 |
| GEO-59 | 3 | 50# to 53 | 750 | †† | 32.80 |
| **MINIATURE** | | | | | |
| GEO-60 | 2A | 1050#-800#-550# 400#-280#-245# 153#-133#-80# 68#-45# | 11,500 | None | $37.30 |
| GEO-61 | 2A | 1000#-250* | 13,000 | 4-2% | 30.00 |
| GEO-62 | 2A | 500#-125* | 10,500 | 4-2½% | 30.00 |
| GEO-63‡ | 2 | 1090-770-555 385-275 | 12,000 | None | 26.70 |
| **SUBMINIATURE** | | | | | |
| GEO-64 | 1 | 1000 | 12,000 | 2-2% | $30.60 |
| GEO-65 | 1 | 500 | 12,000 | 2-2% | 30.60 |
| GEO-66 | 1 | 300 | 5,400 | 2-2% | 30.00 |
| GEO-67 | 1 | 100 | 1,950 | 2-2% | 30.00 |

†Resistance. ‡Single coil. #Balanced, two windings. *Balanced, parallel windings. ††Six ½ h. taps from one end.

## GEOPHYSICAL CASE SIZES (INCHES)

| Mtg. Type | Ht. | W. x D. | Mtg. Cntrs. | Mtg. Type | Ht. | W. x D. | Mtg. Cntrs. |
|---|---|---|---|---|---|---|---|
| 1 | 1 3/8 | 13/16 Dia. | ..... | 4 | 2 3/8 | 1½ x 1 3/16 | 1 x 13/16 |
| 2* | 1 11/16 | 1 1/16 x ⅞ | 1 | 5 | 2½ | 1½ x 1¼ | 1 x 1 |
| 2A* | 1 13/16 | 1 1/16 x ⅞ | 1 | 6 | 2¾ | 2 x 2 | 1¼ x 1¼ |
| 3 | 2¼ | 1 23/64 x 1 1/16 | 1¼ | | | | |

*4-40 studs; all others 6-32 studs.



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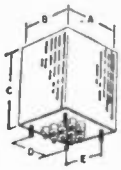
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# MIL-T-27A Transformers

## MIL-T-27A "STEEL JACKET" LINE



"Steel Jacket" hermetically-sealed transformers that meet all the requirements of Grade 1 and Grade 4 MIL-T-27A specifications for Class R operation (some units are listed for Class S operation and are so indicated). Designed to provide maximum protection against climate, they meet all military requirements for communications and control equipment—airborne, shipborne, mobile or ground installed, guided missiles and any installation requiring hermetic sealing.

**Moisture Resistance:** In temperatures from +65° C to −10° C at 90-95% relative humidity for ten 24 hour cycles. **Overload:** Operated at predetermined overload for 48 hours at rated ambient temperature. **Temperature and Immersion:** Cycled for five complete cycles of five steps each in temperatures from +85° C to −55° C; salt water immersion test included. **Insulation Resistance:** In excess of 1000 megohms at intervals throughout hot and cold cycles. **Vibration:** Subjected to "shake table" tests for 10 periods of 15 minutes each. **Pull Test:** On all terminals from all directions of five pounds for 30-second periods. **Corona Discharge:** Tested as required. **Windings:** Each winding tested at twice rated AC voltage and frequency. **Class R:** Operated in 65° C ambient temperature with rise not exceeding 40° C. **Class S:** Operated in 85° C ambient temperature with rise not exceeding 40° C.

## MILITARY STANDARD TRANSFORMERS

### INPUT, INTERSTAGE, OUTPUT (AJ CASE)

300-10,000 cps. Maximum altitude, 50,000 feet.

| Part Number Thord. | Part Number MIL-T-27A | Impedances, Ohms Primary | Impedances, Ohms Secondary | DC†† Amps. | Power* Level | List Price |
|---|---|---|---|---|---|---|
| 27A02† | MS-90002 | 600 CT# | 135000 CT | ..... | 15 dbm | $39.50 |
| 27A03* | MS-90003 | 600 CT# | 600 CT# | ..... | 15 dbm | 39.50 |
| 27A01* | MS-90000 | 10000 CT | 22500 CT<br>22500 CT | .010 | 15 dbm | 39.50 |
| 27S01‡ | MS-90001 | 600 CT# | 4/8/16 | ..... | 2 watts | 40.25 |
| 27S02‡ | MS-90004 | 4800/7600 | 600 CT# | .040 | 2 watts | 39.50 |
| 27S03‡ | MS-90005 | 4800/7600 | 4/8/16 | .040 | 2 watts | 39.50 |
| 27S04‡ | MS-90006 | 15000 CT | 600 CT# | .010 | 2 watts | 39.50 |
| 27S05† | MS-90007 | 24000 CT | 600 CT# | .020 | 1 watt | 38.90 |
| 27S06† | MS-90008 | 60000 CT | 600 CT# | .020 | .5 watt | 38.90 |

††Max. in Primary. *Maximum. †Input. *Interstage. ‡Output. #Split CT—balanced winding.

### FILAMENT TRANSFORMERS

Primary, 105/115/125 volts. Frequency, 54-66 cps.

| Part Number Thord. | Part Number MIL-T-27A | Mtg. Type | Secondary Volts | Secondary Amps. | Insulation V. RMS | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 27F36 | MS-90016 | EB | 2.5 | 3.0 | 2500 | 1½ | $16.90 |
| 27F37 | MS-90017 | GB | 2.5 | 10.0 | 2500 | 2½ | 23.50 |
| 27F38 | MS-90018 | FB | 5.0 | 3.0 | 2500 | 1¾ | 18.50 |
| 27F39 | MS-90019 | HB | 5.0 | 10.0 | 2500 | 4 | 25.50 |
| 27F40 | MS-90020 | FB | 6.3 | 2.0 | 2500 | 1¾ | 18.50 |
| 27F41 | MS-90021 | GB | 6.3 | 5.0 | 2500 | 2¾ | 21.50 |
| 27F42 | MS-90022 | JB | 6.3 | 10.0 | 2500 | 5 | 29.50 |
| 27F43 | MS-90023 | KB | 6.3 | 20.0 | 2500 | 8 | 36.50 |
| 27F44 | MS-90024 | JB | 2.5 | 10.0 | 10000 | 4¾ | 27.50 |
| 27F45 | MS-90025 | KB | 5.0 | 10.0 | 10000 | 7 | 35.00 |

### POWER TRANSFORMERS—REACTOR INPUT SYSTEMS

Primary, 105/115/125 volts. Frequency, 54-66 cps.

| Part Number Thord. | Part Number MIL-T-27A | Mtg. Type | Hi-Voltage VAC | Sec. Ma. DC | Out VDC | Notes | List Price |
|---|---|---|---|---|---|---|---|
| 27R86 | MS-90026 | HA | 200-100-0-100-200 | 70 | 385 | 1, 4 | $34.50 |
| 27R87 | MS-90027 | JB | 325-0-325 | 70 | 260 | 1, 5 | 29.50 |
| 27R88 | MS-90028 | KB | 325-0-325 | 150 | 245 | 2, 6 | 36.50 |
| 27R89 | MS-90029 | LB | 400-0-400 | 175 | 318 | 3, 7 | 42.50 |
| 27R90 | MS-90030 | MB | 450-0-450 | 250 | 345 | 3, 7 | 47.50 |
| 27R91 | MS-90031 | KB | 350-0-350 | 250 | 255 | ..... | 31.50 |
| 27R92 | MS-90032 | LB | 550-0-550 | 250 | 419 | ..... | 36.50 |
| 27R93 | MS-90036 | NB | 800-0-800 | 250 | 640 | ..... | 49.50 |

**NOTES:** Rectifier Filament: **1.** 6.3/5 v., 2 a.; **2.** 6.3 v., 5 a.; **3.** 5 v., 3 a. Filament #2: **4.** 6.3 v., 3 a.; **5.** 6.3 v., 4 a.; **6.** 5 v., 3 a.; **7.** 6.3 v., 8 a.

## FULL FREQUENCY AUDIO TRANSFORMERS

Frequency Response: 30-15,000 cps, ±½ db. B terminals.

| Thord. No. | Mtg. Type | Impedances, Ohms Primary | Impedances, Ohms Secondary | DBM* | Notes | List Price |
|---|---|---|---|---|---|---|
| 27A04 | FA | 600/150 CT | 50,000 CT | +15 | 1, 2, 11 | $39.50 |
| 27A05 | FA | 600/150 CT | 600/150 CT | +15 | 1, 3 | 39.50 |
| 27A06 | FA | 20,000 CT | 50,000 CT | +15 | 1, 4, 11 | 40.50 |
| 27A07 | FA | 50/150/250/600 | 50,000 CT | +15 | 1, 5, 12 | 39.50 |
| 27A08 | FA | 10,000 | 50,000 CT | +15 | 1, 6, 12 | 37.50 |
| 27S07 | GA | 15,000 | 600/160 CT | +15 | 7, 8, 12, 13 | 26.80 |
| 27S08 | HA | 20,000 CT | 600/150 CT | +30 | 7, 9, 11, 14 | 39.20 |
| 27S09 | JA | 7,500 CT | 600/150CT§ | +43 | 7, 9, 12, 15 | 37.10 |
| 27S10 | JA | 10,000 CT | 600/16/8 CT & 150/4 | +37 | 7, 10, 11, 16 | 49.50 |
| 27S11 | JA | 5000/3000 CT | 600/16/8 CT & 150/4 | +42 | 7, 10, 11, 17 | 45.40 |

**NOTES: 1.** Input Transformer: −70 db hum reduction. **2.** Line to single or p-p grids. **3.** Line to line. **4.** Interstage: p-p plate to single or p-p grid. **5.** Low-Z mike, pickup or multiple line to grid. **6.** Single plate to p-p grids. **7.** Output Transformer. **8.** Single plate to line. **9.** P-p plates to line. **10.** P-p plates to line or voice coil. **11.** Primary and secondary have split and balanced windings. **12.** Secondary has split and balanced windings. **Output Tubes: 13.** 6C4. **14.** 6C5. **15.** 6V6. **16.** 6L6. **17.** 6B4G. *Operating Level (0 dbm reference level = 1 mw). #0-10 Ma. DC. §Tertiary winding for 15% inverse feedback.

## P.A. AUDIO TRANSFORMERS

For use in military communication and test equipment. Frequency Response: 50-10,000 cps, ±½ db. B terminals.

### OUTPUT TRANSFORMERS

Secondary Impedances: 600/150/16/8/4 ohms; split and balanced windings.

| Thord. No. | Mtg. Type | Primary Ohms | Pri. Ma. DC | Power Watts | Class | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 27S12 | JA | 5,000 CT | 120 | 20 | $A_1$, AB | 6½ | $30.95 |
| 27S13 | JA | 10,000 CT | 200 | 15 | AB, $AB_1$ | 5 | 27.85 |
| 27S14 | MA | 6,000 CT | 250 | 30 | B, $AB_2$ | 9 | 34.60 |

### DRIVER TRANSFORMERS

| Thord. No. | Mtg. Type | Primary, Ohms | Pri. Ma. DC | Turns Ratio Pri: ½ Sec. | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| 27D32 | GA | 20,000 CT | 10 | 3:1 | 2¼ | $15.00 |
| 27D33 | GA | 20,000 CT | 25 | 3:1 | 2¼ | 14.40 |
| 27D34 | JA | 5,000/10,000 CT | 100 | 5:1 | 4½ | 24.70 |

## COMMUNICATIONS RANGE AUDIO TRANSFORMERS

Frequency Response: 200-3,500 cps, ±1 db. For equipment intended for unattenuated voice reproduction. B terminals.

| Thord. No. | Mtg. Type | Impedances, Ohms Pri. | Impedances, Ohms Secondary | Pri.* Ma. DC | Notes | List Price |
|---|---|---|---|---|---|---|
| 27S15 | GA | 5,000 | 600/150/16/8/4 | 55 | 1, 5 | $17.50 |
| 27S16 | GA | 8,000 | 600/150/16/8/4 | 55 | 1, 6 | 19.30 |
| 27D35 | HA | 5,000 CT | ..... | 100 | 2 | 17.00 |
| 27A09 | AJ | 600/150 | 100,000 CT# | ..... | 3 | 24.50 |
| 27A10 | FA | 125/50 | 125,000 CT | 80 | 4 | 17.50 |

*Maximum. #Split and balanced windings. **NOTES: 1.** Output transformer, single plate to line or voice coil, Class A; 5 watt power level; 2¼ lbs. **2.** Driver transformer; for p-p 2A3's, 6B4G's, etc., to p-p grids; 3:1 ratio (pri./½ sec.); 3½ lbs. **3.** Input transformer, low level line to single or p-p grids; ¾ lbs. **4.** Input transformer, low level SB or DB mike to single or p-p grids; ¾ lb. **5.** Typical output tubes: single 6L6, 6V6. **6.** Typical output tubes: single 6F6, 6V6, 6N6, 6K6, 7B5.

## POWER TRANSFORMERS

Primary, 117 volts, 50/60 cps. B terminals.

| Thord. No. | Mtg. Type | Plate Supply Volts | Plate Supply Ma. DC | Rect. V. | Rect. A. | Filament #1 Volts | Filament #1 Amps. | List Price |
|---|---|---|---|---|---|---|---|---|
| 27R63*§ | GA | 250-0-250 | 10 | ... | ... | 6.3 | 0.6 | $18.70 |
| 27R64*§ | GA | 250-0-250 | 20 | ... | ... | 6.3 | 0.6 | 19.00 |
| 27R65* | HA | 225-0-225 | 40 | 5 | 2 | 6.3 CT | 2 | 21.50 |
| 27R66* | HA | 270-0-270 | 55 | 5 | 2 | 6.3 CT | 2 | 21.90 |
| 27R67* | JA | 300-0-300 | 60 | 5 | 2 | 6.3 CT | 3 | 23.80 |
| 27R68* | JA | 335-0-335 | 70 | 5 | 2 | 6.3 CT | 3 | 24.20 |
| 27R69* | JA | 330-0-330 | 85 | 5 | 2 | 6.3 CT | 3 | 26.00 |
| 27R70* | KA | 345-0-345 | 105 | 5 | 2 | 6.3 CT | 3.5 | 27.70 |
| 27R71* | KA | 375-0-375 | 120 | 5 | 3 | 6.3 CT | 4 | 29.30 |
| 27R72*# | MA | 370-0-370 | 150 | 5 | 3 | 6.3 CT | 4 | 38.90 |
| 27R73*x | MA | 385-0-385 | 200 | 5 | 3 | 6.3 CT | 4.5 | 41.60 |
| 27R74*y | NA | 400-80-0-80-400 | 250 | 5 | 6 | 6.3 CT | 7 | 45.60 |
| 27R75# | HA | 350-0-350 | 55 | 5 | 2 | 6.3 CT | 2 | 21.60 |
| 27R76# | JA | 425-0-425 | 70 | 5 | 2 | 6.3 CT | 3 | 23.40 |
| 27R77# | JA | 440-0-440 | 85 | 5 | 2 | 6.3 CT | 3 | 25.10 |
| 27R78# | KA | 450-0-450 | 105 | 5 | 2 | 6.3 CT | 3.5 | 27.70 |
| 27R79# | KA | 500-0-500 | 120 | 5 | 3 | 6.3 CT | 4 | 29.30 |
| 27R80#x | MA | 510-0-510 | 150 | 5 | 3 | 6.3 CT | 4 | 36.30 |
| 27R81#x | MA | 520-0-520 | 200 | 5 | 3 | 6.3 CT | 4.5 | 38.20 |
| 27R82#x | NA | 550-370-75-0-75-370-550 | 300 | 5 | 6 | 6.3 CT | 5 | 52.10 |
| 27R83‡z | MA | 440-0-440 | 165 | 5 | 3 | 6.3 | 7.5 | 47.60 |
| 27R84† | MA | 450-0-450 | 200 | 5 | 2 | 6.3<br>6.3<br>6.3 | 4<br>4<br>0.6 | 42.90 |
| 27R85‡ | JA | 180-160-140-120-0-120-140-160-180 | 150 | 5 | 3 | ..... | ..... | 31.50 |

*For capacitor input filters. #For choke input filters. †For regulated power supplies. ‡Bias transformer: Combination plate and filament supply. Filament #2: §6.3 v., 1.2 amps.; *6.3 v., 1 amp.; x6.3 CT, 1 amp.; y5 v., 2 amps.; z6.3 v., 3 amps.; 6.3 v., 3 amps., and 6.3 v., 0.6 amp.

### STEP-DOWN TRANSFORMER

400 cps, 3-phase, Y-Y connected. Pri., 115 v./phase. Secondary, 28.5 v., 140 VA Cap. Terminal type B. Case, HA.
**Thordarson No. 27V17**—List Price..... **$43.50**

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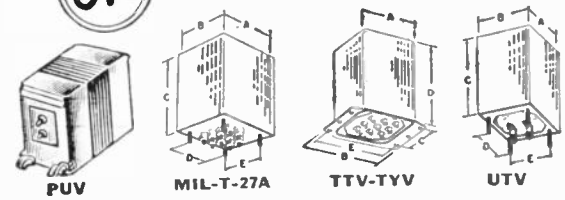
World Radio History

# "Steel Jacket" Transformers




## MIL-T-27A SERIES

### CHOKES

Ratings matched with Power Transformers 27R63 through 27R85. B terminals.

| Thord. No. | Mtg. Type | Ind., Hy. | Ma. DC | DC Ohms | Test V. RMS | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 27C11 | AJ | 15 | 10 | 680 | 1,000 | 1 | $ 9.70 |
| 27C12 | AJ | 15 | 20 | 680 | 1,000 | 1 | 10.30 |
| 27C13 | FB | 15 | 40 | 475 | 2,500 | 1½ | 10.40 |
| 27C14 | FB | 10 | 55 | 230 | 2,500 | 1¾ | 10.70 |
| 27C15 | FB | 15 | 55 | 420 | 2,500 | 2 | 10.70 |
| 27C16 | GB | 10 | 85 | 175 | 2,500 | 2½ | 11.40 |
| 27C17 | GB | 15 | 85 | 285 | 2,500 | 2¾ | 11.40 |
| 27C18 | HB | 8 | 105 | 100 | 2,500 | 3¾ | 13.30 |
| 27C19 | HB | 12 | 105 | 170 | 2,500 | 4 | 13.30 |
| 27C20 | JB | 8 | 150 | 100 | 2,500 | 5¼ | 15.30 |
| 27C21 | JB | 12 | 150 | 150 | 2,500 | 5½ | 15.30 |
| 27C22 | JB | 8 | 200 | 85 | 2,500 | 7 | 18.00 |
| 27C23 | JB | 12 | 200 | 140 | 2,500 | 7 | 18.00 |
| 27C24 | MB | 8 | 250 | 90 | 2,500 | 10½ | 23.50 |
| 27C25 | MB | 8 | 300 | 60 | 3,500 | 12½ | 27.50 |

### FILAMENT TRANSFORMERS

Accommodate practically all receiving and transmitting tubes now in use. Primary, 115/230 v., 50/60 cps.

| Thord. No. | Mtg. Type | Secondary Volts | Secondary Amps. | Test V. RMS | Terminal | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 27F46 | GA | 2.5 CT | 5.25 | 3,500 | C* | 2 | $15.40 |
| 27F47† | GA | 2.5 CT | 10 | 5,000 | C* | 3 | 22.10 |
| 27F48† | JA | 2.5 CT | 10 | 9,000 | D | 4 | 25.70 |
| 27F49† | KA | 2.5 CT | 15 | 9,000 | D | 5¼ | 30.90 |
| 27F50 | GA | 5.0 CT | 4 | 2,500 | B | 2¼ | 16.10 |
| 27F51 | HA | 5.0 CT | 10 | 2,500 | B | 3½ | 22.10 |
| 27F52† | KA | 5.0 CT | 10 | 8,000 | D* | 6 | 33.00 |
| 27F53† | MA | 5.0 CT | 20 | 10,000 | D | 13 | 41.20 |
| 27F54 | FA | 6.3 CT | 1.5 | 2,500 | B | 1 | 13.50 |
| 27F55 | GA | 6.3 CT | 3 | 2,500 | B | 2 | 15.90 |
| 27F56 | HA | 6.3 CT | 5.5 | 2,500 | B | 3 | 18.50 |
| 27F57 | JA | 6.3 CT | 10 | 2,500 | B | 5 | 26.25 |
| 27F58 | HA | 10.0 CT | 4 | 2,500 | B | 3¼ | 18.00 |

†For high voltage rectifier supplies. *For secondary; primary has B type terminal.

## 400 CYCLE OPERATION

Designed to meet all MIL-T-27A Class S specifications, including case sizes and dimensions. For use in aircraft and mobile communication control equipment, etc. Primary, 105/115 125 v. 380-1,000 cps.

### POWER TRANSFORMERS

| Thord. No. | Mtg. Type | Plate Supply Volts | Plate Supply Ma. DC | Rect. Fil. Amps.† | Other Filaments Volts | Other Filaments Amps. | List Price |
|---|---|---|---|---|---|---|---|
| 27R94* | FA | 270-0-270 | 55 | 2 | 5.3 CT | 2 | $33.50 |
| 27R95* | FA | 335-0-335 | 70 | 2 | 6.3 CT | 3 | 34.00 |
| 27R96ɾ | HA | 375-0-375 | 120 | 3 | 6.3 CT | 4 | 39.50 |
| 27R97ɾ | JA | 440-0-440 | 165 | 3 | 6.3<br>6.3<br>6.3<br>6.3 | 7.5<br>3<br>3<br>0.6 | 64.50 |
| 27R98ɾ | JA | 450-0-450 | 200 | 2 | 6.3<br>6.3<br>6.3 | 4<br>4<br>0.6 | 59.50 |
| 27R99ɾ | KA | 550-270-75-0-75-270-550 | 300 | 6 | 6.3 CT<br>6.3 CT | 5<br>1 | 67.50 |

†5.0 volts. Terminal Type: *A; ɾB.

### FILAMENT TRANSFORMERS

| Thord. No. | Mtg. Type | Secondary Volts | Secondary Amps. | Insul. V. RMS | Terminal | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 27F59 | AJ | 6.3 CT | 3 | 2,500 | B | ¾ | $24.50 |
| 27F60 | EA | 6.3 CT | 5.5 | 2,500 | B | 1 | 26.50 |
| 27F61 | FA | 6.3 CT | 10 | 2,500 | B | 1¾ | 29.50 |
| 27F62 | GA | 6.3 CT | 20 | 2,500 | B & C | 2½ | 32.50 |

### CHOKES

| Thord. No. | Mtg. Type | Inductance Hy. | Inductance Ma. DC | DC Ohms | Insul. v. RMS | Terminal | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| 27C26 | AH | 2.0 | 55 | 160 | 2,500 | B | ¼ | $11.00 |
| 27C27 | AH | 2.0 | 70 | 165 | 2,500 | B | ½ | 11.50 |
| 27C28 | EB | 2.0 | 120 | 100 | 2,500 | B | 1 | 13.50 |
| 27C29 | EB | 2.0 | 165 | 90 | 2,500 | B | 1½ | 13.00 |
| 27C30 | FB | 2.0 | 200 | 73 | 2,500 | B | 1¾ | 14.25 |
| 27C31 | HB | 2.0 | 300 | 47 | 2,500 | B | 3¼ | 17.50 |

### TERMINAL DIMENSIONS

| | A | B | C | D |
|---|---|---|---|---|
| Overall Height | 13/32" | 7/16" | 7/32" | 1 7/32" |
| Overall Diameter | ¼" | 5/16" | ½" | ½" |

## COMMUNICATION AND INDUSTRIAL FULL FREQUENCY TRANSFORMERS

Frequency Response: 30-15,000 cps. ± 1 db. Distortion, negligible. Primarily for use by broadcast stations. Drivers and modulation transformers are matched to chokes.

### DRIVER TRANSFORMERS

| Thord. No. | Mtg. Type | Recommended Use In | Recommended Use From | Pri. Ratio | List Price |
|---|---|---|---|---|---|
| 25D53 | UTV-7 | 250-watt transmitter | Two 2A3's, 6B4's or similar p-p pl. to Class B 838's, 805's, 203A's | 3.5:1 | $34.50 |
| 25D54 | TTV-9* | 1 kw transmitter | Four 2A3's, 6B4's or similar p-p pl. to two 833A's or similar p-p grids | 3:1 | 42.50 |

*TTV, but with terminal lugs on top. †Pri.: ½ Section.

### MODULATION TRANSFORMERS

| Thord. No. | Mtg. Type | Imped., Ohms (Pri. pl.-pl.) | Recommended Use In | Recommended Use With | List Price |
|---|---|---|---|---|---|
| 25M78 | TSV-10 | Pri.: 7,500 CT<br>Sec.: 5,000 | 250 w. xmtr | Driver xfrmr 25D53* | $ 62.50 |
| 25M79 | PUV | Pri.: 11,000 CT<br>Sec.: 5,500 | 500 w. xmtr | Class C Amplifier ɾ | 190.00 |
| 25M80 | PUH | Pri.: 9,000 CT<br>Sec.: 7,500 | 1 kw xmtr | Driver xfrmr 25D54 ɾ | 350.00 |

Mod. Tubes: *203-A, 838, 805, etc. ɾ833-A, etc.

### MODULATION CHOKES

| Thord. No. | Mtg. Type | Inductance Hy. | Inductance Ma. DC | Recommended Use In | Recommended Use W/Mod. Xfrmr | List Price |
|---|---|---|---|---|---|---|
| 25C40 | TSV | 65 | 250 | 250 w. xmtr | No. 25M78 | $ 95.50 |
| 25C41 | PUV | 50 | 400 | 500 w. xmtr | No. 25M79 | 125.00 |
| 25C42 | PUH | 100 | 500 | 1 kw xmtr | No. 25M80 | 225.00 |

### PLATE TRANSFORMERS

For induction heating, electronic control equipment, commercial and amateur transmission, etc. Pri., 115/230 v., 50/60 cps.

| Thord. No. | Mtg. Type | Pri. VA | Secondary AC Load Volts | † VDC | Ma. DC/ CCS | Ma. DC/ ICAS | List Price |
|---|---|---|---|---|---|---|---|
| 25P82 | TTV-8 | 185 | 675-575-0-575-675 | 500<br>400 | 250 | 325 | $ 25.50 |
| 25P83 | TTV-8 | 250 | 900-735-0-735-900 | 750<br>600 | 250 | 325 | 28.00 |
| 25P84 | PUH-1 | 310 | 1150-870-0-870-1150 | 1000<br>750 | 250 | 350 | 79.50 |
| 25P85 | TTV-9 | 360 | 1425-0-1425<br>600-0-600 | 1250<br>400 | 150<br>200 | 200<br>260 | 42.50 |
| 25P86 | PUH-4 | 550 | 1710-1430-0-1430-1710 | 1500<br>1250 | 300 | 425 | 89.50 |
| 25P87 | PUH-5 | 915 | 2820-2260-0-2260-2820 | 2500<br>2000 | 300 | 425 | 127.50 |
| 25P88 | PUV | 1600 | 2900-2320-0-2320-2900 | 2600<br>2100 | 500 | 700 | 152.50 |
| 25P89 | PUH-6 | 1850 | 3450-2850-0-2850-3450 | 3000<br>2500 | 500 | 700 | 229.00 |
| 25P90 | PUH-8 | 3050 | 4600-4060-3400-0-3400-4050-4600 | 4000<br>3500<br>3000 | 600 | 800 | 298.00 |

†DC volts after filter. ɾ40° to 50° C temperature rise under full load. CCS duty. Duty cycle 15 minutes on, 15 minutes off, with the 40° to 50° C temperature rise under ICAS conditions.

### CHOKES

Designed to match the plate transformers listed above.

| Thord. No. | Mtg. Type | Inductance Hy. | Inductance Ma. DC | Resis., Ohms | Test V. RMS | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 25C44 | PUH-2 | 6 | 700 | 35 | 10,000 | 35 | $67.50 |
| 25C45 | PUH-3 | 10 | 500 | 40 | 9,000 | 35 | 66.50 |
| 25C46 | PUH-1 | 6 | 500 | 35 | 9,000 | 35 | 54.50 |
| 25C47 | TYV-10 | 10 | 300 | 40 | 7,500 | 22 | 32.50 |
| 25C48 | TYV-9 | 6 | 300 | 35 | 7,500 | 16½ | 27.50 |

### MIL-T-27A CASE DIMENSIONS (INCHES)

| Type | -A- | -B- | -C- | D. x E. | Stud Size |
|---|---|---|---|---|---|
| AF | ¾ | ¾ | 1 1/16 | 9/16 | 4-40 x 3/16 |
| AG | 1 | 1 | 1 3/16 | ¾ | 4-40 x 3/16 |
| AH | 1 5/16 | 1 5/16 | 1¾ | 1¼ | 6-32 x 3/16 |
| AJ | 1 5/8 | 1 5/8 | 2 3/16 | 1 5/16 x 1 3/16 | 6-32 x 3/16 |
| EA | 1 13/16 | 1 13/16 | 2¾ | 1¾ x 1¼ | 6-32 x 3/16 |
| EB | 1 13/16 | 1 13/16 | 2 7/16 | 1 3/8 x 1 3/8 | 6-32 x 3/16 |
| FA | 2 5/16 | 2 1/16 | 3 1/8 | 1 11/16 x 1 7/16 | 6-32 x 3/16 |
| FB | 2 5/16 | 2 1/16 | 2½ | 1 11/16 x 1 7/16 | 6-32 x 3/16 |
| GA | 2¾ | 2 3/8 | 3 13/16 | 2 1/16 x 1¾ | 6-32 x 3/16 |
| GB | 2¾ | 2 3/8 | 2 13/16 | 2 1/16 x 1¾ | 6-32 x 3/16 |
| HA | 3 1/16 | 2 5/8 | 4¼ | 2 19/64 x 1 55/64 | 8-32 x 3/16 |
| HB | 3 1/16 | 2 5/8 | 3 5/16 | 2 19/64 x 1 55/64 | 8-32 x 3/16 |
| JA | 3 9/16 | 3 1/16 | 4 7/8 | 2 5/8 x 2 1/16 | 8-32 x 3/16 |
| JB | 3 9/16 | 3 1/16 | 3 7/8 | 2 5/8 x 2 1/8 | 8-32 x 3/16 |
| KA | 3 13/16 | 3 3/8 | 5¼ | 3 x 2 7/16 | 10-32 x ½ |
| KB | 3 13/16 | 3 3/8 | 4 5/16 | 3 x 2 7/16 | 10-32 x ½ |
| LA | 4 5/16 | 3 11/16 | 5 9/16 | 3 5/16 x 2 11/16 | 10-32 x ½ |
| LB | 4 5/16 | 3 11/16 | 4½ | 3 5/16 x 2 11/16 | 10-32 x ½ |
| MA | 4 11/16 | 4 | 6 | 3 11/16 x 3 | ¼-20 x 5/8 |
| MB | 4 11/16 | 4 | 4 15/16 | 3 11/16 x 3 | ¼-20 x 5/8 |
| NA | 5 1/16 | 4 5/16 | 6 13/16 | 4 1/16 x 3 5/16 | ¼-20 x 5/8 |
| NB | 5 1/16 | 4 5/16 | 5½ | 4 1/16 x 3 5/16 | ¼-20 x 5/8 |
| OA | 5½ | 4½ | 6¾ | 3¾ x 3 | ¼-20 x 5/8 |



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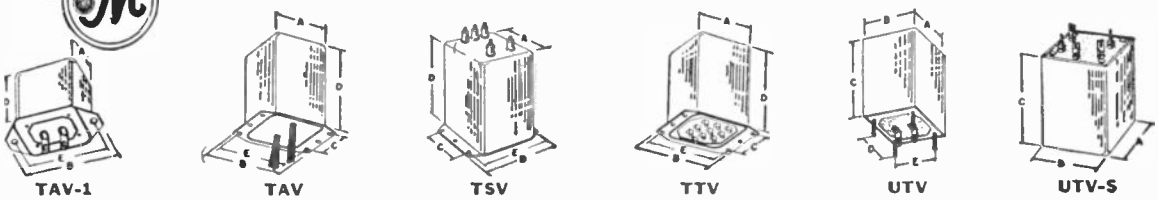
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# "Steel Jacket" Transformers



TAV-1 TAV TSV TTV UTV UTV-S

## FULL FREQUENCY RANGE AUDIO TRANSFORMERS

### INPUT (MTG. TYPE UTV-3)

Frequency Response: 20-20,000 cps, ± ½ db. Hum-bucking coil and core construction neutralize stray magnetic fields; internal cases and special alloy shielding eliminates hum pickup.

| Thord. No. | Application | Impedances, Ohms | Oper. Level† | List Price |
|---|---|---|---|---|
| 25A01** | Line to sgl. or p-p grids | *Pri.: 600/150 CT *Sec.: 50,000 CT | +15 dbm | $28.75 |
| 25A02# | Line to sgl. or p-p grids | *Pri.: 600/150 CT *Sec.: 50,000 CT | +15 dbm | 36.75 |
| 25A03** | Line bridging to p-p grids | *Pri.: 8000/6000 CT *Sec.: 50,000 CT | +15 dbm | 29.95 |
| 25A04** | Line to line | Pri.: 600/150 CT Sec.: 600/150 CT | +15 dbm | 29.50 |
| 25A05#‡ | Line to line | *Pri.: 600/150 CT *Sec.: 600/150 CT | +30 dbm | 39.15 |
| 25A06** | Intstg—p-p pl. to sgl. or p-p gr. | *Pri.: 20,000 CT *Sec.: 50,000 CT | +15 dbm | 28.75 |
| 25A07** | Low-Z mike pickup or multiple line to grid | Pri.: 50/150/250/600 *Sec.: 50,000 CT | +15 dbm | 29.95 |

†0 dbm. Reference level, 1 mw. *Split and balanced windings. Hum Reduction: ** – 70 db; # – 90 db. ‡Mtg. Type UTV-6.

### OUTPUT

Average frequency response, 30-20,000 cps, ± ½ db. Impedance ratings match RETMA recommendations for hi-fi speakers.

| Thord. No. | Application | Impedances, Ohms | Oper. Level‡ | List Price |
|---|---|---|---|---|
| 25S23‡‡ | Sgl. pl. to line | †Pri.: 15,000 *Sec.: 600/150 CT | +15 dbm (22 mw) | $16.95 |
| 25S24# | P-p pl. to line | *Pri.: 20,000 CT *Sec.: 600 150 CT | +30 dbm (1 watt) | 22.50 |
| 25S25†† | P-p pl. to line or Voice Coil | *Pri.: 10,000 CT *Sec.: 600 16/8 CT and 150/4 | +37 dbm (5 watts) | 27.20 |
| 25S26** | P-p pl. to Voice Coil | Pri.: 7,500 CT Sec.: 8/20 | +43 dbm (20 w.) | 29.25 |
| 25S27** | P-p pl. to line or Voice Coil | *Pri.: 5000/3000 CT *Sec.: 600/16/8 CT and 150/4 | +42 dbm (15 watts) | 28.75 |
| 25S28## | P-p low level pl. to line | Pri.: 20,000 CT *Sec.: 600/150 CT | +15 dbm (22 mw) | 27.50 |
| 25S29* | P-p pl. to line or Voice Coil | *Pri.: 3000/2500 CT *Sec.: 600/16/8 CT and 150/4 | +46 dbm (40 watts) | 41.45 |
| 25S30* | P-p pl. to line or Voice Coil | Pri.: 10,000 CT Sec.: 600/16/8 | +40 dbm (10 watts) | 29.75 |
| 25S31** | P-p pl. to Voice Coil | § Pri.: 10,000 Sec.: 4/8/16 | +43 dbm (20 watts) | 29.75 |

‡0 dbm. Reference level, 1 mw. †0-10 ma DC. *Split and balanced windings. §Has screen grid taps for extended power. Mtg. Types: ‡‡UTV-4; #UTV-5; ††UTV-6; **UTV-7; ##UTV-3; *UTV-8.

### INPUT, INTERSTAGE, MIXING (MTG. UTV)

Frequency Response: 20-20,000 cps, ± 1 db. Primary Impedance: 50, 125/150, 200, 250, 333, 500/600 ohms. Dimensions: No. 25A14, 3 11/16" x 3 5/8" x 4 5/16" h.; mtg. dimensions, 3" x 2 7/16". All others: 3 1/16" x 2 5/8" x 3 9/16" h.; mtg. dimensions, 2 19/64" x 1 45/64".

| Thord. No. | Application | Sec. Ohms | ‡Max. Level | Hum† | List Price |
|---|---|---|---|---|---|
| 25A08# | Low-Z mike, pickup or line to grid | 60,000* | 15 dbm | –74 db | $32.50 |
| 25A09# | Low-Z mike or line to grid | 50,000* | 14 dbm | –92 db | 49.50 |
| 25A10# | Low-Z mike, pickup or line to p-p grid | 120,000* | 15 dbm | –74 db | 39.50 |
| 25A11# | Low-Z mike, pickup or line to p-p grid | 80,000* | 14 dbm | –92 db | 52.50 |
| 25A12* | Sgl. pl. to p-p grids | 95,000* | 17 dbm | –50 db | 31.20 |
| 25A13§ | Sgl. pl. to p-p grids | 135,000* | 14 dbm | –74 db | 39.50 |
| 25A14†† | P-p pl. to p-p grids | 80,000* | 26 dbm | –50 db | 57.50 |
| 25A15## | Low-Z mixer, mike pickup, or line to line | 50, 125/150, 200, 250, 333, 500/600 | 17 dbm | –74 db | 39.50 |

‡0 dbm reference level, 1 mw. †Hum-pickup reduction (eompared with uncased unit). *Overall split winding. #Input transformer. *Interstage transformer: pri., 15,000 ohms; 2.5:1 ratio; use shunt plate feed. §Interstage: pri., 15,000 ohms (split winding); 3:1 ratio; use shunt plate feed. ††Interstage: pri., 30,000 ohms plate to plate (split winding); 1.6:1 ratio. ##Mixing transformer: pri., 50, 125/150, 200, 250, 333, 500/600 ohms.

### INPUT, INTERSTAGE, OUTPUT, MIXING (MTG. TYPE UTV-S)

Frequency Response: 30-20,000 cps, ±2 db—except Nos. 25A17 and 25S34: 50-20,000 cps, ±2 db. Steel encased with phenolic terminal board and tapped corner inserts. Size: 1½" x 1½" x 2" h.

| Thord. No. | Impedances, Ohms Primary | Secondary | Notes | List Price |
|---|---|---|---|---|
| 25A16 | 50, 125/150, 200, 250, 333, 500/600 | 50,000 | 1, 2 | $19.50 |
| 25A17 | 50, 200, 500 | 50,000 | 1, 2 | 20.80 |
| 25A18 | 50, 125/150, 200, 250, 333, 500/600 | 80,000* | 1, 3 | 19.50 |
| 25A19 | 30 | 50,000* | 1, 4 | 17.70 |
| 25A20 | 15,000 | 60,000 | 5, 6, 8 | 16.40 |
| 25A21 | 15,000 | 80,000 overall | 5, 7, 8 | 18.20 |
| 25S32 | 15,000 | 50, 125/150, 200, 250, 333, 500/600 | 8, 9, 10 | 19.50 |
| 25S33 | 30,000 pl. to pl. | 50, 125/150, 200, 250, 333, 500/600 | 8, 9, 11 | 19.50 |
| 25S34 | 15,000 | 50, 125/150, 200, 250, 333, 500/600 | 8, 9, 12 | 18.20 |
| 25A22 | 50, 125/150, 200, 250, 333, 500/600 | 50, 125/150, 200, 250, 333, 500/600 | 13 | 19.50 |

*Overall split winding.

Notes: **1.** Input transformer. **2.** Low-Z mike, pickup or line to grid. **3.** Low-Z mike, pickup or line to sgl. or p-p grids. **4.** Dynamic mike to 1 or 2 grids. **5.** Interstage transformer. **6.** Sgl. pl. to sgl. grid. 2:1 ratio. **7.** Sgl. pl. to 2 grids (can use split pri. for p-p pl.); 2.3:1 ratio. **8.** Use shunt plate feed to keep DC out of pri. winding. **9.** Low level output transformer. **10.** Sgl. pl. to line. **11.** P-p low level pl. to line. **12.** Sgl. pl. to multiple line. **13.** Mixing transformer; low-Z mixer, mike, pickup or line to line.

### HIGH Q CHOKES (MTG. TAV-1)

For use in Dynamic Noise Suppressor circuits; also in any tuned circuit requiring the given inductances. Minimum Q: 20. Rated inductances accurate ±5%, with up to 15 Ma. DC. **$12.50**

**Thordarson No. 25C38**—0.8 henries. ½ lb. List Price.

**Thordarson No. 25C39**—2.4 henries. ½ lb. List Price....12.50

## FILAMENT TRANSFORMERS

Primary, 115-230 v., 50/60 cps. For heating a variety of popular receiving and transmitting tubes. Solder-lug terminals on secondaries rated under 6 amps; screw-type terminals where secondaries are rated over 6 amps.

| Thord. No. | Mtg. Type | Secondary Volts | Secondary Amps. | Test V. RMS | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| 25F56 | TTV-4 | 2.5 CT | 5.25 | 3,500 | 2 | $10.55 |
| 25F57* | TTV-5 | 2.5 CT | 10 | 5,000 | 3 | 16.25 |
| 25F58* | TTV-6 | 2.5 CT | 10 | 9,000 | 4 | 19.75 |
| 25F59* | TTV-7 | 2.5 CT | 15 | 9,000 | 6 | 21.25 |
| 25F60 | TTV-4 | 5.0 CT | 4 | 2,500 | 2¼ | 10.85 |
| 25F61 | TTV-5 | 5.0 CT | 10 | 2,500 | 3½ | 18.50 |
| 25F62* | TTV-7 | 5.0 CT | 10 | 10,000 | 6 | 22.50 |
| 25F63 | TTV-7 | 5.0 CT | 20 | 2,500 | 6½ | 24.50 |
| 25F64* | TTV-8 | 5.0 CT | 20 | 10,000 | 13 | 28.25 |
| 25F65 | TTV-8 | 5.0 CT | 30 | 2,500 | 10½ | 28.25 |
| 25F66 | TSV-8 | 5.0 CT | 30 | 2,500 | 10½ | 34.50 |
| 25F67 | TTV-3 | 6.3 CT | 1.5 | 2,500 | 1 | 8.75 |
| 25F68 | TTV-4 | 6.3 CT | 3 | 2,500 | 2 | 10.50 |
| 25F69 | TTV-5 | 6.3 CT | 5.5 | 2,500 | 3 | 12.75 |
| 25F70 | TTV-6 | 6.3 CT | 10 | 2,500 | 5 | 17.50 |
| 25F71 | TTV-5 | 7.5 CT | 5 | 2,500 | 3¼ | 10.50 |
| 25F72 | TTV-7 | 7.5 CT | 12 | 2,500 | 6½ | 24.50 |
| 25F73 | TTV-5 | 10 CT | 4 | 2,500 | 3¼ | 14.00 |
| 25F74 | TTV-6 | 10 CT | 6.5 | 2,500 | 5 | 19.50 |
| 25F75 | TTV-7 | 10 CT | 10 | 2,500 | 6½ | 24.50 |

*For use with high voltage rectifier supply; secondary terminals insulated with ceramic bushings.

### STEEL CASE SIZES, INCHES

| Mtg. | A | B | C | D | E |
|---|---|---|---|---|---|
| TAV-1 | 1½ | 2⅜ | .... | 1¾ | 2 |
| TAV-3 TTV-3 | 2¼ | 2 11/16 | 1½ | 2⅛ | 2⅜ |
| TAV-4 TTV-4 | 2½ | 3 | 1¾ | 3 5/16 | 2 11/16 |
| TAV-5 TTV-5 | 2⅞ | 3½ | 2 | 3 9/16 | 3⅛ |
| TAV-6 TTV-6 | 3¼ | 4 | 2¼ | 4 | 3½ |
| TAV-7 TTV-7 | 3 11/16 | 4 7/16 | 2¾ | 4 5/16 | 3⅞ |
| TAV-8 TTV-8 | 4 9/16 | 5¼ | 2½ | 5 5/16 | 4¾ |

| Mtg. | A | B | C | D | E |
|---|---|---|---|---|---|
| TAV-9 TTV-9 | 5 5/16 | 5⅞ | 3½ | 6 1/16 | 5⅜ |
| TSV-8 | 4 9/16 | 5¼ | 2½ | 5 9/16 | 4¾ |
| TTV-10 | 6 1/16 | 6½ | 4¼ | 7 1/16 | 6 |
| UTV-3 | 2 5/16 | 2 7/16 | 3⅛ | 1 9/16 | 1¾ |
| UTV-4 | 2¾ | 2⅜ | 3 13/16 | 1 11/16 | 1 11/16 |
| UTV-5 | 3 1/16 | 2⅜ | 4¼ | 2 | 1⅞ |
| UTV-6 | 3 9/16 | 3 1/16 | 4⅞ | 2⅜ | 2⅛ |
| UTV-7 | 3 11/16 | 3⅜ | 5¼ | 2⅝ | 2⅜ |
| UTV-8 | 4 11/16 | 4 | 6 | 3⅜ | 3⅜ |
| ..... | .... | .... | .... | .... | .... |
| ..... | .... | .... | .... | .... | .... |

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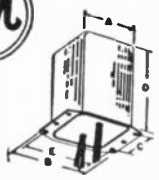
World Radio History

# "Steel Jacket" Transformers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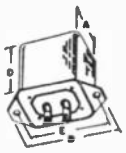
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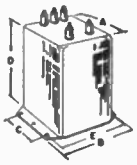
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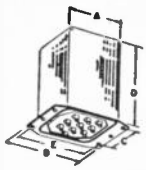
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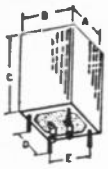
UTV

## POWER TRANSFORMERS

Provide plate and filament supply for a number of the most popular tubes in modern circuits. Temperature rise will not exceed 50° C. Encased in steel for strength, climate resistance, electrostatic and magnetic shielding, ease of mounting, etc. Current ratings and mounting types matched to chokes below. Primary, 117 volts, 50/60 cps.

| Thord. No. | Mtg. Type | Plate Supply Volts | Plate Supply Ma. DC‡ | Rect. Amps.* | Fil. #1 Volts | Fil. #1 Amps. | List Price |
|---|---|---|---|---|---|---|---|
| 25R01 | TAV-5 | 225-0-225 | L 70 | 2 | 6.3 CT | 2 | $ 8.50 |
| 25R23 | TTV-5 | | C 40 | | | | 14.75 |
| 25R02 | TAV-5 | 270-0-270 | L 95 | 2 | 6.3 CT | 2 | 9.15 |
| 25R24 | TTV-5 | | C 55 | | | | 15.50 |
| 25R03 | TAV-6 | 300-0-300 | L105 | 2 | 6.3 CT | 3 | 10.50 |
| 25R26 | TTV-6 | | C 60 | | | | 16.50 |
| 25R04 | TAV-6 | 335-0-335 | L120 | 2 | 6.3 CT | 3 | 11.25 |
| 25R27 | TTV-6 | | C 70 | | | | 17.50 |
| 25R05 | TAV-7 | 330-0-330 | L145 | 2 | 6.3 CT | 3 | 13.00 |
| 25R28 | TTV-7 | | C 85 | | | | 18.65 |
| 25R06 | TAV-7 | 345-0-345 | L180 | 2 | 6.3 CT | 3.5 | 14.10 |
| 25R29 | TTV-7 | | C105 | | | | 19.75 |
| 25R07 | TAV-5 | 350-0-350 | L 55 | 2 | 6.3 CT | 2 | 9.50 |
| 25R30 | TTV-5 | | C 30 | | | | 15.75 |
| 25R08 | TAV-8 | 375-0-375 | L210 | 3 | 6.3 CT | 4 | 15.85 |
| 25R31 | TTV-8 | | C120 | | | | 20.80 |
| 25R09* | TAV-8 | 370-0-370 | L260 | 3 | 6.3 CT | 4 | 18.15 |
| 25R32* | TTV-8 | | C150 | | | | 27.50 |
| 25R10* | TAV-8 | 385-0-385 | L350 | 3 | 6.3 CT | 4.5 | 21.15 |
| 25R33* | TTV-8 | | C200 | | | | 29.25 |
| 25R11/ | TAV-9 | 400-80-0- | L430 | 6 | 6.3 CT | 7 | 26.00 |
| 25R34/ | TTV-9 | 80-400 | C250 | | | | 36.50 |
| 25R12 | TAV-6 | 425-0-425 | L 70 | 2 | 6.3 CT | 3 | 10.75 |
| 25R35 | TTV-6 | | C 40 | | | | 17.25 |
| 25R13 | TAV-7 | 440-0-440 | L 85 | 2 | 6.3 CT | 3 | 12.50 |
| 25R36 | TTV-7 | | C 50 | | | | 19.00 |
| 25R14† | TTV-8 | 440-0-440 | L285 | 3 | 6.3 | 7.5 | 39.75 |
| | | | C165 | | 6.3 | 0.6 | |
| 25R15§ | TTV-8 | 450-0-450 | L350 | 2 | 6.3 | 4 | 37.50 |
| | | | C200 | | 6.3 | 4 | |
| 25R16 | TAV-7 | 450-0-450 | L105 | 2 | 6.3 CT | 3.4 | 13.35 |
| 25R37 | TTV-7 | | C 60 | | | | 20.00 |
| 25R17 | TAV-8 | 500-0-500 | L120 | 3 | 6.3 CT | 4 | 14.95 |
| 25R38 | TTV-8 | | C 70 | | | | 21.25 |
| 25R18* | TAV-8 | 510-0-510 | L150 | 3 | 6.3 CT | 4 | 17.50 |
| 25R39* | TTV-8 | | C 85 | | | | 29.50 |
| 25R19* | TAV-8 | 520-0-520 | L200 | 3 | 6.3 CT | 4.5 | 19.50 |
| 25R40* | TTV-8 | | C115 | | | | 31.50 |
| 25R20* | TAV-9 | 550-370- | L300 | 6 | 6.3 CT | 5 | 30.50 |
| 25R41* | TTV-9 | 75-0-75- | C170 | | | | 44.50 |
| | | 370-550 | | | | | |

‡L for choke input filter; C for capacitor input filter. *5 volts. Filament No. 2: *6.3 CT, 1 amp.; /5 v., 2 amps.; †6.3 v.-3 amps., 6.3 v.-3 amps.; §6.3 v., 0.6 amp.

## CHOKES

Mounting types and current ratings match power transformers.

| Thord. No. | Mtg. Type | Inductance Hy. | Inductance Ma. DC | Resis. Ohms | Test V. RMS | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 25C25 | TAV-3 | 15 | 40 | 475 | 2,500 | 1½ | $ 4.20 |
| 25C49 | TTV-3 | | | | | | 6.00 |
| 25C26 | TAV-3 | 10 | 55 | 230 | 2,500 | 1¾ | 4.90 |
| 25C50 | TTV-3 | | | | | | 6.65 |
| 25C27 | TAV-3 | 15 | 55 | 420 | 2,500 | 2 | 4.25 |
| 25C51 | TTV-3 | | | | | | 7.00 |
| 25C28 | TAV-4 | 10 | 85 | 175 | 2,500 | 2½ | 5.80 |
| 25C52 | TTV-4 | | | | | | 7.00 |
| 25C29 | TAV-4 | 15 | 85 | 285 | 2,500 | 2¾ | 6.30 |
| 25C53 | TTV-4 | | | | | | 8.45 |
| 25C30 | TAV-5 | 8 | 105 | 100 | 2,500 | 3¾ | 7.00 |
| 25C54 | TTV-5 | | | | | | 9.50 |
| 25C31 | TAV-5 | 12 | 105 | 170 | 2,500 | 4 | 7.30 |
| 25C55 | TTV-5 | | | | | | 8.50 |
| 25C32 | TAV-6 | 8 | 150 | 100 | 2,500 | 5¼ | 9.65 |
| 25C56 | TTV-6 | | | | | | 11.00 |
| 25C33 | TAV-6 | 12 | 150 | 150 | 2,500 | 5½ | 9.75 |
| 25C57 | TTV-6 | | | | | | 11.35 |
| 25C34 | TAV-7 | 8 | 200 | 85 | 2,500 | 7 | 11.35 |
| 25C58 | TTV-7 | | | | | | 13.00 |
| 25C35 | TAV-7 | 12 | 200 | 140 | 2,500 | 7 | 11.50 |
| 25C59 | TTV-7 | | | | | | 13.75 |
| 25C36 | TAV-8 | 8 | 250 | 90 | 2,500 | 10½ | 12.90 |
| 25C60 | TTV-8 | | | | | | 15.75 |
| 25C37 | TAV-8 | 8 | 300 | 60 | 3,500 | 12½ | 15.90 |
| 25C43 | TTV-8 | | | | | | 19.75 |

## BIAS TRANSFORMERS

Combination plate and filament supply. Primary, 50/60 cps. Rectifier Filament: 5 v., 3 amps.

| Thord. No. | Mtg. Type | Pri. Volts | Plate Supply Volts | Plate Supply Ma. DC | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| 25R21 | TAV-6 | 115 | 180-160-140-120-0- | 150 | 5 | $10.75 |
| 25R42 | TTV-6 | | 120-140-160-180 | | | 24.50 |
| 25R22 | TAV-6 | 230 | 180-160-140-120-0- | 150 | 5 | 10.50 |
| 25R43 | TTV-6 | | 120-140-160-180 | | | 25.50 |

## P.A. AUDIO TRANSFORMERS

### DRIVER TRANSFORMERS

Frequency Response: 50-10,000 cps.

| Thord. No. | Mtg. Type | Primary Ohms | Primary Ma. DC | Turns Ratio† | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|
| 25D49 | TAV-4 | 20,000 CT | 10 | 3:1 | 2¼ | $ 7.00 |
| 25D55 | TTV-4 | | | | | 11.50 |
| 25D50 | TAV-4 | 20,000 CT | 25 | 3:1 | 2¼ | 6.65 |
| 25D56 | TTV-4 | | | | | 12.50 |
| 25D51 | TAV-6 | 5,000/10,000 CT | 100 | 5:1 | 4½ | 11.95 |
| 25D57 | TTV-6 | | | | | 18.75 |

†Pri.: ½ Sec.

### OUTPUT TRANSFORMERS

Secondary: 600/150/16/8/4 ohms (has tertiary winding to provide 10% inverse feedback). Freq. Response: 50-10,000 cps.

| Thord. No. | Mtg. Type | Class | Primary Ohms | Primary Ma. DC | Power, Watts | Wt., Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| 25S35 | TAV-7 | $A_1$ | 5,000 CT | 120 | 20 | 6½ | $13.50 |
| 25S40 | TTV-7 | AB | | | | | 21.25 |
| 25S36 | TAV-6 | AB | 10,000 CT | 200 | 15 | 5 | 12.50 |
| 25S41 | TTV-6 | $AB_1$ | | | | | 19.00 |
| 25S37 | TAV-8 | B | 6,000 CT | 250 | 30 | 9 | 14.50 |
| 25S42 | TTV-8 | $AB_2$* | | | | | 23.25 |

*For low distortion, use fixed bias.

## COMMUNICATIONS AUDIO TRANSFORMERS

Frequency Response: 200-3,500 cps. ±1 db. For use in aircraft, police, amateur, railroad and similar transmitting equipment. All, except No. 25M77, completely steel encased.

| Thord. No. | Mtg. Type | Impedance, Ohms Primary | Impedance, Ohms Secondary | Pri., Ma. DC | Notes | List Price |
|---|---|---|---|---|---|---|
| 25A23 | TAV-1 | 600/150 CT | 100,000 CT† | ..... | 1, 5 | $12.50 |
| 25A25 | TTV-1 | | | | | 17.50 |
| 25A24 | TAV-1 | 125/50 | 125,000 CT | 80 | 1, 6 | 6.50 |
| 25A26 | TTV-1 | | | | | 10.50 |
| 25D52 | TAV-5 | 5,000 CT | ..... | 100 | 2, 7, | 7.50 |
| 25D58 | TTV-5 | | | | 10 | 15.50 |
| 25M76 | TYV-10/ | 9000/6700 CT | 8000/6000/4000 | *350 | 3, 8 | 54.50 |
| 25M77 | PUH | 18000/12000 CT | 6250 | *500 | 3, 9 | 99.50 |
| 25S38 | TAV-4 | 5,000 | 600/150/16/8/4 | 55 | 4 | 7.00 |
| 25S43 | TTV-4 | | | | | 12.50 |
| 25S39 | TAV-4 | 8,000 | 600/150/16/8/4 | 55 | 4 | 7.00 |
| 25S44 | TTV-4 | | | | | 12.50 |

*Secondary, Ma. DC same. †Split and balanced winding. /TTV with bushings. **Notes: 1.** Input. **2.** Driver. **3.** Modulation. **4.** Output. Class A, 5 watt power level **5.** Low level line to sgl. or p-p grids. **6.** Low level SB or DB mike to sgl. or p-p grids. **7.** P-p 2A3's, 6B4G's, 807's to p-p grids. **8.** Power level, 250-350 watts. **9.** Power level, 500-700 watts. **10.** Turns ratio P/½ Sec., 3:1.

## STEEL CASE SIZES (INCHES)

| Mtg. | A | B | C | D | E |
|---|---|---|---|---|---|
| TAV-1 | 1½ | 2⅜ | ... | 1¾ | 2 |
| TAV-3 | 2¼ | 2 11/16 | 1½ | 2⅞ | 2⅞ |
| TTV-3 | | | | | |
| TAV-4 | 2½ | 3 | 1¾ | 3½ | 2 11/16 |
| TTV-4 | | | | | |
| TAV-5 | 2⅞ | 3½ | 2 | 3 9/16 | 3⅛ |
| TTV-5 | | | | | |
| TAV-6 | 3¼ | 4 | 2¼ | 4 | 3½ |
| TTV-6 | | | | | |

| Mtg. | A | B | C | D | E |
|---|---|---|---|---|---|
| TAV-7 | 3 11/16 | 4 7/16 | 2¾ | 4 5/16 | 3⅞ |
| TTV-7 | | | | | |
| TAV-8 | 4 9/16 | 5¼ | 2½ | 5 1/16 | 4¾ |
| TTV-8 | | | | | |
| TAV-9 | 5 1/16 | 5⅞ | 3½ | 6 1/16 | 5⅜ |
| TTV-9 | | | | | |
| TTV-10 | 6⅛ | 6½ | 4¼ | 7 1/16 | 6 |



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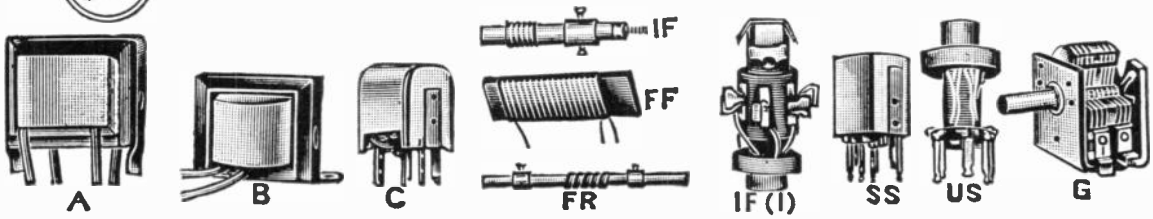
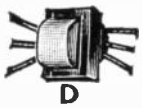
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Transistor Components




### THORDARSON MINIATURE TRANSISTOR TRANSFORMERS (FIG. D)


D

These new 50 milliwatt transistor transformers are only ½" h. x 7/16" w. x 7/16" d. and weigh only 0.1 oz. **Applications: A,** Input; **B,** Bridging; **D,** Driver; **J.** Interstage; **S,** Output. List Price..... **$6.95**

| Thord. No. | Turns Ratio | Impedances Winding #1 | Impedances Winding #2 | Power mw | Applications |
|---|---|---|---|---|---|
| TR-37 | 1:1 | 500 CT | 500 CT | 50 | B, D, J |
| TR-38 | 1.09:1 | 6,000 | 5,000 CT | 50 | B, D, J |
| TR-39 | 1.24:1 | 4,000 | 2,600 CT | 50 | D, J |
| TR-40 | 2.23:1 | 10,000 | 2,000 CT | 50 | D, J |
| TR-41 | 3.16:1 | 500 | 50 | 50 | D, S |
| TR-42 | 3.16:1 | 20,000 | 2,000 CT | 50 | A, J |
| TR-43 | 3.53:1 | 125 CT | 10 | 50 | S |
| TR-44 | 4.07:1 | 20,000 | 1,200 | 50 | A, J |
| TR-45 | 4.46:1 | 1,000 | 50 | 50 | D, S |
| TR-46 | 4.47:1 | 200 CT | 10 | 50 | S |
| TR-47 | 5.46:1 | 300 CT | 10 | 50 | S |
| TR-48 | 5.75:1 | 20,000 | 600 | 50 | A, J |
| TR-49 | 7.06:1 | 500 CT | 10 | 50 | S |
| TR-50 | 7.9:1 | 200 CT | 3.2 | 50 | S |
| TR-51 | 9.65:1 | 300 CT | 3.2 | 50 | S |
| TR-52 | 11.8:1 | 7,000 | 50 | 50 | D, S |
| TR-53 | 12.5:1 | 500 CT | 3.2 | 50 | S |
| TR-54 | 14.14:1 | 200,000 | 1,000 | 50 | A, J |
| TR-55 | 44.7:1 | 100,000 | 50 | 50 | A |
| TR-56 | 30 h. @ 1 ma DC 4,000 ohms DC res. | | | | Choke |

### THORDARSON AUDIO TRANSISTOR TRANSFORMERS

**Applications: A,** Input; **B,** Bridging; **D,** Driver; **J,** Interstage; **S,** Output. Many may be used in more than one application—instructions supplied with each, showing various applications. **Fig. A,** 150 mw types with 11/16" mtg. centers. **Fig. B,** 300 mw types with 1⅜" mtg. centers. **All Nos.**—List Price... **$5.55**

| Thord. No. | Turns Ratio | Impedances Winding #1 | Impedances Winding #2 | Power mw | Applications |
|---|---|---|---|---|---|
| TR-1 | 1.00:1 | 500 CT | 500 CT | 300 | B, D, J |
| TR-2 | 1.23:1 | 5,000 CT | 7,500 CT | 150 | B, D, J |
| TR-3 | 1.41:1 | 5,000 CT | 10,000 CT | 150 | D, J |
| TR-4 | 1.73:1 | 1,500 | 500 CT | 150 | D, J, S |
| TR-5 | 1.81:1 | 490 CT | 150 CT | 150 | D, S |
| TR-6 | 1.83:1 | 10,000 | 3,000 CT | 150 | D, J |
| TR-7 | 2.24:1 | 10,000 | 2,000 CT | 150 | D, J |
| TR-8 | 2.45:1 | 48 CT | 8 or 4 | 300 | S |
| TR-9 | 2.45:1 | 5,000 | 30,000 CT | 150 | A, J |
| TR-10 | 3.00:1 | 5,000 CT | 45,000 | 150 | A, J |
| TR-11 | 3.16:1 | 500 CT | 50 | 150 | D, S |
| TR-12 | 3.16:1 | 100 CT | 10 CT | 150 | D, S |
| TR-13 | 4.00:1 | 5,000 CT | 80,000 | 150 | A, J |
| TR-14 | 4.08:1 | 20,000 | 1,200 | 150 | A, J |
| TR-15 | 4.47:1 | 300 CT | 15 | 150 | S |
| TR-16 | 5.00:1 | 400 CT | 16 | 150 | S |
| TR-17 | 5.00:1 | 20,000 | 800 CT | 150 | A, D, J |
| TR-18 | 5.52:1 | 500 CT | 16.4 | 150 | S |
| TR-19 | 6.04:1 | 400 CT | 11 | 150 | S |
| TR-20 | 6.22:1 | 650 CT | 16.8 | 150 | S |
| TR-21 | 6.33:1 | 160 CT | 8 or 4 | 300 | S |
| TR-22 | 7.07:1 | 400 CT | 8 or 4 | 300 | S |
| TR-23 | 7.07:1 | 10,000 | 200 CT | 150 | D, S |
| TR-24 | 8.17:1 | 100,000 | 1,500 CT | 300 | A, J |
| TR-25 | 8.66:1 | 15,000 | 200 CT | 150 | J, S |
| TR-26 | 10.0:1 | 50,000 | 500 CT | 150 | A, D, S |
| TR-27 | 12.5:1 | 500 CT | 3.2 | 150 | S |
| TR-28 | 14.1:1 | 200,000 | 1,000 | 300 | A |
| TR-29 | 15.6:1 | 825 CT | 3.4 | 150 | S |
| TR-30 | 15.8:1 | 50,000 | 200 CT | 150 | A, S |
| TR-31 | 20.0:1 | 40,000 | 100 | 150 | A, S |
| TR-32 | 25.5:1 | 9,800 | 15 | 150 | A, S |
| TR-33 | 35.4:1 | 250,000 | 200 CT | 300 | A |
| TR-34 | 40.8:1 | 50,000 | 30 CT | 150 | A |
| TR-35 | 44.7:1 | 100,000 | 50 | 300 | A |
| TR-36 | 50.0:1 | 500,000 | 200 CT | 300 | A |

### THORDARSON POWER TRANSISTOR OUTPUTS

Cover all power transistor applications in auto radios, auto power amplifiers, etc., mounting type not illustrated.

| Thord. No. | Impedance Pri. | Impedance Sec. | Pri. Ma.DC | Power Watts | Mtg. Type | Mtg. Cntrs. | List Price |
|---|---|---|---|---|---|---|---|
| TR-57* | 32 CT | 1.6/4 | 575 | 10 | BAH | 2 13/16" | $5.55 |
| TR-58 | 32 CT | 3.2/8/16 | 575 | 10 | BAH | 2 13/16" | 5.55 |
| TR-59* | 48 CT | 1.6/4 | 550 | 10 | BAV | 2 3/8" | 5.55 |
| TR-60 | 48 CT | 3.2/8/16 | 550 | 10 | BAV | 2 3/8" | 5.55 |
| TR-61 | 48 CT | 3.2/8/16 | 550 | 5 | BAV | 1¾" | 3.20 |
| TR-62 | 100 | 3.2/8/16 | 150 | 3 | BAV | 1½" | 3.05 |
| TR-63 | 100 CT | 3.2/8/16 | 500 | 10 | BAV | 2 3/8" | 5.55 |

*For parallel 3.2 and 8 ohm voice coil applications; use with Sylvania 2N68, 2N95, 2N141 or CBS 2N255, 2N256, etc.

### THORDARSON HI-FI TRANSISTOR TRANSFORMERS (FIG. C)

Completely encased (Mounting Type XAV) for use in wide-range, transistor hi-fi audio amplifiers. Frequency Response: 20 to 20,000 cps. ± ½ db (in properly designed circuits). Size: 1¾" h. x 1¼" w. x 1¼" d. Mtg. cntrs. 1¾". Wt., 0.75 lb.

| Thord. No. | Impedance Primary | Impedance Secondary | Primary Ma. DC | Power, Watts | List Price |
|---|---|---|---|---|---|
| TR-67 | 125 CT | 8 | 50* | 1.5 | $ 8.35 |
| TR-68 | 5,000 | 3,000 CT | 20* | .20 | 10.00 |

*Unbalanced primary current.

### THORDARSON DRIVERS (MTG. BAH)

Designed especially for driving power transistors such as: Sylvania Nos. 2N68, 2N95, 2N141; CBS Nos. 2N255, 2N256. Size: 1¼" h. x 2⅛" w. x 1" d. 1¾" mtg. cntrs. Wt., 0.4 lb. Mtg. type not illus.

| Thord. No. | Impedance Primary | Impedance Secondary | Primary Ma. DC | Power, Watts | List Price |
|---|---|---|---|---|---|
| TR-64 | 100 | 100 CT | 200 | 0.5 | $3.20 |
| TR-65 | 100 | 200 CT | 200 | .5 | 3.20 |
| TR-66 | 500 CT | 200 CT | 50 | .5 | 3.20 |

### MEISSNER TRANSISTOR OSCILLATOR COILS

Designed for standard broadcast frequencies for use with transistors.

| Meiss. No. | Fig. | Tun. Cond. Cap. (μμf) | Nominal Ind. μh | Dimensions Inches | List Price |
|---|---|---|---|---|---|
| 14-9004 | IF(I) | 365* | 140 | 11/16 Dia. x ⅞ H. | $2.00 |
| 14-9006 | SS | 78 | 248 | ½ x ½ x ⅝ H. | 5.00 |
| 14-9010 | IF(I) | 82 | 262 | 9/16 Dia. x 1⅜ H. | 2.00 |
| 14-9012 | US | 59 | 346 | ½ Dia. x ¾ H. | 2.50 |
| 14-9014 | IF(I) | 98 | 207 | 11/16 Dia. x ⅞ H. | 2.00 |
| 14-9016 | IF(I) | 365* | 145 | 11/16 Dia. x ⅞ H. | 2.00 |

*Pad. 750.

### MEISSNER TRANSISTOR IF TRANSFORMERS FIG. (C)

Permeability tuned. May be used in printed circuits. **Applications: A,** Input; **J,** Interstage; **S,** Output. All units ½" square; lug mounted.

| Meissner No. | Freq. kc | Imped., Ohms Pri. | Imped., Ohms Sec. | Ht., In. | Application | List Price |
|---|---|---|---|---|---|---|
| 16-9001 | 262 | 20,000 | 600 | ¾ | A, J, S | $5.00 |
| 16-9002 | 455 | 25,000 | 600 | ¾ | A, J, S | 2.80 |
| 16-9003 | 455 | 10,000 | 500 | ⅝ | A, J | 5.00 |
| 16-9004 | 455 | 10,000 | 1,500 | ⅝ | S | 5.00 |
| 16-9007 | 455 | 80,000 | 25 | ⅝ | A | 5.00 |
| 16-9008 | 455 | 30,000 | 25 | ⅝ | J | 5.00 |
| 16-9009 | 455 | 30,000 | 1,000 | ⅝ | S | 5.00 |
| 16-9012 | 455 | 25,000 | 250 | ⅝ | A | 5.00 |
| 16-9013 | 455 | 20,000 | 150 | ⅝ | J | 5.00 |
| 16-9014 | 455 | 20,000 | 1,000 | ⅝ | S | 2.80 |

### MEISSNER TRANSISTOR FERRITE ANTENNA COILS

High Q for maximum signal pickup and maximum transfer of energy to transistor. Standard broadcast frequencies.

| Meissner No. | Fig. | Tun. Cond. Cap. (μμf) | Nominal Ind. μh | Dimensions Inches | List Price |
|---|---|---|---|---|---|
| 14-9001 | FF | 98 | 880 | 9/16 x ¾ x 2⅜ | $2.50 |
| 14-9003 | FR | 365 | 240 | ½ Dia. x 7 L. | 2.50 |
| 14-9005 | FF | 123 | 667 | 9/16 x ¾ x 3½ | 2.00 |
| 14-9009 | FR | 165 | 506 | ⅜ Dia. x 7 L. | 3.00 |
| 14-9011 | FR | 73 | 1125 | ⅜ Dia. x 5 L. | 3.00 |
| 14-9013 | FR | 123 | 667 | ⅜ Dia. x 5 L. | 2.45 |
| 14-9015 | IF | Any Cap. 100-365 | Adj. 200-900 | ⅜ Dia. x 2 L. | 1.75 |
| 14-9017 | FR | 365 | 240 | ¾ x 1 x 3½* | 2.45 |
| 14-9019 | FF | 365 | 240 | 9/16 x 11/16 x 3½ | 2.45 |

*Mounting bracket included.

### MEISSNER MIDGET VARIABLE CONDENSERS (FIG. G)

Designed for transistor circuits. Two-section counter-clockwise rotation for increased capacity. Each section provided with trimmer. Shaft diam., ¼". Osc. section cut plates for 455 kc IF. No. 21-9001 has 4-36 tapped mtg. hole; all others, 6-32.

| Meissner No. | Capacity Per Section Antenna | Capacity Per Section Oscillator | Size, Inches | List Price |
|---|---|---|---|---|
| 21-9001 | 5.5-74 mmf | 5.2-58 mmf | 1⅜ x 1 1/16 x 1 11/16 | $2.80 |
| 21-9002 | 8.8-131.9 | 8.5-106.3 | 1⅜ x 1 1/16 x 1 11/16 | 2.50 |
| 21-9003 | 8.8-131.9 | 7.7-85.9 | 1⅜ x 1 1/16 x 1 11/16 | 2.80 |
| 21-9004 | 9.9-182.3 | 7.7-85.9 | 1⅜ x 1 1/16 x 1 11/16 | 2.80 |
| 21-9005 | 10-365 | 10-365 | 2 1/16 x 1 13/16 x 1⅝ | 3.30 |
| 21-9006 | 10-365 Single Section | | 1⅜ x 1 1/16 x 1 11/16 | 2.50 |

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World Radio History

# TRANSFORMERS

This group of transformers and filter reactors are designed to meet the full requirements of MIL-T-27A specifications, and are hermetically sealed in standard MIL-T-27A case sizes. They provide the highest standard of quality necessary for military and professional requirements.

The range includes the specific types standardized by the Armed Services Standards Agency as well as a group of standard types for 400 cycle power supplies.

Transformers and reactors meeting MIL-T-27A specifications Grade 1 through 6, Class Q, S, T, or U can be supplied on special order.

A wide range of transformers and reactors of all varieties are regularly manufactured, including the more economical types for commercial use.

If the ratings you require are not listed, we can offer prompt competitive quotations on designs to your specifications.

## MILITARY STANDARD FILAMENT TRANSFORMERS Input 105/115/125 Volts 60 Cycles ± 10%

| Cat. No. | MIL Types | Military Standards No. | Sec. Volts | Sec. Amps | Test Volts | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| FMF 20 | TF1RX01EB002 or TF4RX01EB002 | MS90016-1 or 2 | 2.5 | 3 | 2500 | EB | 1 | $14.40 |
| FMF 21 | TF1RX01GB003 or TF4RX01GB003 | MS90017-1 or 2 | 2.5 | 10 | 2500 | GB | 2.125 | 21.60 |
| FMF 22 | TF1RX01FB004 or TF4RX01FB004 | MS90018-1 or 2 | 5.0 | 3 | 2500 | FB | 1.5 | 15.90 |
| FMF 23 | TF1RX01HB005 or TF4RX01HB005 | MS90019-1 or 2 | 5.0 | 10 | 2500 | HB | 3.125 | 24.60 |
| FMF 24 | TF1RX01FB006 or TF4RX01FB006 | MS90020-1 or 2 | 6.3 | 2 | 2500 | FB | 1.25 | 15.60 |
| FMF 25 | TF1RX01GB007 or TF4RX01GB007 | MS90021-1 or 2 | 6.3 | 5 | 2500 | GB | 2.125 | 19.80 |
| FMF 26 | TF1RX01JB008 or TF4RX01JB008 | MS90022-1 or 2 | 6.3 | 10 | 2500 | JB | 5 | 27.00 |
| FMF 27 | TF1RX01KB009 or TF4RX01KB009 | MS90023-1 or 2 | 6.3 | 20 | 2500 | KB | 7.75 | 33.00 |
| FMF 28 | TF1RX01JB012 or TF4RX01JB012 | MS90024-1 or 2 | 2.5 | 10 | 10,000 | JB | 4.25 | 25.80 |
| FMF 29 | TF1RX01KB013 or TF4RX01KB013 | MS90025-1 or 2 | 5.0 | 10 | 10,000 | KB | 6 | 31.80 |

## MILITARY STANDARD PLATE AND FILAMENT TRANSFORMERS

Input 105/115/125 Volts 60 Cycles ± 10%. Choke Input Filter

| Cat. No. | MIL Types | Military Standards No. | FIL 1 | FIL 2 | Plate (RMS) | Current | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| FMP 30 | TF1RX03HA001 or TF4RX03HA001 | MS90026-1 or 2 | 6.3/5v 2a | 6.3v 3a | 200-100-0-100-200 | .07A.DC | HA | 3.75 | $27.00 |
| FMP 31 | TF1RX03JB002 or TF4RX03JB002 | MS90027-1 or 2 | 6.3/5v 2a | 6.3v 4a | 325-0-325 | .07A.DC | JB | 5.125 | 27.90 |
| FMP 32 | TF1RX03KB006 or TF4RX03KB006 | MS90028-1 or 2 | 5v 3a | 6.3v 5a | 325-0-325 | .150A.DC | KB | 7.25 | 36.00 |
| FMP 33 | TF1RX03LB003 or TF4RX03LB003 | MS90029-1 or 2 | 5v 3a | 6.3v 8a | 400-0-400 | .175A.DC | LB | 9.5 | 43.20 |
| FMP 34 | TF1RX03MB004 or TF4RX03MB004 | MS90030-1 or 2 | 5v 3a | 6.3v 8a | 450-0-450 | .250A.DC | MB | 12.125 | 51.00 |
| FMP 35 | TF1RX02KB001 or TF4RX02KB001 | MS90031-1 or 2 | | | 350-0-350 | .250A.DC | KB | 7.125 | 33.60 |
| FMP 36 | TF1RX02LB002 or TF4RX02LB002 | MS90032-1 or 2 | | | 550-0-550 | .250A.DC | LB | 9.5 | 39.00 |
| FMP 37 | TF1RX02NB003 or TF4RX02NB003 | MS90036-1 or 2 | | | 800-0-800 | .250A.DC | NB | 14.75 | 54.00 |

# 400 Cycle Transformers

## FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles

| Cat. No. | Sec. Volts | Sec. Amps | Test Volts | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|
| FF 440 | 6.3 ct | 2 | 1500 | AJ | .625 | $16.20 |
| FF 41 | 6.3 ct | 5 | 1500 | EA | 1 | 21.60 |
| FF 42 | 6.3 ct<br>6.3 | 5<br>5 | 2500<br>2500 | FA | 2 | 24.00 |
| FF 43 | 5/6.3 | 3 | 2500 | EB | .95 | 21.00 |
| FF 44 | 5 ct | 6 | 2500 | EA | 1 | 21.60 |
| FF 45 | 2.5 ct | 10 | 5000 | HB | 2.75 | 27.60 |

## PLATE AND FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles. Choke Input Filter

| Cat. No. | Plate RMS | DC Amps | Filaments | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|
| FP 40 | 250-0-250 | .070 | 5/6.3V 2A<br>6.3Vct 3A | GB | 1.875 | $29.40 |
| FP 41 | 325-0-325 | .120 | 5V 3A<br>6.3 ct 5A | JB | 4.625 | 37.20 |
| FP 42 | 400-0-400 | .200 | 5V 3A<br>6.3Vct 6A | KB | 6.625 | 45.00 |
| FP 43 | 350-0-350 | .250 | —— | JB | 4.625 | 33.60 |
| FP 44 | 500-0-500 | .250 | —— | KB | 6.25 | 39.60 |

# FERRANTI ELECTRIC, INC.

TRANSFORMER DIVISION

BROOKLYN, N. Y.



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TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

World Radio History

# TRANSFORMERS

## MILITARY STANDARD AUDIO TRANSFORMERS

**Frequency Response 300-10,000 c.p.s. ± 2DB**

All units are hermetically sealed in MIL-T-27A case size AJ and are designed to meet the full requirements of the MIL-T-27A specification.

| Cat. No. | Function | Type Designation | IMPEDANCE LEVEL (in ohms) Primary | Secondary | Ratio | Max. Power Level DBM | Pri. D.C. Per Side in MA | Max. D.C. Unbalance | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| FMA 550 | Interstage, Single or P.P. plates to single or P.P. grids | TF1RX15AJ001 | 10,000 CT | 90,000 split and CT | 1:3 overall | +15 | 10 | 10 | .625 | $25.80 |
| FMA 551 | Matching, 600 ohm line to voice coil | TF1RX16AJ002 | 600 split | 4, 8, 16 | 6.12:1 overall | +33 | 0 | 0 | .625 | 25.80 |
| FMA 552 | Input, 600 ohm line to single or P.P. grids | TF1RX10AJ001 | 600 split | 135,000 CT | 1:15 | +15 | 0 | 0 | .625 | 25.80 |
| FMA 553 | Matching, 600 ohm line to 600 ohm line | TF1RX16AJ001 | 600 split | 600 split | 1:1 | +15 | 0 | 0 | .625 | 25.80 |
| FMA 554 | Output, single plate 7600 ohm or 4800 ohm to 600 ohm line | TF1RX13AJ001 | 7600 tap @ 4800 | 600 split | 3.56:1 | +33 | 40 | 40 | .625 | 25.80 |
| FMA 555 | Output, single plate 7600 ohm or 4800 ohm to voice coil | TF1RX13AJ002 | 7600 tap @ 4800 | 4, 8, 16 | 21.8:1 | +33 | 40 | 40 | .625 | 25.80 |
| FMA 556 | Output, single or P.P. plates to 600 ohm line | TF1RX13AJ003 | 15,000 CT | 600 split | 5:1 | +33 | 10 | 10 | .625 | 25.80 |
| FMA 557 | Output, P.P. plates to 600 ohm line | TF1RX13AJ004 | 24,000 CT | 600 split | 6.32:1 | +30 | 10 | 1 | .625 | 25.80 |
| FMA 558 | Output, P.P. plates to 600 ohm line | TF1RX13AJ005 | 60,000 CT | 600 split | 10:1 | +27 | 10 | 1 | .625 | 25.80 |

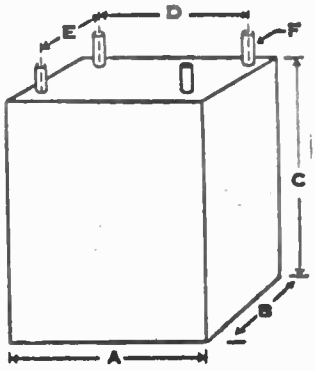
# FILTER REACTORS

## FOR 60 CYCLE POWER SUPPLIES

| Cat. No. | DC Amps | Induct. Henries | Resist. Ohms | Test Volts | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| FC 410 | .020 | 30 | 930 | 1500 | AJ | .625 | $13.80 |
| FC 11 | .070 | 15 | 260 | 2500 | GB | 2.25 | 15.60 |
| FC 12 | .150 | 10 | 110 | 2500 | JB | 4.75 | 19.20 |
| FC 13 | .200 | 8 | 90 | 2500 | KB | 6.25 | 23.40 |
| FC 14 | .300 | 10 | 95 | 2500 | LB | 9.625 | 27.90 |

## FOR 400 CYCLE POWER SUPPLIES

| Cat. No. | DC Amps | Induct. Henries | Resist. Ohms | Test Volts | Case | Wt. Lbs. | List Price |
|---|---|---|---|---|---|---|---|
| FC 440 | .070 | 3 | 225 | 1500 | AJ | .625 | $13.20 |
| FC 41 | .120 | 3 | 145 | 2000 | EB | 1 | 14.40 |
| FC 42 | .200 | 3 | 115 | 2000 | FB | 1.5 | 17.40 |
| FC 43 | .250 | 3 | 65 | 2000 | GB | 2.25 | 18.60 |




## MIL-T-27A CASE AND MOUNTING DIMENSIONS

| Case | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| AJ | 1 5/8 | 1 5/8 | 2 3/8 | 1 3/16 | 1 3/16 | 6-32 |
| EA | 1 15/16 | 1 13/16 | 2 3/4 | 1 3/8 | 1 1/4 | 6-32 |
| EB | 1 15/16 | 1 13/16 | 2 7/16 | 1 3/8 | 1 1/4 | 6-32 |
| FA | 2 5/16 | 2 1/16 | 3 1/8 | 1 11/16 | 1 7/16 | 6-32 |
| FB | 2 5/16 | 2 1/16 | 2 1/2 | 1 11/16 | 1 7/16 | 6-32 |
| GB | 2 3/4 | 2 3/8 | 2 13/16 | 2 1/8 | 1 3/4 | 6-32 |
| HA | 3 1/16 | 2 5/8 | 4 1/4 | 2 19/64 | 1 55/64 | 8-32 |
| HB | 3 1/16 | 2 5/8 | 3 3/16 | 2 19/64 | 1 55/64 | 8-32 |
| JB | 3 9/16 | 3 1/16 | 3 7/8 | 2 5/8 | 2 1/8 | 8-32 |
| KB | 3 15/16 | 3 3/8 | 4 5/16 | 3 | 2 7/16 | 10-32 |
| LB | 4 5/16 | 3 11/16 | 4 1/2 | 3 5/16 | 2 11/16 | 10-32 |
| MB | 4 11/16 | 4 | 4 15/16 | 3 11/16 | 3 | 1/4-20 |
| NB | 5 1/16 | 4 5/16 | 5 1/2 | 4 1/16 | 3 5/16 | 1/4-20 |

# FERRANTI ELECTRIC, INC.

**TRANSFORMER DIVISION**

**BROOKLYN, N. Y.**

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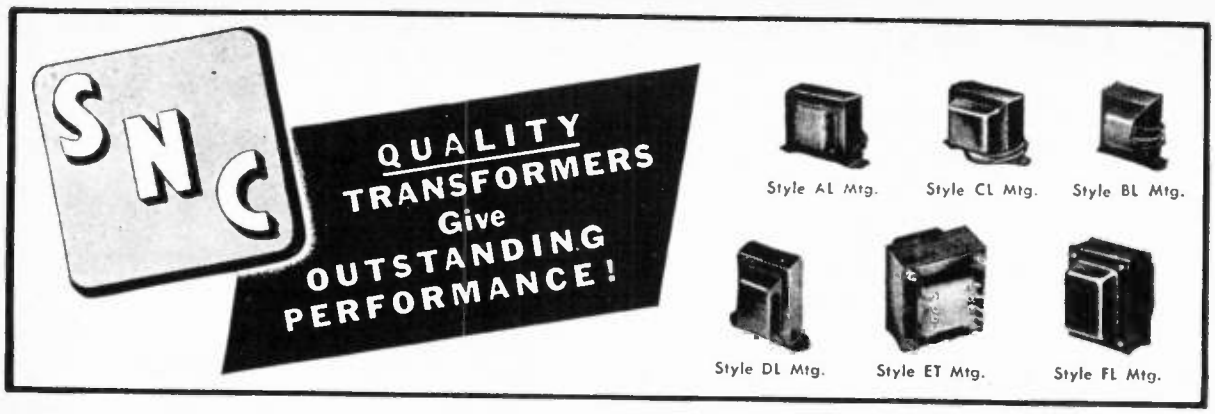


Skillful Engineering, latest production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

## AUDIO TRANSFORMERS — THE "ONE" SERIES

### AUDIO INPUT

| Type Number | Application | Impedance Primary | Impedance Secondary | Pri. Mils (D.C.) | Max. Turns Ratio | Frequency Characteristics—c. p. s. 50 | 200 | 1M | 5M | 10M | Mtg. Style | Dimensions A | B | C | C | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1P121 | P.M. Speaker to Grid | 4 | 100,000 | 0 | 1:58 | −4.0 | −1.0 | 0 | 0 | 0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | .5 | 3.85 |
| 1P124 | S.B. Mic. to Sgl. or P.P. Grids | 100 | 400,000 C.T. | 50 | 1:63 | | −6.0 | 0 | −2.0 | −6.0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | .5 | 4.05 |
| 1P125 | Low Z to Sgl. or P.P. Grids | 50 | 100,000 C.T. | 0 | 1:45 | | −3.0 | 0 | 0 | 0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | .5 | 3.75 |
| 1P128 | Sgl. or D.B. Mic. or Line to Sgl. or P.P. Grids | 200*/50 | 100,000 C.T. | 50 | 1:45 | −2.0 | −0.3 | 0 | −0.7 | −2.0 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.3 | 5.95 |
| 1P136 | Line to Sgl. or P.P. Grids | 500*/125 | 100,000 C.T. | 0 | 1:28 | −3.0 | −0.4 | 0 | −0.4 | −1.5 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.4 | 5.95 |
| 1P145 | Sgl. or P.P. Plates to Line | 20,000 C.T. | 500*/125 | 8 | 12.6:1 | −3.5 | −1.0 | 0 | 0 | 0 | DL | 2-1/4 | 1-7/8 | 1-13/16 | 2-3/8 | .9 | 4.90 |
| 1P152 | Sgl. or P.P. Plates to Line | 20,000 C.T. | 200*/50 | 8 | 20:1 | −4.0 | −1.0 | 0 | 0 | 0 | DL | 2-1/4 | 1-7/8 | 1-13/16 | 2-3/8 | .9 | 4.90 |
| 1P161 | Line to Line | 500 | 500*/125 | 0 | 2:1 | 0.4 | −0.1 | 0 | −0.4 | −1.0 | DL | 2-1/4 | 1-7/8 | 1-13/16 | 2-3/8 | .9 | 5.30 |

*Indicates Balanced Center Tap

### AUDIO INTERSTAGE

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1P323 | Sgl. Plate to Sgl. Grid | 10,000 | 90,000 | 8 | 1:3 | −5.0 | −1.5 | 0 | 0 | 0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | .5 | 3.60 |
| 1P331 | Sgl. Plate to P.P. Grids | 10,000 | 90,000 C.T. | 8 | 1:3 | −6.0 | −2.0 | 0 | 0 | −1.0 | BL | 1-7/8 | 1-1/16 | 1-1/2 | 2 | .5 | 3.85 |
| 1P339 | Sgl. Plate to P.P. Grids | 10,000 | 90,000 C.T. | 8 | 1:3 | −3.0 | −0.5 | 0 | +0.1 | +0.5 | BL | 2-1/4 | 1-7/8 | 1-13/16 | 2-3/8 | .9 | 4.30 |
| 1P342 | Sgl. Plate to P.P. Grids | 10,000 | 90,000 C.T. | 8 | 1:3 | −2.5 | −0.5 | 0 | 0 | 0 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.5 | 5.55 |
| 1P346 | P.P. Plates to P.P. Grids | 20,000 C.T. | 45,000 C.T. | 10 | 1:1.5 | −1.0 | −0.2 | 0 | 0 | 0 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.5 | 5.70 |
| 1P351 | Universal | Universal | | 8 | 1:3 | −2.0 | −0.4 | 0 | 0 | 0 | BL | 2-1/4 | 1-7/8 | 1-13/16 | 2-3/8 | .9 | 4.55 |
| 3P363 | Sgl. Type 30 to 19, 1J5 or P.P. 30 Class B | 10,000 | 7,000 C.T. | 8 | 2.4:1 | −0.5 | 0 | 0 | −0.2 | −1.0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | .5 | 4.00 |

### TELEVISION REPLACEMENT (VERTICAL BLOCKING OSCILLATOR)

| Type Number | Primary Inductance | Leakage Inductance | Turns Ratio | Mounting Style | Mounting | Dimensions H | W | D | Ctrs. | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1P412 | 1.15 Hy. ±20% | .008 Hy. ±25−15% | 1:42 | Comp. Filled Case | Flange | 1-7/8 | 2-5/16 | 1-1/2 | 1-15/16 | .5 | 4.00 |
| 1P416 | 1.15 Hy. ±20% | .008 Hy. ±25−15% | 1:42 | Comp. Filled Case | Studs | 1-5/8 | 1-3/16 | 1-3/16 | 1-13/64 | .4 | 3.70 |

## CHOKES AND REACTORS — THE "TWO" SERIES

### AUDIO REACTORS

| Type Number | D.C. Mils Nom. | Max. | Inductance 0-D.C. | 50% Nom. D.C. | Nom. D.C. | Max. D.C. | Insul. Test Voltage | D.C. Res. | Mtg. Style | Dimensions A | B | C | D | E | Net Weight | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2P123 | 5-0.5 | 15 | 550 | — | 300-500 | 80 | 2000 | 5500 | AL | 1-7/8 | 2-1/4 | 1-5/8 | 2-13/16 | | .9 | 3.85 |
| 2P124 | 5-0.5 | 15 | 550 | — | 300-500 | 80 | 2000 | 5500 | CL | 1-7/8 | 2-1/4 | 1-3/4 | 2-13/16 | | .9 | 4.30 |
| 2P126 | 35-15 | 45 | 65 | — | 25-35 | 20 | 2000 | 800 | AL | 1-7/8 | 2-1/4 | 1-5/8 | 2-13/16 | | .9 | 3.05 |
| 2P127 | 35-15 | 45 | 65 | — | 25-35 | 20 | 2000 | 800 | CL | 1-7/8 | 2-1/4 | 1-3/4 | 2-13/16 | | .9 | 3.60 |

### FILTER AND SWINGING CHOKES

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2P132 | 40 | 50 | 22 | 13 | 8 | 6 | 2000 | 450 | AL | 1-5/16 | 1-5/8 | 1-1/8 | 2 | | .3 | 2.00 |
| 2P135 | 65 | 80 | 18 | 11 | 8 | 7 | 2000 | 300 | AL | 1-9/16 | 1-7/8 | 1-3/8 | 2-3/8 | | .5 | 2.35 |
| 2P138 | 85 | 100 | 30 | 16 | 8 | 7 | 2000 | 350 | AL | 1-7/8 | 2-1/4 | 1-7/8 | 2-13/16 | | 1.2 | 3.00 |
| 2P141 | 110 | 135 | 20 | 10.5 | 8 | 7 | 2000 | 200 | BL | 2-5/8 | 2-3/16 | 1-7/8 | 2-13/16 | | 1.5 | 4.05 |
| 2P142 | 110 | 135 | 20 | 10.5 | 8 | 7 | 2000 | 200 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 4.30 |
| 2P144 | 150 | 180 | 26 | 13 | 8 | 5.5 | 2000 | 190 | BL | 3 | 2-1/2 | 2-1/8 | 3-1/8 | | 2.1 | 4.05 |
| 2P145 | 150 | 180 | 26 | 13 | 8 | 5.5 | 2000 | 190 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.2 | 5.55 |
| 2P147 | 200 | 250 | 16 | 10 | 8 | 6.5 | 3500 | 110 | GL | 3-1/2 | 2-7/8 | 3-1/8 | 2-1/4 | 2 | 3.2 | 7.15 |
| 2P148 | 200-20 | — | — | — | 3-15 | — | 3500 | 110 | GL | 3-1/2 | 2-7/8 | 3-1/8 | 2-1/4 | 2 | 3.2 | 7.15 |
| 2P151 | 300 | 350 | 18 | 11 | 8 | 7 | 5000 | 75 | GL | 4-5/8 | 3-3/4 | 3-7/8 | 3 | 2-13/16 | 7.5 | 12.20 |
| 2P152 | 300-30 | — | — | — | 3-15 | — | 5000 | 75 | GL | 4-5/8 | 3-3/4 | 3-7/8 | 3 | 2-13/16 | 7.5 | 12.20 |
| 2P155 | 500 | 600 | 16 | 10 | 8 | 5.5 | 5000 | 55 | HT | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 22.8 | 34.30 |
| 2P156 | 500-50 | — | — | — | 3-15 | — | 5000 | 55 | HT | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 22.8 | 34.30 |

## DRIVER TRANSFORMERS — THE "THREE" SERIES

| Type Number | Primary Impedance | Watts | Ratio, Pri. to 1/2 Sec. or Sec. Z | Pri. D.C. Mils | Frequency Characteristics—c. p. s. 50 | 200 | 1M | 5M | 10M | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3P323 | 6,000 C.T. to 10,000 C.T. | 25 | 6, 5.5, 5:1 | 60 | −0.5 | 0 | 0 | 0 | −0.3 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.45 |
| 3P328 | 3,000 C.T. to 5,000 C.T. | 25 | 6, 5.5, 5:1 | 60 | −0.4 | 0 | 0 | 0 | −0.1 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.45 |
| 3P334 | 6,000 C.T. to 10,000 C.T. | 25 | 4.5, 4, 3.5:1 | 60 | −1.0 | −0.3 | 0 | +0.1 | +0.6 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.25 |
| 3P338 | 3,000 C.T. to 5,000 C.T. | 25 | 4.5, 4, 3.5:1 | 60 | −1.7 | −0.5 | 0 | 0 | 0 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.50 |
| 3P342 | 6,000 C.T. to 10,000 C.T. | 25 | 3, 2, 1:1 | 60 | −0.7 | −0.1 | 0 | +0.1 | +0.4 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.95 |
| 3P347 | 3,000 C.T. to 5,000 C.T. | 25 | 3, 2, 1:1 | 60 | −0.8 | 0 | 0 | 0 | −0.8 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.75 |
| 3P353 | 6,000 C.T. to 10,000 C.T. | 25 | 500 Ohms | 60 | −1.1 | −0.3 | 0 | 0 | −0.3 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.95 |
| 3P358 | 3,000 C.T. to 5,000 C.T. | 25 | 500 Ohms | 60 | −0.9 | −0.1 | 0 | −0.4 | −1.0 | GL | 3-1/8 | 2-1/2 | 2-5/8 | 2 | 1-11/16 | 2.3 | 12.55 |
| 3P363 | 10,000 | 5 | 2.4:1 | 10 | −0.5 | 0 | 0 | −0.2 | −1.0 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | | .5 | 3.10 |


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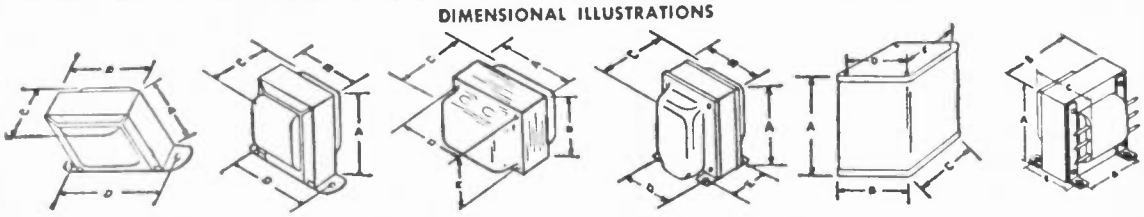
## DIMENSIONAL ILLUSTRATIONS



## OUTPUT TRANSFORMERS — THE "SIX" SERIES

### SPECIFIC DUTY REPLACEMENT TYPES—TUBE TO VOICE COIL

| Type Number | Primary Imp.—Ohms | | Pri. D.C. Mils | Sec. Z—Ohms | Watts | Mtg. Style | Dimensions A | B | C | D | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P300 | Single | 2,000 Plate | 50 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.00 |
| 6P305 | Single | 4,000 Plate | 35 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.00 |
| 6P312 | Single or P.P. | 7,500 Plates | 35 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.65 |
| 6P316 | Single or P.P. | 10,000 Plates | 35 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.65 |
| 6P319 | Push-Pull | 15,000 Plates | 35 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.70 |
| 6P321 | Push-Pull | 20,000 Plates | 30 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.70 |
| 6P325 | Push-Pull | 25,000 Plates | 20 | 3-6 | 6 | AL | 1-5/16 | 1-5/8 | 1-1/2 | 2 | 3 | 2.70 |

### UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL—TUBE TO LINE—LINE TO VOICE COIL

| Type Number | Primary Imp.—Ohms | Pri. D.C. Mils | Sec. Z—Ohms | Watts | Mtg. Style | Dimensions A | B | C | D | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P165 | Sgl. or P.P. 4M to 14M Plates | 40 | 1.1 to 14 | 4 | ATL | 1-5/16 | 1-5/8 | 1-3/8 | 2 | 3 | 3.10 |
| 6P166 | Sgl. or P.P. 4M to 14M Plates | 50 | 1.1 to 14 | 8 | ATL | 1-9/16 | 1-7/8 | 1-5/8 | 2-3/8 | .5 | 3.10 |
| 6P167 | Sgl. or P.P. 3M to 10M Plates | 50 | 1.2 to 13 | 15 | BTL | 1-7/8 | 1-9/16 | 1-3/4 | 2 | .5 | 3.85 |
| 6P169 | Sgl. 1500 to 7M Plate | 55 | .8 to 19 | 10 | ATL | 1-9/16 | 1-7/8 | 1-5/8 | 2-3/8 | .5 | 3.10 |
| 6P172 | P.P. 3500 to 12M Plates | 60 | 1.3 to 14 | 20 | BTL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.5 | 5.60 |
| 6P701 | Single 2500 to 7500 Plate | 45 | 165 to 1500 | 10 | BTL | 2-1/4 | 1-7/8 | 1-7/8 | 2-3/8 | .9 | 4.90 |
| 6P710 | P.P. 7500 to 15M Plates | 45 | 250 to 1000 | 10 | BTL | 2-1/4 | 1-7/8 | 1-7/8 | 2-3/8 | .9 | 5.55 |
| 6P714 | Sgl. or P.P. 2500 to 12M Plates | 45 | 150 to 2400 | 10 | BTL | 2-1/4 | 1-7/8 | 1-7/8 | 2-3/8 | .9 | 5.85 |
| 6P717 | 125 to 500 Line | 0 | 1 to 32 | 35 | BTL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | 1.5 | 5.95 |
| 6P722 | 500 to 3M Line in 500-Ohm Steps | 0 | 1.3 to 48 | 10 | BTL | 2-1/4 | 1-7/8 | 1-7/8 | 2-3/8 | .9 | 5.60 |

### AMPLIFIER AND EQUIPMENT TYPES—TUBE TO LINE AND VOICE COIL

| Type Number | Primary Imp.—Ohms | Pri. D.C. Mils | Secondary Imp.—Ohms | Watts | Frequency Characteristics—c. p. s. 50 | 200 | 1M | 5M | 10M | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P726 | P.P. 3300 or 3800 Plates | 90 | 4-8-16-250-500 | 60 | −0.3 | 0 | 0 | +0.1 | +0.5 | GL | 3-3/4 | 3-1/16 | 3-3/8 | 2-1/2 | 2-3/16 | 4.4 | 11.75 |
| 6P731 | P.P. 4500 or 6800 Plates | 90 | 4-8-16-250-500 | 60 | −0.3 | 0 | 0 | +0.2 | 0 | GL | 3-3/4 | 3-1/16 | 3-3/8 | 2-1/2 | 2-3/16 | 4.4 | 11.75 |
| 6P736 | P.P. 5000 Plates | 70 | 4-8-16-250-500 | 25 | −0.9 | −0.2 | 0 | +0.2 | +0.5 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 7.90 |
| 6P740 | P.P. 4300 Plates | 70 | 4-8-16-250-500 | 25 | −0.9 | −0.3 | 0 | +0.3 | +0.5 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 7.90 |
| 6P743 | P.P. 6600 Plates | 70 | 4-8-16-250-500 | 25 | −0.7 | −0.1 | 0 | +0.2 | +0.5 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 7.90 |
| 6P746 | P.P. 8000 Plates | 70 | 4-8-16-250-500 | 25 | −0.7 | −0.1 | 0 | +0.1 | +0.3 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 8.30 |
| 6P749 | P.P. 10,000 Plates | 60 | 4-8-16-250-500 | 25 | −0.4 | −0.1 | 0 | +0.2 | +0.3 | DL | 2-5/8 | 2-3/16 | 2-1/8 | 2-13/16 | | 1.5 | 8.30 |
| 6P752 | Sgl. 2500 Plate | 60 | 4-8-16-250-500 | 10 | −3.0 | −0.4 | 0 | +0.3 | +0.5 | DL | 2-1/4 | 1-7/8 | 2-1/8 | 2-3/8 | | 1.0 | 6.25 |

### TELEVISION REPLACEMENT (VERTICAL DEFLECTION)

| Type Number | Ratio Pri. to Sec. | Primary Imp.—Ohms | Leakage Inductance | Mounting Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P860 | 10:1 | 19,000 Min. | 0.33 Hy. Max | B x L | 3-3/16 | 2-3/4 | 2-9/16 | 1-19/32 | 2 | 2.2 | 7.35 |

## MODULATION TRANSFORMERS — THE "FIVE" SERIES

SNC universal modulation transformers are specifically designed to provide maximum application possibilities per type. All units are provided with two identical secondary windings, permitting series or parrallel operation. Changes in the ratio can be readily accomplished, when desired, without removing the unit from the chassis. Most units available in either air cooled or compound filled cases.

### UNIVERSAL TYPES

| Type Number | Watts | Primary Current Mils | Secondary Characteristics: Series Sec. Impedance | Series Sec. Mils | Parallel Sec. Impedance | Parallel Sec. Mils | Primary Impedance Ohms | Mtg. Style | Dimensions A | B | C | D | E | Net Weight | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P341 | 15 | 60 | | 50 | | 100 | 3M to 8M | DL | 2-5/8 | 2-3/16 | 2-3/8 | 2-13/16 | | 1.5 | 9.90 |
| 5P346 | 50 | 80 | 2M to 18M | 75 | 500 to 4500 | 150 | 3M to 15M | GTL | 3-7/8 | 3-1/8 | 3-3/8 | 2-1/2 | 2-3/16 | 4 | 15.50 |
| 5P352 | 100 | 120 | 2M to 18M | 100 | 500 to 4500 | 200 | 3M to 15M | GTL | 4-5/8 | 3-3/4 | 3-7/8 | 3 | 2-13/16 | 9.7 | 24.75 |
| 5P354 | | | | | | | | HT | | | | | | 24 | 56.75 |
| 5P355 | 200 | 200 | 2M to 18M | 150 | 500 to 4500 | 300 | 3M to 15M | JT | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 32 | 62.05 |
| 5P357 | | | | | | | | HT | | | | | | 33 | 68.65 |
| 5P358 | 300 | 250 | 2M to 18M | 250 | 500 to 4500 | 500 | 3M to 15M | JT | 7-1/8 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 41 | 73.90 |
| 5P363 | | | | | | | | HT | | | | | | 51 | 138.60 |
| 5P364 | 500 | 300 | 2M to 18M | 300 | 500 to 4500 | 600 | 3M to 15M | JT | 10-3/4 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 64 | 151.80 |

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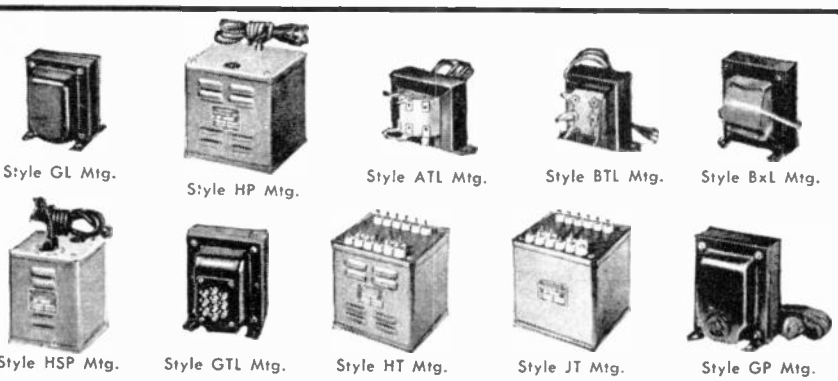


**NOTE**

Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

Explanation of Suffix Symbols
L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

## POWER TRANSFORMERS — THE "EIGHT" SERIES

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings.

### REPLACEMENT TYPES (6.3 Volt Heater Winding)

| Type Number | Primary Voltage | R.M.S. High Volt. Secondary | Pri. D.C. Mils | Rectifier Filament | Heater Winding Center Tapped | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P040 | 117 | 265-0-265 | 40 | 5V @ 2A | 6 3V. @ 2A. | FL | 3 | 2-1 2 | 2-3 4 | 2-1/2 | 2 | 2 3 | 5.95 |
| 8P055 | 117 | 300-0-300 | 55 | 5V. @ 2A. | 6 3A. @ 2.5A. | FL | 3 | 2-1/2 | 3-1/8 | 2-1/2 | 2 | 2.8 | 6.00 |
| 8P070 | 117 | 325-0-325 | 70 | 5V @ 2A | 6 3V. @ 3A. | FL | 3 | 2-1 2 | 3-1/2 | 2-1/2 | 2 | 3 2 | 7.60 |

### HEAVY DUTY REPLACEMENT AND NEW EQUIPMENT TYPES (6.3 Volt Heater Winding)

| Type Number | Primary Voltage | R.M.S. High Volt. Secondary | Pri. D.C. Mils | Rectifier Filament | Heater Winding Center Tapped | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P180 | 117 | 265-0-265 | 40 | 5V. @ 2A. | 6 3V. @ 2A. | FL | 3 | 2-1/2 | 3-1/4 | 2-1/2 | 2 | 3 2 | 8.15 |
| 8P180G | | | | | | GL | 3-1/16 | 2-7/32 | 3-1/8 | 2 | 2-3/16 | | |
| 8P183 | 117 | 300-0-300 | 50 | 5V @ 2A | 6 3V. @ 2A. | FL | 3 3 8 | 2-13 16 | 3-7/16 | 2-13/16 | 2-1/4 | 3 5 | 8.60 |
| 8P183G | | | | | | GL | 3-7 16 | 2-27 32 | 3-1/4 | 2-1/4 | 2-1/8 | | |
| 8P186 | 117 | 325-0-325 | 60 | 5V. @ 2A. | 6 3V. @ 3A | FL | 3-3 8 | 2-13 16 | 3-11/16 | 2-13/16 | 2-1/4 | 4 0 | 9.00 |
| 8P186G | | | | | | GL | 3-7 16 | 2-27 32 | 3-1 2 | 2-1/4 | 2-3/8 | | |
| 8P189 | 117 | 350-0-350 | 70 | 5V. @ 3A. | 6 3V. @ 3 5A | FL | 3-3 4 | 3-1 8 | 3-3/4 | 3-1/8 | 2-1/2 | 5 0 | 9.90 |
| 8P186G | | | | | | GL | 3-13 16 | 3-5/32 | 3-5/8 | 2-1/2 | 2-7/16 | | |
| 8P192 | 117 | 350 0-350 | 90 | 5V. @ 3A. | 6 3A. @ 4A | FL | 3-3 4 | 3-1 8 | 4 | 3-1 8 | 2-1/2 | 5 7 | 10.90 |
| 8P192G | | | | | | GL | 3-13 16 | 3-5 32 | 3-7 8 | 2-1/2 | 2-11/16 | | |
| 8P194 | 117 | 375-0-375 | 110 | 5V. @ 3A. | 6.3A. @ 4A. | FL | 3-3/4 | 3-1/8 | 4-1/8 | 3-1/8 | 2-1/2 | 6 0 | 12.20 |
| 8P194G | | | | | | GL | 3-13 16 | 3-5 32 | 4 | 2-1/2 | 2-13/16 | | |
| 8P196 | 117 | 350-0-350 | 150 | 5V. @ 3A. | 6 3V. @ 4 8A. | FL | 4-1/8 | 3-7 16 | 4-3 8 | 3-7/16 | 2-3/4 | 7 7 | 12.85 |
| 8P196G | | | | | | GL | 4-3 16 | 3-15 32 | 4-3/8 | 2-3/4 | 3-5/16 | | |
| 8P199 | 117 | 400 0-400 | 70 | 5V. @ 3A. | 6 3V. @ 3 5A. | FL | 3-3 4 | 3-1 8 | 4 | 3-1/8 | 2-1/2 | 5 8 | 11.55 |
| 8P199G | | | | | | GL | 3-13/16 | 3-5 32 | 3-7/8 | 2-1/2 | 2-11/16 | | |
| 8P202 | 117 | 450-0-450 | 200 | 5V. @ 3A. | 6.3V. @ 5A. | FL | 4-1/2 | 3-3 4 | 4-3/4 | 3-3/4 | 3 | 10 7 | 16.50 |
| 8P202G | | | | | | GL | 4-9 16 | 3-25 32 | 4-3/8 | 3 | 3-11/16 | | |
| 8P205 | 117 | 450-0-450 | 325 | 5V @ 6A | 6 3V. @ 8A | HT | 7 1 8 | 5-1 2 | 5-15/16 | 4-3 8 | 4-13 16 | 22 3 | 44.90 |
| 8P208 | 117 | 550-0-550 | 275 | 5V @ 6A. | 6 3V. @ 6A | HT | 7-1 8 | 5-1 2 | 5-15 16 | 4-3/8 | 4-13/16 | 23.3 | 44.90 |

### REPLACEMENT TYPES (2.5 Volt Heater Winding)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P287 | 117 | 350-0-350 | 70 | 5V. @ 3A. | 2 5V. @ 6A. | FL | 3-3 4 | 3-1 8 | 3-3/4 | 3-1/8 | 2-1/2 | 5 0 | 9.90 |
| 8P293 | 117 | 350-0-350 | 90 | 5V. @ 3A. | 2 5V. @ 8A. | FL | 3-3 4 | 3-1 8 | 4 | 3-1/8 | 2-1/2 | 5 6 | 10.80 |
| 8P295 | 117 | 350-0-350 | 150 | 5V @ 3A | 2 5V. @ 12A | FL | 4-1/8 | 3-7 16 | 4-3 8 | 3-7/16 | 2-3 4 | 7 3 | 12.85 |

### REPLACEMENT TYPES (Two 2.5 Volt Heater Windings)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P487 | 117 | 350-0-350 | 70 | 5V @ 3A. | No 1=2 5V @ 3.5A<br>No 2=2 5V @ 8A. | FL<br>GL | 3-3 4<br>3-13/16 | 3-1 8<br>3-5 32 | 4<br>3-7 8 | 3-1 8<br>2-1/2 | 2-1/2<br>2-11/16 | 5 8 | 11.90 |
| 8P487G | | | | | | | | | | | | | |
| 8P494 | 117 | 375-0-375 | 110 | 5V @ 3A. | No. 1 2 5V @ 3 5A<br>No. 2=2 5V @ 10A | FL<br>GL | 3-3 4<br>3-13/16 | 3-1 8<br>3-5 32 | 4-1/4<br>4-1/8 | 3-1/8<br>2-1/2 | 2-1/2<br>2-15/16 | 6 2 | 13.00 |
| 8P494G | | | | | | | | | | | | | |

### GENERAL PURPOSE TYPES WITH CONVENIENT LUG TERMINALS (6.3 Volt Heater Winding)

| Type Number | Primary Voltage | R.M.S. High Volt. Secondary | Pri. D.C. Mils | Rectifier Filament | Heater Winding Center Tapped | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P382 | 117 | 300-0-300 | 50 | 5V. @ 2A. | 6 3V. @ 2A. | ET | 3-3 8 | 2-13 16 | 3-7/16 | 2-13/16 | 2-1/4 | 3 2 | 7.80 |
| 8P385 | 117 | 325-0-325 | 60 | 5V. @ 2A. | 6 3V. @ 3A. | ET | 3-3 8 | 2-13 16 | 3-11/16 | 2-13/16 | 2-1/4 | 4 0 | 8.35 |
| 8P388 | 117 | 350-0-350 | 70 | 5V @ 3A. | 6 3V @ 3 5A | ET | 3-3 4 | 3-1/8 | 3-3/4 | 3-1/8 | 2-1/2 | 4 7 | 9.15 |

### BIAS TYPES

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P510 | 117 | 40 0-40 | 25 | 5V. @ 2A. | | CL | 1-7 8 | 2-1 4 | 1-3/4 | 2-13/16 | | 1 0 | 4.95 |
| 8P511 | 117 | 0-90-150-200-250 | 50 | 5V. @ 2A | | GL | 3-1 16 | 2-7 32 | 2-5/8 | 2 | 1-11/16 | 2 0 | 7.20 |

### VIBRATOR TYPES

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P610 | 6 | 225-0-225 | 40 | | | AL | 2-3 16 | 2-5 8 | 2 | 3-1/8 | | 1 3 | 5.60 |
| 8P611 | 6 | 320-0-320 | 40 | | | GL | 3-1, 16 | 2-7 32 | 2-1/2 | 2 | 1-9/16 | 2.1 | 6.70 |
| 8P612 | 6 | 390-0-390 | 60 | | | GL | 3-7/16 | 2-27/32 | 3-5/16 | 2-1/4 | 2-3/16 | 3 7 | 7.60 |

### TELEVISION REPLACEMENT TYPES

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8P803 | 117 | 375-0-375 | 210 | 5V @ 3A | No 1=5V. @ 2A.<br>No 2=6 3V @ 5 6A | FL | 4-1 2 | 3-3 4 | 4-3/4 | 3-3 4 | 3 | 10 7 | 19.55 |
| 8P805 | 117 | 235-0-235 | 90 | 5V @ 2A | 6 3V. @ 5 5A. | FL | 3-3 8 | 2-13/16 | 4 | 2-13/16 | 2-1, 4 | 5 1 | 11.20 |
| 8P807 | 117 | 365-0-365 | 300 | 5V. @ 6A. | No. 1=12.6V. @ 5A.<br>No 2=5V. @ 2A. | FL | 4-23/32 | 3-27/32 | 6-3/4 | 4-1/16 | 3-3/16 | 16 0 | 33.65 |



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

Style GL Mtg.

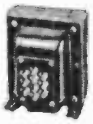
Style HP Mtg.

Style ATL Mtg.

Style BTL Mtg.

Style BxL Mtg.

Style HSP Mtg.


Style GTL Mtg.

Style HT Mtg.

Style JT Mtg.

Style GP Mtg.

**NOTE**

Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

Explanation of Suffix Symbols

L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

## PLATE TRANSFORMERS — THE "SEVEN" SERIES

All SNC plate transformers have dual secondary ratings. Most units available in either air cooled or compound filled cases. All units electrostatic shields between primary and high voltage windings. 50/60 Cycle Operation

| Type Number | Primary Voltage | Pri. V.A. | Secondary R.M.S. Voltage | D.C. Voltage From Filter* | D.C. Current | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7P530 | 115-230 | 220 | 920-0-920 or 740-0-740 | 750 or 600 | 200MA | GL | 4-3/4 | 3-3/4 | 5-1/8 | 3 | 4-1/16 | 12 | 19.80 |
| 7P535 | 115-230 | 320 | 930-0-930 or 750-0-750 | 750 or 600 | 300MA | HT | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 22 | 46.20 |
| 7P536 | | | | | | JT | | | | | | 30 | 52.80 |
| 7P542 | 115-230 | 530 | 1470-0-1470 or 1220-0-1220 | 1250 or 1000 | 300MA | HT | 7-1/8 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 33 | 55.45 |
| 7P543 | | | | | | JT | | | | | | 41 | 60.70 |
| 7P551 | 115-230 | 750 | 2050-0-2050 or 1740-0-1740 | 1750 or 1500 | 300MA | HT | 7-1/8 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 43 | 59.40 |
| 7P552 | | | | | | JT | | | | | | 51 | 72.60 |
| 7P557 | 115-230 | 1060 | 2880-0-2880 or 2350-0-2350 | 2500 or 2000 | 300MA | HT | 10-3/4 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 53 | 81.85 |
| 7P558 | | | | | | JT | | | | | | 69 | 88.45 |
| 7P563 | 115-230 | 1760 | 2900-0-2900 or 2370-0-2370 | 2500 or 2000 | 500MA | HT | 10-3/4 | 9 | 7-1/4 | 7 | 5-13/16 | 96 | 118.80 |
| 7P564 | | | | | | JT | | | | | | 126 | 165.00 |

*All units may be operated with simultaneous loads provided the total D.C. Current of the two loads does not exceed the rating listed.

## FILAMENT TRANSFORMERS — THE "FOUR" SERIES

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designed. All have 117 V. 50/60 cycle primary.

| Type Number | Applications: Parallel Secondaries | Series Secondaries | Independent Identical Secondaries | Test Voltages | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4P222 | 2.5V. C.T. @ 5 A. | 5 V. C.T. @ 2.5 A. | Two of 2.5V. C.T. @ 2.5 A. | 2000 | BL | 2-1/4 | 1-7/8 | 1-3/4 | 2-3/8 | | 1.0 | 3.90 |
| 4P226* | 2.5V. C.T. @ 10 A.* | | | 7500 | BL | 3 | 2-1/2 | 2-3/8 | 3-1/8 | | 2.0 | 6.05 |
| 4P227 | 2.5V. C.T. @ 10 A. | 5 V. C.T. @ 5 A. | Two of 2.5V. C.T. @ 5 A. | 2000 | BL | 2-5/8 | 2-3/16 | 2 | 2-13/16 | | 1.5 | 5.30 |
| 4P234 | 2.5V. C.T. @ 15 A. | 5 V. C.T. @ 7.5 A. | Two of 2.5V. C.T. @ 7.5 A. | 2000 | BL | 3 | 2-1/2 | 2-1/4 | 3-1/8 | | 2.2 | 6.25 |
| 4P239 | 5 V. C.T. @ 6.5A. | 10 V. C.T. @ 3.25A. | Two of 5 V. C.T. @ 3.25A. | 2000 | BL | 3 | 2-1/2 | 2-1/4 | 3-1/8 | | 2.2 | 5.60 |
| 4P242* | 5 V. C.T. @ 20 A.* | | | 10000 | BxL | 4-1/8 | 3-7/16 | 2-3/4 | 2-3/4 | 2-1/8 | 4.6 | 11.20 |
| 4P243 | 5 V. C.T. @ 20 A. | 10 V. C.T. @ 10 A. | Two of 5 V. C.T. @ 10 A. | 2000 | BxL | 3-3/4 | 3-1/8 | 2-3/4 | 2-1/2 | 2-1/4 | 4.3 | 9.90 |
| 4P244* | 6.3V. C.T. @ 0.6A.* | | | 2000 | BL | 1-7/8 | 1-9/16 | 1-1/2 | 2 | | .6 | 3.85 |
| 4P245* | 6.3V. C.T. @ 1.2A.* | | | 2000 | BL | 1-7/8 | 1-9/16 | 1-5/8 | 2 | | .7 | 4.20 |
| 4P246 | 6.3A. C.T. @ 2 A. | 12.6V. C.T. @ 1 A. | Two of 6.3V. C.T. @ 1 A. | 2000 | BL | 2-1/4 | 1-7/8 | 1-3/4 | 2-3/8 | | 1.0 | 4.60 |
| 4P251 | 6.3V. C.T. @ 6 A. | 12.6V. C.T. @ 1 A. | Two of 6.3V. C.T. @ 3 A. | 2000 | BL | 3 | 2-1/2 | 2-1/4 | 3-1/8 | | 2.0 | 5.35 |
| 4P256 | 6.3V. C.T. @ 10 A. | 12.6V. C.T. @ 5 A. | Two of 6.3V. C.T. @ 5 A. | 2000 | BxL | 3-3/8 | 2-13/16 | 2-1/2 | 2-1/4 | 2-1/8 | 2.9 | 6.95 |
| 4P260 | 7.5V. C.T. @ 3 A. | 15 V. C.T. @ 1.5 A. | Two of 7.5V. C.T. @ 1.5 A. | 2000 | BL | 2-5/8 | 2-3/16 | 2 | 2-13/16 | | 1.5 | 5.60 |
| 4P267 | 7.5V. C.T. @ 4.5A. | 15 V. C.T. @ 2.3 A. | Two of 7.5V. C.T. @ 2.3 A. | 2000 | BL | 3 | 2-1/2 | 2-1/4 | 3-1/8 | | 2.0 | 6.95 |
| 4P272 | 11 V. C.T. @ 10 A. | 22 V. C.T. @ 5 A. | Two of 11 V. C.T. @ 5 A. | 2000 | BxL | 3-3/4 | 3-1/8 | 2-3/4 | 2-1/2 | 2-1/4 | 4.1 | 9.90 |

*Single Secondary Units.

## VOLTAGE CHANGER AND ISOLATION — THE "NINE" SERIES

All Units Have Primary Cord and Secondary Plug and Are For 50/60 Cycle Operation.

### VOLTAGE CHANGER (ISOLATION)

| Type Number | Primary Voltage | Secondary Voltage | Capacity in V. A. | Mtg. Style | Dimensions A | B | C | D | E | Net Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9P707 | 220-250 | 110-125 | 75 | GP | 3-13/16 | 3-5/32 | 3-1/8 | 2-1/2 | 1-15/16 | 3.9 | 10.25 |
| 9P713 | 220-250 | 110-125 | 150 | GP | 4-9/16 | 3-25/32 | 3-7/8 | 3 | 2-13/16 | 8.0 | 15.20 |
| 9P718 | 220-250 | 110-125 | 360 | HP | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 23.3 | 39.60 |

### ISOLATION TYPES

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9P721 | 110-250 | 110-250 | 150 | GP | 4-9/16 | 3-25/32 | 4-5/8 | 3 | 3-9/16 | 12.1 | 19.80 |
| 9P725 | 110-250 | 110-250 | 250 | HP | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 23.3 | 32.35 |
| 9P728 | 110-250 | 110-250 | 500 | HP | 7-1/8 | 6-1/2 | 7-1/4 | 5-3/8 | 6-1/8 | 34.8 | 45.55 |

### VOLTAGE ADJUSTMENT TYPES WITH TAP CHANGE SWITCH

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9P732 | 95-130 in 5V. Steps | 115 | 150 | HSP | 4-7/8 | 3-7/8 | 3-7/8 | 3-1/8 | 3-1/8 | 4.7 | 28.40 |
| 9P737 | 95-130 in 5V. Steps | 115 | 250 | HSP | 5-3/8 | 4-3/8 | 4-1/4 | 3-5/8 | 3-1/2 | 8.0 | 36.30 |
| 9P739 | 80-130 in 5V. Steps | 115 | 500 | HSP | 7-1/8 | 5-1/2 | 5-15/16 | 4-3/8 | 4-13/16 | 23.3 | 54.10 |

All list prices given are subject to regular trade discounts and may be changed without notice.

**S N C MANUFACTURING CO., INC., OSHKOSH, WISCONSIN**

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World Radio History

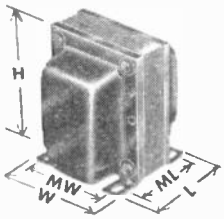
STERLING—THE MARK OF QUALITY

# STERLING TRANSFORMER CORPORATION

**Brooklyn 11, N. Y.**

# TRANSFORMERS

## FOR ELECTRONICALLY REGULATED POWER SUPPLIES




- ONE UNIT PROVIDES PLATE AND FILAMENT POWER FOR ENTIRE SUPPLY.
- RATINGS BASED ON D.C. OUTPUT OF SUPPLY.
- APPLICATION BULLETIN WITH EACH UNIT.

**2K SERIES**

### PLATE AND FILAMENT TRANSFORMERS

| Cat. No. | Supply Rating | High Voltage Secondary AC Volts | DC MA | Rectifier Fil. V | Rectifier Fil. A | Pass Tube Fil. V | Pass Tube Fil. A | Regulator Fil. V | Regulator Fil. A | Auxiliary Fil. V | Auxiliary Fil. A | Overall L | Overall W | Overall H | Mtg. Dim. ML | Mtg. Dim. MW | Rec. Mtg. Screw | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2K6 | 300/250VDC 400MADC | 550-480-0 480-550V | 440 | Use with 2K20 | | | | Use with 2K20 | | | | 6 | 4 5/8 | 5 1/2 | 4 1/2 | 3 1/2 | #10 | 19 | $28.00 |
| 2K8 | 300/250VDC 300MADC | 540-475-0 475-540V | 340 | 5 | 6 | 6.3 | 6 | 6.3 | 1.2 | 6.3CT | 6 | 6 1/4 | 4 5/8 | 5 1/2 | 4 3/4 | 3 1/2 | #10 | 20 | 32.75 |
| 2K10 | 300/250VDC 200MADC | 500-440-0 440-500V | 240 | 5 | 3 | 6.3 | 3 | 6.3 | 1.2 | 6.3CT | 6 | 5 | 4 5/8 | 5 1/2 | 3 1/2 | 3 1/2 | #10 | 14 | 26.75 |
| 2K12 | 300/250VDC 100MADC | 540-465-0 465-540V | 140 | 5 | 3 | 6.3 | 3 | 6.3 | 1.2 | 6.3CT | 3 | 4 3/4 | 4 5/8 | 5 1/2 | 3 1/4 | 3 1/2 | #10 | 12 | 23.00 |
| 2K13 | 150/100VDC 400MADC | 370-310-0 310-370V | 440 | Use with 2K20 | | | | Use with 2K20 | | | | 4 3/4 | 4 5/8 | 5 1/2 | 3 1/4 | 3 1/2 | #10 | 12 | 23.00 |
| 2K14 | 150/100VDC 300MADC | 375-320-0 320-375V | 340 | 5 | 6 | 6.3 | 6 | 6.3 | 1.2 | 6.3CT | 6 | 5 1/2 | 4 5/8 | 5 1/2 | 4 | 3 1/2 | #10 | 16 | 27.00 |
| 2K15 | 150/100VDC 200MADC | 355-300-0 300-355V | 240 | 5 | 3 | 6.3 | 3 | 6.3 | 1.2 | 6.3CT | 6 | 4 3/4 | 4 5/8 | 5 1/2 | 3 1/4 | 3 1/2 | #10 | 12 | 23.00 |
| 2K16 | 150/100VDC 100MADC | 350-310-0 310-350V | 140 | 5 | 3 | 6.3 | 3 | 6.3 | 1.2 | 6.3CT | 3 | 4 3/8 | 3 7/8 | 4 1/8 | 3 5/16 | 3 | #8 | 10 | 20.00 |
| 2K17 | 300/250VDC 600MDC | 565-500-0 500-565V | 640 | Use with 2K20 | | | | Use with 2K20 | | | | 6 1/4 | 4 1/2 | 6 | 4 1/4 | 3 3/16 | #10 | 22 | 41.20 |
| 2K18 | 300/250VDC 800MADC | 580-520-0 520-580V | 840 | Use with 2K21 | | | | Use with 2K21 | | | | 6 | 6 1/8 | 7 1/4 | 4 | 4 25/32 | 1/4 | 33 | 54.00 |
| 2K19 | 300/250VDC 1.0 Amp. | 590-525-0 525-590V | 1040 | Use with 2K21 | | | | Use with 2K21 | | | | 7 1/2 | 6 1/8 | 7 1/4 | 5 1/2 | 4 25/32 | 1/4 | 48 | 76.00 |
| 2K20 | (Filament Transformer for 400MA and 600MA Supplies) | | | 5 | 6 | 6.3 | 6 | 6.3 | 1.2 | 6.3CT | 6 | 3 7/8 | 3 7/8 | 4 1/8 | 2 13/16 | 3 | #8 | 7.5 | 17.00 |
| 2K21 | (Filament Transformer for 800MA and 1 Amp. Supplies) | | | 5 | 10 | 6.3 | 10 | 6.3 | 2 | 6.3CT | 10 | 4 7/8 | 3 7/8 | 4 1/8 | 3 13/16 | 3 | #8 | 12 | 23.50 |

**Standard Color Code**

Primary Black
High Voltage: Center Tap. Red-Yellow
High Voltage High Tap. Red
High Voltage Low Tap Blue
Rectifier Filaments: Yellow
Pass Tube Filaments: Brown
Regulator Filaments: Green
Auxiliary Filaments: Slate

**NOTES**

1. All Primaries 115 Volts 50 60 Cps.
2. Ratings Based On Capacitor Input Filters
3. Dielectric Test Voltages: Primaries 1500 V RMS All Secondaries 2500 V. RMS

### CHOKES

| Cat. No. | Inductance | Rated Current MADC | DC Resist. | Dielectric Test Volt. | Overall L | Overall W | Overall H | Mtg. Dim. ML | Mtg. Dim. MW | Rec. Mtg. Screw | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2K5 | 4 hys. min. | 440 | 50 | 2500V RMS | 3 3/4 | 3 9/16 | 4 1/4 | 2 1/8 | 2 1/4 | #8 | 6 | $11.60 |
| 2K7 | 4 hys. min. | 340 | 60 | 2500V RMS | 3 1/8 | 2 15/16 | 3 1/2 | 2 | 2 1/4 | #8 | 3.3 | 7.80 |
| 2K9 | 4 hys. min. | 240 | 90 | 2500V RMS | 2 1/8 | 2 1/8 | 3 1/8 | 1 11/16 | 2 | #8 | 2.3 | 5.90 |
| 2K11 | 4 hys. min. | 140 | 185 | 2500V RMS | 3 11/16 | 2 9/16 | 2 9/16 | 3 1/8 | Chan. | #8 | 1.5 | 4.00 |
| 2K22 | 4 hys. min. | .64A | 52 | 2500V RMS | 4 3/4 | 4 1/8 | 5 1/2 | 3 1/4 | 3 1/2 | #10 | 12 | 20.00 |
| 2K23 | 4 hys. min. | .84A | 25 | 2500V RMS | 5 1/2 | 4 1/8 | 5 1/2 | 4 | 3 1/2 | #10 | 17 | 25.70 |
| 2K24 | 4 hys. min. | 1.04A | 20 | 2500V RMS | 7 | 4 1/8 | 5 1/2 | 5 1/2 | 3 1/2 | #10 | 25 | 35.70 |

### SPECIALS

| Cat. No. | Secondary Volts | Secondary Amperes | RMS Volts Insulation | Primary Volts | Overall Dim. L | Overall Dim. W | Overall Dim. H | Mtg. Dim. ML | Mtg. Dim. MW | Rec. Mtg. Screw | Weight Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6K1 | 6.3 | 4 | 1000 | 115/230 | 3 11/16 | 2 1/2 | 2 5/16 | 3 1/8 | Chan. | 8 | 1 3/4 | 8.50 |
| 6K2 | 6.3 | 12 | 1500 | 115/230 | 3 3/4 | 3 1/4 | 4 | 2 7/16 | 2 1/2 | 8 | 6 | 15.60 |
| 6K3 | 6.3 CT | 16 | 3000 | 115 | 3 7/8 | 3 1/4 | 4 | 2 9/16 | 2 1/2 | 8 | 6 1/2 | 16.60 |
| 6K4 | 5<br>6.3 CT<br>6.3 CT | 3<br>4<br>4 | 2000<br>2000<br>2000 | 115/230 | 3 1/2 | 3 1/4 | 4 | 1 3/16 | 2 1/2 | 8 | 5 | 16.50 |
| 6K5 | 6.3<br>6.3 | 1.5<br>1.5 | 1000<br>1000 | 115/230 | 4 | 2 1/2 | 2 5/8 | 3 9/16 | Chan. | 8 | 2 1/4 | 9.30 |
| 6K6 | 800 CT | .036 DC | 4000 | 115/230 | 3 1/2 | 2 5/8 | 3 3/16 | 2 7/16 | 2 | 8 | 4 | 10.50 |
| 6K7 | 28 CT | 7 DC | 1000 | 115 | 4 1/4 | 3 1/4 | 4 | 2 15/16 | 2 1/2 | 8 | 8 | 15.80 |
| 6K8 | 660 CT<br>5 | .25 DC<br>4.5 | 1500<br>1500 | 115/230 | 3 7/8 | 3 7/8 | 4 5/8 | 2 13/16 | 3 | 8 | 8 | 19.20 |
| 6K9 | 1130 CT<br>5 | .062 DC<br>2 | 3300<br>3300 | 115/230 | 3 7/8 | 3 7/8 | 4 5/8 | 2 13/16 | 3 | 8 | 8 | 19.20 |

Prices subject to change without notice



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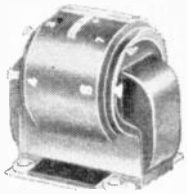
**STERLING TRANSFORMER CORPORATION**

Brooklyn 11, N. Y.

- Contour Molded
- Hipersil Cores

# ENCAPSULATED 400 CPS TRANSFORMERS CLIPPER SERIES



**FOR MINIMUM SIZE AND MINIMUM WEIGHT**

| | Cat. No. | Secondary Volts | Secondary Amps. | Rms. V Insulation | Primary Volts | Mold Size | Maximum Operating Ambient | List Price |
|---|---|---|---|---|---|---|---|---|
| FILAMENT | 4C1 | 6.3 | .8 | 1500 | 115 | SM3 | 100°C | 16.50 |
| | 4C2 | 6.3 | 1.2 | 1500 | 115 | SM2 | 100 C | 16.50 |
| | 4C3 | 6.3 CT | 6.75 | 1500 | 110/115/120 | 2 | 100°C | 26.50 |
| | 4C4 | 6.3<br>6.3 | 4.9<br>2.7 | 1500<br>1500 | 115 | 3 | 90°C | 23.70 |
| | 4C5 | 6.3 | 7.2 | 1500 | 115 | 35 | 120°C | 27.50 |
| | 4C6 | 6.3<br>6.3<br>6.3 | 7<br>7<br>1.5 | 1500<br>1500<br>1500 | 120 | 35 | 80°C | 26.80 |
| | 4C7 | 6.3 CT<br>6.3 CT | 7<br>7 | 1500<br>1500 | 120 | 4 | 100°C | 31.90 |
| | 4C8 | 6.3<br>6.3<br>6.3 | 13.7<br>2.93<br>0.3 | 1500<br>1500<br>1500 | 115 | 4 | 90°C | 31.90 |
| | 4C9 | 6.3 CT | 12.3 | 1500 | 115 | 5 | 100°C | 29.50 |
| | 4C10 | 20 CT | 0.6 | 1500 | 115 | SM1 | 100°C | 21.00 |
| | 4C11 | 6.3<br>6.3<br>6.3 | 2.4<br>2.5<br>2.7 | 1500<br>1500<br>1500 | 115 | 3 | 100 C | 29.50 |
| POWER | 4C12 | 14.1 | 3 | 1500 | 115 | 3 | 100°C | 22.50 |
| | 4C13 | 21 | 9 | 1500 | 115 | 4 | 65°C | 25.00 |
| | 4C14 | 26 | 0.5 | 1500 | 115 | SM1 | 55 C | 20.50 |
| | 4C15 | 26 CT | 1.5 | 1500 | 115 | 3 | 65°C | 21.20 |
| | 4C16 | 28 CT<br>6.3 CT | 0.75<br>7A | 1500<br>1500 | 115 | 2 | 65°C | 31.80 |
| | 4C17 | 52 CT | .192 | 1500 | 115 | SM1 | 100°C | 22.75 |
| | 4C18 | 90 CT | 4.5 | 1500 | 115 | 9 | 100°C | 43.00 |
| | 4C19 | 115 | .05 | 1500 | 115 | SM2 | 100°C | 16.80 |
| | 4C20 | 105/115/125 | 0.4 | 1500 | 105/115/125 | 2 | 90°C | 24.30 |
| | 4C21 | 115 | 2.83 | 1500 | 115 | 8 | 100°C | 35.00 |
| | 4C22 | 334 | .025 | 1500 | 115 | SM1 | 120°C | 19.30 |

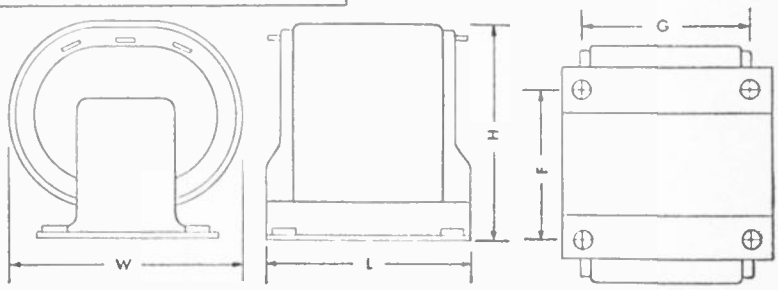
| MOLD NUMBER | [illegible] | | | [illegible] | | APPROX WT LBS | MTG METHOD |
|---|---|---|---|---|---|---|---|
| | | | | | G | | |
| SM2 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | 0.06 | Note 1 |
| SM2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.3 | Note 1 |
| SM1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.16 | Note 1 |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.25 | Note 2 |
| 1a | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.25 | Note 2 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.40 | Note 2 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.65 | Note 2 |
| 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.70 | Note 2 |
| 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.92 | Note 2 |
| 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.70 | Note 2 |
| 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.52 | Note 2 |
| 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2.90 | Note 2 |
| 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2.90 | Note 2 |
| 83 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.25 | Note 3 |
| 86 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4.25 | Note 3 |
| 9 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5.03 | Note 3 |
| 10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6.00 | Note 3 |

Note 1—SM series are two hole mounting with holes on center line. #4-40 Pem nuts are fastened to the bracket.

Note 2—#6-32 Pem nuts on bracket are standard.

Note 3—#8-32 Pem nuts on bracket are standard.

- All primaries 380-1000 cps
- Dielectric test voltages: PRIMARIES 1000 Volts RMS
  SECONDARIES 1500 Volts RMS
- Epoxy resin used as encapsulant
- Prices subject to change without notice

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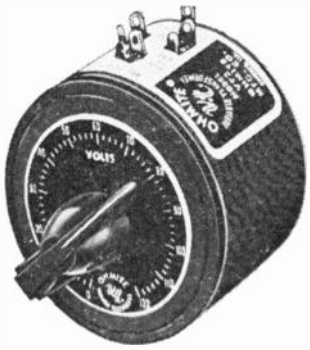
**OHMITE®** RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES

# OHMITE "V.T." VARIABLE TRANSFORMERS



## MODEL VT2

**1.5 Amperes**

Input voltage ....120V, 60 Cycle
Output voltage .....0-132, 0-120
Max. output at any
brush setting .....1.5 Amps
Max. KVA .....0.2
Angle of rotation .....320°

**Net Price .....$8.50**

Includes knob, reversible dial plate and nut.

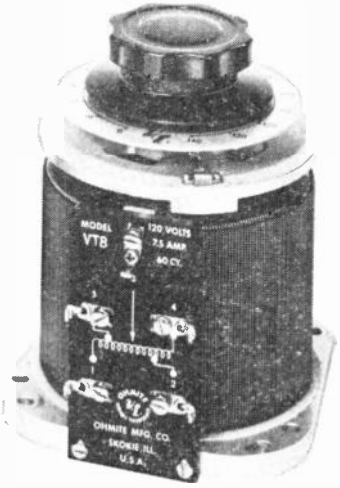
## MODEL VT4

**3.5 Amperes**

Input voltage ....120V, 60 Cycle
Output voltage .....0-140, 0-120
Max. output at any
brush setting .....3.5 Amps
Max. KVA ..... .49
Angle of rotation .....324°

**Net Price .....$12.50**

Includes knob, reversible dial plate, mounting hardware.



## MODEL VT8

**7.5 Amperes**

Input voltage..120V, 60/50 Cycle
Output voltage .....0-140, 0-120
Max. output at any
brush setting .....7.5 Amps
Max. KVA .....1.0
Angle of rotation .....324°

**Net Price .....$18.00**

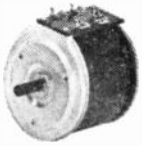
Includes knob, reversible dial plate, mounting hardware.

Here is a fresh approach to variable transformer design by OHMITE — universally recognized manufacturer of high quality electrical components. Three models meet a large percentage of industrial applications. Unique, not only for the design innovations they incorporate, these units also utilize many of the time-proven features that have distinguished Ohmite rheostats for years. Models VT-2 and VT-4 offer *additional current capacity — a "bonus" in power at no increase in cost over comparable units.* Heavily plated rhodium brush track guarantees longer, trouble-free performance. On VT4 and VT8, generous size aluminum bases and brush carriers aid heat dissipation.

*Positive current transfer* is achieved in all models in typical Ohmite fashion—a pigtail from the brush to a large slip ring which contacts a large area of the terminal. (The brush arm or disc carries no current in these units.)

REVERSIBLE DIRECT READING DIAL—calibrated on one side for normal line connection; on the other side for overvoltage connection.

TABLE OR PANEL OPERATION: On Models VT4 and VT8, shaft can be positioned for panel or table use. Socket head screws in brush plate, fix shaft in desired position.

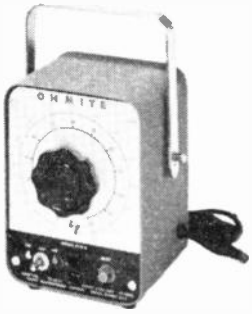


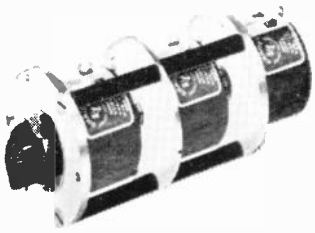
*VT4 arranged for panel mtg.*

INTERCHANGEABLE WITH OTHER POPULAR TYPES: Model VT2 mounts on panel by means of standard 3/8" threaded bushing: Models VT4 and VT8 match popular 3 or 4-hole mountings (an adapter plate is supplied where 4-hole mounting is desired for VT4).

DIMENSIONS (Overall): VT2—2 15/16" x 2 13/16" dia.; VT4 (without 4-hole adapter plate) 4 11/16" x 3 29/32" x 3 9/16" dia.; VT8—5 9/16" x 5 3/8" x 4 7/8" dia.

Write for information on enclosures, tandem assemblies, switching arrangements, motor drives, taps and other additional features.



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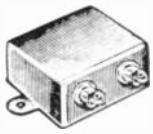
## INDUSTRIAL SECTION—STANDARD TYPES (Continued)
## METALLIZED-PAPER CAPACITORS

### TYPE P30Z Bathtub Case



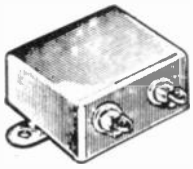
Aerolite Metallized-Paper capacitors. Hyvol K or M impregnated in bathtub, hermetically-sealed metal cases. Meets rigid MIL requirements for moisture immersion and vibration testing.

Standard Tolerance ±20%

| Cap. Mfd. | Volts | Size |
|---|---|---|
| 4.0 | 150 | 1¾ x 1 x ⅞ |
| 6.0 | 150 | 2 x 1¾ x ⅞ |
| 8.0 | 150 | 2 x 2 x 1 |
| 10.0 | 150 | 2 x 2 x 1⅛ |
| 12.0 | 150 | 2 x 2 x 1⅛ |
| .5 | 200 | 1¾ x 1 x ¾ |
| 1.0 | 200 | 1¾ x 1 x ¾ |
| 2.0 | 200 | 1¾ x 1 x ¾ |
| .25 | 400 | 1¾ x 1 x ¾ |

| Cap. Mfd. | Volts | Size |
|---|---|---|
| .5 | 400 | 1¾ x 1 x ¾ |
| 1.0 | 400 | 1¾ x 1 x ⅞ |
| 2.0 | 400 | 2 x 1¾ x ⅞ |
| 4.0 | 400 | 2 x 2 x 1⅛ |
| .1 | 600 | 1¾ x 1 x ¾ |
| .25 | 600 | 1¾ x 1 x ¾ |
| .5 | 600 | 1¾ x 1 x ¾ |
| 1.0 | 600 | 1¾ x 1¼ x ⅞ |
| 2.0 | 600 | 2 x 2 x 1 |

### TYPE P30ZN High Temperature Bathtub Case



AEROVOX type P30ZN Aerolene impregnated metallized-paper capacitors housed in "bathtub" metal cases hermetically sealed. Operating temperature range −65°C. to +100°C. at full rating with operation to +125°C. at 75 percent of voltage rating.

Standard Tolerance ±20%

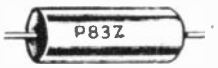
| Capacity | 150 V | 200 V | 400 V | 600 V |
|---|---|---|---|---|
| .1 | | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ |
| .25 | | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ |
| .5 | | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ | 1¾ x 1 x ¾ |
| 1.0 | | 1¾ x 1 x ¾ | 1¾ x 1 x ⅞ | 1¾ x 1¼ x ⅞ |
| 2.0 | | 1¾ x 1 x ¾ | 2 x 1¾ x 13/16 | 2 x 2 x ⅞ |
| 3.0 | 1¾ x 1 x ¾ | | 2 x 1¾ x 15/16 | 2 x 2 x 1⅛ |
| 4.0 | 1¾ x 1 x ¾ | | 2 x 2 x 1 | 2 x 2 x 1¼ |
| 5.0 | 1¾ x 1 x ¾ | | 2 x 2 x 1¼ | |
| 6.0 | 1¾ x 1¼ x ⅞ | | | |
| 8.0 | 2 x 1¾ x ¾ | | | |
| 10.0 | 2 x 1¾ x ¾ | | | |
| 12.0 | 2 x 2 x ⅞ | | | |
| 15.0 | 2 x 2 x 1 | | | |

### TYPE P82Z Wax Impregnated Cardboard Sleeve

Metallized-paper capacitor in wax impregnated cardboard sleeve. These units are manufactured with metal end caps and extended foil construction for low impedance. Operating temperature, −40°C. to +70°C. Standard tolerance ±20%. Also available in ±10% and ±5% on special order.

| Capacity Mfd. | 200 V | 400 V | 600 V |
|---|---|---|---|
| .01 | ⅜ x ⅝ | ⅜ x ⅝ | ⅜ x ⅝ |
| .02 | ⅜ x ⅝ | ⅜ x ⅝ | ⅜ x ⅝ |
| .03 | ⅜ x ⅝ | ⅜ x ⅝ | 15/32 x ⅝ |
| .05 | ⅜ x ⅝ | 15/32 x ⅝ | 15/32 x ⅝ |
| .1 | ⅜ x ⅝ | 15/32 x 1⅛ | 15/32 x 1⅛ |
| .25 | 15/32 x ⅝ | 9/16 x 1⅛ | ⅝ x 1⅛ |
| .5 | 15/32 x 1⅛ | ⅝ x 1⅜ | 23/32 x 1⅜ |
| 1.0 | 9/16 x 1⅛ | 23/32 x 2⅛ | 23/32 x 2⅜ |
| 2.0 | ⅝ x 1⅜ | | |

### TYPE P83Z Microminiatures




Ultra-small, new metallized-paper dielectric capacitor particularly applicable in the electronic field to replace the low capacity paper units now being used. Hyvol K impregnated in humidity resistant molded thermo-plastic cases.

Standard Tolerance ±25%

| Capacity Mfd. | Voltage | Case Size (Inches) Dia. x Lgth. |
|---|---|---|
| .004 | 200 VDC | 3/16 x 7/16 |
| .005 | 200 VDC | 3/16 x 7/16 |
| .01 | 200 VDC | 3/16 x 7/16 |
| .02 | 200 VDC | ¼ x 9/16 |
| .04 | 200 VDC | ¼ x 9/16 |
| .002 | 400 VDC | 3/16 x 7/16 |
| .003 | 400 VDC | 3/16 x 7/16 |
| .008 | 400 VDC | ¼ x 9/16 |
| .01 | 400 VDC | ¼ x 9/16 |

| Capacity Mfd. | Voltage | Case Size (Inches) Dia. x Lgth. |
|---|---|---|
| .0005 | 600 VDC | 3/16 x 7/16 |
| .0008 | 600 VDC | 3/16 x 7/16 |
| .001 | 600 VDC | 3/16 x 7/16 |
| .002 | 600 VDC | ¼ x 9/16 |
| .0022 | 600 VDC | ¼ x 9/16 |
| .0047 | 600 VDC | ¼ x 9/16 |
| .005 | 600 VDC | ¼ x 9/16 |
| .0068 | 600 VDC | ¼ x 9/16 |

### TYPE P89ZXY Hermetically Sealed Tubulars

Hermetically sealed metallized paper capacitors. Sealed in metal cases with rubber bakelite end seals. Impregnated with Hyvol K or Hyvol M, these units are manufactured for operating temperature of −55°C. to +70°C. without voltage derating and operation up to 95°C. ambient with derating.
Standard units are furnished without insulating tube or bracket (P89ZXY).
Standard tolerance ±20%. Also available in ±10% and ±5% on special order.

**Style Variations**

- P89Z —with cardboard insulating sleeve and radial mounting bracket.
- P89ZX —without mounting bracket but with cardboard insulating sleeve.
- P89ZXP—without mounting bracket but with plastic insulating sleeve.
- P89ZXY—without insulating sleeve or mounting bracket.
- P89ZY —without insulating sleeve but with radial mounting bracket.

| Cap. Mfd. | Size 150 VDC | Size 200 VDC | Size 400 VDC | Size 600 VDC |
|---|---|---|---|---|
| .01 | | | | ⅜ x 1 |
| .02 | | | | ⅜ x 1 |
| .03 | | | ⅜ x 1 | 7/16 x 1 |
| .05 | | ⅜ x 1 | 7/16 x 1 | ½ x 1 |
| .1 | | 7/16 x 1 | 7/16 x 1 3/16 | ½ x 1½ |
| .25 | | ½ x 1 | ⅝ x 1 3/16 | ⅝ x 1⅜ |
| .5 | | ½ x 1 5/16 | ⅝ x 2 | ¾ x 2 |
| 1.0 | | ⅝ x 1½ | ¾ x 2½ | 13/16 x 2½ |
| 2.0 | | ⅝ x 2 | 1 x 2½ | 1¼ x 2½ |
| 3.0 | ¾ x 2 | | | |
| 4.0 | 13/16 x 2 | | | |
| 6.0 | 1 x 2 | | | |

### TYPE P92ZN High Temperature Tubulars

AEROVOX type P92ZN Aerolene impregnated metallized-paper capacitors are modified plastic tubular type. Duranite end-sealed capacitors in paper cases. Operating temperature range is −30°C. +100°C.

Standard Tolerance ±20%

| Capacity | 200 V | 400 V | 600 V |
|---|---|---|---|
| .01 | 3/16 x 9/16 | ¼ x 23/32 | 9/32 x 23/32 |
| .02 | ¼ x 23/32 | 5/16 x 23/32 | ⅜ x 23/32 |
| .03 | ¼ x 23/32 | ⅜ x 23/32 | 13/32 x 23/32 |
| .05 | ¼ x 27/32 | ⅜ x 27/32 | 13/32 x 27/32 |
| .1 | 9/32 x 27/32 | ⅜ x 1 5/32 | 13/32 x 1 5/32 |
| .25 | ⅜ x 27/32 | 9/16 x 1 5/32 | ⅝ x 1 5/32 |
| .5 | 13/32 x 1 5/32 | ⅝ x 1⅜ | 11/16 x 1½ |
| 1.0 | 9/16 x 1 5/32 | ¾ x 1⅜ | 13/16 x 1⅞ |
| 2.0 | ⅝ x 1½ | 15/16 x 2⅜ | 15/16 x 2⅜ |

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**

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World Radio History

## INDUSTRIAL SECTION—STANDARD TYPES (Continued)

## TYPES P123ZG and P123ZNG Metal-Cased Capacitors

## METALLIZED-PAPER

Metallized paper tubulars hermetically sealed in metal tubes with glass end seals soldered for positive moisture seal. Designed to meet critical operating temperatures and the need for increased reliability in the electronic field.

The P123ZG is manufactured to meet operating temperature range of −55°C. to +70°C. without derating and up to 100°C. with derating to 75%.

The P123ZNG—Aerolene impregnated—is similar to the P123ZG, with the additional feature that it will operate up to temperatures of 100°C., at full voltage rating and 125°C. with voltage derating to 75%.

P123ZG and P123ZNG are case grounded. P123Z and P123ZN are case insulated. Standard tolerance .01 mfd and lower ±25%, .015 mfd and up ±20%. Also available in ±10% and ±5% on special order.

Suffix P denotes plastic tube; B denotes mtg. bracket (not available with plastic tube); T denotes threaded neck terminal.

| Capacity | P123Z | P123ZP | P123ZG | P123ZGP |
|---|---|---|---|---|
| | | 200 Volts | | |
| .0005 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .001 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .002 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .003 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .005 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .01 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .015 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .02 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .022 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .033 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .04 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .047 | .235 x 25/32 | .297 x 27/32 | .235 x 23/32 | .297 x 25/32 |
| .05 | .235 x 25/32 | .297 x 27/32 | .235 x 23/32 | .297 x 25/32 |
| .068 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .1 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .15 | .312 x 13/32 | .374 x 1 5/32 | .312 x 1 1/32 | .374 x 13/32 |
| .2 | .312 x 13/32 | .374 x 1 5/32 | .312 x 1 1/32 | .374 x 13/32 |
| .22 | .312 x 13/32 | .374 x 1 5/32 | .312 x 1 1/32 | .374 x 13/32 |
| .25 | .312 x 13/32 | .374 x 1 5/32 | .312 x 1 1/32 | .374 x 13/32 |
| .33 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .47 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .5 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .68 | .562 x 13/32 | .624 x 1 5/32 | .562 x 1 1/32 | .624 x 13/32 |
| 1.0 | .562 x 19/32 | .624 x 1 11/32 | .562 x 1 7/32 | .624 x 19/32 |
| 1.5 | .562 x 1 25/32 | .624 x 1 27/32 | .562 x 1 23/32 | .624 x 1 25/32 |
| 2.0 | .562 x 1 25/32 | .624 x 1 27/32 | .562 x 1 23/32 | .624 x 1 25/32 |
| | | 400 Volts | | |
| .0005 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .001 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .002 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .003 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .005 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .01 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .015 | .235 x 25/32 | .297 x 27/32 | .235 x 23/32 | .297 x 25/32 |
| .02 | .235 x 25/32 | .297 x 27/32 | .235 x 23/32 | .297 x 25/32 |
| .022 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .033 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .04 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |

| Capacity | P123Z | P123ZP | P123ZG | P123ZGP |
|---|---|---|---|---|
| | | 400 Volts (cont.) | | |
| .047 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .05 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .068 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .1 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .15 | .500 x 13/32 | .562 x 1 5/32 | .500 x 1 1/32 | .562 x 13/32 |
| .2 | .500 x 13/32 | .562 x 1 5/32 | .500 x 1 1/32 | .562 x 13/32 |
| .22 | .562 x 13/32 | .624 x 1 5/32 | .562 x 1 1/32 | .624 x 13/32 |
| .25 | .562 x 13/32 | .624 x 1 5/32 | .562 x 1 1/32 | .624 x 13/32 |
| .33 | .562 x 19/32 | .624 x 1 11/32 | .562 x 1 7/32 | .624 x 19/32 |
| .47 | .562 x 1 25/32 | .624 x 1 27/32 | .562 x 1 23/32 | .624 x 1 25/32 |
| .5 | .562 x 1 25/32 | .624 x 1 27/32 | .562 x 1 23/32 | .624 x 1 25/32 |
| .68 | .670 x 1 25/32 | .732 x 1 27/32 | .670 x 1 23/32 | .732 x 1 25/32 |
| 1.0 | .670 x 29/32 | .732 x 2 11/32 | .670 x 2 7/32 | .732 x 29/32 |
| | | 600 Volts | | |
| .0005 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .001 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .002 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .003 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .005 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .01 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .015 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .02 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .022 | .312 x 25/32 | .374 x 27/32 | .312 x 23/32 | .374 x 25/32 |
| .033 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .04 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .047 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .05 | .400 x 25/32 | .462 x 27/32 | .400 x 23/32 | .462 x 25/32 |
| .068 | .400 x 13/32 | .462 x 1 5/32 | .400 x 1 1/32 | .462 x 13/32 |
| .1 | .500 x 13/32 | .562 x 1 5/32 | .500 x 1 1/32 | .562 x 13/32 |
| .15 | .500 x 13/32 | .562 x 1 5/32 | .500 x 1 1/32 | .562 x 13/32 |
| .2 | .562 x 19/32 | .624 x 1 11/32 | .562 x 1 7/32 | .624 x 19/32 |
| .22 | .562 x 19/32 | .624 x 1 11/32 | .562 x 1 7/32 | .624 x 19/32 |
| .25 | .562 x 1 13/32 | .624 x 1 15/32 | .562 x 1 11/32 | .624 x 1 13/32 |
| .33 | .562 x 1 25/32 | .624 x 1 27/32 | .562 x 1 23/32 | .624 x 1 25/32 |
| .47 | .670 x 1 25/32 | .732 x 1 27/32 | .670 x 1 23/32 | .732 x 1 25/32 |
| .5 | .670 x 1 25/32 | .732 x 1 27/32 | .670 x 1 23/32 | .732 x 1 25/32 |
| .68 | .670 x 29/32 | .732 x 2 11/32 | .670 x 2 7/32 | .732 x 29/32 |
| 1.0 | .750 x 29/32 | .812 x 2 11/32 | .750 x 2 7/32 | .812 x 29/32 |

| Capacity | P123ZN | P123ZNP | P123ZNG | P123ZNGP |
|---|---|---|---|---|
| | | 200 Volts | | |
| .0005 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .001 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .002 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .003 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .005 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .01 | .175 x 1/2 | .237 x 9/16 | .175 x 7/16 | .237 x 1/2 |
| .015 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .02 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .022 | .195 x 9/16 | .257 x 5/8 | .195 x 1/2 | .257 x 9/16 |
| .033 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .04 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .047 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .05 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .068 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .1 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .15 | .312 x 1 1/8 | .374 x 1 3/16 | .312 x 1 1/16 | .374 x 1 1/8 |
| .2 | .312 x 1 1/8 | .374 x 1 3/16 | .312 x 1 1/16 | .374 x 1 1/8 |
| .22 | .312 x 1 1/8 | .374 x 1 3/16 | .312 x 1 1/16 | .374 x 1 1/8 |
| .25 | .312 x 1 1/8 | .374 x 1 3/16 | .312 x 1 1/16 | .374 x 1 1/8 |
| .33 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .47 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .5 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .68 | .500 x 1 1/8 | .662 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| 1.0 | .562 x 1 1/8 | .624 x 1 3/16 | .562 x 1 1/16 | .624 x 1 1/8 |
| 1.5 | .562 x 1 5/16 | .624 x 1 3/8 | .562 x 1 1/4 | .624 x 1 5/16 |
| 2.0 | .562 x 1 13/16 | .624 x 1 7/8 | .562 x 1 3/4 | .624 x 1 13/16 |
| | | 400 Volts | | |
| .0005 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .001 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .002 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .003 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .005 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .01 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .015 | .235 x 5/8 | .297 x 11/16 | .235 x 9/16 | .297 x 5/8 |
| .02 | .235 x 13/16 | .297 x 7/8 | .235 x 3/4 | .297 x 13/16 |
| .022 | .235 x 13/16 | .297 x 7/8 | .235 x 3/4 | .297 x 13/16 |
| .033 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .04 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .047 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .05 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |

| Capacity | P123ZN | P123ZNP | P123ZNG | P123ZNGP |
|---|---|---|---|---|
| | | 400 Volts (cont.) | | |
| .068 | .312 x 1 1/8 | .374 x 1 3/16 | .312 x 1 1/16 | .374 x 1 1/8 |
| .1 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .15 | .500 x 1 1/8 | .562 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| .2 | .500 x 1 1/8 | .562 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| .22 | .500 x 1 1/8 | .562 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| .25 | .500 x 1 1/8 | .562 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| .33 | .562 x 1 5/16 | .624 x 1 3/8 | .562 x 1 1/4 | .624 x 1 5/16 |
| .47 | .562 x 1 13/16 | .624 x 1 7/8 | .562 x 1 3/4 | .624 x 1 13/16 |
| .5 | .562 x 1 13/16 | .624 x 1 7/8 | .562 x 1 3/4 | .624 x 1 13/16 |
| .68 | .670 x 1 13/16 | .732 x 1 7/8 | .670 x 1 3/4 | .732 x 1 13/16 |
| 1.0 | .670 x 2 5/16 | .732 x 2 3/8 | .670 x 2 1/4 | .732 x 2 5/16 |
| 1.5 | .750 x 2 5/16 | .812 x 2 3/8 | .750 x 2 1/4 | .812 x 2 5/16 |
| 2.0 | 1.000 x 1 13/16 | 1.062 x 1 7/8 | 1.000 x 1 3/4 | 1.062 x 1 13/16 |
| | | 600 Volts | | |
| .0005 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .001 | .235 x 1/2 | .297 x 9/16 | .235 x 7/16 | .297 x 1/2 |
| .002 | .235 x 5/8 | .297 x 3/4 | .235 x 9/16 | .297 x 5/8 |
| .003 | .235 x 5/8 | .297 x 3/4 | .235 x 9/16 | .297 x 5/8 |
| .005 | .235 x 5/8 | .297 x 3/4 | .235 x 9/16 | .297 x 5/8 |
| .01 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .015 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .02 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .022 | .312 x 13/16 | .374 x 7/8 | .312 x 3/4 | .374 x 13/16 |
| .033 | .400 x 13/16 | .462 x 7/8 | .400 x 3/4 | .462 x 13/16 |
| .04 | .400 x 13/16 | .462 x 7/8 | .400 x 3/4 | .462 x 13/16 |
| .047 | .400 x 13/16 | .462 x 7/8 | .400 x 3/4 | .462 x 13/16 |
| .05 | .400 x 13/16 | .462 x 7/8 | .400 x 3/4 | .462 x 13/16 |
| .068 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .1 | .400 x 1 1/8 | .462 x 1 3/16 | .400 x 1 1/16 | .462 x 1 1/8 |
| .15 | .500 x 1 1/8 | .562 x 1 3/16 | .500 x 1 1/16 | .562 x 1 1/8 |
| .2 | .562 x 1 1/8 | .624 x 1 3/16 | .562 x 1 1/16 | .624 x 1 1/8 |
| .22 | .562 x 1 1/8 | .624 x 1 3/16 | .562 x 1 1/16 | .624 x 1 1/8 |
| .25 | .562 x 1 5/16 | .624 x 1 3/8 | .562 x 1 1/4 | .624 x 1 5/16 |
| .33 | .562 x 1 13/16 | .624 x 1 7/8 | .562 x 1 3/4 | .624 x 1 13/16 |
| .47 | .670 x 1 13/16 | .732 x 1 7/8 | .670 x 1 3/4 | .732 x 1 13/16 |
| .5 | .670 x 1 13/16 | .732 x 1 7/8 | .670 x 1 3/4 | .732 x 1 13/16 |
| .68 | .670 x 1 13/16 | .732 x 1 7/8 | .670 x 1 3/4 | .732 x 1 13/16 |
| 1.0 | .750 x 2 5/16 | .812 x 2 3/8 | .750 x 2 1/4 | .812 x 2 5/16 |
| 1.5 | 1.000 x 1 13/16 | 1.062 x 1 7/8 | 1.000 x 1 3/4 | 1.062 x 1 13/16 |
| 2.0 | 1.000 x 2 5/16 | 1.062 x 2 3/8 | 1.000 x 2 1/4 | 1.062 x 2 5/16 |

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**


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World Radio History

# INDUSTRIAL SECTION — MIL TYPES

## MIL-C-25A CAPACITORS

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. Characteristic E for operation at —65 to +100°C. Characteristic K for operation at —65 to +125°C. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is ±10% (K). Also available in ±20% (M).

### TYPES CP04 and CP05 — Characteristics E and K

| | | CP04, CHAR. E | | CP04, CHAR. K | | CP05, CHAR. E | | CP05, CHAR. K | |
|---|---|---|---|---|---|---|---|---|---|
| | | P123S | P123SG | P323S | P323SG | P123SP | P123SGP | P323SP | P323SGP |
| | | NO TUBE | | NO TUBE | | PLASTIC TUBE | | PLASTIC TUBE | |
| CAPACITY | VOLTAGE | Case Floating | Case Grounded | Case Floating | Case Grounded | Case Floating | Case Grounded | Case Floating | Case Grounded |
| .033 | 100V | CP04A1EB333K | CP04A3EB333K | CP04A1KB333K | CP04A3KB333K | CP05A1EB333K | CP05A3EB333K | CP05A1KB333K | CP05A3KB333K |
| .1 | 100V | CP04A1EB104K | CP04A3EB104K | CP04A1KB104K | CP04A3KB104K | CP05A1EB104K | CP05A3EB104K | CP05A1KB104K | CP05A3KB104K |
| .15 | 100V | CP04A1EB154K | CP04A3EB154K | CP04A1KB154K | CP04A3KB154K | CP05A1EB154K | CP05A3EB154K | CP05A1KB154K | CP05A3KB154K |
| .22 | 100V | CP04A1EB224K | CP04A3EB224K | CP04A1KB224K | CP04A3KB224K | CP05A1EB224K | CP05A3EB224K | CP05A1KB224K | CP05A3KB224K |
| .33 | 100V | CP04A1EB334K | CP04A3EB334K | CP04A1KB334K | CP04A3KB334K | CP05A1EB334K | CP05A3EB334K | CP05A1KB334K | CP05A3KB334K |
| .47 | 100V | CP04A1EB474K | CP04A3EB474K | CP04A1KB474K | CP04A3KB474K | CP05A1EB474K | CP05A3EB474K | CP05A1KB474K | CP05A3KB474K |
| .68 | 100V | CP04A1EB684K | CP04A3EB684K | CP04A1KB684K | CP04A3KB684K | CP05A1EB684K | CP05A3EB684K | CP05A1KB684K | CP05A3KB684K |
| 1.0 | 100V | CP04A1EB105K | CP04A3EB105K | CP04A1KB105K | CP04A3KB105K | CP05A1EB105K | CP05A3EB105K | CP05A1KB105K | CP05A3KB105K |
| .015 | 200V | CP04A1EC153K | CP04A3EC153K | CP04A1KC153K | CP04A3KC153K | CP05A1EC153K | CP05A3EC153K | CP05A1KC153K | CP05A3KC153K |
| .022 | 200V | CP04A1EC223K | CP04A3EC223K | CP04A1KC223K | CP04A3KC223K | CP05A1EC223K | CP05A3EC223K | CP05A1KC223K | CP05A3KC223K |
| .047 | 200V | CP04A1EC473K | CP04A3EC473K | CP04A1KC473K | CP04A3KC473K | CP05A1EC473K | CP05A3EC473K | CP05A1KC473K | CP05A3KC473K |
| .068 | 200V | CP04A1EC683K | CP04A3EC683K | CP04A1KC683K | CP04A3KC683K | CP05A1EC683K | CP05A3EC683K | CP05A1KC683K | CP05A3KC683K |
| .1 | 200V | CP04A1EC104K | CP04A3EC104K | CP04A1KC104K | CP04A3KC104K | CP05A1EC104K | CP05A3EC104K | CP05A1KC104K | CP05A3KC104K |
| .15 | 200V | CP04A1EC154K | CP04A3EC154K | CP04A1KC154K | CP04A3KC154K | CP05A1EC154K | CP05A3EC154K | CP05A1KC154K | CP05A3KC154K |
| .22 | 200V | CP04A1EC224K | CP04A3EC224K | CP04A1KC224K | CP04A3KC224K | CP05A1EC224K | CP05A3EC224K | CP05A1KC224K | CP05A3KC224K |
| .33 | 200V | CP04A1EC334K | CP04A3EC334K | CP04A1KC334K | CP04A3KC334K | CP05A1EC334K | CP05A3EC334K | CP05A1KC334K | CP05A3KC334K |
| .47 | 200V | CP04A1EC474K | CP04A3EC474K | CP04A1KC474K | CP04A3KC474K | CP05A1EC474K | CP05A3EC474K | CP05A1KC474K | CP05A3KC474K |
| .68 | 200V | CP04A1EC684K | CP04A3EC684K | CP04A1KC684K | CP04A3KC684K | CP05A1EC684K | CP05A3EC684K | CP05A1KC684K | CP05A3KC684K |
| 1.0 | 200V | CP04A1EC105K | CP04A3EC105K | CP04A1KC105K | CP04A3KC105K | CP05A1EC105K | CP05A3EC105K | CP05A1KC105K | CP05A3KC105K |
| .01 | 400V | CP04A1EE103K | CP04A3EE103K | CP04A1KE103K | CP04A3KE103K | CP05A1EE103K | CP05A3EE103K | CP05A1KE103K | CP05A3KE103K |
| .033 | 400V | CP04A1EE333K | CP04A3EE333K | CP04A1KE333K | CP04A3KE333K | CP05A1EE333K | CP05A3EE333K | CP05A1KE333K | CP05A3KE333K |
| .047 | 400V | CP04A1EE473K | CP04A3EE473K | CP04A1KE473K | CP04A3KE473K | CP05A1EE473K | CP05A3EE473K | CP05A1KE473K | CP05A3KE473K |
| .068 | 400V | CP04A1EE683K | CP04A3EE683K | CP04A1KE683K | CP04A3KE683K | CP05A1EE683K | CP05A3EE683K | CP05A1KE683K | CP05A3KE683K |
| .1 | 400V | CP04A1EE104K | CP04A3EE104K | CP04A1KE104K | CP04A3KE104K | CP05A1EE104K | CP05A3EE104K | CP05A1KE104K | CP05A3KE104K |
| .15 | 400V | CP04A1EE154K | CP04A3EE154K | CP04A1KE154K | CP04A3KE154K | CP05A1EE154K | CP05A3EE154K | CP05A1KE154K | CP05A3KE154K |
| .22 | 400V | CP04A1EE224K | CP04A3EE224K | CP04A1KE224K | CP04A3KE224K | CP05A1EE224K | CP05A3EE224K | CP05A1KE224K | CP05A3KE224K |
| .33 | 400V | CP04A1EE334K | CP04A3EE334K | CP04A1KE334K | CP04A3KE334K | CP05A1EE334K | CP05A3EE334K | CP05A1KE334K | CP05A3KE334K |
| .47 | 400V | CP04A1EE474K | CP04A3EE474K | CP04A1KE474K | CP04A3KE474K | CP05A1EE474K | CP05A3EE474K | CP05A1KE474K | CP05A3KE474K |
| .68 | 400V | CP04A1EE684K | CP04A3EE684K | CP04A1KE684K | COP4A3KE684K | CP05A1EE684K | CP05A3EE684K | CP05A1KE684K | CP05A3KE684K |
| 1.0 | 400V | CP04A1EE105K | CP04A3EE105K | CP04A1KE105K | CP04A3KE105K | CP05A1EE105K | CP05A3EE105K | CP05A1KE105K | CP05A3KE105K |
| .001 | 600V | CP04A1EF102K | CP04A3EF102K | CP04A1KF102K | CP04A3KF102K | CP05A1EF102K | CP05A3EF102K | CP05A1KF102K | CP05A3KF102K |
| .0015 | 600V | CP04A1EF152K | CP04A3EF152K | CP04A1KF152K | CP04A3KF152K | CP05A1EF152K | CP05A3EF152K | CP05A1KF152K | CP05A3KF152K |
| .0022 | 600V | CP04A1EF222K | CP04A3EF222K | CP04A1KF222K | CP04A3KF222K | CP05A1EF222K | CP05A3EF222K | CP05A1KF222K | CP05A3KF222K |
| .0033 | 600V | CP04A1EF332K | CP04A3EF332K | CP04A1KF332K | CP04A3KF332K | CP05A1EF332K | CP05A3EF332K | CP05A1KF332K | CP05A3KF332K |
| .0047 | 600V | CP04A1EF472K | CP04A3EF472K | CP04A1KF472K | CP04A3KF472K | CP05A1EF472K | CP05A3EF472K | CP05A1KF472K | CP05A3KF472K |
| .0068 | 600V | CP04A1EF682K | CP04A3EF682K | CP04A1KF682K | CP04A3KF682K | CP05A1EF682K | CP05A3EF682K | CP05A1KF682K | CP05A3KF682K |
| .01 | 600V | CP04A1EF103K | CP04A3EF103K | CP04A1KF103K | CP04A3KF103K | CP05A1EF103K | CP05A3EF103K | CP05A1KF103K | CP05A3KF103K |
| .015 | 600V | CP04A1EF153K | CP04A3EF153K | CP04A1KF153K | CP04A3KF153K | CP05A1EF153K | CP05A3EF153K | CP05A1KF153K | CP05A3KF153K |
| .022 | 600V | CP04A1EF223K | CP04A3EF223K | CP04A1KF223K | CP04A3KF223K | CP05A1EF223K | CP05A3EF223K | CP05A1KF223K | CP05A3KF223K |
| .033 | 600V | CP04A1EF333K | CP04A3EF333K | CP04A1KF333K | CP04A3KF333K | CP05A1EF333K | CP05A3EF333K | CP05A1KF333K | CP05A3KF333K |
| .047 | 600V | CP04A1EF473K | CP04A3EF473K | CP04A1KF473K | CP04A3KF473K | CP05A1EF473K | CP05A3EF473K | CP05A1KF473K | CP05A3KF473K |
| .068 | 600V | CP04A1EF683K | CP04A3EF683K | CP04A1KF683K | CP04A3KF683K | CP05A1EF683K | CP05A3EF683K | CP05A1KF683K | CP05A3KF683K |
| .1 | 600V | CP04A1EF104K | CP04A3EF104K | CP04A1KF104K | CP04A3KF104K | CP05A1EF104K | CP05A3EF104K | CP05A1KF104K | CP05A3KF104K |
| .15 | 600V | CP04A1EF154K | CP04A3EF154K | CP04A1KF154K | CP04A3KF154K | CP05A1EF154K | CP05A3EF154K | CP05A1KF154K | CP05A3KF154K |
| .22 | 600V | CP04A1EF224K | CP04A3EF224K | CP04A1KF224K | CP04A3KF224K | CP05A1EF224K | CP05A3EF224K | CP05A1KF224K | CP05A3KF224K |
| .33 | 600V | CP04A1EF334K | CP04A3EF334K | CP04A1KF334K | CP04A3KF334K | CP05A1EF334K | CP05A3EF334K | CP05A1KF334K | CP05A3KF334K |
| .47 | 600V | CP04A1EF474K | CP04A3EF474K | CP04A1KF474K | CP04A3KF474K | CP05A1EF474K | CP05A3EF474K | CP05A1KF474K | CP05A3KF474K |
| .68 | 600V | CP04A1EF684K | CP04A3EF684K | CP04A1KF684K | CP04A3KF684K | CP05A1EF684K | CP05A3EF684K | CP05A1KF684K | CP05A3KF684K |

### TYPES CP61*, CP63, CP65 — Characteristic E

### AEROVOX TYPE JP16M

Compact, oil impregnated and filled, rectangular unit of minimum size and weight. Excellent for space saving applications. Immersion proof and hermetically sealed. Dual section has case grounded. CP61 can be mounted with terminals up or down by using detachable brackets, MIL type CP06F or CP06S. CP63 and CP65 has channel brackets attached. Standard tolerance on single section units, ±10% (K), on multiple section units +20 —10% (V).

| Cap. | Voltage | JP16M No Brackets | JP16MCT Top Term. | JP16MCB Bottom Term. |
|---|---|---|---|---|
| .1 | 400V | CP61B1EE104K | CP63B1EE104K | CP65B1EE104K |
| .25 | 400V | CP61B1EE254K | CP63B1EE254K | |
| 1.0 | 400V | CP61B1EE105K | CP63B1EE105K | |
| .05 | 600V | CP61B1EF503K | CP63B1EF503K | CP65B1EF503K |
| .1 | 600V | CP61B1EF104K | CF63B1EF104K | CP65B1EF104K |
| .25 | 600V | CP61B1EF254K | CP63B1EF254K | CP65B1EF254K |
| .5 | 600V | CP61B1EF504K | CP63B1EF504K | CP65B1EF504K |
| 1.0 | 600V | CP61B1EF105K | CP63B1EF105K | CP65B1EF105K |
| 2X.05 | 600V | CP61B6EF503V | CP63B6EF503V | CP65B6EF503V |
| 2X.1 | 600V | CP61B6EF104V | CP63B6EF104V | CP65B6EF104V |
| 2X.25 | 600V | CP61B6EF254V | CP63B6EF254V | CP65B6EF254V |
| 2X.5 | 600V | CP61B6EF504V | CP63B6EF504V | CP65B6EF504V |

| Cap. | Voltage | JP16M No Brackets | JP16MCT Top Term. | JP16MCB Bottom Term. |
|---|---|---|---|---|
| .01 | 1000V | CP61B1EG103K | CP63B1EG103K | CP65B1EG103K |
| .02 | 1000V | CP61B1EG203K | CP63B1EG203K | CP65B1EG203K |
| .05 | 1000V | CP61B1EG503K | CP63B1EG503K | CP65B1EG503K |
| .1 | 1000V | | CP63B1EG104K | |
| .25 | 1000V | | CP63B1EG254K | |
| .5 | 1000V | | CP63B1EG504K | |
| 2X.01 | 1000V | CP61B6EG103V | | |
| 2X.02 | 1000V | CP61B6EG203V | | |
| 2X.05 | 1000V | CP61B6EG503V | | |

* CP61 is now designated as CP90 in MIL Specifications.
Bracket designation is CP090.

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# INDUSTRIAL SECTION — MIL TYPES

## MIL-C-25A CAPACITORS

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. Characteristic E for operation at −65 to +100°C. Characteristic K for operation at −65 to +125°C. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is ±10% (K). Also available in ±20% (M).

### TYPES CP08 and CP09 — Characteristics E and K

| | | CP08, CHAR. E P123SX P123SXG NO TUBE | | CP08, CHAR. K P323SX P323SXG NO TUBE | | CP09, CHAR. E P123SXP P123SXGP PLASTIC TUBE | | CP09, CHAR. K P323SXP P323SXGP PLASTIC TUBE | |
|---|---|---|---|---|---|---|---|---|---|
| CAPACITY | VOLTAGE | Case Floating | Case Grounded | Case Floating | Case Grounded | Case Floating | Case Grounded | Case Floating | Case Grounded |
| .01 | 100V | CP08A1EB103K | CP08A3EB103K | CP08A1KB103K | CP08A3KB103K | CP09A1EB103K | CP09A3EB103K | CP09A1KB103K | CP09A3KB103K |
| .015 | 100V | CP08A1EB153K | CP08A3EB153K | CP08A1KB153K | CP08A3KB153K | CP09A1EB153K | CP09A3EB153K | CP09A1KB153K | CP09A3KB153K |
| .047 | 100V | CP08A1EB473K | CP08A3EB473K | CP08A1KB473K | CP08A3KB473K | CP09A1EB473K | CP09A3EB473K | CP09A1KB473K | CP09A3KB473K |
| .1 | 100V | CP08A1EB104K | CP08A3EB104K | CP08A1KB104K | CP08A3KB104K | CP09A1EB104K | CP09A3EB104K | CP09A1KB104K | CP09A3KB104K |
| .15 | 100V | CP08A1EB154K | CP08A3EB154K | CP08A1KB154K | CP08A3KB154K | CP09A1EB154K | CP09A3EB154K | CP09A1KB154K | CP09A3KB154K |
| .22 | 100V | CP08A1EB224K | CP08A3EB224K | CP08A1KB224K | CP08A3KB224K | CP09A1EB224K | CP09A3EB224K | CP09A1KB224K | CP09A3KB224K |
| .33 | 100V | CP08A1EB334K | CP08A3EB334K | CP08A1KB334K | CP08A3KB334K | CP09A1EB334K | CP09A3EB334K | CP09A1KB334K | CP09A3KB334K |
| .47 | 100V | CP08A1EB474K | CP08A3EB474K | CP08A1KB474K | CP08A3KB474K | CP09A1EB474K | CP09A3EB474K | CP09A1KB474K | CP09A3KB474K |
| .68 | 100V | CP08A1EB684K | CP08A3EB684K | CP08A1KB684K | CP08A3KB684K | CP09A1EB684K | CP09A3EB684K | CP09A1KB684K | CP09A3KB684K |
| 1.0 | 100V | CP08A1EB105K | CP08A3EB105K | CP08A1KB105K | CP08A3KB105K | CP09A1EB105K | CP09A3EB105K | CP09A1KB105K | CP09A3KB105K |
| .0047 | 200V | CP08A1EC472K | CP08A3EC472K | CP08A1KC472K | CP08A3KC472K | CP09A1EC472K | CP09A3EC472K | CP09A1KC472K | CP09A3KC472K |
| .0068 | 200V | CP08A1EC682K | CP08A3EC682K | CP08A1KC682K | CP08A3KC682K | CP09A1EC682K | CP09A3EC682K | CP09A1KC682K | CP09A3KC682K |
| .022 | 200V | CP08A1EC223K | CP08A3EC223K | CP08A1KC223K | CP08A3KC223K | CP09A1EC223K | CP09A3EC223K | CP09A1KC223K | CP09A3KC223K |
| .033 | 200V | CP08A1EC333K | CP08A3EC333K | CP08A1KC333K | CP08A3KC333K | CP09A1EC333K | CP09A3EC333K | CP09A1KC333K | CP09A3KC333K |
| .047 | 200V | CP08A1EC473K | CP08A3EC473K | CP08A1KC473K | CP08A3KC473K | CP09A1EC473K | CP09A3EC473K | CP09A1KC473K | CP09A3KC473K |
| .068 | 200V | CP08A1EC683K | CP08A3EC683K | CP08A1KC683K | CP08A3KC683K | CP09A1EC683K | CP09A3EC683K | CP09A1KC683K | CP09A3KC683K |
| .1 | 200V | CP08A1EC104K | CP08A3EC104K | CP08A1KC104K | CP08A3KC104K | CP09A1EC104K | CP09A3EC104K | CP09A1KC104K | CP09A3KC104K |
| .15 | 200V | CP08A1EC154K | CP08A3EC154K | CP08A1KC154K | CP08A3KC154K | CP09A1EC154K | CP09A3EC154K | CP09A1KC154K | CP09A3KC154K |
| .22 | 200V | CP08A1EC224K | CP08A3EC224K | CP08A1KC224K | CP08A3KC224K | CP09A1EC224K | CP09A3EC224K | CP09A1KC224K | CP09A3KC224K |
| .33 | 200V | CP08A1EC334K | CP08A3EC334K | CP08A1KC334K | CP08A3KC334K | CP09A1EC334K | CP09A3EC334K | CP09A1KC334K | CP09A3KC334K |
| .47 | 200V | CP08A1EC474K | CP08A3EC474K | CP08A1KC474K | CP08A3KC474K | CP09A1EC474K | CP09A3EC474K | CP09A1KC474K | CP09A3KC474K |
| .68 | 200V | CP08A1EC684K | CP08A3EC684K | CP08A1KC684K | CP08A3KC684K | CP09A1EC684K | CP09A3EC684K | CP09A1KC684K | CP09A3KC684K |
| 1.0 | 200V | CP08A1EC105K | CP08A3EC105K | CP08A1KC105K | CP08A3KC105K | CP09A1EC105K | CP09A3EC105K | CP09A1KC105K | CP09A3KC105K |
| .0033 | 400V | CP08A1EE332K | CP08A3EE332K | CP08A1KE332K | CP08A3KE332K | CP09A1EE332K | CP09A3EE332K | CP09A1KE332K | CP09A3KE332K |
| .015 | 400V | CP08A1EE153K | CP08A3EE153K | CP08A1KE153K | CP08A3KE153K | CP09A1EE153K | CP09A3EE153K | CP09A1KE153K | CP09A3KE153K |
| .033 | 400V | CP08A1EE333K | CP08A3EE333K | CP08A1KE333K | CP08A3KE333K | CP09A1EE333K | CP09A3EE333K | CP09A1KE333K | CP09A3KE333K |
| .047 | 400V | CP08A1EE473K | CP08A3EE473K | CP08A1KE473K | CP08A3KE473K | CP09A1EE473K | CP09A3EE473K | CP09A1KE473K | CP09A3KE473K |
| .068 | 400V | CP08A1EE683K | CP08A3EE683K | CP08A1KE683K | CP08A3KE683K | CP09A1EE683K | CP09A3EE683K | CP09A1KE683K | CP09A3KE683K |
| .1 | 400V | CP08A1EE104K | CP08A3EE104K | CP08A1KE104K | CP08A3KE104K | CP09A1EE104K | CP09A3EE104K | CP09A1KE104K | CP09A3KE104K |
| .15 | 400V | CP08A1EE154K | CP08A3EE154K | CP08A1KE154K | CP08A3KE154K | CP09A1EE154K | CP09A3EE154K | CP09A1KE154K | CP09A3KE154K |
| .22 | 400V | CP08A1EE224K | CP08A3EE224K | CP08A1KE224K | CP08A3KE224K | CP09A1EE224K | CP09A3EE224K | CP09A1KE224K | CP09A3KE224K |
| .33 | 400V | CP08A1EE334K | CP08A3EE334K | CP08A1KE334K | CP08A3KE334K | CP09A1EE334K | CP09A3EE334K | CP09A1KE334K | CP09A3KE334K |
| .47 | 400V | CP08A1EE474K | CP08A3EE474K | CP08A1KE474K | CP08A3KE474K | CP09A1EE474K | CP09A3EE474K | CP09A1KE474K | CP09A3KE474K |
| .001 | 600V | CP08A1EF102K | CP08A3EF102K | CP08A1KF102K | CP08A3KF102K | CP09A1EF102K | CP09A3EF102K | CP09A1KF102K | CP09A3KF102K |
| .0015 | 600V | CP08A1EF152K | CP08A3EF152K | CP08A1KF152K | CP08A3KF152K | CP09A1EF152K | CP09A3EF152K | CP09A1KF152K | CP09A3KF152K |
| .0022 | 600V | CP08A1EF222K | CP08A3EF222K | CP08A1KF222K | CP08A3KF222K | CP09A1EF222K | CP09A3EF222K | CP09A1KF222K | CP09A3KF222K |
| .0033 | 600V | CP08A1EF332K | CP08A3EF332K | CP08A1KF332K | CP08A3KF332K | CP09A1EF332K | CP09A3EF332K | CP09A1KF332K | CP09A3KF332K |
| .0047 | 600V | CP08A1EF472K | CP08A3EF472K | CP08A1KF472K | CP08A3KF472K | CP09A1EF472K | CP09A3EF472K | CP09A1KF472K | CP09A3KF472K |
| .0068 | 600V | CP08A1EF682K | CP08A3EF682K | CP08A1KF682K | CP08A3KF682K | CP09A1EF682K | CP09A3EF682K | CP09A1KF682K | CP09A3KF682K |
| .01 | 600V | CP08A1EF103K | CP08A3EF103K | CP08A1KF103K | CP08A3KF103K | CP09A1EF103K | CP09A3EF103K | CP09A1KF103K | CP09A3KF103K |
| .015 | 600V | CP08A1EF153K | CP08A3EF153K | CP08A1KF153K | CP08A3KF153K | CP09A1EF153K | CP09A3EF153K | CP09A1KF153K | CP09A3KF153K |
| .022 | 600V | CP08A1EF223K | CP08A3EF223K | CP08A1KF223K | CP08A3KF223K | CP09A1EF223K | CP09A3EF223K | CP09A1KF223K | CP09A3KF223K |
| .033 | 600V | CP08A1EF333K | CP08A3EF333K | CP08A1KF333K | CP08A3KF333K | CP09A1EF333K | CP09A3EF333K | CP09A1KF333K | CP09A3KF333K |
| .047 | 600V | CP08A1EF473K | CP08A3EF473K | CP08A1KF473K | CP08A3KF473K | CP09A1EF473K | CP09A3EF473K | CP09A1KF473K | CP09A3KF473K |
| .068 | 600V | CP08A1EF683K | CP08A3EF683K | CP08A1KF683K | CP08A3KF683K | CP09A1EF683K | CP09A3EF683K | CP09A1KF683K | CP09A3KF683K |
| .1 | 600V | CP08A1EF104K | CP08A3EF104K | CP08A1KF104K | CP08A3KF104K | CP09A1EF104K | CP09A3EF104K | CP09A1KF104K | CP09A3KF104K |
| .15 | 600V | CP08A1EF154K | CP08A3EF154K | CP08A1KF154K | CP08A3KF154K | CP09A1EF154K | CP09A3EF154K | CP09A1KF154K | CP09A3KF154K |
| .22 | 600V | CP08A1EF224K | CP08A3EF224K | CP08A1KF224K | CP08A3KF224K | CP09A1EF224K | CP09A3EF224K | CP09A1KF224K | CP09A3KF224K |
| .33 | 600V | CP08A1EF334K | CP08A3EF334K | CP08A1KF334K | CP08A3KF334K | CP09A1EF334K | CP09A3EF334K | CP09A1KF334K | CP09A3KF334K |
| .47 | 600V | CP08A1EF474K | CP08A3EF474K | CP08A1KF474K | CP08A3KF474K | CP09A1EF474K | CP09A3EF474K | CP09A1KF474K | CP09A3KF474K |

### TYPES CP67, CP69 — Characteristics E

### AEROVOX TYPE JP18M

Oil impregnated and filled unit, rectangular case with different base size from CP61 series. This difference makes the unit available with 2 or 3 sections, case floating. Single units can also be used for special applications where type CP61 does not fit. Both CP67 and CP69 supplied with channel brackets attached. Standard tolerance on single section units ±10% (K), on multiple section units +20 —10% (V).

| Capacity | Voltage | JP18MCT Top Terminal | JP18MCB Bottom Terminal | Capacity | Voltage | JP18MCT Top Terminal | JP18MCB Bottom Terminal |
|---|---|---|---|---|---|---|---|
| .05 | 600V | CP67B1EF503K | CP69B1EF503K | .05 | 1000V | CP67B1EG503K | CP69B1EG503K |
| .1 | 600V | CP67B1EF104K | CP69B1EF104K | .1 | 1000V | | CP69B1EG104K |
| .25 | 600V | CP67B1EF254K | CP69B1EF254K | .25 | 1000V | | CP69B1EG254K |
| .5 | 600V | CP67B1EF504K | CP69B1EF504K | .5 | 1000V | | CP69B1EG504K |
| 1.0 | 600V | CP67B1EF105K | CP69B1EF105K | 2X.01 | 1000V | | CP69B4EG103V |
| 2X.05 | 600V | CP67B4EF503V | CP69B4EF503V | 2X.02 | 1000V | | CP69B4EG203V |
| 2X.1 | 600V | CP67B4EF104V | CP69B4EF104V | 2X.05 | 1000V | | CP69B4EG503V |
| 2X.25 | 600V | CP67B4EF254V | CP69B4EF254V | 2X.1 | 1000V | | CP69B4EG104V |
| 2X.5 | 600V | CP67B4EF504V | CP69B4EF504V | 2X.25 | 1000V | | CP69B4EG254V |
| 3X.05 | 600V | CP67B5EF503V | CP69B5EF503V | 3X.01 | 1000V | | CP69B5EG103V |
| 3X.1 | 600V | CP67B5EF104V | CP69B5EF104V | 3X.02 | 1000V | | CP69B5EG203V |
| 3X.25 | 600V | CP67B5EF254V | CP69B5EF254V | 3X.05 | 1000V | | CP69B5EG503V |
| .01 | 1000V | CP67B1EG103K | CP69B1EG103K | 3X.1 | 1000V | | CP69B5EG104V |
| .02 | 1000V | CP67B1EG203K | CP69B1EG203K | | | | |


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# INDUSTRIAL SECTION — MIL TYPES

## TYPE CP70

### Characteristics E and F
### Porcelain and Riveted Terminals
### AEROVOX TYPES JPO9M and JPO9MR

Oil impregnated and filled, large, rectangular, metal-cased capacitor for heavy-duty, continuous-service applications such as power supplied for transmitters, amplifiers, etc. Immersion proof and hermetically sealed. Available with either high-voltage, screw-type porcelain-pillar terminals or the space-saving riveted terminal. Pillar terminals have soldering lugs. Standard tolerance ±10% (K). Also available in ±20% tolerance (M). MIL-C-25A mounting brackets are also available for all units.

| Capacity | Voltage | CHAR. E JPO9M Porc. Term. | Case Size and Brkt. Desig. | CHAR. F JPO9M Porc. Term. | Case Size and Brkt. Desig. | CHAR. E JPO9MR Rivet Term. | Case Size and Brkt. Desig. | CHAR. F JPO9MR Rivet Term. | Case Size and Brkt. Desig. |
|---|---|---|---|---|---|---|---|---|---|
| .5 | 600V | CP70E1EF504K | A2 | | | | | | |
| 1.0 | 600V | CP70E1EF105K | A2 | | | CP70B1EF105K | A2 | | |
| 2.0 | 600V | CP70E1EF205K | A4 | CP70E1FF205K | A3 | CP70B1EF205K | A4 | CP70B1FF205K | A3 |
| 4.0 | 600V | CP70E1EF405K | B4 | CP70E1FF405K | B3 | CP70B1EF405K | B4 | CP70B1FF405K | B3 |
| 6.0 | 600V | CP70E1EF605K | C2 | CP70E1FF605K | B6 | CP70B1EF605K | C2 | CP70B1FF605K | B6 |
| 8.0 | 600V | CP70E1EF805K | C3 | CP70E1FF805K | C2 | CP70B1EF805K | C3 | CP70B1FF805K | C2 |
| 10.0 | 600V | CP70E1EF106K | D3 | CP70E1FF106K | C4 | CP70B1EF106K | D3 | CP70B1FF106K | C4 |
| .1 | 1000V | CP70E1EG104K | A1 | | | | | | |
| .25 | 1000V | CP70E1EG254K | A2 | | | | | | |
| .5 | 1000V | CP70E1EG504K | A2 | | | | | | |
| 1.0 | 1000V | CP70E1EG105K | A3 | CP70E1FG105K | A2 | CP70B1EG105K | A3 | | |
| 2.0 | 1000V | CP70E1EG205K | A6 | CP70E1FG205K | A5 | CP70B1EG205K | A6 | CP70B1FG205K | A5 |
| 4.0 | 1000V | CP70E1EG405K | C2 | CP70E1FG405K | B6 | CP70B1EG405K | C2 | CP70B1FG405K | B6 |
| 6.0 | 1000V | CP70E1EG605K | D3 | CP70E1FG605K | C4 | CP70B1EG605K | D3 | CP70B1FG605K | C4 |
| 8.0 | 1000V | CP70E1EG805K | D5 | | | CP70B1EG805K | D5 | CP70B1FG805K | D2 |
| 10.0 | 1000V | CP70E1EG106K | E5 | CP70E1FG106K | D5 | CP70B1EG106K | E5 | CP70B1FG106K | D5 |
| 12.0 | 1000V | CP70E1EG126K | E6 | | | CP70B1EG126K | E6 | CP70B1FG126K | E4 |
| 15.0 | 1000V | CP70E1EG156K | G2 | CP70E1FG156K | F1 | CP70B1EG156K | G2 | CP70B1FG156K | F1 |
| .5 | 1500V | CP70E1EH504K | A3 | | | | | | |
| 1.0 | 1500V | CP70E1EH105K | A6 | CP70E1FH105K | A5 | | | | |
| 2.0 | 1500V | CP70E1EH205K | B6 | CP70E1FH205K | B5 | CP70B1EH205K | B6 | CP70B1FH205K | B5 |
| 4.0 | 1500V | CP70E1EH405K | D4 | CP70E1FH405K | C4 | CP70B1EH405K | D4 | CP70B1FH405K | C4 |
| 6.0 | 1500V | CP70E1EH605K | E5 | CP70E1FH605K | D5 | CP70B1EH605K | E5 | CP70R1FH605K | D5 |
| 8.0 | 1500V | CP70E1EH805K | F2 | CP70E1FH805K | F1 | CP70B1EH805K | F2 | CP70B1FH805K | F1 |
| 10.0 | 1500V | CP70E1EH106K | G4 | CP70E1FH106K | G2 | CP70B1EH106K | G4 | CP70B1FH106K | G2 |
| 12.0 | 1500V | CP70E1EH126K | J3 | CP70E1FH126K | G2 | CP70B1EH126K | J3 | CP70B1FH126K | G2 |
| 15.0 | 1500V | CP70E1EH156K | J6 | CP70E1FH156K | J3 | CP70E1EH156K | J6 | CP70B1FH156K | J3 |
| .1 | 2000V | CP70E1EJ104K | B1 | | | | | | |
| .25 | 2000V | CP70E1EJ254K | B1 | | | | | | |
| .5 | 2000V | CP70E1EJ504K | B2 | | | | | | |
| 1.0 | 2000V | CP70E1EJ105K | B6 | CP70E1FJ105K | B3 | | | | |
| 2.0 | 2000V | CP70E1EJ205K | C4 | | | | | | |
| 4.0 | 2000V | CP70E1EJ405K | E6 | CP70E1FJ405K | E3 | | | | |
| .5 | 2500V | CP70E1EK504K | B4 | | | | | | |
| 1.0 | 2500V | CP70E1EK105K | D2 | CP70E1FK105K | D1 | | | | |
| 2.0 | 2500V | CP70E1EK205K | E5 | CP70E1FK205K | D5 | | | | |
| 4.0 | 2500V | CP70E1EK405K | J2 | | | | | | |
| 10.0 | 2500V | CP70E1EK106K | J10 | | | | | | |
| .1 | 3000V | CP70E1EL104K | B2 | | | | | | |
| .25 | 3000V | CP70E1EL254K | B3 | | | | | | |
| .5 | 3000V | CP70E1EL504K | B6 | | | | | | |
| 1.0 | 3000V | CP70E1EL105K | E4 | | | | | | |
| 2.0 | 3000V | CP70E1EL205K | G2 | | | | | | |
| 4.0 | 3000V | CP70E1EL405K | J7 | | | | | | |
| .1 | 4000V | CP70E1EM104K | E1 | | | | | | |
| .5 | 5000V | CP70E1EN504K | E6 | | | | | | |
| .1 | 6000V | CP70D1EP104K | E3 | | | | | | |
| .25 | 6000V | CP70D1EP254K | E5 | | | | | | |
| .5 | 6000V | CP70D1EP504K | J3 | | | | | | |

| | | | |
|---|---|---|---|
| A1 | 1 13/16 x 1 1/16 x 1 5/8 | D3 | 3 3/4 x 1 3/4 x 4 |
| A2 | 1 13/16 x 1 1/16 x 2 1/4 | D4 | 3 3/4 x 1 3/4 x 4 1/4 |
| A3 | 1 13/16 x 1 1/16 x 2 7/8 | D5 | 3 3/4 x 1 3/4 x 4 3/4 |
| A4 | 1 13/16 x 1 1/16 x 3 1/4 | E1 | 3 3/4 x 2 1/4 x 2 3/4 |
| A5 | 1 13/16 x 1 1/16 x 3 7/8 | E3 | 3 3/4 x 2 1/4 x 3 7/8 |
| A6 | 1 13/16 x 1 1/16 x 4 3/4 | E4 | 3 3/4 x 2 1/4 x 4 1/2 |
| B1 | 2 1/2 x 1 3/16 x 2 1/2 | E5 | 3 3/4 x 2 1/4 x 4 3/4 |
| B2 | 2 1/2 x 1 3/16 x 2 7/8 | E6 | 3 3/4 x 2 1/4 x 5 1/8 |
| B3 | 2 1/2 x 1 3/16 x 3 1/2 | F1 | 3 3/4 x 2 1/2 x 4 3/4 |
| B4 | 2 1/2 x 1 3/16 x 3 7/8 | F2 | 3 3/4 x 2 1/2 x 5 3/4 |
| B5 | 2 1/2 x 1 3/16 x 4 1/4 | G2 | 3 3/4 x 3 3/16 x 4 3/4 |
| B6 | 2 1/2 x 1 3/16 x 4 3/4 | G4 | 3 3/4 x 3 3/16 x 5 1/2 |
| C2 | 3 3/4 x 1 1/4 x 3 7/8 | J2 | 4 9/16 x 3 3/4 x 4 3/8 |
| C3 | 3 3/4 x 1 1/4 x 4 1/4 | J3 | 4 9/16 x 3 3/4 x 4 3/4 |
| C4 | 3 3/4 x 1 1/4 x 4 3/4 | J6 | 4 9/16 x 3 3/4 x 6 |
| D1 | 3 3/4 x 1 3/4 x 3 1/4 | J7 | 4 9/16 x 3 3/4 x 6 1/2 |
| D2 | 3 3/4 x 1 3/4 x 3 7/8 | J10 | 4 9/16 x 3 3/4 x 8 1/2 |

If MIL brackets are required with units, specify CPO7S (spade) or CPO7F (footed) and add the bracket designation listed beside the unit. Example: CP70E1EF504K with CPO7SA2 brackets.

## TYPES CP53, CP54, CP55 AEROVOX TYPE JP30M

### TYPES CP53, CP54, CP55 — Characteristic E

Oil impregnated and filled, drawn-metal cased capacitors, immersion proof and hermetically sealed. This unusually compact "bathtub" type capacitor is the most popular of the small units for severe operating conditions. Available with terminals on side (CP53), top (CP54), or bottom (CP55). The standard tolerance on single section units is ±10% (K), on multiple section units -20 10% (V).

| CAPACITY | VOLTAGE | JP30M, SIDE TERM. | JP30MT, TOP TERM. | JP30MB, BOTTOM TERM. |
|---|---|---|---|---|
| 2.0 | 100V | CP53B1EB205K | | |
| 4.0 | 100V | CP53B1EB405K | | |
| 1.0 | 200V | CP53B1EC105K | | |
| 2.0 | 200V | CP53B1EC205K | | |
| .5 | 400V | CP53B1EE504K | CP54B1EE504K | |
| 3X.5 | 400V | CP53B5EE504V | | |
| .05 | 600V | CP53B1EF503K | CP54B1EF503K | CP55B1EF503K |
| .1 | 600V | CP53B1EF104K | CP54B1EF104K | CP55B1EF104K |
| .25 | 600V | CP53B1EF254K | CP54B1EF254K | CP55B1EF254K |
| .5 | 600V | CP53B1EF504K | CP54B1EF504K | CP55B1EF504K |
| 1.0 | 600V | CP53B1EF105K | CP54B1EF105K | CP55B1EF105K |
| 2.0 | 600V | CP53B1EF205K | CP54B1EF205K | CP55B1EF205K |
| 2X.05 | 600V | CP53B4EF503V | CP54B4EF503V | CP55B4EF503V |
| 2X.1 | 600V | CP53B4EF104V | CP54B4EF104V | CP55B4EF104V |
| 2X.25 | 600V | CP53B4EF254V | CP54B4EF254V | CP55B4EF254V |
| 2X.5 | 600V | CP53B4EF504V | CP54B4EF504V | CP55B4EF504V |
| 2X1.0 | 600V | CP53B4EF105V | CP54B4EF105V | CP55B4EF105V |

| CAPACITY | VOLTAGE | JP30M, SIDE TERM. | JP30MT, TOP TERM. | JP30MB, BOTTOM TERM. |
|---|---|---|---|---|
| 3X.05 | 600V | CP53B5EF503V | CP54B5EF503V | CP55B5EF503V |
| 3X.1 | 600V | CP53B5EF104V | CP54B5EF104V | CP55B5EF104V |
| 3X.25 | 600V | CP53B5EF254V | CP54B5EF254V | CP55B5EF254V |
| 3X.5 | 600V | CP53B5EF504V | CP54B5EF504V | CP55B5EF504V |
| .05 | 1000V | CP53B1EG503K | | |
| .1 | 1000V | CP53B1EG104K | | |
| .25 | 1000V | CP53B1EG254K | | |
| .5 | 1000V | CP53B1EG504K | | |
| 1.0 | 1000V | CP53B1EG105K | | |
| 2X.05 | 1000V | CP53B4EG503V | | |
| 2X.1 | 1000V | CP53B4EG104V | | |
| 2X.25 | 1000V | CP53B4EG254V | | |
| 2X.5 | 1000V | CP53B4EG504V | | |
| 3X.05 | 1000V | CP53B5EG503V | | |
| 3X.1 | 1000V | CP53B5EG104V | | |
| 3X.25 | 1000V | CP53B5EG254V | | |

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World Radio History

## INDUSTRIAL SECTION — MIL TYPES

# MIL-C-25A CAPACITORS

### TYPES CP-25, CP26, CP27, CP28, CP29 — AEROVOX TYPE P89M

Oil impregnated and filled hermetically sealed tubular capacitors for use in bypass and coupling applications in transmitters and test equipment. Available in 5 case styles, with plastic insulating sleeve and either radial or soldered tangential bracket. Case is floating, but can be furnished grounded on special order. Standard tolerance ±10% (K). Available also in ±20% tolerance (M).

| CAPACITY | VOLTAGE | P89MXY | P89MXP | P89MY | P89MP | P89MAY |
|---|---|---|---|---|---|---|
| .1 | 200V | CP25A1EC104K | CP26A1EC104K | CP27A1EC104K | CP28A1EC104K | CP29A1EC104K |
| .25 | 200V | CP25A1EC254K | CP26A1EC254K | CP27A1EC254K | CP28A1EC254K | CP29A1EC254K |
| .5 | 200V | CP25A1EC504K | CP26A1EC504K | CP27A1EC504K | CP28A1EC504K | CP29A1EC504K |
| .003 | 600V | CP25A1EF302K | CP26A1EF302K | CP27A1EF302K | CP28A1EF302K | CP29A1EF302K |
| .006 | 600V | CP25A1EF602K | CP26A1EF602K | CP27A1EF602K | CP28A1EF602K | CP29A1EF602K |
| .01 | 600V | CP25A1EF103K | CP26A1EF103K | CP27A1EF103K | CP28A1EF103K | CP29A1EF103K |
| .02 | 600V | CP25A1EF203K | CP26A1EF203K | CP27A1EF203K | CP28A1EF203K | CP29A1EF203K |
| .05 | 600V | CP25A1EF503K | CP26A1EF503K | CP27A1EF503K | CP28A1EF503K | CP29A1EF503K |
| .1 | 600V | CP25A1EF104K | CP26A1EF104K | CP27A1EF104K | CP28A1EF104K | CP29A1EF104K |
| .25 | 600V | CP25A1EF254K | CP26A1EF254K | CP27A1EF254K | CP28A1EF254K | CP29A1EF254K |
| .5 | 600V | CP25A1EF504K | CP26A1EF504K | CP27A1EF504K | CP28A1EF504K | CP29A1EF504K |
| .003 | 1000V | CP25A1EG302K | CP26A1EG302K | CP27A1EG302K | CP28A1EG302K | CP29A1EG302K |
| .006 | 1000V | CP25A1EG602K | CP26A1EG602K | CP27A1EG602K | CP28A1EG602K | CP29A1EG602K |
| .01 | 1000V | CP25A1EG103K | CP26A1EG103K | CP27A1EG103K | CP28A1EG103K | CP29A1EG103K |

### TYPE CP41 — Characteristics E and F
### AEROVOX TYPE JP10M

Cylindrical, hermetically sealed can with screwbase molded cover for vertical mounting. Operating temperature range —55 to +85°C. Solder lug, nonremovable terminals (MIL designation B). Supplied with mounting nut and lockwasher. Standard tolerance ±10% (K). Also available in ±20% (M).

| CAPACITY | VOLTAGE | CHAR. E JP10M | CHAR. F JP10M |
|---|---|---|---|
| 2.0 | 600V | CP41B1EF205K | CP41B1FF205K |
| 4.0 | 600V | CP41B1EF405K | CP41B1FF405K |
| 1.0 | 1000V | CP41B1EG105K | CP41B1FG105K |
| 2.0 | 1000V | CP41B1EG205K | CP41B1FG205K |
| .5 | 1500V | | CP41B1FH504K |
| 1.0 | 1500V | | CP41B1FH105K |

†Actual Size

Cerafil—newest and smallest ceramic capacitor to be developed for transistorized assemblies. Rugged ceramic units for operation from —55°C to +85°C. Standard units have axial wire leads. These units will meet all the requirements of MIL-C-11015A.

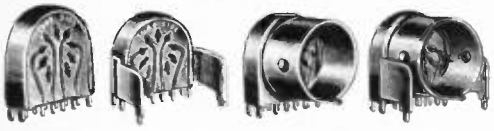
1—All dimensions in inches.
2—Tinned copper-clad steel or tinned copper leads No. 26 (.0159 nom. dia.) AWG.
3—Insulation Resistance — greater than 10,000 megohms.
4—All units are marked by color-code. No color-code for temperature coefficient or for lead designation since it is obvious.
5—Lead length—1½" maximum.
6—Units will be color coded.

## *CERAFIL CERAMIC CAPACITORS

*Trade Mark

| Part Number | Capacity (Mfd.) | Voltage VDCW | Voltage VDCT | Capacitance change erence value at 25° with respect to ref-C. over temperature range of —55°C. to +85°C. No Voltage | Capacitance change erence value at 25° with respect to ref-C. over temperature range of —55°C. to +85°C. 100 Volts | Capacity Tolerance (%) | Dimensions (Insulated) Diameter (Max.) | Dimensions (Insulated) Length (Max.) |
|---|---|---|---|---|---|---|---|---|
| C-80V 101AM | .0001 | 090 | 320 | +10% −15% | +10% −35% | ±20% | .090 | .320 |
| C-80V 221AM | .00022 | 090 | 320 | | | ±20% | .120 | .500 |
| C-80V 331AM | .00033 | 090 | 320 | | | ±20% | .180 | .500 |
| C-80V 471AM | .00047 | 090 | 320 | | | ±20% | .200 | .500 |
| C-80V 102AM | .001 | 100 | 300 | | | ±20% | .240 | .650 |
| C-80V 502AM | .005 | 100 | 300 | | | ±20% | .310 | .750 |
| C-80V 103AM | .01 | 100 | 300 | | | | | |
| C-80V 203AM | .02 | 100 | 300 | | | | | |
| C-80V 503AM | .05 | 100 | 300 | | | | | |
| C-80V 104AM | .1 | 100 | 300 | | | | | |

## *RIGHT ANGLE TUBE SOCKETS



Type A Type AX Type B Type BX

Ordering Example: RA7A = (Type A 7 Pin Socket)

Available in 7-pin and 9-pin types in four styles, these sockets are designed to meet existing MIL Specifications. Active contacts are silver plated and non-fatiguing contact pressure provides proper insertion and withdrawal pressure with a minimum of contact resistance. Ideal for hand or mechanical insertion into printed-wiring boards using simple in-line punched round holes. Templates are furnished with each socket. Long terminals permit use of sockets on wide range of board thickness.

Type A — for general purpose applications.
Type AX — for special applications (military and commercial) where extra strength and rigidity are required.
Type B — same as Type A except tube shield shell added.
Type BX — same as Type AX except tube shield shell added.

RA 7 — 7 pin right angle tube socket. RA 9 — 9 pin right angle tube socket

## *MODULIZED STANDARD CIRCUITS

Modules are comprised of uniformly standard, stacked steatite wafers combining the required resistive, capacity and inductive components to form a completely reliable, ruggedly compact electronic circuit.

Based on a study conducted by the National Bureau of Standards, the modules listed below were chosen as representative of circuits appearing in both military and commercial equipment. In all cases, similar functional circuits have been in use for at least ten years without major improvement. Accessories, such as the twelve position bread board, the individual module mounting socket and banana plugs are available to facilitate the inter-connecting of standard circuit modules to form complete electronic sub-assemblies.

| Part No. | Description |
|---|---|
| A1001 | Linear Amplifier, Low Level. |
| A1002 | Linear Amplifier, Intermediate. |
| A1003 | Linear Amplifier, Phase inverter-driver. |
| C1002 | Flip-flop, 1 megacycle. |
| G1001 | PRF Multivibrator. |
| P1001 | Video Limiter. |
| P1002 | Low-level Cathode Follower. |
| P1003 | Common Cathode Mixer or Dual Cathode Follower. |
| P1004 | Cascade Intermediate Video Amplifier. |
| P1005 | Triode Video Driver Amplifier. |
| P1006 | Dual High Level Cathode Follower. |
| R1001 | DC Regulator Plus or minus 300V. |
| R1002 | DC Regulator, Plus or Minus 150V. |
| T1001 | Variable Time Delay Monostable Multivibrator. |
| T1002 | Phantastron Delay. |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World Radio History

# CERAMICS

## Hi-Q CAPACITORS

Ceramic disc and tubular capacitors may be roughly divided into two main categories; namely, General Purpose (including By-pass and Coupling) and Temperature Compensating. The Aerovox line furnishes both tubular and disc-type ceramics in both categories as well as many special purpose types, including Stand-off, Feed-thru, High-voltage Cartwheels and Plate Assemblies.

All general purpose units are marked with Aerovox name or trade-mark, capacity and voltage, if other than standard

All temperature compensating units are color-coded in accordance with RETMA Specifications REC107A.

Bypass Coupling Capacitors (BPD) are furnished in GMV (Guaranteed Minimum Value) capacity tolerance since in applications such as in screen grid bypassing, capacity is not a critical characteristic. Due to this fact, Hi-K (Hi Dielectric constant) bodies are used, resulting in the smallest size body for a given capacity.

General purpose capacitors (DI-SI-CI), on the other hand, are recommended for circuits where capacity is more critical such as RC networks, etc. Since capacity tolerance in these cases is ±20% or less, Hi-K bodies cannot be used. Therefore, sizes of this type of unit are larger than the bypass coupling type.

Temperature compensating units (NPO, N750 in discs and tubular) are for use in critical applications where capacity must not change appreciably with changes in temperature; for example, resonant circuits or any other application where stability of capacity is necessary.

Since the temperature coefficient is determined by the ceramic mix, all temperature compensating units are manufactured to standard tolerance

Unless otherwise specified, the tolerance on the temperature co-efficient is as follows:

| Temp. Coef. | Tolerance PPM |
|---|---|
| NPO | ±30% |
| N080 | ±30% |
| N330 | ±500% |
| N750 | ±100% |

It should be noted that this is the tolerance of the temperature coefficient and not on the capacity value

All ceramic capacitors are made by firing the silver electrodes directly to the ceramic dielectric to assure low noise operation. Units are coated with a non-Hygroscopic Phenolic or sealed in Steatite tubes and then impregnated with micro-crystalline wax which helps protect the units from humidity.

The special items such as feed-thru, stand-off, high-voltage cartwheels and printed assemblies are manufactured to complete a full line of ceramic capacitors for replacement as well as industrial use.

## Hi-Q DISK CAPACITORS

### DISK CAPACITORS
### Bypass and Coupling

**BPD-GMV CAPACITOR**

**Stock Items 1000 VDCW Singles**

| Type | Cap. Mfd. | Dia. | Type | Cap. Mfd. | Dia. |
|---|---|---|---|---|---|
| BPD | .00001 | 5/16 | BPD | .0033 | 7/16 |
| BPD | .000015 | 5/16 | BPD | .004 | 7/16 |
| BPD | .000022 | 5/16 | BPD | .0047 | 19/32 |
| BPD | .000025 | 5/16 | BPD | .005 | 19/32 |
| BPD | .000033 | 5/16 | BPD | .0068 | 19/32 |
| BPD | .000047 | 5/16 | BPD | .01 | 3/4 |
| BPD | .00005 | 5/16 | BPD | .015 | 3/4 |
| BPD | .000068 | 5/16 | BPD | .02 | 29/32 |
| BPD | .0001 | 5/16 | BPD | .03 | 29/32 |
| BPD | .00012 | 5/16 | *BPD | .05 | 29/32 |
| BPD | .00015 | 5/16 | | | |
| BPD | .0002 | 5/16 | | **DUALS and TRIPLES** | |
| BPD | .00027 | 5/16 | BPD2-2 x .001 | | 7/16 |
| BPD | .00033 | 5/16 | BPD2-2 x .0015 | | 19/32 |
| BPD | .00047 | 5/16 | BPD2-2 x .002 | | 19/32 |
| BPD | .0005 | 5/16 | BPD2-2 x .0022 | | 19/32 |
| BPD | .00068 | 5/16 | BPD2-2 x .003 | | 3/4 |
| BPD | .0008 | 5/16 | BPD2-2 x .004 | | 3/4 |
| BPD | .001 | 5/16 | BPD2-2 x .0047 | | 3/4 |
| BPD | .0015 | 5/16 | BPD2-2 x .01 | | 3/4 |
| BPD | .002 | 3/8 | BPD2-2 x .02 | | 29/32 |
| BPD | .0022 | 3/8 | BPD3-3 x .0015 | | 3/4 |
| BPD | .0025 | 3/8 | BPD3-3 x .002 | | 3/4 |

* 500 VDC only

### DI-DISK CAPACITORS
### General Purpose

**Stock Items 1000 VDCW**

| Type | Cap. Mmfd. | Dia. | Type | Cap. Mmfd. | Dia. |
|---|---|---|---|---|---|
| DI-1 | 3.3 | 5/16 | DI-2 | 250 | 5/16 |
| DI-1 | 5 | 5/16 | DI-2 | 270 | 5/16 |
| DI-1 | 6.8 | 5/16 | DI-2 | 300 | 5/16 |
| DI-1 | 8.2 | 5/16 | DI-2 | 330 | 5/16 |
| DI-1 | 10 | 5/16 | DI-2 | 390 | 5/16 |
| DI-1 | 12 | 5/16 | DI-2 | 470 | 5/16 |
| DI-1 | 15 | 5/16 | DI-2 | 500 | 5/16 |
| DI-1 | 18 | 5/16 | DI-2 | 560 | 5/16 |
| DI-1 | 20 | 5/16 | DI-2 | 680 | 5/16 |
| DI-1 | 22 | 5/16 | DI-2 | 750 | 3/8 |
| DI-1 | 25 | 5/16 | DI-3 | 1000 | 3/8 |
| DI-1 | 27 | 5/16 | DI-3 | 1200 | 7/16 |
| DI-1 | 30 | 5/16 | DI-4 | 1500 | 7/16 |
| DI-1 | 33 | 5/16 | DI-4 | 1800 | 19/32 |
| DI-1 | 39 | 5/16 | DI-4 | 2000 | 19/32 |
| DI-1 | 47 | 5/16 | DI-4 | 2200 | 19/32 |
| DI-1 | 50 | 5/16 | DI-5 | 2500 | 19/32 |
| DI-1 | 56 | 5/16 | DI-5 | 2700 | 19/32 |
| DI-2 | 68 | 5/16 | DI-5 | 3000 | 11/16 |
| DI-2 | 82 | 5/16 | DI-5 | 3300 | 11/16 |
| DI-2 | 100 | 5/16 | DI-7 | 4700 | 3/4 |
| DI-2 | 120 | 5/16 | DI-7 | 5000 | 3/4 |
| DI-2 | 150 | 5/16 | DI-7 | 5600 | 3/4 |
| DI-2 | 180 | 5/16 | DI-7 | 6800 | 29/32 |
| DI-2 | 200 | 5/16 | DI-7 | 7500 | 29/32 |
| DI-2 | 220 | 5/16 | DI-7 | 10000 | 29/32 |

Standard tolerance ±20%. For ±10% up to and including 5600 mmfd. add 10% to price.

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World Radio History

# CERAMICS — (Continued)

## Hi-VOLTAGE DISK CAPACITORS

### General Purpose

Hi-Q high voltage disk capacitors are available in many capacities and voltage ratings. These types offer many possible uses in TV circuits where voltages above 500 are necessary. They are the ideal units for dependable day-after-day service. Hi-Q has available numerous combinations of capacity, working voltages and physical sizes. These units are manufactured to specific tolerances as listed.

### 1500 VDCW

| Type | Capacity Mmfd. | Dia. |
|---|---|---|
| HVD-15 | 4.7 | 7/16 |
| HVD-15 | 6.8 | 7/16 |
| HVD-15 | 10 | 7/16 |
| HVD-15 | 15 | 7/16 |
| HVD-15 | 22 | 7/16 |
| HVD-15 | 33 | 7/16 |
| HVD-15 | 47 | 7/16 |
| HVD-15 | 56 | 7/16 |
| HVD-15 | 68 | 7/16 |
| HVD-15 | 82 | 7/16 |
| HVD-15 | 100 | 7/16 |
| HVD-15 | 120 | 7/16 |
| HVD-15 | 150 | 7/16 |
| HVD-15 | 180 | 7/16 |
| HVD-15 | 220 | 7/16 |
| HVD-15 | 270 | 7/16 |
| HVD-15 | 330 | 7/16 |
| HVD-15 | 390 | 9/16 |
| HVD-15 | 470 | 9/16 |
| HVD-15 | 560 | 9/16 |

### 1500 VDCW—(Cont'd)

| Type | Capacity Mmfd. | Dia. |
|---|---|---|
| HVD-15 | 680 | 9/16 |
| HVD-15 | 820 | 9/16 |
| HVD-15 | 1000 | 9/16 |
| HVD-15 | 1200 | 9/16 |
| HVD-15 | 1500 | 11/16 |
| HVD-15 | 2200 | 11/16 |
| HVD-15 | 3300 | 11/16 |
| HVD-15 | 4700 | 15/16 |
| HVD-15 | 5600 | 15/16 |

### 3000 VDCW

| Type | Capacity Mmfd. | Dia. |
|---|---|---|
| HVD-30 | 4.7 | 9/16 |
| HVD-30 | 6.8 | 9/16 |
| HVD-30 | 10 | 9/16 |
| HVD-30 | 15 | 9/16 |
| HVD-30 | 22 | 9/16 |

### 3000 VDCW

| Type | Capacity Mmfd. | Dia. |
|---|---|---|
| HVD-30 | 33 | 9/16 |
| HVD-30 | 47 | 9/16 |
| HVD-30 | 56 | 9/16 |
| HVD-30 | 68 | 9/16 |
| HVD-30 | 82 | 9/16 |
| HVD-30 | 100 | 9/16 |
| HVD-30 | 120 | 9/16 |
| HVD-30 | 150 | 9/16 |
| HVD-30 | 180 | 9/16 |
| HVD-30 | 220 | 9/16 |
| HVD-30 | 330 | 9/16 |
| HVD-30 | 470 | 9/16 |
| HVD-30 | 560 | 9/16 |
| HVD-30 | 680 | 9/16 |
| HVD-30 | 820 | 9/16 |
| HVD-30 | 1000 | 9/16 |
| HVD-30 | 1200 | 9/16 |
| HVD-30 | 1500 | 9/16 |
| HVD-30 | 2200 | 9/16 |
| HVD-30 | 3300 | 11/16 |

### 6000 VDCW

| Type | Capacity Mmfd. | Dia. |
|---|---|---|
| HVD-60 | 4.7 | 11/16 |
| HVD-60 | 6.8 | 11/16 |
| HVD-60 | 10 | 11/16 |
| HVD-60 | 15 | 11/16 |
| HVD-60 | 18 | 11/16 |
| HVD-60 | 22 | 11/16 |
| HVD-60 | 30 | 11/16 |
| HVD-60 | 33 | 11/16 |
| HVD-60 | 47 | 11/16 |
| HVD-60 | 56 | 11/16 |
| HVD-60 | 68 | 11/16 |
| HVD-60 | 82 | 11/16 |
| HVD-60 | 100 | 11/16 |
| HVD-60 | 120 | 11/16 |
| HVD-60 | 150 | 11/16 |
| HVD-60 | 220 | 11/16 |
| HVD-60 | 330 | 11/16 |
| HVD-60 | 470 | 11/16 |

Tolerance +20% up to .001 mfd.
+80% -20% over .001 mfd.

## VIBRATOR BUFFER CAPACITORS — DAC

### 1600 VDCW — GMV

Vibrator Buffer Capacitors — ceramic disks for use as buffers in car radios and similar equipment, compact, easily assembled, 1/4 the size of previous paper tubular types rated for 1600 VDCW GMV. For use as replacements only when original equipment uses ceramic buffer.

| Type | Capacity Mfd. | Diameter | f |
|---|---|---|---|
| DAC-2 | .001 | 11/16 | |
| DAC-3 | .002 | 11/16 | |
| DAC-4 | .0022 | 11/16 | |
| DAC-5 | .003 | 11/16 | |
| DAC-6 | .0033 | 11/16 | |
| DAC-7 | .004 | 15/16 | |
| DAC-8 | .0047 | 15/16 | |

| Type | Capacity Mfd. | Diameter |
|---|---|---|
| DAC-9 | .005 | 15/16 |
| DAC-22 | .006 | 15/16 |
| DAC-23 | .0068 | 1 |
| DAC-24 | .007 | 1 |
| DAC-25 | .0075 | 1 |
| DAC-26 | .008 | 1 |
| DAC-27 | .01 | 1 |

## Hi-Q TEMPERATURE COMPENSATING DISK CAPACITORS — 500 VDCW

| Type | NPO Cap. Mmfd. | Dia. |
|---|---|---|
| NPO-DI | 3.0 | 5/16 |
| NPO-DI | 3.3 | 5/16 |
| NPO-DI | 4.7 | 5/16 |
| NPO-DI | 5.0 | 5/16 |
| NPO-DI | 6.8 | 5/16 |
| NPO-DI | 8.2 | 5/16 |
| NPO-DI | 10 | 5/16 |
| NPO-DI | 15 | 3/8 |
| NPO-DI | 20 | 3/8 |
| NPO-DI | 22 | 7/16 |

| Type | NPO Cap. Mmfd. | Dia. |
|---|---|---|
| NPO-DI | 25 | 7/16 |
| NPO-DI | 33 | 19/32 |
| NPO-DI | 39 | 19/32 |
| NPO-DI | 47 | 19/32 |
| NPO-DI | 50 | 19/32 |
| NPO-DI | 68 | 11/16 |
| NPO-DI | 75 | 11/16 |
| NPO-DI | 100 | 3/4 |
| NPO-DI | 120 | 29/32 |
| NPO-DI | 150 | 29/32 |

| Type | N-750 Capacity Mmfd. | Size |
|---|---|---|
| N750-DI | 10 | 5/16 |
| N750-DI | 15 | 5/16 |
| N750-DI | 20 | 5/16 |
| N750-DI | 22 | 5/16 |
| N750-DI | 25 | 5/16 |
| N750-DI | 33 | 5/16 |
| N750-DI | 47 | 3/8 |
| N750-DI | 68 | 7/16 |
| N750-DI | 75 | 7/16 |

| Type | N-750 Capacity Mmfd. | Size |
|---|---|---|
| N750-DI | 100 | 19/32 |
| N750-DI | 150 | 19/32 |
| N750-DI | 200 | 11/16 |
| N750-DI | 220 | 11/16 |
| N750-DI | 330 | 29/32 |
| N750-DI | 360 | 29/32 |
| N750-DI | 390 | 29/32 |
| N750-DI | 430 | 29/32 |

Standard Tolerance — up to 10 mmf. ±.5 mmf., above 10 mmf. ±10%

## TUBULAR and DISK CAPACITOR SIZES

### SI TUBULAR

| Designation | Size |
|---|---|
| SI-1 | .234 x .437 |
| SI-2 | .234 x .687 |
| SI-3 | .312 x 1.250 |
| SI-4 | .375 x 1.093 |
| SI-5 | .375 x 1.600 |
| SI-6 | .375 x 1.968 |
| SI-7 | .275 x .875 |
| SI-13 | .234 x .468 |
| SI-19 | .312 x .937 |
| SI-22 | .280 x .750 |
| SI-27 | .275 x .500 |

### CI TUBULAR

| Designation | Size |
|---|---|
| CI-1 | .250 x .562 |
| CI-2 | .250 x .812 |
| CI-3 | .340 x 1.320 |

### DI DISK

| Designation | Diameter |
|---|---|
| DI-0 | 1/4 |
| DI-1 | 5/16 |
| DI-2 | 3/8 |
| DI-3 | 7/16 |
| DI-4 | 19/32 |
| DI-5 | 11/16 |

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# CERAMICS—(Continued)

## Hi-Q TUBULAR CAPACITORS

### General Purpose

Hi-Q general purpose tubular ceramic capacitors may be used for coupling, by-passing and filtering where frequency control is not critical (not to be confused with the Hi-Q line of close tolerance temperature compensating units). Available in two types (SI and CI) small in size, rugged construction and available in a wide range of capacity values. Standard tolerance ±20%

### 500 VDCW

| Cap. Mmfd. | Size | |
|---|---|---|
| 5 | SI-1 | CI-1 |
| 10 | SI-1 | CI-1 |
| 12 | SI-1 | CI-1 |
| 15 | SI-1 | CI-1 |
| 18 | SI-1 | CI-1 |
| 20 | SI-1 | CI-1 |
| 22 | SI-1 | CI-1 |
| 24 | SI-1 | CI-2 |
| 25 | SI-1 | CI-1 |
| 27 | SI-1 | CI-1 |
| 30 | SI-1 | CI-1 |
| 33 | SI-1 | CI-1 |
| 39 | SI-1 | CI-1 |
| 47 | SI-1 | CI-1 |
| 50 | SI-1 | CI-1 |
| 51 | SI-1 | CI-1 |
| 56 | SI-1 | CI-1 |
| 68 | SI-1 | CI-1 |
| 75 | SI-1 | CI-1 |
| 82 | SI-1 | CI-1 |
| 91 | SI-1 | CI-1 |
| 100 | SI-1 | CI-1 |
| 110 | SI-1 | CI-1 |
| 120 | SI-1 | CI-1 |
| 150 | SI-1 | CI-1 |
| 180 | SI-1 | CI-1 |
| 200 | SI-1 | CI-1 |
| 220 | SI-1 | CI-1 |
| 240 | SI-1 | CI-1 |
| 250 | SI-1 | CI-1 |
| 270 | SI-1 | CI-1 |
| 300 | SI-1 | CI-1 |
| 330 | SI-1 | CI-1 |
| 360 | SI-1 | CI-1 |
| 390 | SI-1 | CI-1 |

| Cap. Mmfd. | Size | |
|---|---|---|
| 470 | SI-1 | CI-1 |
| 500 | SI-1 | CI-1 |
| 510 | SI-1 | CI-1 |
| 560 | SI-1 | CI-1 |
| 680 | SI-1 | CI-1 |
| 750 | SI-1 | CI-1 |
| 820 | SI-1 | CI-2 |
| 910 | SI-1 | CI-2 |
| 1000 | SI-1 | CI-2 |
| 1200 | SI-2 | CI-2 |
| 1500 | SI-2 | CI-2 |
| 1800 | SI-2 | CI-2 |
| 2000 | SI-2 | CI-2 |
| 2200 | SI-7 | CI-3 |
| 2400 | SI-7 | CI-3 |
| 2500 | SI-7 | CI-3 |
| 2700 | SI-7 | CI-3 |
| 3000 | SI-19 | CI-3 |
| 3300 | SI-19 | CI-3 |
| 4000 | SI-19 | CI-3 |
| 4700 | SI-3 | CI-3 |
| 5000 | SI-3 | CI-3 |
| 5100 | SI-3 | CI-3 |
| 5600 | SI-3 | CI-3 |
| 6000 | SI-3 | CI-3 |
| 6800 | SI-4 | |
| 7500 | SI-4 | |
| 10,000 | SI-5 | |
| 15,000 | SI-6 | |
| 17,500 | SI-6 | |
| 20,000 | SI-5 GMV | |
| 25,000 | SI-5 GMV | |
| 30,000 | SI-6 GMV | |
| 33,000 | SI-6 GMV | |

## Hi-Q TEMPERATURE COMPENSATING TUBULAR CAPACITORS

### Stock Items

### N750-500 VDCW

| Type | Capacity Mmfd. | Size |
|---|---|---|
| N750-SI | 3.3 | SI-1 |
| N750-SI | 5 | SI-1 |
| N750-SI | 10 | SI-1 |
| N750-SI | 12 | SI-1 |
| N750-SI | 15 | SI-1 |
| N750-SI | 18 | SI-1 |
| N750-SI | 20 | SI-1 |
| N750-SI | 22 | SI-1 |
| N750-SI | 24 | SI-1 |
| N750-SI | 25 | SI-1 |
| N750-SI | 27 | SI-1 |
| N750-SI | 30 | SI-1 |
| N750-SI | 33 | SI-1 |
| N750-SI | 36 | SI-1 |
| N750-SI | 39 | SI-1 |
| N750-SI | 43 | SI-1 |
| N750-SI | 47 | SI-1 |
| N750-SI | 50 | SI-1 |
| N750-SI | 51 | SI-1 |
| N750-SI | 56 | SI-1 |
| N750-SI | 62 | SI-1 |
| N750-SI | 68 | SI-1 |
| N750-SI | 75 | SI-13 |
| N750-SI | 82 | SI-13 |

| Type | Capacity Mmfd. | Size |
|---|---|---|
| N750-SI | 91 | S-2 |
| N750-SI | 100 | SI-2 |
| N750-SI | 110 | SI-2 |
| N750-SI | 120 | SI-7 |
| N750-SI | 130 | SI-2 |
| N750-SI | 150 | SI-7 |
| N750-SI | 160 | SI-7 |
| N750-SI | 180 | SI-7 |
| N750-SI | 200 | SI-7 |
| N750-SI | 220 | SI-7 |
| N750-SI | 240 | SI-7 |
| N750-SI | 270 | SI-7 |
| N750-SI | 300 | SI-19 |
| N750-SI | 330 | SI-3 |
| N750-SI | 360 | SI-3 |
| N750-SI | 390 | SI-3 |
| N750-SI | 430 | SI-4 |
| N750-SI | 470 | SI-4 |
| N750-SI | 510 | SI-4 |
| N750-SI | 560 | SI-5 |
| N750-SI | 620 | SI-5 |
| N750-SI | 680 | SI-5 |
| N750-SI | 750 | SI-5 |

Standard Tolerance — up to 10 mmf. ±.5 mmf., above 10 mmf. ±10%

### NO80 — 500 VDCW

| Type | Capacity Mmfd. | Size |
|---|---|---|
| N080-SI | 10 | SI-1 |
| N080-SI | 22 | SI-1 |
| N080-SI | 33 | SI-13 |

| Type | Capacity Mmfd. | Size |
|---|---|---|
| N080-SI | 47 | SI-27 |
| N080-SI | 62 | SI-27 |

### N330 ± 500 ppm

Deflection Yoke Capacitor for silvered mica capacitor replacement

| Type | Capacity Mmfd. | Type | Size |
|---|---|---|---|
| N330-SI | 47±10% | 1500 VDCW | SI-2 |
| N330-SI | 56±10% | 1500 VDCW | SI-2 |

## Hi-Q TEMPERATURE COMPENSATING TUBULAR CAPACITORS NPO-SI

| Type | Capacity Mmfd. | Size |
|---|---|---|
| NPO-SI | .5 | SI-1 |
| NPO-SI | .68 | SI-1 |
| NPO-SI | 1.0 | SI-1 |
| NPO-SI | 1.5 | SI-1 |
| NPO-SI | 2 | SI-1 |
| NPO-SI | 2.2 | SI-1 |
| NPO-SI | 3.0 | SI-1 |
| NPO-SI | 3.3 | SI-1 |
| NPO-SI | 4.7 | SI-1 |
| NPO-SI | 5.0 | SI-1 |
| NPO-SI | 6.8 | SI-1 |
| NPO-SI | 8.2 | SI-1 |

| Type | Capacity Mmfd. | Size |
|---|---|---|
| NPO-SI | 10 | SI-1 |
| NPO-SI | 12 | SI-1 |
| NPO-SI | 15 | SI-1 |
| NPO-SI | 18 | SI-1 |
| NPO-SI | 20 | SI-1 |
| NPO-SI | 22 | SI-1 |
| NPO-SI | 24 | SI-13 |
| NPO-SI | 25 | SI-13 |
| NPO-SI | 27 | SI-13 |
| NPO-SI | 30 | SI-13 |
| NPO-SI | 33 | SI-13 |
| NPO-SI | 36 | SI-2 |

| Type | Capacity Mmfd. | Size |
|---|---|---|
| NPO-SI | 39 | SI-2 |
| NPO-SI | 43 | SI-2 |
| NPO-SI | 47 | SI-2 |
| NPO-SI | 50 | SI-2 |
| NPO-SI | 51 | SI-2 |
| NPO-SI | 56 | SI-7 |
| NPO-SI | 62 | SI-7 |
| NPO-SI | 68 | SI-7 |
| NPO-SI | 75 | SI-7 |
| NPO-SI | 82 | SI-7 |
| NPO-SI | 91 | SI-7 |

| Type | Capacity Mmfd. | Size |
|---|---|---|
| NPO-SI | 100 | SI-7 |
| NPO-SI | 110 | SI-19 |
| NPO-SI | 120 | SI-19 |
| NPO-SI | 130 | SI-3 |
| NPO-SI | 150 | SI-3 |
| NPO-SI | 160 | SI-4 |
| NPO-SI | 175 | SI-4 |
| NPO-SI | 180 | SI-4 |
| NPO-SI | 220 | SI-5 |
| NPO-SI | 240 | SI-5 |
| NPO-SI | 270 | SI-5 |

Standard Tolerance — up to 10 mmf. ±.5 mmf., above 10 mmf. ±10% When ordering the above units, designate type and MMFD fully. For example: NPO - SI-1.5 MMFD. The zero temperature coefficient capacitor is the most stable ceramic commercial capacitor available.

## SI-TV Hi-VOLTAGE — 6000 VDCW

A recent addition to the already complete line of Aerovox HI-Q Ceramic Capacitors. Especially adapted to television applications this capacitor is available in two sizes. For capacities from 4.7 mmf. to 22. mmf. the size is .280 x .750. For 24. mmf. to 60. mmf. the case size is .312 x 1.250. All units referred to here are 6000 Volts DCW.

| Cap. Mmfd. | Size |
|---|---|
| 4.7 | SI-22 |
| 8.2 | SI-22 |
| 12 | SI-22 |
| 15 | SI-22 |
| 18 | SI-22 |
| 20 | SI-22 |
| 22 | SI-22 |

| Cap. Mmfd. | Size |
|---|---|
| 24 | SI-3 |
| 27 | SI-3 |
| 30 | SI-3 |
| 40 | SI-3 |
| 47 | SI-3 |
| 50 | SI-3 |
| 60 | SI-3 |

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# CERAMICS

## Hi-Q HIGH VOLTAGE "CARTWHEEL" CAPACITORS

Hi-Q high voltage "cartwheels" are thoroughly tested units capable of assuring dependable service while withstanding high voltages. This new universal type (UV) offers interchangeable terminals in 5 styles for use in filter and by-pass applications in TV high voltage power supplies.

### TERMINAL HARDWARE

UV-1A UV-2A UV-3A UV-4A UV-6A

### Stock Items

| Type | Voltage | Cap. Mmfd. |
|---|---|---|
| UV-501 | 10,000 VDCW | 500 mmf. |
| UV-502 | 20,000 VDCW | 500 mmf. |
| UV-503 | 30,000 VDCW | 500 mmf. |

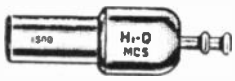
### Stock Items — Terminal Hardware

| Type | List Price | Type |
|---|---|---|
| UV-1A | .10 | UV-4A |
| UV-2A | .10 | UV-6A |
| UV-3A | .10 | |

## Hi-Q TUBULAR STAND-OFF CAPACITORS

Hi-Q stand-off capacitors are basically tubular, having as an integral part of their construction, a screw fixture for mounting to the chassis or common ground. Close coupling and their unique construction make them an excellent choice for by-passing high frequencies.
All units are coated with a high temperature enamel, stamped with capacity and supplied with mounting nut, if desired.
The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadmium-plated metal case with a specially developed end seal for protection against humidity and temperature changes.
All units are flash tested at 1250 volts D.C. The power factor is under 3% and the insulation resistance is above 7500 megohms.

TYPE MCS




TYPE CS

### Stock Items — 500 VDCW

| Type | Capacity Mmfd. |
|---|---|
| CS-1A | 50 |
| CS-1A | 100 |
| CS-1B | 500 |
| CS-1B | 1000 |
| CS-1B | 1500 |
| CS-2 | 3000 |
| CS-3 | 4000 |

| Type | Capacity Mmfd. |
|---|---|
| CS-4 | 7500 |
| CIS-1 | 50 |
| CIS-1 | 100 |
| CIS-1 | 500 |
| CIS-1 | 1000 |
| CIS-2 | 1500 |
| MCS | 1500 |

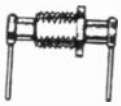
Radial leads only
Tolerance ±10% up to and including 500 mmf.
±20% above 500 mmf.

## Hi-Q TUBULAR FEED-THRU CAPACITORS

Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. All units are flash tested at 1250 volts D.C.
Hi-Q Eyelet Feed-Thru Ceramic Capacitors provide the ultimate in miniaturization. They can be soldered directly to the chassis and provide excellent by-pass performance where space is critical. Especially recommended for use in UHF.

EYELET FEED-THRU
TYPE EF

FEED-THRU TYPE CFC



FEED-THRU TYPE CF

### Stock Items Feed-Thru 500 VDCW

| Type | Cap. Mmf. | Thread |
|---|---|---|
| CFC-1 | 500 mmf.* | 12-28 |
| | 1000 mmf.* | 12-28 |
| | 1500 mmf.* | 12-28 |
| CF-1 | 1500 mmf. | 1/4-28 |
| CF-2 | 1800 mmf.* | 5/16-24 |
| | 2300 mmf.* | 5/16-24 |
| | 3000 mmf. | 5/16-24 |
| CF-3 | 4000 mmf. | 5/16-24 |
| CF-4 | 7000 mmf. | 5/16-24 |

### Stock Items Feed-Thru Eyelet Type-Miniature

| Cap. Mmf. | Size | Type | Tolerance |
|---|---|---|---|
| 50* | CN-1** | EF | ±10% |
| 100* | CN-1** | EF | ±10% |
| 500* | CN-1** | EF | ±20% |
| 1000* | CN-1** | EF | GMV |

*—New

**—Center conductor

Tolerance ±20%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# MICAS

## MIL Types CM20, CM30, CM35

## AEROVOX Types 1468, 1469, 1467, 1464

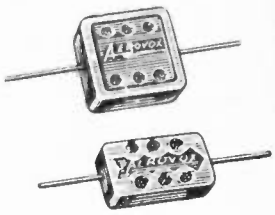
Compact precision made mica dielectric capacitors made in accordance with M L specification C-5A. Molded in low-loss, bakelite, impregnated and color-coded. Tested to meet all MIL requirements. Types 1467 and 1468 are stacked mica and foil units molded in yellow bakelite to meet MIL characteristic B. Types 1464 and 1469 are silvered mica molded in red bakelite, available in characteristics C and D.

### Type CM-20 (500 VDCW)

| 1468LS | | 1469 | |
|---|---|---|---|
| Cap. Mmf. | Type Designation | Cap. Mmf. | Type Designation |
| 1 | CM-20B-010 | 5 | CM-20C-050 |
| 5 | CM-20B-050 | 10 | CM-20C-100 |
| 10 | CM-20B-100 | 12 | CM-20C-120 |
| 12 | CM-20B-120 | 15 | CM-20C-150 |
| 15 | CM-20B-150 | 18 | CM-20C-180 |
| 18 | CM-20B-180 | 20 | CM-20C-200 |
| 20 | CM-20B-200 | 22 | CM-20C-220 |
| 22 | CM-20B-220 | 24 | CM-20C-240 |
| 24 | CM-20B-240 | 25 | CM-20C-250 |
| 25 | CM-20B-250 | 27 | CM-20C-270 |
| 27 | CM-20B-270 | 30 | CM-20C-300 |
| 30 | CM-20B-300 | 33 | CM-20C-330 |
| 33 | CM-20B-330 | 36 | CM-20C-360 |
| 36 | CM-20B-360 | 39 | CM-20C-390 |
| 39 | CM-20B-390 | 40 | CM-20C-400 |
| 40 | CM-20B-400 | 43 | CM-20C-430 |
| 43 | CM-20B-430 | 47 | CM-20C-470 |
| 47 | CM-20B-470 | 50 | CM-20C-500 |
| 50 | CM-20B-500 | 51 | CM-20C-510 |
| 51 | CM-20B-510 | 56 | CM-20C-560 |
| 56 | CM-20B-560 | 62 | CM-20C-620 |
| 62 | CM-20B-620 | 68 | CM-20C-680 |
| 68 | CM-20B-680 | 70 | CM-20C-700 |
| 75 | CM-20B-750 | 75 | CM-20C-750 |
| 82 | CM-20B-820 | 82 | CM-20C-820 |
| 91 | CM-20B-910 | 91 | CM-20C-910 |
| 100 | CM-20B-101 | 100 | CM-20C-101 |
| 110 | CM-20B-111 | 110 | CM-20C-111 |
| 120 | CM-20B-121 | 120 | CM-20C-121 |
| 130 | CM-20B-131 | 130 | CM-20C-131 |
| 150 | CM-20B-151 | 150 | CM-20C-151 |
| 160 | CM-20B-161 | 160 | CM-20C-161 |
| 180 | CM-20B-181 | 180 | CM-20C-181 |
| 200 | CM-20B-201 | 200 | CM-20D-201 |
| 220 | CM-20B-221 | 220 | CM-20D-221 |
| 240 | CM-20B-241 | 240 | CM-20D-241 |
| 250 | CM-20B-251 | 250 | CM-20D-251 |
| 270 | CM-20B-271 | 270 | CM-20D-271 |
| 300 | CM-20B-301 | 300 | CM-20D-301 |
| 330 | CM-20B-331 | 330 | CM-20D-331 |
| 350 | CM-20B-351 | 350 | CM-20D-351 |
| 360 | CM-20B-361 | 360 | CM-20D-361 |
| 390 | CM-20B-391 | 390 | CM-20D-391 |
| 400 | CM-20B-401 | 400 | CM-20D-401 |
| 430 | CM-20B-431 | 430 | CM-20D-431 |
| 470 | CM-20B-471 | 470 | CM-20D-471 |
| 500 | CM-20B-501 | 500 | CM-20D-501 |
| 510 | CM-20B-511 | 510 | CM-20D-511 |
| 560 | CM-20B-561 | 560 | CM-20D-561 |
| 600 | CM-20B-601 | 620 | CM-20D-621 |
| 620 | CM-20B-621 | 680 | CM-20D-681 |
| 680 | CM-20B-681 | 750 | CM-20D-751 |
| 750 | CM-20B-751 | 820 | CM-20D-821 |
| 800 | CM-20B-801 | 910 | CM-20D-911 |
| 820 | CM-20B-821 | 1000 | CM-20D-102 |
| 900 | CM-20B-901 | | |
| 910 | CM-20B-911 | | |
| 1000 | CM-20B-102 | | |

### Type CM-30 (500 VDCW)

| 1467LS | | 1464 | |
|---|---|---|---|
| Cap. Mmf. | Type Designation | Cap. Mmf. | Type Designation |
| 470 | CM-30B-471 | 470 | CM-30D-471 |
| 500 | CM-30B-501 | 510 | CM-30D-511 |
| 510 | CM-30B-511 | 560 | CM-30D-561 |
| 560 | CM-30B-561 | 620 | CM-30D-621 |
| 620 | CM-30B-621 | 680 | CM-30D-681 |
| 680 | CM-30B-681 | 750 | CM-30D-751 |
| 750 | CM-30B-751 | 800 | CM-30D-801 |
| 820 | CM-30B-821 | 820 | CM-30D-821 |
| 910 | CM-30B-911 | 900 | CM-30D-901 |
| 1000 | CM-30B-102 | 910 | CM-30D-911 |
| 1100 | CM-30B-112 | 1000 | CM-30D-102 |
| 1200 | CM-30B-122 | 1100 | CM-30D-112 |
| 1300 | CM-30B-132 | 1200 | CM-30D-122 |
| 1500 | CM-30B-152 | 1300 | CM-30D-132 |
| 1600 | CM-30B-162 | 1500 | CM-30D-152 |
| 1800 | CM-30B-182 | 1600 | CM-30D-162 |
| 2000 | CM-30B-202 | 1800 | CM-30D-182 |
| 2200 | CM-30B-222 | 2000 | CM-30D-202 |
| 2400 | CM-30B-242 | 2200 | CM-30D-222 |
| 2500 | CM-30B-252 | 2400 | CM-30D-242 |
| 2700 | CM-30B-272 | 2500 | CM-30D-252 |
| 3000 | CM-30B-302 | 2700 | CM-30D-272 |
| 3300 | CM-30B-332 | 3000 | CM-30D-302 |
| 3600 | CM-30B-362 | 3300 | CM-30D-332 |
| 3900 | CM-30B-392 | 3600 | CM-30D-362 |
| 4000 | CM-30B-402 | 3900 | CM-30D-392 |
| 4300 | CM-30B-432 | 4000 | CM-30D-402 |
| 4700 | CM-30B-472 | 4300 | CM-30D-432 |
| 5000 | CM-30B-502 | 4700 | CM-30D-472 |
| 5100 | CM-30B-512 | 5000 | CM-30D-502 |
| 5600 | CM-30B-562 | 5100 | CM-30D-512 |
| 6000 | CM-30B-602 | 5600 | CM-30D-562 |
| 6200 | CM-30B-622 | 6200 | CM-30D-622 |
| 6800 | CM-30B-682 | 6800 | CM-30D-682 |
| 7000 | CM-30B-702 | 7500 | CM-30D-752 |
| 7500 | CM-30B-752 | 8200 | CM-30D-822 |
| 8000 | CM-30B-802 | 9100 | CM-30D-912 |
| 8200 | CM-30B-822 | | |
| 9000 | CM-30B-902 | | |
| 9100 | CM-30B-912 | | |
| 10000 | CM-30B-103 | | |



### Type CM-35 (500 VDCW)

| 1467LS | | 1464 | |
|---|---|---|---|
| Cap. Mmf. | Type Designation | Cap. Mmf. | Type Designation |
| 3600 | CM-35B-362 | 3600 | CM-35D-362 |
| 3900 | CM-35B-392 | 3900 | CM-35D-392 |
| 4000 | CM-35B-402 | 4000 | CM-35D-402 |
| 4300 | CM-35B-432 | 4300 | CM-35D-432 |
| 4700 | CM-35B-472 | 4700 | CM-35D-472 |
| 5000 | CM-35B-502 | 5000 | CM-35D-502 |
| 5100 | CM-35B-512 | 5100 | CM-35D-512 |
| 5600 | CM-35B-562 | 5600 | CM-35D-562 |
| 6200 | CM-35B-622 | 6000 | CM-35D-602 |
| 6800* | CM-35B-682 | 6200 | CM-35D-622 |
| 7000* | CM-35B-702 | 6800* | CM-35D-682 |
| 7500* | CM-35B-752 | 7000* | CM-35D-702 |
| 8000* | CM-35B-802 | 7500* | CM-35D-752 |
| 8200* | CM-35B-822 | 8000* | CM-35D-802 |
| 9100* | CM-35B-912 | 8200* | CM-35D-822 |
| 10000* | CM-35B-103 | 9100* | CM-35D-912 |
| 12000* | CM-35B-123 | 10000* | CM-35D-103 |
| 13000* | CM-35B-133 | | |
| 14000* | CM-35B-143 | | |
| 15000* | CM-35B-153 | | |

### NOTES

In mica and foil construction the standard tolerance is ±20%. Also available in ±10% and ±5%. Closest available tolerance up to and including 10 mmf. is ±1 mmf.; above 10 mmf. ±2% or ±2 mmf., whichever is greater.

In silver mica the standard tolerance is ±5%. Also available in ±2% and ±1%. Closest available tolerance up to 10 mmf. is ±½ mmf.; 10 mmf. and up ±1% or ±1 mmf., whichever is greater.

Nominal Size All CM30 Units — $\frac{53}{64}$ x $\frac{53}{64}$ x $\frac{9}{32}$
Nommal Size All CM35 Units — $\frac{53}{64}$ x $\frac{53}{64}$ x $\frac{31}{64}$
Nominal Size All CM20 Units — $\frac{45}{64}$ x $\frac{29}{64}$ x $\frac{3}{16}$

* Capacities are 300 WV. Type Designation 1467XLS and 1464X.

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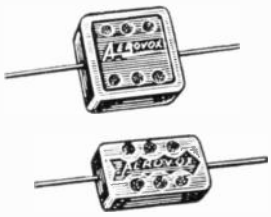
World Radio History

# M I C A S — (Continued)

## TYPES 1468LS-HV and 1467LS-HV

Designed especially for television, low power transmitters and power amplifier applications, these capacitors feature the highest voltages ever before available in these case sizes. They are furnished to meet characteristic B of the MIL specification. Standard Tolerance is plus and minus 20% and they are tested to meet RETMA standards. Units are marked with capacity and working voltage and are tested at double the rated voltage to insure long life.



### TYPE 1468LS-HV

| Cap. Mmfd. | 1000 VDCW 2000 VDCT | 1500 VDCW 3000 VDCT | 2000 VDCW 4000 VDCT | 2500 VDCW 5000 VDCT |
|---|---|---|---|---|
| 5 | □ | □ | □ | □ |
| 10 | □ | □ | □ | □ |
| 12 | □ | □ | □ | □ |
| 15 | □ | □ | □ | □ |
| 18 | □ | □ | □ | □ |
| 20 | □ | □ | □ | □ |
| 22 | □ | □ | □ | □ |
| 24 | □ | □ | □ | □ |
| 25 | □ | □ | □ | □ |
| 27 | □ | □ | □ | □ |
| 30 | □ | □ | □ | □ |
| 33 | □ | □ | □ | □ |
| 36 | □ | □ | □ | □ |
| 39 | □ | □ | □ | □ |
| 43 | □ | □ | □ | □ |
| 47 | □ | □ | □ | □ |
| 50 | □ | □ | □ | □ |
| 51 | □ | □ | □ | □ |
| 56 | □ | □ | □ | □ |
| 62 | □ | □ | □ | □ |
| 68 | □ | □ | □ | □ |
| 75 | □ | □ | □ | □ |
| 82 | □ | □ | □ | □ |
| 91 | □ | □ | □ | □ |
| 100 | □ | □ | □ | □ |
| 110 | □ | □ | □ | □ |
| 120 | □ | □ | □ | □ |
| 130 | □ | □ | □ | □ |
| 150 | □ | □ | □ | — |
| 160 | □ | □ | □ | — |
| 180 | □ | □ | □ | — |
| 200 | □ | □ | □ | — |
| 220 | □ | □ | □ | — |
| 240 | □ | □ | □ | — |
| 250 | □ | □ | □ | — |
| 270 | □ | □ | □ | — |
| 300 | □ | □ | — | — |
| 330 | □ | □ | — | — |
| 350 | □ | □ | — | — |
| 360 | □ | □ | — | — |
| 390 | □ | □ | — | — |
| 400 | □ | □ | — | — |
| 430 | □ | — | — | — |
| 470 | □ | — | — | — |
| 500 | □ | — | — | — |
| 510 | □ | — | — | — |
| 560 | □ | — | — | — |
| 620 | □ | — | — | — |

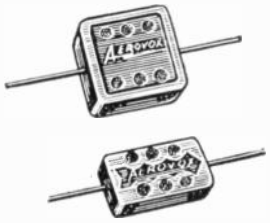
### TYPE 1467LS-HV

| Cap. Mmfd. | 1000 VDCW 2000 VDCT | 1500 VDCW 3000 VDCT | 2000 VDCW 4000 VDCT | 2500 VDCW 5000 VDCT |
|---|---|---|---|---|
| 150 | — | — | — | □ |
| 160 | — | — | — | □ |
| 180 | — | — | — | □ |
| 220 | — | — | — | □ |
| 240 | — | — | — | □ |
| 250 | — | — | — | □ |
| 270 | — | — | — | □ |
| 300 | — | — | □ | □ |
| 330 | — | — | □ | □ |
| 360 | — | — | □ | □ |
| 390 | — | — | □ | □ |
| 430 | — | □ | □ | □ |
| 470 | — | □ | □ | □ |
| 500 | — | □ | □ | □ |
| 510 | — | □ | □ | □ |
| 560 | — | □ | □ | □ |
| 620 | — | □ | □ | □ |
| 680 | □ | □ | □ | □ |
| 750 | □ | □ | □ | □ |
| 820 | □ | □ | □ | □ |
| 910 | □ | □ | □ | □ |
| 1000 | □ | □ | □ | □ |
| 1100 | □ | □ | □ | □ |
| 1200 | □ | □ | □ | □ |
| 1300 | □ | □ | □ | □ |
| 1500 | □ | □ | □ | □ |
| 1600 | □ | □ | □ | □ |
| 1800 | □ | □ | □ | — |
| 2000 | □ | □ | □ | — |
| 2200 | □ | □ | — | — |
| 2400 | □ | □ | — | — |
| 2500 | □ | — | — | — |
| 2700 | □ | — | — | — |
| 3000 | □ | — | — | — |
| 3300 | □ | — | — | — |
| 3600 | □ | — | — | — |
| 3900 | □ | — | — | — |
| 4000 | □ | — | — | — |
| 4300 | □ | — | — | — |
| 4700 | □ | — | — | — |
| 5000 | □ | — | — | — |
| 5100 | □ | — | — | — |

Std. Tolerance ±20%
For ±10% Tolerance add 10% to Price
For ±5% Tolerance add 25% to Price
Nominal Size — 5/64 x 5/64 x 21/64 — 1467LS-HV □
Nominal Size — 4/64 x 23/64 x 3/16 — 1468LS-HV □

□ SYMBOL INDICATES STOCK ITEMS

## TYPES 1441W, 1441WX 1478LS, and 1479



Additional selection of design, sizes and voltages offer the correct Aerovox mica unit for every application—Types 1441W, 1441WX and 1478LS are made in mica and foil construction. Type 1479 is made in silvered mica construction. Units molded in low loss bakelite. (Red used for Type 1479).

### TYPE 1441W (Similiar to CM-40)

| 500 VDCW Cap. Mfd. | 1000 VDCT Cap. Mfd. |
|---|---|
| .0005 | .003 |
| .00075 | .004* |
| .001 | .005* |
| .0015 | .006* |
| .002 | .007* |
| .0025 | .008* |

Size: 1"x5/8"x3/16" Compact with wire leads.
* Thickness 5/16"

### TYPE 1441WX (Similar to CM-40)

| 300 VDCW Cap. Mfd. | 600 VDCT Cap. Mfd. |
|---|---|
| .004 | .008* |
| .005 | .009* |
| .006 | .01* |
| .007* | |

Size: 1"x5/8"x3/16" Compact with wire leads.
* Thickness 5/16"

### TYPE 1478LS (Similar to CM-25)

| 500 VDCW Cap. Mfd. | 1000 VDCT Cap. Mfd. |
|---|---|
| .0005 | .0015 |
| .00075 | .002 |
| .001 | |

Size: 1 1/16"x7/16"x3/16" Midget size with wire leads.
Std. Tolerance ±20%
For ±10% Tolerance add 10% to Price
For ± 5% Tolerance add 25% to Price

### TYPE 1479 (Similar to CM25)

| 500 VDCW Cap. Mfd. | 1000 VDCT Cap. Mfd. |
|---|---|
| .0001 | .0005 |
| .00015 | .0007 |
| .0002 | .00075 |
| .00025 | .0008 |
| .0003 | .0009 |
| .00035 | .001 |
| .0004 | |

Standard Tolerance ±5%
Size: 1 1/16"x7/16"x3/16" provided with wire leads.
For ±2% Tolerance add 15% to Price
For ±1% Tolerance add 25% to Price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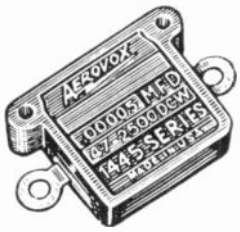
# MICAS — (Continued)

## TYPES 1445, 1446 and 1447




Designed with insulated mounting holes 1 3/16" apart independent of soldering lugs. Used to shunt meter windings.

Size: 1 1/8" x 1 5/8" x 11/32"

Standard Tolerance ±10%

±5% and ±2% tolerance are available on special order.

Meter Mounting Bracket E available. Specify when ordering.

These units are equivalent to case styles CM45 and CM50 of specification MIL-C5A.

| TYPE 1445 | TYPE 1446 | TYPE 1447 |
|---|---|---|
| 600 VDCW<br>1000 VDCT | 1200 VDCW<br>2500 VDCT | 2500 VDCW<br>5000 VDCT |
| Cap. Mfd. | Cap. Mfd. | Cap. Mfd. |
| .00005 | .00005 | .00005 |
| .0001 | .0001 | .000075 |
| .00015 | .00015 | .0001 |
| .0002 | .0002 | .00015 |
| .00025 | .00025 | .0002 |
| .0003 | .0003 | .00025 |
| .00035 | .00035 | .0003 |
| .0004 | .0004 | .00035 |
| .0005 | .0005 | .0004 |
| .001 | .001 | .0005 |
| .0015 | .0015 | .001 |
| .002 | .002 | .0015 |
| .0025 | .0025 | .002* |
| .003 | .003 | .0025* |
| .004 | .004* | .003* |
| .005 | .005* | .004* |
| .006 | .006* | .005* |
| .008 | .008* | |
| .01 | .01* | |
| .015* | .015* | |
| .02* | | |
| .025* | | |
| .03* | | |
| .04* | | |

*Thickness 7/16"

## TYPES 1455, 1456 and 1457

Same as Types 1445-47 except for sizes and capacitance ranges. Distance between mounting holes is 1 1/2".

Size: 1 1/4" x 1 25/32" x 11/32"

Standard Tolerance ±10%

±5% and ±2% tolerance are available on special order.

Meter Mounting Bracket E available. Specify when ordering.

| TYPE 1455 | | TYPE 1456 | | TYPE 1457 | |
|---|---|---|---|---|---|
| 600 VDCW<br>1000 VDCT | | 1200 VDCW<br>2500 VDCT | | 2500 VDCW<br>5000 VDCT | |
| Cap. Mfd. | Cap. Mfd. | Cap. Mfd. | Cap. Mfd. | Cap. Mfd. | Cap. Mfd. |
| .00005 | .0025 | .00005 | .0015 | .00005 | .0005 |
| .0001 | .003 | .0001 | .002 | .000075 | .001 |
| .00015 | .004 | .00015 | .0025 | .0001 | .0015 |
| .0002 | .005 | .0002 | .003 | .00015 | .002 |
| .00025 | .006 | .00025 | .004 | .0002 | .0025 |
| .0003 | .008 | .0003 | .005 | .00025 | .003 |
| .00035 | .01 | .00035 | .006 | .0003 | |
| .0004 | .015 | .0004 | .008 | .00035 | |
| .0005 | .02 | .0005 | .01 | .0004 | |
| .001 | .025 | .001 | | | |
| .0015 | .03 | | | | |
| .002 | | | | | |

## TYPES 1991 thru 1996
### Porcelain-Cased Capacitors

Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.

Size: 4" overall by 3" high; 2 1/2" between mounting holes.

Standard Tolerance ±10%

| Cap. Mfd. | DC Voltage Rating | Type | Maximum Current Capacity—Amperes 15 mc | 7.5 mc | 3750 kc | 1875 kc |
|---|---|---|---|---|---|---|
| .00005 | 12,500 | 1996 | 3 | 2.5 | 1.5 | 1 |
| .0001 | 12,500 | 1996 | 5 | 4 | 3 | 2 |
| .00025 | 12,500 | 1996 | 7 | 8 | 6 | 4 |
| .0005 | 12,500 | 1996 | 8 | 9 | 8 | 7 |
| | 7,000 | 1994 | 7 | 8 | 6 | 4 |
| .001 | 12,500 | 1996 | 9 | 10 | 11 | 12 |
| | 7,000 | 1994 | 8 | 9 | 10 | 8 |
| | 3,500 | 1992 | 8 | 9 | 8 | 5 |
| .0015 | 12,500 | 1996 | 9 | 10 | 11 | 12 |
| | 7,000 | 1994 | 9 | 9 | 10 | 8 |
| | 5,000 | 1993 | 8 | 9 | 9 | 7 |
| | 3,500 | 1992 | 8 | 9 | 8 | 5 |
| | 2,000 | 1991 | 7 | 8 | 8 | 5 |
| .002 | 12,500 | 1996 | 9 | 12 | 13 | 15 |
| | 10,000 | 1995 | 9 | 10 | 11 | 12 |
| | 7,000 | 1994 | 9 | 9 | 10 | 10 |
| | 5,000 | 1993 | 8 | 9 | 9 | 8 |
| | 3,500 | 1992 | 8 | 8 | 9 | 7 |
| | 2,000 | 1991 | 7 | 8 | 8 | 6 |
| .003 | 12,500 | 1996 | 9 | 12 | 13 | 15 |
| | 10,000 | 1995 | 9 | 11 | 12 | 13 |
| | 7,000 | 1994 | 9 | 10 | 10 | 10 |
| | 5,000 | 1993 | 8 | 9 | 9 | 9 |
| | 3,500 | 1992 | 8 | 9 | 9 | 8 |
| | 2,000 | 1991 | 7 | 8 | 8 | 7 |
| .005 | 10,000 | 1995 | 10 | 13 | 14 | 15 |
| | 7,000 | 1994 | 9 | 11 | 12 | 11 |
| | 5,000 | 1993 | 9 | 11 | 12 | 10 |
| | 3,500 | 1992 | 9 | 10 | 11 | 9 |
| | 2,000 | 1991 | 8 | 9 | 10 | 8 |
| .01 | 7,000 | 1994 | 10 | 13 | 15 | 15 |
| | 5,000 | 1993 | 10 | 13 | 15 | 15 |
| | 3,500 | 1992 | 10 | 13 | 14 | 14 |
| | 2,000 | 1991 | 10 | 13 | 14 | 14 |
| .02 | 3,500 | 1992 | 10 | 14 | 16 | 17 |
| | 2,000 | 1991 | 10 | 13 | 15 | 15 |
| .05 | 3,500 | 1992 | 10 | 14 | 17 | 18 |
| | 2,000 | 1991 | 10 | 14 | 16 | 17 |
| .1 | 2,000 | 1991 | 10 | 14 | 17 | 18 |

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# M I C A S — (Continued)

## TYPES 1650L, 1651L, 1652L, 1653L and 1654L

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Threaded mounting holes for roundhead screw terminals or plain holes available. Add suffix "A" for plain holes.

| TYPE 1650L | TYPE 1652L |
|---|---|
| 600 VDCW — 1000 VDCT<br>350 VACW — 700 VACT | 2500 VDCW — 5000 VDCT<br>1750 VACW — 3500 VACT |
| .00005 | .00005 |
| .0001 | .000075 |
| .00025 | .0001 |
| .0003 | .00015 |
| .00035 | .0002 |
| .0004 | .00025 |
| .0005 | .0003 |
| .001 | .00035 |
| .0015 | .0004 |
| .002 | .0005 |
| .0025 | .001 |
| .003 | .0015 |
| .004 | .002 |
| .005 | .0025 |
| .006 | .003 |
| .008 | .004 |
| .01 | .005 |
| .015 | .006 |
| .02 | .008* |
| .025 | .01* |
| .03 | |
| .04* | |
| .05* | |
| .06* | |

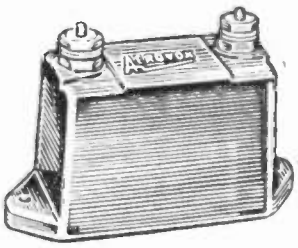
| TYPE 1651L | TYPE 1653L |
|---|---|
| 1200 VDCW — 2500 VDCT<br>875 VACW — 1750 VACT | 3750 VDCW — 7500 VDCT<br>2625 VACW — 5250 VACT |
| .00005 | .00005 |
| .0001 | .000075 |
| .00025 | .0001 |
| .0003 | .00015 |
| .00035 | .0002 |
| .0004 | .00025 |
| .0005 | .0003 |
| .001 | .00035 |
| .0015 | .0004 |
| .002 | .0005 |
| .0025 | .001 |
| .003 | .0015 |
| .004 | .002 |
| .005 | .0025 |
| .006 | .003* |
| .008 | |
| .01 | |
| .015 | |
| .02* | |
| .025* | |
| .03* | |

| TYPE 1654L |
|---|
| 5000 VDCW—10,000 VDCT<br>3500 VACW— 7000VACT |
| .00005 |
| .000075 |
| .0001 |
| .00015 |
| .0002 |
| .00025 |
| .0003 |
| .00035 |
| .0004 |
| .0005 |
| .001* |

These units are equivalent to case styles CM55, CM56, CM60, and CM61 of specification MIL-C-5A.
Standard Tolerance ±10%
±5% Tolerance available on special order.
±2% Tolerance available on special order.
Nominal Size: 1¾" x 1 5/16" x 7/16"
Thickness ¾"
Ceramic mounting insulators (specify "M") available. 1650-54 series furnished with 6-32 tapped holes for screw mounting.

## TYPES 1550L, 1570L and 1590L Potted Transmitting Capacitors

These potted transmitting capacitors in thermo-setting case materials have greater load-carrying capacity than molded-in-thermo-setting case material capacitors. Types 1550 to 1590, inclusive, not only have high voltage rating but afford higher current ratings than equivalent capacitances in thermo-setting case material units. Because of their construction they are made with higher capacitance stability. Furnished only in low-loss thermo-setting case material as standard. Bakelite cased mica stack capacitors. These units have highest quality mica sections stacked for greater load carrying capacity. The sections are potted in low-loss bakelite cases and permanently clamped with non-magnetic material.




### TYPE 1570L (Similar to CM65)

| Cat. No. | Capacity | Test Volts Eff. | Max. Operating Current in Amps. 3000 kc | 1000 kc | 300 kc | 100 kc |
|---|---|---|---|---|---|---|
| 1570LS-204 | .00005 | 3500 | 1.3 | .6 | .15 | .05 |
| 1570LS-210 | .0001 | 3500 | 2.0 | .9 | .3 | .1 |
| 1570LS-214 | .00015 | 3500 | 2.2 | 1.0 | .45 | .15 |
| 1570LS-217 | .0002 | 3500 | 2.6 | 1.2 | .6 | .25 |
| 1570LS-219 | .00025 | 3500 | 2.9 | 1.6 | .7 | .25 |
| 1570LS-221 | .0003 | 3500 | 3.2 | 1.9 | .8 | .3 |
| 1570LS-223 | .0004 | 3500 | 3.6 | 2.0 | .9 | .4 |
| 1570LS-226 | .0005 | 3500 | 3.75 | 2.0 | 1.0 | .5 |
| 1570LS-228 | .0006 | 3500 | 4.1 | 2.0 | 1.2 | .6 |
| 1570LS-232 | .0008 | 3500 | 4.6 | 2.5 | 1.5 | .7 |
| 1570LS-234 | .001 | 3500 | 4.9 | 3.0 | 1.6 | .8 |
| 1570LS-236 | .0015 | 3500 | 5.8 | 3.5 | 2.0 | 1.0 |
| 1570LS-237 | .002 | 3500 | 6.3 | 4.0 | 2.5 | 1.3 |
| 1570LS-240 | .003 | 2500 | 7.1 | 5.0 | 3.0 | 1.5 |
| 1570LS-242 | .004 | 2500 | 7.6 | 6.0 | 3.5 | 1.6 |
| 1570LS-245 | .005 | 2500 | 8.5 | 6.5 | 4.0 | 2.0 |
| 1570LS-248 | .006 | 2500 | 9.0 | 7.5 | 4.5 | 2.2 |
| 1570LS-254 | .008 | 1500 | 10 0 | 8.0 | 5.0 | 2.3 |
| 1570LS-257 | .01 | 1500 | 10.0 | 10.0 | 6.0 | 2.5 |
| 1570LS-260 | .02 | 1500 | 11.0 | 10.0 | 7.0 | 3.0 |
| 1570LS-268 | .05 | 500 | 8.5 | 7.5 | 6.0 | 3.8 |
| 1570LS-273 | .1 | 250 | 11.0 | 12.0 | 10.0 | 6.0 |

Type 1570L also manufactured in case style CM65 of Spec. MIL-C-5A. Prices on request.

### TYPE 1550L (Similar to CM70)

| Cat. No. | Capacity | Test Volts Eff. | Max. Operating Current in Amps. 3000 kc | 1000 kc | 300 kc | 100 kc |
|---|---|---|---|---|---|---|
| 1550LS-200 | .00005 | 6000 | 1.5 | .7 | .2 | .07 |
| 1550LS-201 | .0001 | 6000 | 2.5 | 1.3 | .35 | .1 |
| 1550LS-202 | .00015 | 6000 | 3.0 | 1.7 | .5 | .16 |
| 1550LS-203 | .0002 | 6000 | 3.5 | 1.8 | .7 | .3 |
| 1550LS-204 | .00025 | 6000 | 5.0 | 2.5 | 1.0 | .3 |
| 1550LS-206 | .0003 | 6000 | 5.0 | 2.5 | 1.0 | .4 |
| 1550LS-208 | .0004 | 6000 | 5.0 | 2.7 | 1.1 | .5 |
| 1550LS-210 | .0005 | 6000 | 5.0 | 3.0 | 1.6 | .75 |
| 1550LS-212 | .0006 | 6000 | 5.1 | 3.1 | 1.7 | .8 |
| 1550LS-215 | .00075 | 6000 | 5.5 | 3.5 | 2.1 | 1.0 |
| 1550LS-216 | .0008 | 6000 | 6.0 | 4.0 | 2.1 | 1.0 |
| 1550LS-218 | .001 | 6000 | 7.0 | 4.0 | 2.2 | 1.0 |
| 1550LS-220 | .0015 | 6000 | 9.0 | 5.1 | 3.0 | 1.6 |
| 1550LS-221 | .002 | 6000 | 9.0 | 6.0 | 4.0 | 1.9 |
| 1550LS-222 | .002 | 3000 | 6.0 | 4.6 | 3.0 | 1.1 |
| 1550LS-223 | .0025 | 5000 | 9.0 | 6.0 | 4.0 | 2.0 |
| 1550LS-225 | .003 | 3000 | 6.5 | 6.0 | 4.1 | 1.6 |
| 1550LS-228 | .004 | 3000 | 10.0 | 6.5 | 4.5 | 2.0 |
| 1550LS-230 | .005 | 3000 | 10.0 | 6.8 | 5.0 | 2.5 |
| 1550LS-235 | .0075 | 3000 | 11.0 | 8.0 | 6.5 | 2.9 |
| 1550LS-236 | .008 | 3000 | 11.0 | 9.0 | 6.8 | 3.0 |
| 1550LS-238 | .01 | 2000 | 11.0 | 10.0 | 8.0 | 4.0 |
| 1550LS-239 | .015 | 2000 | 11.5 | 11.0 | 9.0 | 5.0 |
| 1550LS-240 | .02 | 2000 | 12.5 | 11.0 | 10.5 | 7.0 |
| 1550LS-241 | .03 | 2000 | 13.0 | 16.0 | 13.0 | 7.0 |
| 1550LS-242 | .04 | 1500 | 13.0 | 16.0 | 13.0 | 7.5 |
| 1550LS-243 | .05 | 1500 | 14.0 | 16.0 | 13.0 | 7.5 |
| 1550LS-244 | .1 | 1000 | 16.0 | 18.0 | 14.0 | 9.0 |
| 1550LS-247 | .25 | 250 | 16.0 | 18.0 | 14.0 | 12.0 |

Type 1550L also manufactured in case style CM70 of Spec. MIL-C-5A. Prices on request.
Standard Tolerance for all Transmitting Mica Capacitors is ±5%.
For 2% Tolerance add 20% to Price.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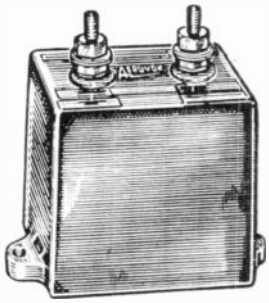
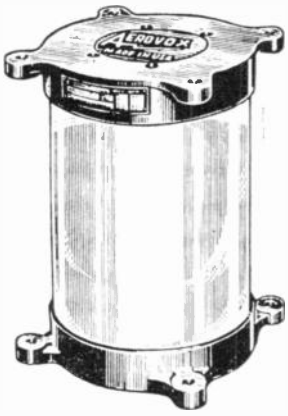
# M I C A S — (Continued)

## TYPE 1590L — POTTED TRANSMITTING CAPACITORS



| Cat. No. | Capacity | Test Volts Eff. | Max. Operating Current in Amps. 3000 kc | 1000 kc | 300 kc | 100 kc |
|---|---|---|---|---|---|---|
| 1590L-200 | .00025 | 8000 | 7.0 | 5.0 | 2.0 | .6 |
| 1590L-201 | .0005 | 8000 | 8.5 | 6.0 | 3.0 | 1.0 |
| 1590L-203 | .001 | 8000 | 10.0 | 8.5 | 4.5 | 2.0 |
| 1590L-205 | .002 | 8000 | 12.0 | 11.0 | 8.0 | 4.0 |
| 1590L-207 | .003 | 8000 | 15.0 | 15.0 | 11.0 | 5.0 |
| 1590L-209 | .004 | 8000 | 16.0 | 16.0 | 12.0 | 6.0 |
| 1590L-211 | .005 | 8000 | 16.0 | 16.0 | 13.0 | 7.0 |
| 1590L-213 | .006 | 8000 | 16.0 | 18.0 | 13.0 | 7.0 |
| 1590L-217 | .01 | 8000 | 17.0 | 21.0 | 15.0 | 9.0 |
| 1590L-218 | .01 | 6000 | 16.0 | 20.0 | 15.0 | 8.0 |
| 1590L-219 | .02 | 5000 | 18.0 | 22.0 | 18.0 | 12.0 |
| 1590L-220 | .03 | 4000 | 18.0 | 23.0 | 20.0 | 13.0 |
| 1590L-222 | .05 | 4000 | 18.0 | 25.0 | 23.0 | 15.0 |
| 1590L-223 | .05 | 2000 | 18.0 | 25.0 | 22.0 | 12.0 |
| 1590L-224 | .1 | 2000 | 18.0 | 28.0 | 23.0 | 15.0 |
| 1590L-226 | .2 | 600 | 18.0 | 28.0 | 23.0 | 15.0 |
| 1590L-227 | .25 | 600 | 18.0 | 28.0 | 23.0 | 15.0 |
| 1590L-228 | .3 | 600 | 18.0 | 28.0 | 23.0 | 15.0 |
| 1590L-230 | .5 | 600 | 18.0 | 28.0 | 23.0 | 15.0 |
| 1590L-233 | 1.0 | 600 | 18.0 | 28.0 | 23.0 | 15.0 |

For 2% Tolerance add 20% to Price



## TYPES 1940, 1950, 1960, 1970 and 1980

### Stack-Mounting Transmitting Capacitors

These stack-mounting transmitting mica capacitors are especially intended for various applications such as grid, plate blocking, coupling, tank, and by-passing functions for higher-powered installations. They are made with a special cylindrical low-loss, glazed ceramic case providing a long creepage path between terminals. They are designed to eliminate corona losses, inside and outside alike, and also provide uniofrm voltage gradient. The cast-aluminum terminal ends provide low contact resistance between units. These units are conservatively rated to withstand surge voltages above their rated values. They have extremely low power factor so that they can handle large KVA loads without overheating.

### TYPE 1940

| Catalog No. | Cap. Mfd. | Test Volts Eff. |
|---|---|---|
| 1940-236 | .000075 | 35000 |
| 1940-203 | .0001 | 35000 |
| 1940-204 | .00015 | 35000 |
| 1940-205 | .0002 | 35000 |
| 1940-206 | .00025 | 35000 |
| 1940-207 | .0003 | 35000 |
| 1940-208 | .00035 | 35000 |
| 1940-209 | .0004 | 35000 |
| 1940-210 | .0005 | 35000 |
| 1940-211 | .0006 | 35000 |
| 1940-212 | .0007 | 35000 |
| 1940-213 | .0008 | 35000 |
| 1940-214 | .001 | 35000 |
| 1940-215 | .00125 | 35000 |
| 1940-216 | .0015 | 35000 |
| 1940-217 | .002 | 30000 |
| 1940-218 | .0025 | 25000 |
| 1940-219 | .003 | 25000 |
| 1940-220 | .004 | 20000 |
| 1940-221 | .005 | 20000 |
| 1940-222 | .006 | 15000 |
| 1940-223 | .007 | 15000 |
| 1940-224 | .008 | 15000 |
| 1940-225 | .01 | 15000 |
| 1940-237 | .02 | 12000 |
| 1940-238 | .03 | 10000 |
| 1940-239 | .04 | 7500 |
| 1940-240 | .05 | 6000 |
| 1940-241 | .06 | 6000 |
| 1940-242 | .07 | 6000 |
| 1940-243 | .08 | 6000 |
| 1940-244 | .1 | 5000 |

### TYPE 1950 (Similar to CM75)

| Catalog No. | Cap. Mfd. | Test Volts Eff. |
|---|---|---|
| 1950-202 | .00005 | 6000 |
| 1950-204 | .0001 | 6000 |
| 1950-207 | .0002 | 6000 |
| 1950-209 | .0003 | 6000 |
| 1950-212 | .0005 | 6000 |
| 1950-216 | .001 | 6000 |
| 1950-218 | .002 | 6000 |
| 1950-220 | .003 | 6000 |
| 1950-222 | .005 | 6000 |
| 1950-226 | .01 | 5000 |
| 1950-228 | .02 | 3000 |
| 1950-231 | .05 | 1500 |

### TYPE 1960 (Similar to CM80)

| Catalog No. | Cap. Mfd. | Test Volts Eff. |
|---|---|---|
| 1960-202 | .00005 | 15,000 |
| 1960-203 | .0001 | 15,000 |
| 1960-204 | .00015 | 12,500 |
| 1960-205 | .0002 | 12,500 |
| 1960-209 | .0005 | 12,500 |
| 1960-212 | .0008 | 10,000 |
| 1960-213 | .001 | 10,000 |
| 1960-214 | .0015 | 10,000 |
| 1960-215 | .002 | 10,000 |
| 1960-218 | .004 | 8,000 |
| 1960-219 | .005 | 8,000 |
| 1960-223 | .01 | 7,000 |
| 1960-224 | .015 | 5,000 |
| 1960-225 | .02 | 4,000 |

### TYPE 1970 (Similar to CM85)

| Catalog No. | Cap. Mfd. | Test Volts Eff. |
|---|---|---|
| 1970-202 | .00005 | 20,000 |
| 1970-203 | .0001 | 20,000 |
| 1970-204 | .00015 | 20,000 |
| 1970-205 | .0002 | 20,000 |
| 1970-210 | .0005 | 20,000 |
| 1970-213 | .0008 | 20,000 |
| 1970-214 | .001 | 20,000 |
| 1970-216 | .0015 | 20,000 |
| 1970-217 | .002 | 15,000 |
| 1970-220 | .004 | 12,000 |
| 1970-221 | .005 | 10,000 |
| 1970-225 | .01 | 10,000 |
| 1970-227 | .02 | 6,000 |

### TYPE 1980 (Similar to CM90)

| Catalog No. | Cap. Mfd. | Test Volts Eff. |
|---|---|---|
| 1980-202 | .00005 | 35,000 |
| 1980-203 | .0001 | 35,000 |
| 1980-204 | .00015 | 35,000 |
| 1980-207 | .0003 | 35,000 |
| 1980-209 | .0004 | 35,000 |
| 1980-210 | .0005 | 35,000 |
| 1980-213 | .0008 | 30,000 |
| 1980-214 | .001 | 25,000 |
| 1980-217 | .002 | 20,000 |
| 1980-220 | .004 | 20,000 |
| 1980-221 | .005 | 20,000 |
| 1980-224 | .008 | 15,000 |
| 1980-225 | .01 | 15,000 |
| 1980-230 | .05 | 5,000 |

All units also manufactured in equivalent MIL-C-5A case styles. Prices on request.
For plus and minus 2% add 20% to prices.
Standard tolerance for all units is plus and minus 5%.

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World Radio History

# MICAS — (Continued)

## PLASTIC-COATED, DIPPED-MICA CAPACITORS TYPES ADM-15, ADM-19, ADM-20

Aerovox plastic-coated dipped-mica units exceed many of the advantages of molded mica units, and at the same time are smaller than conventional units. Meeting all the applicable RETMA Test Standards for molded mica capacitors, these unique dipped-mica units offer the following outstanding features:

• High operating temperatures —55°C to +125°C • Excellent long-life characteristics • Improved temperature coefficient range • Radial leads for automatic insertion and plug-in assemblies • Ideal for printed-wiring assemblies • Unsurpassed performance and stability characteristics • Smaller physical size.

Humidity Resistance: these capacitors shall have an insulation resistance of not less than 2,000 megohms after being subjected to the Humidity Resistance Test as outlined in RETMA Standard RS-153. Minimum Insulation Resistance: 25,000 megohms at 25°C; 1000 megohms at 125°C.

Capacitors will be marked with capacity and tolerance where tolerance is closer than plus/minus 20%. In addition, voltage rating will be marked on all units other than 500 volts rating.

### CHARACTERISTICS

ADM-15—from 5 to 20 mmf. Characteristic "C".
from 22 to 150 mmf. Characteristic "E".
from 160 mmf. and up Characteristic "F".
ADM-19—All capacities listed "F" Characteristic.
ADM-20—All capacities listed "F" Characteristic.

Minimum tolerance for capacitances up to and including 10 mmf. is ± ½ mmf., for all other capacitances ± 1% or 1 mmf. whichever is greater.

| Sizes | L | W | T |
|---|---|---|---|
| ADM-15 | 15/32 | 5/16 | 7/32 max. |
| ADM-19 | 21/32 | 15/32 | 7/32 max. |
| ADM-20 | 3/4 | 15/32 | 7/32 max. |

| Cap. Mmf. | Type Designation | Cap. Mmf. | Type Designation | Type Designation | Cap. Mmf. | Type Designation | Type Designation |
|---|---|---|---|---|---|---|---|
| 5 | ADM-15-050 | 100 | ADM-15-101 | ADM-19-101 | 680 | ADM-19-681 | ADM-20-681 |
| 10 | ADM-15-100 | 110 | ADM-15-111 | ADM-19-111 | 750 | ADM-19-751 | ADM-20-751 |
| 12 | ADM-15-120 | 120 | ADM-15-121 | ADM-19-121 | 820 | ADM-19-821 | ADM-20-821 |
| 15 | ADM-15-150 | 130 | ADM-15-131 | ADM-19-131 | 910 | ADM-19-911 | ADM-20-911 |
| 18 | ADM-15-180 | 150 | ADM-15-151 | ADM-19-151 | 1000 | ADM-19-102 | ADM-20-102 |
| 20 | ADM-15-200 | 160 | ADM-15-161 | ADM-19-161 | 1100 | ADM-19-112 | ADM-20-112 |
| 22 | ADM-15-220 | 180 | ADM-15-181 | ADM-19-181 | 1200 | ADM-19-122 | ADM-20-122 |
| 24 | ADM-15-240 | 200 | ADM-15-201 | ADM-19-201 | 1300 | ADM-19-132 | ADM-20-132 |
| 27 | ADM-15-270 | 220 | ADM-15-221 | ADM-19-221 | 1500 | ADM-19-152 | ADM-20-152 |
| 30 | ADM-15-300 | 240 | ADM-15-241 | ADM-19-241 | 1600 | ADM-19-162 | ADM-20-162 |
| 33 | ADM-15-330 | 250 | ADM-15-251 | ADM-19-251 | 1800 | ADM-19-182 | ADM-20-182 |
| 36 | ADM-15-360 | 270 | ADM-15-271 | ADM-19-271 | 2000 | ADM-19-202 | ADM-20-202 |
| 39 | ADM-15-390 | 300 | ADM-15-301 | ADM-19-301 | 2200 | ADM-19-222 | ADM-20-222 |
| 43 | ADM-15-430 | 330 | ADM-15-331 | ADM-19-331 | 2400 | *ADM-19-242 | ADM-20-242 |
| 47 | ADM-15-470 | 360 | ADM-15-361 | ADM-19-361 | 2500 | *ADM-19-252 | ADM-20-252 |
| 50 | ADM-15-500 | 390 | ADM-15-391 | ADM-19-391 | 2700 | *ADM-19-272 | ADM-20-272 |
| 51 | ADM-15-510 | 430 | *ADM-15-431 | ADM-19-431 | 3000 | *ADM-19-302 | ADM-20-302 |
| 56 | ADM-15-560 | 470 | *ADM-15-471 | ADM-19-471 | 3300 | | ADM-20-332 |
| 62 | ADM-15-620 | 500 | *ADM-15-501 | ADM-19-501 | 3600 | | ADM-20-362 |
| 68 | ADM-15-680 | 510 | *ADM-15-511 | ADM-19-511 | 3900 | | ADM-20-392 |
| 75 | ADM-15-750 | 560 | | ADM-19-561 | 4300 | | *ADM-20-432 |
| 82 | ADM-15-820 | 620 | | ADM-19-621 | 4700 | | *ADM-20-472 |
| 91 | ADM-15-910 | | | | 5000 | | *ADM-20-502 |
| | | | | | 5100 | | *ADM-20-512 |

* All items asterisked are rated at 300 VDCW.

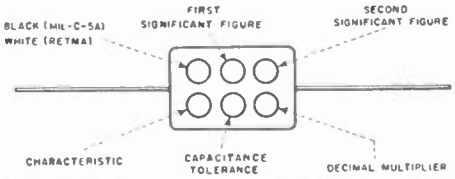
## GLOSSARY

A—1650-54 series—rifle drilled mounting holes for #6 screw clearance.
B—Denotes thicker mold when two thicknesses are available.
E—1445-47 and 1455-57 series denotes E Type Meter Mounting Bracket.
L—Denotes Low Loss Thermosetting case material. (Furnished as Standard at no extra charge.)
M—1650-54 series denotes Ceramic Mounting Insulators.
P—Denotes units rated for 800 VDCW — Types 1441, 1467, 1468.
R—Silvered Mica—Types 1441, 1441W, 1445-47.
S—Sealed for immersion. (All units are furnished in "S" as Standard at no extra charge.)
T—Denotes Heat Treatment.
W—Wire leads on Type 1441.
HV—High Voltage on Types 1467, 1468.
LS—Low loss, sealed for immersion. (Furnished as Standard at no extra charge.)
TT—Dual heat treatments.
X—Denotes 300 VDCW.

For charges covering the above check the pages of catalogue covering specific types and price supplement.

For any items or terms not covered please contact the Distributor's Division, Aerovox Corp., New Bedford, Mass.

## COLOR CODE INFORMATION




| Color | Capacitance: Significant Figure | Capacitance: Decimal Multiplier | Tolerance % | Characteristic |
|---|---|---|---|---|
| BLACK | 0 | 1 | 20 (M) | A |
| BROWN | 1 | 10 | | B |
| RED | 2 | 100 | 2 (G) | C |
| ORANGE | 3 | 1000 | 3 (RETMA only) | D |
| YELLOW | 4 | - | | E |
| GREEN | 5 | - | 5 (RETMA only) | F |
| BLUE | 6 | - | - | |
| VIOLET | 7 | - | - | - |
| GRAY | 8 | - | - | - |
| WHITE | 9 | - | - | - |
| GOLD | - | 0.1 | 5 (MIL-C-5 only) (J) | - |
| SILVER | - | .01 | 10 (K) | - |
| NONE | | | | |

| MIL C-5 LETTER DESIGNATION FOR CHARACTERISTIC | | |
|---|---|---|
| Characteristic | Temperature Coefficient Parts/Million/Degree C. see par. F-2h(1) | Capacitance Drift see par. F-2h(2) (maximum) |
| A | Not specified | Not specified |
| B | Not specified | Not specified |
| C | -200 to +200 | ±0.5 per cent |
| D | -100 to +100 | ±0.3 per cent |
| E | - 20 to +100 | ±(0.1 per cent +0.1 mmf.) |
| F | 0 to +70 | ±(0.05 per cent +0.1 mmf.) |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# INDUSTRIAL SECTION

# RESISTORS

## CARBOFILM PRECISION RESISTORS

Made under licensed agreement with Western Electric, these precision resistors are the result of years of intensive research in developing components with extreme accuracy and stability. Carbofilm resistors are intended for circuits calling for the accuracy and stability of wire-wound resistors with the marked economy of carbon resistors. They serve a real need in test equipment and laboratory instruments.

Packed and sealed in plastic tubes for your protection.

**SIZES**

CPS ½ watt 0.162D x 19/32L
CP ½ watt 0.230D x 11/16L
CPL ½ watt 0.230D x 15/16L
CP 1 watt 0.293D x 15/16L
CP 2 watt 0.293D x 2 1/16L

## Carbofilm Characteristics

**TEMPERATURE COEFFICIENT . . . .**
Temperature coefficient of deposited carbon resistors increases with resistance value and varies from −0.00018 per °C. for lowest values to −0.0005 per °C. for the higher values over the temperature range of −55 C. to +85°C.

**HUMIDITY . . . .**
Will meet the requirements of MIL-STD-202 Method 106.

**OVERLOAD . . . .**
Application of a D.C. Test potential 2½ times the rated continuous working voltage, but not exceeding twice the maximum voltage specified in MIL-R10509A for a period of 5 seconds will not cause a change in excess of .5%.

**LOAD LIFE . . . .**
A maximum change of 1% may be expected with operation at full rated wattage applied intermittently 1½ hours on—½ hour off for a period of 1,000 hours at 40 C., provided voltage ratings of MIL-R10509A are not exceeded.

**ACCURACY . . . .**
Guaranteed tolerance of plus minus 1% at 25°C. (77°F.).

**AGING . . . .**
Due to manufacturing process and control, changes attributed to aging are negligible. The average change in resistance for self-aging is approximately 0.2% per year.

**NOISE . . . .**
Noise level will not exceed .2 microvolts per volt.

**FREQUENCY . . . .**
Because of inherently low inductance and absence of skin effects deposited carbon resistors are superior in performance at high frequencies to conventional resistors.

**DERATING . . . .**
Full load operation at 40°C.—Derate to zero load at 120°C.

## Standard Stock Values Carbofilm Resistors

| OHMS | OHMS | OHMS | OHMS | OHMS | OHMS | Megohms |
|---|---|---|---|---|---|---|
| 3.0 | 60 | 1300 | 24,000 | 150,000 | 850,000 | 5.6 |
| 3.3 | 62 | 1450 | 25,000 | 160,000 | 900,000 | 5.6 |
| 3.5 | 65 | 1500 | 27,000 | 175,000 | 910,000 | 6.2 |
| 3.6 | 68 | 1600 | 30,000 | 180,000 | | 6.5 |
| 3.9 | 70 | 1750 | 33,000 | 200,000 | Megohms | 6.8 |
| | | | 35,000 | | | |
| 4.0 | 74.5 | 1800 | 36,000 | 220,000 | 1.0 | 7.0 |
| 4.3 | 75 | 2000 | 39,000 | 225,000 | 1.1 | 7.0 |
| 4.5 | 80 | 2200 | 40,000 | 240,000 | 1.2 | 8.0 |
| 4.7 | 82 | 2250 | 43,000 | 250,000 | 1.25 | 8.2 |
| 5.0 | 85 | 2400 | 45,000 | 270,000 | 1.3 | 8.5 |
| 5.1 | 89.5 | 2500 | 47,000 | 300 000 | 1.5 | 9.0 |
| 5.5 | 90 | 2700 | 50,000 | 330,000 | 1.6 | 9.1 |
| 5.6 | 91 | 2950 | 51,000 | 350,000 | 1.8 | 10.0 |
| 6.0 | 99.5 | 3000 | 55,000 | 360,000 | 2.0 | 12.0 |
| 6.2 | 100 | 3300 | 56,000 | 390 000 | 2.2 | 12.5 |
| 6.5 | 110 | 3500 | 60,000 | 400,000 | 2.225 | 13.0 |
| 6.8 | 120 | 3600 | 62,000 | 430,000 | 2.4 | 15.0 |
| 7.5 | 130 | 3900 | 65,000 | 450,000 | 2.5 | 16.0 |
| 8.0 | 150 | 4000 | 68,000 | 470,000 | 2.7 | 18.0 |
| 8.2 | 160 | 4300 | 70,000 | 500,000 | 3.0 | 20.0 |
| 8.5 | 175 | 4450 | 75,000 | 510,000 | 3.3 | 22.0 |
| 9.0 | 180 | 4500 | 80,000 | 550,000 | 3.5 | 25.0 |
| 9.1 | 200 | 4700 | 82,000 | 560,000 | 3.6 | 27.0 |
| 10.0 | 220 | 5000 | 85,000 | 600,000 | 3.9 | 30.0 |
| 11.0 | 225 | 5100 | 90,000 | 620,000 | 4.0 | 33.0 |
| 12.0 | 240 | 5500 | 91,000 | 650,000 | 4.3 | 36.0 |
| 12.5 | 250 | 5600 | 100,000 | 680,000 | 4.5 | 39.0 |
| 13.0 | 270 | 5950 | 110,000 | 700,000 | 4.7 | 43.0 |
| 14.5 | 300 | 6000 | 120,000 | 750,000 | 5 0 | 47.0 |
| 15.0 | 330 | 6200 | 125,000 | 800,000 | 5.1 | 50.0 |
| | | | 130,000 | 820,000 | 5.5 | 100.0* |
| 16.0 | 350 | 6500 | | | | |
| 17.5 | 360 | 6800 | | | | |
| 18.0 | 390 | 7000 | | | | |
| 20 | 400 | 7450 | | | | |
| 22.0 | 430 | 7500 | | | | |
| 22.5 | 450 | 8000 | | | | |
| 24.0 | 470 | 8200 | | | | |
| 25.0 | 500 | 8500 | | | | |
| 27.0 | 510 | 8950 | | | | |
| 29.5 | 550 | 9000 | | | | |
| 30 | 560 | 9100 | | | | |
| 33 | 600 | 9950 | | | | |
| 35 | 620 | 10,000 | | | | |
| 36 | 650 | 11,000 | | | | |
| 39 | 680 | 12,000 | | | | |
| | 700 | | | | | |
| 40 | 750 | 12,500 | | | | |
| 43 | 800 | 13,000 | | | | |
| 44.5 | 820 | 13,500 | | | | |
| 45 | 850 | 15,000 | | | | |
| 47 | 900 | 16,000 | | | | |
| 50 | 910 | 17,500 | | | | |
| 51 | 1000 | 18,000 | | | | |
| 55 | 1100 | 20,000 | | | | |
| 56 | 1200 | 22,000 | | | | |
| 59.5 | 1250 | 22,500 | | | | |

**CARBOFILM RESISTORS PRICES**
**STANDARD VALUES ONLY**

| | |
|---|---|
| CPS-½ | 7.5 ohms to 40 ohms<br>43 ohms to 2 meg. |
| CP-½ | 3 ohms to 40 ohms<br>43 ohms to 5 meg. |
| CPL-½ | 5.1 meg to 7.5 meg. |
| CP-1 | 10 ohms to 15 ohms<br>16 ohms to 40 ohms<br>43 ohms to 1 meg.<br>1.1 meg. to 5 meg.<br>5.1 meg. to 15 meg. |
| CP-2 | 50 ohms to 99.5 ohms<br>100 ohms to 10 meg.<br>12 meg to 20 meg.<br>22 meg. to 30 meg.<br>33 meg. to 50 meg.<br>*100 meg. |

Standard tolerance ±1%

SEE PRICE SUPPLEMENT FOR PRICE BREAKS AND ADDERS.

*Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.

Types CPCS½, CPC-1, CPC-2 available on special order. Equivalent to characteristic B of MIL-R-10509B, MIL types RN70, RN75 and RN80 respectively. For full details ask for bulletin No. CPR369.

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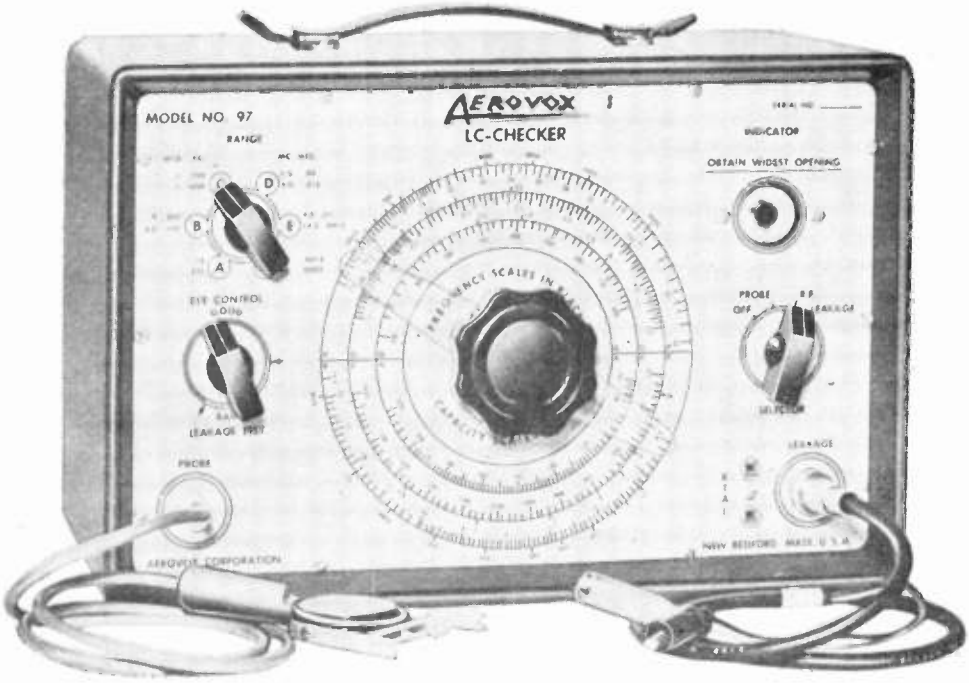


# AEROVOX L-C CHECKER — Model 97

Aerovox Corporation, New Bedford, Massachusetts, announces the availability of their new Model 97 L-C Checker. Completely redesigned and engineered according to the latest in design theories, the L-C Checker utilizes the newest techniques of printed-circuitry to achieve the most efficient instrumentation available today to technicians and servicemen. The all-new Model 97 L-C Checker represents the ultimate in versatility and adaptability in a test instrument.

Some of the new features of the Model 97 L-C Checker include extended frequency range from a minimum of 150 kc to a maximum of 44 megs.; a recessed front panel with an extra-large, easy-to-read dial, with a magnifying indicator. Finished in an attractive smooth grey, the instrument weighs only 8½ pounds and measures 13" x 8½" x 6" deep and is furnished with all the necessary test cords and probes.

The Aerovox Model 97 L-C Checker is the **only** test instrument presently available capable of testing true capacitance without removing the capacitor from the circuit. A partial listing of the applications of the L-C Checker Model 97 includes:

1. Checking capacitors for values of capacitance and relative Q at radio frequency.
2. Checking capacitor insulation resistance.
3. Checking alignment of radio frequency and intermediate frequency circuits of domestic, marine, and short-wave receivers.
4. Tracking of super-het oscillators.
5. Checking alignment of FM-I.F. channels and independent alignment of FM-I.F. transformers.
6. Checking resonant absorption troubles in "all wave" receiver circuits, locating dead spots, etc.
7. Location of resonant points in shorted windings (unused coils) in multi-range oscillators, etc.
8. Checking natural resonant points of r.f. chokes to make sure they are beyond circuit operating range.
9. Checking natural period of antennae and transmission lines.
10. Checking quartz crystals for true or false frequency, operation at harmonics and activity.
11. Checking transmitter buffer, amplifier and tank circuits for parasitic current loops with power off for safety.
12. Tuning of wave traps and filters for harmonic suppression.

**The Aerovox Model 97 L-C Checker is truly the one piece of test equipment most capable of answering the servicemen's and technicians needs.**


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# ELECTROLYTICS

## TYPE AFH (85°C)

## Twist-Prong

## Electrolytic Capacitors

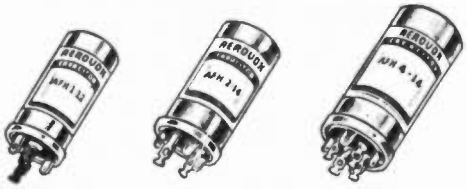
### SINGLES • DUALS • TRIPLES • QUADS

The outstanding line of twist-prong electrolytic capacitors with the very latest refinements . . . 85°C operation; improved hermetic sealing; special Type AFHS for high ripple selenium rectifier circuits; high-purity aluminum foil construction throughout; either etched or composite-plate depending on electrical requirements.

For use over a wide temperature range with minimum change in capacitance. Designed for filter audio bypass applications in radio-TV and amplifier equipment.

While AFH electrolytics enjoy a tremendous popularity as replacement capacitors for TV receivers, they are rapidly gaining acceptance in many industrial applications.

Capacity tolerances and surge voltages are as listed in RETMA Specification No. RS-154.



### AFH—SINGLES

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 1-00-50 | 2000 | 6 | 1⅜x2 |
| 1.01 | 3000 | 10 | 1⅜x3 |
| 1-01-25 | 225 | 15 | ¾x2 |
| 1-02 | 1000 | 15 | 1x3 |
| 1-03 | 2000 | 15 | 1⅜x3 |
| 1-04 | 3000 | 15 | 1⅜x3 |
| 1-05 | 25 | 25 | ¾x2 |
| 1-06 | 40 | 25 | ¾x2 |
| 1-07 | 100 | 25 | ¾x2 |
| 1-08 | 500 | 25 | 1x2½ |
| 1-10 | 1000 | 25 | 1⅜x2 |
| 1-10-10 | 4 | 50 | ¾x2 |
| 1-11 | 100 | 50 | ¾x2 |
| 1-12 | 150 | 50 | ¾x2 |
| 1-13 | 500 | 50 | 1⅜x2½ |
| 1-14 | 1000 | 50 | 1⅜x3½ |
| 1-14-50 | 1500 | 50 | 1⅜x4 |
| 1-15 | 25 | 150 | 1x2 |
| 1-16 | 30 | 150 | 1x2 |
| 1-17 | 40 | 150 | 1x2 |
| 1.18 | 50 | 150 | 1x2 |
| 1-19 | 60 | 150 | 1x2 |
| 1.20 | 80 | 150 | 1x2 |
| 1-21 | 100 | 150 | 1x2 |
| **1-22 AFHS | 120 | 150 | 1x3 |
| **1-22-05 AFHS | 120 | 150 | 1⅜x2½ |
| **1-23 AFHS | 140 | 150 | 1x3 |
| 1-24 | 150 | 150 | 1x3 |
| *1-24-24 AFHS | 200 | 150 | 1x3½ |
| **1-24-25 AFHS | 200 | 150 | 1⅜x2½ |

*—New item. **—Revised catalog number.
†—Special construction for printed wiring.

### AFH — SINGLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| **1-24-75 AFHS | 300 | 150 | 1⅜x3 |
| 1-25 | 40 | 200 | 1x2 |
| 1-26 | 15 | 250 | 1x2 |
| 1-27 | 20 | 250 | ¾x2 |
| 1-28 | 30 | 250 | ¾x2 |
| 1-29 | 40 | 250 | 1x2 |
| 1-30 | 60 | 250 | 1x2½ |
| 1-31 | 80 | 250 | 1x3 |
| 1-31-25 | 100 | 250 | 1x3 |
| 1-31-75 | 150 | 250 | 1⅜x2½ |
| 1-32 | 15 | 300 | 1x2 |
| 1-33 | 30 | 300 | 1x2 |
| 1-34 | 50 | 300 | 1x2½ |
| 1-35 | 80 | 300 | 1x3 |
| 1-36 | 100 | 300 | 1x3½ |
| *1-36-05 AFHS | 100 | 300 | 1⅜x2½ |
| 1-37 | 125 | 300 | 1⅜x3 |
| 1-37-25 AFHS | 150 | 300 | 1⅜x3 |
| 1-37-30 AFHS | 200 | 300 | 1⅜x3½ |
| 1-38 | 15 | 350 | 1x2 |
| 1-39 | 30 | 350 | 1x2 |
| 1-40 | 40 | 350 | 1x2½ |
| 1-41 | 50 | 350 | 1x3 |
| 1-42 | 80 | 350 | 1⅜x2½ |
| 1-42-10 AFHS | 90 | 350 | 1⅜x3 |
| **1-43 AFHS | 125 | 350 | 1⅜x3 |
| 1-43-20 | 150 | 350 | 1⅜x3½ |
| *1-43-80 AFHS | 320 | 350 | 1⅜x4½ |
| 1-44 | 10 | 400 | ¾x2 |
| 1-45 | 20 | 400 | 1x2 |
| 1-46 | 40 | 400 | 1⅜x2 |
| 1-47 | 80 | 400 | 1⅜x2½ |
| 1-48 | 10 | 450 | 1x2 |
| 1.49 | 15 | 450 | 1x2 |
| 1-50 | 20 | 450 | 1x2 |
| 1-51 | 30 | 450 | 1x2½ |
| 1-52 | 40 | 450 | 1x3 |
| 1-53 | 50 | 450 | 1x3 |
| 1-54 | 60 | 450 | 1⅜x2½ |
| 1-55 | 80 | 450 | 1⅜x3 |
| 1-55-20 | 100 | 450 | 1⅜x3 |
| **1-55-25 | 125 | 450 | 1⅜x4 |
| 1-56 | 30 | 475 | 1x3 |
| 1-56-10 | 40 | 475 | 1⅜x2 |
| 1-57 | 90 | 475 | 1⅜x3½ |
| 1-58 | 10 | 500 | 1x2 |
| 1-59 | 20 | 500 | 1x2½ |
| 1-60 | 30 | 500 | 1x3 |
| 1-61 | 40 | 500 | 1x3½ |
| 1-62 | 80 | 500 | 1⅜x3 |
| 1-63 | 90 | 500 | 1⅜x3½ |
| 1-64 | 10 | 525 | 1x2 |
| 1-65 | 10 ohm-30 cps | 3 VNP | ¾x2 |
| 1-66 | 0.5 ohm-15,750 cps | 3 VNP | 1x2 |
| 1-67 | 1 ohm-60 cps | 3 VNP | 1⅜x3 |

### DUALS

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 2-01 | 1000-500 | 6 NP-6 NP | 1⅜x2 |
| 2-02 | 1000-1000 | 15 | 1x3½ |
| *2-02-05 | 250-250 | 16 | 1x2 |
| *2-02-10 | 500-100 | 16 | 1x2 |
| 2-03 | 20-20 | 25 | 1x2 |
| 2-04 | 40-40 | 25 | 1x2 |
| 2-05 | 150-50 | 25 | 1x2 |
| †*2-05-25 | 250-250 | 25 | 1x2½ |
| 2-06 | 50-50 | 50 | 1x2 |

AFHS—Denotes Selenium Rectifier Capacitor.

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# ELECTROLYTICS — (Continued)

## DUALS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 2-06-20 | 100-100 | 50 | 1x2 |
| 2-07 | 20-10 | 150 | 1x2 |
| 2-08 | 20-20 | 150 | 1x2 |
| 2-09 | 30-15 | 150 | 1x2 |
| 2-10 | 30-20 | 150 | 1x2 |
| 2-11 | 30-30 | 150 | 1x2 |
| 2-12 | 40-20 | 150 | 1x2 |
| 2-13 | 40-30 | 150 | 1x2 |
| 2-14 | 40-40 | 150 | 1x2 |
| 2.15 | 50-30 | 150 | 1x2 |
| †*2-15-05 | 50-30 | 150 | 1x2 |
| 2-16 | 50-50 | 150 | 1x2½ |
| 2-17 | 60-60 | 150 | 1x3 |
| 2-18 | 75-75 | 150 | 1x3 |
| 2-19 | 80-40 | 150 | 1x3 |
| 2-20 | 80-80 | 150 | 1⅜x2 |
| *2-20-50 | 125-100 | 150 | 1⅜x2½ |
| **2-21 AFHS | 200-5 | 150 | 1⅜x2½ |
| 2-22 | 200-125 | 150 | 1⅜x3 |
| *2-22-50 | 200-150 | 150 | 1⅜x3 |
| 2-23 | 200-200 | 150 | 1⅜x3 |
| 2-24 | 60-60 | 200 | 1⅜x2 |
| **2-24-20 AFHS | 100-100 | 200 | 1⅜x3 |
| 2-24-75 | 200-5 | 200 | 1⅜x3 |
| 2-25 | 10-10 | 250 | 1x2 |
| 2-26 | 20-20 | 250 | 1x2 |
| 2-27 | 30-30 | 250 | 1x2½ |
| 2-28 | 40-20 | 250 | 1x2½ |
| 2-29 | 40-40 | 250 | 1x3 |
| 2-30 AFHS | 150-150 | 250 | 1⅜x4 |
| 2-30-25 AFHS | 200-15 | 250 | 1⅜x3½ |
| 2-30-75 AFHS | 200-200 | 250 | 1⅜x4½ |
| 2-31 | 10-10 | 300 | 1x2 |
| 2-32 | 15-15 | 300 | 1x2 |
| 2-33 | 50-50 | 300 | 1⅜x2½ |
| 2-33-75 | 80-60 | 300 | 1⅜x2½ |
| 2-34 | 80-80 | 300 | 1⅜x3 |
| 2-35 | 120-20 | 300 | 1⅜x3 |
| *2-35-50 AFHS | 200-80 | 300 | 1⅜x4 |
| 2-36 | 15-15 | 350 | 1x2 |
| 2-37 | 20-20 | 350 | 1x2½ |
| 2-38 | 30-20 | 350 | 1x3 |
| 2-39 | 30-30 | 350 | 1x3 |
| 2-40 | 50-30 | 350 | 1⅜x2½ |
| *2-40-80 | 80-40 | 350 | 1⅜x3 |
| 2-41 | 80-80 | 350 | 1⅜x3½ |
| 2-41-10 | 90-40 | 350 | 1⅜x3 |
| 2-41-50 | 100-100 | 350 | 1⅜x4 |
| 2-41-80 AFHS | 160-10 | 350 | 1⅜x3 |
| 2-43 | 15-15 | 400 | 1x2½ |
| **2-43-30 | 30-10 | 400 | 1x3 |
| 2-44 | 60-60 | 400 | 1⅜x3½ |
| 2-44-90 | 75-75 | 400 | 1⅜x4 |
| 2-45 | 80-10 | 400 | 1⅜x3 |
| 2-45-10 | 80-20 | 400 | 1⅜x3 |
| 2-45-40 | 80-60 | 400 | 1⅜x4 |
| 2-45-50 AFHS | 80-80 | 400 | 1⅜x4 |
| 2-45-60 | 120-40 | 400 | 1⅜x4 |
| 2-46 | 5-5 | 450 | 1x2 |
| 2-47 | 10-10 | 450 | 1x2 |
| 2-48 | 15-10 | 450 | 1x2½ |
| 2-49 | 15-15 | 450 | 1x2½ |
| 2-50 | 20-10 | 450 | 1x2½ |
| 2-51 | 20-20 | 450 | 1x3 |
| 2-52 | 30-10 | 450 | 1x3 |

*—New item.
**—Revised catalog number

## DUALS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 2-53 | 30-15 | 450 | 1⅜x2 |
| 2-54 | 30-30 | 450 | 1⅜x2 |
| 2-56 | 40-20 | 450 | 1⅜x2½ |
| 2-57 | 40-40 | 450 | 1⅜x3 |
| 2-58 | 50-40 | 450 | 1⅜x3 |
| 2-59 | 50-50 | 450 | 1⅜x3 |
| 2-60 | 60-20 | 450 | 1⅜x3 |
| 2-61 | 60-40 | 450 | 1⅜x3½ |
| 2-61-50 | 60-60 | 450 | 1⅜x4 |
| 2-62 | 80-10 | 450 | 1⅜x3 |
| 2-63 | 80-20 | 450 | 1⅜x3½ |
| 2-64 | 80-40 | 450 | 1⅜x3½ |
| 2-64-25 | 100-40 | 450 | 1⅜x4 |
| 2-64-50 | 15-15 | 475 | 1x2½ |
| 2.65 | 30-10 | 475 | 1⅜x2 |
| 2-66 | 40-10 | 475 | 1⅜x2½ |
| 2-66-50 | 80-40 | 475 | 1⅜x4 |
| 2-66-60 | 80-50 | 475 | 1⅜x4 |
| 2-67 | 10-10 | 500 | 1x2½ |
| 2-69 | 20-20 | 500 | 1⅜x2½ |
| 2-71 | 30-10 | 500 | 1⅜x2½ |
| **2-71-90 | 40-25 | 500 | 1⅜x3 |
| 2-72 | 40-40 | 500 | 1⅜x3 |
| 2-73 | 60-40 | 500 | 1⅜x3½ |
| 2-74 | 250/1000 | 10/6 | 1⅜x2 |
| 2-75 | 250/2000 | 10/6 | 1⅜x2 |
| 2-76 | 50/500 | 150/5 | 1x3 |
| 2-78 | 40/150 | 150/25 | 1x2 |
| 2-78-10 | 50/150 | 150/25 | 1x2½ |
| *2-78-25 | 150/100 | 150/25 | 1⅜x2½ |
| **2-78-30 | 40/20 | 150/50 | 1x2 |
| 2-78-60 AFHS | 150/50 | 150/50 | 1x3½ |
| 2-79 | 40/20 | 250/25 | 1x2 |
| 2-80 | 50/100 | 250/50 | 1⅜x2 |
| 2-81 | 100/150 | 250/50 | 1⅜x3 |
| 2-81-80 | 35/500 | 300/6 | 1x2½ |
| 2-82 | 20/20 | 300/25 | 1x2 |
| 2-82-30 | 20/40 | 300/50 | 1x3 |
| *2-82-55 | 150/100 | 300/150 | 1⅜x4 |
| 2-82-60 | 20/60 | 300/250 | 1x3 |
| 2-84 | 20/20 | 350/25 | 1x2 |
| 2-85 | 40/20 | 350/25 | 1x2½ |
| 2-85-70 | 5/75 | 350/150 | 1x3 |
| 2-86 | 40/10 | 350/200 | 1⅜x2 |
| 2-86-15 | 40/10 | 350/250 | 1x3 |
| 2-86-30 | 60/80 | 350/250 | 1⅜x3½ |
| **2-86-40 | 30/30 | 350/300 | 1x3 |
| 2-86-45 | 35/100 | 400/50 | 1x3 |
| 2-86-60 | 40/100 | 400/50 | 1⅜x2 |
| *2-86-70 | 100/30 | 400/50 | 1⅜x3 |
| 2-86-75 | 60/80 | 400/250 | 1⅜x4 |
| 2-86-95 | 100/80 | 400/350 | 1⅜x4 |
| 2-87 | 10/20 | 450/25 | 1x2 |
| 2-88 | 20/20 | 450/25 | 1x2 |
| 2.89 | 40/20 | 450/25 | 1x3 |
| 2-90 | 80/20 | 450/25 | 1⅜x3 |
| 2-90-50 | 50/100 | 450/50 | 1⅜x2½ |
| 2-91 | 80/50 | 450/50 | 1⅜x3 |
| 2-91-50 | 80/100 | 450/50 | 1⅜x3 |
| 2-92 | 10/50 | 450/100 | 1⅜x2 |
| 2-93 | 20/100 | 450/100 | 1⅜x2 |
| 2-94 | 30/40 | 450/150 | 1⅜x2 |
| 2-94-30 | 30/200 | 450/150 | 1⅜x3 |
| 2-94-45 | 80/40 | 450/200 | 1⅜x3 |

†—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.


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# ELECTROLYTICS — (Continued)

## DUALS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 2-94-60 | 20/50 | 450/250 | 1x3 |
| 2-94-75 AFHS | 20/150 | 450/250 | 1⅜x3 |
| 2-94-90 | 10/100 | 450/350 | 1⅜x3 |
| 2-95 | 20/80 | 450/350 | 1⅜x3 |
| 2-96 | 40/10 | 450/350 | 1⅜x2 |
| 2-97 | 40/40 | 450/350 | 1⅜x3 |
| 2-99 | 75/50 | 475/50 | 1⅜x3 |
| 2-99-75 | 40/80 | 475/200 | 1⅜x2½ |
| 2-100 | 20/100 | 475/300 | 1⅜x3 |
| 2-100-50 | 20/100 | 475/400 | 1⅜x4 |
| 2-101 | 40/40 | 475/400 | 1⅜x3 |
| 2-101-75 | 80/20 | 475/400 | 1⅜x3½ |
| 2-102 | 80/50 | 500/50 | 1⅜x3½ |
| 2-103 | 60/80 | 500/150 | 1⅜x3 |
| 2-104 | 40/50 | 500/200 | 1⅜x3 |
| 2-105 | 15/20 | 500/300 | 1x2½ |
| 2-106 | 20/100 | 500/300 | 1⅜x3 |
| 2-107 | 40/40 | 500/400 | 1⅜x3 |
| 2-108 | 0.5 ohm-15,750 cps | 12 | 1⅜x2 |
| | 2.5 ohm-60 cps | 6 | |

## TRIPLES

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-00-50 | 1500-1500-1500 | 3 | 1x3½ |
| 3-01 | 20-20-20 | 25 | 1x2 |
| 3-02 | 40-40-40 | 25 | 1x2 |
| 3-03 | 30-30-30 | 50 | 1x2 |
| 3-05 | 20-20-20 | 150 | 1x2 |
| 3-06 | 30-30-10 | 150 | 1x2 |
| 3-07 | 40-20-10 | 150 | 1x2 |
| 3-08 | 40-20-20 | 150 | 1x2 |
| 3-09 | 40-30-20 | 150 | 1x2 |
| 3-10 | 40-40-40 | 150 | 1x2½ |
| 3-11-20 | 50-40-10 | 150 | 1x2½ |
| 3-11-40 | 50-50-30 | 150 | 1x3 |
| *3-11-50 | 50-50-50 | 150 | 1x3 |
| 3-12 | 60-40-20 | 150 | 1x3 |
| **3-12-20 | 70-40-40 | 150 | 1x3 |
| 3-13 | 80-40-20 | 150 | 1x3 |
| 3-13-15 | 120-80-40 | 150 | 1⅜x3 |
| 3-13-30 | 120-120-40 | 150 | 1⅜x3 |
| 3.13-50 | 200-100-60 | 150 | 1⅜x3½ |
| 3-13-75 | 200-150-150 | 200 | 1⅜x4 |
| 3-14 | 15-15-10 | 250 | 1x2 |
| 3-17 | 20-20-10 | 250 | 1x2 |
| *3-17-10 | 20-20-20 | 250 | 1x2½ |
| **3-17-50 | 30-15-15 | 250 | 1x2½ |
| 3-18 | 30-20-10 | 250 | 1x2½ |
| 3-19 | 40-20-10 | 250 | 1x3 |
| 3-20 | 40-20-20 | 250 | 1x3 |
| 3-21 | 80-80-60 | 250 | 1⅜x3 |
| 3-22 | 10-10-10 | 300 | 1x2 |
| 3-25 | 60-20-10 | 300 | 1⅜x2 |
| **3-25-40 | 80-20-10 | 300 | 1⅜x2½ |
| 3-25-50 | 80-40-40 | 300 | 1⅜x3½ |
| 3-25-75 | 100-20-10 | 300 | 1⅜x3 |
| 3-26 | 120-50-40 | 300 | 1⅜x4 |
| 3-27 | 10-10-10 | 350 | 1x2½ |
| 3-28 | 20-20-10 | 350 | 1x3 |
| *3-28-30 | 30-20-10 | 350 | 1x2½ |
| 3-29 | 60-40-20 | 350 | 1⅜x3½ |
| 3-29-25 | 60-50-50 | 350 | 1⅜x4 |
| 3-29-50 | 80-60-60 | 350 | 1⅜x4 |

*—New item.
**—Revised catalog number.

## TRIPLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-29-75 | 90-40-20 | 350 | 1⅜x4 |
| 3-29-85 | 100-100-10 | 350 | 1⅜x4 |
| 3-29-95 | 120-40-40 | 350 | 1⅜x4 |
| 3-30 | 10-10-10 | 400 | 1x2½ |
| 3-30-60 | 80-20-10 | 400 | 1⅜x3 |
| 3-30-75 | 90-10-5 | 400 | 1⅜x3 |
| 3-31 | 10-10-10 | 450 | 1x3 |
| 3-33 | 15-15-10 | 450 | 1x3 |
| 3-34 | 15-15-15 | 450 | 1x3 |
| 3-35 | 20-10-10 | 450 | 1x3 |
| 3-36 | 20-20-20 | 450 | 1⅜x2½ |
| 3-37 | 30-20-20 | 450 | 1⅜x3 |
| **3-37-95 | 30-30-10 | 450 | 1⅜x3 |
| 3-38 | 30-30-20 | 450 | 1⅜x3 |
| 3-39 | 30-30-30 | 450 | 1⅜x3 |
| 3-41 | 40-10-10 | 450 | 1⅜x3 |
| 3-42 | 40-30-20 | 450 | 1⅜x3 |
| 3-43 | 40-40-10 | 450 | 1⅜x3 |
| 3-43-50 | 40-40-20 | 450 | 1⅜x3 |
| 3-44 | 40-40-40 | 450 | 1⅜x3½ |
| 3-44-50 | 50-40-30 | 450 | 1⅜x4 |
| 3-45 | 60-20-20 | 450 | 1⅜x3½ |
| **3-45-10 | 60-30-10 | 450 | 1⅜x3 |
| 3-45-25 | 60-40-20 | 450 | 1⅜x3½ |
| 3-45-50 | 80-40-10 | 450 | 1⅜x4 |
| 3-46 | 80-40-20 | 450 | 1⅜x4 |
| 3-47 | 10-10-10 | 475 | 1x3 |
| 3-48 | 30-20-20 | 475 | 1⅜x3 |
| 3-49 | 30-30-10 | 475 | 1⅜x3 |
| 3-49-10 | 30-30-20 | 475 | 1⅜x3 |
| 3-50 | 40-10-10 | 475 | 1⅜x3 |
| 3-50-05 | 40-20-20 | 475 | 1⅜x3 |
| *3-50-07 | 40-30-10 | 475 | 1⅜x3 |
| 3-50-10 | 40-30-30 | 475 | 1⅜x4 |
| 3-51 | 10-10-10 | 500 | 1x3 |
| 3-52 | 30-20-20 | 500 | 1⅜x3 |
| 3-53 | 40-10-10 | 500 | 1⅜x3 |
| 3-54 | 40-40-10 | 500 | 1⅜x3½ |
| 3-55 | 100/50-25 | 100/25 | 1x3 |
| 3-57 | 15-15/1200 | 150/2 | 1x2 |
| 3-58 | 30-20/100 | 150/6 | 1x2 |
| 3-59 | 20-20/100 | 150/10 | 1x2 |
| 3-60 | 20-20/250 | 150/10 | 1x2 |
| 3-61 | 30-30/200 | 150/10 | 1x2 |
| 3-62 | 40-20/150 | 150/10 | 1x2 |
| 3-63 | 40-20/200 | 150/10 | 1x2½ |
| 3-64 | 40-20/250 | 150/10 | 1x2½ |
| 3-64-50 | 80-20/200 | 150/10 | 1⅜x2 |
| 3-64-60 | 80-30/300 | 150/10 | 1⅜x2 |
| †*3-64-65 | 80-60/250 | 150/10 | 1x3 |
| **3-64-85 AFHS | 100-80/200 | 150/10 | 1⅜x2½ |
| 3-65 | 20/250-100 | 150/15 | 1⅜x2 |
| 3-66 | 80-20/100 | 150/15 | 1⅜x2 |
| 3-67 | 20-20/20 | 150/25 | 1x2 |
| 3-68 | 20-20/200 | 150/25 | 1x3 |
| 3-69 | 30-20/20 | 150/25 | 1x2 |
| 3-70 | 30-30/20 | 150/25 | 1x2 |
| 3-72 | 40-20/20 | 150/25 | 1x2 |
| 3-73 | 40-20/100 | 150/25 | 1x3 |
| 3-74 | 40-20/200 | 150/25 | 1x3 |
| 3-75 | 40-30/20 | 150/25 | 1x2½ |
| 3-76 | 40-40/20 | 150/25 | 1x2½ |
| 3-76-50 | 40-40/200 | 150/25 | 1x3 |
| 3-76-55 | 40-40/250 | 150/25 | 1x3 |
| 3-77 | 50-30/20 | 150/25 | 1x2½ |

†—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.

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# ELECTROLYTICS — (Continued)

## TRIPLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-78 | 50-30/100 | 150/25 | 1x3 |
| 3-79 | 50-50/20 | 150/25 | 1x3 |
| 3-80 | 60-20/20 | 150/25 | 1x2 |
| 3-81 | 60-40/20 | 150/25 | 1x2½ |
| 3-82 | 80-40/20 | 150/25 | 1x2½ |
| 3-82-40 | 80-40/300 | 150/25 | 1⅜x2½ |
| 3-83 | 120-60/20 | 150/25 | 1⅜x2½ |
| 3-83-10 | 10/10-4 | 150/50 | 1x2 |
| *3-83-95 | 300-80/200 | 150/50 | 1⅜x4 |
| 3-84 | 30-20/20 | 200/25 | 1x2 |
| *3-84-50 | 60-5/20 | 200/50 | 1x2½ |
| 3-85 | 90-90/20 | 200/50 | 1⅜x3 |
| 3-86 | 100-10/40 | 200/50 | 1⅜x2 |
| 3-86-50 | 30-20/40 | 200/150 | 1x2½ |
| 3-86-80 AFHS | 60 200-140 | 200/150 | 1⅜x4 |
| 3-86-90 | 10-10/100 | 250/10 | 1x2 |
| 3-87 | 15-15/20 | 250/25 | 1x2 |
| 3-88 | 20-15/20 | 250/25 | 1x2 |
| 3-89 | 30-30/20 | 250/25 | 1x2½ |
| 3-90 | 70-70/20 | 250/50 | 1⅜x3 |
| 3-91 | 90-90/20 | 250/50 | 1⅜x3 |
| 3-92 | 15/20-20 | 250/150 | 1x2 |
| 3-93 | 40-20/10 | 250/150 | 1⅜x2 |
| 3-94 AFHS | 40-40/10 | 250/200 | 1⅜x2 |
| 3-95 | 80-80/60 | 250/200 | 1⅜x3½ |
| 3-96-20 AFHS | 10/500-500 | 300/15 | 1⅜x2 |
| 3-97 | 20-20/20 | 300/25 | 1x2 |
| 3-98 | 40-15/20 | 300/25 | 1x2½ |
| 3-98-80 | 100-10/20 | 300/25 | 1⅜x3 |
| 3-98-90 AFHS | 140-10/100 | 300/25 | 1⅜x3½ |
| 3-99 | 30-30/25 | 300/50 | 1x3 |
| 3-99-75 | 100-10/60 | 300/50 | 1⅜x2½ |
| 3-99-80 AFHS | 125-20/100 | 300/50 | 1⅜x3½ |
| 3-99-82 | 125-60/40 | 300/50 | 1⅜x4 |
| *3-99-83 | 140-100/60 | 300/50 | 1⅜x3½ |
| 3-99-85 | 200-20/10 | 300/100 | 1⅜x4 |
| 3-99-95 | 20/150-80 | 300/150 | 1⅜x3 |
| 3-100 | 40-40/20 | 300/150 | 1⅜x2 |
| 3-100-20 | 60 200-30 | 300/150 | 1⅜x4 |
| **3-100-40 AFHS | 100/200-30 | 300/150 | 1⅜x4 |
| 3-100-60 | 140-10/200 | 300/150 | 1⅜x4 |
| 3-101 | 10-10/15 | 300/250 | 1x2 |
| 3-101-20 | 60/30-30 | 300/250 | 1⅜x2½ |
| 3-101-40 | 100/60-20 | 300/250 | 1⅜x3½ |
| 3-101-60 | 200/60-20 | 300/250 | 1⅜x4 |
| 3-102-90 | 5/100-40 | 350/25 | 1x2 |
| 3-103 | 10-10/20 | 350/25 | 1x2 |
| 3-104 | 15-10/20 | 350/25 | 1x2 |
| 3-105 | 15-15/20 | 350/25 | 1x2½ |
| 3-105-50 | 20-5/100 | 350/25 | 1x3 |
| 3-106 | 20-10/20 | 350/25 | 1x2½ |
| 3-107 | 20-20/20 | 350/25 | 1x2½ |
| 3-107-50 AFHS | 20/50-50 | 350/25 | 1x2 |
| 3-108 | 30-10/20 | 350/25 | 1x2½ |
| 3-109 | 30-20/20 | 350/25 | 1x3 |
| 3-110 | 30-30/20 | 350/25 | 1⅜x2 |
| 3-111 | 40-40/50 | 350/25 | 1⅜x2½ |
| 3-111-50 | 90-40/50 | 350/25 | 1⅜x3½ |
| 3-111-85 AFHS | 200-10/50 | 350/25 | 1⅜x4 |
| 3-111-90 | 10-5/30 | 350/50 | 1x2 |
| 3-112 | 10-5/150 | 350/50 | 1x3 |
| 3-112-10 | 20-5/150 | 350/50 | 1x3 |
| 3-112-20 | 20-10/100 | 350/50 | 1x3½ |
| *3-112-60 AFHS | 80-40/400 | 350/50 | 1⅜x4 |
| 3-112-75 | 150-4/30 | 350/50 | 1⅜x3 |

## TRIPLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-112-80 | 30-20/100 | 350/75 | 1⅜x2½ |
| 3-113 | 40-20/10 | 350/100 | 1⅜x2 |
| 3-114-50 | 30-20/100 | 350/150 | 1⅜x2½ |
| **3-114-52 | 40-20/10 | 350/150 | 1x3 |
| *3-114-55 | 40/200-100 | 350/150 | 1⅜x3½ |
| *3-114-58 | 60/200-30 | 350/150 | 1⅜x4 |
| 3-114-60 | 10/40-40 | 350/200 | 1x3 |
| 3-114-70 | 30-5/100 | 350/200 | 1⅜x2½ |
| 3-114-80 | 80-40/100 | 350/200 | 1⅜x3 |
| ††3-114-90 | 100-60/20 | 350/200 | 1⅜x4 |
| 3-115 | 20-10/5 | 350/250 | 1x2½ |
| 3-116 | 30/20-10 | 350/250 | 1x3 |
| 3-117 | 30-10/20 | 350/250 | 1x3 |
| *3-118 | 100-60/20 | 350/250 | 1⅜x4 |
| 3-119 | 15-15/40 | 400/25 | 1x2½ |
| 3-120 | 20-20/20 | 400/25 | 1x3 |
| 3-121 | 30-10/150 | 400/50 | 1⅜x2½ |
| 3-122 | 80-40/150 | 400/50 | 1⅜x4 |
| 3-122-30 | 100-10/20 | 400/50 | 1⅜x3½ |
| 3-122-80 | 40/200-60 | 400/200 | 1⅜x4 |
| 3-123 | 80/20-10 | 400/300 | 1⅜x3½ |
| 3-123-10 | 20-10/10 | 400/350 | 1x3 |
| 3-123-30 | 20-10/40 | 400/350 | 1x4 |
| 3-123-40 | 20-20/10 | 400/350 | 1x3 |
| *3-123-65 | 60-30/20 | 400/350 | 1⅜x3 |
| 3-123-80 | 80-20/10 | 400/350 | 1⅜x3 |
| *3-123-90 | 100-10/80 | 400/350 | 1⅜x4 |
| 3-124 | 10-10/10 | 450/25 | 1x2 |
| 3-125 | 10-10/20 | 450/25 | 1x2 |
| 3-127 | 15-15/20 | 450/25 | 1x2½ |
| 3-127-10 | 15-15/40 | 450/25 | 1x2½ |
| **3-127-30 | 20-10/20 | 450/25 | 1x2½ |
| 3-128 | 20-15/20 | 450/25 | 1x3 |
| 3-129 | 20-20/20 | 450/25 | 1x3 |
| 3-129-50 | 20/500-500 | 450/25 | 1⅜x3½ |
| 3-130 | 30/100-25 | 450/25 | 1⅜x2 |
| 3-131 | 30-30/20 | 450/25 | 1⅜x2½ |
| 3-131-30 | 30-30/125 | 450/25 | 1⅜x3 |
| 3-132 | 40-20/20 | 450/25 | 1⅜x2½ |
| 3-133 | 40-40/20 | 450/25 | 1⅜x3 |
| 3-134 | 40-40/40 | 450/25 | 1⅜x3 |
| 3-134-50 | 80-10/125 | 450/25 | 1⅜x3 |
| 3-135 | 80-40/100 | 450/25 | 1⅜x4 |
| 3-136 | 10-10/40 | 450/50 | 1x2½ |
| 3-137 | 20-10/40 | 450/50 | 1x3 |
| 3-138 | 20-10/50 | 450/50 | 1x3 |
| 3-138-30 | 30-10/150 | 450/50 | 1⅜x2½ |
| 3-138-40 | 30-15/150 | 450/50 | 1⅜x3 |
| 3-139 | 30-30/40 | 450/50 | 1⅜x3 |
| 3-139-50 | 35-25/100 | 450/50 | 1⅜x3 |
| 3-139-75 | 40-10/40 | 450/50 | 1⅜x2½ |
| 3-140 | 40-10/100 | 450/50 | 1⅜x3 |
| 3-140-50 | 40-30/25 | 450/50 | 1⅜x2½ |
| 3-141 | 40-40/80 | 450/50 | 1⅜x3½ |
| 3-142 | 40-40/100 | 450/50 | 1⅜x3½ |
| 3-142-20 | 60-40/75 | 450/50 | 1⅜x4 |
| 3-142-40 | 80-20/100 | 450/50 | 1⅜x4 |
| 3-142-60 | 80/100-20 | 450/50 | 1⅜x3 |
| 3-142-80 | 30-30/125 | 450/75 | 1⅜x3 |
| 3-143 | 10-10/50 | 450/100 | 1⅜x2 |
| 3-144 | 30-20/30 | 450/150 | 1⅜x2½ |
| 3-145 | 40/90-50 | 450/150 | 1⅜x3 |
| 3-146 | 40-10/80 | 450/150 | 1⅜x3 |
| 3-147 | 40-40/40 | 450/150 | 1⅜x3½ |
| 3-148 | 40-10/80 | 450/200 | 1⅜x3 |

*—New item.
**—Revised catalog number.
†—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.
††To be discontinued when present stock is depleted. Replace with AFH 3-118.


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# ELECTROLYTICS — (Continued)

## TRIPLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-148-40 | 40-40/60 | 450/200 | 1⅜x3½ |
| 3-148-50 | 40-40/100 | 450/200 | 1⅜x4 |
| **3-148-80 | 10/80-80 | 450/250 | 1⅜x3 |
| 3-149 | 20/40-10 | 450 250 | 1⅜x2 |
| 3-149-35 | 80/40-40 | 450/250 | 1⅜x4 |
| 3-149-40 | 5/80-40 | 450/300 | 1⅜x3 |
| 3-149-60 | 10/100-20 | 450/300 | 1⅜x3 |
| 3-149-80 | 15-10/120 | 450/300 | 1⅜x3½ |
| 3-150 | 15-15/10 | 450/300 | 1x3 |
| 3-151 | 20/15-10 | 450/300 | 1x3 |
| 3-152 | 15-5/15 | 450/350 | 1x3 |
| 3-152-50 | 20/15-15 | 450/350 | 1x3 |
| 3-153 | 20-20/60 | 450/350 | 1⅜x3 |
| 3-153-30 | 20/40-10 | 450/350 | 1⅜x2½ |
| 3-153-60 | 20/80-10 | 450/350 | 1⅜x3 |
| 3-154 | 40-10/10 | 450 350 | 1⅜x2 |
| 3-154-20 | 40-40/60 | 450/350 | 1⅜x4 |
| 3-154-30 | 40-40/80 | 450/350 | 1⅜x4 |
| *3-154-40 | 50-5/50 | 450/350 | 1⅜x3½ |
| 3-154-60 | 60/20-20 | 450/350 | 1⅜x3½ |
| 3-155-15 | 10-10/150 | 475/50 | 1x3 |
| 3-155-30 | 25-10/20 | 475/50 | 1x3 |
| 3-155-45 | 40/80-10 | 475/300 | 1⅜x3½ |
| 3-155-52 | 20/20-10 | 475/350 | 1x3½ |
| 3-155-60 | 20-10/100 | 475/400 | 1⅜x4 |
| 3-155-75 | 40/80-10 | 475/450 | 1⅜x4 |
| **3-155-90 | 30-20/20 | 500/25 | 1⅜x2½ |
| 3-156 | 10-10/100 | 500/50 | 1x3½ |
| 3-157 | 20-10/100 | 500/50 | 1x4 |
| 3-158 | 30-10/20 | 500/50 | 1⅜x2½ |
| 3-159 | 40-40/100 | 500/200 | 1⅜x4 |
| 3-160 | 10-10/5 | 500/350 | 1x2½ |
| **3-160-50 | 10/40-40 | 500/450 | 1⅜x3½ |
| 3-161 | 20-20/60 | 500/450 | 1⅜x3½ |
| 3-162 | 40/25/130 | 150/25/15 | 1x3 |
| 3-162-80 | 50/100/25 | 150/50/25 | 1x2½ |
| 3-163 | 100/50/25 | 150/50/25 | 1x3 |
| 3-164 | 80/40/50 | 250/150/50 | 1⅜x2½ |
| 3-165 | 100/60/20 | 300/150/25 | 1⅜x3 |
| 3-165-30 AFHS | 140/200/100 | 300/150/50 | 1⅜x4 |
| 3-165-70 AFHS | 100/60/200 | 300/200/150 | 1⅜x4 |
| 3-166 | 20/50/100 | 350/100/75 | 1x3 |
| 3-167 | 10/50/100 | 350/150/50 | 1x3 |
| 3-167-25 AFHS | 40/80/500 | 350/200/25 | 1⅜x3½ |
| 3-167-50 | 125/5/100 | 350/200/75 | 1⅜x3½ |
| 3-168 | 50/10/500 | 350/250/5 | 1⅜x2½ |
| 3-169 | 30/30/20 | 350/300/25 | 1x3 |
| 3-169-50 | 30/50/20 | 350/300/25 | 1⅜x2½ |
| 3-169-90 | 10/40/5 | 350/300/150 | 1x2½ |
| 3-170 | 20/40/10 | 350/300/150 | 1x3½ |
| 3-170-50 | 40/20/10 | 350/300/200 | 1⅜x2 |
| 3-171 | 60/40/20 | 400/300/25 | 1⅜x3½ |
| 3-172 | 10/40/10 | 400/300/150 | 1⅜x2 |
| 3-173 | 55/50/80 | 400/300/250 | 1⅜x3½ |
| 3-174 | 10/50/30 | 400/350/25 | 1x3 |
| 3-174-50 | 80/80/100 | 400/350/50 | 1⅜x4 |
| 3-175 | 10/50/100 | 450/150/25 | 1x3 |
| 3-176 | 40/40/130 | 450/150/50 | 1⅜x3 |
| 3-177 | 40/100/50 | 450/150/50 | 1⅜x3 |
| 3-177-20 | 10/50/100 | 450/150/75 | 1x3 |
| 3-177-40 | 20/50/100 | 450/150/75 | 1⅜x2 |
| 3-177-80 | 20/80/50 | 450/200/150 | 1⅜x2½ |
| 3-178 | 20/60/100 | 450/250/25 | 1⅜x2½ |
| 3-178-25 | 10/10/50 | 450/250/50 | 1x2½ |
| 3-179 | 10/40/10 | 450/300/150 | 1⅜x2 |

*—New item.
**—Revised catalog number.

## TRIPLES — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 3-179-50 | 30/10/10 | 450/300/150 | 1x3 |
| 3-180 | 10/10/20 | 450/350/25 | 1x2 |
| 3-180-50 | 10/10/50 | 450/350/25 | 1x3 |
| 3-181 | 30/15/40 | 450/350/25 | 1x3 |
| 3-181-50 | 30/40/50 | 450/350/25 | 1x4 |
| 3-182 | 20/80/100 | 450/350/50 | 1⅜x3½ |
| 3-183 | 15/20/20 | 450/350/250 | 1⅜x2 |
| 3-184 | 20/15/10 | 450/350/300 | 1x3 |
| 3-185 | 10/30/150 | 450/400/5 | 1x3 |
| 3-186 | 30/50/40 | 450/400/25 | 1⅜x3 |
| 3-186-80 | 60/80/20 | 450/400/250 | 1⅜x4 |
| 3-186-90 | 4/40/40 | 450/400/300 | 1⅜x2½ |
| 3-187 | 10/30/30 | 450/400/300 | 1⅜x2½ |
| *3-187-20 | 60/80/20 | 450/400/350 | 1⅜x4 |
| 3-187-25 | 20/50/20 | 475/50/25 | 1x3 |
| 3-187-75 | 80/80/50 | 475/150/50 | 1⅜x4 |
| 3-188 | 10/100/40 | 475/200/50 | 1⅜x2½ |
| 3-188-50 | 40/40/100 | 475/250/100 | 1⅜x3 |
| 3-189 | 20/20/40 | 475/300/25 | 1⅜x2 |
| 3-189-40 | 10/4/100 | 475/350/50 | 1x2½ |
| 3-189-60 | 20/10/5 | 475/350/150 | 1x2½ |
| 3-189-70 | 10/4/40 | 475/350/300 | 1⅜x2 |
| 3-190 | 40/40/25 | 475/450/50 | 1⅜x3 |
| 3-190-80 | 10/45/100 | 475/450/200 | 1⅜x3 |
| 3-191 | 10/100/40 | 500/200/50 | 1⅜x2½ |
| 3-192 | 40/40/100 | 500/250/50 | 1⅜x3 |
| 3-193 | 20/20/40 | 500/300/25 | 1⅜x2 |
| 3-193-25 | 20/40/100 | 500/300/25 | 1⅜x2½ |
| 3-193-75 | 5/100/200 | 500/300/150 | 1⅜x4 |
| 3-194 | 40/40/25 | 500/400/50 | 1⅜x3 |

## QUADS

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-01 | 40-40-40-30 | 150 | 1⅜x2 |
| 4-01-40 | 100-80-60-40 | 150 | 1⅜x3 |
| *4-01-55 AFHS | 200-200-60-30 | 175 | 1⅜x4 |
| 4-01-60 | 40-40-40-40 | 200 | 1⅜x2 |
| 4-01-80 | 40-20-10-10 | 300 | 1⅜x2 |
| 4-02 | 40-40-20-10 | 300 | 1⅜x2½ |
| 4-02-10 | 40-40-30-20 | 300 | 1⅜x3 |
| 4-02-20 | 60-20-10-5 | 300 | 1⅜x2½ |
| 4-02-30 | 60-40-10-10 | 300 | 1⅜x2½ |
| 4-02-45 | 80-60-20-10 | 300 | 1⅜x4 |
| 4-02-60 | 100-40-20-20 | 300 | 1⅜x4 |
| *4-02-75 AFHS | 150-100-10-5 | 300 | 1⅜x4 |
| 4-02-90 | 200-20-20-20 | 300 | 1⅜x4 |
| 4-03 | 10-10-10-10 | 350 | 1⅜x2 |
| 4-04 | 40-20-20-10 | 350 | 1⅜x2½ |
| 4-04-50 | 40-40-40-40 | 350 | 1⅜x4 |
| 4-05 | 80-10-10-10 | 350 | 1⅜x3 |
| 4-05-50 | 80-40-10-4 | 350 | 1⅜x3½ |
| 4-05-60 | 100-40-10-10 | 350 | 1⅜x3½ |
| 4-06 | 30-30-20-20 | 400 | 1⅜x3 |
| 4-06-25 | 40-35-10-10 | 400 | 1⅜x3 |
| 4-06-40 | 50-40-30-20 | 400 | 1⅜x4 |
| 4-06-75 | 80-10-10-10 | 400 | 1⅜x3½ |
| 4-07 | 80-20-10-10 | 400 | 1⅜x3½ |
| 4-09 | 5-5-5-5 | 450 | 1⅜x2 |
| 4-10 | 10-10-10-10 | 450 | 1⅜x2 |
| 4-13 | 20-10-10-10 | 450 | 1⅜x2½ |
| 4-14 | 20-20-20-20 | 450 | 1⅜x3 |
| 4-15 | 30-15-15-15 | 450 | 1⅜x3 |
| 4-15-10 | 30-20-20-10 | 450 | 1⅜x3 |
| **4-15-20 | 30-30-15-10 | 450 | 1⅜x3 |

÷—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.

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# ELECTROLYTICS — (Continued)

## QUADS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-15-30 | 30-30-20-20 | 450 | 1⅜x3 |
| **4-15-40 | 30-30-30-15 | 450 | 1⅜x4 |
| 4-16 | 35-35-10-5 | 450 | 1⅜x3½ |
| 4-17 | 40-10-10-10 | 450 | 1⅜x3 |
| 4-18 | 40-20-10-10 | 450 | 1⅜x3 |
| 4-18-10 | 40-35-10-10 | 450 | 1⅜x3 |
| 4-18-20 | 40-40-5-5 | 450 | 1⅜x4 |
| 4-18-30 | 40-40-20-20 | 450 | 1⅜x4 |
| 4-18-40 | 40-40-30-30 | 450 | 1⅜x4 |
| 4-18-45 | 40-40-40-40 | 450 | 1⅜x4 |
| 4-18-50 | 60-20-20-20 | 450 | 1⅜x4 |
| 4-18-60 | 60-30-10-2 | 450 | 1⅜x3 |
| 4-18-75 | 70-10-10-5 | 450 | 1⅜x3 |
| 4-18-80 | 80-10-10-10 | 450 | 1⅜x4 |
| 4-19 | 10-10-10-10 | 475 | 1⅜x2 |
| 4-19-10 | 20-20-10-10 | 475 | 1⅜x2½ |
| 4-19-20 | 20-20-20-20 | 475 | 1⅜x3 |
| 4-19-40 | 40-10-10-10 | 475 | 1⅜x3 |
| 4-19-50 | 40-20-10-10 | 475 | 1⅜x3 |
| 4-20 | 10-10-10-10 | 500 | 1⅜x2 |
| 4-20-50 | 40-40-8-8 | 500 | 1⅜x4 |
| 4-21 | 30-20-20/200 | 150/10 | 1⅜x2 |
| 4-22 | 40-40-20/200 | 150/10 | 1⅜x2 |
| 4-23 | 60-40-20/200 | 150/10 | 1⅜x2 |
| 4-23-50 AFHS | 80-80-10/200 | 150/10 | 1⅜x2½ |
| 4-23-75 AFHS | 50-20/150-30 | 150/15 | 1⅜x2 |
| 4-25 | 20-20-20/20 | 150/25 | 1⅜x2 |
| 4-25-70 | 20-20/160-40 | 150/25 | 1⅜x2 |
| 4-26 | 30-30-30/40 | 150/25 | 1⅜x2 |
| 4-27 | 40-20-20/20 | 150/25 | 1⅜x2 |
| 4-28 | 40-40-30/20 | 150/25 | 1⅜x2 |
| 4-29 | 40-40-40/20 | 150/25 | 1⅜x2 |
| 4-30 | 40-40/40-40 | 150/25 | 1⅜x2 |
| 4-31 | 40-40-40/100 | 150/25 | 1⅜x2 |
| 4-32 | 40-40-40/160 | 150/25 | 1⅜x2 |
| 4-33 | 40-40/100-100 | 150/25 | 1⅜x2 |
| 4-33-20 | 40-40/200-100 | 150/25 | 1⅜x2 |
| 4-33-50 | 50-20-20/200 | 150/25 | 1⅜x2 |
| 4-34 | 50-30-30/100 | 150/25 | 1⅜x2 |
| 4-35 | 50-50-50/20 | 150/25 | 1⅜x2 |
| **4-35-15 | 60-20-10/20 | 150/25 | 1⅜x2 |
| 4-35-25 | 60-40-20/20 | 150/25 | 1⅜x2 |
| 4-35-50 AFHS | 60-60-10/60 | 150/25 | 1⅜x2 |
| **4-35-75 AFHS | 70-40-40/25 | 150/25 | 1⅜x2½ |
| 4-36 | 75-75-75/30 | 150/25 | 1⅜x3 |
| 4-37 | 80-40-40/20 | 150/25 | 1⅜x2 |
| 4-37-10 | 80-40-40/40 | 150/25 | 1⅜x2½ |
| 4-38 | 80-40-40/100 | 150/25 | 1⅜x2½ |
| 4-38-30 | 100-90-60/200 | 150/25 | 1⅜x3 |
| 4-38-75 | 125-125-40/100 | 150/25 | 1⅜x3 |
| 4-38-90 AFHS | 140-40/50-30 | 150/50 | 1⅜x3 |
| *4-38-95 AFHS | 200-200-100/10 | 150/75 | 1⅜x4 |
| 4-39 | 40-20-10/20 | 200/25 | 1⅜x2 |
| 4-40 | 40-20-10/20 | 250/25 | 1⅜x2 |
| 4-41 | 100-40-10/100 | 250/50 | 1⅜x3½ |
| 4-42 | 80-60-40/20 | 250/150 | 1⅜x3½ |
| 4-43 | 10-10-10/20 | 300/25 | 1⅜x2 |
| 4-44 | 40-20-20/25 | 300/25 | 1⅜x2 |
| 4-44-20 | 40-30-20/50 | 300/25 | 1⅜x2½ |
| 4-45 | 40-40-20/20 | 300/25 | 1⅜x3 |
| 4-46 | 60-40-20/50 | 300/25 | 1⅜x3 |
| 4-46-20 | 60-30-10/60 | 300/50 | 1⅜x2½ |
| 4-46-35 | 150-30-30/150 | 300/50 | 1⅜x4 |
| 4-46-50 | 10/200-140-30 | 300/150 | 1⅜x4 |
| 4-46-60 | 10/200-200-30 | 300/150 | 1⅜x4 |

*—New item.
**—Revised catalog number.

## QUADS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-47 | 40-40-40/20 | 300/150 | 1⅜x3 |
| **4-47-50 AFHS | 100-10/200-30 | 300/150 | 1⅜x4 |
| *4-47-60 AFHS | 140-10/200-60 | 300/150 | 1⅜x5 |
| 4-47-80 AFHS | 120-40-40/10 | 300/250 | 1⅜x4 |
| 4-48 | 10-10-10/20 | 350/25 | 1⅜x2 |
| 4-49 | 20-10-5/20 | 350/25 | 1⅜x2 |
| 4-49-25 | 30-10-5/200 | 350/25 | 1⅜x2 |
| 4-50 | 30-20-20/20 | 350/25 | 1⅜x2½ |
| 4-50-60 | 40-10/100-25 | 350/25 | 1⅜x2 |
| 4-50-90 | 40-20-5/10 | 350/25 | 1⅜x2½ |
| 4-51 | 40-20-20/25 | 350/25 | 1⅜x2½ |
| 4-52 | 40-40-20/20 | 350/25 | 1⅜x3 |
| 4-52-05 | 40-40-30/10 | 350/25 | 1⅜x3 |
| 4-53 | 40-40-40/40 | 350/25 | 1⅜x3 |
| 4-53-40 | 60-5/100-40 | 350/25 | 1⅜x2½ |
| 4-54 | 15-15-15/50 | 350/50 | 1⅜x2 |
| 4-55 | 40-30-10/50 | 350/50 | 1⅜x3 |
| 4-56 | 40-40-40/150 | 350/50 | 1⅜x3½ |
| 4-56-05 AFHS | 50-40-20/100 | 350/50 | 1⅜x3 |
| 4-56-30 | 60-25-25/100 | 350/50 | 1⅜x3 |
| 4-56-60 | 100-10-10/20 | 350/50 | 1⅜x3 |
| 4-56-65 | 100-20/50-30 | 350/50 | 1⅜x3½ |
| 4-56-75 | 100-40-30/50 | 350/50 | 1⅜x4 |
| *4-56-80 | 100-80-10/20 | 350/50 | 1⅜x4 |
| 4-56-85 | 140-20-10/100 | 350/50 | 1⅜x4 |
| *4-56-88 | 200-10/20-5 | 350/50 | 1⅜x4 |
| 4-56-90 | 90-30-5/100 | 350/75 | 1⅜x3½ |
| 4-56-92 | 20-10-5/60 | 350/200 | 1⅜x2½ |
| 4-56-93 | 20/100-100-20 | 350/200 | 1⅜x4 |
| 4-56-93.4 | 30-10-5/100 | 350/200 | 1⅜x2½ |
| *4-56-93.5 | 30-20-5/100 | 350/200 | 1⅜x3 |
| 4-56-94 | 10-10/10-10 | 350/300 | 1⅜x2 |
| 4-56-94.8 | 130-20-10/40 | 350/300 | 1⅜x4 |
| 4-56-95 AFHS | 160/60-10-4 | 350/300 | 1⅜x4 |
| 4-56-96 | 10-10/25-25 | 400/25 | 1⅜x2 |
| 4-57 | 20-20-20/20 | 400/25 | 1⅜x2½ |
| *4-57-40 | 80-40-10/20 | 400/25 | 1⅜x4 |
| 4-57-50 | 80-40-30/40 | 400/25 | 1⅜x4 |
| 4-57-55 | 90-40-10/40 | 400/25 | 1⅜x4 |
| 4-57-75 | 40-40-40/150 | 400/50 | 1⅜x4 |
| 4-57-85 | 80-20-10/100 | 400/50 | 1⅜x4 |
| 4-57-90 AFHS | 100-10/30-20 | 400/50 | 1⅜x3 |
| *4-57-93 AFHS | 80-40-10/100 | 400/200 | 1⅜x4 |
| 4-57-95 | 80-40/40-40 | 400/200 | 1⅜x4 |
| 4-58 | 40-10/80-10 | 400/250 | 1⅜x3½ |
| 4-58-50 | 80/40-20-10 | 400/300 | 1⅜x4 |
| 4-58-75 | 80-40/40-20 | 400/350 | 1⅜x4 |
| 4-59 | 10-10-10/20 | 450/25 | 1⅜x2 |
| 4-60 | 10-10-10/25 | 450/25 | 1⅜x2 |
| 4-61 | 10-10-10/100 | 450/25 | 1⅜x2 |
| 4-62 | 10-10-10/150 | 450/25 | 1⅜x2½ |
| 4-63 | 10-10/20-20 | 450/25 | 1⅜x2 |
| 4-65 | 20-10-10/100 | 450/25 | 1⅜x2 |
| 4-66 | 20-15/20-20 | 450/25 | 1⅜x2 |
| 4-67 | 20-20-20/20 | 450/25 | 1⅜x2½ |
| 4-68 | 30-15-15/40 | 450/25 | 1⅜x2½ |
| 4-69 | 30-20-20/20 | 450/25 | 1⅜x3 |
| 4-70 | 30-30-10/20 | 450/25 | 1⅜x3 |
| 4-70-10 | 30-30-10/125 | 450/25 | 1⅜x3 |
| 4-71 | 30-30-20/20 | 450/25 | 1⅜x3 |
| **4-71-25 | 30-30/125-125 | 450/25 | 1⅜x3 |
| 4-72 | 40-10-10/250 | 450/25 | 1⅜x3 |
| 4-73 | 40-10-10/300 | 450/25 | 1⅜x3 |
| 4-74 | 40-15-10/25 | 450/25 | 1⅜x3 |
| 4-75 | 40-20-10/20 | 450/25 | 1⅜x3 |

†—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.


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# ELECTROLYTICS — (Continued)

## QUADS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-76 | 40-20-20/20 | 450/25 | 1⅜x3 |
| 4-77 | 40-20-20/40 | 450/25 | 1⅜x3 |
| 4-78 | 40-30-10/20 | 450/25 | 1⅜x3 |
| 4-78-10 | 40-40-10/20 | 450/25 | 1⅜x3½ |
| 4-79 | 40-40-20/20 | 450/25 | 1⅜x3½ |
| 4-79-10 | 40-40-40/40 | 450/25 | 1⅜x4 |
| 4-79-20 | 60-40-40/10 | 450/25 | 1⅜x4 |
| 4-79-30 | 60-50-5/20 | 450/25 | 1⅜x4 |
| 4-80 | 20-20-20/100 | 450/50 | 1⅜x3 |
| 4-81 | 30-30-15/30 | 450/50 | 1⅜x3 |
| 4-82 | 30-30-15/100 | 450/50 | 1⅜x3½ |
| 4-83 | 40-20-10/100 | 450/50 | 1⅜x3½ |
| 4-84 | 40-40-10/20 | 450/50 | 1⅜x3 |
| 4.85 | 40-40/30-10 | 450/50 | 1⅜x3 |
| 4-85-25 | 40-40-10/50 | 450/50 | 1⅜x4 |
| 4-86 | 60-10-10/20 | 450/50 | 1⅜x3 |
| 4-86-20 | 60-30-30/150 | 450/50 | 1⅜x4 |
| 4-86-25 | 60-40-10/25 | 450/50 | 1⅜x4 |
| 4-87 | 40-40-10/100 | 450/100 | 1⅜x3½ |
| 4-88 | 60-10-10/20 | 450/150 | 1⅜x3 |
| 4-88-20 | 35-35-10/10 | 450/200 | 1⅜x3½ |
| 4-88-40 | 40-40-30/10 | 450/200 | 1⅜x4 |
| 4-88-50 | 40-40/100-60 | 450/200 | 1⅜x4 |
| 4-88-60 | 40-20-10/100 | 450/250 | 1⅜x4 |
| 4-88-70 | 60-10-10/40 | 450/250 | 1⅜x3½ |
| 4-88-80 | 10/100-20-20 | 450/300 | 1⅜x3 |
| 4-89 | 20-20/30-30 | 450/300 | 1⅜x3 |
| 4-90 | 20-20/20-10 | 450/350 | 1⅜x3 |
| 4-91 | 20-20/30-30 | 450/350 | 1⅜x3 |
| 4-91-50 | 40-10-10/40 | 450/350 | 1⅜x3 |
| 4-92 | 40-10/35-10 | 450/350 | 1⅜x3 |
| 4-92-50 | 40-20-20/20 | 450/350 | 1⅜x3 |
| 4-92-75 | 40-20/80-10 | 450/350 | 1⅜x4 |
| 4-93 | 40-40/30-30 | 450/350 | 1⅜x4 |
| 4-93-40 | 5/80-40-25 | 450/400 | 1⅜x4 |
| 4-93-45 | 10/80-40-25 | 450/400 | 1⅜x4 |
| 4-93-50 | 60/40-20-20 | 450/400 | 1⅜x4 |
| 4-93-75 | 30-30-10/20 | 475/25 | 1⅜x3 |
| 4-94 | 40-20-10/10 | 475/25 | 1⅜x3 |
| 4-94-50 | 20/80-20-10 | 475/300 | 1⅜x3½ |
| 4-94-60 | 50-30/20-20 | 475/300 | 1⅜x4 |
| 4-94-70 | 10/130-20-10 | 475/350 | 1⅜x4 |
| 4-94-75 | 20/60-40-10 | 475/350 | 1⅜x3½ |
| *4-94-85 | 30/135-10-10 | 475/350 | 1⅜x4 |
| 4-94-90 | 10/80-40-40 | 475/450 | 1⅜x4 |
| 4-95 | 20-20-10/10 | 500/300 | 1⅜x2½ |
| 4-96 | 50-30-10/20 | 500/300 | 1⅜x4 |
| 4-96-20 | 5/25-25/100 | 75/25/15 | 1⅜x2 |
| 4-96-50 | 40-40/50/80 | 250/150/50 | 1⅜x2½ |
| 4-96-75 | 80-8/40/50 | 250/150/50 | 1⅜x2½ |
| 4-96-90 | 10/10/100-20 | 250/200/25 | 1⅜x2 |
| 4-97 | 100/40/80-20 | 300/50/25 | 1⅜x2½ |
| *4-97-30 | 80-5/60/20 | 300/150/25 | 1⅜x3 |
| 4-97-40 | 20/150-150/100 | 300/150/50 | 1⅜x3½ |
| 4-97-75 | 100-40/125/50 | 300/150/50 | 1⅜x4 |
| *4-97-90 | 150-20/10/250 | 300/250/50 | 1⅜x4 |
| 4-98 | 20/150-80/20 | 350/150/25 | 1⅜x3 |
| 4-98-50 | 60/60-30/160 | 350/150/25 | 1⅜x3 |
| 4-98-70 | 60-20/80/100 | 350/150/50 | 1⅜x3½ |
| 4-99 | 15/80-40/200 | 350/200/25 | 1⅜x3 |

*—New item.
**—Revised catalog number.

## QUADS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-99-25 | 20/160-60/40 | 350/200/25 | 1⅜x2½ |
| 4-99-50 | 80-20/20/200 | 350/200/50 | 1⅜x3½ |
| †4-99-60 | 100-60/60/40 | 350/200/75 | 1⅜x4 |
| 4-99-75 | 20/100-100/10 | 350/200/100 | 1⅜x4 |
| 4-99-80 | 80-60/60/10 | 350/200/150 | 1⅜x4 |
| 4-99-90 | 60-40/60/20 | 350/250/150 | 1⅜x4 |
| 4-99-93 | 50-30/8/20 | 350/250/200 | 1⅜x2½ |
| 4-99-95 | 40-20/10/20 | 350/300/25 | 1⅜x2 |
| 4-100 | 40/40-20/20 | 350/300/25 | 1⅜x3 |
| 4-100-10 | 30-30/40/100 | 350/300/75 | 1⅜x3 |
| 4-100-25 | 50-25/100/20 | 400/50/25 | 1⅜x3 |
| 4-100-40 | 80-40/100/20 | 400/50/25 | 1⅜x4 |
| 4-100-45 | 20-10/10/25 | 400/100/25 | 1⅜x2 |
| 4-100-50 | 10-10/40/10 | 400/200/50 | 1⅜x2 |
| 4-100-65 AFHS | 40-40/80/80 | 400/250/50 | 1⅜x4 |
| 4-100-75 | 40/120-10/150 | 400/250/50 | 1⅜x4 |
| 4-101 | 5-5/50/80 | 400/300/250 | 1⅜x3 |
| 4-102 | 10/50-30/30 | 400/350/25 | 1⅜x3 |
| 4-102-15 | 50/60-40/20 | 400/350/25 | 1⅜x4 |
| 4-102-25 | 80/40-10/10 | 400/350/25 | 1⅜x4 |
| 4-102-40 | 20/40/100-10 | 400/350/50 | 1⅜x3 |
| 4-102-50 | 20/50-40/80 | 400/350/50 | 1⅜x3 |
| 4-102-75 | 30/60-20/100 | 400/350/50 | 1⅜x4 |
| 4-103 | 60-40/40/10 | 400/350/50 | 1⅜x3½ |
| *4-103-40 | 100-10/20/20 | 400/350/50 | 1⅜x4 |
| 4-104 | 40/10/80-10 | 400/350/250 | 1⅜x3 |
| 4-104-50 | 60-10/80/10 | 400/350/250 | 1⅜x4 |
| 4-105-10 | 10-10/20/60 | 450/150/25 | 1⅜x2 |
| 4-105-30 | 20-20/60/100 | 450/150/25 | 1⅜x2½ |
| 4-105-60 | 40-40/125/125 | 450/150/25 | 1⅜x4 |
| 4-106 | 40/40/30-10 | 450/150/50 | 1⅜x3 |
| 4-107 | 10-10/60/100 | 450/200/50 | 1⅜x3 |
| 4-107-50 | 10/80-40/100 | 450/200/50 | 1⅜x3 |
| 4-108 | 20/80-20/50 | 450/200/50 | 1⅜x3 |
| 4-108-10 | 35-25/20/100 | 450/200/50 | 1⅜x3 |
| 4-108-30 | 40/40-40/20 | 450/250/25 | 1⅜x3 |
| 4-108-40 | 60/80-40/20 | 450/250/150 | 1⅜x4 |
| 4-108-50 | 10-10/10/50 | 450/300/25 | 1⅜x2 |
| 4-108-60 | 25/100-10/60 | 450/300/50 | 1⅜x3 |
| 4-108-70 | 40/40-40/20 | 450/300/150 | 1⅜x3 |
| 4-108-90 | 10/100-20/20 | 450/300/200 | 1⅜x3 |
| 4-109 | 10/60-40/25 | 450/350/25 | 1⅜x3½ |
| 4-110 | 10/100-10/20 | 450/350/25 | 1⅜x3½ |
| 4-111 | 20/15-15/20 | 450/350/25 | 1⅜x2 |
| 4-111-50 | 20/80-50/100 | 450/350/50 | 1⅜x4 |
| 4-111-60 | 50/25-25/100 | 450/350/50 | 1⅜x3 |
| 4-112 | 30/40-40/10 | 450/350/200 | 1⅜x3½ |
| 4-112-10 | 20/20/50-20 | 450/400/50 | 1⅜x3½ |
| 4-112-20 | 80/40-10/150 | 450/400/50 | 1⅜x4 |
| 4-112-50 | 80/10/40-30 | 450/400/300 | 1⅜x4 |
| 4-112-75 | 10/100-10/100 | 475/300/25 | 1⅜x3½ |
| 4-112-80 | 10/140-4/100 | 475/300/50 | 1⅜x4 |
| 4-113 | 15-15/80/40 | 475/300/50 | 1⅜x3 |
| 4-113-20 | 10/30-5/80 | 475/350/50 | 1⅜x2½ |
| 4-113-40 | 40-10/4/40 | 475/350/300 | 1⅜x3 |
| 4-113-60 | 10/50-30/30 | 475/450/25 | 1⅜x3 |
| 4-113-80 | 20-10/20/100 | 475/450/25 | 1⅜x2½ |
| 4-114 | 10-5/80/40 | 475/450/50 | 1⅜x3½ |
| 4-114-50 | 10/40-10/100 | 475/450/50 | 1⅜x2½ |
| *4-114-55 | 10/10-4/20 | 500/300/25 | 1⅜x2 |
| 4-114-60 | 10/100-30/100 | 500/300/25 | 1⅜x3½ |
| 4-114-75 | 30/10/150-30 | 500/450/50 | 1⅜x3 |

†—Special construction for printed wiring.
AFHS—Denotes Selenium Rectifier Capacitor.

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# ELECTROLYTICS — (Continued)

## QUADS — (Continued)

| AFH No. | Capacity | Voltage | Size |
|---|---|---|---|
| 4-114-90 | 100/60/10/20 | 300/200/150/50 | 1⅜x3 |
| 4-115 | 120/20/100/20 | 300/250/50/25 | 1⅜x4 |
| 4-116 | 200/20/100/20 | 300/250/50/25 | 1⅜x4 |
| 4-116-50 | 40/100/100/25 | 350/250/50/25 | 1⅜x3½ |
| 4-117 | 20/40/10/250 | 350/300/150/50 | 1⅜x3 |
| 4-117-25 | 20/150/10/250 | 350/300/250/50 | 1⅜x4 |
| 4-117-40 | 20/10/10/20 | 400/350/200/25 | 1⅜x2 |
| 4-117-44 | 40/80/100/25 | 400/350/200/50 | 1⅜x4½ |
| 4-117-45 | 40/80/100/100 | 400/350/200/50 | 1⅜x4½ |
| 4-117-47 | 20/10/80/20 | 400/350/300/25 | 1⅜x3 |
| 4-117-48 | 40/30/10/20 | 400/350/300/25 | 1⅜x2 |
| 4-117-50 | 10/10/60/100 | 450/300/200/50 | 1⅜x3 |
| 4-117-60 | 10/40/40/100 | 450/300/250/50 | 1⅜x3½ |
| 4-117-75 | 30/40/50/200 | 450/300/250/150 | 1⅜x4 |
| 4-117-90 | 10/40/100/100 | 450/350/250/50 | 1⅜x3 |
| 4-117-95 | 30/25/50/200 | 450/400/250/150 | 1⅜x4 |
| 4-118 | 80/10/30/40 | 450/400/300/150 | 1⅜x4 |
| 4-118-50 | 5/60/50/20 | 450/400/350/25 | 1⅜x3 |
| 4-118-90 | 40/40/50/80 | 475/250/150/50 | 1⅜x3½ |
| 4-119 | 20/40/100/80 | 475/300/50/25 | 1⅜x3 |
| 4-120 | 10/40/80/100 | 475/350/200/100 | 1⅜x3½ |
| 4-120-10 | 20/40/80/100 | 475/350/200/100 | 1⅜x4 |
| 4-120-20 | 10/40/80/100 | 475/350/300/100 | 1⅜x4 |
| 4-120-50 | 10/40/100/10 | 475/400/50/25 | 1⅜x2½ |
| 4-120-75 | 10/40/4/100 | 475/400/350/50 | 1⅜x2½ |
| 4-121 | 10/10/80/50 | 475/450/200/50 | 1⅜x2½ |
| 4-121-50 | 25/20/20/100 | 475/450/300/50 | 1⅜x3 |
| 4-122 | 25/20/40/100 | 475/450/300/50 | 1⅜x3½ |
| 4-123 | 10/60/30/125 | 475/450/400/50 | 1⅜x4 |

## REPLACEMENTS FOR MODIFIED AFH and PR TYPES

| Old Cat. No. | Capacity and Voltage | New Cat. No. |
|---|---|---|
| AFH 1-68 | 125@450 | AFH 1-55-25 |
| AFHS 1-69 | 120@150 | AFHS 1-22 |
| AFHS 1-69A | 120@150 | AFHS 1-22-05 |
| AFHS 1-70 | 140@150 | AFHS 1-23 |
| AFHS 1-71 | 200@150 | AFHS 1-24-25 |
| AFHS 1-72 | 300@150 | AFHS 1-24-75 |
| AFHS 1-73 | 125@350 | AFHS 1-43 |
| AFH 2-42 | 30-10@400 | AFH 2-43-30 |
| AFH 2-70 | 40-25@500 | AFH 2-71-90 |
| AFH 2-77 | 40/20@150/50 | AFH 2-78-30 |
| AFH 2-83 | 30/30@350/300 | AFH 2-86-40 |
| AFHS 2-109 | 200-5@150 | AFHS 2-21 |
| AFHS 2-110 | 100-100@200 | AFHS 2-24-20 |
| AFH 3-11 | 70-40-40@150 | AFH 3-12-20 |
| AFH 3-16 | 30-15-15@250 | AFH 3-17-50 |
| AFH 3-24 | 80-20-10@300 | AFH 3-25-40 |
| AFH 3-32 | 30-30-10@450 | AFH 3-37-95 |
| AFH 3-40 | 60-30-10@450 | AFH 3-45-10 |
| AFH 3-96 | 10/80-80@450/250 | AFH 3-148-80 |
| AFH 3-102 | 15-10/120@450/300 | AFH 3-149-80 |
| AFH 3-114 | 40-20/10@350/150 | AFH 3-114-52 |
| AFH 3-126 | 20-10/20@450/25 | AFH 3-127-30 |
| AFH 3-155 | 10/40-40@500/450 | AFH 3-160-50 |
| AFH 3-195 | 30-20/20@500/25 | AFH 3-155-90 |
| AFHS 3-196 | 100-80/200@150/10 | AFHS 3-64-85 |
| AFHS 3-197 | 100/200-30@300/150 | AFHS 3-100-40 |
| AFH 4-11 | 30-30-15-10@450 | AFH 4-15-20 |
| AFH 4-12 | 30-30-30-15@450 | AFH 4-15-40 |
| AFH 4-24 | 60-20-10/20@150/25 | AFH 4-35-15 |
| AFH 4-105 | 30-30/125-125@450/25 | AFH 4-71-25 |
| AFHS 4-124 | 70-40-40/25@150/25 | AFHS 4-35-75 |
| AFHS 4-125 | 100-10/200-30@300/150 | AFHS 4-47-50 |
| PR 4-100 | 140-5/200-30@300/150 | PR 4-280 |

## AFH HARDWARE

### METAL WASHERS

| Cat. No. | Size |
|---|---|
| MW-1 | ¾" d. |
| MW-2 | 1" d. |
| MW-3 | 1⅜" d. |
| MW-4 | 1" in 1⅜" hole mounting |

### BAKELITE WASHERS

| Cat. No. | Size |
|---|---|
| BW-1 | ¾" d. |
| BW-2 | 1" d. |
| BW-3 | 1⅜" d. |
| BW-4 | 1" in 1⅜" hole mounting |

### INSULATING TUBES

| Cat. No. | Size |
|---|---|
| TU-1 | 1 x 2 |
| TU-2 | 1 x 2½ |
| TU-3 | 1 x 3 |
| TU-4 | 1 x 3½ |
| TU-5 | 1 x 4 |
| TU-6 | 1⅜ x 2 |
| TU-7 | 1⅜ x 2½ |
| TU-8 | 1⅜ x 3 |
| TU-9 | 1⅜ x 3½ |
| TU-10 | 1⅜ x 4 |

## TYPE PR Wax-Filled Tubular Capacitors

Wax-filled electrolytic tubulars in wax-impregnated cardboard tubes. Sections manufactured to same high standards as more expensive metal-cased units. These units are made for exact duplicate replacements in television receivers and antenna rotating devices. Tolerances meet RETMA standards and are manufactured for operating temperatures of 0-65°C. PR numbers designate replacements for Television Receivers. XA numbers designate replacements for Rotators.

## TYPE PR SINGLES

| PR No. | Capacity | Voltage | Size |
|---|---|---|---|
| XA-4283 | 70 | 50 (VAC) | ⅞x3 |
| *XA-4098A | 70 | 50 (VAC) | ⅞x3 |
| PR 1-050 | 100 | 150 | 1x3½ |
| PR 1-075 | 200 | 200 | 1⅜x3⅜ |
| PR 1-100 | 140 | 300 | 1⅜x3⅜ |

## TYPE PR DUALS

| PR No. | Capacity | Voltage | Size |
|---|---|---|---|
| ††PR 2-050 | 120-120 | 150 | 1⅛x4⅞ |
| PR 2-100 | 200-5 | 150 | 1x4 |
| PR 2-120 | 250-50 | 150 | 1⅜x3¼ |
| PR 2-200 | 120-80 | 200 | 1⅜x3 |
| PR 2-275 | 200-5 | 200 | 1⅛x4⅛ |
| PR 2-300 | 150-100 | 300 | 1⅜x4½ |
| PR 2-400 | 140-5 | 350 | 1¼x4⅛ |
| PR 2-600 | 40/125 | 200/40 | 1x3¼ |
| PR 2-700 | 50/75 | 250/50 | 1⅛x2¾ |
| PR 2-725 | 5/25 | 300/25 | ¾x1⅞ |
| PR 2-755 | 200/100 | 300/50 | 1¼x4⅝ |
| PR 2-800 | 20/100 | 450/25 | 1¼x2¾ |

* 5" leads. No bracket.
†† Separate sections.


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# ELECTROLYTICS — (Continued)

## TYPE PR TRIPLES

| PR No. | Capacity | Voltage | Size |
|---|---|---|---|
| PR 3-010 | 150-150-150 | 150 | 1⅜x4¼ |
| PR 3-012 | 250-200-10 | 150 | 1⅜x4⅜ |
| PR 3-020 | 60-60-60 | 300 | 1⅜x3½ |
| PR 3-025 | 60-60-4 | 350 | 1⅜x3¼ |
| PR 3-030 | 80-40-20 | 350 | 1⅜x3½ |
| †PR 3-035 | 30-10-10 | 450 | 1⅜x3½ |
| PR 3-043 | 250-120 50 | 150 25 | 1⅜x3⅞ |
| PR 3-045 | 100-10/20 | 300 25 | 1⅛x3½ |
| PR 3-046 | 100-100 200 | 300/25 | 1½x4½ |
| PR 3-046-50 | 120-40/100 | 300 50 | 1⅜x4 |
| PR 3-047 | 100-60/100 | 300/50 | 1⅜x4 |
| PR 3-048 | 100/200-40 | 300 200 | 1⅜x4½ |
| PR 3-050 | 10-10/100 | 350 50 | 1¼x2½ |
| PR 3-053 | 100-10/50 | 350/50 | 1⅜x3½ |
| PR 3-054 | 10/200-100 | 400/150 | 1⅜x4⅜ |
| PR 3-055 | 20-10/150 | 450 50 | 1⅜x3 |
| PR 3-060 | 20/200-5 | 450/200 | 1¼x4⅛ |
| PR 3-065 | 5/80-40 | 450 400 | 1¾x4¼ |
| PR 3-070 | 150/100, 80 | 150/50, 25 | 1⅜x3 |
| PR 3-080 | 80/10/100 | 300 250/50 | 1⅜x3½ |
| *PR 3-085 | 120/40, 100 | 300 250 50 | 1⅜x4 |
| PR 3-090 | 30/40/125 | 350/200 25 | 1⅜x2¼ |
| PR 3-100 | 140/5/200 | 350/300, 200 | 1½x4⅝ |
| PR 3-125 | 100/40/40 | 350 300/250 | 1⅜x3¾ |
| PR 3-150 | 30/50/100 | 450 150/25 | 1⅜x2½ |
| PR 3-160 | 25/100/100 | 450 150 50 | 1⅜x3 |

* Will be replaced by PR 3-046-50 when present stock is depleted.

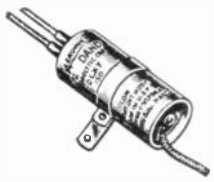
## TYPE PR QUADS

| PR No. | Capacity | Voltage | Size |
|---|---|---|---|
| PR 4-125 | 40-40-40-4 | 150 | 1x3 |
| PR 4-175 | 20-20-20-10 | 450 | 1⅜x3½ |
| PR 4-185 | 40-20-20-10 | 450 | 1⅜x3¾ |
| PR 4-200 | 40-40-20-20 | 450 | 1⅜x4½ |
| PR 4-220 | 40-20-20/100 | 150/25 | 1 1/16x3¼ |
| PR 4-225 | 40-10-10/200 | 150/35 | 1⅛x3 |
| PR 4-260 | 150-100-20/100 | 300/50 | 1⅜x5⅛ |
| PR 4-275 | 140-4/50-4 | 300/150 | 1⅜x3½ |
| PR 4-280 | 140-5/200-30 | 300/150 | 1½x4 |
| PR 4-285 | 140-10-5/200 | 300/150 | 1½x4⅜ |
| PR 4-300 | 120-40-40/10 | 300/250 | 1⅜x4¼ |
| PR 4-350 | 15-15/150-150 | 350/150 | 1⅜x4¼ |
| PR 4-450 | 80-60-20/40 | 350/300 | 1⅜x4⅝ |
| PR 4-500 | 10-10-10/150 | 450/50 | 1¼x3¾ |
| PR 4-600 | 140/5/200-30 | 350/300/200 | 1½x4⅝ |
| PR 4-700 | 80-10/40/100 | 400/300/50 | 1⅜x4 |
| PR 4-800 | 10/80/40-40 | 450/300/250 | 1⅜x3½ |
| PR 4-850 | 40/100/100/25 | 350/250/50/25 | 1⅜x3¼ |
| PR 4-875 | 140/5/200/100 | 350/300/200/150 | 1½x4⅛ |
| PR 4-900 | 20/120/40/100 | 450/300/250/50 | 1⅜x4¼ |

## TYPE PR QUINTS

| PR No. | Capacity | Voltage | Size |
|---|---|---|---|
| PR 5-500 | 40-20-20-20/50 | 300/50 | 1⅜x4 |

† Separate negative furnished for two 10 mfd sections.



## TYPE PRS "DANDEE" (85°C)

### SINGLES • DUALS • TRIPLES QUADS

### Metal Can

### Tubular Electrolytic Capacitors

### TYPE PRS-AC (AC rated units)

### NP-PRS (non-polarized units)

Compact, electrolytic tubular capacitors furnished in aluminum cans with cardboard insulating sleeves. Designed for use in television and radio applications where space is at a premium.

Included in this listing are the AC rated units (PRS-AC) and non-polarized units (NP-PRS) for replacement use in cross-over networks and color TV receivers. Also listed are Types PRSB — separate section, dual units for use in specialized applications.

Single section capacitors are furnished with bare tinned copper leads 3 inches long. Negative grounded to case. Multiple units are furnished with insulated, stranded copper leads 5 inches long. Negative is common and grounded to case. Multiple units have common cathode.

Sizes listed are diameters over cardboard insulating sleeve. For actual can size deduct 1/16" from diameter and 3/16" from length. Multiple units are supplied with mounting strap. If mounting strap is required on single units, specify on order.

Tolerance and surge voltage are in accordance with RETMA Specification RS-154.

## TYPE PRS — SINGLES

| Cap. Mfd. | Size |
|---|---|
| **4V** | |
| 2000 | 1 1/16 x 2¾ |
| **6V** | |
| 100 | 11/16 x 1¼ |
| 250 | 11/16 x 1¾ |
| 500 | 13/16 x 1¾ |
| 1000 | 15/16 x 2¼ |
| 1500 | 1 1/16 x 2¼ |
| 2000 | 1 1/16 x 2¾ |
| **12V** | |
| 100 | 11/16 x 1½ |
| 250 | 13/16 x 1¾ |
| 500 | 15/16 x 2¼ |
| 1000 | 1 1/16 x 3¼ |
| **15V** | |
| 100 | 11/16 x 1½ |
| 250 | 13/16 x 2¼ |
| 500 | 15/16 x 2¼ |
| 1000 | 1 1/16 x 2¼ |
| **25V** | |
| 10 | 9/16 x 1¼ |
| 16 | 9/16 x 1¼ |
| 25 | 9/16 x 1¼ |
| 50 | 11/16 x 1½ |
| 100 | 13/16 x 1½ |
| 250 | 15/16 x 2¼ |
| 500 | 1 1/16 x 2½ |
| **50V** | |
| 2 | 9/16 x 1 1/16 |
| 5 | 9/16 x 1¼ |
| 10 | 9/16 x 1¼ |
| 20 | 11/16 x 1¼ |
| 25 | 11/16 x 1¼ |
| 50 | 11/16 x 1¾ |
| 100 | 13/16 x 1¾ |
| 150 | 15/16 x 1¾ |
| 250 | 15/16 x 1¾ |
| 500 | 1 5/8 x 3 3/16 |
| **150V** | |
| 4 | 9/16 x 1¼ |
| 8 | 11/16 x 1¼ |
| 10 | 11/16 x 1¼ |
| 12 | 11/16 x 1¼ |
| 16 | 11/16 x 1½ |
| 20 | 11/16 x 1¾ |
| 24 | 11/16 x 1¾ |
| 30 | 13/16 x 1½ |
| 40 | 13/16 x 1¾ |
| 50 | 15/16 x 1¾ |
| 60 | 15/16 x 1¾ |
| 80 | 15/16 x 2¼ |
| 100 | 15/16 x 2¼ |
| 150 | 1 1/16 x 3 |
| 200 | 1 1/16 x 3 |
| 300 | 1 1/16 x 4 |
| **250V** | |
| 4 | 11/16 x 1¼ |
| 8 | 11/16 x 1½ |
| 12 | 11/16 x 1¾ |
| 16 | 13/16 x 1½ |
| 20 | 13/16 x 1½ |
| 30 | 13/16 x 2¼ |
| 40 | 13/16 x 2¼ |
| 50 | 15/16 x 2¼ |
| 60 | 15/16 x 2¼ |
| 100 | 1 1/16 x 3¼ |
| **350V** | |
| 4 | 11/16 x 1½ |
| 8 | 13/16 x 1½ |
| 10 | 13/16 x 1¾ |
| 12 | 13/16 x 1¾ |
| 16 | 13/16 x 1¾ |
| 24 | 15/16 x 1¾ |
| 30 | 13/16 x 2¼ |
| 40 | 15/16 x 2¼ |
| 50 | 1 1/16 x 2¼ |
| 60 | 1 1/16 x 2½ |
| **450V** | |
| 1 | 9/16 x 1¼ |
| 2 | 9/16 x 1¼ |
| 4 | 11/16 x 1½ |
| 8 | 13/16 x 1½ |
| 10 | 13/16 x 1¾ |
| 12 | 15/16 x 1½ |
| 16 | 15/16 x 1¾ |
| 20 | 1 1/16 x 1¾ |
| 30 | 1 1/16 x 2¼ |
| 40 | 1 1/16 x 2½ |
| 50 | 1 1/16 x 3¼ |
| 60 | 1 1/16 x 3¼ |
| 80 | 1 1/16 x 3¼ |
| 100 | 1 1/16 x 3¾ |
| **500V** | |
| 4 | 11/16 x 2 |
| 8 | 13/16 x 1¾ |
| 10 | 15/16 x 1¾ |
| 12 | 15/16 x 2¼ |
| 16 | 1 1/16 x 2¼ |
| 20 | 1 1/16 x 2¼ |
| 30 | 1 1/16 x 2¾ |
| **600V** | |
| 8 | 15/16 x 3 1/16 |
| 10 | 15/16 x 3 1/16 |
| 12 | 1 1/16 x 3 1/16 |
| 16 | 1 1/16 x 3 9/16 |
| 20 | 1 1/16 x 3 9/16 |
| **700V** | |
| 8 | 15/16 x 3 1/16 |
| 10 | 1 1/16 x 3 1/16 |
| 12 | 1 1/16 x 3 9/16 |
| 16 | 1 1/16 x 3 9/16 |

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# ELECTROLYTICS — (Continued)

## TYPE PRS — DUALS

| Cap. Mfd. | Size |
|---|---|
| | **25V** |
| 10-10 | 11/16 x 1¼ |
| 20-20 | 11/16 x 1¼ |
| | **50V** |
| 10-10 | 11/16 x 1½ |
| | **150V** |
| 8-8 | 11/16 x 1¾ |
| 16-8 | 11/16 x 2¼ |
| 20-10 | 13/16 x 1½ |
| 20-20 | 13/16 x 1¾ |
| 30-20 | 13/16 x 2¼ |
| 30-30 | 15/16 x 1¾ |
| 40-20 | 15/16 x 1¾ |
| 40-30 | 15/16 x 2¼ |
| 40-40 | 15/16 x 2¼ |
| 50-30 | 15/16 x 2¼ |
| 50-50 | 15/16 x 2¼ |
| 80-20 | 15/16 x 2¼ |
| 80-40 | 15/16 x 2¾ |
| 80-50 | 1 1/16 x 2¾ |
| 100-100 | 1 1/16 x 3¼ |

| Cap. Mfd. | Size |
|---|---|
| | **200V** |
| 8-8 | 11/16 x 1¾ |
| 16-8 | 11/16 x 2¼ |
| 16-16 | 13/16 x 1¾ |
| 30-30 | 15/16 x 2¼ |
| | **250V** |
| 10-10 | 13/16 x 1¾ |
| 16-8 | 13/16 x 1¾ |
| 16-16 | 13/16 x 2¼ |
| 20-20 | 15/16 x 2¼ |
| 30-30 | 15/16 x 2¼ |
| | **450V** |
| 8-8 | 13/16 x 2¼ |
| 10-10 | 15/16 x 2¼ |
| 16-8 | 15/16 x 2¼ |
| 16-16 | 1 1/16 x 2¼ |
| 20-20 | 15/16 x 3 1/16 |
| 30-30 | 1 1/16 x 3¼ |
| 40-20 | 1 1/16 x 3¼ |
| 40-40 | 1 1/16 x 4 |
| 50-30 | 1 1/16 x 4 |
| | **475/50V** |
| 20-100 | 1 x 2 11/16 |

## TYPE PRS — B

| Cap. Mfd. | Size |
|---|---|
| | **150V** |
| 20-20 | 1 x 2½ |
| 40-20 | 1 x 3 |
| | **250V** |
| 16-8 | 1 x 2½ |

| Cap. Mfd. | Size |
|---|---|
| 16-16 | 1 x 3 |
| | **450V** |
| 8-8 | 1 x 3 |
| 16-8 | 1⅛ x 3½ |
| 16-16 | 1⅜ x 3½ |

## TYPE PRS — TRIPLES

| Cap. Mfd. | Size |
|---|---|
| | **150V** |
| 20-20-20 | 15/16 x 1¾ |
| 30-20-10 | 15/16 x 1¾ |
| 30-30-20 | 1 1/16 x 1¾ |
| 30-30-30 | 15/16 x 2¼ |
| 40-20-20 | 15/16 x 2¼ |
| 40-30-20 | 15/16 x 2¼ |

| Cap. Mfd. | Size |
|---|---|
| 40-40-20 | 1 1/16 x 2¼ |
| 40-40-40 | 1 1/16 x 2¼ |
| 50-30-10 | 15/16 x 2¼ |
| 50-30-20 | 1 1/16 x 2½ |
| 80-40-20 | 1 1/16 x 2½ |
| | **450V** |
| 10-10-10 | 1 1/16 x 2¼ |

## TYPE PRS — MULTIPLES

| Cap. Mfd. | VDCW | Size |
|---|---|---|
| 30-20/100 | 150/25 | 15/16 x 2¼ |
| 40-30/20 | 150/25 | 15/16 x 2¼ |
| 50-30/100 | 150/25 | 1 1/16 x 2¼ |
| 50-30-250 | 150/25 | 1 1/16 x 2¾ |
| 50-50/20 | 150/25 | 1 1/16 x 2¼ |
| 40-40/250 | 150/10 | 1 1/16 x 2¼ |
| 20-20/20 | 150/25 | 13/16 x 1¾ |
| 30-20/20 | 150/25 | 15/16 x 1¾ |
| 40-20/20 | 150/25 | 15/16 x 1¾ |
| 40-40/20 | 150/25 | 1 1/16 x 1¾ |
| 40-40/100 | 150/25 | 1 1/16 x 2¼ |
| 50-30/20 | 150/25 | 1 1/16 x 1¾ |
| 80-20/100 | 150/25 | 1 1/16 x 2¼ |
| 80-40/20 | 150/25 | 1 1/16 x 2¼ |
| 20-20/20 | 450/25 | 1 1/16 x 2¾ |

## TYPE PRS — AC Rated — NP-PRS

| Cap. Mfd. | Size |
|---|---|
| | **10 VAC** |
| 8 | 11/16 x 1½ |
| | **25 VAC** |
| 20 | 13/16 x 1½ |
| | **TYPE NP-PRS Non-Polarized** |
| | **3 VNP** |
| 1000 | 1 1/16 x 2¼ |
| | **6 VNP** |
| 500 | 15/16 x 2¼ |
| | **10 VNP** |
| 25 | 7/16 x 1¼ |
| 50 | 13/16 x 1½ |
| 450 | 1 1/16 x 2¼ |
| 500 | 1 1/16 x 1¾ |

| Cap. Mfd. | Size |
|---|---|
| | **15 VNP** |
| 1000 | 1 1/16 x 3¾ |
| | **25 VNP** |
| 2 | 13/16 x 1½ |
| 10 | 7/16 x 1 5/16 |
| 50 | 15/16 x 1½ |
| 100 | 15/16 x 1¾ |
| | **30 VNP** |
| 20 | 13/16 x 1½ |
| | **50 VNP** |
| 2 | 13/16 x 1¼ |
| 4 | 13/16 x 1¼ |

| Cap. Mfd. | Size |
|---|---|
| | **150 VNP** |
| 40 | 1 1/16 x 2¼ |
| | **200 VNP** |
| 2 | 11/16 x 1¼ |
| | **300 VNP** |
| 20 | 13/16 x 1 13/16 |
| | **350 VNP** |
| 5 | 15/16 x 1¾ |
| 10 | 1 1/16 x 2 |
| | **400 VNP** |
| 10 | 1 1/16 x 2 |
| | **450 VNP** |
| 4 | 13/16 x 1½ |

## TYPE SRE "BANTAM" METAL TUBULAR ELECTROLYTICS

Smaller than the PRS, the SRE capacitor handles full-sized loads and is available in a wide range of capacitances and voltages. Ideal for cramped and limited space applications in hearing aids, personal portable radios, TV receivers and instruments. They are especially useful in low-voltage miniaturized circuits. Hermetically-sealed in aluminum cans and furnished with a cardboard insulating sleeve. Negative grounded to can.

| Cap. Mfd. | Size |
|---|---|
| | **3V** |
| 25 | ⅜ x 1 |
| 50 | ⅜ x 1 |
| 100 | ⅜ x 1 |
| 200 | ⅜ x 1⅝ |
| 300 | ½ x 1⅛ |
| 500 | ½ x 1⅝ |
| | **6V** |
| 5 | ⅜ x 1 |
| 25 | ⅜ x 1 |
| 50 | ⅜ x 1 |
| 100 | ½ x 1⅛ |
| 250 | ½ x 1⅝ |

| Cap. Mfd. | Size |
|---|---|
| | **12V** |
| 50 | ⅜ x 1⅛ |
| 100 | ½ x 1 |
| 200 | ½ x 1⅝ |
| | **15V** |
| 100 | ½ x 1⅛ |
| | **25V** |
| 5 | ⅜ x 1 |
| 10 | ⅜ x 1 |
| 20 | ⅜ x 1 |
| 25 | ⅜ x 1 |
| 50 | ½ x 1 |
| 100 | ½ x 1⅝ |

| Cap. Mfd. | Size |
|---|---|
| | **50V** |
| 1 | ⅜ x 1 |
| 2 | ⅜ x 1 |
| 5 | ⅜ x 1 |
| 10 | ⅜ x 1 |
| 15 | ⅜ x 1⅛ |
| 25 | ½ x 1 |
| | **70V** |
| 10 | ⅜ x 1 |
| | **150V** |
| 5 | ⅜ x 1 |
| 10 | ⅜ x 1⅝ |
| 15 | ½ x 1⅛ |
| 20 | ½ x 1⅝ |
| 25 | ½ x 1⅝ |


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# ELECTROLYTICS — (Continued)

## TYPE PWE "PEE-WEE" CERAMIC-CASED ELECTROLYTIC CAPACITORS

Aerovox presents a full line of miniature ceramic-cased electrolytic capacitors. These miniature units are encased in dense steatite tubes with a special Aerovox plastic end-fill which binds to the ceramic case.

This construction provides a most effective moisture barrier and insures maximum life. With the exception of the metal-cased, hermetically-sealed unit, the Type PWE capacitor offers the best humidity protection available.

These tiny capacitors are capable of handling full-sized loads and are rugged enough for industrial usage. They are especially suitable for limited space applications in transistorized radios, hearing-aids, instruments, etc.

Operating temperature range is minus 30 C/plus 65°C. Capacitance at 25°C is minus 10%/plus 250%.

| Capacity Mfds. | 3 VDCW Type No. | Size | 6 VDCW Type No. | Size | 10 VDCW Type No. | Size | 25 VDCW Type No. | Size | 50 VDCW Type No. | Size |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PWE 3001 | A | PWE 6001 | A | PWE 10001 | A | PWE 25001 | A | PWE 50001 | A |
| 2 | PWE 3002 | A | PWE 6002 | A | PWE 10002 | A | PWE 25002 | A | PWE 50002 | A |
| 3 | PWE 3003 | A | PWE 6003 | A | PWE 10003 | A | PWE 25003 | A | PWE 50003 | A |
| 5 | PWE 3005 | A | PWE 6005 | A | PWE 10005 | A | PWE 25005 | A | PWE 50005 | B |
| 8 | PWE 3008 | A | PWE 6008 | A | PWE 10008 | A | PWE 25008 | A | PWE 50008 | C |
| 10 | PWE 3010 | A | PWE 6010 | A | PWE 10010 | A | PWE 25010 | B | PWE 50010 | C |
| 15 | PWE 3015 | A | PWE 6015 | A | PWE 10015 | A | PWE 25015 | C | PWE 50015 | D |
| 20 | PWE 3020 | A | PWE 6020 | A | PWE 10020 | B | PWE 25020 | C | PWE 50020 | E |
| 25 | PWE 3025 | A | PWE 6025 | B | PWE 10025 | C | PWE 25025 | C | PWE 50025 | F |
| 30 | PWE 3030 | A | PWE 6030 | B | PWE 10030 | C | PWE 25030 | D | | |
| 40 | PWE 3040 | A | PWE 6040 | C | PWE 10040 | C | PWE 25040 | D | | |
| 50 | PWE 3050 | B | PWE 6050 | C | PWE 10050 | D | PWE 25050 | E | | |
| 100 | PWE 3100 | C | PWE 6100 | E | PWE 10100 | F | PWE 25100 | G | | |
| 200 | PWE 3200 | E | PWE 6200 | F | | | | | | |
| 250 | PWE 3250 | F | PWE 6250 | G | | | | | | |
| 300 | PWE 3300 | F | | | | | | | | |
| 500 | PWE 3500 | G | | | | | | | | |

| Code | Size DXL | Code | Size DXL |
|---|---|---|---|
| A | 1/4x3/4 | E | 3/8x1 |
| B | 1/4x7/8 | F | 3/8x1 1/4 |
| C | 3/8x3/4 | G | 3/8x2 |
| D | 3/8x7/8 | | |

## TYPE XPP — MINIATURIZED METAL-CASED ELECTROLYTICS

OPERATING TEMPERATURE RANGE — minus 20°C to plus 65 C

CAPACITANCE AT 25 C — minus 10%—plus 250%.

RC PRODUCT AT 25 C — 120 CPS: 500 maximum.
RC product (rated capacitance in mfd. x equivalent series resistance in ohms).

MAXIMUM LEAKAGE.
.15 microamperes mfd volt: below 10 volt rating.
.10 microamperes mfd volt: above 10 volt rating.

Aerovox now extends its line of electrolytic capacitors to include a new series of miniature hermetically-sealed, metal-cased, tubular aluminum electrolytic capacitors.

Designed specifically for those applications where size and weight are at a premium and must be kept at a minimum, Aerovox XPP electrolytics are ideal for all transistorized assemblies such as personal portable radios, hearing aids, instruments and many other miniaturized electronic apparatus. These new units offer the very latest technical advances with regard to extended life and provide for relatively high capacitance at low voltage.

| Cap. Mfds. | 3VDCW Type No. | Size | 6VDCW Type No. | Size | 10VDCW Type No. | Size | 12VDCW Type No. | Size | 15VDCW Type No. | Size | 25VDCW Type No. | Size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | XPP-3001 | A | XPP-6001 | A | XPP-10001 | A | XPP-12001 | A | XPP-15001 | A | XPP-25001 | B |
| 2 | XPP-3002 | A | XPP-6002 | A | XPP-10002 | A | XPP-12002 | A | XPP-15002 | A | XPP-25002 | B |
| 3 | XPP-3003 | A | XPP-6003 | A | XPP-10003 | B | XPP-12003 | B | XPP-15003 | C | XPP-25003 | C |
| 4 | XPP-3004 | A | XPP-6004 | B | XPP-10004 | B | XPP-12004 | B | XPP-15004 | C | XPP-25004 | C |
| 5 | XPP-3005 | A | XPP-6005 | B | XPP-10005 | B | XPP-12005 | B | XPP-15005 | C | XPP-25005 | C |
| 6 | XPP-3006 | A | XPP-6006 | B | XPP-10006 | C | XPP-12006 | C | XPP-15006 | C | XPP-25006 | C |
| 8 | XPP-3008 | B | XPP-6008 | B | XPP-10008 | C | XPP-12008 | C | XPP-15008 | C | XPP-25008 | E |
| 10 | XPP-3010 | C | XPP-6010 | C | XPP-10010 | C | XPP-12010 | C | XPP-15010 | C | XPP-25010 | E |
| 15 | XPP-3015 | C | XPP-6015 | C | XPP-10015 | C | XPP-12015 | C | XPP-15015 | D | XPP-25015 | F |
| 20 | XPP-3020 | C | XPP-6020 | D | XPP-10020 | D | XPP-12020 | D | XPP-15020 | E | XPP-25020 | F |
| 25 | XPP-3025 | C | XPP-6025 | D | XPP-10025 | E | XPP-12025 | E | XPP-15025 | E | XPP-25025 | F |
| 30 | XPP-3030 | D | XPP-6030 | E | XPP-10030 | E | XPP-12030 | E | XPP-15030 | F | | |
| 40 | XPP-3040 | D | XPP-6040 | E | XPP-10040 | E | XPP-12040 | F | XPP-15040 | F | | |
| 50 | XPP-3050 | D | XPP-6050 | E | XPP-10050 | E | XPP-12050 | F | XPP-15050 | F | | |
| 60 | XPP-3060 | E | XPP-6060 | F | | | | | | | | |
| 100 | XPP-3100 | F | | | | | | | | | | |

| | Size | | |
|---|---|---|---|
| A | 3/16x1/2 | D | 1/4x3/4 |
| B | 3/16x5/8 | E | 3/8x5/8 |
| C | 1/4x5/8 | F | 3/8x3/4 |

## TYPE FF Photo-Flash Capacitors

Highest purity materials make this unit possible. Due to selective choice of materials and quality-control-conscious production methods these units are furnished for the rugged photo-flash application calling for lowest leakage requirements.

Units are furnished in molded black plastic container, highly resistant to moisture and oil. With screw-lug terminals for rapid installation. Surge voltages and time duty cycles are as listed in RETMA Specification No. RS-154.

| Type Number | Cap. Mfd. | Working Voltage | Max. Surge Voltage | Watt Secs. | Size |
|---|---|---|---|---|---|
| FF-1 | 300 | 450 | 525 | 30 | 2 1/16 x 4 3/8 |
| FF-2 | 525 | 450 | 525 | 53 | 2 1/16 x 4 3/8 |

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# ELECTROLYTICS — (Continued)

## TYPE AEP Plug-in Electrolytic Capacitors

Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4-pin, octal-base mounting. For quick changes, readily removed and replaced in a standard oactal-base tube socket. For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in MIL Specification MIL C62A.

Operating temperature to +65°C. Quadruple element units furnished with ground lug for cathode connection.

| Type | Capacity Mfd. | VDCW | Diam. x Hght. |
|---|---|---|---|
| | SINGLE ELEMENT UNITS | | |
| AEP400P | 2000 | 15 | 1⅜ x 2½ |
| AEP5A | 25 | 25 | 1 5/32 x 2½ |
| AEP4D | 20 | 150 | 1 5/32 x 2½ |
| AEP8D | 40 | 150 | 1 5/32 x 2½ |
| AEP2J | 10 | 450 | 1 5/32 x 2½ |
| AEP3J | 15 | 450 | 1 5/32 x 2½ |
| AEP4J | 20 | 450 | 1 5/32 x 2½ |
| AEP6J | 30 | 450 | 1 5/32 x 2½ |
| AEP8J | 40 | 450 | 1 5/32 x 2½ |
| AEP16J | 80 | 450 | 1⅜ x 3½ |
| AEP2L | 10 | 600 | 1⅜ x 4¼ |
| | DUAL ELEMENT UNITS | | |
| AEP44D | 20-20 | 150 | 1 5/32 x 2½ |
| AEP88D | 40-40 | 150 | 1 5/32 x 2½ |
| AEP22J | 10-10 | 450 | 1 5/32 x 2½ |
| AEP44J | 20-20 | 450 | 1⅜ x 2½ |
| AEP88J | 40-40 | 450 | 1⅜ x 3 |
| | TRIPLE ELEMENT UNITS | | |
| AEP444D | 20-20-20 | 150 | 1 5/32 x 2½ |
| AEP88D4A | 40-40/20 | 150/25 | 1 5/32 x 2½ |
| AEP222J | 10-10-10 | 450 | 1 5/32 x 2½ |
| AEP22J4A | 10-10/20 | 450/25 | 1 5/32 x 2½ |
| AEP44J4A | 20-20/20 | 450/25 | 1⅜ x 2½ |
| AEP444J | 20-20-20 | 450 | 1⅜ x 3 |
| AEP822J | 40-10-10 | 450 | 1⅜ x 3 |
| | QUADRUPLE ELEMENT UNITS | | |
| AEPG444D4A | 20-20-20/20 | 150/25 | 1⅜ x 2½ |
| AEPG2222J | 10-10-10-10 | 450 | 1⅜ x 2½ |
| AEPG444J4A | 20-20-20/20 | 450/25 | 1⅜ x 3 |

## TYPE G Insulated Screw-Mounting Capacitors

Hermetically-sealed aluminum can unit, threaded cover size ⅞—16 with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection through terminal in cover. These units are the equivalent of case style CE41 and 42 of specification MIL C62A.

| Cap. Mfd. | Size—DxH | List Price |
|---|---|---|
| **SINGLE ELEMENT** | | |
| TYPE G475 | | |
| 475 VDCW | 525V. Surge Peak | |
| *4 | 1⅜ x 2¼ | $4.05 |
| *8 | 1⅜ x 2¼ | 4.20 |
| TYPE G450 | | |
| 450 VDCW | 500V. Surge Peak | |
| *4 | 1⅜ x 2¼ | 4.00 |
| *8 | 1⅜ x 2¼ | 4.00 |
| 10 | 1⅜ x 2¼ | 4.20 |
| *12 | 1⅜ x 2¼ | 4.30 |
| *16 | 1⅜ x 2¼ | 4.35 |
| 20 | 1⅜ x 2¼ | |
| *30 | 1⅜ x 2¼ | |
| 40 | 1⅜ x 2¾ | |
| 80 | 1⅜ x 4¼ | |
| **DUAL ELEMENT** | | |
| TYPE G450 | | |
| *8-8 | 1⅜ x 2¼ | |
| 10-10 | 1⅜ x 2¼ | |
| *12-12 | 1⅜ x 2¼ | |
| *16-8 | 1⅜ x 2¼ | |
| *16-16 | 1⅜ x 2¾ | |
| 20-20 | 1⅜ x 2¾ | |

* To be discontinued when present stock is depleted.

## TYPE GL and GLS

These ever-popular inverted-mounting, aluminum can units, are furnished with the same high purity materials as the more expensive type E and G. Two separate color-coded leads 4" long, for each section. Inverted chassis mounting can be made, using palnut and threaded neck. Threaded neck size ⅝—18.

Type GL is furnished in 1⅜" diameter.

Type GLS is similar, except furnished in 1" diameter cans for more compact assemblies.

### TYPE GL SINGLE ELEMENT

| Cap. Mfd. | Size—DxH |
|---|---|
| TYPE GL600 | |
| 600 VDCW | 750V. Surge Peak |
| 4 | 1⅜ x 4 |
| 8 | 1⅜ x 4½ |
| 16 | 1⅜ x 4½ |
| TYPE GL475 | |
| 475 VDCW | 525V. Surge Peak |
| 8 | 1⅜ x 3 |
| 12 | 1⅜ x 3 |
| 16 | 1⅜ x 3 |
| TYPE GL450 | |
| 450 VDCW | 500V. Surge Peak |
| 4 | 1⅜ x 3 |
| 8 | 1⅜ x 3 |
| 10 | 1⅜ x 3 |
| 12 | 1⅜ x 3 |
| 16 | 1⅜ x 3 |
| 20 | 1⅜ x 3 |
| 30 | 1⅜ x 3 |
| 40 | 1⅜ x 3 |
| 80 | 1⅜ x 4 |
| **DUAL ELEMENT** | |
| TYPE GL475 | |
| 8-8 | 1⅜ x 4 |
| TYPE GL450 | |
| 8-8 | 1⅜ x 4 |
| 10-10 | 1⅜ x 4 |
| 12-12 | 1⅜ x 4 |
| 16-8 | 1⅜ x 4 |
| 16-16 | 1⅜ x 4 |
| 20-20 | 1⅜ x 4 |
| **TRIPLE ELEMENT** | |
| TYPE GL450 | |
| 8-8-8 | 1⅜ x 4 |
| 10-10-10 | 1⅜ x 4 |

### TYPE GLS SINGLE ELEMENT

| Cap. Mfd. | Size—DxH |
|---|---|
| TYPE GLS450 | |
| 450 VDCW | 500V. Surge Peak |
| 4 | 1 x 2 3/16 |
| 8 | 1 x 2 11/16 |
| 12 | 1 x 3¼ |
| 16 | 1 x 3¼ |
| **DUAL ELEMENT** | |
| TYPE GLS450 | |
| 8-8 | 1⅜ x 3 |


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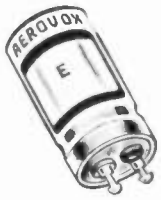
# ELECTROLYTICS — (Continued)




## TYPE E
## Hermetically-Sealed, Aluminum, Round Metal-Cased Capacitors

Can be mounted with terminals upright or inverted by use of a ring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triples.

These units are the equivalent of case style CE31, 2 and 3 of MIL Specification C62A.

### SINGLE ELEMENT

| Capacity Mfd. | Can Size — Dia. x Hght. |
|---|---|
| | 475 VDCW |
| *4 | 1⅜ x 2¼ |
| | 450 VDCW |
| *4 | 1⅜ x 2¼ |
| *8 | 1⅜ x 2¼ |
| 10 | 1 x 2¼ |
| *12 | 1⅜ x 2¼ |
| *16 | 1⅜ x 2¼ |
| 20 | 1 x 2¾ |
| *30 | 1⅜ x 2¼ |
| 40 | 1⅜ x 2¾ |
| 80 | 1⅜ x 4¼ |
| | 250 VDCW |
| 500 | 2 x 4⅛ |
| | 50 VDCW |
| 10 | 1 x 1¾ |
| 25 | 1 x 1¾ |
| | 25 VDCW |
| 10 | 1 x 1¾ |
| 25 | 1 x 1¾ |
| | 1 VNP |
| 1250 | 1⅜ x 4¼ |

### DUAL ELEMENT

| | |
|---|---|
| | 450 VDCW |
| *8-8 | 1⅜ x 2¼ |
| 10-10 | 1⅜ x 2¼ |
| *12-12 | 1⅜ x 2¼ |
| *16-8 | 1⅜ x 2¼ |
| *16-16 | 1⅜ x 2¾ |
| 20-20 | 1⅜ x 2¾ |

### TRIPLE ELEMENT

| | |
|---|---|
| | 450 VDCW |
| *8-8-8 | 1⅜ x 2¼ |
| 10-10-10 | 1⅜ x 2¼ |
| | 350/50 VDCW |
| 30-30/50 | 1⅜ x 4¼ |

### QUADRUPLE ELEMENT

| | |
|---|---|
| | 350/150 VDCW |
| 20-10/5-5 | 1⅜ x 4¼ |

* To be discontinued when present stock is depleted.

## TYPE WR
## Replacement for Wet Electrolytic

Dry electrolytic for replacement of wet electrolytic units. Furnished in round aluminum cans, the range of capacities covers most applications in standard radio receivers and other equipment originally using wet type electrolytic capacitors. 450V. D. C.

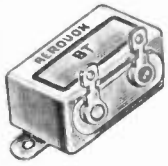
| Capacity Mfd. | Replacement for | Dia. x Hght. |
|---|---|---|
| 10 | 4 to 12 mfd. | 1⅜ x 3 |
| 20 | 16 to 20 mfd. | 1⅜ x 3 |
| 30 | 20 to 30 mfd. | 1⅜ x 3 |
| 40 | 30 to 40 mfd. | 1⅜ x 3 |

## TYPE HCLV
## High Capacity Low Voltage

Type HCLV Capacitors are high-capacity, low-voltage units for use in electric fence control, motion picture, sound equipment, and other low-voltage applications.

Units are furnished in round, hermetically-sealed aluminum cans and supplied with a cardboard outer insulating tube and mounting ring.

| Capacity Mfd. | Dia. x Hght. |
|---|---|
| | TYPE HCLV12 — 12 VDCW |
| 500 | 1⅜ x 2⅛ |
| 1000 | 1⅜ x 2⅛ |
| 2000 | 1⅜ x 3⅛ |
| 3000 | 1⅜ x 4⅛ |
| 4000 | 1½ x 4⅛ |
| | TYPE HCLV18 — 18 VDCW |
| 500 | 1⅜ x 2⅛ |
| 1000 | 1⅜ x 2⅛ |
| 2000 | 1⅜ x 3⅛ |
| 4000 | 1½ x 4⅛ |
| | TYPE HCLV25 — 25 VDCW |
| 500 | 1⅜ x 2⅛ |
| 1000 | 1⅜ x 3⅛ |
| 2000 | 1⅜ x 4⅛ |
| 3000 | 1¾ x 4⅛ |
| 4000 | 2 x 4⅛ |
| | TYPE HCLV50 — 50 VDCW |
| 1000 | 1⅜ x 4⅛ |
| 2000 | 1¾ x 4⅛ |
| 3000 | 2 x 4⅛ |
| 4000 | 2½ x 4⅛ |




## TYPE BT
## Drawn-Case "Bathtub" Electrolytic Capacitors

Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction, these high-quality units are equivalent to the case style CE63 of MIL Specification C62A.

| Capacity Mfd. | L x W x H |
|---|---|
| | TYPE BT500 — 500 VDCW |
| 4 | 2 x 2 x 1⅛ |
| 8 | 2 x 2 x 1⅛ |
| | TYPE BT450 — 450 VDCW |
| 8 | 1¾ x 1 x 1 |
| 12 | 1¾ x 1¼ x 1 |
| 16 | 2 x 1¾ x 1 |
| | TYPE BT350 — 350 VDCW |
| 8 | 1¾ x 1 x ⅞ |
| 12 | 1¾ x 1 x ⅞ |
| 16 | 1¾ x 1 x 1 |
| 20 | 1¾ x 1¼ x 1⅛ |
| | TYPE BT150 — 150 VDCW |
| 8 | 1¾ x 1 x ⅞ |
| 12 | 1¾ x 1 x ⅞ |
| 16 | 1¾ x 1 x ⅞ |
| 24 | 1¾ x 1 x ⅞ |
| 30 | 1¾ x 1 x 1 |
| 40 | 1¾ x 1 x 1 |
| | TYPE BT50 — 50 VDCW |
| 10 | 1¾ x 1 x ⅞ |
| 25 | 1¾ x 1 x ⅞ |
| 50 | 1¾ x 1 x ⅞ |
| | TYPE BT25 — 25 VDCW |
| 10 | 1¾ x 1 x ⅞ |
| 25 | 1¾ x 1 x ⅞ |
| 50 | 1¾ x 1 x ⅞ |

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World Radio History

# PAPER

## TYPE P84CM †DURAMIC Ceramic-Cased Tubular Capacitors

New ceramic (dense steatite) encased paper tubular for performance above that of conventional paper tubulars. New thermosetting end-seals for exceptional humidity protection — 250 hour humidity test as per REC-118. Firmly imbedded terminals will not work loose or pull out. Operating temps are —55°C to +85°C. Meets all requirements of RETMA Spec. REC-118, hi-temp range, class M.

| Cap. Mfd. | P284CM 200 VDCW Size Dia. x Lgth. | P484CM 400 VDCW Size Dia. x Lgth. | P684CM 600 VDCW Size Dia. x Lgth. | P1084CM 1000 VDCW Size Dia. x Lgth. | P1684CM 1600 VDCW Size Dia. x Lgth. | P2584CM 2500 VDCW Size Dia. x Lgth. | P6084CM 6000 VDCW Size Dia. x Lgth. |
|---|---|---|---|---|---|---|---|
| .0001 | | | | | | 3/8 x 1 1/2 | 3/8 x 1 3/4 |
| .00025 | | | | | | 3/8 x 1 1/2 | 3/8 x 1 3/4 |
| .0005 | | | 5/16 x 1 | | 5/16 x 1 | 3/8 x 1 1/2 | 7/16 x 1 3/4 |
| .001 | | | 5/16 x 1 | 5/16 x 1 | 3/8 x 1 1/4 | 3/8 x 1 1/2 | 17/32 x 1 3/4 |
| .0015 | | | 5/16 x 1 | 5/16 x 1 | 3/8 x 1 1/4 | | |
| .002 | | | 5/16 x 1 | 5/16 x 1 | 3/8 x 1 1/4 | | |
| .0022 | | | 5/16 x 1 | 5/16 x 1 | 3/8 x 1 1/4 | | |
| .003 | | | 5/16 x 1 | 5/16 x 1 | 7/16 x 1 1/4 | 7/16 x 1 1/2 | 5/8 x 2 1/8 |
| .0033 | | | 5/16 x 1 | 5/16 x 1 | 7/16 x 1 1/4 | | |
| .004 | | | 5/16 x 1 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | | |
| .0047 | | | 5/16 x 1 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | | |
| .005 | | | 5/16 x 1 | 3/8 x 1 1/4 | 7/16 x 1 1/2 | 17/32 x 1 9/16 | 3/4 x 2 1/8 |
| .006 | | | 5/16 x 1 | 3/8 x 1 1/4 | 17/32 x 1 9/16 | | |
| .0068 | | 5/16 x 1 | 3/8 x 1 1/4 | 3/8 x 1 1/4 | 17/32 x 1 9/16 | | |
| .01 | 5/16 x 1 | 5/16 x 1 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 15/16 x 2 1/8 |
| .015 | 3/8 x 1 1/4 | 3/8 x 1 1/4 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 5/8 x 1 7/8 | | |
| .02 | 3/8 x 1 1/4 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | | |
| .022 | 3/8 x 1 1/4 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 17/32 x 1 9/16 | 3/4 x 2 | | |
| .03 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 3/4 x 2 | 13/16 x 2 | *1 3/16 x 2 5/8 |
| .033 | 3/8 x 1 1/4 | 7/16 x 1 1/4 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 3/4 x 2 | | |
| .047 | 7/16 x 1 1/4 | 7/16 x 1 1/2 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 13/16 x 2 1/4 | | |
| .05 | 7/16 x 1 1/4 | 7/16 x 1 1/2 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 13/16 x 2 1/4 | 25/32 x 2 5/8 | *1 3/16 x 3 1/8 |
| .068 | 17/32 x 1 9/16 | 17/32 x 1 9/16 | 9/16 x 1 7/8 | 3/4 x 2 | 1 x 2 1/4 | | |
| .1 | 17/32 x 1 9/16 | 17/32 x 1 9/16 | 5/8 x 1 7/8 | 13/16 x 2 1/4 | 1 x 2 7/8 | *1 x 2 5/8 | |
| .15 | 17/32 x 1 3/4 | 5/8 x 1 7/8 | 3/4 x 2 | 1 x 2 1/4 | | *1 x 3 1/8 | |
| .2 | 5/8 x 1 7/8 | 5/8 x 1 7/8 | 13/16 x 2 1/4 | 1 x 2 1/4 | | | |
| .22 | 5/8 x 1 7/8 | 5/8 x 1 7/8 | 13/16 x 2 1/4 | 1 x 2 7/8 | | | |
| .25 | 5/8 x 1 7/8 | 3/4 x 2 | 7/8 x 2 1/4 | 1 x 2 7/8 | | | |
| .33 | 3/4 x 2 | 3/4 x 2 | 1 x 2 1/4 | | | | |
| .47 | 13/16 x 2 1/4 | 13/16 x 2 1/4 | 1 x 2 7/8 | | | | |
| .5 | 13/16 x 2 1/4 | 13/16 x 2 1/4 | 1 x 2 7/8 | | | | |
| .68 | 15/16 x 2 | 1 x 2 1/4 | *1 5/16 x 3 | | | | |
| 1.0 | 1 x 2 1/4 | 1 x 2 7/8 | | | | | |

† Trade Mark

| Cap. Mfd. | P10084CM 10,000 VDCW Size Dia. x Lgth. | P12584CM 12,500 VDCW Size Dia. x Lgth. | List Price | P15048CM 15,000 VDCW Size Dia. x Lgth. |
|---|---|---|---|---|
| .0001 | 7/16 x 2 1/4 | | | 17/32 x 2 1/2 |
| .00025 | 11/16 x 2 1/4 | 11/16 x 2 1/4 | 1.45 | 3/4 x 2 1/2 |
| .0005 | 11/16 x 2 1/4 | | | 7/8 x 2 1/2 |
| .001 | 15/16 x 2 1/4 | | | *1 x 2 1/2 |
| .003 | 1 x 2 3/4 | | | *1 1/4 x 3 |
| .005 | *1 x 3 | | | *1 3/8 x 3 1/4 |
| .01 | *1 3/8 x 3 | | | |

* Will be furnished in cardboard tube Type P84M.

### SPECIAL CLOSE TOLERANCE UNITS FOR HORIZONTAL OSCILLATOR CIRCUIT.

P84CM — Tolerance ± 10%

| Cap. Mfd. | 600 VDCW Size Dia. x Lgth. | 1000 VDCW Size Dia. x Lgth. |
|---|---|---|
| .0012 | 5/16 x 1 | 5/16 x 1 |
| .0039 | 5/16 x 1 | 5/16 x 1 |
| .0082 | 3/8 x 1 1/4 | 3/8 x 1 1/4 |
| .018 | 7/16 x 1 1/4 | 1/2 x 1 1/2 |
| .025 | 7/16 x 1 5/8 | 17/32 x 1 9/16 |
| .027 | 7/16 x 1 1/2 | 17/32 x 1 9/16 |
| .033 | 17/32 x 1 9/16 | 17/32 x 1 7/8 |
| .039 | 17/32 x 1 9/16 | 9/16 x 1 7/8 |
| .057 | 9/16 x 1 5/8 | 11/16 x 1 7/8 |

# "AUTOPASS" Type P-151N Vertical Mounting Bakelite-Cased Paper Capacitors

Aerovox Type P151N capacitors were specifically designed and developed for use in conjunction with printed-wiring assemblies where it is highly desirable to mount capacitors at right angles to the mounting surface thereby conserving valuable space.

Aerolene impregnated and assembled into a molded phenolic case, Type P151N capacitors are then sealed with a thermo-setting end-seal. The end-seal surface is below the outside edges of the plastic case, permitting the capacitor to be mounted flush against the mounting surface. The leads of these capacitors are stiff, and critical spacing is closely held to facilitate their use in mechanized assemblies. Outside foil is identified by wire lead nearest to edge of case or by a paint stripe on the case nearest the outside foil.

| Cap. | 200 D | 200 L | 400 D | 400 L | 600 D | 600 L | 1000 D | 1000 L |
|---|---|---|---|---|---|---|---|---|
| .001 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 | 1/2 | 1 1/4 |
| .0015 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 | 1/2 | 1 1/4 |
| .0022 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 | 1/2 | 1 1/4 |
| .0033 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 | 1/2 | 1 1/4 |
| .0047 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 | 1/2 | 1 1/4 |
| .0068 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 3/8 | 1/2 | 1 1/4 |
| .01 | 3/8 | 1 | 3/8 | 1 | 3/8 | 1 3/8 | 1/2 | 1 1/4 |
| .015 | 3/8 | 1 | 3/8 | 1 3/8 | 7/16 | 1 3/8 | 1/2 | 1 1/4 |
| .022 | 3/8 | 1 3/8 | 7/16 | 1 3/8 | 7/16 | 1 3/8 | 5/8 | 1 1/4 |
| .033 | 3/8 | 1 3/8 | 7/16 | 1 3/8 | 1/2 | 1 1/4 | 5/8 | 1 7/8 |
| .047 | 7/16 | 1 3/8 | 1/2 | 1 1/4 | 1/2 | 1 1/2 | 5/8 | 1 7/8 |
| .068 | 7/16 | 1 3/8 | 1/2 | 1 1/2 | 5/8 | 1 7/8 | 3/4 | 1 7/8 |
| .1 | 1/2 | 1 1/4 | 5/8 | 1 1/4 | 5/8 | 1 7/8 | 3/4 | 1 7/8 |
| .15 | 5/8 | 1 1/4 | 5/8 | 1 7/8 | 3/4 | 1 7/8 | | |
| .22 | 5/8 | 1 7/8 | 5/8 | 1 7/8 | 3/4 | 2 5/32 | | |
| .33 | 5/8 | 1 7/8 | 3/4 | 1 7/8 | 7/8 | 1 17/32 | | |
| .47 | 3/4 | 1 7/8 | | | | | | |

Standard Tolerance ±20%. For ±10% Add 15% to Price.


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# PAPER

## TYPE P88N †DURANITE Duranite Blue Moulded Tubular Capacitors

Toughest capacitors ever offered for radio-electronic equipment, DURANITE capacitors. Design, impregnant, processing, and casing insure glove-fitting contact and seal throughout. DURANITE provides a permanent, non-varying, rock-hard casing, does not dry out, does not develop cracks or fissures. Pig-tail leads firmly imbedded, won't pull out, won't work loose. Moisture-proof; operate from sub-zero to over 212°F. Exposure to temperatures of 250°F. will not impair life or performance, no deterioration on the shelf. A white band around one end of the capacitor identifies the outside foil.

| | P288N 200 V | | P488N 400 V | | P688N 600 V | | P1088N 1000 V | |
|---|---|---|---|---|---|---|---|---|
| Cap. Mfd. | Size | List Price | Size | List Price | Size | List Price | Size | List Price |
| .0001 | | | | | A | .25 | | |
| .00025 | | | | | A | .25 | | |
| .0004 | | | | | A | .25 | | |
| .0005 | | | | | A | .25 | | |
| .001 | A | .25 | A | .25 | A | .25 | A | .50 |
| .0015 | A | .25 | A | .25 | A | .25 | A | .50 |
| .002 | A | .25 | A | .25 | A | .25 | A | .50 |
| .0022 | A | .25 | A | .25 | A | .25 | A | .50 |
| .003 | A | .25 | A | .25 | A | .25 | B | .50 |
| .0033 | A | .25 | A | .25 | A | .25 | B | .50 |
| .004 | A | .25 | A | .25 | A | .25 | B | .50 |
| .0047 | A | .25 | A | .25 | A | .25 | B | .50 |
| .005 | A | .25 | A | .25 | A | .25 | B | .50 |
| .006 | A | .25 | A | .25 | B | .25 | B | .50 |
| .0068 | A | .25 | A | .25 | B | .25 | B | .50 |
| .007 | A | .25 | A | .25 | B | .25 | B | .50 |
| .0075 | A | .25 | A | .25 | B | .30 | B | .50 |
| .008 | A | .25 | A | .25 | B | .30 | B | .50 |
| .01 | A | .25 | A | .25 | B | .30 | B | .50 |
| .015 | A | .25 | B | .25 | B | .30 | D | .50 |
| .02 | B | .25 | B | .25 | D | .30 | E | .50 |
| .022 | B | .25 | B | .30 | D | .30 | E | .50 |
| .025 | B | .25 | B | .30 | D | .35 | E | .50 |
| .03 | B | .25 | B | .30 | D | .35 | E | .50 |
| .033 | B | .25 | B | .30 | E | .35 | E | .60 |
| .04 | B | .25 | D | .30 | E | .35 | F | .60 |
| .047 | B | .25 | D | .30 | E | .35 | F | .60 |
| .05 | B | .25 | D | .30 | E | .40 | F | .60 |
| .06 | D | .30 | E | .30 | F | .40 | F | .60 |
| .068 | D | .30 | E | .35 | F | .40 | F | .70 |
| .075 | D | .30 | E | .35 | F | .45 | | |
| .1 | D | .35 | E | .35 | F | .45 | | |
| .15 | E | .35 | F | .40 | F | .50 | | |
| .2 | F | .35 | F | .40 | G | .50 | | |
| .22 | F | .40 | F | .40 | G | .55 | | |
| .25 | F | .40 | F | .40 | G | .55 | | |
| .27 | F | .45 | G | .50 | H | .60 | | |
| .33 | F | .50 | G | .50 | H | .65 | | |
| .47 | F | .60 | G | .60 | H | .75 | | |
| .5 | F | .60 | G | .60 | H | .80 | | |
| 1.0 | H | 90 | H | .90 | | | | |

| Size | Length x Dia. | Size | Length x Dia. |
|---|---|---|---|
| A | 1 1/8 x 11/32 | E | 1 5/8 x 17/32 |
| B | 1 3/8 x 13/32 | F | 2 x 21/32 |
| | | G | 2 1/4 x 3/4 |
| D | 1 3/8 x 15/32 | H | 2 1/2 x 1 |

## TYPE P85N Miniaturized Aerolene Capacitors

Miniaturized Aerolene (Hyvol N) impregnated tubular units. Duranite endfill excludes moisture. Designed for personal radios, hearing aids and miniature assemblies requiring maximum performance in minimum size. Operating temperature range —30°C. to +100°C.

Standard Tolerance
Up to .0099 MFD +30%—20%
.01 MFD and up, ±20%

| Cap. Mfd. | 200 V | List Price | 400 V | List Price | 600 V | List Price |
|---|---|---|---|---|---|---|
| .00025 | 13/64 x 19/32 | .35 | 13/64 x 21/32 | .35 | 13/64 x 21/32 | .35 |
| .0005 | 13/64 x 19/32 | .35 | 13/64 x 23/32 | .35 | 13/64 x 23/32 | .35 |
| .001 | 13/64 x 19/32 | .35 | 13/64 x 23/32 | .35 | 15/64 x 23/32 | .35 |
| .0015 | 13/64 x 19/32 | .35 | 13/64 x 23/32 | .35 | 15/64 x 23/32 | .35 |
| .002 | 13/64 x 19/32 | .35 | 13/64 x 23/32 | .35 | 17/64 x 23/32 | .35 |
| .0022 | 13/64 x 19/32 | .35 | 13/64 x 23/32 | .35 | 17/64 x 23/32 | .35 |
| .003 | 13/64 x 19/32 | .35 | 15/64 x 23/32 | .35 | 19/64 x 23/32 | .35 |
| .0033 | 13/64 x 19/32 | .35 | 15/64 x 23/32 | .35 | 19/64 x 23/32 | .35 |
| .004 | 13/64 x 19/32 | .35 | 15/64 x 23/32 | .35 | 19/64 x 23/32 | .40 |
| .0047 | 15/64 x 19/32 | .35 | 15/64 x 25/32 | .35 | 19/64 x 25/32 | .40 |
| .005 | 15/64 x 19/32 | .35 | 15/64 x 25/32 | .35 | 19/64 x 25/32 | .40 |
| .006 | 15/64 x 19/32 | .35 | 17/64 x 25/32 | .35 | 21/64 x 25/32 | .45 |
| .0068 | 17/64 x 19/32 | .40 | 17/64 x 25/32 | .40 | 23/64 x 27/32 | .45 |
| .01 | 17/64 x 21/32 | .40 | 17/64 x 27/32 | .45 | 21/64 x 29/32 | .45 |
| .015 | 19/64 x 21/32 | .45 | 19/64 x 29/32 | .45 | 23/64 x 1 1/32 | .50 |
| .02 | 19/64 x 23/32 | .45 | 21/64 x 29/32 | .45 | 25/64 x 1 3/32 | .50 |
| .022 | 19/64 x 25/32 | .45 | 21/64 x 29/32 | .45 | 25/64 x 1 5/32 | .50 |
| .03 | 19/64 x 27/32 | .45 | 23/64 x 31/32 | .45 | 29/64 x 1 5/32 | .55 |
| .033 | 21/64 x 27/32 | .50 | 23/64 x 1 1/32 | .50 | 29/64 x 1 7/32 | .55 |
| .04 | 21/64 x 31/32 | .50 | 27/64 x 1 1/32 | .50 | 31/64 x 1 7/32 | .55 |
| .047 | 23/64 x 31/32 | .50 | 27/64 x 1 1/32 | .50 | 31/64 x 1 9/32 | .55 |
| .05 | 23/64 x 31/32 | .50 | 27/64 x 1 1/32 | .50 | 33/64 x 1 9/32 | .60 |
| .068 | 25/64 x 1 1/32 | .55 | 29/64 x 1 7/32 | .55 | 37/64 x 1 9/32 | .60 |
| .1 | 27/64 x 1 1/32 | .60 | 31/64 x 1 7/32 | .65 | 43/64 x 1 9/32 | .70 |

Note: Other capacities and voltage ranges available on special order.

| Cap. Mfd. | 100 VDCW | List Price |
|---|---|---|
| .25 | .489 x 1 5/32 | .70 |
| .50 | .645 x 1 5/32 | .80 |

## TYPE RC Resonant Capacitors

† Trade Mark

Resonant capacitors for adequate bypassing of IF circuits in order to keep IF frequencies from entering such circuits and causing troublesome squeals and howls.
AEROVOX RESONANT CAPACITORS, Series RC, are available in conventional tubular design, wax impregnated and wax sealed as follows:

| Catalog No. | Capacity Mfd. | WVDC | DXL | List Price |
|---|---|---|---|---|
| RC2 | .05 | 400 | 1/2 x 1 1/8 | $.50 |
| RC3 | .1 | 400 | 1/2 x 1 5/8 | .65 |
| RC4 | .2 | 400 | 9/16 x 1 7/8 | .70 |

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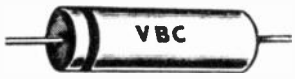
World Radio History

# PAPER

## Type VBC Vibrator Buffer Capacitors




| Type | Cap. Mfd. | Size |
|---|---|---|
| VBC-2 | .001 | 3/8 x 1 1/4 |
| VBC-3 | .002 | 3/8 x 1 1/2 |
| VBC-4 | .0022 | 3/8 x 1 1/2 |
| VBC-5 | .003 | 3/8 x 1 1/2 |
| VBC-6 | .0033 | 7/16 x 1 1/2 |
| VBC-7 | .004 | 7/16 x 1 1/2 |
| VBC-8 | .0047 | 7/16 x 1 1/2 |
| VBC-9 | .005 | 15/32 x 1 1/2 |
| VBC-22 | .006 | 15/32 x 1 1/2 |
| VBC-23 | .0068 | 17/32 x 1 1/2 |
| VBC-24 | .007 | 17/32 x 1 1/2 |

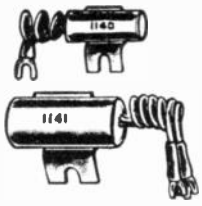
These units are heavy-duty, Hyvol M impregnated, vibrator buffer capacitors in ceramic tubes, specifically designed for severe-service auto-radio applications.

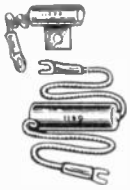
| Type | Cap. Mfd. | Size |
|---|---|---|
| VBC-25 | .0075 | 17/32 x 1 1/2 |
| VBC-26 | .008 | 17/32 x 1 1/2 |
| VBC-27 | .01 | 9/16 x 1 1/2 |
| VBC-28 | .015 | 5/8 x 1 3/4 |
| VBC-29 | .02 | 5/8 x 2 |
| VBC-32 | .025 | 5/8 x 2 |
| VBC-33 | .03 | 3/4 x 2 |
| VBC-34 | .05 | 15/16 x 2 |
| VBC-35 | .015-.015 | 13/16 x 2 |
| VBC-45 | .007 3000 V | 11/16 x 2 |

**Vibrator "HASH" Capacitor VHC36**

.5 Mfd. 100 Volts WVDC 13/16 x 1 1/8

## AUTO-RADIO CAPACITORS



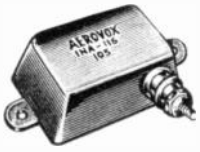
| Type | Cap. Mfd. |
|---|---|
| **SINGLE ELEMENT** | |
| Car Generators | |
| Type 1120 | 1.0 |
| Type 1140 | 0.5 |
| **DUAL ELEMENT** | |
| Type 1141 | 0.5-0.5 |
| Ford Auto Radios | |
| Type 1144 | 0.5 |
| For 1936 Models | |
| Type 1150 | 0.5 |

| Type | Cap. Mfd. |
|---|---|
| Motorola Auto Radios | |
| Type 1466 | .0008 |
| Ammeter Condenser | |
| Type 1160 | 0.5 |
| Gas Gage Filter Condenser | |
| Type 1143-G | 0.05 |
| Oil Gage Filter Condenser | |
| Type 1142-O | 0.25 |

Note: All auto radio capacitors subject to Federal Excise Tax.

# FILTERS

## R-F NOISE CAPACITANCE SUPPRESSORS




**BYPASS**
**INA-116, INA-117, INA-118**

These radio-noise suppression capacitors have been especially designed for use in aircraft, vehicular and industrial electric and electronic fields.

Primary application of the INA-116, INA-117, and INA-118, is as r-f bypass capacitors from line to ground in low voltage DC supply lines. These units are rated at full 150 VDC over temperature range of −55°C. to +71°C. and 60 VDC from −55°C. to +95°C.

Types INA-218, INA-219, INA-220 and INA-221 are feed-thru capacitors in which the effective section inductance is minimized by the so-called "duct-type" design. Significant reductions can often be realized in size, weight and in some instances, overall cost by the use of feed-thru capacitors as compared to the conventional r-f suppression filter designs. The feed-thru capacitors listed below may be used with good characteristics to 1000 megacycles. Operating temperature range is −55°C. to +85°C.

**FEED-THRU**
**INA-218, INA-219, INA-220, INA-221**

| Type | Maximum Voltage | Nom. Cap. Rating (Mfd.) | Case Size | Mounting Centers |
|---|---|---|---|---|
| INA-117 | 150 VDC | 2.0 | 1 3/4 x 1 x 3/4 | 2 1/8 |
| INA-116 | 150 VDC | 4.0 | 1 3/4 x 1 x 7/8 | 2 1/8 |
| INA-118 | 150 VDC | 10.0 | 2 x 2 x 7/8 | 2 7/8 |
| INA-218 | 115 VAC - 200 VDC | .01 | 7/16 x 1 | 13/16 |
| INA-219 | 115 VAC - 200 VDC | .05 | 7/16 x 2 3/16 | 13/16 |
| INA-220 | 115 VAC - 200 VDC | .1 | 3/4 x 1 | 1 1/8 |
| INA-221 | 115 VAC - 200 VDC | .25 | 3/4 x 1 7/16 | 1 1/8 |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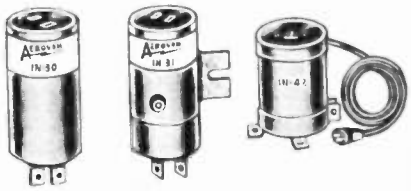
## FILTERS (Cont'd)

### INTERFERENCE FILTERS

TYPE IN-23. Especially used for neon sign fixtures. Convenient mounting bracket. One filter for each fixture. Flexible leads. Also used on small motors. Size: 1 x 2⅛ inches.

TYPE IN-27. Simple, inexpensive, plug-in unit where interference is slight. Size: 1⅜ x 1½ inches.

TYPE IN-28. For use where ground is at considerable distance. Most efficient when mounted on appliance. Bracket supplied. Size: 1⅜ x 2 inches.




TYPE IN-29. Effective plug-in unit for local noise sources of variable character but strong intensity. Especially suited for shavers and other vibrating devices. Sizes: 1⅜ x 3 inches.

TYPE IN-30. Similar to IN-29 but with greater inductance to handle more severe noise interference. Size: 1⅜ x 3 inches.

TYPE IN-31. Bracket mounted unit with high inductance. Size: 1⅜ x 3 inches.

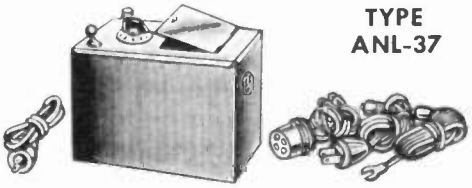
TYPE IN-42. Heavy duty unit for serious interference from power transmission lines, etc. Plugs into outlet. Appliance or radio plugs into receptacle in filter. Mounting ring provided. Rating: 110 220V AC; 6 amps. Size: 2½ inch dia. x 3¾ inch.

TYPE IN-105. Low-Impedance delta connected capacitor for fluorescent light fixture in bathtub case size 1¾" x 1" x ¾" high.

TYPE IN-106. Best filter for fluorescents. Balanced network. Especially suited for radio and television salesrooms. One unit per fixture in series where power leads enter. Metal container with four stranded wire leads. Rating: 125V AC or DC; 2.6 amps. Size: 1⅞" x 3" x 1⅜" high.

### INTERFERENCE ANALYZER

**TYPE ANL-37**



The Aerovox Filter Selector eliminates the guess work in determining the proper filter to use. Plugs between interfering device and outlet. Adjust selector switch until noise is eliminated or minimized. Dial then indicates type filter (IN27 thru IN42) to be used.

Unit in handsome, sturdy metal cabinet. Compartment contains necessary attachment plugs and clips. Size: 5½ x 5½ x 8 inches.

### UHF-INTERFERENCE FILTERS

These latest filter units provide maximum attenuation from 150 KC well up into the UHF range. And they are extra-rugged, extra-compact, extra-efficient, by any comparision with previous filters.

Primary applications are in r.f. noise suppression work in military or commercial aircraft and for vehicular low-voltage DC applications. Also, for special applications such as battery or low-voltage DC filters, for shield room applications, and for critical equipment.

Available in seven standard types meeting a wide variety of applications. For extraordinary requirements, special filters can be developed and built to your order.

| Type | Amps | VDC | L x W x H |
|---|---|---|---|
| IN 148 | 2.0 | 150 | 1¾" x 1" x ⅞" |
| IN 150 | 3.0 | 150 | 1 13/16" x 1" x 1" |
| IN 151 | 5.0 | 150 | 1 13/16" x 1¼" x 1" |
| IN 152 | 10.0 | 150 | 2 1/16" x 1¼" x 1" |
| IN 153 | 25.0 | 150 | 2" x 2" x 1 3/16" |
| IN 156 | 40.0 | 150 | 5 1/16" x 1 13/32" x 1 1/16" |
| IN 154 | 100.0 | 150 | 3 1/16" x 2 1/8" x 2 7/8" |

## FILTER APPLICATIONS

| For These Electrical Appliances | Use These Best Type | Aerovox Filters Also Satisfactory Types |
|---|---|---|
| Adding Machines | *IN-106 | IN-42, *IN-110 |
| Addressing Machines | *IN-106 | IN-42 |
| Air Conditioners | *INB Types | IN-42 |
| Auto Call Systems | IN-31 | IN-30, IN-29 |
| Barbers Clippers | IN-30 | IN-29 |
| Battery Chargers: | | |
| Mercury Arc | *INB Types | IN-42 |
| Rotary Type | *INB Types | |
| Vibrator Type | *INB Types | IN-42 |
| Billing Machines | *IN-106 | IN-42, IN-30, IN-29 |
| Calculating Machines | *IN-106 | IN-42, IN-30, IN-29, IN-31 |
| Cash Registers | IN-42 | IN-30, IN-29 |
| Dental Machines | IN-30 | IN-29 |
| Dial Telephones | Call Telephone Company | |
| Diathermy | *INB Types with shielding | |
| Dictating Machines | IN-31 | IN-30, IN-29, IN-42 |
| Dishwashers | IN-42 | |
| Drink Mixers | *IN-106 | IN-30, IN-29 |
| Drills | IN-105 | *IN-42 |
| Electric Towels | IN-42 | |
| Electric Typewriters | IN-42 | IN-31 |
| Elevator Motors | *INB Types | |
| Fans | *IN-106 | *IN-105, IN-42, IN-30, IN-29 |
| Floor Polishers | IN-42 | |
| Flour Bleachers | *INB Types | |
| Food Mixers | IN-30 | IN-29 |
| Fruit Juice Extractors | IN-30 | IN-29 |
| Fluorescent Lamps | IN-106 | *INB Types |
| Generators | *INB | IN-29 |
| Hair Dryers | IN-30 | IN-29 |
| Heating Pads | IN-30 | IN-29 |
| Humidifiers | *IN-106 | |
| Massage Machines | IN-42 | |
| Motors: | | |
| Large | *INB Types | *IN-105, IN-42 |
| Small | *IN-106 | |
| Motor generators | *INB Types | |
| Oil Burners | *INB Types | *IN-105, IN-42 |
| Ozonators | *IN-106 | IN-42, IN-30, IN-29, IN-27 |
| Radio Receivers | *IN-106 | |
| Refrigerators (home) | IN-42 | |
| Rotary Converters | *INB Types | |
| Service Booths | *INB Types | IN-42 |
| Sewing Machines | *IN-106 | |
| Shavers, Electric | *INB Types | IN-30, IN-31, IN-27 |
| Sign Flashers | IN-29 | |
| Stokers | *INB Types | IN-30, IN-29 |
| Vacuum Cleaners | IN-42 | |
| Washing Machines | IN-42 | |
| X-Ray Equipment | *INB Types | |

* Indicates permanently installed filter types.

(NOTE: IN-31 or IN-42 may be used for plug-in lamps such as fluorescent desk lamps).

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World Radio History

# Capacitors AEROVOX Resistors

## PAPER OIL

### TYPE JP20

**High Voltage Transmitter Capacitors**

High quality oil capacitors for communications, electronic and general DC applications in industrial equipment. Single or parallel grouped from 6000 to 50,000 VDCW. Heavy duty, highest quality precision construction thruout. Aerovox Hyvol impregnated. Hermetically sealed for long life under exacting operating conditions. Single units rated at 30 KV or less normally supplied with capacitor element insulated from ground. Units built to order. Submit full application information when ordering.

SIZE: HEIGHT x WIDTH x DEPTH

| Capacity Mfd. | 6000 VDCW | 7500 VDCW | 10,000 VDCW | 12,500 VDCW |
|---|---|---|---|---|
| .5 | | 11 x 8 x 4 | | 11 x 8 x 4 |
| 1.0 | | 11 x 8 x 4 | 11 x 8 x 4 | 11 x 12 x 4 |
| 1.5 | | | | |
| 2.0 | 11 x 8 x 4 | 11 x 8 x 4 | 11 x 12 x 4 | 13 x 12 x 6 |
| 4.0 | 11 x 12 x 4 | 13 x 12 x 4 | 13 x 12 x 6 | |
| 5.0 | 11 x 12 x 4 | | 13 x 12 x 6 | 15 x 12 x 9½ |
| 6.0 | 13 x 12 x 4 | 13 x 12 x 6 | | |
| 10.0 | 13 x 12 x 6 | | | |

| | 15,000 VDCW | 20,000 VDCW | 25,000 VDCW | 37,500 VDCW | 50,000 VDCW |
|---|---|---|---|---|---|
| .1 | | | | 13 x 13½ x 4 | 13 x 13½ x 4 |
| .2 | | | 11 x 12 x 4 | 13 x 13½ x 6 | 15 x 13½ x 8½ |
| .25 | 11 x 8 x 4 | 11 x 8 x 4 | 11 x 12 x 4 | 15 x 13½ x 8½ | 15 x 15½ x 15 |
| .5 | 11 x 12 x 4 | 11 x 12 x 4 | 11 x 12 x 6 | 15 x 13½ x 15 | |
| 1.0 | 13 x 12 x 4 | 13 x 12 x 6 | 15 x 12 x 9½ | | |
| 1.5 | | 15 x 12 x 9½ | | | |
| 2.0 | 15 x 12 x 9½ | 15 x 12 x 9½ | | | |
| 3.0 | 15 x 12 x 9½ | | | | |
| 4.0 | | 15 x 14 x 16 | | | |

For high-speed flash photography, flash signaling equipment, pulsing and other energy storage uses.

## TYPE PX—Energy Storage Capacitors

| VDC Peak | Nominal Cap. Mfd. | Type No. |
|---|---|---|
| | 22.5 Watt Seconds | |
| 1500 | 20 | PX10D1 |
| | 50.0 Watt Seconds | |
| 2000 | 28 | PX14D3 |
| | 75.0 Watt Seconds | |
| 2500 | 24 | PX14D2 |
| 3000 | 16 | PX18D1 |
| | 100.0 Watt Seconds | |
| 2500 | 30 | PX15D1 |
| 4000 | 12.5 | PX20D1 |

Size: Depth x Width x Height

| | |
|---|---|
| PX10D1 | 2½" x 3¾" x 4⅝" |
| PX15D1 | 4 9/16" x 3¾" x 6½" |
| ALL OTHERS | 4 9/16" x 3¾" x 4⅝" |

### TYPE 12

**Vertical-Mounting Oil-Impregnated Oil-Filled**

High-voltage, inverted or vertical, immersion-proof unit suitable for such high-voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or as a high-voltage by-pass capacitor.

| Cap. Mfd. | Hght. x Dia. | Cap. Mfd. | Hght. x Dia. | Cap. Mfd. | Hght. x Dia. |
|---|---|---|---|---|---|
| 2000 VDCW | | 4000 VDCW | | 7500 VDCW | |
| 1.0 | 3¾ x 2¼ | .05 | 2¾ x 2¼ | .01 | 3¼ x 2¼ |
| 2.0 | 5¼ s 2¼ | .1 | 3¾ x 2¼ | .02 | 3¼ x 2¼ |
| | | .25 | 5¼ x 2¼ | .03 | 3¾ x 2¼ |
| 3000 VDCW | | | | .05 | 4¼ x 2¼ |
| .05 | 2¼ x 2¼ | 6000 VDCW | | .1 | 4¾ x 2¼ |
| .1 | 2¼ x 2¼ | .03 | 2¾ x 2¼ | | |
| .25 | 3¼ x 2¼ | .05 | 3¾ x 2¼ | | |
| .5 | 3¼ x 2¼ | .1 | 4¾ x 2¼ | | |
| 1.0 | 5¼ x 2¼ | | | | |

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**


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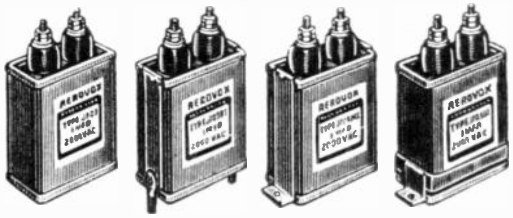
World Radio History

# INDUSTRIAL SECTION — STANDARD TYPES

## TYPE JPO9 HYVOL



JP09 JP09MSB JP09MS JP09MB

## PAPER CAPACITORS

Immersion-proof units in sturdy, rectangular metal cans. High-voltage, screw-type, pillar terminals fitted with soldering lugs. Use of HYVOL allows exceptionally compact size for capacity, working voltage and safety factor. Intended for heavy-duty, continuous service in transmitters, amplifiers, etc. Operating temperature −55 to +85°C.

Standard tolerance +20 −10%. Other tolerance on request.

Type MB bracket is supplied unless otherwise specified except on units with base sizes 3¾" x 3 9/16" and 3¾" x 4 9/16" where Type MS bracket is supplied. MSB bracket is available for all sizes on request.

| CAPACITY | SIZE |
|---|---|
| **600V** | |
| .5 | 1 1/16 x 1 13/16 x 2⅛ |
| 1.0 | 1 1/16 x 1 13/16 x 2¼ |
| 2.0 | 1 1/16 x 1 13/16 x 2⅞ |
| 3.0 | 1 1/16 x 1 13/16 x 3⅛ |
| 4.0 | 1 3/16 x 2½ x 3½ |
| 5.0 | 1 3/16 x 2½ x 4⅛* |
| | 1 1/16 x 1 13/16 x 4¾ |
| 6.0 | 1 3/16 x 2½ x 4¾ |
| 8.0 | 1¼ x 3¼ x 3⅛ |
| 10.0 | 1¼ x 3¼ x 4¾ |
| 12.0 | 1½ x 3¼ x 4¾ |
| 15.0 | 1¾ x 3¼ x 4¾ |
| **1000V** | |
| .1 | 1 1/16 x 1 13/16 x 1⅝ |
| .25 | 1 1/16 x 1 13/16 x 2¼ |
| .5 | 1 1/16 x 1 13/16 x 2¼ |
| 1.0 | 1 1/16 x 1 13/16 x 2¼ |
| 2.0 | 1 1/16 x 1 13/16 x 3⅞ |
| 3.0 | 1 3/16 x 2½ x 3½ |
| 4.0 | 1 3/16 x 2½ x 4¾ |
| 5.0 | 1¼ x 3¾ x 3⅞ |
| 6.0 | 1¼ x 3¼ x 3¾ |
| 8.0 | 1¼ x 3¼ x 4¼ |
| | 1¼ x 3¼ x 4¾ |
| 10.0 | 1¼ x 3¼ x 4¾ |
| 12.0 | 2¼ x 3¼ x 4½* |
| | 2¼ x 3¼ x 3⅞ |
| 15.0 | 2½ x 3¼ x 4¾ |
| **1500V** | |
| .5 | 1 1/16 x 1 13/16 x 2⅞ |
| 1.0 | 1 1/16 x 1 13/16 x 3⅞ |
| 2.0 | 1 3/16 x 2½ x 4¼ |
| 3.0 | 1 3/16 x 2½ x 4¾ |
| 4.0 | 1¼ x 3¼ x 4¾ |
| 5.0 | 1¾ x 3¼ x 4¾ |
| 6.0 | 1¾ x 3¼ x 4¾ |
| 8.0 | 2½ x 3¾ x 4¾ |
| 10.0 | 3 3/16 x 3¾ x 4¾ |
| 12.0 | 3 3/16 x 3¾ x 4¼ |
| 15.0 | 3¾ x 4 9/16 x 4¾ |
| **2000V** | |
| .1 | 1 1/16 x 1 13/16 x 2⅛ |
| .25 | 1 1/16 x 1 13/16 x 2⅛ |
| .5 | 1 3/16 x 2½ x 2⅞* |
| | 1 1/16 x 1 13/16 x 2⅞ |
| 1.0 | 1 3/16 x 2½ x 3½ |
| 2.0 | 1¼ x 3¼ x 4¼* |
| | 1¼ x 3¼ x 4 |
| 3.0 | 1¼ x 3¼ x 4¾ |
| 4.0 | 2¼ x 3¼ x 3⅞ |
| 5.0 | 2¼ x 3¼ x 4¾ |
| 6.0 | 3 3/16 x 3¼ x 4½ |
| 8.0 | 3 3/16 x 3¼ x 5⅛* |
| | 3 3/16 x 3¼ x 4¾ |
| 10.0 | 3¾ x 4 9/16 x 4¾ |
| 12.0 | 3¾ x 4 9/16 x 5½ |
| 15.0 | 3¾ x 4 9/16 x 6½ |
| **2500V** | |
| .5 | 1¾ x 3¼ x 3½ |
| 1.0 | 1¾ x 3¼ x 3¼ |
| 2.0 | 1¾ x 3¼ x 4¼ |
| 4.0 | 3¾ x 4 9/16 x 4⅛* |
| | 3¾ x 4 9/16 x 4 |
| 10.0 | 3¾ x 4 9/16 x 7* |
| | 3¾ x 4 9/16 x 6⅛ |
| **3000V** | |
| .1 | 1 3/16 x 2½ x 2 |
| .25 | 1 3/16 x 2½ x 2⅞* |
| | 1 3/16 x 2½ x 2½ |
| .5 | 1 3/16 x 2½ x 4¼* |
| | 1 3/16 x 2½ x 3⅞ |
| 1.0 | 2¼ x 3¼ x 3⅞ |
| 2.0 | 3 3/16 x 3¼ x 4½* |
| | 3 3/16 x 3¼ x 4⅛ |
| 4.0 | 3¾ x 4 9/16 x 4¼ |
| **4000V** | |
| .1 | 2¼ x 3¼ x 2 11/16 |
| .25 | 2¼ x 3¼ x 2¼ |
| .5 | 2¼ x 3¼ x 3⅞ |
| 1.0 | 2¼ x 3¼ x 5⅛ |
| 2.0 | 3¼ x 4 9/16 x 5⅛ |
| 4.0 | 3¼ x 4 9/16 x 8½ |
| **5000V** | |
| .1 | 2¼ x 3¼ x 2¾ |
| .25 | 2¼ x 3¼ x 3⅞ |
| .5 | 2¼ x 3¼ x 4½ |
| 1.0 | 3¼ x 4 9/16 x 4⅜ |
| 2.0 | 3¼ x 4 9/16 x 6 |
| **6000V** | |
| .1 | 2¼ x 3¼ x 3⅜ |
| .25 | 2¼ x 3¼ x 4½ |
| 1.0 | 3¼ x 4 9/16 x 7½ |
| **7500V** | |
| .1 | 2¼ x 3¼ x 3⅞ |
| .25 | 3¼ x 4 9/16 x 3⅞ |
| .5 | 3¼ x 4 9/16 x 5⅛ |

*To be supplied in this size until current stock is depleted after which alternate size will be supplied.

## TYPE JP10

Cylindrical hermetically sealed can with screwbase molded cover for vertical mounting. These units are Hyvol impregnated and filled for long life and safe operation at temperatures from −55 to +85°C.

Standard units have two terminals, case floating.

Standard tolerance +20% −10%. Other tolerances available on request.

| CAPACITY | 600VDCW SIZE | 1000VDCW SIZE | 1500VDCW SIZE |
|---|---|---|---|
| .5 | JP610 | JP1010 | JP1510<br>1½ x 2⅞*<br>1½ x 2⅛ |
| 1.0 | | 1½ x 2⅛ | 1½ x 4½*<br>1½ x 3⅞ |
| 2.0 | 1½ x 2⅞ | 1½ x 4½ | |
| 4.0 | 1½ x 4½ | | |

* To be supplied in this size until current stock is depleted after which alternate size will be supplied.

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World Radio History

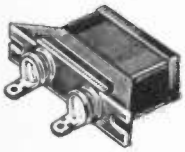
## INDUSTRIAL SECTION—STANDARD TYPES (Continued)

### TYPE JP16MCT and JP16M HYVOL

Small corrosion and immersion-proof unit for severe atmospheric and climatic conditions. JP16MCT is standard; JP16M is available in 400 and 600 volts. Operating temperature −55 to +85°C. Dual units have two terminals, case grounded. Standard tolerance +20 −10%. CP06S and CP06F brackets available for JP16M. Base Size 1 5/16 x 11/16.

| SINGLE CAPACITY | 400 VDCW HEIGHT JP416M, JP416MCT | 600 VDCW HEIGHT JP616M, JP616MCT | 1000 VDCW HEIGHT JP1016MCT | DUAL CAPACITY | 600 VDCW HEIGHT JP616M JP616MCT |
|---|---|---|---|---|---|
| .05 | | 1 1/16 | 1 3/8 | 2 x .05 | 1 3/8 |
| .1 | 1 1/16 | 1 3/8 | 1 3/8 | 2 x .1 | 1 3/8 |
| .25 | 1 3/8 | 1 5/8 | 2 | 2 x .25 | 2 |
| .5 | 1 5/8 | 2 | 2 1/4 | 2 x .5 | 2 1/4 |
| 1.0 | 2 | 2 1/4 | | | |

### TYPE JP18MCB HYVOL

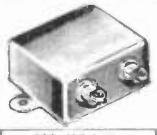


Similar to JP16M in construction and electrical characteristics. Because of the difference in the base size type JP18MCB can be supplied with three terminals. Dual units are case floating, triples are case grounded. The size difference also makes these units suitable for use in assemblies where JP16M's do not fit. Operating temperature range −55 to +85°C. Standard tolerance +20 −10%.

| Capacity | 400 VDCW Height | 600 VDCW Height | 1000 VDCW Height | Capacity | 400 VDCW Height | 600 VDCW Height | 1000 VDCW Height | Capacity | 400 VDCW Height | 600 VDCW Height | 1000 VDCW Height |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | JP418MCB | JP618MCB | JP1018MCB | | JP418MCB | JP618MCB | JP1018MCB | | JP418MCB | JP618MCB | JP1018MCB |
| .01 | | | 1 1/16 | 2 x .01 | | | 1 1/16 | 3 x .01 | | | 1 1/16 |
| .02 | | | 1 1/16 | 2 x .02 | | | 1 1/16 | 3 x .02 | | | 1 1/16 |
| .05 | 1 | 1 1/16 | 1 1/16 | 2 x .05 | 1 | 1 1/16 | 1 1/2 | 3 x .05 | 1 1/8 | 1 1/2 | 1 1/2 |
| .1 | 1 | 1 1/16 | 1 1/2 | 2 x .1 | 1 1/4 | 1 1/2 | 2 | 3 x .1 | 1 1/8 | 1 1/2 | 2 1/2 |
| .25 | 1 1/4 | 1 1/2 | 2 | 2 x .25 | 1 1/2 | 2 | 2 1/4 | 3 x .25 | 2 | 2 1/4 | |
| .5 | 1 1/2 | 2 | 2 1/2 | 2 x .5 | 2 1/4 | 2 1/4 | | | | | |
| 1.0 | 2 | 2 1/4 | | | | | | | | | |

BASE SIZE 1 1/4 x 9/16

### TYPE JP30M
**Bathtub Case**



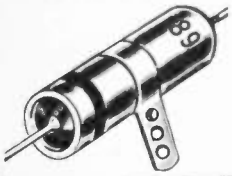
High-quality bypass capacitors furnished in drawn metal bathtub cases, hermetically sealed. These units are Hyvol M impregnated for operation at temperatures from −55 to +85°C. They are especially recommended for applications where high reliability and superior performance are required. Typical applications for these rugged units would include marine, aircraft and tropical climates. Standard Tolerance +20% −10%.

| Capacity | 400 VDCW Size | 600 VDCW Size | 1000 VDCW Size |
|---|---|---|---|
| | JP430M | JP630M | JP1030M |
| .05 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 |
| .1 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 |
| .25 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 13/16 | 1 1/4 x 1 x 7/8 |
| .5 | 1 1/4 x 1 x 7/8 | 1 1/4 x 1 x 1 | 2 x 1 1/4 x 7/8 |
| .75 | 2 1/16 x 1 1/4 x 7/8* | 2 1/16 x 1 1/4 x 7/8* | 2 x 1 1/4 x 7/8 |
| 1.0 | 2 x 1 1/4 x 7/8 | 2 x 1 1/4 x 1 | 2 x 2 x 1 1/8 |
| 2.0 | 2 x 2 x 1 1/8 | 2 x 2 x 1 3/16 | |

| Capacity | 400 VDCW Size | 600 VDCW Size | 1000 VDCW Size |
|---|---|---|---|
| | JP430M | JP630M | JP1030M |
| 2 x .05 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 |
| 2 x .1 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 7/8 |
| 2 x .25 | 1 1/4 x 1 x 13/16 | 1 1/4 x 1 x 1 | 2 x 1 1/4 x 7/8 |
| 2 x .5 | 2 x 1 1/4 x 7/8 | 2 x 1 1/4 x 7/8 | 2 x 2 x 1 3/16 |
| 2 x 1.0 | 2 x 2 x 1 1/8 | 2 x 2 x 1 3/16 | |
| 3 x .05 | 1 1/4 x 1 x 3/4 | 1 1/4 x 1 x 13/16 | 1 1/4 x 1 x 13/16 |
| 3 x .1 | 1 1/4 x 1 x 13/16 | 1 1/4 x 1 x 13/16 | 2 x 1 1/4 x 7/8 |
| 3 x .25 | 2 x 1 1/4 x 7/8 | 2 x 1 1/4 x 7/8 | 2 x 2 x 1 1/8 |
| 3 x .5 | 2 x 2 x 1 | 2 x 2 x 1 3/16 | |

* Also available with top terminals, size 2 x 1 3/4 x 7/8, Type JP30MT.

### TYPE P89M



Immersion-proof, oil-impregnated, oil filled units in hermetically sealed metal tubes. Ideal for coupling and bypass functions in transmitters, high-voltage applications and for use in test equipment. Case is insulated, not connected to the capacitor section. Standard units are supplied with cardboard insulating sleeve and radial mounting bracket (Type P89M). All sizes shown are can sizes. For size over insulating sleeve add 1/16" to diameter and 3/16" to length.

Available in the following style variations:

P89M —with cardboard insulating sleeve, radial mfg. bracket.
P89MA —with cardboard insulating sleeve and tangential mounting bracket.
P89MAP—with plastic sleeve and tangential mtg. bracket.
P89MAY—without sleeve but with tangential mounting bracket.
P89MP —with plastic sleeve, radial mounting bracket.
P89MX —without mounting bracket but with cardboard insulating sleeve.
P89MXP—without mounting bracket but with plastic insulating sleeve.
P89MXY—without insulating sleeve or mtg. bracket.
P89MY —without insulating sleeve but with radial mounting bracket.

| Voltage | Capacity | Can Size |
|---|---|---|
| 400V | .01 | 3/8 x 1 5/16 |
| 400V | .02 | 1/2 x 1 5/16 |
| 400V | .05 | 1/2 x 1 7/16 |
| 400V | .1 | 5/8 x 1 11/16 |
| 400V | .25 | 13/16 x 2 1/16 |
| 400V | 5 | 1 x 2 1/16 |
| 600V | .001 | 3/8 x 1 3/16 |
| 600V | .005 | 3/8 x 1 3/16 |
| 600V | .01 | 7/16 x 1 3/16 |
| 600V | .02 | 7/16 x 1 7/16 |
| 600V | .05 | 9/16 x 1 7/16 |
| 600V | .1 | 5/8 x 1 13/16 |
| 600V | .25 | 13/16 x 2 1/4 |
| 600V | .5 | 15/16 x 2 3/8 |
| 1000V | .01 | 7/16 x 1 3/16 |

| Voltage | Capacity | Can Size |
|---|---|---|
| 1000V | .03 | 9/16 x 1 9/16 |
| 1000V | .05 | 9/16 x 1 9/16 |
| 1000V | .1 | 11/16 x 1 13/16 |
| 1000V | .25 | 7/8 x 2 5/16 |
| 2000V | .001 | 3/4 x 1 5/8 |
| 2000V | .005 | 3/4 x 1 5/8 |
| 2000V | .01 | 3/4 x 1 5/8 |
| 2000V | .015 | 3/4 x 1 3/4 |
| 2000V | .02 | 3/4 x 1 7/8 |
| 2000V | .03 | 3/4 x 1 7/8 |
| 2000V | .04 | 3/4 x 2 1/4 |
| 2000V | .05 | 7/8 x 2 1/4 |
| 2000V | .1 | 1 x 2 1/2 |
| 2500V | .005 | 3/4 x 1 5/8 |
| 2500V | .01 | 3/4 x 1 3/4 |

| Voltage | Capacity | Can Size |
|---|---|---|
| 2500V | .02 | 3/4 x 2 |
| 2500V | .03 | 3/4 x 2 1/4 |
| 2500V | .05 | 7/8 x 2 1/2 |
| 2500V | .1 | 1 x 3 |
| 3000V | .005 | 7/8 x 1 5/8 |
| 3000V | .01 | 7/8 x 1 3/4 |
| 3000V | .02 | 7/8 x 2 |
| 3000V | .03 | 1 x 2 1/4 |
| 3000V | .05 | 1 x 2 1/2 |
| 3000V | .1 | 1 1/8 x 2 3/4 |
| 4000V | .05 | 1 1/8 x 3 1/4 |
| 4000V | .1 | 1 1/8 x 4 1/4 |
| 6000V | .005 | 1 x 2 1/2 |
| 6000V | .01 | 1 x 3 1/4 |
| 6000V | .05 | 1 1/8 x 5 |

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**



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World Radio History

## INDUSTRIAL SECTION—STANDARD TYPES (Continued)

## PAPER SUB-MINIATURES

Tubular, metal-cased capacitors, hermetically sealed with glass terminal end seals. Miniaturized, conventional, foil-paper construction Especially developed to meet high temperature and minimum space requirements of present day electronic equipment. Designed for rugged long life operation, these units are preferred for many of those applications where reliability is a factor. Impregnated with Hyvol "S" a special, high-temperature-operating, stable, liquid impregnant for operation at elevated temperature. These units are capable of withstanding a voltage breakdown test of twice rated voltage between terminals or between terminals and case for a one-minute period. Ambient temperature shall be plus 25°C. plus or minus 10°C. during this test. Power factor will be less than 1% when measured or referred to a frequency of 1000 cycles per second at 25°C. Types P123S and P123SX are rated for operation over a temperature range of −65°C. to +100°C. Types P323S and P323SX are rigidly processed to assure operation over the temperature range of −65°C. to +125°C. The capacitor sections on types P123S and P323S utilize an inserted tab construction to obtain minimum size. Types P123SX and P323SX utilize extended foil construction for those applications where operation is required at very low AC voltages.

All values are available in ±10% or ±20%.

* Style Variations

| Suffix | Description | Suffix | Description | Suffix | Description |
|---|---|---|---|---|---|
| G | One end grounded | T | Insulated with threaded neck mounting | V | Insulated with side vertical bracket |
| | Omit G, both ends insulated | GE | Grounded with axial threaded stud | GB | Grounded with tangential bracket |
| GP | Grounded and plastic sleeve | GR | Grounded with two radial threaded studs | B | Insulated with tangential bracket |
| P | Insulated with plastic sleeve | R | Insulated with two radial threaded studs | GL | Grounded with tab terminal |
| GT | Grounded with threaded neck mounting | GV | Grounded with side vertical bracket | L | Insulated with tab terminal |

*Style variations and ratings listed below are standard. All others available on special order.

| Capacity | P123S P323S | P123SP P323SP | P123SX P323SX | P123SXP P323SXP |
|---|---|---|---|---|
| | | **100 Volts** | | |
| .001 | .175 x ¾ | .237 x 13/16 | .175 x ¾ | .237 x 13/16 |
| .0015 | .175 x ¾ | .237 x 13/16 | .175 x ¾ | .237 x 13/16 |
| .0022 | .175 x ¾ | .237 x 13/16 | .175 x ¾ | .237 x 13/16 |
| .0033 | .175 x ¾ | .237 x 13/16 | .175 x ¾ | .237 x 13/16 |
| .0047 | .175 x ¾ | .237 x 13/16 | .175 x ¾ | .237 x 13/16 |
| .0068 | .175 x ¾ | .237 x 13/16 | .195 x ¾ | .257 x 13/16 |
| .01 | .175 x ¾ | .237 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .015 | .175 x ¾ | .237 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .022 | .195 x ¾ | .257 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .033 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .047 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .068 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .1 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .15 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .22 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅛ | .462 x 1 7/16 |
| .33 | .400 x 1⅜ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .47 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .68 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| 1.0 | .562 x 1⅞ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| | | **200 Volts** | | |
| .001 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0015 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0022 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0033 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0047 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0068 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .01 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .015 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .022 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .033 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .047 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .068 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .1 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .15 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅜ | .462 x 1 7/16 |
| .22 | .400 x 1⅛ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .33 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .47 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| .68 | .562 x 1⅜ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| 1.0 | .670 x 1⅞ | .732 x 1 15/16 | .750 x 2⅛ | .812 x 2 3/16 |
| | | **300 Volts** | | |
| .001 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0015 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0022 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0033 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0047 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0068 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .01 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .015 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .022 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .033 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .047 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .068 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .1 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .15 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅜ | .462 x 1 7/16 |
| .22 | .400 x 1⅛ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .33 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .47 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| .68 | .562 x 1⅜ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| 1.0 | .670 x 1⅞ | .732 x 1 15/16 | .750 x 2⅛ | .812 x 2 3/16 |
| | | **300 Volts (cont.)** | | |
| .033 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .047 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .068 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .1 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅜ | .462 x 1 7/16 |
| .15 | .400 x 1⅜ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .22 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .33 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| .47 | .562 x 1⅞ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| .68 | .670 x 1⅜ | .732 x 1 15/16 | .750 x 2⅛ | .812 x 2 3/16 |
| 1.0 | .750 x 2⅛ | .812 x 2 3/16 | 1.000 x 2⅛ | 1.062 x 2 3/16 |
| | | **400 Volts** | | |
| .001 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0015 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0022 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0033 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0047 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .0068 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .01 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .015 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .022 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .033 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .047 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .068 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅜ | .462 x 1 7/16 |
| .1 | .400 x 1⅜ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .15 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .22 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| .33 | .562 x 1⅞ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| .47 | .670 x 1⅞ | .732 x 1 15/16 | .750 x 2⅛ | .812 x 2 3/16 |
| .68 | .750 x 2⅛ | .812 x 2 3/16 | .750 x 2⅜ | .812 x 2 7/16 |
| 1.0 | 1.000 x 1⅞ | 1.062 x 1 15/16 | 1.000 x 2⅜ | 1.062 x 2 11/16 |
| | | **600 Volts** | | |
| .001 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0015 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0022 | .235 x ¾ | .297 x 13/16 | .235 x ¾ | .297 x 13/16 |
| .0033 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .0047 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .0068 | .235 x ¾ | .297 x 13/16 | .312 x ⅞ | .374 x 15/16 |
| .01 | .312 x ⅞ | .374 x 15/16 | .312 x ⅞ | .374 x 15/16 |
| .015 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .022 | .312 x ⅞ | .374 x 15/16 | .400 x ⅞ | .462 x 15/16 |
| .033 | .400 x ⅞ | .462 x 15/16 | .400 x 1⅛ | .462 x 1 3/16 |
| .047 | .400 x 1⅛ | .462 x 1 3/16 | .400 x 1⅜ | .462 x 1 7/16 |
| .068 | .400 x 1⅜ | .462 x 1 7/16 | .562 x 1⅛ | .624 x 1 3/16 |
| .1 | .562 x 1⅛ | .624 x 1 3/16 | .562 x 1⅜ | .624 x 1 7/16 |
| .15 | .562 x 1⅜ | .624 x 1 7/16 | .562 x 1⅝ | .624 x 1 11/16 |
| .22 | .562 x 1⅞ | .624 x 1 15/16 | .670 x 1⅝ | .732 x 1 11/16 |
| .33 | .670 x 1⅞ | .732 x 1 15/16 | .750 x 2⅛ | .812 x 2 3/16 |
| .47 | .750 x 2⅛ | .812 x 2 3/16 | .750 x 2⅜ | .812 x 2 7/16 |
| .68 | 1.000 x 1⅞ | 1.062 x 1 15/16 | 1.000 x 2⅛ | 1.062 x 2 3/16 |
| 1.0 | 1.000 x 2⅜ | 1.062 x 2 7/16 | 1.000 x 2⅝ | 1.062 x 2 11/16 |

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**

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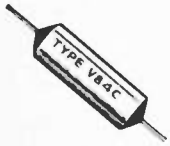
World Radio History

## INDUSTRIAL SECTION—STANDARD TYPES (Continued)

### PAPER SUB-MINIATURES (Continued)

| Capacity | P123SG P323SG | P123SGP P323SGP | P123SXG P323SXG | P123SXGP P323SXGP |
|---|---|---|---|---|
| | | **100 Volts** | | |
| .01 | — | — | .235 x 11/16 | .297 x 3/4 |
| .015 | — | — | .235 x 11/16 | .297 x 3/4 |
| .022 | — | — | .312 x 13/16 | .374 x 7/8 |
| .033 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .047 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .068 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .1 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .15 | .400 x 13/16 | .462 x 7/8 | .400 x 1 1/16 | .462 x 1 1/8 |
| .22 | .400 x 1 1/16 | .462 x 1 1/8 | .400 x 1 5/16 | .462 x 1 3/8 |
| .33 | .400 x 1 3/16 | .462 x 1 1/8 | .562 x 1 1/16 | .624 x 1 1/8 |
| .47 | .562 x 1 1/16 | .624 x 1 1/8 | .562 x 1 5/16 | .624 x 1 3/8 |
| .68 | .562 x 1 3/16 | .624 x 1 3/8 | .562 x 1 9/16 | .624 x 1 5/8 |
| 1.0 | .562 x 1 13/16 | .624 x 1 7/8 | .670 x 1 9/16 | .732 x 1 5/8 |
| | | **200 Volts** | | |
| .001 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0015 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0022 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0033 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0047 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0068 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .01 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .015 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .022 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .033 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .047 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .068 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .1 | .400 x 13/16 | .462 x 7/8 | .400 x 1 1/16 | .462 x 1 1/8 |
| .15 | .400 x 1 1/16 | .462 x 1 1/8 | .400 x 1 5/16 | .462 x 1 3/8 |
| .22 | .400 x 1 3/16 | .462 x 1 3/8 | .562 x 1 1/16 | .624 x 1 1/8 |
| .33 | .562 x 1 1/16 | .624 x 1 1/8 | .562 x 1 5/16 | .624 x 1 3/8 |
| .47 | .562 x 1 3/16 | .624 x 1 3/8 | .562 x 1 9/16 | .624 x 1 5/8 |
| .68 | .562 x 1 13/16 | .624 x 1 7/8 | .670 x 1 9/16 | .732 x 1 5/8 |
| 1.0 | .670 x 1 13/16 | .732 x 1 7/8 | .750 x 2 1/16 | .812 x 2 1/8 |
| | | **300 Volts** | | |
| .001 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0015 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0022 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0033 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0047 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0068 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .01 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .015 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .022 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .033 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .047 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .068 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .1 | .400 x 13/16 | .462 x 7/8 | .400 x 1 1/16 | .462 x 1 1/8 |
| .15 | .400 x 1 1/16 | .462 x 1 1/8 | .400 x 1 5/16 | .462 x 1 3/8 |
| .22 | .400 x 1 3/16 | .462 x 1 3/8 | .562 x 1 1/16 | .624 x 1 1/8 |
| .33 | .562 x 1 1/16 | .624 x 1 1/8 | .562 x 1 5/16 | .624 x 1 3/8 |
| .47 | .562 x 1 3/16 | .624 x 1 3/8 | .562 x 1 9/16 | .624 x 1 5/8 |
| .68 | .562 x 1 13/16 | .624 x 1 7/8 | .670 x 1 9/16 | .732 x 1 5/8 |
| 1.0 | .670 x 1 13/16 | .732 x 1 7/8 | .750 x 2 1/16 | .812 x 2 1/8 |
| | | **300 Volts (cont.)** | | |
| .022 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .033 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .047 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| | | **400 Volts** | | |
| .001 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0015 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0022 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0033 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0047 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .0068 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .01 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .015 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .022 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .033 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .047 | .400 x 13/16 | .462 x 7/8 | .400 x 1 1/16 | .462 x 1 1/8 |
| .068 | .400 x 1 1/16 | .462 x 1 1/8 | .400 x 1 5/16 | .462 x 1 3/8 |
| .1 | .400 x 1 5/16 | .462 x 1 3/8 | .562 x 1 1/16 | .624 x 1 1/8 |
| .15 | .562 x 1 1/16 | .624 x 1 1/8 | .562 x 1 5/16 | .624 x 1 3/8 |
| .22 | .562 x 1 5/16 | .624 x 1 3/8 | .562 x 1 9/16 | .624 x 1 5/8 |
| .33 | .562 x 1 13/16 | .624 x 1 7/8 | .670 x 1 9/16 | .732 x 1 5/8 |
| .47 | .670 x 1 13/16 | .732 x 1 7/8 | .750 x 2 1/16 | .812 x 2 1/8 |
| .68 | .750 x 2 1/16 | .812 x 2 1/8 | .750 x 2 5/16 | .812 x 2 3/8 |
| 1.0 | 1.000 x 1 13/16 | 1.062 x 1 7/8 | 1.000 x 2 9/16 | 1.062 x 2 5/8 |
| | | **600 Volts** | | |
| .001 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0015 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0022 | .235 x 11/16 | .297 x 3/4 | .235 x 11/16 | .297 x 3/4 |
| .0033 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .0047 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .0068 | .235 x 11/16 | .297 x 3/4 | .312 x 13/16 | .374 x 7/8 |
| .01 | .312 x 13/16 | .374 x 7/8 | .312 x 13/16 | .374 x 7/8 |
| .015 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .022 | .312 x 13/16 | .374 x 7/8 | .400 x 13/16 | .462 x 7/8 |
| .033 | .400 x 13/16 | .462 x 7/8 | .400 x 1 1/16 | .462 x 1 1/8 |
| .047 | .400 x 1 1/16 | .462 x 1 1/8 | .400 x 1 3/16 | .462 x 1 3/8 |
| .068 | .400 x 1 5/16 | .462 x 1 3/8 | .562 x 1 1/16 | .624 x 1 1/8 |
| .1 | .562 x 1 1/16 | .624 x 1 1/8 | .562 x 1 5/16 | .624 x 1 3/8 |
| .15 | .562 x 1 5/16 | .624 x 1 3/8 | .562 x 1 9/16 | .624 x 1 5/8 |
| .22 | .562 x 1 13/16 | .624 x 1 7/8 | .670 x 1 9/16 | .732 x 1 5/8 |
| .33 | .670 x 1 13/16 | .732 x 1 7/8 | .750 x 2 1/16 | .812 x 2 1/8 |
| .47 | .750 x 2 1/16 | .812 x 2 1/8 | .750 x 2 5/16 | .812 x 2 5/8 |
| .68 | 1.000 x 1 13/16 | 1.062 x 1 7/8 | 1.000 x 2 1/16 | 1.062 x 2 1/8 |
| 1.0 | 1.000 x 2 5/16 | 1.062 x 2 3/8 | 1.000 x 2 9/16 | 1.062 x 2 5/8 |

## TYPE V84C




## AEROFILM (MYLAR*) CAPACITORS

V84C Aerofilm† Tubular Capacitors are high quality units in dense steatite cases. These units have exceptionally high Insulation resistance and low dielectric absorption and power factor. They are extremely Stable having a relatively small capacitance change with temperature variations over a range of 0 to 85°C.

These excellent characteristics are due to the use of Aerofilm (Aerovox's trade name for Mylar* polyester film), finest quality casing material, and an epoxy end fill which will not flow, soften or melt at any operating temperature. Standard tolerance is ±20% but also available in ±5% and ±10%.

Rated Voltage for Temperatures of 85°C. and above:

| | | | |
|---|---|---|---|
| 85°C. | 200 VDCW | 400 VDCW | 600 VDCW |
| 125°C. | 100 VDCW | 300 VDCW | 400 VDCW |
| 150°C. | 75 VDCW | 200 VDCW | 300 VDCW |

| Catalogue No. | Cap. Mfd. | Size |
|---|---|---|
| | **200 VDCW** | |
| V84C 2D47 | .0047 | .175 x 13/16 |
| V84C 2D68 | .0068 | .175 x 13/16 |
| V84C 2S1 | .01 | .175 x 13/16 |
| V84C 2S15 | .015 | .195 x 13/16 |
| V84C 2S22 | .022 | .195 x 1 1/16 |
| V84C 2S33 | .033 | 1/4 x 1 1/16 |
| V84C 2S47 | .047 | 1/4 x 1 1/16 |
| V84C 2S5 | .05 | 5/16 x 1 1/16 |
| V84C 2S68 | .068 | 5/16 x 1 1/16 |
| V84C 2P1 | .1 | 5/16 x 1 1/4 |
| V84C 2P15 | .15 | 3/8 x 1 1/4 |
| V84C 2P22 | .22 | 1/2 x 1 1/4 |
| V84C 2P25 | .25 | 1/2 x 1 1/2 |
| V84C 2P33 | .33 | 17/32 x 1 1/2 |
| V84C 2P47 | .47 | 9/16 x 1 1/2 |
| V84C 2P68 | .68 | 21/32 x 1 3/4 |
| V84C 2W1 | 1.0 | 3/4 x 1 3/4 |
| V84C 4D15 | .0015 | .175 x 13/16 |
| V84C 4D22 | .0022 | .175 x 13/16 |
| V84C 4D33 | .0033 | .175 x 13/16 |
| V84C 4D47 | .0047 | .175 x 11/16 |
| V84C 4D68 | .0068 | .195 x 11/16 |
| V84C 4S1 | .01 | 1/4 x 11/16 |
| V84C 4S15 | .015 | 1/4 x 11/16 |
| V84C 4S22 | .022 | 5/16 x 11/16 |
| V84C 4S33 | .033 | 3/8 x 11/16 |
| V84C 4S47 | .047 | 3/8 x 11/16 |
| V84C 4S68 | .068 | 7/16 x 11/16 |
| V84C 4P1 | .1 | 1/2 x 11/16 |
| V84C 4P14 | .15 | 9/16 x 11/2 |
| V84C 4P22 | .22 | 5/8 x 13/4 |
| V84C 4P33 | .33 | 11/16 x 13/4 |
| V84C 4P47 | .47 | 3/4 x 2 |
| V84C 4P5 | .5 | 3/4 x 2 |
| V84C 4P68 | .68 | 7/8 x 2 |
| V84C 4W1 | 1.0 | 7/8 x 2 5/8 |
| V84C 6D1 | .001 | .175 x 13/16 |
| V84C 6D15 | .0015 | .195 x 13/16 |
| V84C 6D2 | .002 | .195 x 13/16 |
| V84C 6D22 | .0022 | .195 x 13/16 |
| V84C 6D3 | .003 | .195 x 11/16 |
| V84C 6D33 | .0033 | .195 x 11/16 |
| V84C 6D4 | .004 | .195 x 11/16 |
| V84C 6D47 | .0047 | 1/4 x 11/16 |
| V84C 6D5 | .005 | 1/4 x 11/16 |
| V84C 6D68 | .0068 | 1/4 x 11/16 |
| V84C 6S1 | .01 | 5/16 x 11/16 |
| V84C 6S15 | .015 | 5/16 x 13/16 |
| V84C 6S2 | .02 | 3/8 x 13/16 |
| V84C 6S22 | .022 | 3/8 x 13/16 |
| V84C 6S3 | .03 | 3/8 x 17/16 |
| V84C 6S33 | .033 | 3/8 x 17/16 |
| V84C 6S47 | .047 | 1/2 x 1 1/4 |
| V84C 6S5 | .05 | 1/2 x 1 1/4 |
| V84C 6S68 | .068 | 1/2 x 1 1/2 |
| V84C 6P1 | .1 | 5/8 x 1 1/2 |
| V84C 6P15 | .15 | 11/16 x 1 5/8 |
| V84C 6P2 | .2 | 13/16 x 1 5/8 |
| V84C 6P22 | .22 | 13/16 x 1 5/8 |
| V84C 6P25 | .25 | 13/16 x 1 7/8 |
| V84C 6P33 | .33 | 7/8 x 1 7/8 |
| V84C 6P47 | .47 | 7/8 x 2 3/8 |
| V84C 6P5 | .5 | 7/8 x 2 1/2 |

* Dupont's Registered trade name.

† TRADE MARK

**ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER**



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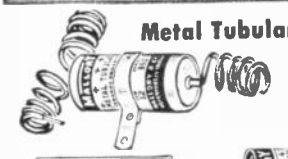
World Radio History

# DRY ELECTROLYTIC CAPACITORS

P.R. MALLORY & CO. INC. · INDIANAPOLIS



## Metal Tubular Dry Electrolytic Capacitors

For filter and audio by-pass circuits. Sealed aluminum tube with external insulating sleeve. 3" bare, tinned-copper or insulated leads at each end, except TCS styles which have solder lugs. For use up to 85°C except types designated (†).

### Single Section

| Catalog Number | Cap. Mfd. | DC Wkg. Volts | Size Dia. Length | List Price |
|---|---|---|---|---|
| TC110 | 1000 | 1 | 11/16 x 2 | $1.50 |
| TC302 | 200 | 3 | 11/16 x 1¼ | .90 |
| TC305 | 500 | 3 | 11/16 x 1¼ | 1.40 |
| TC310 | 1000 | 3 | 15/16 x 1¾ | 1.70 |
| TC605 | 500 | 6 | 13/16 x 1¾ | 1.55 |
| TC610 | 1000 | 6 | 15/16 x 2 | 1.90 |
| TC1502 | 200 | 15 | 13/16 x 1½ | 1.40 |
| TC1501 | 1000 | 15 | 1 1/16 x 2¼ | 2.30 |
| TC1505 | 500 | 15 | 15/16 x 2 | 1.75 |
| TC22 | 10 | 25 | 7/16 x 1 5/16 | 1.00 |
| TC26 | 25 | 25 | 3/8 x 1 5/16 | 1.00 |
| TC29 | 50 | 25 | 11/16 x 1½ | 1.10 |
| TC2501 | 100 | 25 | 11/16 x 1¾ | 1.35 |
| TC25015 | 150 | 25 | 11/16 x 1¾ | 1.45 |
| TC2505 | 500 | 25 | 1 1/16 x 2¼ | 2.30 |
| TC302 | 2 | 50 | 7/16 x 1 5/16 | .90 |
| TC30 | 5 | 50 | 9/16 x 1¼ | 1.00 |
| TC31 | 1 | 50 | 9/16 x 1¼ | .90 |
| TC32 | 10 | 50 | 3/8 x 1 5/16 | 1.00 |
| TC36 | 25 | 50 | 11/16 x 1¼ | 1.05 |
| TC39 | 50 | 50 | 13/16 x 1¼ | 1.20 |
| TC3501 | 100 | 50 | 11/16 x 1¾ | 1.40 |
| TC40 | 5 | 150 | 3/8 x 1 5/16 | 1.40 |
| TC41 | 8 | 150 | 3/8 x 1 13/16 | 1.05 |
| TC42 | 10 | 150 | 3/8 x 1 13/16 | 1.05 |
| TC43 | 12 | 150 | 3/8 x 1 13/16 | 1.10 |
| TC44 | 16 | 150 | 11/16 x 1½ | 1.15 |
| TC45 | 20 | 150 | 13/16 x 1½ | 1.20 |
| TC47 | 30 | 150 | 13/16 x 1½ | 1.30 |
| TC48 | 40 | 150 | 15/16 x 1¾ | 1.35 |
| TC49 | 50 | 150 | 15/16 x 1¾ | 1.40 |
| TC492 | 80 | 150 | 15/16 x 2 | 1.60 |
| TC493 | 100 | 150 | 1 1/16 x 2¼ | 1.75 |
| TC495 | 150 | 150 | 1 1/16 x 2¼ | 1.90 |
| TC50X | 5 | 250 | 11/16 x 1¼ | 1.05 |
| TC51 | 8 | 250 | 11/16 x 1¾ | 1.15 |
| TC52 | 10 | 250 | 11/16 x 1¾ | 1.20 |
| TC53 | 12 | 250 | 13/16 x 1¾ | 1.25 |
| TC54 | 16 | 250 | 13/16 x 1¾ | 1.30 |
| TC55 | 20 | 250 | 13/16 x 1¾ | 1.35 |
| TC58 | 40 | 250 | 1 1/16 x 1¾ | 1.55 |
| TC59 | 50 | 250 | 1 1/16 x 1¾ | 1.70 |
| TC60 | 5 | 350 | 11/16 x 1¾ | 1.05 |
| TC61 | 8 | 350 | 13/16 x 1¾ | 1.20 |
| TC62 | 10 | 350 | 13/16 x 1¾ | 1.25 |
| TC63 | 12 | 350 | 13/16 x 1¾ | 1.30 |
| TC64 | 16 | 350 | 15/16 x 1¾ | 1.40 |
| TC65 | 20 | 350 | 15/16 x 1¾ | 1.45 |
| TC68 | 60 | 350 | 1 1/16 x 2¼ | 1.95 |
| TC69 | 100 | 350 | 1 1/16 x 4 | 3.10 |
| TC70 | 5 | 450 | 11/16 x 1¾ | 1.20 |
| TC71 | 8 | 450 | 13/16 x 1¾ | 1.25 |
| TC72 | 10 | 450 | 13/16 x 1¾ | 1.30 |
| TC73 | 12 | 450 | 15/16 x 1¾ | 1.35 |
| TC74 | 16 | 450 | 15/16 x 1¾ | 1.40 |
| TC75 | 20 | 450 | 1 1/16 x 1¾ | 1.55 |
| TC77 | 30 | 450 | 1 1/16 x 2¼ | 1.70 |
| TC78 | 40 | 450 | 1 1/16 x 2¼ | 1.80 |
| TC79 | 50 | 450 | 1 1/16 x 2¼ | 2.10 |
| TC795 | 60 | 450 | 1 1/16 x 2⅞ | 2.30 |
| TC80 | 80 | 450 | 1 1/16 x 4 | 2.80 |
| †TC81 | 10 | 500 | 15/16 x 1¾ | 1.35 |
| TC82 | 10 | 500 | 1 1/16 x 2 15/16 | 2.70 |
| †TC83 | 20 | 500 | 1 1/16 x 1¾ | 1.60 |
| †TC84 | 30 | 500 | 1 1/16 x 2¼ | 1.75 |
| TC92 | 10 | 600 | 1 1/16 x 2 15/16 | 2.95 |
| TC50025 | 250 | 50 | 15/16 x 1¾ | 1.75 |
| TC308 | .5Z @ 15750 Cycles 3 V.N.P. | | 1 1/16 x 2 | 2.20 |
| TC420 | 1.5Z @ 60 Cycles 4 V | | 1 1/16 x 2⅞ | 3.50 |
| TC421 | 1.5Z @ 120 Cycles 6 V | | 1 1/16 x 2 | 3.00 |
| TC1025 | 25 | 10 VNP | 9/16 x 1¼ | 1.15 |
| TC105 | 5 | 10 VNP | 5/8 x 1⅞ | 2.00 |
| TC412 | 500 | 10 VNP | 1 1/16 x 2¼ | 1.60 |
| TC415 | 1000 | 15 VNP | 1 x 3 | 2.30 |
| TC425 | 100 | 25 VNP | 1 x 1⅝ | 1.35 |
| TC504 | 4 | 50 VNP | 27/32 x 1⅜ | 2.00 |
| TC595 | 2 | 350 | 7/16 x 1¼ | 2.10 |

### Dual Common Negative

| Catalog Number | Cap. Mfd. | DC Wkg. Volts | Size Dia. Length | List Price |
|---|---|---|---|---|
| TCD204 | 250-1000 | 10-6 | 1¼ x 2¼ | $2.80 |
| TCD2155 | 100-100 | 150-150 | 1 1/16 x 4 | 3.20 |
| TCD2165 | 30-30 | 200-200 | 1 5/16 x 2¼ | 2.20 |

### Dual Common Negative—Continued

| Catalog Number | Cap. Mfd. | DC Wkg. Volts | Size Dia. Length | List Price |
|---|---|---|---|---|
| TCD2169 | 50-75 | 250-50 | 1 1/16 x 2¼ | $2.40 |
| TCD2174 | 100-150 | 250-50 | 1 1/16 x 4 | 3.60 |
| TCD2173 | 8-8 | 250-250 | 15/16 x 1¾ | 1.60 |
| TCD2274 | 40-40 | 300-300 | 1 1/16 x 3⅛ | 2.95 |
| TCD2297 | 40-50 | 450-50 | 1 1/16 x 3⅛ | 2.50 |
| TCD2302 | 30-60 | 450-300 | 1 1/16 x 4 | 3.20 |
| TCD16 | 500-100 | 16-16 | 15/16 x 2 | 1.30 |
| TCD26 | 25-25 | 25 | 13/16 x 1¾ | 1.40 |
| TCD45 | 20-20 | 150 | 13/16 x 2 | 1.65 |
| TCD47 | 30-30 | 150 | 15/16 x 1¾ | 1.80 |
| TCD48 | 40-40 | 150 | 1 1/16 x 2 | 1.85 |
| TCD485 | 40-20 | 150 | 15/16 x 1¾ | 1.75 |
| TCD49 | 50-50 | 150 | 1 1/16 x 2¼ | 2.10 |
| TCD497 | 50-30 | 150 | 15/16 x 2 | 1.95 |
| TCD498 | 80-50 | 150 | 1 1/16 x 2¼ | 2.35 |
| TCD52 | 10-10 | 250 | 15/16 x 2 | 1.65 |
| TCD55 | 20-20 | 250 | 1 1/16 x 2 | 1.85 |
| TCD62 | 10-10 | 350 | 15/16 x 2 | 1.70 |
| TCD65 | 20-20 | 350 | 1 1/16 x 3⅛ | 2.25 |
| TCD71 | 8-8 | 450 | 15/16 x 2 | 1.70 |
| TCD72 | 10-10 | 450 | 1 1/16 x 2 | 1.85 |
| TCD74 | 15-15 | 450 | 1 1/16 x 3⅛ | 2.20 |
| TCD75 | 20-20 | 450 | 1 1/16 x 3⅛ | 2.50 |

### Dual Separate Section

| Catalog Number | Cap. Mfd. | DC Wkg. Volts | Size Dia. Length | List Price |
|---|---|---|---|---|
| TCS44 | 15-15 | 150 | 13/16 x 2⅜ | $2.00 |
| TCS45 | 20-20 | 150 | 15/16 x 2⅜ | 2.10 |
| TCS47 | 30-30 | 150 | 1 1/16 x 2⅜ | 2.25 |
| TCS48 | 40-40 | 150 | 1 1/16 x 2⅞ | 2.35 |
| TCS505 | 70-70 | 175 | 1 1/16 x 3⅞ | 3.60 |
| TCS52 | 10-10 | 250 | 15/16 x 2⅜ | 2.10 |
| TCS55 | 20-20 | 250 | 1 1/16 x 2⅞ | 2.35 |
| TCS61 | 8-8 | 350 | 15/16 x 2⅜ | 2.10 |
| TCS64 | 15-15 | 350 | 1 1/16 x 2⅞ | 2.75 |
| TCS71 | 8-8 | 450 | 1 1/16 x 2⅜ | 2.15 |
| TCS74 | 15-15 | 450 | 1 1/16 x 2⅞ | 2.75 |
| TCS75 | 20-20 | 450 | 1 1/16 x 3½ | 3.15 |

## FP-WP Dry Electrolytic Capacitors

For use at ambient temperatures up to 85°C in filter and by-pass circuits in radio, TV and industrial electronics. Sealed in aluminum cans with twist-prong, lug construction. FP types have Mallory exclusive Fabricated Plates. WP have special etched plates. All feature low RF impedance and minimum coupling between sections. Separate anode terminals. Case is common cathode. For hardware, see page 13, Mallory Capacitors Section, of this catalog.

### FP-WP Singles††

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| WP510 | .5Z/15750 cycles | 3V | 1 x 2 | $2.20 |
| WP540 | 1.0Z/60 cycles | 3V | 1⅜ x 3 | 4.00 |
| WP505 | 10Z/30 cycles | 3V | ¾ x 2 | 2.00 |
| WP035 | 225 | 15 | ¾ x 2 | 1.75 |
| WP039 | 1000 | 15 | 1 x 2½ | 2.55 |
| WP041 | 2000 | 15 | 1⅜ x 2½ | 3.45 |
| WP042 | 3000 | 15 | 1⅜ x 3 | 3.50 |
| WP052 | 40 | 25 | ¾ x 2 | 1.35 |
| WP055 | 100 | 25 | 1 x 2 | 1.60 |
| WP057 | 500 | 25 | 1 x 2½ | 2.55 |
| WP059 | 1000 | 25 | 1⅜ x 2 | 3.55 |
| WP063 | 4 | 50 | ¾ x 2 | 1.25 |
| WP065 | 500 | 50 | 1⅜ x 2 | 2.65 |
| WP066 | 500 | 50 | 1 x 3 | 2.65 |
| WP068 | 1500 | 50 | 1⅜ x 4 | 3.85 |
| FP113 | 30 | 150 | ¾ x 2 | 1.55 |
| FP115 | 50 | 150 | 1 x 2 | 1.65 |
| FP116 | 100 | 150 | 1 x 2½ | 2.00 |
| FP116.5 | 120 | 150 | 1 x 3 | 2.05 |
| FP117 | 150 | 150 | 1 x 3 | 2.15 |
| FP117.5 | 150 | 150 | 1⅜ x 2 | 2.15 |
| FP118 | 200 | 150 | 1⅜ x 2½ | 2.45 |
| FP119 | 300 | 150 | 1⅜ x 3 | 2.80 |
| FP121 | 120 | 200 | 1⅜ x 2 | 2.35 |
| FP125 | 15 | 250 | ¾ x 2 | 1.55 |
| FP126 | 200 | 250 | 1⅜ x 3 | 4.05 |
| FP128 | 80 | 300 | 1 x 3 | 2.55 |
| FP129.1 | 100 | 300 | 1 x 3 | 2.90 |
| FP131 | 150 | 300 | 1⅜ x 3 | 3.50 |
| FP135 | 30 | 350 | 1 x 2 | 1.90 |
| FP137 | 50 | 350 | 1 x 2½ | 2.10 |
| FP137.2 | 60 | 350 | 1 x 3 | 2.20 |
| FP138 | 80 | 350 | 1⅜ x 2½ | 2.85 |
| FP140 | 125 | 350 | 1⅜ x 3 | 3.95 |
| FP142 | 10 | 450 | ¾ x 2 | 1.55 |
| FP143 | 15 | 450 | 1 x 2 | 1.70 |

†† Numerical Sequence by Voltage

**See next page for additional values**



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World Radio History

# MALLORY DRY ELECTROLYTIC CAPACITORS

**FP-WP Singles††—Continued**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| FP144 | 20 | 450 | 1 x 2 | $1.80 |
| FP145 | 30 | 450 | 1 x 2½ | 1.95 |
| FP146 | 40 | 450 | 1 x 2½ | 2.05 |
| FP148 | 60 | 450 | 1⅜ x 2½ | 2.80 |
| FP149 | 80 | 450 | 1⅜ x 2½ | 3.05 |
| FP150 | 100 | 450 | 1⅜ x 3 | 3.45 |
| FP171 | 10 | 500 | 1 x 2 | 1.60 |
| FP173 | 20 | 500 | 1 x 2 | 1.85 |
| FP175 | 30 | 500 | 1 x 2½ | 2.00 |
| FP176 | 40 | 500 | 1⅜ x 2 | 2.50 |
| FP177 | 40 | 500 | 1 x 3 | 2.50 |
| FP187 | 90 | 500 | 1⅜ x 3 | 3.50 |

††Numerical Sequence by Voltage

**FP-WP—Duals**

| | | | | |
|---|---|---|---|---|
| WP200.5 | 500-100 | 20-20 | 1 x 2 | $2.75 |
| WP200.7 | 500-200 | 20-20 | 1 x 2 | 3.00 |
| WP204 | 250-1000 | 10-6 | 1⅜ x 2 | 2.85 |
| WP205 | .5Z-2.5Z/ 15750C-60C | 12-6V | 1⅜ x 4 | 3.60 |
| WP200 | 1000-1000 | 15-15 | 1⅜ x 2½ | 4.40 |
| WP200.5 | 500-100 | 20-20 | 1 x 2 | 2.75 |
| WP201.1 | 40-40 | 25-25 | 1 x 2 | 1.55 |
| WP202.1 | 50-50 | 50-50 | 1 x 2 | 1.70 |
| WP202.5 | 100-100 | 50-50 | 1 x 2 | 2.10 |
| WP206 | 50-150 | 150-25 | 1 x 2½ | 2.20 |
| FP208 | 20-20 | 150-150 | 1 x 2 | 1.70 |
| FP211 | 30-30 | 150-150 | 1 x 2 | 1.85 |
| FP210 | 40-20 | 150-150 | 1 x 2 | 1.80 |
| FP212 | 40-40 | 150-150 | 1 x 2½ | 1.90 |
| FP213 | 50-30 | 150-150 | 1 x 2 | 2.00 |
| FP214 | 50-50 | 150-150 | 1 x 2½ | 2.15 |
| FP214.5 | 75-75 | 150-150 | 1⅜ x 2 | 2.60 |
| FP215 | 125-100 | 150-150 | 1⅜ x 2½ | 3.40 |
| FP216 | 80-40 | 150-150 | 1 x 3 | 2.30 |
| FP216.1 | 200-5 | 200-200 | 1⅜ x 2½ | 2.75 |
| WP216.2 | 80-40 | 150-150 | 1 x 2½ | 2.30 |
| FP216.3 | 200-150 | 150-150 | 1⅜ x 4 | 3.75 |
| FP216.4 | 200-200 | 150-150 | 1⅜ x 4 | 4.00 |
| FP216.6 | 60-60 | 200-200 | 1 x 3 | 2.55 |
| FP216.8 | 40-25 | 250-150 | 1 x 2½ | 2.15 |
| FP217 | 20-20 | 250-250 | 1 x 2 | 1.90 |
| FP221 | 40-40 | 250-250 | 1 x 3 | 2.50 |
| FP217.7 | 150-150 | 250-250 | 1⅜ x 4 | 5.15 |
| FP217.74 | 200-200 | 250-250 | 1⅜ x 4 | 6.00 |
| FP217.8 | 20-60 | 300-250 | 1 x 3 | 2.75 |
| WP217.85 | 35-50 | 300-6 | 1 x 2½ | 2.80 |
| FP217.87 | 40-40 | 300-300 | 1⅜ x 2 | 2.95 |
| FP217.9 | 75-75 | 300-300 | 1⅜ x 3 | 3.80 |
| FP218 | 120-20 | 300-300 | 1⅜ x 3 | 4.00 |
| FP223 | 5-75 | 350-150 | 1 x 3 | 2.10 |
| FP225 | 15-15 | 350-350 | 1 x 2 | 2.25 |
| FP227 | 20-20 | 350-350 | 1 x 2½ | 2.30 |
| FP227.3 | 30-30 | 350-350 | 1 x 3 | 2.90 |
| WP227.35 | 80-80 | 350-350 | 1 x 3 | 3.50 |
| FP227.4 | 80-20 | 350-350 | 1⅜ x 2½ | 3.50 |
| FP227.5 | 80-40 | 350-350 | 1⅜ x 3 | 3.60 |
| FP227.6 | 80-80 | 350-350 | 1⅜ x 4 | 4.70 |
| FP227.7 | 100-100 | 350-350 | 1⅜ x 4 | 6.15 |
| FP229 | 35-100 | 400-50 | 1 x 3 | 2.60 |
| FP229.3 | 75-75 | 400-400 | 1⅜ x 4 | 4.85 |
| FP229.4 | 80-40 | 400-400 | 1⅜ x 4 | 4.70 |
| FP229.5 | 120-40 | 400-400 | 1⅜ x 4 | 5.25 |
| FP229.6 | 50-100 | 450-50 | 1⅜ x 2½ | 3.00 |
| FP229.8 | 80-100 | 450-50 | 1⅜ x 3 | 3.75 |
| FP229.9 | 30-200 | 450-150 | 1⅜ x 3 | 3.50 |
| FP244 | 80-50 | 450-50 | 1⅜ x 3 | 3.50 |
| FP230 | 20-50 | 450-250 | 1 x 3 | 2.80 |
| FP235 | 20-80 | 450-350 | 1⅜ x 2½ | 3.65 |
| FP550* | 10-80 | 450-400 | 1⅜ x 3 | 3.45 |
| FP230.3 | 40-10 | 450-300 | 1 x 3 | 2.60 |
| FP230.6 | 10-100 | 450-350 | 1⅜ x 3 | 4.00 |
| WP230.9 | 5-5 | 450-450 | 1 x 2 | 1.70 |
| FP231 | 10-10 | 450-450 | 1 x 2 | 1.90 |
| FP231.3 | 20-10 | 450-450 | 1 x 2½ | 2.20 |
| FP234 | 20-20 | 450-450 | 1 x 3 | 2.55 |
| FP237 | 30-30 | 450-450 | 1⅜ x 2½ | 3.05 |
| FP238 | 40-40 | 450-450 | 1⅜ x 3 | 3.45 |
| FP239 | 50-40 | 450-450 | 1⅜ x 3 | 3.65 |
| FP240†† | 50-50 | 450-450 | 1⅜ x 3 | 3.85 |
| FP242 | 60-20 | 450-450 | 1⅜ x 3 | 3.50 |
| FP242.5 | 60-60 | 450-450 | 1⅜ x 4 | 4.50 |
| FP245 | 80-10 | 450-450 | 1⅜ x 3 | 3.60 |
| FP245.2 | 80-20 | 450-450 | 1⅜ x 3 | 3.90 |
| FP245.3 | 80-30 | 450-450 | 1⅜ x 4 | 4.15 |
| FP247 | 100-40 | 450-450 | 1⅜ x 4 | 4.85 |
| FP250 | 40-80 | 475-200 | 1⅜ x 2½ | 3.65 |
| FP255 | 20-100 | 475-300 | 1⅜ x 3 | 3.95 |
| FP256 | 20-100 | 475-400 | 1⅜ x 4 | 4.50 |
| FP258 | 15-15 | 475-475 | 1 x 2½ | 2.35 |
| FP259 | 30-10 | 475-475 | 1 x 3 | 2.60 |
| FP260 | 40-10 | 475-475 | 1⅜ x 3 | 3.10 |
| FP262 | 40-40 | 475-475 | 1⅜ x 3 | 4.30 |
| FP263 | 60-40 | 475-475 | 1⅜ x 4 | 4.55 |
| FP264.5 | 80-40 | 475-475 | 1⅜ x 4 | 5.05 |
| FP266 | 80-50 | 475-475 | 1⅜ x 4 | 5.20 |
| FP277* | 60-80 | 500-150 | 1⅜ x 3 | 3.75 |
| FP280* | 40-50 | 500-200 | 1⅜ x 2½ | 3.30 |
| FP284 | 30-30 | 500-500 | 1⅜ x 2½ | 3.25 |
| FP288* | 40-40 | 500-500 | 1⅜ x 3 | 4.30 |

**FP-WP—Triples**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| WP300 | 20-500-1000 | 16-16-16 | 1½ x 2 | $4.20 |
| WP300.5 | 400-100-100 | 16-16-16 | 1 x 2 | 3.00 |
| WP301 | 30-30-30 | 50-50-50 | 1 x 2 | 2.15 |
| WP520 | 40-40-40 | 25-25-25 | 1 x 2 | 2.15 |
| FP303 | 20-250-100 | 150-15-15 | 1⅜ x 2 | 2.90 |
| FP312 | 100-50-25 | 150-50-25 | 1 x 3 | 3.00 |
| WP302* | 15-15-1000 | 150-150-2 | 1 x 2 | 3.00 |
| WP302.1 | 15-15-1200 | 150-150-2 | 1 x 2 | 3.00 |
| FP302.4 | 80-20-200 | 150-150-10 | 1⅜ x 2 | 2.85 |
| FP302.5 | 80-60-250 | 150-150-10 | 1 x 2½ | 3.40 |
| FP302.7 | 80-30-300 | 150-150-10 | 1⅜ x 2 | 3.15 |
| FP302.8 | 100-80-200 | 150-150-10 | 1⅜ x 2½ | 3.60 |
| FP302.9 | 80-20-100 | 150-150-15 | 1⅜ x 2 | 2.80 |
| FP306 | 40-20-20 | 150-150-25 | 1 x 2 | 2.30 |
| FP307 | 40-20-100 | 150-150-25 | 1 x 2½ | 2.50 |
| FP304 | 40-20-200 | 150-150-25 | 1 x 2½ | 2.70 |
| FP310 | 40-40-20 | 150-150-25 | 1 x 2½ | 2.40 |
| FP314 | 40-40-200 | 150-150-25 | 1 x 3 | 2.80 |
| WP308.1 | 40-40-250 | 150-150-25 | 1 x 3 | 3.15 |
| FP309 | 50-30-100 | 150-150-25 | 1 x 2½ | 2.70 |
| FP311 | 50-50-20 | 150-150-25 | 1 x 3 | 2.65 |
| FP311.1 | 80-40-25 | 150-150-25 | 1 x 3 | 2.75 |
| FP311.15 | 80-40-300 | 150-150-25 | 1⅜ x 2½ | 3.70 |
| FP311.2 | 20-20-20 | 150-150-150 | 1 x 2 | 2.30 |
| FP311.4 | 40-20-20 | 150-150-150 | 1 x 2½ | 2.40 |
| FP311.5 | 40-40-40 | 150-150-150 | 1 x 3 | 2.60 |
| FP311.55 | 50-20-20 | 150-150-150 | 1 x 2½ | 2.55 |
| FP311.6 | 50-40-10 | 150-150-150 | 1 x 2 | 2.55 |
| FP311.65 | 50-50-50 | 150-150-150 | 1 x 3 | 3.00 |
| FP311.66 | 70-15-15 | 150-150-150 | 1 x 2½ | 2.70 |
| FP311.67 | 80-30-10 | 150-150-150 | 1 x 3 | 2.75 |
| FP311.7 | 80-40-20 | 150-150-150 | 1⅜ x 2 | 2.90 |
| FP311.9 | 120-120-40 | 150-150-150 | 1⅜ x 3 | 4.05 |
| FP312.5 | 200-100-60 | 150-150-150 | 1⅜ x 4 | 4.55 |
| FP313* | 30-20-20 | 200-200-25 | 1 x 2 | 2.55 |
| FP318.3 | 20-20-40 | 200-200-150 | 1 x 2½ | 2.70 |
| FP318.5 | 20-20-20 | 200-200-200 | 1 x 2½ | 2.50 |
| FP318.7 | 30-20-20 | 200-200-200 | 1 x 2½ | 2.70 |
| FP318.8 | 200-250-10 | 200-200-200 | 1⅜ x 4 | 6.70 |
| FP319 | 80-40-50 | 250-150-50 | 1⅜ x 2½ | 3.30 |
| FP360* | 15-20-20 | 250-150-150 | 1 x 2 | 2.40 |
| FP319.5 | 90-90-20 | 250-250-50 | 1⅜ x 3 | 4.60 |
| FP319.8 | 20-20-20 | 250-250-250 | 1 x 2 | 2.60 |
| FP320 | 40-20-20 | 250-250-250 | 1⅜ x 2 | 2.90 |
| FP321 | 40-20-20 | 250-250-250 | 1 x 3 | 2.90 |
| FP326 | 100-60-20 | 300-150-25 | 1⅜ x 3 | 4.20 |
| FP326.2 | 20-150-80 | 300-150-150 | 1⅜ x 3 | 3.95 |
| FP326.3 | 100-200-60 | 300-150-150 | 1⅜ x 4 | 5.45 |
| FP334* | 20-80-10 | 300-250-200 | 1⅜ x 2½ | 3.45 |
| FP326.4 | 60-30-30 | 300-250-250 | 1⅜ x 2½ | 3.75 |
| FP335 | 100-60-20 | 300-250-250 | 1⅜ x 3 | 4.90 |
| FP336 | 200-60-20 | 300-250-250 | 1⅜ x 4 | 5.80 |
| FP326.6 | 100-10-60 | 300-300-50 | 1⅜ x 2½ | 4.05 |
| FP326.7 | 140-100-60 | 300-300-50 | 1⅜ x 4 | 5.95 |
| FP326.74 | 140-10-200 | 300-300-150 | 1⅜ x 4 | 5.50 |
| FP326.65 | 100-60-4 | 300-300-300 | 1⅜ x 4 | 4.70 |
| FP326.75 | 150-30-30 | 300-300-300 | 1⅜ x 4 | 5.00 |
| WP326.8 | 4-100-40 | 350-25-25 | 1 x 2 | 2.25 |
| FP327 | 40-100-25 | 350-50-25 | 1⅜ x 2 | 3.20 |
| WP327.2 | 20-50-100 | 350-100-75 | 1 x 3 | 3.30 |
| FP327.4 | 125-5-100 | 350-200-75 | 1⅜ x 4 | 5.30 |
| FP327.5 | 10-40-40 | 350-200-200 | 1 x 3 | 4.30 |
| FP327.6 | 30-20-100 | 350-250-50 | 1 x 3 | 3.25 |
| FP327.87 | 100-40-40 | 350-300-250 | 1⅜ x 4 | 5.60 |
| FP331 | 30-30-20 | 350-300-25 | 1 x 3 | 3.15 |
| FP327.8 | 30-50-20 | 350-300-25 | 1⅜ x 2½ | 3.60 |
| FP328 | 15-10-20 | 350-350-25 | 1 x 2 | 2.50 |
| FP327.9 | 20-4-100 | 350-350-25 | 1 x 3 | 2.60 |
| FP329.1 | 20-4-100 | 350-350-25 | 1 x 2½ | 2.60 |
| FP329.5 | 20-20-20 | 350-350-25 | 1 x 2 | 2.80 |
| FP330 | 30-20-20 | 350-350-25 | 1 x 3 | 3.10 |
| FP330.15 | 10-5-30 | 350-350-50 | 1 x 2 | 2.20 |
| FP330.2 | 10-5-150 | 350-350-50 | 1 x 2½ | 2.70 |
| FP330.21 | 20-5-150 | 350-350-50 | 1 x 3 | 2.95 |
| FP330.22 | 100-20-50 | 350-350-50 | 1⅜ x 3 | 4.85 |
| FP330.23 | 40-80-400 | 350-350-50 | 1⅜ x 3 | 5.65 |
| FP330.25 | 30-20-100 | 350-350-150 | 1⅜ x 2½ | 4.00 |
| FP330.26 | 100-60-20 | 350-350-200 | 1⅜ x 4 | 5.50 |
| FP330.27 | 125-60-40 | 350-350-200 | 1⅜ x 4 | 5.90 |
| FP330.3 | 20-10-5 | 350-350-250 | 1 x 2 | 2.55 |
| FP330.5 | 10-10-10 | 350-350-350 | 1 x 2 | 2.40 |
| FP330.7 | 30-20-10 | 350-350-350 | 1 x 3 | 3.25 |
| FP330.9 | 60-50-50 | 350-350-350 | 1⅜ x 4 | 4.90 |
| FP331.3 | 80-60-60 | 350-350-350 | 1⅜ x 4 | 5.55 |
| FP331.6 | 90-40-20 | 350-350-350 | 1⅜ x 4 | 5.25 |
| FP332.4 | 100-100-10 | 350-350-350 | 1⅜ x 4 | 6.80 |
| FP333 | 10-50-30 | 400-350-25 | 1⅜ x 2 | 3.10 |
| FP333.2 | 80-40-100 | 400-400-50 | 1⅜ x 4 | 5.00 |
| FP333.3 | 80-40-150 | 400-400-50 | 1⅜ x 4 | 5.15 |
| FP333.5 | 20-10-40 | 400-400-350 | 1 x 4 | 3.40 |
| FP333.6 | 20-20-10 | 400-400-350 | 1 x 3 | 3.00 |
| FP333.7 | 60-30-20 | 400-400-350 | 1⅜ x 3 | 4.55 |
| FP333.8 | 80-20-10 | 400-400-350 | 1⅜ x 3 | 4.30 |
| FP333.85 | 100-10-80 | 400-400-350 | 1⅜ x 4 | 6.10 |
| FP333.9 | 90-10-5 | 400-400-400 | 1⅜ x 3 | 4.40 |
| FP333.95 | 100-30-20 | 400-400-400 | 1⅜ x 4 | 5.50 |
| WP334.6 | 20-500-500 | 450-25-25 | 1⅜ x 3 | 5.35 |
| FP342 | 40-40-130 | 450-150-50 | 1⅜ x 2½ | 3.70 |
| FP343 | 40-100-50 | 450-150-50 | 1⅜ x 3 | 3.95 |
| WP339.5 | 10-50-100 | 450-150-75 | 1 x 3 | 3.25 |
| FP340 | 20-50-100 | 450-150-75 | 1⅜ x 2 | 3.40 |
| FP341 | 40-90-50 | 450-150-150 | 1⅜ x 3 | 4.00 |



*continued on next page*



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# MALLORY DRY ELECTROLYTIC CAPACITORS

**FP-WP—Triples—Continued**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| FP341.3 | 20-80-50 | 450-200-150 | 1⅜ x 2½ | $3.60 |
| FP341.5 | 20-60-100 | 450-250-25 | 1⅜ x 2½ | 3.65 |
| FP341.8 | 10-80-80 | 450-250-250 | 1⅜ x 3 | 4.35 |
| FP342.2 | 5-80-40 | 450-300-300 | 1⅜ x 3 | 4.15 |
| FP342.5 | 30-15-40 | 450-350-25 | 1⅜ x 3 | 3.20 |
| FP342.7 | 30-40-50 | 450-350-25 | 1 x 4 | 3.70 |
| FP342.8 | 80-50-100 | 450-350-200 | 1⅜ x 4 | 5.85 |
| FP343.1 | 15-20-20 | 450-350-250 | 1 x 3 | 2.95 |
| FP343.4 | 20-15-15 | 450-350-350 | 1 x 3 | 3.25 |
| FP343.6 | 20-40-10 | 450-350-350 | 1⅜ x 2½ | 3.50 |
| FP343.9 | 10-30-150 | 450-400-5 | 1 x 3 | 3.00 |
| FP344.2 | 60-80-20 | 450-400-250 | 1⅜ x 4 | 5.45 |
| FP344.4 | 4-40-40 | 450-400-300 | 1⅜ x 2½ | 3.70 |
| FP344.5 | 10-30-40 | 450-400-300 | 1⅜ x 2½ | 3.65 |
| FP345.2 | 10-10-20 | 450-450-25 | 1 x 2 | 2.40 |
| FP345.3 | 40-20-20 | 450-450-25 | 1⅜ x 2½ | 3.50 |
| FP345.4 | 80-10-120 | 450-450-25 | 1⅜ x 3 | 4.40 |
| FP345.5 | 15-15-40 | 450-450-25 | 1 x 2½ | 2.75 |
| FP345.8 | 20-20-20 | 450-450-25 | 1 x 2½ | 3.05 |
| FP346 | 40-40-20 | 450-450-25 | 1⅜ x 3 | 3.95 |
| FP364 | 80-40-100 | 450-450-25 | 1⅜ x 4 | 5.10 |
| FP366 | 20-10-50 | 450-450-50 | 1 x 3 | 2.85 |
| FP366.5 | 30-10-150 | 450-450-50 | 1⅜ x 2½ | 3.50 |
| FP367 | 35-25-100 | 450-450-50 | 1⅜ x 3 | 3.95 |
| FP367.5 | 40-30-25 | 450-450-50 | 1⅜ x 2½ | 3.75 |
| FP368 | 60-40-75 | 450-450-50 | 1⅜ x 4 | 4.60 |
| FP368.3 | 80-20-100 | 450-450-50 | 1⅜ x 4 | 4.80 |
| FP368.5 | 80-50-50 | 450-450-50 | 1⅜ x 4 | 5.20 |
| FP368.6 | 30-30-125 | 450-450-75 | 1⅜ x 3 | 4.50 |
| FP369.1 | 40-40-40 | 450-450-150 | 1⅜ x 3 | 4.15 |
| FP370 | 40-10-80 | 450-450-200 | 1⅜ x 3 | 3.90 |
| FP375 | 40-40-100 | 450-450-200 | 1⅜ x 4 | 4.95 |
| FP375.2 | 15-10-120 | 450-450-300 | 1⅜ x 4 | 4.50 |
| FP375.4 | 40-40-60 | 450-450-350 | 1⅜ x 4 | 4.90 |
| FP375.5 | 40-40-80 | 450-450-350 | 1⅜ x 4 | 5.55 |
| FP375.6 | 60-20-40 | 450-450-350 | 1⅜ x 4 | 4.90 |
| FP375.7 | 20-10-15 | 450-450-400 | 1 x 3 | 3.10 |
| FP375.8 | 10-10-10 | 450-450-450 | 1 x 2½ | 2.60 |
| FP376.1 | 15-15-10 | 450-450-450 | 1 x 3 | 2.95 |
| FP376.3 | 20-10-10 | 450-450-450 | 1 x 3 | 2.90 |
| FP376.5 | 20-20-20 | 450-450-450 | 1⅜ x 2½ | 3.60 |
| FP376.6 | 30-10-10 | 450-450-450 | 1⅜ x 2 | 3.15 |
| FP376.7 | 30-30-30 | 450-450-450 | 1⅜ x 3 | 4.45 |
| FP376.8 | 40-40-10 | 450-450-450 | 1⅜ x 3 | 4.15 |
| FP376.9 | 40-40-20 | 450-450-450 | 1⅜ x 3 | 4.45 |
| FP377 | 40-40-40 | 450-450-450 | 1⅜ x 4 | 4.90 |
| FP377.2 | 50-40-30 | 450-450-450 | 1⅜ x 4 | 4.90 |
| FP377.4 | 60-10-10 | 450-450-450 | 1⅜ x 3 | 3.90 |
| FP377.6 | 60-30-10 | 450-450-450 | 1⅜ x 3 | 4.50 |
| FP378 | 80-40-20 | 450-450-450 | 1⅜ x 4 | 5.40 |
| FP379.1 | 20-50-20 | 475-50-25 | 1 x 3 | 2.75 |
| FP381.1 | 80-80-50 | 475-150-50 | 1⅜ x 4 | 4.85 |
| FP382.1 | 40-40-100 | 475-250-100 | 1⅜ x 3 | 4.10 |
| FP384 | 20-20-40 | 475-300-25 | 1⅜ x 2 | 3.10 |
| FP384.14 | 5-100-200 | 475-300-150 | 1⅜ x 4 | 5.15 |
| FP384.16 | 10-4-100 | 475-350-50 | 1 x 2 | 3.95 |
| FP384.2 | 10-4-40 | 475-350-300 | 1⅜ x 2 | 3.00 |
| FP384.5 | 10-45-100 | 475-450-50 | 1⅜ x 3 | 3.65 |
| FP384.7 | 40-40-25 | 475-450-50 | 1⅜ x 3 | 4.40 |
| FP385 | 10-40-100 | 475-450-200 | 1⅜ x 3 | 4.20 |
| FP385.5 | 40-80-10 | 475-450-450 | 1⅜ x 4 | 5.50 |
| FP386 | 10-10-5 | 475-475-25 | 1 x 2½ | 2.45 |
| FP387.1 | 10-10-150 | 475-475-50 | 1 x 3 | 3.00 |
| FP388.1 | 25-10-20 | 475-475-50 | 1 x 3 | 2.95 |
| FP389.1 | 20-10-100 | 475-475-400 | 1⅜ x 4 | 5.25 |
| FP391.1 | 20-20-60 | 475-475-450 | 1⅜ x 4 | 4.85 |
| FP394 | 10-10-10 | 475-475-475 | 1 x 3 | 2.70 |
| FP396 | 30-30-20 | 475-475-475 | 1⅜ x 3 | 4.45 |
| FP396.1 | 40-20-20 | 475-475-475 | 1⅜ x 3 | 4.75 |
| FP396.12 | 40-30-10 | 475-475-475 | 1⅜ x 3 | 4.50 |
| FP396.14 | 40-30-30 | 475-475-475 | 1⅜ x 4 | 5.15 |
| FP396.2 | 40-10-10 | 475-475-475 | 1⅜ x 2½ | 3.85 |
| FP397 | 40-35-10 | 475-475-475 | 1⅜ x 3 | 4.55 |
| FP398 | 10-40-40 | 500-450-450 | 1⅜ x 3 | 4.15 |

**FP-WP—Quads**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| FP403 | 50-20-150-30 | 150-150-15-15 | 1⅜ x 2 | $3.20 |
| FP405 | 20-20-160-40 | 150-150-25-25 | 1⅜ x 2 | 3.20 |
| WP405.5 | 40-50-160-40 | 150-150-25-25 | 1⅜ x 2 | 3.35 |
| WP406 | 40-40-200-100 | 150-150-25-25 | 1⅜ x 2 | 3.55 |
| FP407 | 30-20-20-200 | 150-150-150-10 | 1⅜ x 2 | 3.10 |
| FP407.5 | 40-40-20-200 | 150-150-150-10 | 1⅜ x 2 | 3.20 |
| FP408 | 60-40-20-200 | 150-150-150-10 | 1⅜ x 2 | 3.45 |
| FP408.5 | 80-80-10-100 | 150-150-150-10 | 1⅜ x 2½ | 3.90 |
| FP408.7 | 300-10-30-100 | 150-150-150-10 | 1⅜ x 3 | 4.55 |
| FP409 | 40-40-30-20 | 150-150-150-25 | 1⅜ x 2 | 3.10 |
| FP409.4 | 50-20-20-200 | 150-150-150-25 | 1⅜ x 2 | 3.50 |
| FP409.6 | 50-10-40-50 | 150-150-150-25 | 1⅜ x 2 | 3.15 |
| FP410 | 50-50-50-20 | 150-150-150-25 | 1⅜ x 2½ | 3.55 |
| FP410.3 | 60-40-20-20 | 150-150-150-25 | 1⅜ x 2 | 3.30 |
| FP410.7 | 60-60-10-60 | 150-150-150-25 | 1⅜ x 2½ | 3.50 |
| FP411 | 80-40-30-100 | 150-150-150-25 | 1⅜ x 2½ | 3.70 |
| FP411.3 | 80-40-40-20 | 150-150-150-25 | 1⅜ x 2½ | 3.50 |
| FP411.32 | 80-40-40-40 | 150-150-150-25 | 1⅜ x 2½ | 3.60 |
| FP411.4 | 80-50-50-25 | 150-150-150-25 | 1⅜ x 2½ | 3.80 |
| FP411.5 | 100-90-60-200 | 150-150-150-25 | 1⅜ x 3 | 4.95 |
| FP411.7 | 125-125-40-100 | 150-150-150-25 | 1⅜ x 4 | 4.85 |
| FP411.8 | 200-200-100-10 | 150-150-150-75 | 1⅜ x 4 | 5.95 |
| FP412 | 100-80-60-40 | 150-150-150-150 | 1⅜ x 3 | 4.65 |
| FP412.2 | 40-40-50-80 | 250-250-150-50 | 1⅜ x 2½ | 4.10 |
| FP417 | 100-40-80-20 | 300-50-25-25 | 1⅜ x 2½ | 4.55 |

**FP-WP—Quads—Continued**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| FP417.3 | 10-200-140-30 | 300-150-150-150 | 1⅜ x 4 | $5.10 |
| FP417.8 | 10-200-200-30 | 300-150-150-150 | 1⅜ x 4 | 5.35 |
| FP418.3 | 120-20-100-20 | 300-250-50-25 | 1⅜ x 4 | 5.05 |
| FP418.7 | 140-10-10-100 | 300-300-150-50 | 1⅜ x 4 | 4.95 |
| FP419 | 200-20-100-20 | 300-250-50-25 | 1⅜ x 4 | 5.80 |
| FP419.11 | 60-5-50-20 | 300-300-50-50 | 1⅜ x 2 | 3.60 |
| FP423 | 40-40-40-40 | 300-250-250-25 | 1⅜ x 2½ | 4.40 |
| FP419.1 | 150-20-10-250 | 300-300-250-50 | 1⅜ x 4 | 6.05 |
| FP419.2 | 40-30-20-50 | 300-300-300-25 | 1⅜ x 2½ | 4.15 |
| FP419.7 | 60-40-20-50 | 300-300-300-25 | 1⅜ x 3 | 4.65 |
| FP419.35 | 60-30-10-60 | 300-300-300-50 | 1⅜ x 2½ | 4.20 |
| FP419.37 | 150-30-30-150 | 300-300-300-50 | 1⅜ x 4 | 6.10 |
| FP419.4 | 100-10-200-30 | 300-300-150-150 | 1⅜ x 4 | 5.90 |
| FP419.5 | 40-40-30-20 | 300-300-300-300 | 1⅜ x 3 | 4.85 |
| FP419.53 | 60-40-10-10 | 300-300-300-300 | 1⅜ x 3 | 4.55 |
| FP419.54 | 200-20-20-20 | 300-300-300-300 | 1⅜ x 4 | 6.45 |
| FP419.55 | 150-100-10-5 | 300-300-300-300 | 1⅜ x 4 | 6.60 |
| FP419.56 | 60-60-30-160 | 350-150-150-25 | 1⅜ x 3 | 4.60 |
| FP419.58 | 20-60-160-40 | 350-200-25-25 | 1⅜ x 2½ | 4.00 |
| FP419.65 | 160-60-10-4 | 350-300-300-300 | 1⅜ x 4 | 6.40 |
| FP414 | 15-80-40-200 | 350-200-200-25 | 1⅜ x 3 | 4.50 |
| FP419.6 | 40-10-10-25 | 350-350-25-25 | 1⅜ x 2 | 3.75 |
| FP419.62 | 60-4-100-40 | 350-350-25-25 | 1⅜ x 2½ | 3.80 |
| FP419.64 | 40-20-50-25 | 350-350-150-25 | 1⅜ x 2½ | 4.15 |
| FP419.67 | 60-100-60-40 | 350-350-200-75 | 1⅜ x 4 | 6.55 |
| FP419.66 | 60-40-60-20 | 350-350-250-150 | 1⅜ x 4 | 5.40 |
| FP419.68 | 15-15-15-15 | 350-350-300-25 | 1⅜ x 2 | 3.45 |
| FP419.8 | 35-35-10-20 | 350-350-300-25 | 1⅜ x 2½ | 4.15 |
| FP419.82 | 20-10-5-10 | 350-350-350-25 | 1⅜ x 2 | 3.10 |
| FP419.84 | 30-10-5-200 | 350-350-350-25 | 1⅜ x 2 | 3.80 |
| FP419.86 | 40-20-5-10 | 350-350-350-25 | 1⅜ x 2½ | 3.80 |
| FP419.87 | 40-20-20-50 | 350-350-350-25 | 1⅜ x 2½ | 4.25 |
| FP419.88 | 40-30-15-3 | 350-350-350-25 | 1⅜ x 2½ | 4.50 |
| FP419.3 | 40-40-20-20 | 350-350-350-25 | 1⅜ x 3 | 4.65 |
| FP419.9 | 15-15-15-50 | 350-350-350-50 | 1⅜ x 2 | 3.75 |
| FP420.2 | 50-40-40-160 | 350-350-350-50 | 1⅜ x 4 | 5.75 |
| FP420.23 | 100-10-10-20 | 350-350-350-50 | 1⅜ x 3 | 5.15 |
| FP420.26 | 100-40-30-50 | 350-350-350-50 | 1⅜ x 4 | 6.55 |
| FP420.28 | 140-20-10-100 | 350-350-350-50 | 1⅜ x 4 | 6.05 |
| FP420.29 | 90-30-5-100 | 350-350-350-75 | 1⅜ x 4 | 5.90 |
| FP420.32 | 20-10-5-60 | 350-350-350-200 | 1⅜ x 2½ | 3.65 |
| FP420.33 | 30-10-5-100 | 350-350-350-100 | 1⅜ x 2½ | 4.40 |
| FP420.35 | 40-20-20-10 | 350-350-350-350 | 1⅜ x 2½ | 4.35 |
| FP420.38 | 40-40-40-40 | 350-350-350-350 | 1⅜ x 4 | 6.00 |
| FP420.41 | 40-120-10-150 | 400-250-250-50 | 1⅜ x 4 | 5.80 |
| FP420.43 | 80-80-100-100 | 400-350-25-25 | 1⅜ x 4 | 6.30 |
| FP420.44 | 30-40-50-200 | 400-300-250-150 | 1⅜ x 4 | 6.00 |
| FP420.45 | 40-80-100-25 | 400-350-200-50 | 1⅜ x 4 | 6.05 |
| FP420.47 | 20-50-40-80 | 400-350-350-50 | 1⅜ x 3 | 5.00 |
| FP420.5 | 30-60-20-100 | 400-350-350-50 | 1⅜ x 4 | 5.00 |
| FP420.53 | 20-5-20-20 | 400-400-25-25 | 1⅜ x 2 | 3.05 |
| FP420.54 | 80-50-25-25 | 400-400-25-25 | 1⅜ x 3 | 5.35 |
| FP420.56 | 50-25-100-20 | 400-400-50-25 | 1⅜ x 3 | 4.65 |
| FP420.6 | 80-40-100-20 | 400-400-50-25 | 1⅜ x 4 | 5.60 |
| FP420.7 | 100-10-30-20 | 400-400-50-50 | 1⅜ x 3 | 5.10 |
| FP420.8 | 20-10-10-25 | 400-400-100-25 | 1⅜ x 2 | 3.10 |
| WP420.9 | 20-20-100-100 | 400-400-100-100 | 1⅜ x 3 | 5.25 |
| FP421 | 5-5-50-80 | 400-400-300-250 | 1⅜ x 3 | 4.65 |
| FP421.2 | 60-40-40-10 | 400-400-350-50 | 1⅜ x 4 | 5.75 |
| FP421.4 | 30-30-15-20 | 400-400-400-25 | 1⅜ x 3 | 4.30 |
| FP421.6 | 80-40-30-40 | 400-400-400-25 | 1⅜ x 4 | 5.95 |
| FP421.8 | 40-40-40-150 | 400-400-400-50 | 1⅜ x 4 | 5.70 |
| FP422.1 | 20-80-20-50 | 450-200-200-50 | 1⅜ x 2½ | 4.10 |
| FP422.7 | 60-80-40-20 | 450-250-250-150 | 1⅜ x 4 | 5.65 |
| FP422.9 | 10-100-20-20 | 450-300-300-300 | 1⅜ x 3 | 5.25 |
| FP413X | 40-40-40-20 | 450-300-300-150 | 1⅜ x 3 | 4.90 |
| FP423.4 | 10-40-100-100 | 450-350-250-50 | 1⅜ x 3 | 5.55 |
| FP424.1 | 10-100-10-20 | 450-350-350-25 | 1⅜ x 3 | 5.20 |
| FP425* | 30-40-40-10 | 450-350-350-200 | 1⅜ x 3 | 5.15 |
| FP425.1 | 80-10-40-30 | 450-400-300-300 | 1⅜ x 4 | 5.80 |
| FP425.6 | 40-100-20-10 | 450-350-350-350 | 1⅜ x 4 | 6.40 |
| FP426 | 20-15-20-20 | 450-450-25-25 | 1⅜ x 2 | 3.45 |
| FP426.5 | 20-20-60-100 | 450-450-150-25 | 1⅜ x 2½ | 4.25 |
| FP426.9 | 40-40-125-125 | 450-450-150-25 | 1⅜ x 4 | 5.70 |
| FP427.5 | 10-10-60-100 | 450-450-200-50 | 1⅜ x 2½ | 3.85 |
| FP427.6 | 35-25-20-100 | 450-450-200-50 | 1⅜ x 3 | 4.65 |
| FP427.7 | 10-10-10-50 | 450-450-300-25 | 1⅜ x 2 | 3.15 |
| FP427.9 | 20-20-20-10 | 450-450-350-350 | 1⅜ x 3 | 4.15 |
| FP428 | 40-10-35-10 | 450-450-350-350 | 1⅜ x 3 | 4.60 |
| FP428.4 | 40-40-30-30 | 450-450-350-350 | 1⅜ x 4 | 5.90 |
| FP424 | 15-15-10-20 | 450-450-450-25 | 1⅜ x 2 | 3.50 |
| FP428.9 | 30-30-10-125 | 450-450-450-25 | 1⅜ x 3 | 4.30 |
| FP432 | 40-10-10-250 | 450-450-450-25 | 1⅜ x 3 | 4.70 |
| FP431 | 40-15-10-25 | 450-450-450-25 | 1⅜ x 2½ | 4.10 |
| FP430.2 | 40-20-20-25 | 450-450-450-25 | 1⅜ x 3 | 4.60 |
| FP436 | 40-20-20-40 | 450-450-450-25 | 1⅜ x 3 | 4.65 |
| FP429 | 40-30-10-20 | 450-450-450-25 | 1⅜ x 3 | 4.50 |
| FP430.6 | 40-40-40-40 | 450-450-450-25 | 1⅜ x 4 | 5.50 |
| FP430.9 | 60-40-40-10 | 450-450-450-25 | 1⅜ x 4 | 6.00 |
| FP430.95 | 60-50-5-20 | 450-450-450-25 | 1⅜ x 4 | 5.35 |
| FP437 | 20-20-20-100 | 450-450-450-50 | 1⅜ x 2½ | 4.55 |
| FP431.2 | 40-40-10-25 | 450-450-450-50 | 1⅜ x 3 | 4.70 |
| FP431.3 | 40-40-10-50 | 450-450-450-50 | 1⅜ x 4 | 3.55 |
| FP431.4 | 60-40-10-25 | 450-450-450-50 | 1⅜ x 4 | 5.25 |
| FP431.7 | 40-40-10-100 | 450-450-450-100 | 1⅜ x 4 | 5.30 |
| FP433 | 60-10-10-20 | 450-450-450-150 | 1⅜ x 3 | 4.60 |
| FP432.4 | 40-40-30-10 | 450-450-450-200 | 1⅜ x 4 | 5.35 |
| FP432.9 | 40-20-10-100 | 450-450-450-250 | 1⅜ x 4 | 5.85 |
| FP433.2 | 40-10-10-40 | 450-450-450-350 | 1⅜ x 3 | 4.75 |
| FP433.4 | 40-20-20-20 | 450-450-450-350 | 1⅜ x 3 | 5.00 |
| WP433.6 | 5-5-5-5 | 450-450-450-450 | 1⅜ x 2 | 3.00 |
| FP434 | 10-10-10-10 | 450-450-450-450 | 1⅜ x 2 | 3.35 |



*continued on next page*

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World Radio History

# MALLORY DRY ELECTROLYTIC CAPACITORS

**FP-WP—Quads—Continued**

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| FP434.5 | 20-10-10-10 | 450-450-450-450 | 1 3/8 x 2 | $3.70 |
| FP444 | 20-20-20-20 | 450-450-450-450 | 1 3/8 x 3 | 4.70 |
| FP444.4 | 30-15-15-15 | 450-450-450-450 | 1 3/8 x 3 | 4.45 |
| FP444.5 | 30-30-20-10 | 450-450-450-450 | 1 3/8 x 3 | 4.60 |
| FP444.6 | 30-30-15-10 | 450-450-450-450 | 1 3/8 x 3 | 4.70 |
| FP444.8 | 30-30-20-20 | 450-450-450-450 | 1 3/8 x 3 | 5.20 |
| FP444.9 | 30-30-30-15 | 450-450-450-450 | 1 3/8 x 4 | 5.30 |
| FP445 | 35-35-10-5 | 450-450-450-450 | 1 3/8 x 3 | 4.60 |
| FP446 | 40-35-10-10 | 450-450-450-450 | 1 3/8 x 3 | 4.80 |
| FP447 | 40-40-20-20 | 450-450-450-450 | 1 3/8 x 4 | 5.55 |
| FP447.5 | 40-40-30-30 | 450-450-450-450 | 1 3/8 x 4 | 6.05 |
| FP448 | 60-20-20-20 | 450-450-450-450 | 1 3/8 x 4 | 5.65 |
| FP448.5 | 60-30-10-2 | 450-450-450-450 | 1 3/8 x 3 | 5.10 |
| FP449 | 70-10-10-5 | 450-450-450-450 | 1 3/8 x 3 | 4.75 |
| FP450 | 80-10-10-10 | 450-450-450-450 | 1 3/8 x 4 | 5.05 |
| FP451 | 10-100-10-100 | 475-300-300-25 | 1 3/8 x 3 | 4.90 |
| FP451.3 | 10-4-140-100 | 475-300-300-50 | 1 3/8 x 4 | 5.30 |
| FP452 | 20-80-20-10 | 475-300-300-300 | 1 3/8 x 3 | 5.00 |
| FP452.5 | 10-20-50-100 | 475-350-25-25 | 1 3/8 x 2 | 3.45 |
| FP453 | 20-40-80-100 | 475-350-200-100 | 1 3/8 x 4 | 5.45 |
| FP453.4 | 10-40-80-100 | 475-350-300-100 | 1 3/8 x 4 | 5.55 |
| FP453.8 | 10-30-5-80 | 475-350-350-50 | 1 3/8 x 2½ | 3.70 |
| FP454.2 | 20-60-40-10 | 475-350-350-350 | 1 3/8 x 3 | 5.20 |
| FP454.6 | 10-40-4-100 | 475-400-350-50 | 1 3/8 x 2½ | 4.05 |
| FP456 | 25-20-40-100 | 475-450-300-50 | 1 3/8 x 3 | 4.95 |
| FP456.5 | 10-60-30-125 | 475-450-400-50 | 1 3/8 x 4 | 5.55 |
| FP455 | 10-50-30-30 | 475-450-450-25 | 1 3/8 x 3 | 4.75 |
| FP457* | 10-40-10-20 | 475-450-450-50 | 1 3/8 x 2½ | 3.95 |
| FP459 | 10-40-10-100 | 475-450-450-50 | 1 3/8 x 2½ | 4.30 |
| FP461 | 15-15-80-40 | 475-475-300-50 | 1 3/8 x 3 | 4.80 |
| FP463 | 50-30-20-20 | 475-475-300-300 | 1 3/8 x 4 | 5.70 |
| FP464.9 | 40-10-4-40 | 475-475-350-350 | 1 3/8 x 3 | 4.95 |
| FP467 | 20-10-20-100 | 475-475-450-25 | 1 3/8 x 2½ | 4.20 |
| FP474 | 10-10-10-10 | 475-475-475-475 | 1 3/8 x 2 | 3.50 |
| FP474.5 | 20-20-10-10 | 475-475-475-475 | 1 3/8 x 2½ | 4.35 |
| FP475 | 20-20-20-20 | 475-475-475-475 | 1 3/8 x 3 | 5.20 |
| FP475.5 | 40-10-10-10 | 475-475-475-475 | 1 3/8 x 3 | 4.65 |
| FP476 | 40-20-10-10 | 475-475-475-475 | 1 3/8 x 3 | 5.10 |
| FP485 | 10-10-20-4 | 500-300-300-300 | 1 3/8 x 2 | 3.30 |
| FP495 | 40-40-8-8 | 500-500-500-500 | 1 3/8 x 4 | 5.70 |

## Electrolytic Capacitors for Printed Circuits

The PFP capacitor is identical in quality and performance to the Mallory FP type, the basic difference being in the mounting arrangement. All PFP units incorporate the straight lug type printed circuit terminals.

| Catalog Number | Capacity Mfd. | Working Volts—DC | Size D L | List Price |
|---|---|---|---|---|
| PFP116.8 | 140 | 150 | 1 x 2½ | $2.10 |
| PFP122 | 160 | 200 | 1 3/8 x 2½ | 2.85 |
| PWP200.6 | 500-100 | 20-20 | 1 x 2 | 2.95 |
| PFP213.1 | 50-30 | 150-150 | 1 x 2 | 2.00 |
| PFP216.4 | 200-200 | 150-150 | 1 3/8 x 3 | 4.00 |
| PFP214.3 | 70-30 | 150-150 | 1 x 2 | 2.20 |
| PFP217.86 | 10-10 | 300-300 | 1 3/8 x 2 | 1.95 |
| PFP284 | 30-30 | 500-500 | 1 3/8 x 2½ | 3.25 |
| PFP302.38 | 70-30-100 | 150-150-10 | 1 x 2½ | 2.80 |
| PFP302.75 | 90-40-400 | 150-150-10 | 1 x 3 | 3.50 |
| PFP311.12 | 70-30-20 | 150-150-25 | 1 x 2½ | 4.00 |
| PFP311.63 | 50-30-40 | 150-150-150 | 1 x 2½ | 3.20 |
| PFP326.4 | 60-10-25 | 300-300-25 | 1 3/8 x 2 | 3.75 |
| PFP326.15 | 10-10-20 | | 1 x 2 | 2.25 |
| PFP326.76 | 150-100-30 | 300-300-300 | 1 3/8 x 4 | 5.10 |
| PFP333.15 | 40-30-20 | 400-350-300 | 1 3/8 x 2½ | 4.95 |
| PFP420.52 | 40-30-20-20 | 400-350-350-350 | 1 3/8 x 3 | 4.95 |

## Octal Base Plug-in Electrolytic Capacitors

Designed for military and communication equipment Parts replacement, also very useful for the designer and builder. Replacement of a filter is no more difficult than replacing a tube with these new plug-in units.

| Catalog Number | Capaticy Mfd. | Voltage DC | Size Dia. Length | List Price |
|---|---|---|---|---|
| PB110 | 20 | 150 | 1 5/32 x 2½ | $3.95 |
| PB114 | 40 | 150 | 1 5/32 x 2½ | 4.10 |
| PB139 | 100 | 350 | 1 3/8 x 3½ | 5.85 |
| PB142 | 10 | 450 | 1 5/32 x 2½ | 4.05 |
| PB144 | 20 | 450 | 1 5/32 x 2½ | 4.30 |
| PB146 | 40 | 450 | 1 3/8 x 4¼ | 4.55 |
| PB149 | 80 | 450 | 1 3/8 x 4¼ | 5.55 |
| PB208 | 20-20 | 150-150 | 1 5/32 x 2½ | 4.20 |
| PB212 | 40-40 | 150-150 | 1 5/32 x 2½ | 4.35 |
| PB234 | 20-20 | 450-450 | 1 3/8 x 2½ | 5.05 |
| PB238 | 40-40 | 450-450 | 1 3/8 x 4¼ | 5.95 |
| PB311.2 | 20-20-20 | 150-150-150 | 1 5/32 x 2½ | 4.80 |
| PB345.8 | 20-20-20 | 450-450-25 | 1 3/8 x 2½ | 5.55 |
| PB375.8 | 10-10-10 | 450-450-450 | 1 5/32 x 2½ | 5.10 |

## Aluminum Can Threaded Neck Dry Electrolytic Capacitors

For replacement of wet and dry electrolytic capacitors. RS, RM and HS have flexible, insulated leads. HD and SR have solder lug anode connections; cathodes are connected to case.

| Catalog Number | Capacity Mfd. | Volts DC | Size Dia. Length | List Price |
|---|---|---|---|---|
| RS207 | 30 | 250 | 1 x 3½ | $2.05 |
| RS212 | 8 | 450 | 1 3/8 x 3 | 2.20 |
| RS213 | 8 | 450 | 1 x 2¾ | 2.20 |
| RS214 | 12 | 450 | 1 3/8 x 3 | 2.40 |
| RS215 | 12 | 450 | 1 x 2¾ | 2.40 |
| RS216 | 16 | 450 | 1 x 3½ | 2.45 |
| RS217 | 16 | 450 | 1 3/8 x 3 | 2.45 |
| RS219 | 20 | 450 | 1 3/8 x 3 | 2.70 |
| RS223 | 30 | 450 | 1 3/8 x 3 | 3.00 |
| RS224 | 40 | 450 | 1 3/8 x 3 | 3.15 |
| HD684 | 10 | 450 | 1 x 3 | 2.30 |
| HS691* | 4 | 600 | 1 3/8 x 4 | 2.95 |
| HS693* | 8 | 600 | 1 3/8 x 4 | 3.15 |
| HS696* | 20 | 600 | 1 3/8 x 4¼ | 3.85 |
| RM262 | 8-8 | 450 | 1 3/8 x 3 | 3.00 |
| RM265 | 8-8-8 | 450 | 1 3/8 x 4¼ | 5.00 |
| SR638 | 8-8 | 450 | 1 3/8 x 2¾ | 3.00 |
| SR645 | 8-8 | 450 | 1 3/8 x 2¾ | 3.00 |

* Will operate at 85°C. Others operate at 65°C.

## Plastic Cased High Capacity and Non-Polarized Electrolytic Capacitors

HC types are for use with dry disc rectifiers, in such applications as: movie equipment and electric fence power supplies. NP types are non-polarized for intermittent AC service.

| Catalog Number | Capacity Mfd. | DC Wkg. Volts | Size D L | List Price |
|---|---|---|---|---|
| HC1020 | 2000 | 10 | 1 7/16 x 3 3/8 | $3.95 |
| HC1040 | 4000 | 10 | 1 13/16 x 3 3/8 | 4.75 |
| HC10100 | 10000 | 10-15 | 2 1/16 x 4 3/8 | 8.25 |
| HC1060A* | 6000 | 10 | 1½ x 4 1/8 | 5.55 |
| HC1520 | 2000 | 15 | 1 7/16 x 3 1/8 | 4.70 |
| HC1540 | 4000 | 15 | 1 13/16 x 3 1/8 | 5.50 |
| HC1560 | 6000 | 15 | 1 13/16 x 4 1/8 | 6.30 |
| HC2060 | 6000 | 20-30 | 2 1/16 x 4 1/8 | 8.65 |
| HC2510 | 1000 | 25 | 1 7/16 x 3 3/8 | 4.85 |
| HC2520 | 2000 | 25 | 1 13/16 x 3 3/8 | 5.75 |
| HC2540 | 4000 | 25 | 1 13/16 x 4 1/8 | 6.75 |
| HC4040 | 4000 | 40-60 | 2 1/16 x 4 3/8 | 9.50 |
| HC5005 | 500 | 50 | 1 7/16 x 3 3/8 | 3.90 |
| HC5010 | 1000 | 50 | 1 13/16 x 3 3/8 | 6.40 |
| HC5020 | 2000 | 50 | 1 13/16 x 4 3/8 | 8.75 |
| HC15010 | 1000 | 150 | 2 1/16 x 4 3/8 | 10.50 |
| HC20005 | 500 | 200 | 2 1/16 x 4 3/8 | 9.80 |
| HC45003** | 300 | 450 | 2 1/16 x 4 3/8 | 10.50 |
| FF45052** | 525 | 450 | 2 1/16 x 4 3/8 | 22.50 |
| NP1225 | 200 | 125 | 1 13/16 x 4 3/8 | 5.00 |
| NP1235 | 300 | 125 | 2 1/16 x 4 3/8 | 5.75 |
| NP1255 | 500 | 125 | 2 1/16 x 4 3/8 | 7.50 |
| NP3003 | 15 | 300 | 1 7/16 x 3 3/8 | 3.75 |
| NP3014 | 100 | 300 | 1 13/16 x 4 3/8 | 6.75 |
| NP3025 | 200 | 300 | 2 1/16 x 4 3/8 | 9.50 |
| NP4505 | 50 | 450 | 1 13/16 x 3 3/8 | 7.50 |
| NP4510 | 100 | 450 | 2 1/16 x 4 3/8 | 11.60 |

* This unit in Aluminum Case
** Designed for Photoflash Application

## New Mallor-RMC Discaps®

Ceramic Disc Capacitors

See Mallory Page 9



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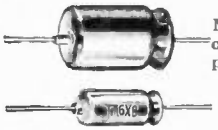
World Radio History

# DRY ELECTROLYTIC CAPACITORS

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

## Subminiature Aluminum Electrolytic Capacitors



Mallory's new subminiature electrolytic capacitors are outstanding in their application to the very small size portable radios, hearing aids, portable TV, test instruments, and military communications equipment. Small in size, but designed to take it, they use etched plate of high purity aluminum.

| Type | Capacity | Voltage | Size Dia. | Size Length | List Price |
|---|---|---|---|---|---|
| TT 1 x 5 | 5 | 1 | 3/16 | 1/2 | $1.35 |
| TT 3 x 10 | 10 | 3 | 3/16 | 5/8 | 1.35 |
| TT 3 x 25 | 25 | 3 | 1/4 | 5/8 | 1.35 |
| TT 3 x 40 | 40 | 3 | 1/4 | 5/8 | 1.35 |
| TT 3 x 110 | 110 | 3 | 3/8 | 3/4 | 1.50 |
| TT 6 x 2 | 2 | 6 | 3/16 | 1/2 | 1.35 |
| TT 6 x 5 | 5 | 6 | 3/16 | 1/2 | 1.35 |
| TT 6 x 8 | 8 | 6 | 3/16 | 9/16 | 1.40 |
| TT 6 x 10 | 10 | 6 | 3/16 | 5/8 | 1.40 |
| TT 6 x 15 | 15 | 6 | 1/4 | 5/8 | 1.40 |
| TT 6 x 25 | 25 | 6 | 1/4 | 5/8 | 1.40 |
| TT 6 x 30 | 30 | 6 | 3/8 | 5/8 | 1.50 |
| TT 6 x 40 | 40 | 6 | 3/8 | 5/8 | 1.50 |
| TT 6 x 50 | 50 | 6 | 3/8 | 3/4 | 1.50 |
| TT 6 x 60 | 60 | 6 | 3/8 | 3/4 | 1.50 |
| TT 10 x 15 | 15 | 10 | 1/4 | 5/8 | 1.40 |
| TT 10 x 25 | 25 | 10 | 3/8 | 5/8 | 1.40 |
| TT 12 x 1 | 1 | 12 | 3/16 | 1/2 | 1.40 |
| TT 12 x 2 | 2 | 12 | 3/16 | 1/2 | $1.40 |
| TT 12 x 5 | 5 | 12 | 3/16 | 9/16 | 1.40 |
| TT 12 x 10 | 10 | 12 | 1/4 | 5/8 | 1.40 |
| TT 15 x 10 | 10 | 15 | 1/4 | 5/8 | 1.50 |
| TT 15 x 20 | 20 | 15 | 3/8 | 5/8 | 1.55 |
| TT 15 x 30 | 30 | 15 | 3/8 | 3/4 | 1.60 |
| TT 25 x 5 | 5 | 25 | 1/4 | 5/8 | 1.50 |
| TT 25 x 8 | 8 | 25 | 3/8 | 5/8 | 1.50 |
| TT 25 x 15 | 15 | 25 | 3/8 | 5/8 | 1.55 |
| TT 25 x 20 | 20 | 25 | 3/8 | 3/4 | 1.60 |
| TT 50 x 5 | 5 | 50 | 1/4 | 3/4 | 1.55 |
| TT 50 x 10 | 10 | 50 | 3/8 | 5/8 | 1.60 |
| TT 50 x 20 | 20 | 50 | 3/8 | 3/4 | 1.60 |
| TT 150 x 1 | 1 | 150 | 1/4 | 5/8 | 1.60 |
| TT 150 x 2 | 2 | 150 | 1/4 | 3/4 | 1.60 |
| TT 150 x 3 | 3 | 150 | 3/8 | 5/8 | 1.60 |
| TT 150 x 5 | 5 | 150 | 3/8 | 3/4 | 1.60 |

## TAN-SOL T.M. Solid Electrolyte Tantalums

Type TAS Capacitors feature an extremely small tantalum anode on which is formed a tantalum oxide film. The electrolyte is a solid, semi-conducting material that is not subject to corrosion or leakage. The "TAN-SOL" capacitors were designed to operate over a range of −80° to +85° C. The TAS meets the requirements for miniaturized or transistorized military or commercial electronic or computer equipment, battery powered radio and communications equipment, and in test instruments, hearing aids, and recorders.

| Catalog Number | Cap. Mfd. | Voltage DC Wkg. | Voltage DC Surge | Size Length Dia. |
|---|---|---|---|---|
| TAS 3.3-20 | 3.3 | 20 | 23 | .438 x .175 |
| TAS 4.7-20 | 4.7 | 20 | 23 | .438 x .175 |
| TAS 4.7-15 | 4.7 | 15 | 18 | .438 x .175 |
| TAS 6.8-20 | 6.8 | 20 | 23 | .438 x .175 |
| TAS 6.8-15 | 6.8 | 15 | 18 | .438 x .175 |
| TAS 6.8-10 | 6.8 | 10 | 13 | .438 x .175 |
| TAS 10-20 | 10 | 20 | 23 | .438 x .175 |
| TAS 10-15 | 10 | 15 | 18 | .438 x .175 |
| TAS 10-10 | 10 | 10 | 13 | .438 x .175 |
| TAS 10-6 | 10 | 6 | 8 | .438 x .175 |
| TAS 15-20 | 15 | 15 | 18 | .438 x .175 |
| TAS 15-15 | 15 | 15 | 18 | .438 x .175 |
| TAS 15-10 | 15 | 10 | 13 | .438 x .175 |
| TAS 15-6 | 15 | 6 | 8 | .438 x .175 |
| TAS 22-15 | 22 | 15 | 18 | .438 x .175 |
| TAS 22-10 | 22 | 10 | 13 | .438 x .175 |
| TAS 22-6 | 22 | 6 | 8 | .438 x .175 |
| TAS 33-10 | 33 | 10 | 13 | .438 x .175 |
| TAS 33-6 | 33 | 6 | 8 | .438 x .175 |
| TAS 40-10 | 40 | 10 | 13 | .438 x .175 |
| TAS 47-6 | 47 | 6 | 8 | .438 x .175 |
| TAS 60-6 | 60 | 6 | 8 | .438 x .175 |

**For Current Tantalum Prices contact your Mallory Distributor or P. R. Mallory & Co. Inc.**

## Type "TNT" Tantalum Capacitor

The type TNT capacitor is a subminiature polarized tantalum electrolytic capacitor designed for use where space is at a premium yet large mfd-volt ratings are required. Although occupying only .006 cubic inches volume, it will withstand rugged environmental conditions found in both military and commercial aircraft control equipment. Other applications are in miniaturized units such as hearing aids, extremely small consumer and military radios, and printed circuit package assemblies. TNT's are mounted by their leads which are: negative lead, tinned copper wire of .0159 diameter; and positive lead, tinned nickel wire of .0126 diameter.

| Catalog Number | Capacity Mfd. | Volts DC | Size Length Dia. |
|---|---|---|---|
| TNT 8-50 | 8 | 50 | 1/2 x .145 |
| TNT 15-30 | 15 | 30 | 1/2 x .145 |
| TNT 25-15 | 25 | 15 | 1/2 x .145 |
| TNT 50-6 | 50 | 6 | 1/2 x .145 |
| TNT 80-3 | 80 | 3 | 1/2 x .145 |

## Type "STNT" Subminiature Tantalum Capacitor

The type "STNT" is a subminiature tantalum capacitor incorporating a sintered pellet anode. It occupies only .005 cubic inches of volume . . . the largest capacity per unit volume available. It offers excellent shelf life, extremely long, trouble free operating life, and construction designed to withstand severe environmental conditions. Temperature range is −55° to +85° C.

| Catalog Number | Capacity Mfd. | Volts DC | Size Length Dia. |
|---|---|---|---|
| STNT 2-50 | 2 | 50 | 5/16 x .145 |
| STNT 4-50 | 4 | 50 | 5/16 x .145 |
| STNT 6-35 | 6 | 35 | 5/16 x .145 |
| STNT 12-15 | 12 | 15 | 5/16 x .145 |
| STNT 25-6 | 25 | 6 | 5/16 x .145 |
| STNT 40-3 | 40 | 3 | 5/16 x .145 |



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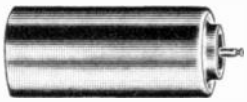


## XT Type Tantalum Capacitors

**Application**—Originally designed to meet the exacting requirements of geophysical, well drilling and other applications where a ruggedly constructed, hermetically sealed electrolytic capacitor was necessary. The possible applications for the present models of the Mallory tantalum capacitors are unlimited in circuit designs requiring rugged use and wide variations in temperature.

**Description**—The Mallory metal encased tantalum capacitor is the answer to applications calling for a capacitor designed to withstand temperatures ranging from −55°C. to +200°C. The XT type is enclosed in a hermetically sealed steel case which will withstand 100 hours of 20% salt spray at 95°F without harmful corrosion. The case is sealed with a glass-to-metal end seal.

The standard case diameter for all XT types is ⅞". The height will vary from ½" to 4 1/16", depending on capacity and voltage ratings.

**Terminals**—Provided with a wrap-around terminal for easy soldering.

**Mounting**—Mounting hardware is not supplied with the capacitor. The variety of applications for this capacitor is not conducive to a single means of mounting. Insulating material, such as Teflon, etc., should be used between the capacitor and mounting bracket where the cathode is not at chassis potential. CAUTION: Soldering to any part of the case is not recommended.

**Type XT**

| Catalog Number | Mfd. | DC Volts 175°C. | DC Volts 85°C. | Max. Ohms ESR | Max. Ohms IMP | Height (In.) |
|---|---|---|---|---|---|---|
| XTL120 | 120 | 12 | 18 | 2.5 | 45 | ½ |
| XTH240 | 240 | 12 | 18 | 2.5 | 35 | 11/16 |
| XTHS240 | 240 | 12 | 18 | 2.5 | 35 | 11/16 |
| XTL75 | 75 | 20 | 30 | 2.5 | 50 | ½ |
| XTH150 | 150 | 20 | 30 | 2.5 | 40 | 11/16 |
| XTL40 | 40 | 38 | 60 | 2.5 | 75 | ½ |
| XTLS40 | 40 | 38 | 60 | 2.7 | 75 | ½ |
| XTL40A | 40 | 38 | 60 | 2.7 | 75 | ½ |
| XTH80 | 80 | 38 | 60 | 2.5 | 50 | 11/16 |
| XTL25 | 25 | 60 | 100 | 2.5 | 100 | ½ |
| XTH50 | 50 | 60 | 100 | 2.5 | 70 | 11/16 |
| XTL12 | 12 | 120 | 180 | 5 | 200 | 27/32 |
| XTLS12 | 12 | 120 | 180 | 5.6 | 200 | 27/32 |
| XTH25 | 25 | 120 | 180 | 5 | 140 | 1¼ |
| XTL8 | 8 | 180 | 270 | 7.5 | 300 | 1 3/16 |
| XTL8A | 8 | 180 | 270 | 8.3 | 300 | 1 3/16 |
| XTH16 | 16 | 180 | 270 | 7.5 | 210 | 1 13/16 |
| XTL6 | 6 | 240 | 360 | 10 | 400 | 1 17/32 |
| XTLS6 | 6 | 240 | 360 | 11 | 400 | 1 17/32 |
| XTL6A | 6 | 240 | 360 | 11 | 400 | 1 17/32 |
| XTH12 | 12 | 240 | 360 | 10 | 280 | 2⅜ |
| XTHS12 | 12 | 240 | 360 | 11 | 280 | 2⅜ |
| XTH12A | 12 | 240 | 360 | 11 | 280 | 2⅜ |
| XTL5 | 5 | 300 | 450 | 12.5 | 500 | 1 29/32 |
| XTH10 | 10 | 300 | 450 | 12.5 | 350 | 2 15/16 |
| XTL4 | 4 | 360 | 540 | 15 | 600 | 2¼ |
| XTH8 | 8 | 360 | 540 | 15 | 420 | 3½ |
| XTH8A | 8 | 360 | 540 | 16.6 | 420 | 3½ |
| XTL3.5 | 3.5 | 420 | 630 | 17.5 | 700 | 2 19/32 |
| XTH7 | 7 | 420 | 630 | 17.5 | 490 | 4 1/16 |

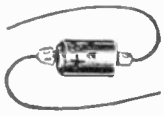
For Screw Terminal and Nut—add "s" to part number and add: $0.65 each for any quantity

For 100% Environmental Testing add $1.55 each for any quantity

Prices are for 175°C. maximum. For 200°C. ratings, add "X" to part number and add 10% to base price. i.e.: XTL-120 becomes XTLX-120

Cathode Tab can be supplied at no extra charge—add "A" to part number. i.e.: XTL-120A

**See Mallory Pages 8 & 9**



## Mallory Type TAP Silverlytic Capacitor

**Application**—Designed for those who need an extremely small (subminiaturized) capacitor for transistor applications.

**Description**—The Mallory type TAP Silverlytic Capacitor is the result of intensive development and research and is designed to meet the most rigid specifications for performance, stability, and reliability. It is a premium capacitor, ruggedly constructed and capable of giving a performance equivalent to standard electrolytics of conventional size. It possesses extremely long operational life, double seal construction, "a case within a case," and excellent low temperature characteristics. Operating temperature for the TAP Silverlytic is −55°C. to +85°C. DC leakage is less than 1 microampere after 10 minutes of rated voltage. Capacity tolerance for the TAP is −15% to +75%.

**Terminals**—Axial leads 1½" long, tinned for easy soldering.

**Mounting**—Designed for mounting with attached leads.

**Packaging**—5 units per display carton.

**TAP (Pellet Type)**

| Catalog Number | Capacity Mfd. | Volts DC | Size Dia. Length |
|---|---|---|---|
| TAP125-1M | 1.5 | 125 | 7/32 x ⅜ |
| TAP100-2 | 2 | 100 | 7/32 x ⅜ |
| TAP75-3M | 3.5 | 75 | 7/32 x ⅜ |
| TAP60-4 | 4 | 60 | 7/32 x ⅜ |
| TAP50-5 | 5 | 50 | 7/32 x ⅜ |
| TAP40-6 | 6 | 40 | 7/32 x ⅜ |
| TAP30-8 | 8 | 30 | 7/32 x ⅜ |
| TAP25-10 | 10 | 25 | 7/32 x ⅜ |
| TAP20-12 | 12 | 20 | 7/32 x ⅜ |
| TAP15-15 | 15 | 15 | 7/32 x ⅜ |
| TAP10-20 | 20 | 10 | 7/32 x ⅜ |
| TAP6-30 | 30 | 6 | 7/32 x ⅜ |

## Molded Tubular Capacitors for Printed Circuits (Type ACE)—(Single Ended)

Constructed to the same exacting specifications as the Mallory GEM line. Designed primarily for replacement use in automation and printed circuit radio and TV applications. Leads use 20 and 18 gage wire of double tinned "Copperweld" construction.

| Catalog Number | Capacity MFD | Voltage DC | Size Dia. Length |
|---|---|---|---|
| ACE6215 | .0015 | 600 | ⅜ x 1 |
| ACE6222 | .0022 | 600 | ⅜ x 1 |
| ACE6233 | .0033 | 600 | ⅜ x 1 |
| ACE6115 | .015 | 600 | ⅜ x 1⅜ |
| ACE6122 | .022 | 600 | 7/16 x 1⅜ |
| ACE6133 | .033 | 600 | ½ x 1¼ |
| ACE6168 | .068 | 600 | ⅝ x 1¼ |
| ACE6015 | .15 | 600 | ⅝ x 1⅞ |
| ACE1011 | .01 | 1000 | 7/16 x 1⅜ |
| ACE10115 | .015 | 1000 | ½ x 1¼ |
| ACE10133 | .033 | 1000 | ⅝ x 1¼ |
| ACE1014 | .04 | 1000 | ⅞ x 1⅞ |
| ACE1621 | .001 | 1600 | ⅜ x 1¼ |
| ACE1622 | .002 | 1600 | ⅜ x 1¼ |

**See New PFP Electrolytic Capacitors For Printed Circuit Applications**

**Mallory Page 4**



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## Molded Tubular Paper Capacitors

Cases are molded from high grade mineral-filled bakelite, effectively sealed against moisture ingress and mechanical shock, by Epoxy Resin. (See Mallory Catalog 557 for more complete listing.)

| Catalog Number | Capacity Mfd. | Size Dia. Length | List Price |
|---|---|---|---|
| **Working Voltage 400 V.D.C., Test 1000 V.D.C.** | | | |
| GEM-421 | .001 | 5/16 x 1 | $0.25 |
| GEM-425 | .005 | 5/16 x 1 | .25 |
| GEM-411 | .01 | 5/16 x 1 | .25 |
| GEM-4115 | .015 | 3/8 x 1¼ | .25 |
| GEM-412 | .02 | 3/8 x 1¼ | .25 |
| GEM-4122 | .022 | 3/8 x 1¼ | .30 |
| GEM-4125 | .025 | 3/8 x 1¼ | .30 |
| GEM-413 | .03 | 3/8 x 1¼ | .30 |
| GEM-4133 | .033 | 7/16 x 1¼ | .30 |
| GEM-414 | .04 | 7/16 x 1¼ | .30 |
| GEM-4147 | .047 | 7/16 x 1¼ | .30 |
| GEM-415 | .05 | 7/16 x 1¼ | .30 |
| GEM-416 | .06 | ½ x 1¼ | .35 |
| GEM-4168 | .068 | ½ x 1½ | .35 |
| GEM-401 | .1 | ½ x 1½ | .35 |
| GEM-4015 | .15 | 5/8 x 1⅞ | .40 |
| GEM-402 | .2 | ¾ x 2¼ | .45 |
| GEM-4022 | .22 | ¾ x 2¼ | .45 |
| GEM-4025 | .25 | ¾ x 2¼ | .45 |
| GEM-4033 | .33 | ¾ x 2¼ | .50 |
| GEM-4047 | .47 | 1 x 2⅜ | .60 |
| GEM-405 | .5 | 1 x 2⅜ | .60 |
| GEM-41 | 1.0 | 1 x 2⅜ | 1.25 |
| **Working Voltage 600 V.D.C., Test 1500 V.D.C.** | | | |
| GEM-621 | .001 | 5/16 x 1 | $0.25 |
| GEM-6215 | .0015 | 5/16 x 1 | .25 |
| GEM-622 | .002 | 5/16 x 1 | .25 |
| GEM-6222 | .0022 | 5/16 x 1 | .25 |
| GEM-6225 | .0025 | 5/16 x 1 | .25 |
| GEM-623 | .003 | 5/16 x 1 | .25 |
| GEM-6233 | .0033 | 5/16 x 1 | .25 |
| GEM-624 | .004 | 5/16 x 1 | .25 |
| GEM-6247 | .0047 | 5/16 x 1 | .25 |
| GEM-625 | .005 | 3/8 x 1¼ | .25 |
| GEM-626 | .006 | 3/8 x 1¼ | .25 |
| GEM-6268 | .0068 | 3/8 x 1¼ | .30 |
| GEM-627 | .007 | 3/8 x 1¼ | .30 |
| GEM-628 | .008 | 3/8 x 1¼ | .30 |
| GEM-6282 | .0082 | 3/8 x 1¼ | .30 |
| GEM-611 | .01 | 3/8 x 1¼ | .30 |
| GEM-6112 | .012 | 3/8 x 1¼ | .30 |
| GEM-6115 | .015 | 3/8 x 1¼ | .30 |
| GEM-612 | .02 | 7/16 x 1¼ | .30 |
| GEM-6122 | .022 | 7/16 x 1¼ | .30 |
| GEM-6125 | .025 | 7/16 x 1¼ | .35 |
| GEM-613 | .03 | 7/16 x 1¼ | .35 |
| GEM-6133 | .033 | ½ x 1½ | .35 |
| GEM-614 | .04 | ½ x 1½ | .35 |
| GEM-6147 | .047 | ½ x 1½ | .40 |
| GEM-615 | .05 | ½ x 1½ | .40 |
| GEM-6156 | .056 | 5/8 x 1⅞ | .40 |
| GEM-616 | .06 | 5/8 x 1⅞ | .40 |
| GEM-6168 | .068 | 5/8 x 1⅞ | .45 |
| GEM-601 | .1 | 5/8 x 1⅞ | .45 |
| GEM-602 | .2 | ¾ x 2¼ | .70 |
| GEM-6022 | .22 | ¾ x 2¼ | .70 |
| GEM-6025 | .25 | ¾ x 2¼ | .55 |
| GEM-6027 | .27 | 1 x 2⅜ | .70 |
| GEM-6047 | .47 | 1 x 2⅜ | .80 |
| GEM-605 | .5 | 1 x 2⅜ | .80 |
| GEM-61 | 1.0 | 1 x 2⅝ | 1.25 |
| **Working Voltage 1600 V.D.C., Test 3200 V.D.C.** | | | |
| GEM-1621 | .001 | 3/8 x 1¼ | $0.65 |
| GEM-1622 | .002 | 3/8 x 1¼ | .65 |
| GEM-16225 | .0025 | 7/16 x 1¼ | .65 |
| GEM-1623 | .003 | 7/16 x 1¼ | .55 |
| GEM-16233 | .0033 | 7/16 x 1¼ | .55 |
| GEM-1624 | .004 | 7/16 x 1¼ | .55 |
| GEM-16247 | .0047 | ½ x 1¼ | .55 |
| GEM-1625 | .005 | ½ x 1½ | .55 |
| GEM-16256 | .0056 | ½ x 1¼ | .65 |
| GEM-1626 | .006 | ½ x 1½ | .55 |
| GEM-16268 | .0068 | ½ x 1½ | .65 |
| GEM-1627 | .007 | ½ x 1½ | .55 |
| GEM-16275 | .0075 | ½ x 1½ | .55 |
| GEM-1628 | .008 | ½ x 1½ | .60 |
| GEM-16282 | .0082 | ½ x 1½ | .65 |
| GEM-1611 | .01 | ½ x 1½ | .60 |
| GEM-1612 | .02 | 5/8 x 1⅞ | .70 |
| GEM-161125 | .0125 | 5/8 x 1⅞ | .70 |
| GEM-1613 | .03 | 5/8 x 1⅞ | .70 |
| GEM-1614 | .04 | ¾ x 2¼ | .70 |
| GEM-1615 | .05 | 5/8 x 1⅞ | .70 |
| GEM-1616 | .06 | ¾ x 2¼ | .70 |

## AC Motor Starting Capacitors

PS type—round, moisture-proof, plastic case. For mounting accessories, see page 11, Mallory Capacitors section, this catalog.

| Catalog Number | Mfd. New | Rating Old | Volts AC | Size D L | List Price |
|---|---|---|---|---|---|
| PS2010* | 20 | 20-24 | 110 | 1 7/16 x 2¾ | $2.05 |
| PS2610* | 26 | 26-30 | 110 | 1 7/16 x 2¾ | 2.10 |
| PS3210* | 32 | 32-36 | 110 | 1 7/16 x 2¾ | 2.10 |
| PS3810* | 38 | 38-42 | 110 | 1 7/16 x 2¾ | 2.10 |
| PS4310* | 43 | 43-48 | 110 | 1 7/16 x 2¾ | 2.10 |
| PS5310 | 53 | 53-60 | 110 | 1 7/16 x 3⅜ | 2.15 |
| PS6410 | 64 | 64-72 | 110 | 1 7/16 x 3⅜ | 2.25 |
| PS7010 | 70 | 70-78 | 110 | 1 7/16 x 3⅜ | 2.40 |
| PS7510 | 75 | 75-84 | 110 | 1 7/16 x 3⅜ | 2.55 |
| PS8610 | 86 | 86-96 | 110 | 1 7/16 x 3⅜ | 2.65 |
| PS9710 | 97 | 97-107 | 110 | 1 7/16 x 3⅜ | 2.80 |
| PS10810 | 108 | 108-120 | 110 | 1 7/16 x 2¾ | 2.85 |
| PS12410 | 124 | 124-138 | 110 | 1 7/16 x 2¾ | 2.95 |
| PS13010 | 130 | 130-157 | 110 | 1 7/16 x 2¾ | 2.95 |
| PS14510 | 145 | 145-162 | 110 | 1 7/16 x 2¾ | 3.20 |
| PS16110 | 161 | 161-180 | 110 | 1 7/16 x 2¾ | 3.25 |
| PS19410 | 194 | 194-216 | 110 | 1 7/16 x 3⅜ | 3.90 |
| PS20010* | 200 | 200-220 | 110 | 1 7/16 x 3⅜ | 3.90 |
| PS21610 | 216 | 216-240 | 110 | 1 7/16 x 3⅜ | 4.05 |
| PS24310 | 243 | 243-270 | 110 | 1 13/16 x 3⅜ | 4.70 |
| PS27010 | 270 | 270-300 | 110 | 1 13/16 x 3⅜ | 4.75 |
| PS32410 | 324 | 324-360 | 110 | 1 13/16 x 3⅜ | 5.40 |
| PS34010 | 340 | 340-412 | 110 | 1 13/16 x 3⅜ | 5.55 |
| PS37810 | 378 | 378-420 | 110 | 1 13/16 x 3⅜ | 6.00 |
| PS40010 | 400 | 400-450 | 110 | 1 13/16 x 3⅜ | 6.05 |
| PS43010 | 430 | 430-485 | 110 | 1 13/16 x 4⅜ | 6.95 |
| PS48510 | 485 | 485-540 | 110 | 1 13/16 x 4⅜ | 7.60 |
| PS18965 | 189 | | 165 | 1 13/16 x 4⅜ | 7.25 |
| PS21665 | 216 | | 165 | 1 13/16 x 4⅜ | 7.50 |
| PS2520 | 25 | 25-30 | 220 | 1 7/16 x 2 | 4.60 |
| PS3220 | 32 | 32-36 | 220 | 1 7/16 x 2 | 4.90 |
| PS3820 | 38 | 38-42 | 220 | 1 7/16 x 3⅜ | 5.30 |
| PS4320 | 43 | 43-48 | 220 | 1 13/16 x 3⅜ | 5.55 |
| PS5020 | 50 | | 220 | 1 13/16 x 3⅜ | 5.65 |
| PS5320 | 53 | 53-60 | 220 | 1 13/16 x 3⅜ | 5.75 |
| PS6420 | 64 | 64-72 | 220 | 1 13/16 x 3⅜ | 6.75 |
| PS7020 | 70 | 70-78 | 220 | 1 13/16 x 3⅜ | 7.00 |
| PS7520 | 75 | 75-84 | 220 | 1 13/16 x 3⅜ | 7.35 |
| PS8620 | 86 | 86-96 | 220 | 1 13/16 x 4⅜ | 7.65 |
| PS10820 | 108 | | 220 | 2 1/16 x 4⅜ | 7.65 |
| PS12120 | 121 | | 220 | 2 1/16 x 4⅜ | 8.60 |
| PS14120 | 141 | | 220 | 1 1/16 x 4⅜ | 9.35 |
| PS5050 | 50 | | 250 | 1 13/16 x 3⅜ | 5.75 |
| PS7550 | 75 | | 250 | 1 13/16 x 4⅜ | 7.25 |
| PS8150 | 81 | | 250 | 1 13/16 x 4⅜ | 7.50 |
| PS12150 | 121 | | 250 | 2 1/16 x 4⅜ | 10.25 |
| PS13550 | 135 | | 250 | 2 1/16 x 4⅜ | 11.25 |
| PS14150 | 141 | | 250 | 2 1/16 x 4⅜ | 11.50 |
| PS2730 | 27 | 27-32 | 330 | 1 13/16 x 3⅜ | 6.50 |
| PS12730 | 127 | | 330 | 2 5/16 x 4⅜ | 15.45 |
| PS13530 | 135 | | 333 | 2 9/16 x 4⅜ | 15.95 |

* Cases will not accommodate PL caps and HB brackets.

## AC Motor Running Capacitors

Have sealed metal cases. Non-inflammable oil impregnation. For continuous AC duty. Not suitable for DC. Capacity tolerance ±10%.

| Catalog Number | Cap. Mfd. | Volts AC | Size Dia. Length | List Price |
|---|---|---|---|---|
| RP-3301 | 1 | 330 | 1⅜ x 1⅞ | $4.20 |
| RP-3302 | 2 | 330 | 1⅜ x 3 3/16 | 5.20 |
| RP-3303 | 3 | 330 | 2 x 2⅜ | 5.55 |
| RP-3304 | 4 | 330 | 2 x 2⅞ | 6.20 |
| RP-3305 | 5 | 330 | 2 x 3⅜ | 6.80 |
| RP-3306 | 6 | 330 | 2 x 3⅞ | 7.50 |
| RP-3307 | 7 | 330 | 2 x 4⅜ | 7.90 |
| RP-3308 | 8 | 330 | 2 x 5⅛ | 8.35 |
| RP-3310 | 10 | 330 | 2½ x 4 9/16 | 9.55 |
| RP-3312 | 12 | 330 | 2½ x 5 3/16 | 10.90 |
| RP-3315 | 15 | 330 | 2½ x 6 1/16 | 13.80 |

**See The Complete Line of Mallory Batteries on Mallory, page 4 & 5, section M**



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World Radio History

## Steel-Cased, Oil-Filled Capacitors

For general use in aircraft, marine, geophysical and industrial electronic equipment where extreme dependability under severe conditions is desired. Oil impregnated, single, dual, and triple section units housed in rugged, hermetically sealed, hot-tinned steel cases. Single sections have two terminals. Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common ground to case. All terminals protrude in a row on one long side of case.

| Catalog Number | Cap. Mfd. | Working Volts DC | Size* H W L X | List Price |
|---|---|---|---|---|
| CB403 | .25 | 400 | ¾ x ⅞ x 1¾ x 2⅛ | $2.25 |
| CB404 | .5 | 400 | ⅞ x 1 x 1¾ x 2⅛ | 2.40 |
| CB405 | 1.0 | 400 | ¾ x 1¾ x 2 x 2⅜ | 2.85 |
| CB406 | 2.0 | 400 | 1⅛ x 2 x 2 x 2⅜ | 3.60 |
| CB602 | .1 | 600 | ¾ x ⅞ x 1¾ x 2⅛ | 2.65 |
| CB603 | .25 | 600 | ¾ x 1 x 1¾ x 2⅛ | 2.80 |
| CB604 | .5 | 600 | ⅞ x 1¼ x 1¾ x 2⅛ | 3.00 |
| CB605 | 1.0 | 600 | ⅞ x 1¾ x 2 x 2⅜ | 3.40 |
| CB1002 | .1 | 1000 | ¾ x ⅞ x 1¾ x 2⅛ | 2.85 |
| CB1003 | .25 | 1000 | ¾ x 1¼ x 1¾ x 2⅛ | 2.95 |
| CB1004 | .5 | 1000 | ⅞ x 1¾ x 2 x 2⅜ | 3.20 |
| CBD403 | .25-.25 | 400 | ¾ x 1¼ x 1¾ x 2⅛ | 3.25 |
| CBD404 | .5-.5 | 400 | ¾ x 1¾ x 2 x 2⅜ | 3.75 |
| CBD602 | .1-.1 | 600 | ¾ x ⅞ x 1¾ x 2⅛ | 3.35 |
| CBT403 | 3X .25 | 400 | ¾ x 1¾ x 2 x 2⅜ | 4.00 |
| CBT404 | 3X .5 | 400 | 1 x 1¾ x 2 x 2⅜ | 4.75 |
| CBT602 | 3X .1 | 600 | ⅞ x 1 x 1¾ x 2⅛ | 3.80 |

* H—Height; W—Width; L—Length; X—Mounting Centers.

## Universal High Voltage Ceramic Capacitor

Mallory offers a new high voltage ceramic capacitor with universal terminals there are two sizes (and ratings) available. This new HV offers a superior design and construction with high insulation resistance and low power factor. The generous safety factor permits use of the capacitor at its full rated voltage. An additional feature of the HV line is the choice of terminal styles (included in each package) designed to meet all TV assembly requirements.

Standard Tolerance: +50% −20%

| | HV20035U | HV30035U |
|---|---|---|
| Cap. mmfd. | 500 | 500 |
| WVDC | 20,000 | 30,000 |
| Flash Test | 30,000 | 40,000 |
| Body size | | |
| overall height | 1.068″ | 1.381″ |
| diameter | .950″ | 1.375″ |
| height | .937″ | 1.250″ |
| Terminal Stud Dia. | .250″ | .250″ |
| Suggested List price | $1.85 | $3.00 |

## Capacitor Selector

For determining correct capacity to use in making replacements of defective motor starting capacitors which have lost their identity. For checking capacity ranges from 25 to 645 mfd. 110-125 VAC.

Catalog No. MSS-101 $15.00 Net

## Mallory-RMC® Discaps® Ceramic Capacitors

Mallory-RMC Discaps are produced by the world's largest manufacturer of ceramic disc capacitors to the smallest size possible while still maintaining top quality. They are rated at 1000 volts, working voltage (except where otherwise indicated) and will withstand twice the rated voltage. Discaps are constructed of Durez phenolic insulated vacuum wax, which allows the capacitors to maintain rated capacity and leakage characteristics throughout wide ranges of temperature and humidity variations.

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| **50 Volt—Type TA DISCAPS** | | | | |
| TA-250 | 5000 | +80% −20% | 11/32 | $0.40 |
| TA-110 | 10000 | +80% −20% | 11/32 | .40 |
| TA-120 | 20000 | +80% −20% | ½ | .40 |
| TA-125 | 25000 | +80% −20% | ½ | .40 |
| TA-150 | 50000 | +80% −20% | ⅝ | .65 |
| TA-010 | 100000 | +80% −20% | ⅝ | .95 |
| **100 Volt—Type BT DISCAPS** | | | | |
| BT-250 | 5000 | +80% −20% | 11/32 | $0.40 |
| BT-110 | 10000 | +80% −20% | ½ | .40 |
| BT-120 | 20000 | +80% −20% | 9/16 | .40 |
| BT-125 | 25000 | +80% −20% | 9/16 | .40 |
| BT-150 | 50000 | +80% −20% | ¾ | .50 |
| BT-010 | 100000 | +80% −20% | ¾ | .90 |
| **1000 Volt—Type "C" NPO DISCAPS** | | | | |
| CNO-510 | 1 | .25 mmfd | ¼ | $0.50 |
| CNO-515 | 1.5 | .25 mmfd | ¼ | .50 |
| CNO-522 | 2.2 | .25 mmfd | ¼ | .50 |
| CNO-533 | 3.3 | .25 mmfd | ¼ | .50 |
| CNO-547 | 4.6 | .25 mmfd | ¼ | .50 |
| CNO-568 | 6.8 | ±5% | ¼ | .50 |
| CNO-410 | 10 | ±5% | ¼ | .50 |
| CNO-412 | 12 | ±5% | ¼ | .50 |
| CNO-415 | 15 | ±5% | ¼ | .50 |
| CNO-418 | 18 | ±5% | 5/16 | .50 |
| CNO-422 | 22 | ±5% | 5/16 | .50 |
| CNO-427 | 27 | ±5% | 5/16 | .50 |
| CNO-433 | 33 | ±5% | ½ | .50 |
| CNO-439 | 39 | ±5% | ½ | .50 |
| CNO-447 | 47 | ±5% | ½ | .50 |
| CNO-456 | 56 | ±5% | ½ | .55 |
| CNO-468 | 68 | ±5% | ½ | .55 |
| CNO-482 | 82 | ±5% | ⅝ | .55 |
| CNO-310 | 100 | ±5% | ¾ | .55 |
| CNO-312 | 120 | ±5% | ⅞ | .65 |
| CNO-315 | 150 | ±5% | ⅞ | .75 |
| **1000 Volt—Type "C" N750** | | | | |
| CN7-522 | 2.2 | ±5 mmfd. | ¼ | $0.50 |
| CN7-533 | 2.3 | ±5% | ¼ | .50 |
| CN7-547 | 4.7 | ±5% | ¼ | .50 |
| CN7-568 | 6.8 | ±5% | ¼ | .50 |
| CN7-410 | 10 | ±5% | ¼ | .50 |
| CN7-412 | 12 | ±5% | ¼ | .50 |
| CN7-415 | 15 | ±5% | ¼ | .50 |
| CN7-418 | 18 | ±5% | ¼ | .50 |
| CN7-422 | 22 | ±5% | ¼ | .50 |
| CN7-427 | 27 | ±5% | ¼ | .50 |
| CN7-433 | 33 | ±5% | ¼ | .50 |
| CN7-439 | 39 | ±5% | ¼ | .50 |
| CN7-447 | 47 | ±5% | ¼ | .50 |
| CN7-456 | 56 | ±5% | ¼ | .50 |
| CN7-468 | 68 | ±5% | ¼ | .50 |
| CN7-482 | 82 | ±5% | ½ | .50 |
| CN7-310 | 100 | ±5% | ½ | .50 |
| CN7-312 | 120 | ±5% | ½ | .50 |
| CN7-315 | 150 | ±5% | ½ | .50 |
| CN7-318 | 180 | ±5% | ⅝ | .55 |
| CN7-322 | 220 | ±5% | ¾ | .55 |
| CN7-327 | 270 | ±5% | ¾ | .55 |
| CN7-333 | 330 | ±5% | ⅞ | .55 |
| **1000 Volt—Bypass or General Purpose DISCAPS—Type "B"** | | | | |
| B-315 | 150 | GMV | 9/32 | $0.25 |
| B-318 | 180 | GMV | 9/32 | .25 |
| B-322 | 220 | GMV | 9/32 | .25 |
| B-327 | 270 | GMV | 9/32 | .25 |
| B-333 | 330 | GMV | 9/32 | .25 |
| B-339 | 390 | GMV | 9/32 | .25 |

*continued on next page*



Net

TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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World Radio History

# RMC DISCAPS®

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P.R. MALLORY & CO. Inc. MALLORY

### 1000 Volt
### Bypass or General Purpose Discaps—Type "B"—Continued

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| B-347 | 470 | GMV | 9/32 | $0.25 |
| B-350 | 500 | GMV | 9/32 | .25 |
| B-356 | 560 | GMV | 9/32 | .25 |
| B-368 | 680 | GMV | 9/32 | .25 |
| B-382 | 820 | GMV | 9/32 | .25 |
| B-210 | 1000 | GMV | 9/32 | .25 |
| B-212 | 1200 | GMV | 9/32 | .25 |
| B-215 | 1500 | GMV | 3/8 | .25 |
| B-218 | 1800 | GMV | 3/8 | .25 |
| B-220 | 2000 | GMV | 3/8 | .25 |
| B-222 | 2200 | GMV | 3/8 | .25 |
| B-227 | 2700 | GMV | 3/8 | .25 |
| B-233 | 3300 | GMV | 9/16 | .25 |
| B-240 | 4000 | GMV | 9/16 | .25 |
| B-247 | 4700 | GMV | 19/32 | .30 |
| B-850 | 5000 | GMV | 19/32 | .30 |
| B-256 | 5600 | GMV | 19/32 | .30 |
| B-260 | 6000 | GMV | 19/32 | .30 |
| B-268 | 6800 | GMV | 5/8 | .30 |
| B-282 | 8200 | GMV | 5/8 | .30 |
| B-110 | 10000 | GMV | 3/4 | .30 |
| B-115 | 15000 | +80% −20% | 29/32 | .30 |
| B-120 | 20000 | +80% −20% | 29/32 | .30 |

### 1000 Volt—AC Line and Buffer DISCAPS—Type "U"

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| UAC-210 | .001 | GMV | 3/8 | $0.35 |
| UAC-220 | .002 | GMV | 9/16 | .35 |
| UAC-222 | .0022 | GMV | 9/16 | .35 |
| UAC-230 | .003 | GMV | 9/16 | .35 |
| UAC-233 | .0033 | GMV | 9/16 | .35 |
| UAC-240 | .004 | GMV | 9/16 | .35 |
| UAC-247 | .0047 | GMV | 13/16 | .35 |
| UAC-250 | .005 | GMV | 13/16 | .35 |
| UAC-260 | .006 | GMV | 13/16 | .35 |
| UAC-270 | .007 | GMV | 13/16 | .35 |
| UAC-275 | .0075 | GMV | 13/16 | .35 |
| UAC-280 | .008 | GMV | 13/16 | .35 |
| UAC-110 | .01 | GMV | 29/32 | .35 |
| UAC-120 | .02 | GMV | 29/32 | .40 |
| UAC-2X110 | 2X.01 | GMV | 29/32 | .45 |

### 1000 Volt—Temperature Stabilizing DISCAPS—Type "JL"

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| JL-315 | 150 | ±10% | 9/32 | $0.50 |
| JL-322 | 220 | ±10% | 9/32 | .50 |
| JL-333 | 330 | ±10% | 9/32 | .50 |
| JL-347 | 470 | ±10% | 23/64 | .50 |
| JL-356 | 560 | ±10% | 23/64 | .50 |
| JL-368 | 680 | ±10% | 23/64 | .50 |
| JL-375 | 750 | ±10% | 23/64 | .50 |
| JL-382 | 820 | ±10% | 17/32 | .50 |
| JL-210 | 1000 | ±10% | 17/32 | .50 |
| JL-212 | 1200 | ±10% | 17/32 | .50 |
| JL-215 | 1500 | ±10% | 17/32 | .50 |
| JL-218 | 1800 | ±10% | 17/32 | .50 |
| JL-220 | 2000 | ±10% | 5/8 | .50 |
| JL-222 | 2200 | ±10% | 5/8 | .50 |
| JL-233 | 3300 | ±10% | 47/64 | .50 |
| JL-239 | 3900 | ±10% | 47/64 | .50 |
| JL-247 | 4700 | ±10% | 7/8 | .55 |
| JL-250 | 5000 | ±10% | 7/8 | .55 |

### 2000 Volt—Type 2HV DISCAPS

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 2HV-310 | 100 | ±20% | 5/8 | $0.35 |
| 2HV-312 | 120 | ±20% | 5/8 | .35 |
| 2HV-315 | 150 | ±20% | 5/8 | .35 |
| 2HV-322 | 220 | ±20% | 3/4 | .35 |
| 2HV-327 | 270 | ±20% | 7/8 | .35 |
| 2HV-333 | 330 | ±20% | 9/16 | .35 |
| 2HV-347 | 470 | ±20% | 9/16 | .35 |
| 2HV-356 | 560 | GMV | 5/8 | .35 |
| 2HV-368 | 680 | GMV | 5/8 | .35 |
| 2HV-375 | 750 | GMV | 5/8 | .35 |
| 2HV-382 | 820 | GMV | 5/8 | .35 |
| 2HV-210 | 1000 | GMV | 5/8 | .55 |
| 2HV-212 | 1200 | GMV | 9/16 | .55 |
| 2HV-215 | 1500 | GMV | 9/16 | .55 |
| 2HV-218 | 1800 | GMV | 9/16 | .55 |
| 2HV-222 | 2200 | GMV | 9/16 | .55 |
| 2HV-233 | 3300 | GMV | 7/8 | .55 |
| 2HV-239 | 3900 | GMV | 7/8 | .55 |
| 2HV-247 | 4700 | GMV | 7/8 | .55 |
| 2HV-268 | 6800 | GMV | 7/8 | .70 |
| 2HV-110 | 10000 | GMV | 7/8 | .70 |

### 3000 Volt—Hi-Voltage DISCAPS—Type 3HV

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 3HV-322 | 220 | ±20% | 3/4 | $0.40 |
| 3HV-327 | 270 | ±20% | 3/4 | .40 |
| 3HV-333 | 330 | ±20% | 3/4 | .40 |
| 3HV-347 | 470 | ±20% | 3/4 | .40 |
| 3HV-356 | 560 | GMV | 3/4 | .40 |
| 3HV-368 | 680 | GMV | 3/4 | .40 |
| 3HV-375 | 750 | GMV | 3/4 | .40 |
| 3HV-382 | 820 | GMV | 3/4 | .40 |
| 3HV-210 | 1000 | GMV | 3/4 | .40 |
| 3HV-212 | 1200 | GMV | 7/8 | .40 |
| 3HV-215 | 1500 | GMV | 7/8 | .40 |
| 3HV-218 | 1800 | GMV | 7/8 | .40 |
| 3HV-222 | 2200 | GMV | 7/8 | .40 |
| 3HV-233 | 3300 | GMV | 7/8 | .40 |
| 3HV-239 | 3900 | GMV | 7/8 | .40 |
| 3HV-247 | 4700 | GMV | 7/8 | .40 |

### 6000 Volt—Hi-Voltage DISCAPS—Type 6HV

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 6HV-310 | 100 | ±20% | 3/4 | $0.50 |
| 6HV-312 | 120 | ±20% | 3/4 | .50 |
| 6HV-315 | 150 | ±20% | 3/4 | .50 |
| 6HV-322 | 220 | ±20% | 3/4 | .50 |
| 6HV-327 | 270 | ±20% | 7/8 | .50 |
| 6HV-333 | 330 | ±20% | 7/8 | .50 |
| 6HV-347 | 470 | ±20% | 7/8 | .50 |
| 6HV-356 | 560 | GMV | 7/8 | .50 |
| 6HV-368 | 680 | GMV | 7/8 | .50 |
| 6HV-375 | 750 | GMV | 7/8 | .50 |
| 6HV-382 | 820 | GMV | 7/8 | .50 |
| 6HV-210 | 1000 | GMV | 7/8 | .50 |

### 2000 Volt—Hi-Voltage Deflection Yoke—Type 2DY

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 2DY-547 | 4.7 | ±10% | 1/4 | $0.35 |
| 2DY-568 | 6.8 | ±10% | 1/4 | .35 |
| 2DY-410 | 10 | ±10% | 1/4 | .35 |
| 2DY-412 | 12 | ±10% | 1/4 | .35 |
| 2DY-415 | 15 | ±10% | 1/4 | .35 |
| 2DY-422 | 22 | ±10% | 5/16 | .35 |
| 2DY-427 | 27 | ±10% | 5/16 | .35 |
| 2DY-433 | 33 | ±10% | 5/16 | .35 |
| 2DY-439 | 39 | ±10% | 5/16 | .35 |
| 2DY-447 | 47 | ±10% | 5/16 | .35 |
| 2DY-456 | 56 | ±10% | 1/2 | .35 |
| 2DY-468 | 68 | ±10% | 1/2 | .35 |
| 2DY-482 | 82 | ±10% | 1/2 | .35 |
| 2DY-310 | 100 | ±10% | 5/8 | .35 |

### 3000 Volt—Hi-Voltage Deflection Yoke—Type 3DY

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 3DY-547 | 4.7 | ±10% | 5/16 | $0.40 |
| 3DY-568 | 6.8 | ±10% | 5/16 | .40 |
| 3DY-410 | 10 | ±10% | 5/16 | .40 |
| 3DY-412 | 12 | ±10% | 5/16 | .40 |
| 3DY-415 | 15 | ±10% | 5/16 | .40 |
| 3DY-422 | 22 | ±10% | 1/2 | .40 |
| 3DY-427 | 27 | ±10% | 1/2 | .40 |
| 3DY-433 | 33 | ±10% | 5/8 | .40 |
| 3DY-439 | 39 | ±10% | 5/8 | .40 |
| 3DY-447 | 47 | ±10% | 5/8 | .40 |
| 3DY-456 | 56 | ±10% | 5/8 | .40 |
| 3DY-468 | 68 | ±10% | 5/8 | .40 |
| 3DY-482 | 82 | ±10% | 5/8 | .40 |
| 3DY-310 | 100 | ±10% | 3/4 | .40 |

### 6000 Volt—Hi-Voltage Deflection Yoke—Type 6DY

| Catalog Number | Cap. Mmf. | Capacity Tolerance | Size Dia. | List Price (ea.) |
|---|---|---|---|---|
| 6DY-547 | 4.7 | ±10% | 3/4 | $0.55 |
| 6DY-568 | 6.8 | ±10% | 3/4 | .55 |
| 6DY-410 | 10 | ±10% | 3/4 | .55 |
| 6DY-412 | 12 | ±10% | 3/4 | .55 |
| 6DY-415 | 15 | ±10% | 3/4 | .55 |
| 6DY-422 | 22 | ±10% | 3/4 | .55 |
| 6DY-427 | 27 | ±10% | 3/4 | .55 |
| 6DY-433 | 33 | ±10% | 7/8 | .55 |
| 6DY-439 | 39 | ±10% | 7/8 | .55 |
| 6DY-447 | 47 | ±10% | 7/8 | .55 |
| 6DY-456 | 56 | ±10% | 7/8 | .55 |
| 6DY-468 | 68 | ±10% | 7/8 | .55 |



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World Radio History

# CERAMIC CAPACITORS

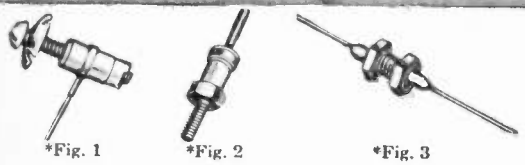


*Fig. 1 *Fig. 2 *Fig. 3

## Mallory Ceramic Tubular Trimmers

Have high quality, silvered, steatite tubes; screw adjustment; low minimum capacitance and tinned-copper leads. 500 wkg. V. DC.

| Cat. No. | mmfd | Length of Body | Fig. No.* | List Price |
|---|---|---|---|---|
| CT565A | .5-3 | 3/8" | 1 | $0.50 |
| CT565 | .5-3 | 5/8" | 1 | .50 |
| CT551 | 1-4 | 5/8" | 1 | .50 |
| CT552 | 2-6 | 5/8" | 1 | .50 |

| Catalog No. | Capacity mmfd. | Working Volts DC | List Price |
|---|---|---|---|
| CT250A | 1000 | 600 | $0.50 |
| CT254A | 1000 | 600 | .50 |
| CT280A | 1000 | 600 | .75 |
| CT282A | 1000 | 600 | 1.00 |

## Stand-Off Ceramic Capacitors

Recommended for the dual purpose of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for VHF and UHF applications because of their low inductance and high resonant frequency.

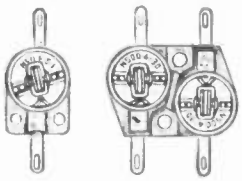
| Cat. No. | Cap. mmfd | Tolerance | Fig. No.* | List Price |
|---|---|---|---|---|
| SC-521 | 1000 | 20% | 2 | $1.00 |
| SC-535 | 500 | 20% | 2 | 1.00 |

## Feed-Thru Ceramic Capacitor

A well built, sturdy, feed-thru capacitor used to by-pass R.F. to ground in feed-thru applications. Wire terminals are rugged and will serve as tie points for several connections for supporting other circuit elements, and are sufficiently long for point-to-point wiring.

| Cat. No. | Cap. mmfd | Tolerance | Fig. No.* | List Price |
|---|---|---|---|---|
| FC5215 | 1500 | 20% | 3 | $1.00 |

## Ceramic Trimmer Capacitors



Small, electrically stable capacitors for use in high frequency FM-TV circuits. Each capacitor consists of fired silver electrodes on a ceramic rotor and base. They have a 360° rotor with a substantially constant capacity change and are completely sealed from dust and dirt. Single or dual units are available.

Solder type lugs at each end of capacitor.

Two clearance holes are provided in each capacitor for screw mounting.

**Single Units—Overall size 21/32" x 27/32" x 3/8" thick.**
**Voltage Rating—600 VDC**

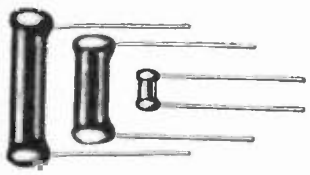
| Catalog No. | Cap. Range (mmfd) | Temperature Coefficient | List Price |
|---|---|---|---|
| ST-5515-Z | 1.5 to 7 | Zero | $1.50 |
| ST-553-Z | 3 to 12 | Zero | 1.50 |
| ST-554-N | 4 to 30 | Neg. 500 Parts/Million/°C. | 1.50 |
| ST-557-N | 7 to 45 | Neg. 500 Parts/Million/°C. | 1.50 |

**Dual Units—Overall size 1 19/64" x 7/8" x 3/8" thick.**
**Voltage Rating—600 VDC**

| Catalog No. | Cap. Range Each Section (mmfd) | Temperature Coefficient | List Price |
|---|---|---|---|
| DT-5515-Z | 1.5 to 7 | Zero | $2.50 |
| DT-553-Z | 3 to 12 | Zero | 2.50 |
| DT-554-N | 4 to 30 | Neg. 500 Parts/Million/°C. | 2.50 |
| DT-557-N | 7 to 45 | Neg. 500 Parts/Million/°C. | 2.50 |

## Fixed Ceramic Capacitors

(Voltage Rating—600 VDC)



Mallory tubular, fixed, ceramic capacitors are manufactured in 3 types. UC is general purpose type for by-passing, coupling and other applications where a moderate capacitance change with temperature change can be tolerated. ZT is zero temperature type, the nominal capacitance of which remains substantially constant over a temperature variation from −55°C to 85°C. NT is negative temperature type with a negative coefficient of 750 parts/million/degrees C. These capacitors are supplied with a dipped phenolic insulation for protection against moisture and have radially placed bare, tinned-copper leads approximately 1¼" long.

**Voltage Rating—600VDC.**

*To be replaced by RMC Discap equivalents when present stock is exhausted.

**General Purpose ±20% Tolerance**

| Cat. No.* | Capacity (mmfd) | Size* | List Price |
|---|---|---|---|
| UC-541 | 10 | 1 | $0.25 |
| UC-5412 | 12 | 1 | .25 |
| UC-5415 | 15 | 1 | .25 |
| UC-5418 | 18 | 1 | .25 |
| UC-5422 | 22 | 1 | .25 |
| UC-5425 | 25 | 1 | .25 |
| UC-5427 | 27 | 1 | .25 |
| UC-5433 | 33 | 1 | .25 |
| UC-5439 | 39 | 1 | .25 |
| UC-5447 | 47 | 1 | .25 |
| UC-545 | 50 | 1 | .25 |
| UC-5456 | 56 | 1 | .25 |
| UC-5468 | 68 | 1 | .25 |
| UC-5475 | 75 | 1 | .25 |
| UC-531 | 100 | 1 | .25 |
| UC-5312 | 120 | 1 | .25 |
| UC-5315 | 150 | 1 | .25 |
| UC-532 | 200 | 1 | .25 |
| UC-5322 | 220 | 1 | .25 |
| UC-5325 | 250 | 1 | .25 |
| UC-5327 | 270 | 1 | .25 |
| UC-533 | 300 | 1 | .25 |
| UC-5333 | 330 | 1 | .25 |
| UC-5339 | 390 | 1 | .25 |
| UC-5347 | 470 | 1 | .25 |
| UC-535 | 500 | 1 | .25 |
| UC-5356 | 560 | 1 | .25 |
| UC-5368 | 680 | 1 | .25 |
| UC-5375 | 750 | 2 | .25 |
| UC-521 | 1000 | 2 | .25 |
| UC-5212 | 1200 | 2 | .25 |
| UC-5215 | 1500 | 2 | .25 |
| UC-5218 | 1800 | 3 | .25 |
| UC-522 | 2000 | 3 | .25 |
| UC-5222 | 2200 | 3 | .25 |
| UC-5225 | 2500 | 3 | .25 |
| UC-5227 | 2700 | 3 | .25 |
| UC-523 | 3000 | 3 | .25 |
| UC-5233 | 3300 | 3 | .25 |
| UC-5240 | 4000 | 3 | .25 |
| UC-5247 | 4700 | 3 | .25 |
| UC-525 | 5000 | 3 | .30 |

**Zero Temperature Coefficient ±10% Tolerance**

| Cat. No.* | Capacity (mmfd) | Size* | List Price |
|---|---|---|---|
| ZT-5675 | .75 | 1 | $0.75 |
| ZT-5515 | 1.5 | 1 | .50 |
| ZT-553 | 3 | 1 | .50 |
| ZT-5533 | 3.3 | 1 | .50 |
| ZT-5547 | 4.7 | 1 | .50 |
| ZT-555 | 5 | 1 | .50 |
| ZT-5568 | 6.8 | 1 | .50 |
| ZT-541 | 10 | 1 | .50 |
| ZT-542 | 20 | 1 | .50 |
| ZT-5425 | 25 | 2 | .50 |
| ZT-5433 | 33 | 2 | .50 |
| ZT-545 | 50 | 3 | .55 |
| ZT-5475 | 75 | 3 | .55 |
| ZT-531 | 100 | 3 | .55 |
| ZT-5315 | 150 | 4 | .60 |
| ZT-53175 | 175 | 4 | .60 |

**Negative Temperature Coefficient 750 Parts/Million/°C ±10% Tolerance**

| Cat. No.* | Capacity (mmfd) | Size* | List Price |
|---|---|---|---|
| NT-555 | 5 | 1 | $0.50 |
| NT-541 | 10 | 1 | .50 |
| NT-5447 | 47 | 2 | .50 |
| NT-5475 | 75 | 3 | .50 |
| NT-531 | 100 | 3 | .50 |

*** SIZE CHART**

| Sizes | Diameter | Length |
|---|---|---|
| 1 | .240 | .460 |
| 2 | .240 | .710 |
| 3 | .315 | 1.250 |
| 4 | .415 | 1.213 |



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World Radio History

# CAPACITOR HARDWARE

P. R. MALLORY & CO., INC. · INDIANAPOLIS

MALLORY

**Type TH**—Special clips for horizontal mounting of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment; they may also be attached to chassis with 5-32 screw and nut in any ⅛" hole.

**Type VR**—Brackets for vertical mounting round units.

| Catalog Number | Description | Size | List Price |
|---|---|---|---|
| **TH-13** | Spring clip for TC | ⅜ | **$0.05** |
| **TH-15** | Spring clip for TC | ½ to 9/16 | **.05** |
| **TH-17** | Spring clip for TC | ⅝ to 11/16 | **.05** |
| **TH-19** | Spring clip for TC and FP | ¾ to 13/16 | **.05** |
| **TH-21** | Spring clip for TC | ⅞ to 15/16 | **.05** |
| **TH-23** | Spring clip for TC and FP | 1 to 1 1/16 | **.05** |
| **TH-25** | Spring clip for TC and FP | 1⅜ to 1 7/16 | **.10** |
| **VR-1** | Clamp for vertical mounting | 1 to 1 1/16 | **.15** |
| **VR-3** | Clamp for vertical mounting | 1⅜ to 1 7/16 | **.15** |
| **VR-4** | Clamp for vertical mounting | 1½ to 1 9/16 | **.20** |
| **VR-6** | Clamp for vertical mounting | 1¾ to 1 13/16 | **.25** |
| **VR-8** | Clamp for vertical mounting | 2 to 2 1/16 | **.30** |
| **VR-10** | Clamp for vertical mounting | 2½ | **.35** |

## Type "P" Hardware

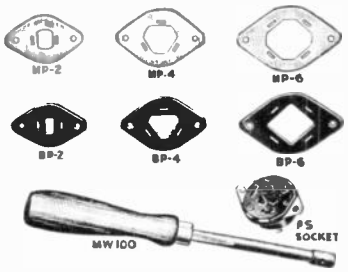
**Types PL and PL-A**—Plastic end cap to protect terminals on HC, NP or P units when desired.

**Type HB**—Horizontal bracket for mounting HC, NP or P units, using end cap type PL or PLA.

| Catalog Number | Description | | Size | List Price |
|---|---|---|---|---|
| **PL-3** | Plastic end cap | For "On Motor" mounting | 1 7/16 | **$0.20** |
| **PL-6** | Plastic end cap | For "On Motor" mounting | 1 13/16 | **.25** |
| **PL-8** | Plastic end cap | For "On Motor" mounting | 2 1/16 | **.30** |
| **PL-3A** | Plastic end cap | For "Off Motor" mounting | 1 7/16 | **.20** |
| **PL-6A** | Plastic end cap | For "Off Motor" mounting | 1 13/16 | **.25** |
| **PL-8A** | Plastic end cap | For "Off Motor" mounting | 2 1/16 | **.30** |
| **HB-4** | Horizontal bracket (plastic cases) | | 3⅜ | **.30** |
| **HB-8** | Horizontal bracket (plastic cases) | | 4⅜ | **.35** |

## Type "MSU," P, HC, and NP Hardware

| Catalog Number | Description | Size | List Price |
|---|---|---|---|
| **115-1** | Top Cap | 1⅜ | **$0.20** |
| **116-1** | Top Cap | 2 | **.20** |
| **118-1** | Bottom Cap | 1⅜ | **.20** |
| **119-1** | Bottom Cap | 2 | **.20** |
| **121-1** | Bracket | 1⅜ x 3¼ | **.35** |
| **122-1** | Bracket | 1⅜ x 4¼ | **.35** |
| **123-1** | Bracket | 2 x 3⅛ | **.35** |
| **124-1** | Bracket | 2 x 4⅛ | **.35** |




**Type MP**—Metal plates for grounded mounting of FP and WP capacitors.

**Type BP**—Phenolic plates for insulated mounting of FP and WP capacitors.

**Type PS**—Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)

**Type MW-100**—Special wrench for twisting mounting ears on FP or WP capacitors.

| Catalog Number | Description | Size | List Price |
|---|---|---|---|
| **MP-2** | Metal mounting wafer for FP | ¾ | **$0.05** |
| **MP-4** | Metal mounting wafer for FP | 1 | **.05** |
| **MP-6** | Metal mounting wafer for FP | 1⅜ | **.05** |
| **BP-2** | Phenolic mounting wafer for FP | ¾ | **.05** |
| **BP-4** | Phenolic mounting wafer for FP | 1 | **.05** |
| **BP-4A** | Phenolic mounting wafer for FP (To mount 1" FP in chassis punched for 1⅜" wafer) | 1 | **.05** |
| **BP-6** | Phenolic mounting wafer for FP | 1⅜ | **.05** |
| **PS-4** | Plug-in socket for FP | 1 | **.70** |
| **PS-6** | Plug-in socket for FP | 1⅜ | **.90** |
| **PSC-4** | Retainer clamp for PS-4 socket | | **.10** |
| **MW-100** | Mounting wrench for FP | | **1.75** |

## Recommended Replacements for Modified and Discontinued FP and WP Types

(as listed on pages 1 and 2, Mallory Capacitor Section, this catalog)

| Old Catalog Number | Recommended Replacement | Old Catalog Number | Recommended Replacement |
|---|---|---|---|
| FP228 | **FP227.3** | FP373 | **FP385** |
| FP236 | **FP260** | FP376* | **FP396.2** |
| FP246X | **FP266** | FP379* | **FP385** |
| FP313* | **FP330** | FP380 | **FP343.4†** |
| FP316* | **FP343.1** | FP387 | **FP387.1** |
| FP318* | **FP319.5** | FP389 | **FP375.8†** |
| FP332 | **FP345.2†** | FP390 | **FP376.1†** |
| FP334* | **FP333.8** | FP391 | **FP391.1** |
| FP339 | **FP345.8†** | FP393 | **FP376.8†** |
| FP342* | **FP342.5** | FP395 | **FP369.1†** |
| FP344 | **FP344.5** | FP416* | **FP419.3** |
| FP345 | **FP370†** | FP418* | **FP418.3** |
| FP352 | **FP341.5†** | FP420* | **FP447** |
| FP353 | **FP343.6** | FP422 | **FP423.4** |
| FP354 | **FP311.2†** | FP425* | **FP432.4** |
| FP355 | **FP311.4†** | FP427 | **FP422.1†** |
| FP356 | **FP311.7†** | FP457* | **FP476** |
| FP357 | **FP311.5†** | FP465* | **FP467** |
| FP358 | **FP311.9†** | FP471 | **FP476** |
| FP360* | **FP343.1** | FP550* | **FP245** |
| FP363 | **FP320†** | WP032 | **WP042** |
| FP367 | **FP330.5†** | WP302* | **WP302.1** |
| FP369 | **FP330.3†** | | |

* Will be deleted from line when present stocks are exhausted.
† Change in catalog number only. No change in rating.



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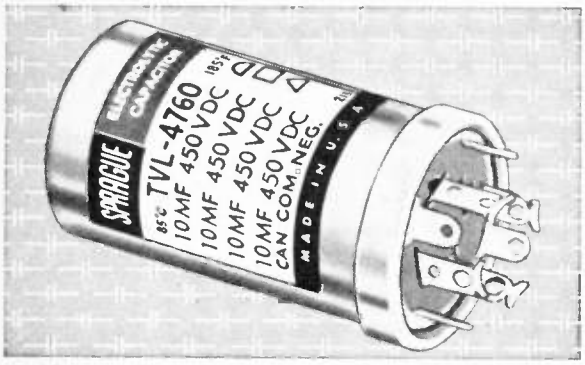
World Radio History

# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS




- Especially Designed for Tough TV and Radio Replacement Applications
- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
- Stand Up Under Extremely High Temperatures and High Surge Voltages as well as in High Ripple Selenium Rectifier Circuits
- Easy to Mount—A Twist of the Tabs Locks Unit Firmly in Place
- Furnished Complete with Bakelite and Metal Mounting Plates
- Designed for 85°C (185°F) Operation

**Bold type indicates popular items and light type indicates less popular items. An asterisk (*) indicates that the item is available only on special order, but can be readily replaced with a more popular item.**

### SINGLE UNITS

| µF | WVDC | Dia. x Length | Cat. No. | List |
|---|---|---|---|---|
| .5Ω@15.75 KC | 3N.P. | 1 x 2 | TVL-1010 | $2.65 |
| 1Ω@60 CPS | 3N.P. | 1⅜ x 2½ | TVL-1015 | 4.00 |
| 10Ω@30 CPS | 3N.P. | 1⅜ x 2 | TVL-1020 | 2.75 |
| *1000 | 6 | 1⅜ x 2 | TVL-1112 | 2.40 |
| **2000** | **6** | **1⅜ x 2** | **TVL-1115** | **2.55** |
| *1000 | 10 | 1 x 2½ | TVL-1125 | 3.20 |
| *3000 | 10 | 1⅜ x 2½ | TVL-1140 | 3.65 |
| **225** | **15** | **¾ x 2** | **TVL-1160** | **1.75** |
| **1000** | **15** | **1 x 2½** | **TVL-1165** | **2.55** |
| *1500 | 15 | 1 x 3 | TVL-1167 | 3.45 |
| **2000** | **15** | **1⅜ x 2** | **TVL-1168** | **3.45** |
| **3000** | **15** | **1⅜ x 3** | **TVL-1170** | **3.50** |
| **4000** | **15** | **1⅜ x 3½** | **TVL-1173** | **3.75** |
| * 25 | 25 | ¾ x 2 | TVL-1207 | 1.55 |
| **40** | **25** | **¾ x 2** | **TVL-1210** | **1.35** |
| * 50 | 25 | 1 x 2 | TVL-1211 | 1.70 |
| * 100 | 25 | ¾ x 2 | TVL-1215 | 2.00 |
| **500** | **25** | **1 x 2** | **TVL-1220** | **2.55** |
| **1000** | **25** | **1⅜ x 2** | **TVL-1230** | **3.55** |
| 4 | 50 | ¾ x 2 | TVL-1305 | 1.55 |
| 25 | 50 | ¾ x 2 | TVL-1308 | 1.70 |
| **100** | **50** | **¾ x 2** | **TVL-1317** | **1.65** |
| **150** | **50** | **¾ x 2½** | **TVL-1320** | **1.80** |
| **250** | **50** | **1 x 2½** | **TVL-1324** | **2.00** |
| **500** | **50** | **1⅜ x 2½** | **TVL-1330** | **2.65** |
| **1000** | **50** | **1⅜ x 3½** | **TVL-1338** | **3.75** |
| **1500** | **50** | **1⅜ x 4** | **TVL-1341** | **3.85** |
| * 10 | 150 | 1 x 2 | TVL-1403 | 1.65 |
| * 20 | 150 | 1 x 2 | TVL-1405 | 1.80 |
| * 25 | 150 | 1 x 2 | TVL-1407 | 1.90 |
| **30** | **150** | **1 x 2** | **TVL-1408** | **1.55** |
| * 40 | 150 | 1 x 2 | TVL-1412 | 2.00 |
| **50** | **150** | **1 x 2** | **TVL-1415** | **1.65** |
| * 60 | 150 | 1 x 2 | TVL-1417 | 2.20 |
| **80** | **150** | **1 x 2½** | **TVL-1420** | **1.85** |
| * 80 | 150 | 1⅜ x 2 | TVL-1421 | 2.30 |
| **100** | **150** | **1 x 2½** | **TVL-1423** | **2.00** |
| * 110 | 150 | 1 x 3 | TVL-1424 | 2.70 |
| **120** | **150** | **1 x 2½** | **TVL-1425** | **2.15** |
| **120** | **150** | **1⅜ x 2½** | **TVL-1426** | **2.15** |
| **140** | **150** | **1 x 3** | **TVL-1428** | **2.15** |
| **150** | **150** | **1 x 3** | **TVL-1429** | **2.15** |
| **150** | **150** | **1⅜ x 3** | **TVL-1430** | **2.15** |
| **200** | **150** | **1⅜ x 4** | **TVL-1431** | **2.45** |
| **300** | **150** | **1⅜ x 3½** | **TVL-1434** | **2.80** |
| * 40 | 200 | 1 x 2 | TVL-1460 | 2.15 |
| **160** | **200** | **1⅜ x 3** | **TVL-1473** | **3.15** |
| * 15 | 250 | 1 x 2 | TVL-1505 | 1.95 |
| **20** | **250** | **1 x 2** | **TVL-1509** | **$1.60** |
| * 30 | 250 | 1 x 2 | TVL-1516 | 2.15 |
| **40** | **250** | **1 x 2** | **TVL-1519** | **1.80** |
| * 50 | 250 | 1 x 2½ | TVL-1522 | 2.45 |
| 60 | 250 | 1 x 3 | TVL-1525 | 2.55 |
| * 80 | 250 | 1 x 3½ | TVL-1530 | 2.70 |
| **100** | **250** | **1 x 3** | **TVL-1535** | **2.70** |
| **150** | **250** | **1⅜ x 2½** | **TVL-1540** | **3.10** |
| **200** | **250** | **1⅜ x 3½** | **TVL-1547** | **3.65** |
| 15 | 300 | 1 x 2 | TVL-1560 | 2.00 |
| * 30 | 300 | 1 x 2 | TVL-1563 | 2.20 |
| * 50 | 300 | 1 x 2½ | TVL-1567 | 2.55 |
| 60 | 300 | 1 x 3 | TVL-1570 | 2.65 |
| **80** | **300** | **1 x 3½** | **TVL-1573** | **2.55** |
| **100** | **300** | **1 x 4** | **TVL-1578** | **2.90** |
| **125** | **300** | **1⅜ x 3½** | **TVL-1580** | **3.50** |
| **150** | **300** | **1⅜ x 3½** | **TVL-1584** | **3.50** |
| **250** | **300** | **1⅜ x 4** | **TVL-1590** | **5.55** |
| * 10 | 350 | 1 x 2 | TVL-1605 | 1.90 |
| 15 | 350 | 1 x 2 | TVL-1608 | 2.05 |
| * 20 | 350 | 1 x 2 | TVL-1612 | 2.20 |
| **30** | **350** | **1 x 2** | **TVL-1617** | **1.90** |
| **40** | **350** | **1 x 2** | **TVL-1621** | **2.00** |
| **50** | **350** | **1 x 2** | **TVL-1622** | **2.10** |
| **60** | **350** | **1 x 3** | **TVL-1624** | **2.20** |
| **80** | **350** | **1⅜ x 2** | **TVL-1630** | **2.85** |
| **125** | **350** | **1⅜ x 3½** | **TVL-1638** | **3.95** |
| *140 | 350 | 1⅜ x 4 | TVL-1641 | 4.95 |
| **150** | **350** | **1⅜ x 4** | **TVL-1642** | **3.95** |
| * 10 | 400 | 1 x 2 | TVL-1655 | 1.90 |
| * 20 | 400 | 1 x 2 | TVL-1660 | 2.20 |
| * 40 | 400 | 1⅜ x 2 | TVL-1663 | 3.15 |
| * 50 | 400 | 1⅜ x 2½ | TVL-1666 | 2.75 |
| * 80 | 400 | 1⅜ x 3 | TVL-1675 | 3.70 |
| *100 | 400 | 1⅜ x 3½ | TVL-1679 | 4.25 |
| **4** | **450** | **1 x 2** | **TVL-1702** | **1.40** |
| **10** | **450** | **1 x 2** | **TVL-1705** | **1.55** |
| **15** | **450** | **1 x 2** | **TVL-1709** | **1.70** |
| **20** | **450** | **1 x 2** | **TVL-1714** | **1.80** |
| 25 | 450 | 1 x 2½ | TVL-1716 | 2.40 |
| **30** | **450** | **1 x 2½** | **TVL-1720** | **1.95** |
| **40** | **450** | **1 x 3** | **TVL-1725** | **2.05** |
| **50** | **450** | **1 x 3** | **TVL-1728** | **2.35** |
| **60** | **450** | **1⅜ x 2½** | **TVL-1730** | **2.60** |
| **80** | **450** | **1⅜ x 2½** | **TVL-1735** | **3.05** |
| **100** | **450** | **1⅜ x 3** | **TVL-1750** | **3.45** |
| **125** | **450** | **1⅜ x 4** | **TVL-1760** | **3.85** |
| * 20 | 475 | 1 x 2½ | TVL-1807 | 2.30 |
| * 30 | 475 | 1 x 3 | TVL-1810 | 2.50 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 40 | 475 | 1⅜ x 2 | TVL-1820 | $2.50 |
| *90 | 475 | 1⅜ x 3½ | TVL-1850 | 4.40 |
| 10 | 500 | 1 x 2 | TVL-1940 | 1.70 |
| 20 | 500 | 1 x 2½ | TVL-1943 | 1.85 |
| 30 | 500 | 1 x 3 | TVL-1947 | 2.00 |
| 40 | 500 | 1 x 3½ | TVL-1950 | 2.50 |
| 80 | 500 | 1⅜ x 3 | TVL-1958 | 3.20 |
| 90 | 500 | 1⅜ x 3½ | TVL-1960 | 3.50 |
| 15 | 525 | 1⅜ x 3 | TVL-1980 | 2.30 |

### DUAL UNITS

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| .5Ω @ 15.75 KC— 2.5Ω @ 60 CPS | | 1⅜ x 2 | TVL-2010 | $4.50 |
| 1000-500 | 6N.P.-6N.P. | 1⅜ x 2 | TVL-2120 | 4.90 |
| 250-1000 | 10-6 | 1⅜ x 2 | TVL-2140 | 2.85 |
| 200-40 | 10-10 | 1 x 2 | TVL-2151 | 2.00 |
| 1000-1000 | 15-15 | 1 x 3½ | TVL-2160 | 4.40 |
| 1000-1000 | 15-15 | 1⅜ x 2½ | TVL-2161 | 4.40 |
| 250-250 | 16-16 | 1 x 2 | TVL-2170 | 3.45 |
| 500-100 | 16-16 | 1 x 2 | TVL-2175 | 3.90 |
| * 20-20 | 25-25 | 1 x 2 | TVL-2207 | 1.80 |
| * 40-40 | 25-25 | 1 x 2 | TVL-2210 | 2.00 |
| 100-70 | 25-25 | 1 x 2 | TVL-2224 | 1.80 |
| 150-50 | 25-25 | 1 x 2 | TVL-2230 | 2.40 |
| 500-500 | 25-25 | 1⅜ x 2 | TVL-2233 | 5.50 |
| 1000-500 | 25-25 | 1⅜ x 2 | TVL-2239 | 6.80 |
| 50-50 | 50-50 | 1 x 2 | TVL-2320 | 1.70 |
| 100-25 | 50-50 | 1 x 2 | TVL-2324 | 2.30 |
| 100-100 | 50-50 | 1 x 2 | TVL-2326 | 2.10 |
| 50-500 | 150-5 | 1 x 3 | TVL-2404 | 2.45 |
| * 40-20 | 150-25 | 1 x 2 | TVL-2408 | 2.15 |
| 40-150 | 150-25 | 1 x 2 | TVL-2409 | 2.55 |
| 50-150 | 150-25 | 1 x 2½ | TVL-2410 | 2.75 |
| 150-100 | 150-25 | 1⅜ x 2½ | TVL-2411 | 2.70 |
| * 40-20 | 150-50 | 1 x 2 | TVL-2412 | 2.55 |
| 20-10 | 150-150 | 1 x 2 | TVL-2414 | 2.00 |
| 20-20 | 150-150 | 1 x 2 | TVL-2415 | 1.70 |
| 30-15 | 150-150 | 1 x 2 | TVL-2418 | 2.20 |
| 30-20 | 150-150 | 1 x 2 | TVL-2420 | 2.20 |
| 30-30 | 150-150 | 1 x 2 | TVL-2422 | 1.85 |
| 40-20 | 150-150 | 1 x 2 | TVL-2425 | 1.85 |
| 40-30 | 150-150 | 1 x 2 | TVL-2427 | 1.85 |
| 40-40 | 150-150 | 1 x 2½ | TVL-2428 | 1.90 |
| 50-30 | 150-150 | 1 x 2½ | TVL-2432 | 2.00 |
| 50-50 | 150-150 | 1 x 2½ | TVL-2435 | 2.15 |
| 60-20 | 150-150 | 1 x 2 | TVL-2436 | 2.50 |
| 60-60 | 150-150 | 1 x 3½ | TVL-2438 | 2.35 |
| 70-30 | 150-150 | 1 x 2½ | TVL-2439 | 2.20 |
| 75-75 | 150-150 | 1 x 3 | TVL-2440 | 2.60 |
| 80-40 | 150-150 | 1⅜ x 2½ | TVL-2442 | 2.30 |
| 80-50 | 150-150 | 1 x 2½ | TVL-2442.1 | 2.40 |
| 80-60 | 150-150 | 1 x 3 | TVL-2442.2 | 3.00 |
| 80-80 | 150-150 | 1⅜ x 2 | TVL-2442.4 | 2.65 |
| 100-30 | 150-150 | 1 x 2½ | TVL-2442.7 | 2.80 |
| *100-100 | 150-150 | 1⅜ x 2½ | TVL-2443 | 4.05 |
| 125-100 | 150-150 | 1⅜ x 2½ | TVL-2443.3 | 3.35 |
| 150-80 | 150-150 | 1⅜ x 2½ | TVL-2443.5 | 3.05 |
| *150-150 | 150-150 | 1⅜ x 3 | TVL-2443.7 | 4.40 |
| 200-5 | 150-150 | 1⅜ x 3 | TVL-2444 | 2.70 |
| 200-125 | 150-150 | 1⅜ x 3½ | TVL-2445 | 3.75 |
| 200-150 | 150-150 | 1⅜ x 4 | TVL-2446 | 3.75 |
| 200-200 | 150-150 | 1⅜ x 4 | TVL-2447 | 4.00 |
| 60-125 | 200-25 | 1 x 3 | TVL-2453 | 3.00 |
| 30-10 | 200-50 | 1 x 2 | TVL-2455 | 2.30 |
| *100-100 | 200-50 | 1⅜ x 2½ | TVL-2458 | 3.55 |
| * 40-40 | 200-200 | 1 x 3 | TVL-2460 | 2.90 |
| 60-60 | 200-200 | 1 x 3 | TVL-2461 | 3.40 |
| 60-60 | 200-200 | 1⅜ x 2 | TVL-2462 | 3.40 |
| 100-100 | 200-200 | 1⅜ x 3 | TVL-2464 | 3.50 |

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 40-350 | 250-15 | 1⅜ x 2 | TVL-2502 | $3.45 |
| * 40-25 | 250-25 | 1 x 2½ | TVL-2505 | 2.50 |
| 50-100 | 250-50 | 1⅜ x 2 | TVL-2507 | 3.25 |
| * 80-100 | 250-50 | 1⅜ x 2½ | TVL-2508 | 3.55 |
| 100-150 | 250-50 | 1⅜ x 3 | TVL-2509 | 3.65 |
| * 40-25 | 250-150 | 1 x 2½ | TVL-2509.7 | 3.45 |
| * 10-10 | 250-250 | 1 x 2 | TVL-2510 | 2.15 |
| 20-20 | 250-250 | 1 x 2 | TVL-2515 | 1.90 |
| * 30-30 | 250-250 | 1 x 2½ | TVL-2517 | 2.75 |
| * 40-20 | 250-250 | 1 x 3 | TVL-2519 | 2.75 |
| 40-40 | 250-250 | 1 x 2 | TVL-2520 | 2.50 |
| 150-40 | 250-250 | 1⅜ x 3 | TVL-2534 | 4.80 |
| 150-150 | 250-250 | 1⅜ x 4 | TVL-2535 | 5.15 |
| 200-200 | 250-250 | 1⅜ x 4 | TVL-2538 | 6.05 |
| 35-500 | 300-6 | 1 x 2½ | TVL-2552 | 2.80 |
| 20-20 | 300-25 | 1 x 2 | TVL-2555 | 2.30 |
| 20-100 | 300-25 | 1 x 2½ | TVL-2556 | 3.40 |
| 10-40 | 300-50 | 1 x 2 | TVL-2557 | 1.70 |
| 80-100 | 300-50 | 1⅜ x 3 | TVL-2559 | 3.95 |
| 80-100 | 300-150 | 1⅜ x 2½ | TVL-2560 | 4.55 |
| 60-10 | 300-200 | 1 x 3½ | TVL-2561 | 3.15 |
| 20-60 | 300-250 | 1 x 3½ | TVL-2563 | 3.45 |
| * 10-10 | 300-300 | 1 x 2 | TVL-2565 | 2.20 |
| * 15-15 | 300-300 | 1 x 2 | TVL-2568 | 2.40 |
| 40-30 | 300-300 | 1 x 3 | TVL-2574 | 2.65 |
| * 40-40 | 300-300 | 1⅜ x 2½ | TVL-2575 | 3.75 |
| * 50-50 | 300-300 | 1⅜ x 2½ | TVL-2576 | 4.20 |
| * 60-20 | 300-300 | 1⅜ x 2½ | TVL-2578 | 3.50 |
| 60-60 | 300-300 | 1⅜ x 2½ | TVL-2579 | 4.25 |
| * 75-75 | 300-300 | 1⅜ x 3 | TVL-2580 | 4.75 |
| * 80-40 | 300-300 | 1⅜ x 2½ | TVL-2582 | 4.45 |
| * 80-60 | 300-300 | 1⅜ x 3½ | TVL-2584 | 4.65 |
| 80-80 | 300-300 | 1⅜ x 3 | TVL-2585 | 4.05 |
| 120-20 | 300-300 | 1⅜ x 3½ | TVL-2588 | 4.00 |
| 120-40 | 300-300 | 1⅜ x 3½ | TVL-2589 | 4.35 |
| 20-20 | 350-25 | 1 x 2 | TVL-2604 | 2.40 |
| 40-20 | 350-25 | 1 x 2½ | TVL-2605 | 2.95 |
| * 80-100 | 350-50 | 1⅜ x 3 | TVL-2607 | 5.65 |
| 20-100 | 350-75 | 1 x 2½ | TVL-2608 | 2.80 |
| 5-75 | 350-150 | 1 x 2½ | TVL-2610 | 2.65 |
| * 40-10 | 350-200 | 1⅜ x 2 | TVL-2612 | 3.05 |
| 20-30 | 350-250 | 1 x 3 | TVL-2615 | 2.90 |
| * 40-10 | 350-250 | 1 x 3 | TVL-2617 | 3.05 |
| * 60-80 | 350-250 | 1⅜ x 3½ | TVL-2618 | 4.30 |
| * 20-10 | 350-300 | 1 x 2 | TVL-2620 | 2.55 |
| * 30-30 | 350-300 | 1 x 3½ | TVL-2621 | 3.30 |
| * 60-20 | 350-300 | 1⅜ x 2½ | TVL-2623 | 3.55 |
| 15-15 | 350-350 | 1 x 2 | TVL-2625 | 2.25 |
| * 20-20 | 350-350 | 1 x 3 | TVL-2626 | 2.90 |
| * 30-20 | 350-350 | 1 x 3½ | TVL-2627 | 3.25 |
| 30-30 | 350-350 | 1 x 3 | TVL-2628 | 2.90 |
| 50-30 | 350-350 | 1⅜ x 2½ | TVL-2630 | 3.15 |
| 60-30 | 350-350 | 1⅜ x 3 | TVL-2631 | 3.15 |
| 80-4 | 350-350 | 1⅜ x 2½ | TVL-2632 | 4.00 |
| 80-20 | 350-350 | 1⅜ x 3 | TVL-2633 | 3.50 |
| 80-40 | 350-350 | 1⅜ x 3 | TVL-2634 | 4.10 |
| 80-80 | 350-350 | 1⅜ x 4 | TVL-2635 | 4.70 |
| 90-40 | 350-350 | 1⅜ x 3 | TVL-2637 | 4.30 |
| *100-40 | 350-350 | 1⅜ x 3 | TVL-2638 | 5.75 |
| 100-60 | 350-350 | 1⅜ x 3½ | TVL-2639 | 4.80 |
| 100-100 | 350-350 | 1⅜ x 4 | TVL-2641 | 6.15 |
| 160-10 | 350-350 | 1⅜ x 3 | TVL-2643 | 4.30 |
| 35-100 | 400-50 | 1 x 3 | TVL-2651 | 2.60 |
| * 40-100 | 400-50 | 1⅜ x 2 | TVL-2653 | 3.40 |
| 100-30 | 400-50 | 1⅜ x 3 | TVL-2655 | 3.90 |
| 80-80 | 400-200 | 1⅜ x 3½ | TVL-2656 | 3.95 |
| * 60-80 | 400-250 | 1⅜ x 4 | TVL-2657 | 4.90 |
| * 15-15 | 400-400 | 1 x 2½ | TVL-2660 | 2.80 |
| * 30-10 | 400-400 | 1 x 3 | TVL-2663 | 2.95 |

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# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia. x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 60-60 | 400-400 | 1⅜ x 4 | TVL-2668 | $5.50 |
| 75-75 | 400-400 | 1⅜ x 4 | TVL-2670 | 6.05 |
| * 80-10 | 400-400 | 1⅜ x 3½ | TVL-2672 | 4.25 |
| * 80-20 | 400-400 | 1⅜ x 3 | TVL-2673 | 4.55 |
| * 80-40 | 400-400 | 1⅜ x 4 | TVL-2675 | 5.15 |
| **80-60** | **400-400** | **1⅜ x 3** | **TVL-2677** | **4.70** |
| **120-40** | **400-400** | **1⅜ x 4** | **TVL-2679** | **5.25** |
| **10-20** | **450-25** | **1 x 2** | **TVL-2701** | **1.70** |
| 20-20 | 450-25 | 1 x 2 | TVL-2702 | 2.50 |
| 20-100 | 450-25 | 1 x 2½ | TVL-2703 | 2.75 |
| 40-20 | 450-25 | 1 x 3 | TVL-2704 | 3.05 |
| * 80-10 | 450-25 | 1⅜ x 3 | TVL-2705 | 4.25 |
| * 80-20 | 450-25 | 1⅜ x 3 | TVL-2706 | 4.25 |
| 10-100 | 450-50 | 1 x 2½ | TVL-2708 | 2.55 |
| 30-25 | 450-50 | 1 x 2½ | TVL-2708.3 | 2.90 |
| 40-50 | 450-50 | 1 x 3½ | TVL-2708.8 | 3.75 |
| **40-100** | **450-50** | **1 x 3½** | **TVL-2709** | **2.80** |
| **50-100** | **450-50** | **1⅜ x 2½** | **TVL-2709.3** | **3.00** |
| **80-50** | **450-50** | **1⅜ x 3** | **TVL-2710** | **3.50** |
| **80-100** | **450-50** | **1⅜ x 3** | **TVL-2711** | **3.75** |
| 10-50 | 450-100 | 1⅜ x 2 | TVL-2712 | 2.55 |
| 20-100 | 450-100 | 1⅜ x 2 | TVL-2713 | 3.65 |
| 30-40 | 450-150 | 1⅜ x 2 | TVL-2714 | 3.65 |
| **30-200** | **450-150** | **1⅜ x 3** | **TVL-2715** | **3.50** |
| 40-150 | 450-150 | 1⅜ x 3 | TVL-2716 | 4.30 |
| 80-50 | 450-150 | 1⅜ x 3 | TVL-2717 | 4.70 |
| 80-60 | 450-150 | 1⅜ x 3½ | TVL-2718 | 5.20 |
| * 80-40 | 450-200 | 1⅜ x 3 | TVL-2720 | 4.75 |
| **20-50** | **450-250** | **1 x 3** | **TVL-2722** | **2.80** |
| **40-10** | **450-300** | **1 x 3** | **TVL-2724** | **2.60** |
| 10-100 | 450-350 | 1⅜ x 3½ | TVL-2727 | 5.00 |
| * 20-80 | 450-350 | 1⅜ x 3½ | TVL-2730 | 4.55 |
| 25-15 | 450-350 | 1 x 3 | TVL-2732 | 3.20 |
| **40-10** | **450-350** | **1⅜ x 2** | **TVL-2735** | **2.60** |
| * 40-20 | 450-350 | 1⅜ x 2½ | TVL-2736 | 3.55 |
| * 40-40 | 450-350 | 1⅜ x 3 | TVL-2737 | 4.15 |
| 30-20 | 450-400 | 1 x 3 | TVL-2741 | 3.40 |
| **5-5** | **450-450** | **1 x 2** | **TVL-2748** | **1.70** |
| **10-10** | **450-450** | **1 x 2** | **TVL-2750** | **1.90** |
| * 15-10 | 450-450 | 1 x 2½ | TVL-2752 | 2.80 |
| **15-15** | **450-450** | **1 x 2½** | **TVL-2753** | **2.25** |
| **20-10** | **450-450** | **1 x 2½** | **TVL-2754** | **2.25** |
| **20-20** | **450-450** | **1 x 3** | **TVL-2755** | **2.55** |
| **30-10** | **450-450** | **1 x 3** | **TVL-2757** | **2.40** |
| * 30-10 | 450-450 | 1⅜ x 2 | TVL-2757.2 | 3.00 |
| 30-15 | 450-450 | 1⅜ x 2 | TVL-2758 | 3.30 |
| **30-30** | **450-450** | **1⅜ x 2½** | **TVL-2759** | **3.05** |
| 40-5 | 450-450 | 1 x 3 | TVL-2760 | 3.20 |
| * 40-15 | 450-450 | 1⅜ x 2½ | TVL-2761 | 3.50 |
| **40-20** | **450-450** | **1⅜ x 2½** | **TVL-2762** | **3.25** |
| **40-40** | **450-450** | **1⅜ x 3** | **TVL-2764** | **3.45** |
| * 50-40 | 450-450 | 1⅜ x 3 | TVL-2766 | 4.50 |
| **50-50** | **450-450** | **1⅜ x 3** | **TVL-2767** | **3.85** |
| **60-20** | **450-450** | **1⅜ x 3** | **TVL-2768** | **3.55** |
| **60-40** | **450-450** | **1⅜ x 3½** | **TVL-2770** | **3.95** |
| **60-60** | **450-450** | **1⅜ x 3½** | **TVL-2772** | **4.50** |
| **80-10** | **450-450** | **1⅜ x 3** | **TVL-2776** | **3.60** |
| **80-20** | **450-450** | **1⅜ x 3** | **TVL-2776.5** | **3.90** |
| **80-30** | **450-450** | **1⅜ x 4** | **TVL-2777** | **4.20** |
| **80-40** | **450-450** | **1⅜ x 3½** | **TVL-2778** | **5.05** |
| **100-40** | **450-450** | **1⅜ x 4** | **TVL-2780** | **4.85** |
| 10-20 | 475-25 | 1 x 2 | TVL-2802 | 2.15 |
| 75-50 | 475-50 | 1⅜ x 3 | TVL-2804 | 4.55 |
| 40-80 | 475-200 | 1⅜ x 2½ | TVL-2807 | 4.55 |
| * 20-100 | 475-300 | 1⅜ x 3½ | TVL-2810 | 4.95 |
| **20-100** | **475-400** | **1⅜ x 4** | **TVL-2813** | **4.50** |
| 40-40 | 475-400 | 1⅜ x 3 | TVL-2815 | 4.70 |
| **15-15** | **475-475** | **1 x 2½** | **TVL-2820** | **2.35** |
| **30-10** | **475-475** | **1 x 3** | **TVL-2824** | **2.60** |
| **40-10** | **475-475** | **1⅜ x 2½** | **TVL-2827** | **3.10** |
| * 40-40 | 475-475 | 1⅜ x 3 | TVL-2830 | $5.40 |
| * 60-40 | 475-475 | 1⅜ x 4 | TVL-2840 | 5.70 |
| * 80-40 | 475-475 | 1⅜ x 4 | TVL-2850 | 6.30 |
| **80-50** | **475-475** | **1⅜ x 4** | **TVL-2851** | **5.20** |
| 80-50 | 500-50 | 1⅜ x 3½ | TVL-2907 | 4.75 |
| 60-80 | 500-150 | 1⅜ x 3 | TVL-2916 | 4.70 |
| 40-50 | 500-200 | 1⅜ x 3 | TVL-2920 | 4.20 |
| 15-20 | 500-300 | 1 x 2½ | TVL-2922 | 2.90 |
| 20-100 | 500-300 | 1⅜ x 3 | TVL-2924 | 4.90 |
| 40-40 | 500-400 | 1⅜ x 3 | TVL-2926 | 4.70 |
| 4-4 | 500-500 | 1 x 2½ | TVL-2931 | 2.15 |
| **10-10** | **500-500** | **1 x 2½** | **TVL-2933** | **1.95** |
| **20-20** | **500-500** | **1⅜ x 2½** | **TVL-2935** | **2.85** |
| **30-10** | **500-500** | **1⅜ x 3** | **TVL-2936** | **2.60** |
| **30-30** | **500-500** | **1⅜ x 3** | **TVL-2937** | **3.25** |
| 40-25 | 500-500 | 1⅜ x 3 | TVL-2939 | 4.55 |
| **40-40** | **500-500** | **1⅜ x 3** | **TVL-2940** | **4.30** |
| **60-40** | **500-500** | **1⅜ x 3½** | **TVL-2944** | **4.60** |

### TRIPLE UNITS

| µF | WVDC | Dia. x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 1500-1500-1500 | 3-3-3 | 1 x 3½ | TVL-3015 | $9.00 |
| 40-500-500 | 25-10-10 | 1 x 2½ | TVL-3202 | 5.05 |
| **20-20-20** | **25-25-25** | **1 x 2** | **TVL-3210** | **1.95** |
| 40-40-40 | 25-25-25 | 1 x 2 | TVL-3230 | 3.20 |
| 30-30-30 | 50-50-50 | 1 x 2 | TVL-3320 | 3.25 |
| 20-250-100 | 150-15-15 | 1⅜ x 2 | TVL-3403 | 4.35 |
| 40-25-130 | 150-25-15 | 1 x 3 | TVL-3404 | 4.95 |
| 50-100-20 | 150-50-25 | 1 x 3 | TVL-3405 | 4.30 |
| 100-50-25 | 150-50-25 | 1 x 3 | TVL-3407 | 4.50 |
| **15-15-1200** | **150-150-2** | **1 x 2** | **TVL-3410** | **3.15** |
| 30-20-100 | 150-150-6 | 1 x 2 | TVL-3412 | 3.60 |
| 20-20-100 | 150-150-10 | 1 x 2 | TVL-3413 | 3.55 |
| 20-20-250 | 150-150-10 | 1 x 2 | TVL-3413.2 | 3.90 |
| 30-30-200 | 150-150-10 | 1 x 2 | TVL-3413.3 | 3.75 |
| **40-20-150** | **150-150-10** | **1 x 2** | **TVL-3413.4** | **2.40** |
| * 40-20-200 | 150-150-10 | 1 x 2½ | TVL-3413.5 | 3.75 |
| 40-20-250 | 150-150-10 | 1 x 2½ | TVL-3413.6 | 4.05 |
| 40-40-100 | 150-150-10 | 1 x 2½ | TVL-3413.7 | 3.75 |
| * 40-40-250 | 150-150-10 | 1 x 2½ | TVL-3413.8 | 5.65 |
| * 80-20-200 | 150-150-10 | 1⅜ x 2 | TVL-3414 | 4.30 |
| **80-30-300** | **150-150-10** | **1⅜ x 2** | **TVL-3414.2** | **3.15** |
| 90-40-400 | 150-150-10 | 1⅜ x 2½ | TVL-3414.5 | 5.25 |
| 100-20-200 | 150-150-10 | 1⅜ x 2½ | TVL-3414.6 | 4.95 |
| **100-80-200** | **150-150-10** | **1⅜ x 2½** | **TVL-3414.7** | **3.60** |
| 60-40-400 | 150-150-15 | 1⅜ x 2 | TVL-3414.8 | 4.80 |
| 80-20-100 | 150-150-15 | 1⅜ x 2 | TVL-3414.9 | 4.20 |
| 20-20-20 | 150-150-25 | 1 x 2 | TVL-3415 | 3.30 |
| 20-20-200 | 150-150-25 | 1 x 3 | TVL-3416 | 3.90 |
| 30-20-20 | 150-150-25 | 1 x 2 | TVL-3417 | 3.40 |
| 30-30-20 | 150-150-25 | 1 x 2 | TVL-3419 | 3.45 |
| **40-20-20** | **150-150-25** | **1 x 2½** | **TVL-3422** | **2.30** |
| 40-20-100 | 150-150-25 | 1 x 3 | TVL-3423 | 3.75 |
| **40-20-200** | **150-150-25** | **1 x 2½** | **TVL-3423.2** | **2.70** |
| * 40-30-20 | 150-150-25 | 1 x 2 | TVL-3424 | 3.55 |
| * 40-30-25 | 150-150-25 | 1 x 2½ | TVL-3425 | 3.55 |
| **40-40-20** | **150-150-25** | **1 x 2** | **TVL-3426** | **2.40** |
| **40-40-200** | **150-150-25** | **1 x 3** | **TVL-3426.3** | **2.80** |
| **40-40-250** | **150-150-25** | **1 x 3** | **TVL-3426.4** | **3.15** |
| **50-30-20** | **150-150-25** | **1 x 2½** | **TVL-3426.7** | **2.50** |
| **50-30-100** | **150-150-25** | **1 x 3** | **TVL-3427** | **2.70** |
| 50-30-200 | 150-150-25 | 1⅜ x 2 | TVL-3428 | 4.35 |
| 50-30-300 | 150-150-25 | 1 x 3 | TVL-3429 | 5.10 |
| **50-50-20** | **150-150-25** | **1 x 3** | **TVL-3430** | **2.65** |
| 50-50-200 | 150-150-25 | 1 x 3 | TVL-3430.7 | 4.60 |
| 60-20-20 | 150-150-25 | 1 x 2 | TVL-3431 | 3.85 |
| **60-40-200** | **150-150-25** | **1 x 3** | **TVL-3431.3** | **3.05** |
| 60-60-100 | 150-150-25 | 1⅜ x 2 | TVL-3431.4 | 4.60 |
| 80-20-20 | 150-150-25 | 1 x 3 | TVL-3431.5 | 4.00 |
| 80-30-300 | 150-150-25 | 1⅜ x 2 | TVL-3431.8 | 5.50 |


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# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia. x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 80-40-20 | 150-150-25 | 1 x 2½ | TVL-3432 | $2.80 |
| 80-40-300 | 150-150-25 | 1⅜ x 2½ | TVL-3432.4 | 3.70 |
| 120-60-20 | 150-150-25 | 1⅜ x 2½ | TVL-3432.6 | 5.05 |
| * 10-10-10 | 150-150-150 | 1 x 2 | TVL-3432.8 | 3.10 |
| 20-20-20 | 150-150-150 | 1 x 2 | TVL-3433 | 2.30 |
| 30-30-10 | 150-150-150 | 1 x 2 | TVL-3435 | 2.85 |
| 40-20-10 | 150-150-150 | 1 x 2 | TVL-3436 | 2.35 |
| 40-20-20 | 150-150-150 | 1 x 2½ | TVL-3437 | 2.40 |
| 40-30-20 | 150-150-150 | 1 x 2 | TVL-3438 | 2.50 |
| 40-40-40 | 150-150-150 | 1 x 3½ | TVL-3440 | 2.60 |
| 50-20-20 | 150-150-150 | 1 x 2½ | TVL-3440.4 | 3.85 |
| 50-40-10 | 150-150-150 | 1 x 2½ | TVL-3441 | 2.55 |
| 50-50-10 | 150-150-150 | 1⅜ x 2 | TVL-3441.7 | 4.05 |
| 50-50-50 | 150-150-150 | 1 x 3 | TVL-3442 | 3.00 |
| 50-50-50 | 150-150-150 | 1⅜ x 3 | TVL-3442.1 | 4.50 |
| 60-40-20 | 150-150-150 | 1 x 3 | TVL-3443 | 2.75 |
| 60-40-30 | 150-150-150 | 1⅜ x 2 | TVL-3443.1 | 4.20 |
| 60-50-50 | 150-150-150 | 1⅜ x 2 | TVL-3443.2 | 4.65 |
| 70-15-15 | 150-150-150 | 1 x 2½ | TVL-3443.3 | 2.70 |
| 70-40-40 | 150-150-150 | 1 x 3 | TVL-3443.4 | 4.05 |
| 80-20-20 | 150-150-150 | 1 x 3½ | TVL-3443.6 | 4.20 |
| 80-30-10 | 150-150-150 | 1 x 3 | TVL-3443.8 | 2.75 |
| 80-40-20 | 150-150-150 | 1 x 3 | TVL-3444 | 2.90 |
| 80-80-80 | 150-150-150 | 1⅜ x 3 | TVL-3446 | 5.65 |
| 100-30-10 | 150-150-150 | 1 x 3 | TVL-3447 | 3.05 |
| 120-80-40 | 150-150-150 | 1⅜ x 3½ | TVL-3448 | 3.80 |
| 120-120-40 | 150-150-150 | 1⅜ x 3 | TVL-3448.2 | 4.05 |
| 150-50-25 | 150-150-150 | 1⅜ x 3 | TVL-3449 | 5.40 |
| 200-100-60 | 150-150-150 | 1⅜ x 3½ | TVL-3450 | 4.55 |
| *200-140-60 | 150-150-150 | 1⅜ x 4 | TVL-3451 | 6.70 |
| 200-150-150 | 150-150-150 | 1⅜ x 4 | TVL-3452 | 7.50 |
| * 80-40-50 | 200-100-50 | 1⅜ x 2½ | TVL-3460 | 4.60 |
| 40-40-20 | 200-150-25 | 1 x 3 | TVL-3461 | 3.90 |
| 60-200-140 | 200-150-150 | 1⅜ x 4 | TVL-3461.4 | 4.80 |
| * 20-20-20 | 200-200-25 | 1 x 2 | TVL-3462 | 3.45 |
| * 30-20-20 | 200-200-25 | 1 x 2 | TVL-3463 | 3.85 |
| 30-20-40 | 200-200-25 | 1 x 2 | TVL-3464 | 3.85 |
| 60-5-20 | 200-200-50 | 1 x 2½ | TVL-3467 | 2.50 |
| 80-10-20 | 200-200-50 | 1 x 3 | TVL-3471 | 2.80 |
| 80-40-100 | 200-200-50 | 1⅜ x 3 | TVL-3472 | 5.25 |
| * 90-90-20 | 200-200-50 | 1⅜ x 3 | TVL-3474 | 5.70 |
| *100-10-40 | 200-200-50 | 1⅜ x 2 | TVL-3475 | 4.75 |
| 30-20-40 | 200-200-150 | 1 x 2½ | TVL-3477 | 2.70 |
| * 20-20-20 | 200-200-200 | 1 x 2½ | TVL-3480 | 3.75 |
| 30-20-20 | 200-200-200 | 1 x 2½ | TVL-3481 | 4.05 |
| 50-30-30 | 200-200-200 | 1⅜ x 2 | TVL-3485 | 4.75 |
| * 40-40-20 | 250-150-25 | 1⅜ x 2 | TVL-3504 | 4.05 |
| 80-40-50 | 250-150-50 | 1⅜ x 2½ | TVL-3506 | 2.35 |
| * 15-20-20 | 250-150-150 | 1 x 2 | TVL-3507 | 3.60 |
| 60-40-20 | 250-200-25 | 1⅜ x 2 | TVL-3508 | 4.95 |
| 15-15-20 | 250-250-25 | 1 x 2 | TVL-3510 | 2.35 |
| * 20-15-20 | 250-250-25 | 1 x 2½ | TVL-3511 | 3.55 |
| 30-30-20 | 250-250-25 | 1 x 3 | TVL-3513 | 2.80 |
| 60-60-25 | 250-250-25 | 1 x 3½ | TVL-3514 | 5.70 |
| * 70-70-20 | 250-250-50 | 1⅜ x 3 | TVL-3515 | 5.85 |
| 90-90-20 | 250-250-50 | 1⅜ x 3 | TVL-3516 | 4.60 |
| * 40-20-10 | 250-250-150 | 1⅜ x 2 | TVL-3517 | 4.15 |
| 40-40-10 | 250-250-200 | 1⅜ x 2 | TVL-3520 | 4.45 |
| * 80-80-60 | 250-250-200 | 1⅜ x 3½ | TVL-3525 | 6.75 |
| 15-15-10 | 250-250-250 | 1 x 2 | TVL-3530 | 3.70 |
| 20-20-10 | 250-250-250 | 1 x 2 | TVL-3531 | 3.75 |
| 20-20-20 | 250-250-250 | 1 x 2 | TVL-3532 | 2.60 |
| 30-15-10 | 250-250-250 | 1 x 2½ | TVL-3534 | 4.05 |
| 30-15-15 | 250-250-250 | 1 x 2 | TVL-3535 | 4.15 |
| * 30-20-10 | 250-250-250 | 1 x 2 | TVL-3537 | 4.05 |
| 40-20-10 | 250-250-250 | 1 x 2½ | TVL-3539 | 4.30 |
| 40-20-20 | 250-250-250 | 1 x 3½ | TVL-3540 | 2.90 |
| 80-10-10 | 250-250-250 | 1 x 3 | TVL-3543 | 3.20 |
| 80-80-60 | 250-250-250 | 1⅜ x 3 | TVL-3545 | 4.90 |

| µF | WVDC | Dia. x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 10-500-500 | 300-15-15 | 1⅜ x 2½ | TVL-3553 | $3.90 |
| 20-10-10 | 300-75-25 | 1 x 2 | TVL-3555 | 3.55 |
| 100-60-20 | 300-150-25 | 1⅜ x 3 | TVL-3560 | 6.30 |
| 20-150-80 | 300-150-150 | 1⅜ x 3 | TVL-3560.2 | 3.95 |
| 100-150-30 | 300-150-150 | 1⅜ x 4 | TVL-3560.4 | 7.45 |
| 100-200-30 | 300-150-150 | 1⅜ x 4 | TVL-3560.6 | 5.20 |
| 100-200-60 | 300-150-150 | 1⅜ x 4 | TVL-3560.5 | 5.00 |
| * 20-80-10 | 300-250-200 | 1⅜ x 2½ | TVL-3561 | 5.20 |
| 16-20-20 | 300-250-250 | 1 x 3 | TVL-3561.3 | 3.90 |
| * 40-80-40 | 300-250-250 | 1⅜ x 3 | TVL-3561.5 | 6.30 |
| 60-30-30 | 300-250-250 | 1⅜ x 2½ | TVL-3561.7 | 5.65 |
| 100-60-20 | 300-250-250 | 1⅜ x 4 | TVL-3562 | 4.90 |
| 200-60-20 | 300-250-250 | 1⅜ x 4 | TVL-3563 | 5.50 |
| * 20-20-20 | 300-300-25 | 1 x 2½ | TVL-3565 | 4.15 |
| 40-15-20 | 300-300-25 | 1 x 3 | TVL-3570 | 4.45 |
| * 40-20-20 | 300-300-25 | 1⅜ x 2 | TVL-3573 | 4.65 |
| 140-10-100 | 300-300-25 | 1⅜ x 3½ | TVL-3573.3 | 6.70 |
| 30-30-25 | 300-300-50 | 1 x 3 | TVL-3573.6 | 4.35 |
| 100-10-60 | 300-300-50 | 1⅜ x 2½ | TVL-3574 | 4.05 |
| 125-20-100 | 300-300-50 | 1⅜ x 3 | TVL-3574.5 | 7.35 |
| 125-60-40 | 300-300-50 | 1⅜ x 4 | TVL-3574.6 | 7.35 |
| 200-20-10 | 300-300-100 | 1⅜ x 4 | TVL-3575 | 4.90 |
| 40-40-20 | 300-300-150 | 1⅜ x 2 | TVL-3577 | 5.40 |
| 10-10-15 | 300-300-250 | 1 x 2 | TVL-3578 | 3.70 |
| 10-10-10 | 300-300-300 | 1 x 2 | TVL-3580 | 2.40 |
| 60-20-10 | 300-300-300 | 1⅜ x 2 | TVL-3581 | 3.45 |
| * 80-20-10 | 300-300-300 | 1⅜ x 2½ | TVL-3582 | 5.70 |
| 80-40-40 | 300-300-300 | 1⅜ x 2½ | TVL-3583 | 4.75 |
| 120-50-40 | 300-300-300 | 1⅜ x 4 | TVL-3585 | 5.85 |
| 160-60-20 | 300-300-300 | 1⅜ x 4 | TVL-3587 | 8.20 |
| 200-140-20 | 300-300-300 | 1⅜ x 4 | TVL-3589 | 10.60 |
| 4-100-40 | 350-25-25 | 1 x 2 | TVL-3603 | 3.40 |
| 5-100-40 | 350-25-25 | 1 x 2 | TVL-3604 | 3.55 |
| 40-100-25 | 350-50-25 | 1⅜ x 2 | TVL-3604.3 | 4.80 |
| 10-50-100 | 350-100-75 | 1 x 3 | TVL-3605 | 4.30 |
| 20-50-100 | 350-100-75 | 1 x 3 | TVL-3606 | 3.10 |
| 10-10-250 | 350-150-15 | 1 x 2½ | TVL-3607 | 4.15 |
| 10-50-100 | 350-150-50 | 1 x 3½ | TVL-3608 | 2.85 |
| 40-80-500 | 350-200-25 | 1⅜ x 3½ | TVL-3609 | 7.60 |
| 125-5-100 | 350-200-75 | 1⅜ x 3½ | TVL-3610 | 5.30 |
| 50-10-500 | 350-250-5 | 1⅜ x 2½ | TVL-3611 | 5.55 |
| 50-10-1000 | 350-250-5 | 1⅜ x 2½ | TVL-3611.2 | 6.10 |
| * 20-30-20 | 350-250-25 | 1 x 3 | TVL-3612 | 4.20 |
| 30-20-100 | 350-250-50 | 1 x 3 | TVL-3613 | 4.90 |
| * 30-20-10 | 350-250-250 | 1 x 3½ | TVL-3615 | 4.50 |
| 10-80-25 | 350-300-25 | 1⅜ x 3 | TVL-3617 | 5.10 |
| 30-30-20 | 350-300-25 | 1 x 3 | TVL-3620 | 3.15 |
| 30-50-20 | 350-300-25 | 1⅜ x 2½ | TVL-3621 | 5.40 |
| 10-40-5 | 350-300-150 | 1 x 2½ | TVL-3618 | 4.30 |
| 20-40-10 | 350-300-150 | 1 x 3½ | TVL-3619 | 4.75 |
| * 40-20-10 | 350-300-200 | 1⅜ x 2 | TVL-3623 | 4.95 |
| 10-10-1400 | 350-350-3 | 1⅜ x 3 | TVL-3626 | 4.90 |
| * 10-10-20 | 350-350-25 | 1 x 2 | TVL-3628 | 3.40 |
| 15-10-20 | 350-350-25 | 1 x 2½ | TVL-3630 | 2.50 |
| * 15-15-20 | 350-350-25 | 1 x 2½ | TVL-3632 | 4.05 |
| 20-5-30 | 350-350-25 | 1 x 2 | TVL-3633 | 3.70 |
| 20-5-100 | 350-350-25 | 1 x 3 | TVL-3633.3 | 2.60 |
| 20-10-20 | 350-350-25 | 1 x 2½ | TVL-3634 | 2.55 |
| 20-20-20 | 350-350-25 | 1 x 2 | TVL-3635 | 2.90 |
| 30-10-20 | 350-350-25 | 1 x 2½ | TVL-3635.5 | 4.60 |
| 30-20-20 | 350-350-25 | 1 x 2 | TVL-3636 | 3.10 |
| 30-20-40 | 350-350-25 | 1 x 3 | TVL-3636.2 | 4.75 |
| 30-30-20 | 350-350-25 | 1⅜ x 2 | TVL-3636.3 | 3.40 |
| 40-5-30 | 350-350-25 | 1⅜ x 2 | TVL-3636.4 | 4.35 |
| 40-40-50 | 350-350-25 | 1⅜ x 2½ | TVL-3636.5 | 5.65 |
| 90-40-50 | 350-350-25 | 1⅜ x 3½ | TVL-3636.7 | 7.35 |
| 200-10-50 | 350-350-25 | 1⅜ x 4 | TVL-3636.8 | 5.25 |
| 10-5-30 | 350-350-50 | 1 x 2 | TVL-3637 | 3.30 |
| * 10-5-150 | 350-350-50 | 1 x 3 | TVL-3638 | 4.05 |
| 20-5-150 | 350-350-50 | 1 x 3 | TVL-3638.1 | 2.95 |

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World Radio History

# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 20-10-100 | 350-350-50 | 1⅜ x 2½ | TVL-3638.2 | $2.90 |
| 80-10-40 | 350-350-50 | 1⅜ x 3 | TVL-3638.3 | 5.70 |
| 80-10-100 | 350-350-50 | 1⅜ x 3 | TVL-3638.4 | 6.15 |
| 150-4-30 | 350-350-50 | 1⅜ x 3½ | TVL-3638.5 | 4.75 |
| * 30-20-100 | 350-350-75 | 1⅜ x 2½ | TVL-3629 | 6.00 |
| * 40-20-10 | 350-350-100 | 1⅜ x 2 | TVL-3638.6 | 4.30 |
| 30-20-100 | 350-350-150 | 1⅜ x 2½ | TVL-3638.7 | 4.00 |
| 40-20-10 | 350-350-100 | 1 x 3 | TVL-3638.8 | 4.80 |
| * 40-40-100 | 350-350-200 | 1⅜ x 3½ | TVL-3638.9 | 7.20 |
| 80-40-100 | 350-350-200 | 1⅜ x 4 | TVL-3639 | 5.45 |
| 100-60-20 | 350-350-200 | 1⅜ x 4 | TVL-3639.2 | 5.50 |
| 20-10-5 | 350-350-250 | 1 x 2½ | TVL-3639.4 | 2.55 |
| * 30-10-20 | 350-350-250 | 1 x 3 | TVL-3639.5 | 4.60 |
| 20-20-10 | 350-350-350 | 1 x 3 | TVL-3639.7 | 4.45 |
| 30-20-10 | 350-350-350 | 1 x 2½ | TVL-3639.8 | 3.25 |
| 50-50-50 | 350-350-350 | 1⅜ x 3½ | TVL-3639.9 | 7.30 |
| 60-40-20 | 350-350-350 | 1⅜ x 4 | TVL-3640 | 4.25 |
| 60-40-40 | 350-350-350 | 1⅜ x 4 | TVL-3640.2 | 7.05 |
| 60-50-50 | 350-350-350 | 1⅜ x 4 | TVL-3641 | 4.90 |
| * 80-40-40 | 350-350-350 | 1⅜ x 4 | TVL-3641.5 | 7.95 |
| 80-60-60 | 350-350-350 | 1⅜ x 4 | TVL-3642 | 5.55 |
| 90-40-20 | 350-350-350 | 1⅜ x 4 | TVL-3645 | 5.25 |
| 40-200-60 | 400-200-200 | 1⅜ x 4 | TVL-3653 | 8.30 |
| 10-5-40 | 400-300-25 | 1 x 2 | TVL-3655 | 3.30 |
| * 60-40-20 | 400-300-25 | 1⅜ x 3½ | TVL-3663 | 6.30 |
| * 80-20-10 | 400-300-300 | 1⅜ x 3½ | TVL-3667 | 6.40 |
| 10-50-30 | 400-350-25 | 1 x 3½ | TVL-3670 | 4.65 |
| * 80-20-100 | 400-350-50 | 1⅜ x 3½ | TVL-3671 | 6.75 |
| *100-10-20 | 400-350-50 | 1⅜ x 3½ | TVL-3672 | 6.75 |
| 20-15-10 | 400-350-350 | 1 x 3 | TVL-3673 | 4.45 |
| * 15-15-40 | 400-400-25 | 1 x 3 | TVL-3675 | 4.20 |
| 20-20-20 | 400-400-25 | 1 x 3 | TVL-3678 | 2.85 |
| * 20-10-40 | 400-400-50 | 1 x 3 | TVL-3682 | 4.00 |
| * 30-10-150 | 400-400-50 | 1⅜ x 2½ | TVL-3682.4 | 5.10 |
| * 80-40-100 | 400-400-50 | 1⅜ x 4 | TVL-3683 | 7.50 |
| 80-40-150 | 400-400-50 | 1⅜ x 4 | TVL-3684 | 5.25 |
| 100-10-20 | 400-400-50 | 1⅜ x 3½ | TVL-3685 | 4.50 |
| 20-20-20 | 400-400-100 | 1 x 3 | TVL-3686 | 4.45 |
| * 20-10-10 | 400-400-350 | 1 x 3 | TVL-3687 | 4.05 |
| 20-10-40 | 400-400-350 | 1 x 4 | TVL-3687.2 | 5.10 |
| 20-20-10 | 400-400-350 | 1 x 3 | TVL-3687.4 | 3.00 |
| 60-30-20 | 400-400-350 | 1⅜ x 3 | TVL-3688 | 4.55 |
| 80-20-10 | 400-400-350 | 1⅜ x 3 | TVL-3689 | 4.30 |
| 100-10-80 | 400-400-350 | 1⅜ x 4 | TVL-3689.3 | 6.10 |
| 10-10-10 | 400-400-400 | 1 x 2½ | TVL-3690 | 2.40 |
| 90-10-5 | 400-400-400 | 1⅜ x 3 | TVL-3696 | 4.40 |
| * 10-20-10 | 450-25-25 | 1 x 2 | TVL-3701 | 3.25 |
| 30-20-20 | 450-25-25 | 1 x 3 | TVL-3702 | 4.15 |
| 30-100-25 | 450-25-25 | 1⅜ x 2 | TVL-3703 | 4.45 |
| 10-100-20 | 450-50-25 | 1 x 3 | TVL-3703.5 | 3.85 |
| * 80-100-20 | 450-50-50 | 1⅜ x 3 | TVL-3704 | 6.40 |
| * 10-50-100 | 450-150-25 | 1 x 3 | TVL-3705 | 4.15 |
| 40-40-130 | 450-150-50 | 1⅜ x 3 | TVL-3706 | 3.70 |
| 40-50-100 | 450-150-50 | 1⅜ x 2½ | TVL-3706.4 | 5.50 |
| 40-100-50 | 450-150-50 | 1⅜ x 3 | TVL-3707 | 5.95 |
| 10-50-100 | 450-150-75 | 1 x 3 | TVL-3707.4 | 3.25 |
| 20-50-100 | 450-150-75 | 1⅜ x 2 | TVL-3707.5 | 5.10 |
| 40-90-50 | 450-150-150 | 1⅜ x 3 | TVL-3708 | 4.00 |
| 20-80-50 | 450-200-50 | 1⅜ x 2½ | TVL-3709 | 5.10 |
| 20-60-100 | 450-250-25 | 1⅜ x 2½ | TVL-3711 | 3.65 |
| 10-60-60 | 450-250-250 | 1⅜ x 3 | TVL-3711.8 | 6.00 |
| 10-80-80 | 450-250-250 | 1⅜ x 4 | TVL-3712 | 4.15 |
| * 20-40-10 | 450-250-250 | 1⅜ x 2 | TVL-3713 | 4.75 |
| * 20-60-40 | 450-250-250 | 1⅜ x 3 | TVL-3713.2 | 5.95 |
| 80-40-40 | 450-250-250 | 1⅜ x 4 | TVL-3713.4 | 4.80 |
| 10-40-10 | 450-300-150 | 1⅜ x 2 | TVL-3713.7 | 3.10 |
| 30-10-10 | 450-300-150 | 1 x 3 | TVL-3714 | 4.45 |
| 5-80-40 | 450-300-300 | 1⅜ x 3 | TVL-3714.7 | 4.15 |
| 10-100-20 | 450-300-300 | 1⅜ x 3 | TVL-3715 | 6.50 |
| 20-15-10 | 450-300-300 | 1 x 3½ | TVL-3716 | 4.30 |
| * 10-10-20 | 450-350-25 | 1 x 2½ | TVL-3719 | 3.45 |

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| * 10-10-50 | 450-350-25 | 1 x 3 | TVL-3721 | $3.60 |
| 30-15-40 | 450-350-25 | 1⅜ x 2 | TVL-3722.3 | 3.20 |
| 30-40-50 | 450-350-25 | 1 x 4 | TVL-3723 | 3.70 |
| * 20-80-100 | 450-350-50 | 1⅜ x 3½ | TVL-3722 | 6.75 |
| * 15-20-20 | 450-350-250 | 1⅜ x 2 | TVL-3724 | 4.45 |
| 20-15-10 | 450-350-300 | 1 x 3 | TVL-3724.1 | 4.60 |
| 40-50-50 | 450-350-300 | 1⅜ x 4 | TVL-3724.2 | 7.30 |
| 20-15-15 | 450-350-350 | 1 x 3 | TVL-3724.3 | 4.90 |
| 20-40-10 | 450-350-350 | 1⅜ x 2½ | TVL-3724.4 | 3.50 |
| 20-80-10 | 450-350-350 | 1⅜ x 3 | TVL-3724.5 | 4.25 |
| 40-80-40 | 450-350-350 | 1⅜ x 3½ | TVL-3724.7 | 5.40 |
| 50-80-10 | 450-350-350 | 1⅜ x 3½ | TVL-3724.8 | 7.35 |
| * 60-20-20 | 450-350-350 | 1⅜ x 3½ | TVL-3725 | 6.45 |
| * 60-40-20 | 450-350-350 | 1⅜ x 3½ | TVL-3725.2 | 6.90 |
| 10-30-150 | 450-400-5 | 1 x 3 | TVL-3725.5 | 4.50 |
| 30-50-40 | 450-400-25 | 1⅜ x 3 | TVL-3725.6 | 5.85 |
| 60-80-20 | 450-400-250 | 1⅜ x 4 | TVL-3720 | 5.45 |
| 10-30-30 | 450-400-300 | 1⅜ x 2½ | TVL-3726 | 5.05 |
| 10-30-40 | 450-400-300 | 1⅜ x 2½ | TVL-3726.1 | 5.50 |
| 4-40-40 | 450-400-300 | 1⅜ x 2½ | TVL-3728 | 6.90 |
| 10-10-10 | 450-450-25 | 1 x 2½ | TVL-3729 | 2.40 |
| 10-10-20 | 450-450-25 | 1 x 2 | TVL-3731 | 2.40 |
| 15-15-20 | 450-450-25 | 1 x 3 | TVL-3733 | 4.05 |
| 15-15-40 | 450-450-25 | 1 x 2½ | TVL-3734 | 2.75 |
| 20-10-20 | 450-450-25 | 1 x 3 | TVL-3735 | 2.70 |
| * 20-15-20 | 450-450-25 | 1 x 3½ | TVL-3737 | 4.35 |
| 20-20-20 | 450-450-25 | 1 x 3 | TVL-3739 | 3.05 |
| 30-30-20 | 450-450-25 | 1⅜ x 2½ | TVL-3741 | 3.55 |
| 30-30-125 | 450-450-25 | 1⅜ x 3 | TVL-3743 | 3.95 |
| 40-20-20 | 450-450-25 | 1⅜ x 2½ | TVL-3743.7 | 3.50 |
| 40-40-20 | 450-450-25 | 1⅜ x 3 | TVL-3744 | 3.90 |
| 40-40-40 | 450-450-25 | 1⅜ x 3 | TVL-3744.2 | 3.95 |
| 80-10-125 | 450-450-25 | 1⅜ x 3½ | TVL-3745 | 4.45 |
| 80-40-100 | 450-450-25 | 1⅜ x 4 | TVL-3746 | 5.05 |
| 10-10-40 | 450-450-50 | 1 x 2½ | TVL-3749 | 2.50 |
| 20-10-50 | 450-450-50 | 1 x 3 | TVL-3751 | 2.85 |
| 20-20-100 | 450-450-50 | 1⅜ x 2½ | TVL-3751.4 | 5.25 |
| 30-10-150 | 450-450-50 | 1⅜ x 2½ | TVL-3752 | 3.50 |
| 30-15-150 | 450-450-50 | 1⅜ x 3 | TVL-3753 | 3.70 |
| 30-30-40 | 450-450-50 | 1⅜ x 3 | TVL-3753.6 | 5.50 |
| 35-25-150 | 450-450-50 | 1⅜ x 3 | TVL-3753.3 | 3.95 |
| * 40-10-40 | 450-450-50 | 1⅜ x 2½ | TVL-3754 | 4.90 |
| 40-10-100 | 450-450-50 | 1⅜ x 3 | TVL-3754.2 | 4.30 |
| 40-30-25 | 450-450-50 | 1⅜ x 2½ | TVL-3754.5 | 5.65 |
| 40-40-100 | 450-450-50 | 1⅜ x 3½ | TVL-3755 | 4.30 |
| 60-40-75 | 450-450-50 | 1⅜ x 4 | TVL-3756 | 4.65 |
| 80-20-100 | 450-450-50 | 1⅜ x 4 | TVL-3757 | 4.80 |
| 30-30-125 | 450-450-75 | 1⅜ x 3 | TVL-3757.3 | 6.75 |
| 10-10-50 | 450-450-100 | 1⅜ x 2 | TVL-3757.5 | 4.00 |
| * 30-20-30 | 450-450-150 | 1⅜ x 2½ | TVL-3757.7 | 5.25 |
| 40-40-40 | 450-450-150 | 1⅜ x 3½ | TVL-3758 | 4.15 |
| 40-10-80 | 450-450-200 | 1⅜ x 3 | TVL-3761 | 3.90 |
| 40-10-100 | 450-450-200 | 1⅜ x 3½ | TVL-3762 | 4.15 |
| 40-40-60 | 450-450-200 | 1⅜ x 3½ | TVL-3763 | 4.45 |
| 40-40-100 | 450-450-200 | 1⅜ x 4 | TVL-3764 | 4.95 |
| 15-10-120 | 450-450-300 | 1⅜ x 3½ | TVL-3765 | 7.05 |
| * 15-15-10 | 450-450-300 | 1 x 3½ | TVL-3766 | 4.30 |
| 15-5-15 | 450-450-350 | 1 x 3 | TVL-3768 | 4.30 |
| * 20-20-60 | 450-450-350 | 1⅜ x 3½ | TVL-3770 | 7.60 |
| * 40-10-10 | 450-450-350 | 1⅜ x 3 | TVL-3772 | 4.95 |
| 40-40-60 | 450-450-350 | 1⅜ x 4 | TVL-3773 | 7.35 |
| 40-40-80 | 450-450-350 | 1⅜ x 4 | TVL-3774 | 5.55 |
| * 60-20-40 | 450-450-350 | 1⅜ x 4 | TVL-3775 | 7.35 |
| 10-10-10 | 450-450-450 | 1 x 3 | TVL-3776 | 2.60 |
| * 15-15-10 | 450-450-450 | 1 x 3½ | TVL-3778 | 4.45 |
| 15-15-15 | 450-450-450 | 1 x 3 | TVL-3778.2 | 3.10 |
| 20-10-10 | 450-450-450 | 1 x 3 | TVL-3779 | 2.90 |
| 20-20-20 | 450-450-450 | 1⅜ x 2½ | TVL-3780 | 3.60 |
| 30-10-10 | 450-450-450 | 1⅜ x 2 | TVL-3780.5 | 3.15 |
| 30-20-20 | 450-450-450 | 1⅜ x 3 | TVL-3781 | 3.85 |


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# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 30-30-10 | 450-450-450 | 1⅜ x 3 | TVL-3781.5 | $5.65 |
| **30-30-30** | **450-450-450** | **1⅜ x 3½** | **TVL-3782** | **4.35** |
| **40-10-10** | **450-450-450** | **1⅜ x 3** | **TVL-3783** | **3.35** |
| **40-30-20** | **450-450-450** | **1⅜ x 3** | **TVL-3784** | **4.30** |
| **40-40-10** | **450-450-450** | **1⅜ x 2½** | **TVL-3785** | **4.15** |
| **40-40-20** | **450-450-450** | **1⅜ x 3** | **TVL-3786** | **4.45** |
| **40-40-40** | **450-450-450** | **1⅜ x 3½** | **TVL-3787** | **4.90** |
| *50-30-30 | 450-450-450 | 1⅜ x 3½ | TVL-3787.7 | 7.15 |
| **50-40-30** | **450-450-450** | **1⅜ x 3½** | **TVL-3788** | **4.90** |
| 60-10-10 | 450-450-450 | 1⅜ x 3 | TVL-3788.5 | 5.85 |
| **60-20-20** | **450-450-450** | **1⅜ x 3** | **TVL-3789** | **4.60** |
| **60-30-10** | **450-450-450** | **1⅜ x 3** | **TVL-3790** | **4.50** |
| **60-40-20** | **450-450-450** | **1⅜ x 3½** | **TVL-3791** | **5.00** |
| *80-40-10 | 450-450-450 | 1⅜ x 4 | TVL-3792 | 7.60 |
| **80-40-20** | **450-450-450** | **1⅜ x 4** | **TVL-3793** | **5.40** |
| **20-50-20** | **475-50-25** | **1 x 3** | **TVL-3801** | **2.75** |
| **80-80-50** | **475-150-50** | **1⅜ x 4** | **TVL-3801.5** | **4.85** |
| 10-100-40 | 475-200-50 | 1⅜ x 2½ | TVL-3800 | 5.05 |
| 40-40-100 | 475-250-50 | 1⅜ x 3 | TVL-3802 | 6.45 |
| *40-40-100 | 475-250-100 | 1⅜ x 3 | TVL-3803 | 6.15 |
| *40-40-10 | 475-250-250 | 1⅜ x 3½ | TVL-3804 | 6.00 |
| 20-20-40 | 475-300-25 | 1⅜ x 2 | TVL-3805 | 4.65 |
| *40-40-100 | 475-300-50 | 1⅜ x 3½ | TVL-3805.3 | 6.75 |
| *40-80-10 | 475-300-300 | 1⅜ x 3½ | TVL-3806 | 7.20 |
| 10-100-25 | 475-350-25 | 1⅜ x 3 | TVL-3806.4 | 5.55 |
| 10-4-100 | 475-350-50 | 1 x 2½ | TVL-3806.6 | 3.90 |
| 20-10-5 | 475-350-150 | 1 x 2½ | TVL-3806.8 | 4.20 |
| **10-4-40** | **475-350-250** | **1⅜ x 2** | **TVL-3807** | **2.75** |
| 20-20-10 | 475-350-350 | 1 x 3 | TVL-3809 | 4.80 |
| 40-40-25 | 475-400-50 | 1⅜ x 3 | TVL-3813 | 6.45 |
| 10-45-100 | 475-450-50 | 1⅜ x 3 | TVL-3815 | 5.50 |
| 40-40-20 | 475-450-50 | 1⅜ x 3 | TVL-3815.2 | 6.60 |
| **10-40-100** | **475-450-200** | **1⅜ x 3** | **TVL-3815.3** | **4.20** |
| 40-20-20 | 475-450-450 | 1⅜ x 3 | TVL-3815.6 | 6.75 |
| **40-80-10** | **475-450-450** | **1⅜ x 4** | **TVL-3816** | **5.50** |
| 40-40-500 | 475-475-10 | 1⅜ x 3½ | TVL-3816.2 | 8.20 |
| 10-10-5 | 475-475-25 | 1 x 2½ | TVL-3816.3 | 3.70 |
| 10-10-100 | 475-475-25 | 1 x 3 | TVL-3816.4 | 4.00 |
| 20-10-20 | 475-475-25 | 1 x 3 | TVL-3816.5 | 4.35 |
| 10-10-150 | 475-475-50 | 1 x 3 | TVL-3816.7 | 4.50 |
| 20-10-20 | 475-475-50 | 1 x 3 | TVL-3816.8 | 4.45 |
| **20-10-100** | **475-475-50** | **1⅜ x 2** | **TVL-3817** | **3.25** |
| 25-10-20 | 475-475-50 | 1 x 3 | TVL-3818 | 4.45 |
| **20-10-100** | **475-475-400** | **1⅜ x 4** | **TVL-3819** | **5.25** |
| *20-20-60 | 475-475-400 | 1⅜ x 3½ | TVL-3820 | 7.20 |
| **20-20-60** | **475-475-450** | **1⅜ x 4** | **TVL-3822** | **4.85** |
| *10-10-10 | 475-475-475 | 1 x 3 | TVL-3835 | 4.05 |
| 30-30-10 | 475-475-475 | 1⅜ x 3 | TVL-3839 | 6.00 |
| **30-30-20** | **475-475-475** | **1⅜ x 3** | **TVL-3840** | **4.45** |
| *40-10-10 | 475-475-475 | 1⅜ x 3 | TVL-3841 | 5.80 |
| 40-20-20 | 475-475-475 | 1⅜ x 3 | TVL-3842 | 7.15 |
| **40-30-10** | **475-475-475** | **1⅜ x 3** | **TVL-3842.6** | **4.50** |
| **40-30-30** | **475-475-475** | **1⅜ x 4** | **TVL-3843** | **5.15** |
| *40-35-10 | 475-475-475 | 1⅜ x 3 | TVL-3844 | 6.85 |
| 10-80-10 | 500-150-150 | 1 x 3½ | TVL-3902 | 4.30 |
| 10-100-40 | 500-200-50 | 1⅜ x 2½ | TVL-3903 | 5.05 |
| *40-40-100 | 500-250-50 | 1⅜ x 3 | TVL-3905 | 6.45 |
| 20-20-40 | 500-300-25 | 1⅜ x 2 | TVL-3907 | 4.65 |
| 20-40-100 | 500-300-25 | 1⅜ x 2½ | TVL-3908 | 5.40 |
| 5-100-200 | 500-300-150 | 1⅜ x 4 | TVL-3908.4 | 7.75 |
| 40-40-25 | 500-400-50 | 1⅜ x 3 | TVL-3909 | 6.45 |
| 20-40-100 | 500-450-25 | 1⅜ x 3 | TVL-3910 | 5.70 |
| 80-20-100 | 500-450-50 | 1⅜ x 4 | TVL-3910.6 | 7.65 |
| *10-40-40 | 500-450-450 | 1⅜ x 3½ | TVL-3911 | 6.25 |
| 30-20-20 | 500-500-25 | 1⅜ x 2½ | TVL-3920 | 5.35 |
| 10-10-100 | 500-500-50 | 1 x 3½ | TVL-3926 | 4.30 |
| **20-10-100** | **500-500-50** | **1 x 4** | **TVL-3928** | **3.30** |
| 30-10-20 | 500-500-50 | 1⅜ x 2½ | TVL-3930 | 4.65 |
| **40-40-100** | **500-500-200** | **1⅜ x 4** | **TVL-3935** | **5.80** |
| 10-10-5 | 500-500-350 | 1 x 2½ | TVL-3939 | 3.75 |
| **20-20-60** | **500-500-400** | **1⅜ x 3½** | **TVL-3942** | **$4.80** |
| **10-10-10** | **500-500-500** | **1 x 3** | **TVL-3952** | **2.70** |
| **30-20-20** | **500-500-500** | **1⅜ x 3** | **TVL-3956** | **4.20** |
| **40-10-10** | **500-500-500** | **1⅜ x 3** | **TVL-3962** | **3.90** |
| **40-40-10** | **500-500-500** | **1⅜ x 3½** | **TVL-3965** | **5.05** |

### QUADRUPLE UNITS

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 40-40-40-40 | 25-25-25-25 | 1⅜ x 2 | TVL-4210 | $4.15 |
| 5-5-25-100 | 75-75-25-15 | 1⅜ x 2 | TVL-4351 | 4.00 |
| **50-20-150-30** | **150-150-15-15** | **1⅜ x 2** | **TVL-4408** | **3.15** |
| 40-40-50-200 | 150-150-25-10 | 1⅜ x 2 | TVL-4408.4 | 4.75 |
| **20-20-160-40** | **150-150-25-25** | **1⅜ x 2** | **TVL-4409** | **3.20** |
| 40-40-100-100 | 150-150-25-25 | 1⅜ x 2 | TVL-4410 | 5.05 |
| 40-40-200-100 | 150-150-25-25 | 1⅜ x 2 | TVL-4410.3 | 5.35 |
| **50-40-160-40** | **150-150-25-25** | **1⅜ x 2** | **TVL-4410.7** | **3.55** |
| 80-20-160-40 | 150-150-25-25 | 1⅜ x 2 | TVL-4411 | 5.55 |
| 80-30-100-40 | 150-150-25-25 | 1⅜ x 2 | TVL-4411.2 | 5.20 |
| 40-40-100-100 | 150-150-50-50 | 1⅜ x 2 | TVL-4411.5 | 5.55 |
| 30-20-20-200 | 150-150-150-10 | 1⅜ x 2 | TVL-4412 | 4.65 |
| **40-40-20-200** | **150-150-150-10** | **1⅜ x 2** | **TVL-4413** | **3.20** |
| 50-30-25-200 | 150-150-150-10 | 1⅜ x 2 | TVL-4413.4 | 5.05 |
| **60-40-20-200** | **150-150-150-10** | **1⅜ x 2** | **TVL-4414** | **3.45** |
| 80-80-10-200 | 150-150-150-10 | 1⅜ x 2½ | TVL-4414.3 | 5.85 |
| 60-20-20-1000 | 150-150-150-15 | 1⅜ x 2½ | TVL-4414.5 | 7.00 |
| 20-20-20-20 | 150-150-150-25 | 1⅜ x 2 | TVL-4414.7 | 4.35 |
| 30-20-20-100 | 150-150-150-25 | 1⅜ x 2 | TVL-4414.8 | 4.75 |
| **30-30-30-40** | **150-150-150-25** | **1⅜ x 2** | **TVL-4415** | **3.10** |
| **40-20-20-20** | **150-150-150-25** | **1⅜ x 2** | **TVL-4417** | **2.95** |
| 40-30-20-100 | 150-150-150-25 | 1⅜ x 2 | TVL-4418 | 4.80 |
| **40-40-30-20** | **150-150-150-25** | **1⅜ x 2** | **TVL-4420** | **3.10** |
| 40-40-30-120 | 150-150-150-25 | 1⅜ x 2 | TVL-4420.3 | 5.25 |
| **40-40-40-20** | **150-150-150-25** | **1⅜ x 2** | **TVL-4421** | **3.15** |
| 40-40-40-100 | 150-150-150-25 | 1⅜ x 2 | TVL-4422 | 5.05 |
| **40-40-40-160** | **150-150-150-25** | **1⅜ x 2** | **TVL-4423** | **3.55** |
| **50-20-20-200** | **150-150-150-25** | **1⅜ x 2** | **TVL-4424** | **3.50** |
| **50-30-30-100** | **150-150-150-25** | **1⅜ x 2** | **TVL-4424.5** | **3.40** |
| **50-50-50-20** | **150-150-150-25** | **1⅜ x 2** | **TVL-4425** | **3.55** |
| 50-50-50-100 | 150-150-150-25 | 1⅜ x 2 | TVL-4425.3 | 5.65 |
| 60-30-10-60 | 150-150-150-25 | 1⅜ x 2 | TVL-4426 | 4.60 |
| 60-40-20-20 | 150-150-150-25 | 1⅜ x 2 | TVL-4427 | 4.95 |
| 60-60-10-60 | 150-150-150-25 | 1⅜ x 2 | TVL-4428 | 5.25 |
| 70-40-40-25 | 150-150-150-25 | 1⅜ x 2½ | TVL-4429 | 5.20 |
| 80-40-30-100 | 150-150-150-25 | 1⅜ x 2½ | TVL-4430 | 5.55 |
| **80-40-40-20** | **150-150-150-25** | **1⅜ x 2** | **TVL-4431** | **3.55** |
| **80-40-40-40** | **150-150-150-25** | **1⅜ x 2½** | **TVL-4432** | **3.60** |
| **80-40-40-100** | **150-150-150-25** | **1⅜ x 2½** | **TVL-4434** | **3.75** |
| 80-50-50-25 | 150-150-150-25 | 1⅜ x 2½ | TVL-4435 | 5.70 |
| 80-60-40-100 | 150-150-150-25 | 1⅜ x 2½ | TVL-4436 | 5.95 |
| **100-90-60-200** | **150-150-150-25** | **1⅜ x 3** | **TVL-4437** | **4.95** |
| 125-125-40-100 | 150-150-150-25 | 1⅜ x 3 | TVL-4438 | 7.45 |
| **250-200-10-25** | **150-150-150-50** | **1⅜ x 4** | **TVL-4440** | **5.35** |
| **40-40-40-30** | **150-150-150-150** | **1⅜ x 2** | **TVL-4441** | **3.30** |
| 50-40-30-30 | 150-150-150-150 | 1⅜ x 2 | TVL-4442 | 5.10 |
| 50-50-50-50 | 150-150-150-150 | 1⅜ x 2½ | TVL-4443 | 5.85 |
| 80-50-20-20 | 150-150-150-150 | 1⅜ x 2½ | TVL-4444 | 5.55 |
| **100-80-60-40** | **150-150-150-150** | **1⅜ x 3** | **TVL-4445** | **4.65** |
| *40-20-10-20 | 200-200-200-25 | 1⅜ x 2 | TVL-4470 | 4.80 |
| 40-40-50-80 | 250-250-150-150 | 1⅜ x 2½ | TVL-4508 | 6.15 |
| **100-40-10-100** | **250-250-250-50** | **1⅜ x 3½** | **TVL-4516** | **5.15** |
| 80-60-40-20 | 250-250-250-150 | 1⅜ x 4 | TVL-4524 | 7.65 |
| 40-40-20-20 | 250-250-250-250 | 1⅜ x 2½ | TVL-4536 | 6.00 |
| 100-40-80-20 | 300-50-25-25 | 1⅜ x 3 | TVL-4555 | 6.85 |
| **20-150-150-100** | **300-150-150-30** | **1⅜ x 4** | **TVL-4557** | **5.30** |
| **10-200-140-30** | **300-150-150-150** | **1⅜ x 3½** | **TVL-4559** | **5.10** |
| **10-200-200-30** | **300-150-150-150** | **1⅜ x 4** | **TVL-4559.2** | **5.35** |
| **100-60-10-20** | **300-200-150-50** | **1⅜ x 3½** | **TVL-4559.5** | **4.85** |
| 120-20-20-100 | 300-250-25-30 | 1⅜ x 3½ | TVL-4562 | 7.90 |
| **200-20-100-20** | **300-250-50-25** | **1⅜ x 4** | **TVL-4563** | **5.80** |
| *40-40-40-40 | 300-250-250-25 | 1⅜ x 2½ | TVL-4560 | 6.60 |
| 100-40-125-50 | 300-300-150-50 | 1⅜ x 4 | TVL-4560.4 | 9.30 |
| **140-10-10-100** | **300-300-150-25** | **1⅜ x 3½** | **TVL-4560.6** | **5.05** |

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## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| **100-10-200-30** | **300-300-150-150** | **1¾ x 4** | **TVL-4561** | **$5.90** |
| **140-10-200-30** | **300-300-150-150** | **1⅜ x 4** | **TVL-4561.3** | **6.25** |
| **150-20-10-250** | **300-300-250-50** | **1⅜ x 4** | **TVL-4564** | **6.05** |
| *10-10-10-20 | 300-300-300-25 | 1⅜ x 2 | TVL-4565 | 4.45 |
| 40-30-20-50 | 300-300-300-25 | 1⅜ x 2½ | TVL-4568 | 6.25 |
| **60-40-20-50** | **300-300-300-25** | **1⅜ x 3½** | **TVL-4570** | **4.70** |
| *30-30-15-30 | 300-300-300-50 | 1⅜ x 3 | TVL-4572 | 5.50 |
| 60-30-10-60 | 300-300-300-50 | 1⅜ x 2½ | TVL-4573 | 6.30 |
| **150-30-30-150** | **300-300-300-50** | **1⅜ x 4** | **TVL-4574** | **6.10** |
| **40-40-40-20** | **300-300-300-150** | **1⅜ x 3** | **TVL-4575** | **4.90** |
| **120-40-40-10** | **300-300-300-250** | **1⅜ x 4** | **TVL-4577** | **6.30** |
| **40-20-10-10** | **300-300-300-300** | **1⅜ x 2** | **TVL-4578** | **3.95** |
| **40-40-20-10** | **300-300-300-300** | **1⅜ x 3½** | **TVL-4579** | **4.55** |
| **40-40-30-20** | **300-300-300-300** | **1⅜ x 3** | **TVL-4580** | **4.85** |
| **60-40-10-10** | **300-300-300-300** | **1⅜ x 2½** | **TVL-4583** | **4.55** |
| **200-20-20-20** | **300-300-300-300** | **1⅜ x 4** | **TVL-4590** | **6.25** |
| 20-150-80-20 | 350-150-150-25 | 1⅜ x 3 | TVL-4603 | 6.85 |
| 60-60-30-160 | 350-150-150-25 | 1⅜ x 3 | TVL-4603.2 | 6.85 |
| 40-50-20-80 | 350-150-150-50 | 1⅜ x 3 | TVL-4603.4 | 6.10 |
| 20-60-160-40 | 350-200-25-25 | 1⅜ x 2 | TVL-4603.6 | 6.00 |
| 15-80-40-200 | 350-200-200-25 | 1⅜ x 3 | TVL-4603.8 | 6.75 |
| 20-100-100-10 | 350-200-200-100 | 1⅜ x 4 | TVL-4604 | 7.50 |
| 20-100-100-20 | 350-200-200-200 | 1⅜ x 4 | TVL-4604.3 | 7.75 |
| 20-40-10-250 | 350-300-150-50 | 1⅜ x 3 | TVL-4604.5 | 6.90 |
| **20-150-10-250** | **350-300-150-50** | **1⅜ x 4** | **TVL-4604.7** | **6.10** |
| *40-40-20-20 | 350-300-300-25 | 1⅜ x 3½ | TVL-4605 | 6.75 |
| **30-30-50-100** | **350-300-300-75** | **1⅜ x 3** | **TVL-4611** | **5.25** |
| **160-60-10-4** | **350-300-300-300** | **1⅜ x 4** | **TVL-4605.5** | **6.30** |
| **40-10-100-25** | **350-350-25-25** | **1⅜ x 2** | **TVL-4606** | **3.75** |
| **60-4-100-40** | **350-350-25-25** | **1⅜ x 2½** | **TVL-4607** | **3.80** |
| **60-20-80-100** | **350-350-150-50** | **1⅜ x 4** | **TVL-4608** | **4.90** |
| 40-20-10-20 | 350-350-200-25 | 1⅜ x 2 | TVL-4608.5 | 5.85 |
| 80-20-20-200 | 350-350-200-50 | 1⅜ x 3½ | TVL-4608.7 | 8.10 |
| **60-40-60-20** | **350-350-200-150** | **1⅜ x 3½** | **TVL-4609** | **5.05** |
| 80-60-60-10 | 350-350-200-150 | 1⅜ x 4 | TVL-4609.3 | 8.40 |
| 50-30-8-20 | 350-350-250-200 | 1⅜ x 2½ | TVL-4609.6 | 6.75 |
| *15-15-15-15 | 350-350-300-25 | 1⅜ x 2 | TVL-4610 | 5.20 |
| *35-35-10-20 | 350-350-300-25 | 1⅜ x 2½ | TVL-4610.6 | 6.25 |
| *10-10-10-10 | 350-350-300-300 | 1⅜ x 2 | TVL-4612 | 4.65 |
| *10-10-10-20 | 350-350-350-25 | 1⅜ x 2 | TVL-4618 | 4.45 |
| **20-10-5-10** | **350-350-350-25** | **1⅜ x 2** | **TVL-4620** | **3.10** |
| **30-10-5-200** | **350-350-350-25** | **1⅜ x 2** | **TVL-4620.3** | **3.80** |
| *30-20-20-20 | 350-350-350-25 | 1⅜ x 2½ | TVL-4620.5 | 6.15 |
| 40-20-5-10 | 350-350-350-25 | 1⅜ x 2½ | TVL-4621 | 5.70 |
| *40-20-20-25 | 350-350-350-25 | 1⅜ x 2½ | TVL-4621.3 | 6.40 |
| **40-40-20-20** | **350-350-350-25** | **1⅜ x 3** | **TVL-4621.6** | **4.65** |
| **40-40-30-10** | **350-350-350-25** | **1⅜ x 3** | **TVL-4622** | **4.95** |
| **40-40-40-40** | **350-350-350-25** | **1⅜ x 3** | **TVL-4622.3** | **5.20** |
| 15-15-15-50 | 350-350-350-50 | 1⅜ x 2 | TVL-4623 | 5.65 |
| 40-30-10-50 | 350-350-350-50 | 1⅜ x 3 | TVL-4624 | 6.60 |
| **40-40-40-150** | **350-350-350-50** | **1⅜ x 4** | **TVL-4628** | **5.65** |
| 50-40-20-100 | 350-350-350-50 | 1⅜ x 3 | TVL-4628.3 | 7.75 |
| 50-40-40-160 | 350-350-350-50 | 1⅜ x 4 | TVL-4629 | 8.65 |
| *60-25-25-100 | 350-350-350-50 | 1⅜ x 3½ | TVL-4630 | 7.75 |
| **60-30-30-150** | **350-350-350-50** | **1⅜ x 3** | **TVL-4630.4** | **5.50** |
| **70-40-10-50** | **350-350-350-50** | **1⅜ x 3** | **TVL-4631** | **5.25** |
| **100-10-10-20** | **350-350-350-50** | **1⅜ x 3½** | **TVL-4632** | **5.15** |
| **100-20-10-20** | **350-350-350-50** | **1⅜ x 3½** | **TVL-4633** | **5.40** |
| **100-40-30-50** | **350-350-350-50** | **1⅜ x 4** | **TVL-4634** | **6.55** |
| 140-20-10-100 | 350-350-350-50 | 1⅜ x 4 | TVL-4634.2 | 9.25 |
| **90-30-5-100** | **350-350-350-75** | **1⅜ x 3½** | **TVL-4625** | **6.15** |
| *80-60-40-20 | 350-350-350-150 | 1⅜ x 4 | TVL-4634.4 | 9.15 |
| 20-10-5-60 | 350-350-350-200 | 1⅜ x 2½ | TVL-4634.5 | 5.50 |
| **30-10-5-100** | **350-350-350-200** | **1⅜ x 2½** | **TVL-4634.7** | **4.55** |
| **40-20-20-10** | **350-350-350-350** | **1⅜ x 2½** | **TVL-4635** | **4.35** |
| **40-40-40-40** | **350-350-350-350** | **1⅜ x 4** | **TVL-4635.3** | **6.00** |
| **80-60-40-20** | **350-350-350-350** | **1⅜ x 4** | **TVL-4635.7** | **6.40** |
| **90-40-30-30** | **350-350-350-350** | **1⅜ x 4** | **TVL-4635.8** | **6.80** |

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 50-20-100-25 | 400-200-150-25 | 1⅜ x 2½ | TVL-4636 | $7.00 |
| 20-20-10-40 | 400-250-250-25 | 1⅜ x 2½ | TVL-4636.5 | 5.05 |
| **40-120-10-150** | **400-250-250-50** | **1⅜ x 4** | **TVL-4637** | **5.90** |
| *10-100-10-100 | 400-300-75-25 | 1⅜ x 3½ | TVL-4638 | 7.05 |
| 30-40-50-200 | 400-300-250-150 | 1⅜ x 4 | TVL-4640 | 9.00 |
| 20-30-20-20 | 400-300-300-25 | 1⅜ x 2½ | TVL-4640.3 | 5.70 |
| 80-40-20-10 | 400-300-300-300 | 1⅜ x 4 | TVL-4641 | 8.35 |
| *20-40-100-10 | 400-350-50-50 | 1⅜ x 3 | TVL-4650 | 6.30 |
| 20-10-10-20 | 400-350-200-25 | 1⅜ x 2 | TVL-4652 | 4.80 |
| **40-80-100-25** | **400-350-200-50** | **1⅜ x 3½** | **TVL-4654** | **5.95** |
| 40-10-80-10 | 400-350-250-250 | 1⅜ x 4 | TVL-4657 | 7.00 |
| *10-50-30-30 | 400-350-350-25 | 1⅜ x 3 | TVL-4658 | 6.60 |
| 35-25-25-20 | 400-350-350-25 | 1⅜ x 2½ | TVL-4658.4 | 6.85 |
| *80-40-10-10 | 400-350-350-25 | 1⅜ x 4 | TVL-4659 | 7.95 |
| **20-50-40-80** | **400-350-350-50** | **1⅜ x 3** | **TVL-4660** | **5.00** |
| 30-60-20-100 | 400-350-350-50 | 1⅜ x 4 | TVL-4661 | 7.50 |
| 10-10-25-25 | 400-400-25-25 | 1⅜ x 2 | TVL-4662 | 4.20 |
| 20-5-20-20 | 400-400-25-25 | 1⅜ x 2 | TVL-4662.4 | 4.60 |
| 50-25-100-20 | 400-400-50-25 | 1⅜ x 3 | TVL-4663 | 7.00 |
| **50-40-100-100** | **400-400-50-25** | **1⅜ x 4** | **TVL-4663.2** | **5.10** |
| 80-40-100-20 | 400-400-50-25 | 1⅜ x 4 | TVL-4663.4 | 8.40 |
| **100-10-30-20** | **400-400-50-50** | **1⅜ x 3½** | **TVL-4663.5** | **5.10** |
| *20-10-10-25 | 400-400-100-25 | 1⅜ x 2 | TVL-4663.7 | 4.65 |
| **20-10-20-25** | **400-400-200-25** | **1⅜ x 2** | **TVL-4663.8** | **3.30** |
| *10-10-40-10 | 400-400-200-50 | 1⅜ x 2 | TVL-4664 | 4.80 |
| *40-30-80-10 | 400-400-200-200 | 1⅜ x 3½ | TVL-4664.4 | 7.45 |
| 40-10-80-10 | 400-400-250-250 | 1⅜ x 3½ | TVL-4665 | 7.05 |
| 5-5-50-80 | 400-400-300-250 | 1⅜ x 3 | TVL-4665.3 | 7.00 |
| **50-20-20-25** | **400-400-350-25** | **1⅜ x 3** | **TVL-4665.5** | **4.45** |
| 60-40-40-10 | 400-400-350-50 | 1⅜ x 3½ | TVL-4666 | 8.65 |
| *20-20-20-20 | 400-400-400-25 | 1⅜ x 2½ | TVL-4667 | 5.80 |
| 60-30-30-150 | 400-400-400-25 | 1⅜ x 4 | TVL-4668 | 8.70 |
| **80-40-10-20** | **400-400-400-25** | **1⅜ x 4** | **TVL-4669** | **5.30** |
| **80-40-30-40** | **400-400-400-25** | **1⅜ x 4** | **TVL-4670** | **5.95** |
| 90-40-10-40 | 400-400-400-25 | 1⅜ x 4 | TVL-4670.3 | 8.70 |
| 40-40-40-150 | 400-400-400-50 | 1⅜ x 4 | TVL-4670.5 | 8.55 |
| **90-20-10-50** | **400-400-400-50** | **1⅜ x 4** | **TVL-4670.7** | **5.40** |
| 80-20-10-100 | 400-400-400-50 | 1⅜ x 3½ | TVL-4671 | 7.90 |
| **80-40-30-4** | **400-400-400-350** | **1⅜ x 4** | **TVL-4672** | **5.90** |
| *30-30-20-20 | 400-400-400-400 | 1⅜ x 3 | TVL-4672.8 | 7.30 |
| *40-35-10-10 | 400-400-400-400 | 1⅜ x 3 | TVL-4673 | 6.70 |
| **50-40-30-20** | **400-400-400-400** | **1⅜ x 4** | **TVL-4674** | **5.65** |
| *80-10-10-10 | 400-400-400-400 | 1⅜ x 3½ | TVL-4675 | 7.05 |
| **80-25-10-10** | **400-400-400-400** | **1⅜ x 4** | **TVL-4680** | **5.25** |
| *40-40-30-10 | 450-150-50-50 | 1⅜ x 3 | TVL-4695 | 5.65 |
| 10-80-40-100 | 450-200-200-50 | 1⅜ x 3 | TVL-4700 | 6.40 |
| **20-80-20-50** | **450-200-200-50** | **1⅜ x 3** | **TVL-4701** | **4.10** |
| 60-40-10-80 | 450-250-150-50 | 1⅜ x 3½ | TVL-4701.5 | 7.20 |
| *40-40-40-20 | 450-250-250-25 | 1⅜ x 3 | TVL-4702 | 6.70 |
| **60-80-40-20** | **450-250-250-150** | **1⅜ x 4** | **TVL-4702.3** | **5.65** |
| **10-100-10-100** | **450-300-75-25** | **1⅜ x 3** | **TVL-4702.6** | **4.75** |
| *10-10-60-100 | 450-300-200-50 | 1⅜ x 3 | TVL-4705 | 5.70 |
| *10-40-40-100 | 450-300-250-50 | 1⅜ x 3½ | TVL-4703 | 6.60 |
| 30-40-50-200 | 450-300-250-150 | 1⅜ x 4 | TVL-4703.3 | 9.00 |
| **25-100-10-60** | **450-300-300-50** | **1⅜ x 3** | **TVL-4703.5** | **5.30** |
| **40-40-40-20** | **450-300-300-150** | **1⅜ x 3** | **TVL-4703.7** | **4.90** |
| **10-100-20-20** | **450-300-300-200** | **1⅜ x 3** | **TVL-4704** | **5.05** |
| 10-100-20-20 | 450-300-300-300 | 1⅜ x 3 | TVL-4705.2 | 7.90 |
| 10-40-80-10 | 450-350-200-200 | 1⅜ x 3½ | TVL-4705.4 | 7.05 |
| **10-40-100-100** | **450-350-250-50** | **1⅜ x 3** | **TVL-4705.5** | **5.55** |
| 40-30-15-50 | 450-350-300-50 | 1⅜ x 3 | TVL-4705.8 | 6.55 |
| 10-100-10-20 | 450-350-350-25 | 1⅜ x 3 | TVL-4706 | 7.80 |
| **10-60-40-25** | **450-350-350-25** | **1⅜ x 4** | **TVL-4707** | **4.60** |
| *20-15-15-20 | 450-350-350-25 | 1⅜ x 2½ | TVL-4708 | 5.70 |
| **20-80-50-100** | **450-350-350-50** | **1⅜ x 4** | **TVL-4711** | **6.00** |
| 30-40-40-10 | 450-350-350-200 | 1⅜ x 3½ | TVL-4708.3 | 7.75 |
| *80-10-30-40 | 450-400-300-150 | 1⅜ x 4 | TVL-4710 | 7.90 |
| **80-10-40-30** | **450-400-300-300** | **1⅜ x 4** | **TVL-4710.2** | **5.80** |
| * 5-60-50-20 | 450-400-350-25 | 1⅜ x 3½ | TVL-4709 | 7.60 |
| 10-40-30-40 | 450-400-400-25 | 1⅜ x 3 | TVL-4710.4 | 6.60 |
| 80-40-10-150 | 450-400-400-50 | 1⅜ x 4 | TVL-4710.5 | 9.00 |


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# SPRAGUE CAPACITORS

## TVL TWIST-LOK ELECTROLYTICS, continued

| µF | WVDC | Dia.x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| *10-40-40-100 | 450-400-400-50 | 1⅜ x 3½ | TVL-4710.7 | $7.30 |
| 60-40-20-20 | 450-400-400-400 | 1⅜ x 4 | TVL-4711.3 | 8.70 |
| 10-10-20-20 | 450-450-25-25 | 1⅜ x 2 | TVL-4711.6 | 4.45 |
| 20-10-100-50 | 450-450-25-25 | 1⅜ x 2 | TVL-4711.8 | 5.35 |
| **20-15-20-20** | **450-450-25-25** | **1⅜ x 2** | **TVL-4712** | **3.45** |
| **30-30-125-125** | **450-450-25-25** | **1⅜ x 3** | **TVL-4712.3** | **4.85** |
| *30-10-150-30 | 450-450-50-50 | 1⅜ x 3 | TVL-4712.5 | 6.15 |
| **20-20-60-100** | **450-450-150-25** | **1⅜ x 2½** | **TVL-4712.7** | **4.25** |
| **40-40-125-125** | **450-450-150-25** | **1⅜ x 4** | **TVL-4712.8** | **5.70** |
| **10-10-60-100** | **450-450-200-50** | **1⅜ x 3** | **TVL-4713** | **3.85** |
| **35-25-20-100** | **450-450-200-50** | **1⅜ x 3** | **TVL-4714** | **4.65** |
| **40-40-100-60** | **450-450-200-200** | **1⅜ x 4** | **TVL-4714.3** | **6.05** |
| 10-10-10-50 | 450-450-300-25 | 1⅜ x 2 | TVL-4716 | 4.75 |
| *40-40-10-50 | 450-450-300-50 | 1⅜ x 3½ | TVL-4714.7 | 7.05 |
| *20-20-30-30 | 450-450-300-300 | 1⅜ x 3½ | TVL-4715 | 6.75 |
| *20-20-30-30 | 450-450-350-350 | 1⅜ x 3 | TVL-4717 | 7.60 |
| *40-10-35-10 | 450-450-350-350 | 1⅜ x 3½ | TVL-4718 | 6.90 |
| 40-20-80-10 | 450-450-350-350 | 1⅜ x 4 | TVL-4719 | 8.70 |
| **40-40-30-30** | **450-450-350-350** | **1⅜ x 4** | **TVL-4720** | **5.90** |
| **10-10-10-20** | **450-450-450-25** | **1⅜ x 2** | **TVL-4723** | **3.15** |
| 10-10-10-100 | 450-450-450-25 | 1⅜ x 2 | TVL-4723.3 | 4.90 |
| 15-10-10-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4723.5 | 4.95 |
| 20-10-10-100 | 450-450-450-25 | 1⅜ x 2 | TVL-4724 | 5.55 |
| **20-20-20-20** | **450-450-450-25** | **1⅜ x 2½** | **TVL-4724.2** | **4.15** |
| 30-15-15-40 | 450-450-450-25 | 1⅜ x 2½ | TVL-4724.4 | 6.25 |
| 30-20-20-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4724.5 | 6.60 |
| 30-30-10-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4724.7 | 6.55 |
| **30-30-10-125** | **450-450-450-25** | **1⅜ x 3** | **TVL-4725** | **4.70** |
| *30-30-20-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4725.4 | 7.00 |
| 40-10-10-250 | 450-450-450-25 | 1⅜ x 3 | TVL-4726 | 7.05 |
| 40-15-10-25 | 450-450-450-25 | 1⅜ x 3 | TVL-4729 | 6.15 |
| 40-20-10-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4730 | 6.40 |
| **40-20-20-20** | **450-450-450-25** | **1⅜ x 3** | **TVL-4731** | **4.60** |
| **40-20-20-40** | **450-450-450-25** | **1⅜ x 3** | **TVL-4732** | **4.65** |
| **40-30-10-20** | **450-450-450-25** | **1⅜ x 3½** | **TVL-4734** | **4.50** |
| **40-40-10-20** | **450-450-450-25** | **1⅜ x 3½** | **TVL-4736** | **4.70** |
| **40-40-20-20** | **450-450-450-25** | **1⅜ x 3½** | **TVL-4737** | **5.00** |
| **40-40-40-40** | **450-450-450-25** | **1⅜ x 3** | **TVL-4739** | **5.50** |
| 50-40-5-20 | 450-450-450-25 | 1⅜ x 3 | TVL-4739.3 | 7.20 |
| **60-40-40-10** | **450-450-450-25** | **1⅜ x 4** | **TVL-4739.4** | **6.00** |
| **60-50-5-20** | **450-450-450-25** | **1⅜ x 4** | **TVL-4739.5** | **5.35** |
| **80-40-40-40** | **450-450-450-25** | **1⅜ x 4** | **TVL-4739.6** | **6.45** |
| 10-10-10-150 | 450-450-450-50 | 1⅜ x 2½ | TVL-4739.7 | 5.55 |
| **20-20-20-100** | **450-450-450-50** | **1⅜ x 2½** | **TVL-4740** | **4.55** |
| **30-30-15-30** | **450-450-450-50** | **1⅜ x 3** | **TVL-4742** | **4.55** |
| 30-30-15-100 | 450-450-450-50 | 1⅜ x 3½ | TVL-4742.2 | 7.35 |
| **40-20-10-100** | **450-450-450-50** | **1⅜ x 3½** | **TVL-4743** | **4.60** |
| **40-40-10-25** | **450-450-450-50** | **1⅜ x 3** | **TVL-4745** | **4.70** |
| **40-40-10-50** | **450-450-450-50** | **1⅜ x 4** | **TVL-4746** | **4.80** |
| **60-40-10-25** | **450-450-450-50** | **1½ x 4** | **TVL-4746.5** | **5.25** |
| **40-40-10-100** | **450-450-450-100** | **1⅜ x 3½** | **TVL-4747** | **5.55** |
| *10-10-10-10 | 450-450-450-150 | 1⅜ x 2 | TVL-4750 | 4.75 |
| **60-10-10-20** | **450-450-450-150** | **1⅜ x 3** | **TVL-4753** | **4.55** |
| *35-35-10-10 | 450-450-450-200 | 1⅜ x 3½ | TVL-4755 | 6.90 |
| 40-10-10-100 | 450-450-450-200 | 1⅜ x 4 | TVL-4755.4 | 7.35 |
| 40-40-30-10 | 450-450-450-200 | 1⅜ x 4 | TVL-4756 | 8.05 |
| *30-10-10-10 | 450-450-450-250 | 1⅜ x 2½ | TVL-4756.3 | 5.80 |
| *40-10-10-40 | 450-450-450-250 | 1⅜ x 3½ | TVL-4756.6 | 6.70 |
| **40-20-10-100** | **450-450-450-250** | **1⅜ x 4** | **TVL-4757** | **5.85** |
| 60-10-10-40 | 450-450-450-250 | 1⅜ x 3½ | TVL-4757.5 | 7.30 |
| **40-10-10-40** | **450-450-450-350** | **1⅜ x 3** | **TVL-4758** | **4.75** |
| 40-20-20-20 | 450-450-450-350 | 1⅜ x 3 | TVL-4758.4 | 7.50 |
| 40-40-10-10 | 450-450-450-350 | 1⅜ x 3½ | TVL-4759 | 7.20 |
| **5-5-5-5** | **450-450-450-450** | **1⅜ x 2** | **TVL-4759.7** | **3.00** |
| **10-10-10-10** | **450-450-450-450** | **1⅜ x 2** | **TVL-4760** | **3.35** |
| **20-10-10-10** | **450-450-450-450** | **1⅜ x 2½** | **TVL-4761** | **3.70** |
| **20-20-20-20** | **450-450-450-450** | **1⅜ x 3** | **TVL-4763** | **4.70** |
| 25-20-20-20 | 450-450-450-450 | 1⅜ x 3½ | TVL-4763.4 | 7.30 |
| **30-15-15-15** | **450-450-450-450** | **1⅜ x 3** | **TVL-4766** | **4.45** |
| 30-20-20-10 | 450-450-450-450 | 1⅜ x 3 | TVL-4767 | $6.90 |
| 30-30-15-10 | 450-450-450-450 | 1⅜ x 3½ | TVL-4769 | 7.05 |
| **30-30-20-20** | **450-450-450-450** | **1⅜ x 3** | **TVL-4769.4** | **5.20** |
| 30-30-30-15 | 450-450-450-450 | 1⅜ x 4 | TVL-4770 | 7.95 |
| **35-35-10-5** | **450-450-450-450** | **1⅜ x 3½** | **TVL-4771** | **4.60** |
| **40-10-10-10** | **450-450-450-450** | **1⅜ x 3** | **TVL-4771.3** | **4.10** |
| 40-20-20-10 | 450-450-450-450 | 1⅜ x 3 | TVL-4771.6 | 7.20 |
| **40-35-10-10** | **450-450-450-450** | **1⅜ x 3** | **TVL-4771.8** | **4.80** |
| **40-40-4-4** | **450-450-450-450** | **1⅜ x 3½** | **TVL-4772** | **4.65** |
| **40-40-20-20** | **450-450-450-450** | **1⅜ x 4** | **TVL-4773** | **5.55** |
| **40-40-30-30** | **450-450-450-450** | **1⅜ x 4** | **TVL-4774** | **6.05** |
| **40-40-40-40** | **450-450-450-450** | **1⅜ x 4** | **TVL-4775** | **6.45** |
| **60-20-20-20** | **450-450-450-450** | **1⅜ x 4** | **TVL-4778** | **5.65** |
| **60-30-10-2** | **450-450-450-450** | **1⅜ x 3** | **TVL-4779** | **5.10** |
| 70-10-10-5 | 450-450-450-450 | 1⅜ x 3 | TVL-4780 | 7.15 |
| **80-10-10-10** | **450-450-450-450** | **1⅜ x 4** | **TVL-4783** | **5.05** |
| **40-40-50-80** | **475-250-150-50** | **1⅜ x 3½** | **TVL-4793** | **5.00** |
| **20-40-100-80** | **475-300-50-25** | **1⅜ x 3** | **TVL-4800** | **4.45** |
| **10-100-10-100** | **475-300-300-25** | **1⅜ x 3½** | **TVL-4802** | **4.90** |
| **20-80-20-10** | **475-300-300-300** | **1⅜ x 3½** | **TVL-4801** | **5.00** |
| *10-40-80-100 | 475-350-200-100 | 1⅜ x 3½ | TVL-4802.6 | 7.20 |
| **20-40-80-100** | **475-350-200-100** | **1⅜ x 4** | **TVL-4802.7** | **5.45** |
| **10-40-80-100** | **475-350-300-100** | **1⅜ x 4** | **TVL-4802.8** | **5.55** |
| 10-30-5-80 | 475-350-350-50 | 1⅜ x 2½ | TVL-4803 | 5.55 |
| **10-140-4-100** | **475-350-350-50** | **1⅜ x 4** | **TVL-4803.3** | **5.85** |
| **10-130-20-10** | **475-350-350-350** | **1⅜ x 4** | **TVL-4803.4** | **6.00** |
| 20-60-40-10 | 475-350-350-350 | 1⅜ x 3½ | TVL-4803.7 | 7.80 |
| **30-130-10-10** | **475-350-350-350** | **1⅜ x 4** | **TVL-4803.8** | **6.40** |
| 10-40-100-10 | 475-400-50-25 | 1⅜ x 2½ | TVL-4804 | 6.00 |
| **10-40-4-100** | **475-400-350-50** | **1⅜ x 2½** | **TVL-4805** | **4.05** |
| **5-70-25-5** | **475-400-400-400** | **1⅜ x 3½** | **TVL-4805.5** | **5.05** |
| 10-10-80-50 | 475-450-200-60 | 1⅜ x 3 | TVL-4806 | 5.80 |
| 25-20-20-100 | 475-450-300-50 | 1⅜ x 3 | TVL-4809 | 6.90 |
| 25-20-40-100 | 475-450-300-50 | 1⅜ x 3½ | TVL-4810 | 7.45 |
| **10-60-30-125** | **475-450-400-50** | **1⅜ x 4** | **TVL-4811** | **5.55** |
| **10-50-30-30** | **475-450-450-25** | **1⅜ x 3** | **TVL-4813** | **4.75** |
| **10-40-10-100** | **475-450-450-50** | **1⅜ x 2½** | **TVL-4814** | **4.30** |
| **15-15-80-40** | **475-475-300-50** | **1⅜ x 3** | **TVL-4815** | **4.80** |
| 50-30-20-20 | 475-475-300-300 | 1⅜ x 4 | TVL-4816 | 8.55 |
| **40-10-4-40** | **475-475-350-300** | **1⅜ x 3** | **TVL-4817** | **4.95** |
| **20-10-20-100** | **475-475-450-25** | **1⅜ x 2½** | **TVL-4818** | **4.20** |
| 10-5-80-40 | 475-475-450-50 | 1⅜ x 3½ | TVL-4819 | 7.35 |
| 30-30-10-20 | 475-475-475-25 | 1⅜ x 3 | TVL-4821 | 6.85 |
| *40-20-10-10 | 475-475-475-25 | 1⅜ x 3 | TVL-4822 | 7.30 |
| 80-30-10-20 | 475-475-475-25 | 1⅜ x 4 | TVL-4824 | 8.65 |
| **20-20-10-10** | **475-475-475-300** | **1⅜ x 2½** | **TVL-4826** | **4.30** |
| **50-30-10-20** | **475-475-475-300** | **1⅜ x 3½** | **TVL-4827** | **5.60** |
| *10-10-10-10 | 475-475-475-475 | 1⅜ x 2 | TVL-4830 | 5.25 |
| **20-20-10-10** | **475-475-475-475** | **1⅜ x 2½** | **TVL-4832** | **4.35** |
| **20-20-20-20** | **475-475-475-475** | **1⅜ x 3** | **TVL-4834** | **5.10** |
| 40-10-10-10 | 475-475-475-475 | 1⅜ x 3 | TVL-4838 | 7.00 |
| **40-20-10-10** | **475-475-475-475** | **1⅜ x 3** | **TVL-4840** | **5.10** |
| 10-100-30-100 | 500-300-300-25 | 1⅜ x 3½ | TVL-4910 | 7.80 |
| 5-100-10-200 | 500-300-300-150 | 1⅜ x 4 | TVL-4912 | 8.80 |
| 20-80-20-10 | 500-300-300-300 | 1⅜ x 3½ | TVL-4914 | 7.50 |
| **30-10-150-30** | **500-450-50-50** | **1⅜ x 3** | **TVL-4917** | **4.20** |
| **10-10-10-10** | **500-500-500-500** | **1⅜ x 2** | **TVL-4940** | **3.50** |
| **40-40-8-8** | **500-500-500-500** | **1⅜ x 4** | **TVL-4944** | **5.70** |

## INSULATING TUBES

These closed-top black insulating sleeves are made of tightly fitting Kraftboard. Order with capacitors as required.

| Cat. No. | Description | Cat. No. | Description |
|---|---|---|---|
| HKT-1 | For 1" x 2" can | HKT-6 | For 1⅜" x 2½" can |
| HKT-2 | For 1" x 2½" can | HKT-7 | For 1⅜" x 3" can |
| HKT-3 | For 1" x 3" can | HKT-8 | For 1⅜" x 3½" can |
| HKT-4 | For 1" x 4" can | HKT-9 | For 1⅜" x 4" can |
| HKT-5 | For 1⅜" x 2" can | | |

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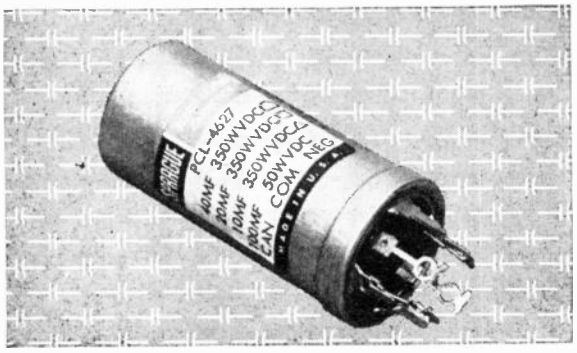
World Radio History

# SPRAGUE CAPACITORS

## PCL PRINT-LOK* ELECTROLYTICS

### WITH UNIVERSAL PRINTED WIRING BOARD MOUNTING BASE




- Will Fit All Sets with Just a Touch of the Pliers—Replace Standard Twist-Prong Units as Well as Printed Wiring Board Types
- Simple Instructions Supplied with Each Unit
- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
- Withstand Extremely High Temperatures, High Surge Voltages, and High Ripple Currents
- Designed for 85°C (185°F) Operation

*Trademark

| μF | WVDC | D. x L. | Cat. No. | List |
|---|---|---|---|---|
| 140 | 150 | 1 x 2½ | PCL-1428 | $2.15 |
| 375 | 165 | 1⅜ x 3½ | PCL-1440 | 3.00 |
| 160 | 200 | 1⅜ x 2⅞ | PCL-1473 | 3.15 |
| 20 | 450 | 1 x 2 | PCL-1714 | 1.80 |
| 250-250 | 16-16 | 1 x 2 | PCL-2170 | 2.75 |
| 800-250 | 16-16 | 1 x 2½ | PCL-2180 | 3.35 |
| 50-30 | 150-150 | 1 x 2 | PCL-2432 | 2.00 |
| 80-30 | 150-150 | 1 x 2 | PCL-2441 | 2.25 |
| 80-40 | 150-150 | 1 x 3 | PCL-2442 | 2.30 |
| 200-5 | 150-150 | 1⅜ x 2½ | PCL-2444 | 2.70 |
| 2-20 | 300-25 | 1 x 2 | PCL-2553 | 1.45 |
| 10-10 | 300-50 | 1 x 2 | PCL-2556.8 | 1.60 |
| 150-100 | 300-150 | 1⅜ x 4 | PCL-2560.3 | 4.50 |
| 10-10 | 300-300 | 1⅜ x 2 | PCL-2565 | 1.75 |
| 70-30-100 | 150-150-10 | 1 x 2 | PCL-3411 | 2.80 |
| 80-60-250 | 150-150-10 | 1 x 2½ | PCL-3414.3 | 3.40 |
| 80-60-400 | 150-150-10 | 1 x 3 | PCL-3414.4 | 3.65 |
| 90-40-400 | 150-150-10 | 1 x 3 | PCL-3414.5 | 3.50 |
| 80-20-20 | 150-150-25 | 1 x 2½ | PCL-3415.5 | 2.70 |
| 40-20-20 | 150-150-25 | 1 x 2 | PCL-3422 | $2.30 |
| 70-30-20 | 150-150-25 | 1 x 2½ | PCL-3431.1 | 2.70 |
| 30-30-30 | 150-150-150 | 1 x 2 | PCL-3435.1 | 2.50 |
| 40-40-20 | 150-150-150 | 1 x 2¼ | PCL-3439 | 2.50 |
| 50-30-20 | 150-150-150 | 1 x 2 | PCL-3440.5 | 2.60 |
| 50-40-30 | 150-150-150 | 1 x 2½ | PCL-3441.2 | 2.70 |
| 60-60-40 | 150-150-150 | 1⅜ x 2 | PCL-3443.5 | 3.10 |
| 70-15-15 | 150-150-150 | 1 x 2 | PCL-3443.3 | 2.70 |
| 10-10-20 | 300-50-25 | 1 x 2 | PCL-3554 | 2.10 |
| 150-60-200 | 300-200-150 | 1⅜ x 4 | PCL-3560.8 | 5.95 |
| 150-100-30 | 300-300-300 | 1⅜ x 4 | PCL-3586 | 6.35 |
| 125-5-100 | 350-150-10 | 1⅜ x 3½ | PCL-3606.5 | 4.60 |
| 40-30-20 | 400-350-300 | 1⅜ x 2½ | PCL-3672.5 | 3.95 |
| 290-30-10-100 | 150-150-150-10 | 1⅜ x 3 9/16 | PCL-4414.4 | 4.50 |
| 50-40-10-50 | 150-150-150-25 | 1⅜ x 2 | PCL-4424.6 | 3.15 |
| 100-40-10-50 | 150-150-150-25 | 1⅜ x 2 | PCL-4436.5 | 3.70 |
| 60-60-40-10 | 150-150-150-150 | 1⅜ x 2 | PCL-4443.5 | 3.65 |
| 100-60-60-40 | 350-350-200-75 | 1⅜ x 4 | PCL-4608.9 | 6.55 |
| 40-20-10-100 | 350-350-350-50 | 1⅜ x 3 | PCL-4627 | 4.35 |
| 40-30-20-20 | 400-350-350-350 | 1⅜ x 2½ | PCL-4708.5 | 4.95 |

## SCREWBASE 'LYTICS

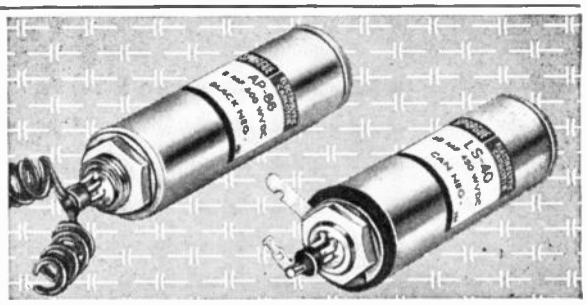
Type PLS—The Capacitor Sections Have Separate Positive Leads and a Common Negative Lead

Types LS and SC—Lug Connection is Positive, Can is Negative

Type CL—The Can is Insulated from the Sections . . . There are Separate Positive and Negative Leads

Type WR—These Capacitors are Designed to Replace Wet Electrolytics . . . They Will Withstand Extremely High A-C Ripples . . . Have Lug Terminals

Type AP—Sections are Connected in Series . . . Insulated Leads




| μF | Diam. x Length | Cat. No. | List |
|---|---|---|---|
| **TYPE PLS—450 WVDC, 525 V Surge** | | | |
| 4 | 1⅜ x 2 7/16 | PLS-4 | $2.00 |
| 8 | 1⅜ x 2 7/16 | PLS-8 | 2.20 |
| 12 | 1⅜ x 2 7/16 | PLS-12 | 2.40 |
| 16 | 1⅜ x 2 7/16 | PLS-16 | 2.45 |
| 20 | 1⅜ x 2 7/16 | PLS-20 | 2.70 |
| 25 | 1⅜ x 3 7/16 | PLS-25 | 2.90 |
| 30 | 1⅜ x 2 15/16 | PLS-30 | 3.00 |
| 40 | 1⅜ x 3 7/16 | PLS-40 | 3.15 |
| 4+8 | 1⅜ x 2 15/16 | PLS-48 | 2.95 |
| 8+8 | 1½ x 2 15/16 | PLS-88 | 3.00 |
| 8+16 | 1½ x 2 15/16 | PLS-816 | 3.30 |
| 16+16 | 1½ x 3 15/16 | PLS-216 | 3.55 |
| 8+8+8 | 1½ x 2 15/16 | PLS-888 | 5.00 |
| **TYPE LS—450 WVDC, 525 V Surge** | | | |
| 8 | 1⅜ x 2 15/16 | LS-8 | $2.20 |
| 12 | 1⅜ x 2 15/16 | LS-12 | 2.40 |
| 16 | 1⅜ x 2 15/16 | LS-16 | 2.45 |
| 20 | 1⅜ x 2 15/16 | LS-20 | 2.70 |
| 25 | 1⅜ x 3 7/16 | LS-25 | 2.90 |
| 30 | 1⅜ x 3 7/16 | LS-30 | 3.00 |
| 40 | 1⅜ x 3 15/16 | LS-40 | 3.15 |
| 8+8 | 1⅜ x 2¼ | LS-88 | 3.00 |
| **TYPE CL—475 WVDC, 600 V Surge** | | | |
| 8 | 1⅜ x 4 7/16 | CL-8 | 2.75 |
| 16 | 1½ x 4 7/16 | CL-16 | 3.15 |
| 8+8 | 1½ x 4 15/16 | CL-88 | 4.10 |
| **TYPE SC—475 WVDC, 600 V Surge** | | | |
| 4 | 1 x 3 7/16 | SC-4 | $2.55 |
| 8 | 1⅜ x 4 7/16 | SC-8 | 2.75 |
| 12 | 1⅜ x 4 7/16 | SC-12 | 2.95 |
| 16 | 1½ x 4 7/16 | SC-16 | 3.15 |
| 8+8 | 1⅜ x 4¼ | SC-88 | 4.10 |
| **TYPE WR—500 WVDC, 600 V Surge** | | | |
| 8 | 1⅜ x 2 7/16 | WR-8 | 2.85 |
| 16 | 1⅜ x 2 7/16 | WR-16 | 3.30 |
| 25 | 1⅜ x 2 15/16 | WR-25 | 3.75 |
| **TYPE AP—600 WVDC, 800 V Surge** | | | |
| 4 | 1 x 4 7/16 | AP-46 | 2.95 |
| 8 | 1⅜ x 4 7/16 | AP-86 | 3.15 |
| 16 | 1½ x 4 7/16 | AP-16 | 3.75 |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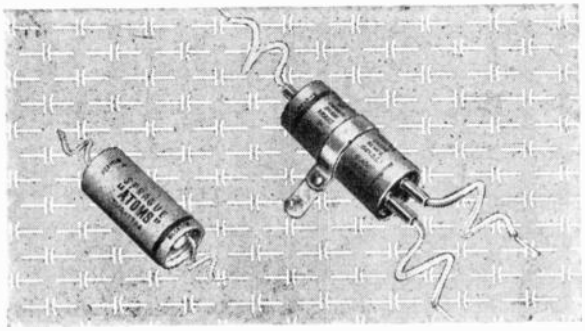
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# SPRAGUE CAPACITORS

## TVA ATOM® ELECTROLYTICS




- The Smallest Dependable Dry Electrolytic—The Only Small Size Capacitor Designed For 85°C (185°F) operation In Voltages To 450 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phono Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Small Enough To Fit Anywhere, Work Anywhere
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Insulating Tube

### SINGLE UNITS

| µF | WVDC | Diam. x Length* | Cat. No. | List |
|---|---|---|---|---|
| 50 | 6 | 3/8 x 1 1/4 | TVA-1100 | $ .95 |
| 100 | 6 | 1/2 x 1 3/16 | TVA-1101 | 1.20 |
| 250 | 6 | 5/8 x 1 7/16 | TVA-1102 | 1.35 |
| 500 | 6 | 5/8 x 2 3/16 | TVA-1103 | 1.55 |
| 1000 | 6 | 3/4 x 2 3/16 | TVA-1104 | 1.90 |
| 1500 | 6 | 13/16 x 2 11/16 | TVA-1105 | 2.10 |
| 2000 | 6 | 13/16 x 2 15/16 | TVA-1106 | 2.30 |
| 100 | 12 | 9/16 x 1 3/16 | TVA-1130 | 1.20 |
| 250 | 12 | 5/8 x 1 11/16 | TVA-1131 | 1.45 |
| 500 | 12 | 3/4 x 1 11/16 | TVA-1132 | 1.70 |
| 1000 | 12 | 13/16 x 2 3/16 | TVA-1133 | 2.25 |
| 100 | 15 | 5/8 x 1 3/16 | TVA-1160 | 1.25 |
| 250 | 15 | 5/8 x 1 11/16 | TVA-1161 | 1.55 |
| 500 | 15 | 11/16 x 2 3/16 | TVA-1162 | 1.75 |
| 1000 | 15 | 7/8 x 2 3/16 | TVA-1163 | 2.30 |
| 2 | 25 | 3/8 x 1 1/4 | TVA-1201 | .90 |
| 5 | 25 | 3/8 x 1 1/4 | TVA-1203 | 1.00 |
| 10 | 25 | 3/8 x 1 1/4 | TVA-1204 | 1.00 |
| 25 | 25 | 3/8 x 1 1/4 | TVA-1205 | 1.00 |
| 50 | 25 | 9/16 x 1 3/16 | TVA-1206 | 1.10 |
| 100 | 25 | 9/16 x 1 11/16 | TVA-1207 | 1.35 |
| 250 | 25 | 3/4 x 1 11/16 | TVA-1208 | 1.70 |
| 500 | 25 | 7/8 x 2 3/16 | TVA-1209 | 2.30 |
| 1 | 50 | 3/8 x 1 1/4 | TVA-1300 | .90 |
| 2 | 50 | 3/8 x 1 1/4 | TVA-1301 | .90 |
| 5 | 50 | 3/8 x 1 1/4 | TVA-1303 | 1.00 |
| 10 | 50 | 3/8 x 1 1/4 | TVA-1304 | 1.00 |
| 25 | 50 | 7/16 x 1 3/8 | TVA-1306 | 1.05 |
| 50 | 50 | 9/16 x 1 11/16 | TVA-1308 | 1.20 |
| 100 | 50 | 5/8 x 1 11/16 | TVA-1310 | 1.40 |
| 150 | 50 | 3/4 x 1 11/16 | TVA-1311 | 1.55 |
| 250 | 50 | 15/16 x 1 11/16 | TVA-1312 | 1.75 |
| 4 | 150 | 3/8 x 1 1/4 | TVA-1402 | 1.00 |
| 5 | 150 | 3/8 x 1 1/4 | TVA-1403 | 1.00 |
| 8 | 150 | 3/8 x 1 3/4 | TVA-1405 | 1.05 |
| 10 | 150 | 3/8 x 1 3/4 | TVA-1406 | 1.05 |
| 12 | 150 | 1/2 x 1 5/8 | TVA-1407 | 1.10 |
| 16 | 150 | 9/16 x 1 11/16 | TVA-1409 | 1.15 |
| 20 | 150 | 9/16 x 1 11/16 | TVA-1410 | 1.20 |
| 25 | 150 | 5/8 x 1 11/16 | TVA-1411 | 1.25 |
| 30 | 150 | 5/8 x 1 11/16 | TVA-1412 | 1.30 |
| 40 | 150 | 3/4 x 1 11/16 | TVA-1413 | 1.35 |
| 50 | 150 | 13/16 x 1 11/16 | TVA-1414 | 1.40 |
| 60 | 150 | 7/8 x 1 11/16 | TVA-1415 | 1.50 |
| 80 | 150 | 7/8 x 1 15/16 | TVA-1418 | 1.60 |
| 100 | 150 | 7/8 x 2 3/16 | TVA-1420 | 1.75 |
| 150 | 150 | 1 x 2 3/16 | TVA-1422 | 1.90 |
| 200 | 150 | 1 1/16 x 3 15/16 | TVA-1423† | 2.20 |
| 300 | 150 | 1 3/8 x 3 7/8 | TVA-1425† | 2.55 |
| 200 | 200 | 1 3/8 x 3 3/8 | TVA-1480† | 2.90 |
| 4 | 250 | 7/16 x 1 5/8 | TVA-1501 | $1.00 |
| 8 | 250 | 1/2 x 1 5/8 | TVA-1503 | 1.15 |
| 10 | 250 | 9/16 x 1 11/16 | TVA-1504 | 1.20 |
| 12 | 250 | 9/16 x 1 11/16 | TVA-1505 | 1.25 |
| 16 | 250 | 5/8 x 1 11/16 | TVA-1507 | 1.30 |
| 20 | 250 | 11/16 x 1 11/16 | TVA-1508 | 1.35 |
| 30 | 250 | 11/16 x 2 3/16 | TVA-1510 | 1.45 |
| 40 | 250 | 3/4 x 2 3/16 | TVA-1511 | 1.55 |
| 140 | 300 | 1 3/8 x 3 3/8 | TVA-1575† | 3.15 |
| 4 | 350 | 1/2 x 1 5/8 | TVA-1601 | 1.05 |
| 8 | 350 | 5/8 x 1 11/16 | TVA-1603 | 1.20 |
| 10 | 350 | 11/16 x 1 11/16 | TVA-1604 | 1.25 |
| 12 | 350 | 11/16 x 1 11/16 | TVA-1605 | 1.30 |
| 16 | 350 | 3/4 x 1 11/16 | TVA-1607 | 1.40 |
| 20 | 350 | 13/16 x 1 11/16 | TVA-1608 | 1.45 |
| 30 | 350 | 13/16 x 2 3/16 | TVA-1610 | 1.65 |
| 40 | 350 | 7/8 x 2 7/16 | TVA-1611 | 1.75 |
| 60 | 350 | 1 x 2 7/16 | TVA-1613 | 1.95 |
| 2 | 450 | 7/16 x 1 5/8 | TVA-1701 | 1.10 |
| 4 | 450 | 9/16 x 1 11/16 | TVA-1702 | 1.15 |
| 8 | 450 | 11/16 x 1 11/16 | TVA-1704 | 1.25 |
| 10 | 450 | 11/16 x 1 11/16 | TVA-1705 | 1.30 |
| 12 | 450 | 3/4 x 1 11/16 | TVA-1706 | 1.35 |
| 16 | 450 | 3/4 x 2 3/16 | TVA-1708 | 1.40 |
| 20 | 450 | 3/4 x 2 3/16 | TVA-1709 | 1.55 |
| 30 | 450 | 7/8 x 2 3/16 | TVA-1711 | 1.70 |
| 40 | 450 | 7/8 x 2 11/16 | TVA-1712 | 1.80 |
| 50 | 450 | 7/8 x 3 3/16 | TVA-1713 | 2.10 |
| 60 | 450 | 1 x 3 11/16 | TVA-1714 | 2.35 |
| 80 | 450 | 1 x 3 11/16 | TVA-1716 | 2.80 |
| 100 | 450 | 1 3/8 x 4 1/8 | TVA-1718 | 3.20 |
| 10 | 475 | 3/4 x 1 15/16 | TVA-1802 | 1.35 |
| 20 | 475 | 7/8 x 2 7/16 | TVA-1804 | 1.60 |
| 8 | 500 | 7/8 x 1 11/16 | TVA-1902 | 1.30 |
| 16 | 500 | 15/16 x 2 3/16 | TVA-1905 | 1.50 |
| 20 | 500 | 1 x 2 3/16 | TVA-1906 | 1.60 |
| 8 | 600 | 15/16 x 1 1/4 | TVA-1962 | 2.10 |
| 10 | 600 | 15/16 x 1 1/4 | TVA-1963 | 2.20 |
| 16 | 600 | 15/16 x 1 3/4 | TVA-1965 | 2.55 |
| 20 | 600 | 15/16 x 1 3/4 | TVA-1966 | 2.70 |

### DUAL UNITS (COMMON NEGATIVE—3 LEADS)

| µF | WVDC | Diam. x Length* | Cat. No. | List |
|---|---|---|---|---|
| 10-10 | 25-25 | 7/8 x 1 7/16 | TVA-2210 | 1.40 |
| 10-10 | 50-50 | 7/8 x 1 7/16 | TVA-2315 | 1.40 |
| 8-8 | 150-150 | 7/8 x 1 7/16 | TVA-2415 | 1.50 |
| 16-16 | 150-150 | 7/8 x 1 7/16 | TVA-2420 | 1.80 |
| 20-12 | 150-150 | 7/8 x 1 7/16 | TVA-2425 | 1.60 |
| 20-20 | 150-150 | 7/8 x 1 7/16 | TVA-2428 | 1.65 |
| 30-20 | 150-150 | 7/8 x 1 11/16 | TVA-2421 | 1.70 |
| 30-30 | 150-150 | 7/8 x 1 11/16 | TVA-2434 | 1.80 |

*Add 1/16" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

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World Radio History

# SPRAGUE CAPACITORS

## ATOM ELECTROLYTICS, continued

| µF | WVDC | Diam. x Length* | Cat. No. | List |
|---|---|---|---|---|
| 40-20 | 150-150 | 7/8 x 1 11/16 | TVA-2438 | $1.75 |
| 40-30 | 150-150 | 7/8 x 1 15/16 | TVA-2442 | 1.80 |
| 40-40 | 150-150 | 7/8 x 1 15/16 | TVA-2445 | 1.85 |
| 50-30 | 150-150 | 7/8 x 1 15/16 | TVA-2450 | 1.95 |
| 50-50 | 150-150 | 7/8 x 2 7/16 | TVA-2453 | 2.10 |
| 80-30 | 150-150 | 7/8 x 2 7/16 | TVA-2460 | 2.20 |
| 80-50 | 150-150 | 15/16 x 3 1/16 | TVA-2462 | 2.35 |
| 100-100 | 150-150 | 1 3/8 x 3 3/8 | TVA-2464† | 3.20 |
| 200-5 | 150-150 | 1 x 3 7/8 | TVA-2467† | 2.65 |
| 20-20 | 250-250 | 7/8 x 1 15/16 | TVA-2515 | 1.85 |
| 40-10 | 250-250 | 7/8 x 2 3/16 | TVA-2520 | 2.05 |
| 80-10 | 250-250 | 15/16 x 3 3/16 | TVA-2525 | 2.55 |
| 120-80 | 250-250 | 1 3/8 x 3 7/8 | TVA-2535† | 4.00 |
| 140-5 | 350-350 | 1 1/4 x 3 7/8 | TVA-2640† | 4.15 |
| 80-100 | 450-50 | 1 3/8 x 4 3/8 | TVA-2711† | 3.70 |
| 8-8 | 450-450 | 7/8 x 1 11/16 | TVA-2720 | 1.70 |
| 10-10 | 450-450 | 7/8 x 1 15/16 | TVA-2722 | 1.85 |
| 16-8 | 450-450 | 7/8 x 2 3/16 | TVA-2725 | 2.00 |
| 20-20 | 450-450 | 7/8 x 2 15/16 | TVA-2730 | 2.50 |
| 30-30 | 450-450 | 1 x 3 3/16 | TVA-2735 | 3.00 |
| 40-40 | 450-450 | 1 x 3 15/16 | TVA-2740 | 3.40 |

### DUAL UNITS (SEPARATE SECTIONS—4 LEADS)

| | | | | |
|---|---|---|---|---|
| 20-20 | 150-150 | 1 x 2 3/8 | TU-220 † | 2.05 |
| 40-20 | 150-150 | 1 1/16 x 2 5/8 | TU-420 † | 2.20 |
| 16-16 | 250-250 | 1 x 2 7/8 | TU-216 † | 2.20 |
| 8-8 | 450-450 | 1 1/16 x 3 3/8 | TU-88 † | 2.15 |
| 16-16 | 450-450 | 1 3/8 x 3 1/8 | TU-1616† | 2.80 |

### TRIPLE UNITS

| | | | | |
|---|---|---|---|---|
| 30-30-100 | 150-150-12 | 7/8 x 1 15/16 | TVA-3419 | 2.30 |
| 20-20-20 | 150-150-25 | 7/8 x 1 7/16 | TVA-3415 | 2.05 |
| 40-30-20 | 150-150-25 | 7/8 x 1 15/16 | TVA-3423 | $2.20 |
| 40-40-100 | 150-150-25 | 7/8 x 2 7/16 | TVA-3427 | 2.45 |
| 50-30-20 | 150-150-25 | 7/8 x 2 3/16 | TVA-3430 | 2.35 |
| 50-30-200 | 150-150-25 | 1 x 2 3/16 | TVA-3433 | 2.75 |
| 50-50-20 | 150-150-25 | 15/16 x 2 13/16 | TVA-3436 | 2.50 |
| 80-20-100 | 150-150-25 | 1 1/4 x 2 7/8 | TVA-3437† | 2.75 |
| 20-20-20 | 150-150-150 | 7/8 x 1 11/16 | TVA-3440 | 2.20 |
| 30-30-30 | 150-150-150 | 7/8 x 2 3/16 | TVA-3444 | 2.35 |
| 40-30-20 | 150-150-150 | 7/8 x 2 3/16 | TVA-3448 | 2.35 |
| 40-40-40 | 150-150-150 | 1 x 2 7/16 | TVA-3451 | 2.45 |
| 50-30-20 | 150-150-150 | 1 x 2 7/16 | TVA-3453 | 2.45 |
| 80-40-20 | 150-150-150 | 1 x 2 15/16 | TVA-3455 | 2.75 |
| 80-10-100 | 300-250-50 | 1 3/8 x 3 3/8 | TVA-3556† | 3.60 |
| 120-40-10 | 300-300-250 | 1 3/8 x 3 3/8 | TVA-3563† | 4.85 |
| 140-5-200 | 350-350-200 | 1 1/2 x 5 1/8 | TVA-3620† | 6.70 |
| 5-80-40 | 450-400-400 | 1 3/8 x 4 1/8 | TVA-3712† | 4.55 |
| 12-12-20 | 450-450-25 | 1 x 1 13/16 | TVA-3716 | 2.30 |

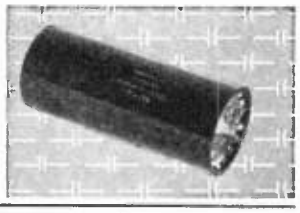
### QUADRUPLE UNITS

| | | | | |
|---|---|---|---|---|
| 120-40-40-10 | 300-300-300-250 | 1 3/8 x 4 5/8 | TVA-4584† | 6.20 |
| 140-5-200-30 | 350-300-200-150 | 1 1/2 x 4 7/8 | TVA-4576† | 6.05 |
| 140-5-200-30 | 350-300-200-200 | 1 1/2 x 5 1/8 | TVA-4607† | 7.65 |
| 80-60-40-20 | 350-350-300-150 | 1 1/2 x 4 5/8 | TVA-4618† | 5.90 |
| 80-10-40-100 | 400-400-300-50 | 1 3/8 x 4 1/8 | TVA-4659† | 5.45 |
| 10-80-40-100 | 450-300-250-50 | 1 3/8 x 4 1/8 | TVA-4705† | 4.80 |
| 20-120-40-100 | 450-300-250-50 | 1 3/8 x 4 3/8 | TVA-4706† | 6.15 |
| 10-80-40-40 | 450-300-250-250 | 1 3/8 x 4 3/8 | TVA-4708† | 4.95 |
| 10-20-20-10 | 450-300-300-300 | 1 3/8 x 3 1/8 | TVA-4712† | 3.50 |
| 20-20-20-10 | 450-450-450-450 | 1 3/8 x 3 5/8 | TVA-4742† | 4.25 |
| 40-20-20-10 | 450-450-450-450 | 1 3/8 x 4 3/8 | TVA-4748† | 4.70 |
| 40-40-20-20 | 450-450-450-450 | 1 1/2 x 4 1/4 | TVA-4750† | 5.45 |

*Add 1/16" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

## HLVB HIGH-MF 'LYTICS

- Very High Capacitance Ratings Available
- Designed for Filter Circuits in High Gain Amplifier Equipment
- Housed in Molded Bakelite Case



| µF | WVDC | Diam. x Length | Cat. No. | List |
|---|---|---|---|---|
| 500 | 6 | 1 x 2 1/8 | HLVB-506 | $ 3.05 |
| 1000 | 6 | 1 3/8 x 2 1/4 | HLVB-106 | 3.40 |
| 1500 | 6 | 1 3/8 x 2 3/4 | HLVB-156 | 3.60 |
| 2000 | 6 | 1 3/8 x 3 1/4 | HLVB-206 | 3.80 |
| 500 | 12 | 1 3/8 x 2 1/4 | HLVB-5012 | 3.20 |
| 1000 | 12 | 1 3/8 x 2 1/4 | HLVB-1012 | 3.75 |
| 1500 | 12 | 1 3/8 x 2 3/4 | HLVB-1512 | 3.95 |
| 2000 | 12 | 1 3/8 x 3 1/4 | HLVB-2012 | 4.15 |
| 500 | 15 | 1 3/8 x 2 1/4 | HLVB-5015 | 3.25 |
| 1000 | 15 | 1 3/8 x 2 1/4 | HLVB-1015 | 3.80 |
| 1500 | 15 | 1 3/8 x 3 1/4 | HLVB-1515 | 4.00 |
| 2000 | 15 | 1 1/2 x 3 3/4 | HLVB-2015 | 4.70 |
| 500 | 25 | 1 3/8 x 2 1/4 | HLVB-525 | 3.80 |
| 1000 | 25 | 1 3/8 x 3 1/4 | HLVB-1025 | 4.85 |
| 2000 | 25 | 1 3/4 x 4 1/4 | HLVB-2025 | 5.75 |
| 500 | 50 | 1 3/8 x 2 3/4 | HLVB-550 | 4.25 |
| 1000 | 50 | 1 3/8 x 4 1/4 | HLVB-1050 | 7.00 |
| 2000 | 50 | 1 3/4 x 4 1/4 | HLVB-2050 | 9.10 |
| 3000 | 50 | 2 1/2 x 4 1/4 | HLVB-3050 | 11.50 |
| 4000 | 50 | 2 1/2 x 4 1/4 | HLVB-4050 | 12.50 |

## PE OCTAL-BASE 'LYTICS

- For Applications where Rapid Changing of Capacitors is Desired
- Will Fit Standard Octal-Base Tube Sockets
- Hermetically Sealed in Metal Cans for Long Life
- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages

Terminal Code

| Sections | − | + |
|---|---|---|
| Single | 1 | 5 |
| Dual | 1 | 3,5 |
| Triple | 1 | 3,5,7 |
| Quadruple | Gnd Lug | 1,3,5,7 |

| µF | WVDC | Diam. x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 100 | 350 | 1 3/8 x 3 | PE-1636 | $5.85 |
| 10 | 450 | 1 5/32 x 2 1/2 | PE-1705 | 4.05 |
| 20 | 450 | 1 5/32 x 2 1/2 | PE-1714 | 4.30 |
| 40 | 450 | 1 3/8 x 2 1/2 | PE-1725 | 4.55 |
| 80 | 450 | 1 3/8 x 3 1/2 | PE-1730 | 5.55 |
| 20-20 | 150-150 | 1 5/32 x 2 1/2 | PE-2415 | 4.20 |
| 40-40 | 150-150 | 1 5/32 x 2 1/2 | PE-2428 | 4.40 |
| 10-10 | 450-450 | 1 5/32 x 2 1/2 | PE-2750 | 4.40 |
| 20-20 | 450-450 | 1 3/8 x 2 1/2 | PE-2755 | 5.05 |
| 40-40 | 450-450 | 1 3/8 x 3 1/2 | PE-2764 | 5.95 |
| 10-10-10 | 450-450-450 | 1 5/32 x 2 1/2 | PE-3776 | 5.10 |
| 20-20-20 | 450-450-450 | 1 3/8 x 3 | PE-3780 | 6.10 |
| 30-30-10-20 | 450-450-450-50 | 1 3/8 x 3 1/2 | PE-4741 | 6.85 |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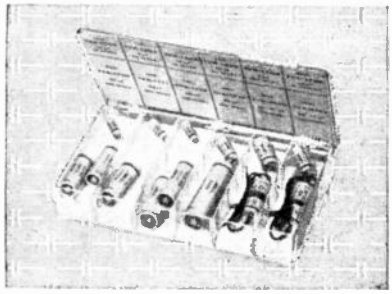
# SPRAGUE CAPACITORS

## EK-1 ATOM® ELECTROLYTIC KIT

### FREE PLASTIC CASE!



- Contains a Total of 15 Atom Electrolytic Capacitors in the 12 Most Popular Ratings
- This Assortment Will Meet 93% of All Your Tubular Electrolytic Replacement Requirements
- You Pay Only for the Capacitors . . . the Handy Compartmented Plastic Case is FREE

**KIT EK-1** ..... **$23.30 List**

### CONTENTS OF KIT EK-1

| Quan. | Cat. No. | μF | WVDC | Quan. | Cat. No. | μF | WVDC | Quan. | Cat. No. | μF | WVDC | Quan. | Cat. No. | μF | WVDC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TVA-1205 | 25 | 25 | 1 | TVA-1410 | 20 | 150 | 2 | TVA-1709 | 20 | 450 | 1 | TVA-1716 | 80 | 450 |
| 1 | TVA-1303 | 5 | 50 | 1 | TVA-1704 | 8 | 450 | 1 | TVA-1711 | 30 | 450 | 1 | TVA-2450 | 50+30 | 150 |
| 1 | TVA-1304 | 10 | 50 | 2 | TVA-1705 | 10 | 450 | 2 | TVA-1712 | 40 | 450 | 1 | TVA-2453 | 50+50 | 150 |

## EK-2 TWIST-LOK® ELECTROLYTIC KIT

- Contains the 12 Most-Often-Needed Twist-Lok Electrolytics
- Capacitors are Packed in a Clear-View Box . . . Lets You See at a Glance the Ratings You Have in Stock
- Gives You a Workable Stock of Twist-Loks with a Minimum Investment
- Transparent Cover is Easily Removed to Make a Handy Open-End Shelf Box for Your Twist-Lok Stock

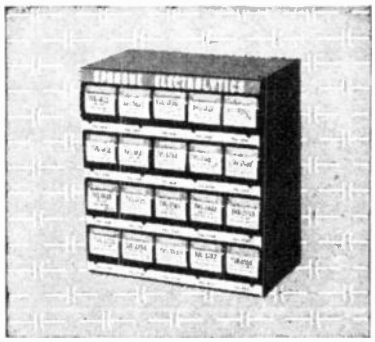
**KIT EK-2** ..... **$33.40 List**

### CONTENTS OF KIT EK-2

| Cat. No. | μF | WVDC | Cat. No. | μF | WVDC |
|---|---|---|---|---|---|
| TVL-1423 | 100 | 150 | TVL-1434 | 300 | 150 |
| TVL-1425 | 120 (1" Diam.) | 150 | TVL-1638 | 125 | 350 |
| TVL-1426 | 120 (1⅜" Diam.) | 150 | TVL-2444 | 200-5 | 150 |
| TVL-1428 | 140 | 150 | TVL-2755 | 20-20 | 450 |
| TVL-1430 | 150 | 150 | TVL-2764 | 40-40 | 450 |
| TVL-1431 | 200 | 150 | TVL-3787 | 40-40-40 | 450 |

## SK-105 TWIST-LOK® ELECTROLYTIC KIT

### FREE METAL CABINET!




- Contains One Each of the 20 Most Popular Twist-Lok Electrolytics
- The Sturdy Metal Cabinet Helps You Keep Your Stock Neat and Complete . . . You Can See at a glance which Ratings You Will Need to Reorder
- You Pay Only Your Regular Price for the Capacitors—the Stock-and-Inventory Cabinet is FREE

**KIT SK-105** ..... **$59.90 List**

### CONTENTS OF KIT SK-105

| Cat. No. | μF | WVDC | Cat. No. | μF | WVDC | Cat. No. | μF | WVDC |
|---|---|---|---|---|---|---|---|---|
| TVL-1423 | 100 | 150 | TVL-1434 | 300 | 150 | TVL-2444 | 200-5 | 150-150 |
| TVL-1425 (1" Diam.) | 120 | 150 | TVL-1540 | 150 | 250 | TVL-2750 | 10-10 | 450-450 |
| TVL-1426 (1⅜" Diam.) | 120 | 150 | TVL-1584 | 150 | 300 | TVL-2755 | 20-20 | 450-450 |
| TVL-1428 | 140 | 150 | TVL-1638 | 125 | 350 | TVL-2764 | 40-40 | 450-450 |
| TVL-1429 (1" Diam.) | 150 | 150 | TVL-1725 | 40 | 450 | TVL-3739 | 20-20-20 | 450-450-25 |
| TVL-1430 (1⅜" Diam.) | 150 | 150 | TVL-1761 | 125 | 450 | TVL-3787 | 40-40-40 | 450-450-450 |
| TVL-1431 | 200 | 150 | | | | TVL-4561 | 100-10-200-30 | 300-300-150-150 |

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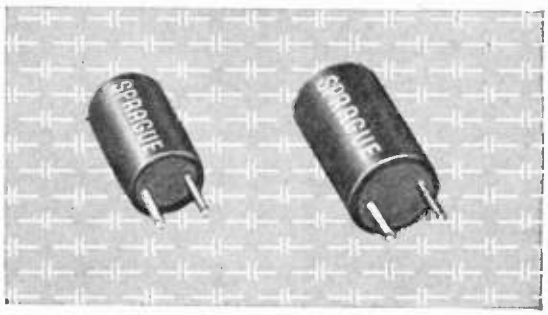
World Radio History

# SPRAGUE CAPACITORS

## VL VERTI-LYTIC* ELECTROLYTICS

- For Replacement of Units of this Type Found on Printed Wiring Boards in Original Equipment
- Sections Housed in Sturdy, Pre-Molded Phenolic Cases
- Resin End Fill Will Not Contaminate Electrolyte—Protects Against Drying or Entrance of External Moisture
- Low Leakage Current and Long Shelf Life
- Polarity Easily Determined by Larger Diameter of Negative Lead




*Trademark

| µF | WVDC | D. x L. | Cat. No. | List |
|---|---|---|---|---|
| 1 | 3 | 3/8 x 5/8 | VL-1031 | $1.45 |
| 2 | 3 | 3/8 x 5/8 | VL-1032 | 1.45 |
| 3 | 3 | 3/8 x 5/8 | VL-1033 | 1.45 |
| 4 | 3 | 3/8 x 5/8 | VL-1034 | 1.45 |
| 5 | 3 | 3/8 x 5/8 | VL-1035 | 1.45 |
| 6 | 3 | 3/8 x 5/8 | VL-1036 | 1.45 |
| 8 | 3 | 3/8 x 5/8 | VL-1037 | 1.45 |
| 10 | 3 | 3/8 x 5/8 | VL-1038 | 1.45 |
| 15 | 3 | 3/8 x 5/8 | VL-1039 | 1.45 |
| 20 | 3 | 3/8 x 5/8 | VL-1040 | 1.45 |
| 25 | 3 | 3/8 x 5/8 | VL-1041 | 1.45 |
| 35 | 3 | 3/8 x 5/8 | VL-1043 | 1.50 |
| 50 | 3 | 3/8 x 5/8 | VL-1045 | 1.55 |
| 75 | 3 | 3/8 x 5/8 | VL-1048 | 1.70 |
| 100 | 3 | 3/8 x 3/4 | VL-1051 | 1.75 |
| 150 | 3 | 7/16 x 3/4 | VL-1055 | 1.75 |
| 200 | 3 | 7/16 x 3/4 | VL-1059 | 1.80 |
| 250 | 3 | 1/2 x 3/4 | VL-1063 | 1.95 |
| 290 | 3 | 1/2 x 3/4 | VL-1067 | 2.00 |
| 1 | 6 | 3/8 x 5/8 | VL-1080 | 1.45 |
| 2 | 6 | 3/8 x 5/8 | VL-1081 | 1.45 |
| 3 | 6 | 3/8 x 5/8 | VL-1082 | 1.45 |
| 4 | 6 | 3/8 x 5/8 | VL-1083 | 1.45 |
| 5 | 6 | 3/8 x 5/8 | VL-1084 | 1.45 |
| 6 | 6 | 3/8 x 5/8 | VL-1085 | 1.45 |
| 8 | 6 | 3/8 x 5/8 | VL-1086 | 1.45 |
| 10 | 6 | 3/8 x 5/8 | VL-1087 | 1.45 |
| 15 | 6 | 3/8 x 5/8 | VL-1088 | 1.45 |
| 20 | 6 | 3/8 x 5/8 | VL-1089 | 1.45 |
| 25 | 6 | 3/8 x 5/8 | VL-1090 | 1.45 |
| 35 | 6 | 3/8 x 5/8 | VL-1092 | 1.50 |
| 50 | 6 | 3/8 x 5/8 | VL-1094 | 1.55 |
| 75 | 6 | 3/8 x 3/4 | VL-1097 | 1.70 |
| 100 | 6 | 7/16 x 3/4 | VL-1100 | 1.75 |
| 150 | 6 | 1/2 x 3/4 | VL-1104 | 1.90 |
| 200 | 6 | 1/2 x 3/4 | VL-1108 | 1.95 |
| 1 | 12 | 3/8 x 5/8 | VL-1120 | 1.45 |
| 2 | 12 | 3/8 x 5/8 | VL-1121 | 1.45 |
| 3 | 12 | 3/8 x 5/8 | VL-1122 | 1.45 |
| 4 | 12 | 3/8 x 5/8 | VL-1123 | 1.45 |
| 5 | 12 | 3/8 x 5/8 | VL-1124 | 1.50 |
| 6 | 12 | 3/8 x 5/8 | VL-1125 | 1.50 |
| 8 | 12 | 3/8 x 5/8 | VL-1126 | 1.50 |
| 10 | 12 | 3/8 x 5/8 | VL-1127 | 1.50 |
| 15 | 12 | 3/8 x 5/8 | VL-1128 | 1.55 |
| 20 | 12 | 3/8 x 5/8 | VL-1129 | 1.55 |
| 25 | 12 | 3/8 x 5/8 | VL-1130 | 1.55 |
| 35 | 12 | 3/8 x 5/8 | VL-1132 | 1.55 |
| 50 | 12 | 3/8 x 3/4 | VL-1134 | 1.65 |
| 75 | 12 | 7/16 x 3/4 | VL-1137 | $1.75 |
| 100 | 12 | 1/2 x 3/4 | VL-1140 | 1.90 |
| 140 | 12 | 1/2 x 3/4 | VL-1144 | 1.95 |
| 1 | 15 | 3/8 x 5/8 | VL-1160 | 1.45 |
| 2 | 15 | 3/8 x 5/8 | VL-1161 | 1.45 |
| 3 | 15 | 3/8 x 5/8 | VL-1162 | 1.45 |
| 4 | 15 | 3/8 x 5/8 | VL-1163 | 1.45 |
| 5 | 15 | 3/8 x 5/8 | VL-1164 | 1.50 |
| 6 | 15 | 3/8 x 5/8 | VL-1165 | 1.50 |
| 8 | 15 | 3/8 x 5/8 | VL-1166 | 1.50 |
| 10 | 15 | 3/8 x 5/8 | VL-1167 | 1.50 |
| 15 | 15 | 3/8 x 5/8 | VL-1168 | 1.55 |
| 20 | 15 | 3/8 x 5/8 | VL-1169 | 1.55 |
| 25 | 15 | 3/8 x 5/8 | VL-1170 | 1.55 |
| 35 | 15 | 3/8 x 3/4 | VL-1172 | 1.55 |
| 50 | 15 | 7/16 x 3/4 | VL-1174 | 1.65 |
| 75 | 15 | 1/2 x 3/4 | VL-1177 | 1.80 |
| 90 | 15 | 1/2 x 3/4 | VL-1180 | 1.95 |
| 1 | 25 | 3/8 x 5/8 | VL-1200 | 1.50 |
| 2 | 25 | 3/8 x 5/8 | VL-1201 | 1.50 |
| 3 | 25 | 3/8 x 5/8 | VL-1202 | 1.55 |
| 4 | 25 | 3/8 x 5/8 | VL-1203 | 1.65 |
| 5 | 25 | 3/8 x 5/8 | VL-1204 | 1.65 |
| 6 | 25 | 3/8 x 5/8 | VL-1205 | 1.65 |
| 8 | 25 | 3/8 x 5/8 | VL-1206 | 1.65 |
| 10 | 25 | 3/8 x 5/8 | VL-1207 | 1.65 |
| 15 | 25 | 3/8 x 5/8 | VL-1208 | 1.65 |
| 20 | 25 | 3/8 x 3/4 | VL-1209 | 1.65 |
| 25 | 25 | 3/8 x 3/4 | VL-1210 | 1.65 |
| 35 | 25 | 7/16 x 3/4 | VL-1212 | 1.75 |
| 50 | 25 | 1/2 x 3/4 | VL-1215 | 1.75 |
| 70 | 25 | 1/2 x 3/4 | VL-1218 | 1.95 |
| 1 | 50 | 3/8 x 5/8 | VL-1300 | 1.50 |
| 2 | 50 | 3/8 x 5/8 | VL-1301 | 1.50 |
| 3 | 50 | 3/8 x 5/8 | VL-1302 | 1.55 |
| 4 | 50 | 3/8 x 5/8 | VL-1303 | 1.65 |
| 5 | 50 | 3/8 x 5/8 | VL-1304 | 1.65 |
| 6 | 50 | 3/8 x 5/8 | VL-1305 | 1.65 |
| 8 | 50 | 3/8 x 5/8 | VL-1306 | 1.65 |
| 10 | 50 | 3/8 x 3/4 | VL-1307 | 1.65 |
| 15 | 50 | 7/16 x 3/4 | VL-1308 | 1.65 |
| 20 | 50 | 7/16 x 3/4 | VL-1309 | 1.65 |
| 25 | 50 | 1/2 x 3/4 | VL-1310 | 1.65 |
| 100-30 | 6-6 | 7/16 x 1 | VL-2150 | 2.10 |
| 50-50 | 10-10 | 1/2 x 3/4 | VL-2250 | 1.95 |
| 80-80 | 10-10 | 1/2 x 3/4 | VL-2350 | 2.20 |
| 100-100-60 | 8-8-8 | 1/2 x 1 1/4 | VL-3320 | 3.45 |
| 50-50-15 | 10-10-3 | 1/2 x 3/4 | VL-3350 | 3.00 |



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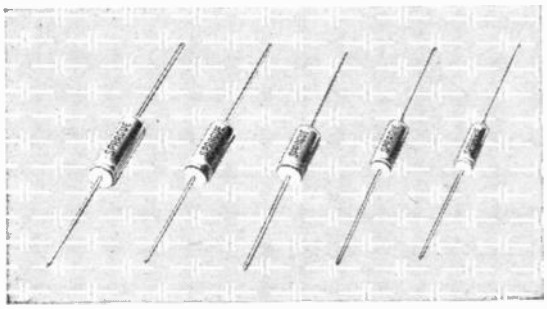
# SPRAGUE CAPACITORS

## TE LITTL-LYTIC® ELECTROLYTICS



- These Ultra-Small Electrolytic Capacitors Withstand Temperatures up to 85°C (185°F)
- Sprague Littl-Lytics Deliver Reliability in Reasonably Priced Subminiature Electrolytic Capacitors
- All-welded Construction. No Pressure Joints to Cause "Open" or Intermittent Circuits
- Furnished with Clear Plastic Outer Insulating Sleeves*
- Extremely Low Leakage Current, Long Shelf Life
- Excellent, Dependable Replacement Capacitors for Transistorized Equipment Presently on the Market

| μF | D. x L.* | Cat. No. | List |
|---|---|---|---|
| **1 WVDC** | | | |
| 5 | 1/4 x 11/16 | TE-1010 | $1.25 |
| **3 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1050 | 1.25 |
| 2 | 1/4 x 11/16 | TE-1051 | 1.25 |
| 3 | 1/4 x 11/16 | TE-1052 | 1.25 |
| 4 | 1/4 x 11/16 | TE-1052.1 | 1.25 |
| 5 | 1/4 x 11/16 | TE-1052.2 | 1.25 |
| 6 | 1/4 x 11/16 | TE-1052.3 | 1.25 |
| 8 | 1/4 x 11/16 | TE-1052.5 | 1.25 |
| 10 | 1/4 x 11/16 | TE-1053 | 1.25 |
| 15 | 1/4 x 11/16 | TE-1053.5 | 1.25 |
| 20 | 1/4 x 11/16 | TE-1054 | 1.25 |
| 25 | 1/4 x 11/16 | TE-1055 | 1.25 |
| 35 | 1/4 x 11/16 | TE-1056 | 1.25 |
| 40 | 1/4 x 11/16 | TE-1057 | 1.25 |
| 50 | 1/4 x 11/16 | TE-1058 | 1.25 |
| 75 | 5/16 x 11/16 | TE-1059 | 1.40 |
| 100 | 5/16 x 11/16 | TE-1059.5 | 1.40 |
| 110 | 3/8 x 11/16 | TE-1060 | 1.40 |
| 150 | 3/8 x 11/16 | TE-1061 | 1.45 |
| 200 | 3/8 x 13/16 | TE-1064 | 1.50 |
| 250 | 3/8 x 15/16 | TE-1065 | 1.60 |
| 300 | 3/8 x 15/16 | TE-1066 | 1.65 |
| 400 | 3/8 x 1 1/4 | TE-1067 | 1.70 |
| 500 | 3/8 x 1 1/2 | TE-1068 | 1.75 |
| **6 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1080 | 1.25 |
| 2 | 1/4 x 11/16 | TE-1081 | 1.25 |
| 3 | 1/4 x 11/16 | TE-1082 | 1.25 |
| 4 | 1/4 x 11/16 | TE-1083 | 1.25 |
| 5 | 1/4 x 11/16 | TE-1084 | 1.25 |
| 6 | 1/4 x 11/16 | TE-1085 | 1.25 |
| 8 | 1/4 x 11/16 | TE-1086 | 1.35 |
| 10 | 1/4 x 11/16 | TE-1087 | 1.35 |
| 15 | 1/4 x 11/16 | TE-1089 | 1.35 |
| 20 | 1/4 x 11/16 | TE-1090 | 1.35 |
| 25 | 1/4 x 11/16 | TE-1091 | 1.35 |
| 30 | 1/4 x 11/16 | TE-1092 | 1.40 |
| 35 | 1/4 x 11/16 | TE-1093 | 1.40 |
| 40 | 1/4 x 11/16 | TE-1095 | 1.40 |
| 50 | 5/16 x 11/16 | TE-1100 | 1.40 |
| 60 | 5/16 x 11/16 | TE-1101 | 1.40 |
| 75 | 3/8 x 11/16 | TE-1101.5 | 1.45 |
| 100 | 3/8 x 11/16 | TE-1102 | 1.50 |
| 150 | 3/8 x 15/16 | TE-1103 | 1.55 |
| 200 | 3/8 x 1 1/4 | TE-1104 | 1.60 |
| 250 | 3/8 x 1 1/4 | TE-1105 | 1.70 |
| 300 | 3/8 x 1 1/2 | TE-1106 | 1.80 |

| μF | D. x L.* | Cat. No. | List |
|---|---|---|---|
| **10 WVDC** | | | |
| 10 | 1/4 x 11/16 | TE-1114 | $1.35 |
| 15 | 1/4 x 11/16 | TE-1116 | 1.35 |
| 25 | 1/4 x 11/16 | TE-1118 | 1.35 |
| 50 | 3/8 x 11/16 | TE-1119 | 1.50 |
| 100 | 3/8 x 13/16 | TE-1119.3 | 1.70 |
| 200 | 3/8 x 1 1/4 | TE-1119.6 | 2.00 |
| **12 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1120 | 1.25 |
| 2 | 1/4 x 11/16 | TE-1121 | 1.25 |
| 3 | 1/4 x 11/16 | TE-1122 | 1.25 |
| 4 | 1/4 x 11/16 | TE-1123 | 1.25 |
| 5 | 1/4 x 11/16 | TE-1127 | 1.35 |
| 6 | 1/4 x 11/16 | TE-1127.1 | 1.35 |
| 8 | 1/4 x 11/16 | TE-1127.3 | 1.35 |
| 10 | 1/4 x 11/16 | TE-1128 | 1.35 |
| 15 | 1/4 x 11/16 | TE-1129 | 1.40 |
| 20 | 1/4 x 11/16 | TE-1130 | 1.40 |
| 25 | 1/4 x 11/16 | TE-1131 | 1.40 |
| 35 | 5/16 x 11/16 | TE-1132 | 1.45 |
| 50 | 3/8 x 11/16 | TE-1133 | 1.55 |
| 75 | 3/8 x 13/16 | TE-1134 | 1.65 |
| 100 | 3/8 x 13/16 | TE-1135 | 1.75 |
| 150 | 3/8 x 1 1/4 | TE-1136 | 1.90 |
| 200 | 3/8 x 1 1/4 | TE-1137 | 2.05 |
| 250 | 3/8 x 1 1/2 | TE-1138 | 2.20 |
| **15 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1148 | 1.25 |
| 2 | 1/4 x 11/16 | TE-1149 | 1.25 |
| 3 | 1/4 x 11/16 | TE-1150 | 1.25 |
| 4 | 1/4 x 11/16 | TE-1151 | 1.30 |
| 5 | 1/4 x 11/16 | TE-1152 | 1.40 |
| 6 | 1/4 x 11/16 | TE-1153 | 1.40 |
| 8 | 1/4 x 11/16 | TE-1154 | 1.40 |
| 10 | 1/4 x 11/16 | TE-1155 | 1.40 |
| 15 | 1/4 x 11/16 | TE-1156 | 1.45 |
| 20 | 1/4 x 11/16 | TE-1157 | 1.45 |
| 25 | 5/16 x 11/16 | TE-1157.1 | 1.45 |
| 30 | 5/16 x 11/16 | TE-1158 | 1.50 |
| 35 | 3/8 x 11/16 | TE-1159 | 1.55 |
| 50 | 3/8 x 11/16 | TE-1160 | 1.60 |
| 75 | 3/8 x 13/16 | TE-1161 | 1.70 |
| 100 | 3/8 x 15/16 | TE-1162 | 1.80 |
| 150 | 3/8 x 1 1/4 | TE-1163 | 1.95 |
| 200 | 3/8 x 1 1/2 | TE-1164 | 2.10 |

| μF | D. x L.* | Cat. No. | List |
|---|---|---|---|
| **25 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1200 | $1.25 |
| 2 | 1/4 x 11/16 | TE-1201 | 1.30 |
| 3 | 1/4 x 11/16 | TE-1201.1 | 1.30 |
| 4 | 1/4 x 11/16 | TE-1201.2 | 1.30 |
| 5 | 1/4 x 11/16 | TE-1202 | 1.40 |
| 6 | 1/4 x 11/16 | TE-1203 | 1.40 |
| 8 | 1/4 x 11/16 | TE-1203.5 | 1.45 |
| 10 | 1/4 x 11/16 | TE-1204 | 1.45 |
| 15 | 5/16 x 11/16 | TE-1205 | 1.45 |
| 20 | 3/8 x 11/16 | TE-1206 | 1.50 |
| 25 | 3/8 x 11/16 | TE-1207 | 1.55 |
| 35 | 3/8 x 13/16 | TE-1208 | 1.65 |
| 50 | 3/8 x 15/16 | TE-1209 | 1.80 |
| 75 | 3/8 x 1 1/4 | TE-1210 | 1.95 |
| 100 | 3/8 x 1 1/2 | TE-1211 | 2.10 |
| **50 WVDC** | | | |
| 1 | 1/4 x 11/16 | TE-1300 | 1.30 |
| 2 | 1/4 x 11/16 | TE-1301 | 1.35 |
| 3 | 1/4 x 11/16 | TE-1302 | 1.35 |
| 4 | 1/4 x 11/16 | TE-1302.1 | 1.35 |
| 5 | 1/4 x 11/16 | TE-1303 | 1.45 |
| 6 | 5/16 x 11/16 | TE-1303.1 | 1.45 |
| 8 | 5/16 x 11/16 | TE-1303.3 | 1.50 |
| 10 | 5/16 x 11/16 | TE-1304 | 1.50 |
| 15 | 3/8 x 11/16 | TE-1304.2 | 1.50 |
| 20 | 3/8 x 13/16 | TE-1305 | 1.50 |
| 35 | 3/8 x 1 1/4 | TE-1306 | 1.70 |
| 50 | 3/8 x 1 1/2 | TE-1307 | 1.85 |
| **100 WVDC** | | | |
| 1 | 3/8 x 15/16 | TE-1400 | 1.35 |
| 2 | 3/8 x 15/16 | TE-1401 | 1.40 |
| 3 | 3/8 x 15/16 | TE-1402 | 1.40 |
| 4 | 3/8 x 15/16 | TE-1403 | 1.40 |
| 5 | 3/8 x 15/16 | TE-1404 | 1.50 |
| 6 | 3/8 x 15/16 | TE-1405 | 1.50 |
| 8 | 3/8 x 15/16 | TE-1406 | 1.55 |
| 10 | 3/8 x 15/16 | TE-1407 | 1.55 |
| 15 | 3/8 x 1 1/4 | TE-1408 | 1.55 |
| 20 | 3/8 x 1 1/2 | TE-1409 | 1.60 |
| **150 WVDC** | | | |
| 1 | 3/8 x 15/16 | TE-1500 | 1.40 |
| 2 | 3/8 x 15/16 | TE-1501 | 1.45 |
| 3 | 3/8 x 15/16 | TE-1502 | 1.45 |
| 4 | 3/8 x 15/16 | TE-1503 | 1.45 |
| 5 | 3/8 x 15/16 | TE-1504 | 1.55 |
| 6 | 3/8 x 1 1/4 | TE-1505 | 1.55 |
| 8 | 3/8 x 1 1/4 | TE-1506 | 1.60 |
| 10 | 3/8 x 1 1/4 | TE-1507 | 1.60 |
| 12 | 3/8 x 1 1/2 | TE-1508 | 1.60 |

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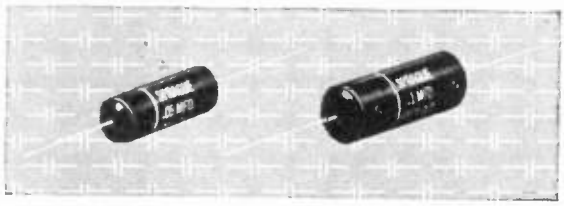
World Radio History

# SPRAGUE CAPACITORS

## DIFILM® BLACK BEAUTY® MOLDED TUBULARS

### COMBINE THE BEST ADVANTAGES OF BOTH MYLAR* AND PAPER DIELECTRICS

- Dual Dielectric — Synthetic Polyester Film and Highest Grade Capacitor Paper
- Superior Quality at No Extra Cost
- Impregnated with Sprague's Exclusive HCX Which Fills Every Void in the Paper and Every Pinhole in the Plastic Film to Form a Rock-hard Capacitor Section. Solid Impregnant Makes These Capacitors Absolutely Leakproof
- Virtually Indestructible Molded Housings of Humidity-resistant, Non-flammable Phenolic



- Very High Insulation Resistance, Low Power Factor and Little Capacitance Change with Temperature. Excellent Retrace Characteristics and Capacitance Stability Upon Repeated Temperature Cycling
- Designed for 105°C (221°F) Operation with NO VOLTAGE DERATING

*DuPont Trademark

| μF | D.x L. | Cat. No. | List |
|---|---|---|---|
| **200 WVDC** | | | |
| .01 | 5/16 x 1 | 2TM-S1 | $.25 |
| .02 | 3/8 x 1¼ | 2TM-S2 | .25 |
| .022 | 3/8 x 1¼ | 2TM-S22 | .25 |
| .047 | 7/16 x 1¼ | 2TM-S47 | .25 |
| .05 | 7/16 x 1¼ | 2TM-S5 | .25 |
| .1 | ½ x 1½ | 2TM-P1 | .35 |
| .15 | ½ x 1½ | 2TM-P15 | .35 |
| .22 | ⅝ x 1⅞ | 2TM-P22 | .40 |
| .25 | ¾ x 2¼ | 2TM-P25 | .40 |
| .47 | ¾ x 2¼ | 2TM-P47 | .60 |
| .5 | ¾ x 2¼ | 2TM-P5 | .60 |
| 1.0 | ¾ x 2¼ | 2TM-M1 | .90 |
| **400 WVDC** | | | |
| .01 | 3/8 x 1¼ | 4TM-S1 | .25 |
| .015 | 3/8 x 1¼ | 4TM-S15 | .25 |
| .02 | 3/8 x 1¼ | 4TM-S2 | .25 |
| .022 | 3/8 x 1¼ | 4TM-S22 | .30 |
| .025 | 7/16 x 1¼ | 4TM-S25 | .30 |
| .03 | 7/16 x 1¼ | 4TM-S3 | .30 |
| .04 | 7/16 x 1¼ | 4TM-S4 | .30 |
| .047 | 7/16 x 1¼ | 4TM-S47 | .30 |
| .05 | ½ x 1½ | 4TM-S5 | .30 |
| .068 | ½ x 1½ | 4TM-S68 | .35 |
| .1 | ½ x 1½ | 4TM-P1 | .35 |
| .15 | ⅝ x 1⅞ | 4TM-P15 | .40 |
| .2 | ⅝ x 1⅞ | 4TM-P2 | .40 |
| .22 | ⅝ x 1⅞ | 4TM-P22 | .40 |
| .25 | ⅝ x 1⅞ | 4TM-P25 | .40 |
| .47 | ¾ x 2¼ | 4TM-P47 | .60 |
| .5 | ¾ x 2¼ | 4TM-P5 | .60 |
| 1.0 | 1 x 2½ | 4TM-M1 | .90 |

| μF | D.x L. | Cat. No. | List |
|---|---|---|---|
| **600 WVDC** | | | |
| .0001 | 5/16 x 1 | 6TM-T1 | $.25 |
| .00025 | 5/16 x 1 | 6TM-T25 | .25 |
| .0004 | 5/16 x 1 | 6TM-T4 | .25 |
| .0005 | 5/16 x 1 | 6TM-T5 | .25 |
| .001 | 5/16 x 1 | 6TM-D1 | .25 |
| .0015 | 5/16 x 1 | 6TM-D15 | .25 |
| .002 | 5/16 x 1 | 6TM-D2 | .25 |
| .0022 | 5/16 x 1 | 6TM-D22 | .25 |
| .0025 | 5/16 x 1 | 6TM-D25 | .25 |
| .003 | 5/16 x 1 | 6TM-D3 | .25 |
| .0033 | 5/16 x 1 | 6TM-D33 | .25 |
| .004 | 3/8 x 1¼ | 6TM-D4 | .25 |
| .0047 | 3/8 x 1¼ | 6TM-D47 | .25 |
| .005 | 3/8 x 1¼ | 6TM-D5 | .25 |
| .006 | 3/8 x 1¼ | 6TM-D6 | .25 |
| .0068 | 3/8 x 1¼ | 6TM-D68 | .30 |
| .008 | 3/8 x 1¼ | 6TM-D8 | .30 |
| .01 | 3/8 x 1¼ | 6TM-S1 | .30 |
| .015 | 7/16 x 1¼ | 6TM-S15 | .30 |
| .02 | ½ x 1½ | 6TM-S2 | .30 |
| .022 | ½ x 1½ | 6TM-S22 | .30 |
| .03 | ½ x 1½ | 6TM-S3 | .35 |
| .033 | ½ x 1½ | 6TM-S33 | .35 |
| .035 | ½ x 1½ | 6TM-S35 | .35 |
| .04 | ½ x 1½ | 6TM-S4 | .35 |
| .047 | ½ x 1½ | 6TM-S47 | .40 |
| .05 | ⅝ x 1⅞ | 6TM-S5 | .40 |
| .06 | ⅝ x 1⅞ | 6TM-S6 | .40 |
| .068 | ⅝ x 1⅞ | 6TM-S68 | .45 |

| μF | D.x L. | Cat. No. | List |
|---|---|---|---|
| .1 | ⅝ x 1⅞ | 6TM-P1 | $.45 |
| .15 | ¾ x 2¼ | 6TM-P15 | .50 |
| .2 | ¾ x 2¼ | 6TM-P2 | .55 |
| .22 | ¾ x 2¼ | 6TM-P22 | .55 |
| .25 | ¾ x 2¼ | 6TM-P25 | .55 |
| .5 | 1 x 2½ | 6TM-P5 | .80 |
| 1.0 | 1⅛ x 2⅝ | †TC-10 | 1.25 |
| **1000 WVDC** | | | |
| .0005 | 5/16 x 1 | 10TM-T5 | .50 |
| .001 | 5/16 x 1 | 10TM-D1 | .50 |
| .0015 | 5/16 x 1 | 10TM-D15 | .50 |
| .002 | 3/8 x 1¼ | 10TM-D2 | .50 |
| .0022 | 3/8 x 1¼ | 10TM-D22 | .50 |
| .003 | 3/8 x 1¼ | 10TM-D3 | .50 |
| .004 | 3/8 x 1¼ | 10TM-D4 | .50 |
| .0047 | 3/8 x 1¼ | 10TM-D47 | .50 |
| .005 | 3/8 x 1¼ | 10TM-D5 | .50 |
| .0068 | 3/8 x 1¼ | 10TM-D68 | .50 |
| .01 | 3/8 x 1¼ | 10TM-S1 | .50 |
| .015 | ½ x 1½ | 10TM-S15 | .50 |
| .02 | ½ x 1½ | 10TM-S2 | .50 |
| .022 | ½ x 1½ | 10TM-S22 | .50 |
| .03 | ⅝ x 1⅞ | 10TM-S3 | .50 |
| .035 | ⅝ x 1⅞ | 10TM-S35 | .50 |
| .047 | ⅝ x 1⅞ | 10TM-S47 | .60 |
| .05 | ⅝ x 1⅞ | 10TM-S5 | .60 |
| .068 | ⅝ x 1⅞ | 10TM-S68 | .70 |
| .1 | ¾ x 2¼ | 10TM-P1 | .75 |

## TELECAP® BLACK BEAUTY® MINERAL OIL MOLDED TUBULARS

| μF | D.x L. | Cat. No. | List |
|---|---|---|---|
| **★ 1600 WVDC** | | | |
| .0005 | 3/8 x 1¼ | MB-T5 | .65 |
| .001 | 3/8 x 1¼ | MB-D1 | .65 |
| .0015 | 3/8 x 1¼ | MB-D15 | .65 |
| .002 | 3/8 x 1¼ | MB-D2 | .65 |
| .0022 | 3/8 x 1¼ | MB-D22 | .65 |
| .003 | 7/16 x 1¼ | MB-D3 | .65 |
| .0033 | 7/16 x 1¼ | MB-D33 | .65 |
| .004 | 7/16 x 1¼ | MB-D4 | .65 |
| .0047 | 7/16 x 1¼ | MB-D47 | .65 |
| .005 | 7/16 x 1¼ | MB-D5 | .65 |
| .006 | ½ x 1½ | MB-D6 | .65 |
| .0068 | ½ x 1½ | MB-D68 | .65 |
| .007 | ½ x 1½ | MB-D7 | .65 |
| .0075 | ½ x 1½ | MB-D75 | .65 |
| .008 | ½ x 1½ | MB-D8 | .65 |
| .01 | ½ x 1½ | MB-S1 | .70 |
| .015 | ⅝ x 1⅞ | MB-S15 | .70 |
| .02 | ⅝ x 1⅞ | MB-S2 | .70 |
| .022 | ⅝ x 1⅞ | MB-S22 | .70 |
| .03 | ⅝ x 1⅞ | MB-S3 | .70 |
| .04 | ⅝ x 1⅞ | MB-S4 | .70 |
| .05 | ¾ x 2⅛ | †TR-15 | .70 |
| 2 x .015 | ¾ x 2 | †TR-215 | .80 |

| μF | D.x L. | Cat. No. | List |
|---|---|---|---|
| **6000 WVDC** | | | |
| .0005 | ½ x 1½ | TVM-356 | 1.35 |
| .001 | ½ x 1½ | TVM-216 | 1.35 |
| .005 | ⅝ x 1⅞ | TVM-256 | 1.35 |
| **10,000 WVDC** | | | |
| .0005 | ⅝ x 1⅞ | TVM-351 | 1.50 |
| **12,500 WVDC** | | | |
| .00025 | ⅝ x 1⅞ | 12TVM-325 | 1.70 |

★ DESIGNED FOR BUFFER APPLICATIONS

†Waxed Kraftboard construction with oil impregnated sections



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# SPRAGUE CAPACITORS

## DIFILM® AUTOCON® SINGLE-ENDED TUBULARS

### DUAL MYLAR* AND PAPER DIELECTRICS

- Premolded Thermosetting Plastic Shell with Plastic Resin Endseal for Protection Against Humidity
- Index Key on Shell Identifies Outside Foil Lead
- Dual Dielectric—Combines the Advantages of Both Synthetic Polyester Film and Highest Grade Capacitor Paper
- Superior Quality at No Extra Cost
- Impregnated with Sprague's Exclusive HCX which Fills Every Void in the Paper and Every Pinhole in the Plastic Film, to Form a Rock-Hard Capacitor Section . . . These Capacitors are Positively Leakproof
- Very High Insulation Resistance, Low Power Factor and Little Capacitance Change with Temperature . . . Excellent Retrace Characteristics and Capacitance Stability
- Will Withstand Hottest Temperatures Found in TV or Auto Radio Sets—in the Most Humid Climates
- "Standoff" Feet Prevent Dust and Moisture Traps . . . Also Prevent Printed Chassis Wiring Shorts
- Generous 1" Lead Lengths make Autocons Universal Replacements for All Single-Ended Original Equipment Types

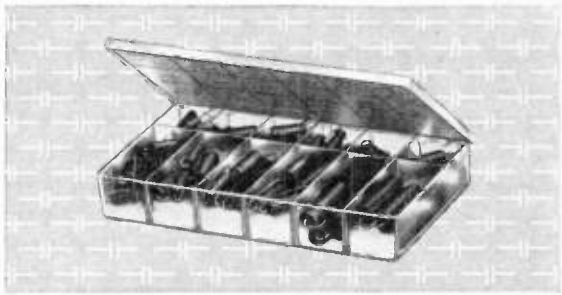
*DuPont Trademark

| 200 WVDC | | | | 400 WVDC | | | | 600 WVDC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| μF | Diam. x Length | Cat. No. | List | μF | Diam. x Length | Cat. No. | List | μF | Diam. x Length | Cat. No. | List |
| .001 | 3/8 x 1 3/8 | 2SE-D10 | $.30 | .001 | 3/8 x 1 3/8 | 4SE-D10 | $.30 | .001 | 3/8 x 1 3/8 | 6SE-D10 | $.30 |
| .0015 | 3/8 x 1 3/8 | 2SE-D15 | .30 | .0015 | 3/8 x 1 3/8 | 4SE-D15 | .30 | .0015 | 3/8 x 1 3/8 | 6SE-D15 | .30 |
| .0022 | 3/8 x 1 3/8 | 2SE-D22 | .30 | .0022 | 3/8 x 1 3/8 | 4SE-D22 | .30 | .0022 | 3/8 x 1 3/8 | 6SE-D22 | .30 |
| .0033 | 3/8 x 1 3/8 | 2SE-D33 | .30 | .0033 | 3/8 x 1 3/8 | 4SE-D33 | .30 | .0033 | 3/8 x 1 3/8 | 6SE-D33 | .30 |
| .0047 | 3/8 x 1 3/8 | 2SE-D47 | .30 | .0047 | 3/8 x 1 3/8 | 4SE-D47 | .30 | .0047 | 3/8 x 1 3/8 | 6SE-D47 | .30 |
| .0068 | 3/8 x 1 3/8 | 2SE-D68 | .30 | .0068 | 3/8 x 1 3/8 | 4SE-D68 | .30 | .0068 | 3/8 x 1 3/8 | 6SE-D68 | .30 |
| .01 | 3/8 x 1 3/8 | 2SE-S10 | .30 | .01 | 3/8 x 1 3/8 | 4SE-S10 | .30 | .01 | 3/8 x 1 3/8 | 6SE-S10 | .35 |
| .015 | 3/8 x 1 3/8 | 2SE-S15 | .30 | .015 | 3/8 x 1 3/8 | 4SE-S15 | .30 | .015 | 7/16 x 1 3/8 | 6SE-S15 | .35 |
| .022 | 3/8 x 1 3/8 | 2SE-S22 | .35 | .022 | 7/16 x 1 3/8 | 4SE-S22 | .35 | .022 | 7/16 x 1 3/8 | 6SE-S22 | .40 |
| .033 | 3/8 x 1 3/8 | 2SE-S33 | .35 | .033 | 7/16 x 1 3/8 | 4SE-S33 | .35 | .033 | 1/2 x 1 1/2 | 6SE-S33 | .40 |
| .047 | 7/16 x 1 3/8 | 2SE-S47 | .35 | .047 | 1/2 x 1 1/2 | 4SE-S47 | .35 | .047 | 1/2 x 1 1/2 | 6SE-S47 | .45 |
| .068 | 7/16 x 1 3/8 | 2SE-S68 | .35 | .068 | 1/2 x 1 1/2 | 4SE-S68 | .40 | .068 | 5/8 x 1 7/8 | 6SE-S68 | .50 |
| .1 | 1/2 x 1 1/2 | 2SE-P10 | .40 | .1 | 5/8 x 1 7/8 | 4SE-P10 | .45 | .1 | 5/8 x 1 7/8 | 6SE-P10 | .55 |
| .15 | 5/8 x 1 7/8 | 2SE-P15 | .45 | .15 | 5/8 x 1 7/8 | 4SE-P15 | .50 | .15 | 3/4 x 1 7/8 | 6SE-P15 | .60 |
| .22 | 5/8 x 1 7/8 | 2SE-P22 | .50 | .22 | 5/8 x 1 7/8 | 4SE-P22 | .55 | | | | |
| .33 | 5/8 x 1 7/8 | 2SE-P33 | .55 | .33 | 3/4 x 1 7/8 | 4SE-P33 | .65 | | | | |
| .47 | 3/4 x 1 7/8 | 2SE-P47 | .65 | | | | | | | | |

## MOLDED TUBULAR KITS, TK-1, TK-2, TK-3

- Ideal Inventories for your Service Requirements . . . the Capacitors in These Kits are Chosen on the Basis of Frequency-of-Use
- Packed in Crystal-Clear, Compartmented Plastic Boxes . . . You'll Find Many Uses for these Handy Boxes
- You Pay Only for the Capacitors—the Plastic Boxes are Free

**TK-1** . . . Black Beauty Molded Tubulars ..... List $24.10
**TK-2** . . . Autocon Single-Ended Tubulars ..... List 24.20
**TK-3** . . . Black Beauty Buffer Capacitors ..... List 23.75



| KIT TK-1 | | | | KIT TK-2 | | | | KIT TK-3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quan. | Cat. No. | μF | WVDC | Quan. | Cat. No. | μF | WVDC | Quan. | Cat. No. | μF | WVDC |
| 5 | 6TM-D1 | .001 | 600 | 5 | 6SE-D10 | .001 | 600 | 2 | MB-D1 | .001 | 1600 |
| 5 | 6TM-D2 | .002 | 600 | 5 | 6SE-D22 | .0022 | 600 | 2 | MB-D2 | .002 | 1600 |
| 2 | 6TM-D47 | .0047 | 600 | 2 | 6SE-D33 | .0033 | 600 | 2 | MB-D3 | .003 | 1600 |
| 8 | 6TM-D5 | .005 | 600 | 7 | 6SE-D47 | .0047 | 600 | 4 | MB-D4 | .004 | 1600 |
| 15 | 6TM-S1 | .01 | 600 | 2 | 6SE-D68 | .0068 | 600 | 4 | MB-D5 | .005 | 1600 |
| 8 | 6TM-S2 | .02 | 600 | 8 | 6SE-S10 | .01 | 600 | 4 | MB-D6 | .006 | 1600 |
| 2 | 6TM-S3 | .03 | 600 | 5 | 6SE-S15 | .015 | 600 | 2 | MB-D68 | .0068 | 1600 |
| 5 | 6TM-S47 | .047 | 600 | 5 | 6SE-S22 | .022 | 600 | 5 | MB-D7 | .007 | 1600 |
| 12 | 6TM-S5 | .05 | 600 | 5 | 6SE-S33 | .033 | 600 | 4 | MB-D8 | .008 | 1600 |
| 8 | 6TM-P1 | .1 | 600 | 10 | 6SE-S47 | .047 | 600 | 3 | MB-S1 | .01 | 1600 |
| 2 | 6TM-P25 | .25 | 600 | 2 | 6SE-S68 | .068 | 600 | 2 | MB-S2 | .02 | 1600 |
| | | | | 7 | 6SE-P10 | .1 | 600 | 2 | MB-S3 | .03 | 1600 |

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World Radio History

# SPRAGUE CAPACITORS

## BF ISOFARAD* PLASTIC FILM CAPACITORS

### For Applications Where the Best in Tubulars is None too Good

- Isofarad Quality is a Must in Color TV Synchroguide Circuits, Horizontal and Vertical Oscillators, Bridge and Parallel T Circuits and Other Tuned Circuit Applications Requiring Close Tolerance and Zero Temperature Coefficient of Capacitance
- Superior to Silvered Mica Capacitors in Most Applications, Yet Considerably Less Expensive
- Constant Capacitance—Will Not Change More Than ±0.5% from Room Temperature to +80°C at Maximum Rated Voltage
- For Operation to 500 WVDC—Will Withstand Operating Temperatures to 85°C (185°F)
- Capacitance Tolerance of these Units is ±5%

*Trademark

| μF | Dia. x Length | Cat. No. | List | μF | Dia. x Length | Cat. No. | List |
|---|---|---|---|---|---|---|---|
| .001 | 3/8 x 1 | 5BF-D10 | $ .75 | .022 | 1/2 x 1 1/2 | 5BF-S22 | $1.50 |
| .0012 | 3/8 x 1 | 5BF-D12 | .75 | .027 | 5/8 x 1 7/8 | 5BF-S27 | 1.50 |
| .0015 | 3/8 x 1 | 5BF-D15 | .75 | .033 | 5/8 x 1 7/8 | 5BF-S33 | 1.80 |
| .0018 | 3/8 x 1 | 5BF-D18 | .75 | .039 | 5/8 x 1 7/8 | 5BF-S39 | 1.80 |
| .0022 | 3/8 x 1 | 5BF-D22 | .75 | .047 | 5/8 x 1 7/8 | 5BF-S47 | 2.10 |
| .0027 | 3/8 x 1 | 5BF-D27 | .75 | .056 | 5/8 x 1 7/8 | 5BF-S56 | 2.10 |
| .0033 | 3/8 x 1 | 5BF-D33 | .75 | .068 | 5/8 x 1 7/8 | 5BF-S68 | 2.65 |
| .0039 | 3/8 x 1 | 5BF-D39 | .80 | .082 | 3/4 x 2 1/4 | 5BF-S82 | 3.60 |
| .0047 | 3/8 x 1 | 5BF-D47 | .80 | .1 | 3/4 x 2 1/4 | 5BF-P10 | 3.60 |
| .0056 | 3/8 x 1 1/4 | 5BF-D56 | .80 | .12 | 7/8 x 2 1/2 | 5BF-P12 | 4.90 |
| .0068 | 3/8 x 1 1/4 | 5BF-D68 | .80 | .15 | 7/8 x 2 1/2 | 5BF-P15 | 4.90 |
| .0082 | 7/16 x 1 1/4 | 5BF-D82 | .80 | .18 | 7/8 x 2 1/2 | 5BF-P18 | 6.75 |
| .01 | 7/16 x 1 1/4 | 5BF-S10 | .90 | .22 | 7/8 x 2 1/2 | 5BF-P22 | 6.75 |
| .012 | 1/2 x 1 1/4 | 5BF-S12 | .90 | .27 | 1 x 2 1/2 | 5BF-P27 | 8.25 |
| .015 | 1/2 x 1 1/4 | 5BF-S15 | 1.25 | .33 | 1 x 2 1/2 | SBF-P33 | 8.25 |
| .018 | 1/2 x 1 1/2 | 5BF-S18 | 1.25 | | | | |

## WF YELLOW-JACKET* FILMITE® 'E' CAPACITORS

- Excellent for Use in Transistorized Circuits and Low-Voltage Electron Tube Circuits
- Extended Foil Type Sections, Wound from Selected, Ultra-Thin Polyester Film and Thin Gauge Aluminum Foil
- Outer Plastic Film Wrap and Resin End Seals Protect Against Moisture and Humidity
- "Smaller Than Small"—These Capacitors Will Fit Anywhere
- Rated at 200 WVDC—Capacitance Tolerance is ±10%
- Designed for Operation to 85°C (185°F)

*Trademark

| μF | Dia. x Length | Cat. No. | List | μF | Dia. x Length | Cat. No. | List |
|---|---|---|---|---|---|---|---|
| .01 | 13/64 x 11/16 | 2WF-S10 | $ .95 | .12 | 23/64 x 13/16 | 2WF-P12 | $1.05 |
| .012 | 13/64 x 11/16 | 2WF-S12 | .95 | .15 | 23/64 x 13/16 | 2WF-P15 | 1.05 |
| .015 | 13/64 x 11/16 | 2WF-S15 | .95 | .18 | 23/64 x 1 1/16 | 2WF-P18 | 1.10 |
| .018 | 13/64 x 11/16 | 2WF-S18 | .95 | .22 | 23/64 x 1 1/16 | 2WF-P22 | 1.10 |
| .022 | 13/64 x 11/16 | 2WF-S22 | .95 | .27 | 25/64 x 1 3/16 | 2WF-P27 | 1.10 |
| .027 | 7/32 x 11/16 | 2WF-S27 | .95 | .33 | 25/64 x 1 3/16 | 2WF-P33 | 1.10 |
| .033 | 7/32 x 11/16 | 2WF-S33 | 1.00 | .39 | 29/64 x 1 1/4 | 2WF-P39 | 1.20 |
| .039 | 1/4 x 11/16 | 2WF-S39 | 1.00 | .47 | 29/64 x 1 1/4 | 2WF-P47 | 1.20 |
| .047 | 1/4 x 11/16 | 2WF-S47 | 1.00 | .56 | 29/64 x 1 5/8 | 2WF-P56 | 1.50 |
| .056 | 1/4 x 13/16 | 2WF-S56 | 1.00 | .68 | 29/64 x 1 5/8 | 2WF-P68 | 1.50 |
| .068 | 1/4 x 13/16 | 2WF-S68 | 1.00 | .82 | 31/64 x 1 7/8 | 2WF-P82 | 1.50 |
| .082 | 5/16 x 13/16 | 2WF-S82 | 1.00 | 1.0 | 31/64 x 1 7/8 | 2WF-M1 | 1.50 |
| .1 | 5/16 x 13/16 | 2WF-P10 | 1.05 | | | | |



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# SPRAGUE CAPACITORS

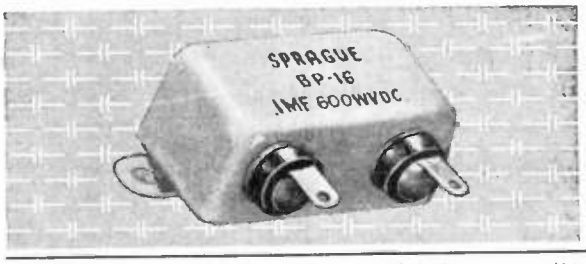
## EP ESTAR® MIDGET® TUBULARS

- Amazingly Small in Size Without Any Sacrifice in Performance—The Smallest Reliable Paper Tubular
- Will Fit Tight Spots in Pocket Radios, Auto Radios and Other Small Electronic Assemblies that Require High Temperature Operation, Good Humidity Performance, and Minimum Size at a Moderate Cost
- Sprague's HCX, a Solid, Synthetic Impregnant, Makes these Capacitors Leakproof

- Designed for 105°C (221°F) Operation with No Voltage Derating Necessary
- Replace Units Formerly Catalogued under 68P

| µF | WVDC | D. x L. | Cat. No. | Former Cat. No. | List |
|---|---|---|---|---|---|
| .25 | 100 | x 1 1/8 | 1EP-P25 | 68P19 | $.70 |
| .5 | 100 | 5/8 x 1 1/8 | 1EP-P50 | 68P20 | .80 |
| .005 | 200 | 1/4 x 11/16 | 2EP-D50 | 68P11 | .35 |
| .006 | 200 | 1/4 x 11/16 | 2EP-D60 | 68P12 | .35 |
| .01 | 200 | 9/32 x 11/16 | 2EP-S10 | 68P14 | .40 |
| .02 | 200 | 9/32 x 11/16 | 2EP-S20 | 68P15 | .45 |
| .05 | 200 | 5/16 x 1 | 2EP-S50 | 68P16 | .50 |
| .1 | 200 | 13/32 x 1 | 2EP-P10 | 68P17 | .60 |
| .2 | 200 | 15/32 x 1 1/8 | 2EP-P20 | 68P18 | .65 |
| .25 | 200 | 17/32 x 1 1/8 | 2EP-P25 | 68P24 | .70 |
| .5 | 200 | 5/8 x 1 3/8 | 2EP-P50 | 68P25 | .80 |
| .001 | 400 | 1/4 x 11/16 | 4EP-D10 | 68P1 | .35 |
| .003 | 400 | 1/4 x 11/16 | 4EP-D30 | 68P3 | .35 |
| .004 | 400 | 1/4 x 11/16 | 4EP-D40 | 68P4 | .35 |
| .005 | 400 | 1/4 x 13/16 | 4EP-D50 | 68P5 | .35 |
| .006 | 400 | 1/4 x 13/16 | 4EP-D60 | 68P6 | .35 |
| .01 | 400 | 5/16 x 13/16 | 4EP-S10 | 68P8 | .40 |
| .02 | 400 | 5/16 x 1 | 4EP-S20 | 68P9 | .45 |
| .05 | 400 | 13/32 x 1 | 4EP-S50 | 68P10 | $.50 |
| .1 | 400 | 15/32 x 1 1/8 | 4EP-P10 | 68P21 | .65 |
| .2 | 400 | 5/8 x 1 1/8 | 4EP-P20 | 68P38 | .70 |
| .25 | 400 | 5/8 x 1 3/8 | 4EP-P25 | 68P22 | .75 |
| .5 | 400 | 5/8 x 2 5/16 | 4EP-P50 | 68P23 | .85 |
| .001 | 600 | 1/4 x 11/16 | 6EP-D10 | 68P26 | .35 |
| .002 | 600 | 1/4 x 11/16 | 6EP-D20 | 68P27 | .35 |
| .003 | 600 | 9/32 x 11/16 | 6EP-D30 | 68P28 | .35 |
| .004 | 600 | 9/32 x 13/16 | 6EP-D40 | 68P29 | .35 |
| .005 | 600 | 9/32 x 13/16 | 6EP-D50 | 68P30 | .40 |
| .006 | 600 | 5/16 x 13/16 | 6EP-D60 | 68P31 | .40 |
| .008 | 600 | 5/16 x 1 | 6EP-D80 | 68P32 | .40 |
| .01 | 600 | 5/16 x 1 | 6EP-S10 | 68P33 | .45 |
| .02 | 600 | 11/32 x 1 | 6EP-S20 | 68P34 | .50 |
| .05 | 600 | 15/32 x 1 1/8 | 6EP-S50 | 68P35 | .55 |
| .1 | 600 | 5/8 x 1 1/8 | 6EP-P10 | 68P36 | .70 |
| .2 | 600 | 5/8 x 1 11/16 | 6EP-P20 | 68P40 | .80 |
| .25 | 600 | 5/8 x 2 | 6EP-P25 | 68P37 | .80 |

## BP BATHTUB CAPACITORS




- For Applications Where Severe Operating Conditions Are Encountered
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-impregnated
- Convenient Mounting Ears are Integral Part of Metal Container

| µF | L. x W. x H. | Cat. No. | List |
|---|---|---|---|
| **400 WVDC** | | | |
| .1 | 1 13/16 x 1 x 3/4 | BP-1 | $2.20 |
| .25 | 1 13/16 x 1 x 3/4 | BP-25 | 2.50 |
| .5 | 1 13/16 x 1 x 7/8 | BP-50 | 2.65 |
| 1.0 | 2 x 1 3/4 x 7/8 | BP-10 | 3.15 |
| .1 + .1 | 1 13/16 x 1 x 3/4 | BP-21 | 3.30 |
| .25 + .25 | 1 13/16 x 1 x 7/8 | BP-225 | 3.60 |
| .5 + .5 | 2 x 1 3/4 x 7/8 | BP-250 | 4.15 |
| .1 + .1 + .1 | 1 13/16 x 1 x 3/4 | BP-31 | 4.00 |
| **600 WVDC** | | | |
| .05 | 1 13/16 x 1 x 3/4 | BP-56 | 2.90 |
| .1 | 1 13/16 x 1 x 3/4 | BP-16 | 2.95 |
| .25 | 1 13/16 x 1 x 3/4 | BP-256 | 3.10 |
| .5 | 1 13/16 x 1 x 7/8 | BP-506 | 3.30 |
| 1.0 | 2 x 1 3/4 x 7/8 | BP-106 | 3.75 |
| 2.0 | 2 x 2 x 1 1/8 | BP-206 | 5.00 |
| .05 + .05 | 1 13/16 x 1 x 3/4 | BP-2056 | 3.65 |
| .1 + .1 | 1 13/16 x 1 x 3/4 | BP-216 | $3.70 |
| .25 + .25 | 1 13/16 x 1 x 7/8 | BP-2256 | 3.75 |
| .5 + .5 | 2 x 1 3/4 x 7/8 | BP-2506 | 4.30 |
| 1.0 + 1.0 | 2 x 2 x 1 1/8 | BP-116 | 5.30 |
| .1 + .1 + .1 | 1 13/16 x 1 x 3/4 | BP-316 | 4.20 |
| .25 + .25 + .25 | 2 x 1 3/4 x 7/8 | BP-3256 | 4.75 |
| .5 + .5 + .5 | 2 x 2 x 1 1/8 | BP-356 | 5.75 |
| **1000 WVDC** | | | |
| .05 | 1 13/16 x 1 x 3/4 | BP-51 | 3.05 |
| .1 | 1 13/16 x 1 x 3/4 | BP-11 | 3.15 |
| .25 | 1 13/16 x 1 x 3/4 | BP-251 | 3.25 |
| .5 | 2 x 1 3/4 x 7/8 | BP-501 | 3.55 |
| 1.0 | 2 x 2 x 1 1/8 | BP-101 | 4.40 |
| .05 + .05 | 1 13/16 x 1 x 3/4 | BP-2051 | 3.85 |
| .1 + .1 | 1 13/16 x 1 x 3/4 | BP-211 | 4.00 |
| .25 + .25 | 2 x 1 3/4 x 7/8 | BP-2251 | 4.20 |
| .5 + .5 | 2 x 2 x 1 1/8 | BP-2501 | 5.45 |
| .1 + .1 + .1 | 1 13/16 x 1 x 7/8 | BP-311 | 4.60 |
| .25 + .25 + .25 | 2 x 2 x 1 1/8 | BP-3251 | 5.50 |

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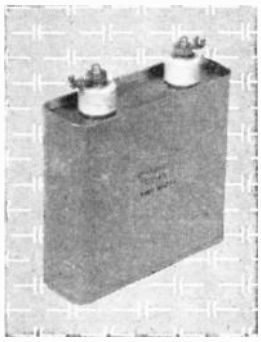
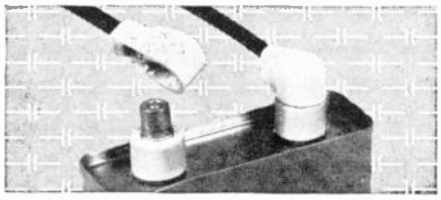
World Radio History

# SPRAGUE CAPACITORS



## CR RECTANGULAR OILS

- Hermetically Sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely used in transmitter power supplies and other high-voltage applications
- Furnished With Adapters (as shown below) to Fit Standard Transmitting Tube Grid Caps



| µF | WVDC | T. x W. x L. | Cat. No. | List |
|---|---|---|---|---|
| .5 | 600 | 1 1/16 x 1 13/16 x 2 1/4 | CR-056 | $4.70 |
| 1.0 | 600 | 1 1/16 x 1 13/16 x 2 1/4 | CR-16 | 5.80 |
| 2.0 | 600 | 1 1/16 x 1 13/16 x 2 7/8 | CR-26 | 7.15 |
| 3.0 | 600 | 1 1/16 x 1 13/16 x 3 1/4 | CR-36 | 8.25 |
| 4.0 | 600 | 1 3/16 x 2 1/2 x 3 1/2 | CR-46 | 9.10 |
| 6.0 | 600 | 1 3/16 x 2 1/2 x 4 3/4 | CR-66 | 11.30 |
| 8.0 | 600 | 1 1/4 x 3 3/4 x 3 7/8 | CR-86 | 13.50 |
| 10.0 | 600 | 1 1/4 x 3 3/4 x 4 3/4 | CR-106 | 15.15 |
| .1 | 1000 | 1 1/16 x 1 13/16 x 1 5/8 | CR-011 | 4.15 |
| .25 | 1000 | 1 1/16 x 1 13/16 x 2 1/4 | CR-0251 | 4.70 |
| .5 | 1000 | 1 1/16 x 1 13/16 x 2 1/4 | CR-051 | 4.95 |
| 1.0 | 1000 | 1 1/16 x 1 13/16 x 2 1/4 | CR-11 | 6.35 |
| 2.0 | 1000 | 1 1/16 x 1 13/16 x 3 7/8 | CR-21 | 8.25 |
| 4.0 | 1000 | 1 3/16 x 2 1/2 x 4 3/4 | CR-41 | 10.45 |
| 8.0 | 1000 | 1 1/4 x 3 3/4 x 4 3/4 | CR-81 | 15.15 |
| 10.0 | 1000 | 1 3/4 x 3 3/4 x 4 3/4 | CR-101 | 16.80 |
| 12.0 | 1000 | 2 1/4 x 3 3/4 x 4 1/2 | CR-121 | 18.15 |
| 15.0 | 1000 | 2 1/2 x 3 3/4 x 4 3/4 | CR-151 | 20.10 |
| .5 | 1500 | 1 1/16 x 1 13/16 x 2 7/8 | CR-0515 | 6.35 |
| 1.0 | 1500 | 1 1/16 x 1 13/16 x 3 7/8 | CR-115 | 7.45 |
| 2.0 | 1500 | 1 3/16 x 2 1/2 x 4 1/4 | CR-215 | 10.20 |
| 4.0 | 1500 | 1 1/4 x 3 3/4 x 4 3/4 | CR-415 | 14.05 |
| 5.0 | 1500 | 1 1/4 x 3 3/4 x 4 3/4 | CR-515 | 15.15 |
| 8.0 | 1500 | 2 1/2 x 3 3/4 x 4 3/4 | CR-815 | 20.90 |
| 10.0 | 1500 | 3 3/16 x 3 3/4 x 4 3/4 | CR-1015 | 25.05 |
| .1 | 2000 | 1 3/16 x 2 1/2 x 2 1/2 | CR-012 | 6.60 |
| .25 | 2000 | 1 3/16 x 2 1/2 x 2 1/2 | CR-0252 | 7.15 |
| .5 | 2000 | 1 3/16 x 2 1/2 x 2 7/8 | CR-052 | 7.45 |
| 1.0 | 2000 | 1 3/16 x 2 1/2 x 3 1/2 | CR-12 | 9.10 |
| 2.0 | 2000 | 1 1/4 x 3 3/4 x 4 1/4 | CR-22 | 10.75 |
| 3.0 | 2000 | 1 1/4 x 3 3/4 x 4 3/4 | CR-32 | $13.20 |
| 4.0 | 2000 | 2 1/4 x 3 3/4 x 3 7/8 | CR-42 | 15.15 |
| 6.0 | 2000 | 3 3/16 x 3 3/4 x 4 1/2 | CR-62 | 20.10 |
| 10.0 | 2000 | 4 9/16 x 3 3/4 x 4 3/4 | CR-102 | 30.55 |
| .1 | 2500 | 1 3/16 x 2 1/2 x 2 1/2 | CR-0125 | 10.15 |
| .5 | 2500 | 1 1/4 x 3 3/4 x 3 1/4 | CR-0525 | 11.55 |
| 1.0 | 2500 | 1 3/4 x 3 3/4 x 3 1/4 | CR-125 | 13.20 |
| 2.0 | 2500 | 1 3/4 x 3 3/4 x 4 3/4 | CR-225 | 21.45 |
| 4.0 | 2500 | 4 9/16 x 3 3/4 x 4 3/8 | CR-425 | 30.00 |
| .1 | 3000 | 1 3/16 x 2 1/2 x 2 1/2 | CR-013 | 14.05 |
| .25 | 3000 | 1 3/16 x 2 1/2 x 2 7/8 | CR-0253 | 14.85 |
| .5 | 3000 | 1 3/16 x 2 1/2 x 4 1/4 | CR-053 | 16.80 |
| 1.0 | 3000 | 2 1/4 x 3 3/4 x 3 7/8 | CR-13 | 20.10 |
| 2.0 | 3000 | 3 3/16 x 3 3/4 x 4 1/2 | CR-23 | 25.05 |
| 4.0 | 3000 | 4 9/16 x 3 3/4 x 4 3/4 | CR-43 | 36.85 |
| .1 | 4000 | 2 1/4 x 3 3/4 x 2 3/4 | CR-014 | 18.00 |
| .25 | 4000 | 2 1/4 x 3 3/4 x 2 3/4 | CR-0254 | 20.00 |
| .5 | 4000 | 2 1/4 x 3 3/4 x 3 7/8 | CR-054 | 23.00 |
| 1.0 | 4000 | 2 1/4 x 3 3/4 x 5 1/8 | CR-14 | 29.00 |
| 2.0 | 4000 | 4 9/16 x 3 3/4 x 5 1/8 | CR-24 | 39.00 |
| .2 | 5000 | 1 3/4 x 3 3/4 x 3 7/8 | CR-025 | 20.00 |
| .5 | 5000 | 2 1/4 x 3 3/4 x 4 1/2 | CR-055 | 25.00 |
| 1.0 | 5000 | 4 9/16 x 3 3/4 x 4 3/8 | CR-15 | 34.00 |
| 2.0 | 5000 | 4 9/16 x 3 3/4 x 6 | CR-25 | 52.00 |
| .1 | 6000 | 2 1/4 x 3 3/4 x 3 3/8 | CR-0160 | 27.00 |
| .2 | 6000 | 1 3/4 x 3 3/4 x 4 1/4 | CR-0260 | 30.00 |
| 1.0 | 6000 | 4 9/16 x 3 3/4 x 7 1/2 | CR-160 | 49.00 |
| .1 | 7500 | 2 1/4 x 3 3/4 x 3 7/8 | CR-0175 | 29.00 |
| .2 | 7500 | 1 3/4 x 3 3/4 x 4 3/4 | CR-0275 | 33.00 |

## SCREWBASE PC OILS

- Oil-Impregnated
- Oil-Filled
- Screwbase Can For Easy Single Hole Mounting
- Small Size—Will Fit Tight Spaces

| µF | WVDC | Diam x Lgth. | Cat. No. | List |
|---|---|---|---|---|
| 2 | 600 | 1 1/2 x 2 7/8 | PC-26 | $5.40 |
| 3 | 600 | 1 1/2 x 3 1/2 | PC-36 | 6.15 |
| 4 | 600 | 1 1/2 x 4 1/2 | PC-46 | 7.10 |
| 1 | 1000 | 1 1/2 x 2 7/8 | PC-11 | 5.00 |
| 2 | 1000 | 1 1/2 x 4 1/2 | PC-21 | 6.30 |
| 0.5 | 1500 | 1 1/2 x 2 3/8 | PC-515 | 5.85 |
| 1 | 1500 | 1 1/2 x 3 7/8 | PC-115 | 6.30 |

## PQ PHOTOFLASH CAPACITORS

DESIGNED EXPRESSLY FOR PHOTOFLASH USE—NOT COMPARABLE TO STANDARD HEAVY-DUTY CAPACITORS SUCH AS THE CR TRANSMITTING TYPES

- Oil-Impregnated and Oil Filled
- Very High Insulation Resistance
- Uniform Energy Storage
- Hermetically Sealed
- Smallest Possible Construction, without Any Sacrifice in Dependability

| µF | DC Peak* Volts | Watt/Sec. Total | Dimensions T. x W. x H. | Weight lbs. | Cat. No. | List Price |
|---|---|---|---|---|---|---|
| 10 | 2500 | 31 | 2 1/4 x 3 3/4 x 4 1/2 | 1 3/4 | PQ-2510 | $17.00 |
| 15 | 2500 | 47 | 3 3/16 x 3 3/4 x 4 5/8 | 2 1/2 | PQ-2515 | 20.00 |
| 25 | 2500 | 78 | 4 9/16 x 3 3/4 x 5 1/4 | 4 1/4 | PQ-2525 | 26.50 |
| 35 | 2500 | 109 | 4 9/16 x 3 3/4 x 7 | 6 | PQ-2535 | 32.50 |
| 15 | 3000 | 67 | 3 3/16 x 3 3/4 x 4 7/8 | 3 | PQ-315 | 24.50 |
| 25 | 4000 | 200 | 4 9/16 x 3 3/4 x 9 1/4 | 7 1/4 | PQ-425 | 42.50 |

*Do not exceed Peak Voltage Rating under highest line voltage condition.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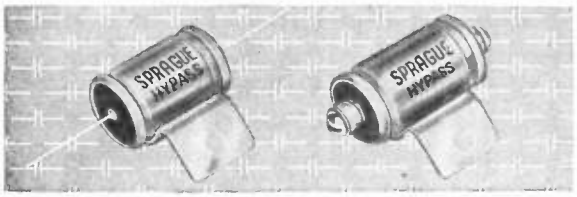
# SPRAGUE FILTERS

## HYPASS® CAPACITORS

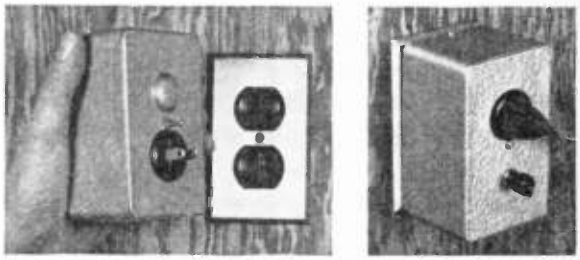



- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

| µF | Amps. | WVDC | Dia. x Length | Cat. No. | List |
|---|---|---|---|---|---|
| .5 | 40 | 50 | 1 x 1 13/16 | *48P18 | $3.80 |
| .1 | 20 | 250(VAC) | 11/16 x 1 13/16 | *48P9 | 2.60 |
| .1 | 20 | 600 | 11/16 x 1 13/16 | *48P8 | 2.60 |
| .002 | 15 | 600 | 1/4 x 1 5/8 | 46P12 | 2.15 |
| .005 | 15 | 600 | 1/4 x 1 5/8 | 46P8 | 2.15 |
| .01 | 20 | 600 | 7/16 x 1 1/4 | 47P6 | 2.35 |
| .1 | 20 | 600 | 11/16 x 1 13/16 | *†80P3 | 2.95 |
| .005 | 20 | 1000 | 7/16 x 1 1/4 | 47P12 | 2.40 |
| .01 | 20 | 1000 | 7/16 x 1 1/2 | 47P13 | 2.60 |
| .005 | 20 | 2500 | 1 x 1 9/16 | 47P14 | 2.90 |
| .01 | 20 | 2500 | 1 x 1 9/16 | 47P15 | 3.10 |
| .002 | 20 | 5000 | 1 x 1 9/16 | 47P16 | 3.20 |

*Has female screw terminals
†Bulkhead mounting.

## TYPE F-400 MIRACLE FILTEROL®



### A LINE FILTER THAT REALLY WORKS!

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet—Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation—No Unsightly Cord—Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

**TYPE F-400 FILTEROL.....$7.45** net

## TYPE IF FILTERS

IF-15 IF-11 IF-21 IF-S1 IF-37

**IF-15**—TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.

**IF-11**—DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.

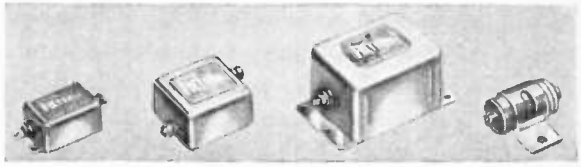
**IF-21**—COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

**IF-S1**—SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.

**IF-37**—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors. *UL approved.*

| Cat. No. | Volts AC or DC | Dia. x Length | List |
|---|---|---|---|
| IF-15 | 220 | 1 x 2 3/16 | $2.60 |
| IF-11 | 220 | 1 3/8 x 5 1/4 | 7.80 |
| IF-21 | 220 | 1 x 2 3/16 | 1.75 |
| IF-S1 | 220 | 3/4 x 2 1/16 | 1.15 |
| IF-37 | 220 | 1 x 2 7/16 | 2.25 |

## FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

**Filterol Types 1, 2, and 3**—Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

**Filterol Type 4**—A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

| Cat. No. | Amps. | Volts AC or DC | Size | List |
|---|---|---|---|---|
| Filterol 1 | 1 | 115 | 7/8 x 1 1/4 x 1 3/4 | $13.50 |
| Filterol 2 | 10 | 115 | 1 1/8 x 2 x 2 | 14.80 |
| Filterol 3 | 35 | 115 | 1 7/8 x 2 7/8 x 3 1/8 | 27.40 |
| Filterol 4 | 20 | 115 | 1" dia. x 1 13/16" long | 3.05 |

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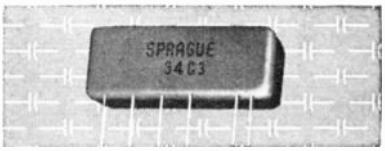
World Radio History

# SPRAGUE CAPACITORS

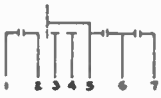
## BULPLATE® MULTIPLE CERAMICS




- These Rugged Units Combine in One Compact Assembly All the Capacitors Used in One or More Stages of a Radio Circuit
- Fit Tight Spaces in Miniature Sets
- Rated at 500 WVDC, 1000 VDC Test

| | MFD. |
|---|---|
| 1&2 | .002 +100 −25 % |
| 3&4 | .00022 ±50% |
| 4&5 | .00022 ±50% |
| 5&6 | .005 +100 −25 % |

Cat. No. 34C3 — List, $.75




| | MFD. |
|---|---|
| 1&2 | .002 +100 −25 % |
| 3&5 | .00015 +100 −0 % |
| 4&5 | .005 MIN. |
| 5&6 | .0001 +75 −25 % |
| 6&7 | .005 +100 −25 % |

Cat. No. 34C4 — List, $.90

| | MFD. |
|---|---|
| 1&2 | .002 +100 −25 % |
| 3&4 | .005 MIN. |
| 4&5 | .0001 +75 −25 % |
| 5&6 | .005 +100 −25 % |

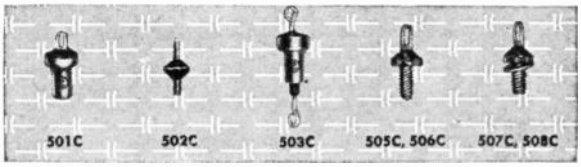
Cat. No. 34C5 — List, $.75

MFD. 3 x .004

Cat. No. 34C6 — List, $.65

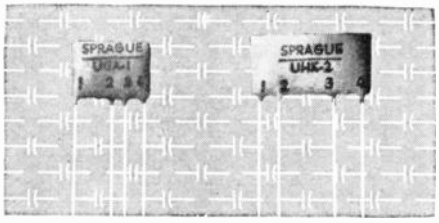
## BUTTONHEAD CERAMICS

| μμF | Class | List |
|---|---|---|
| **TYPE 501C** | | |
| 100 | GA ± 20% | $.70 |
| 470 | GA ± 20% | .70 |
| 1000 | MRC | .70 |
| 1500 | MRC | .70 |
| **TYPE 502C** | | |
| 10 | SL | .65 |
| 22 | SL | .65 |
| **TYPE 503C** | | |
| 100 | GA ± 20% | .75 |
| 470 | GA ± 20% | .75 |
| 1000 | MRC | .75 |
| 1500 | MRC | .75 |
| **TYPE 505C** | | |
| 100 | GA ± 20% | .70 |
| 220 | GA ± 20% | .70 |
| 470 | MRC | $.70 |
| 1000 | MRC | .70 |
| **TYPE 506C** | | |
| 470 | GA ± 20% | .75 |
| 1000 | MRC | .75 |
| 1500 | MRC | .75 |
| **TYPE 507C** | | |
| 100 | GA ± 20% | .90 |
| 220 | GA ± 20% | .90 |
| 470 | MRC | .90 |
| 680 | MRC | .90 |
| 1000 | MRC | .90 |
| **TYPE 508C** | | |
| 470 | GA ± 20% | .95 |
| 1000 | MRC | .95 |
| 1500 | MRC | .95 |




- Designed for u-h-f TV Receivers and Electronic Equipment
- Flat Disc Design Means Low Self-inductance and High Self-resonant Frequency — Superior to Similar Units using Tubular Ceramic Elements
- Capacitor Element Sealed in Top of Unit with Plastic Resin
- 502C "shirt studs" are for u-h-f Coupling Applications in TV Sets
- 503C are Feed-thru Capacitors Intended for Filtering Leads thru Chassis—Ferrule Shank fits Standard Push Clip
- Stand-off Capacitors for By-pass Applications: 501C has Ferrule Shank to fit Standard push clip, 505C has Self-tapping 6-32 Thread, 507C has Standard 6-32 Thread, 506C has Self-tapping 10-32 Thread, 508C has Standard 10-32 Thread—All Screw-mounting Types Have Hexagon Heads
- Order by Type, Capacitance, Voltage, Class—Units Listed here are Rated at 500 WVDC

## "UNIVERSAL" CERAMIC CAPACITORS




- Another EXCLUSIVE Sprague Development Designed for the Convenience of Dealers and Service Technicians
- Intended for Field or Shop Use as Replacements for Conventional Capacitors Which Cannot Be Immediately Obtained
- These Remarkable New Units are Ceramic Plate Capacitors with four leads. By Using Certain Leads for Terminals, Soldering Certain Leads Together, and Cutting Off Certain Leads, Many Ratings May Be Obtained
- UGA-1 and UGA-2 Are General Application Types Intended for Bypass and Coupling Applications. Ideal for Replacing Older G-A Types, such as Molded Micas, Tubular Ceramics, Paper Tubulars
- UHK-1 and UHK-2 Are High-K Types for Use Where Minimum Capacitance is Required. Can Also Be Used for Bypass and Coupling Where Additional Capacitance Is Not Important
- "Universal" Ceramics Come Complete With Simple Instructions on How To Make Up Desired Ratings

**"UNIVERSAL" CERAMICS CAN BE QUICKLY CONVERTED TO RATINGS (μF) SHOWN IN TABLE BELOW**

| UGA-1 | UGA-2 | UHK-1 | UHK-2 |
|---|---|---|---|
| .0004 | .0006 | | |
| .00047 | .00068 | .001 | .0025 |
| .0005 | .00075 | | |
| | .0008 | .0015 | .0033 |
| .00056 | .00082 | | |
| .0006 | .001 | .002 | .004 |
| .00068 | .0012 | | |
| | .0013 | .0022 | .0047 |
| .00075 | .0015 | | .005 |
| .0008 | .0016 | .0025 | |
| .00082 | .0018 | | .0068 |
| .001 | .002 | .0033 | |
| | .0022 | | .01 |
| .0012 | .0025 | .004 | |
| | | | .015 |
| .0013 | .0027 | | |

| Cat. No. | Type | Ratings Available | Capacitance (Range μF) | Tolerance | WVDC | L.xW.xT. | List |
|---|---|---|---|---|---|---|---|
| UGA-1 | G-A | 12 | .0004 to .0013 | ±20% | 500 | 25/32x5/8x5/32 | $.50 |
| UGA-2 | G-A | 15 | .0006 to .0027 | ±20% | 500 | 1 1/8x5/8x5/32 | .60 |
| UHK-1 | High-K | 7 | .001 to .004 | gmv | 500 | 25/32x5/8x5/32 | .50 |
| UHK-2 | High-K | 8 | .0025 to .015 | gmv | 500 | 1 1/8x5/8x5/32 | .60 |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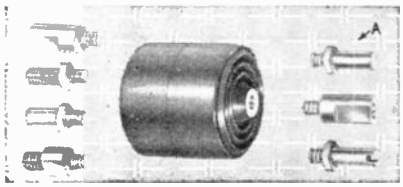
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

# SPRAGUE CAPACITORS



## HIGH-VOLTAGE DOORKNOB CERAMICS

- Capacitor Body has Female Threads for Interchangeable Screw-in Terminals.
- Molded in Non-Flammable, Moisture-resistant, Thermosetting Plastic.

- Molded Guard Rings Lengthen Surface Creepage Path.
- 20DK-T5 Comes Complete with 7 Terminals, as illustrated. (Packaged 2 per plastic box, with 14 terminals.)
- 30DK-T5 is Supplied with 2 Terminals, as per Style Marked "A".

| μμF | KV | Diam. x Length | Cat. No. | List |
|---|---|---|---|---|
| 500 | 20 | 1 x 31/32 | 20DK-T5 | $1.85 |
| 500 | 30 | 1 5/16 x 1 1/4 | 30DK-T5 | 3.00 |

## CERAMIKIT* CERAMIC CAPACITOR KIT CK-2

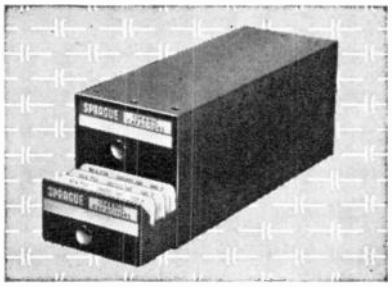
- You Pay for Capacitors Only—Sturdy Steel 2-Drawer Cabinet is Free!
- Miniature File Drawers with Printed Index Cards.
- Contains 150 Cera-mites, 5 in Each of 30 Plastic Boxes

KIT CK-2.....$38.00 List

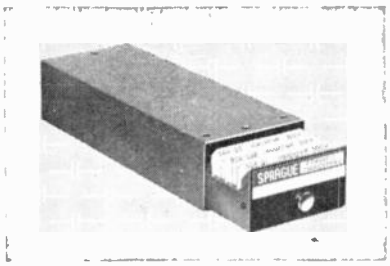
★Trademark.

### KIT CK-2 CONTENTS

| Quan. | Cat. No. | μF | Quan. | Cat. No. | μF |
|---|---|---|---|---|---|
| 5 | 5GA-V5 | .000005 | 5 | 5GA-T27 | .00027 |
| 5 | 5GA-Q1 | .00001 | 5 | 5GA-T33 | .00033 |
| 5 | 5GA-Q15 | .000015 | 5 | 5GA-T39 | .00039 |
| 5 | 5GA-Q22 | .000022 | 5 | 5GA-T47 | .00047 |
| 5 | 5GA-Q33 | .000033 | 5 | 5GA-T5 | .0005 |
| 5 | 5GA-Q39 | .000039 | 5 | 5GA-T68 | .00068 |
| 5 | 5GA-Q47 | .000047 | 10 | 5GA-D1 | .001 |
| 5 | 5GA-Q5 | .00005 | 5 | 5GA-D15 | .0015 |
| 5 | 5GA-Q68 | .000068 | 5 | 5GA-D2 | .002 |
| 5 | 5GA-Q82 | .000082 | 5 | 5GA-D33 | .0033 |
| 10 | 5GA-T1 | .0001 | 5 | 5GA-D4 | .004 |
| 5 | 5GA-T12 | .00012 | 5 | 5HK-D5 | .005 |
| 5 | 5GA-T15 | .00015 | 10 | 5HK-S1 | .01 |
| 5 | 5GA-T22 | .00022 | | | |



## CERAMIKIT* CERAMIC CAPACITOR KIT CK-3



★ Trademark

### KIT CK-3 CONTENTS

| Quan. | Cat. No. | μF |
|---|---|---|
| 5 | 5GA-Q1 | .00001 |
| 5 | 5GA-Q22 | .000022 |
| 5 | 5GA-Q5 | .00005 |
| 10 | 5GA-T1 | .0001 |
| 5 | 5GA-T15 | .00015 |
| 5 | 5GA-T22 | .00022 |
| 5 | 5GA-T47 | .00047 |
| 5 | 5GA-T5 | .0005 |
| 10 | 5GA-D1 | .001 |
| 5 | 5GA-D2 | .002 |
| 5 | 5HK-D5 | .005 |
| 10 | 5HK-S1 | .01 |

- You Pay for Capacitors Only—Sturdy Steel 1-Drawer Cabinet is Free!
- Miniature File Drawer with Printed Index Cards
- Contains 75 Cera-mites, 5 in Each of 15 Plastic Boxes

KIT CK-3.....$19.25 List

## "UNIVERSAL" CERAMIC CAPACITOR KIT CK-4

### EVERY SERVICE TECHNICIAN SHOULD HAVE ONE!

- Kit CK-4 is a Ceramic Capacitor "Department" in Itself—Just 4 "Universals" Will Handle 42 Capacitor Ratings
- No Need to Go to Your Distributor's Store Every Time You Run Out of a Conventional Ceramic—9 Times Out of 10 the Required Rating Will be in Universal Capacitor Kit CK-4
- This Kit Contains 12 "Universals," 3 Each of the Four Types as Listed and Described on Page P-936
- Units are Mounted on Tough Bristol Card Stock Which Folds at Center to Protect the Capacitors
- Printed Directly Under the Units are Complete Instructions on How to Make Up Desired Ratings
- This Handy Wallet-Type Kit is Only 3½" x 8½" in Size—Just Right for Your Pocket or Tool Box

KIT CK-4.....$6.60 List

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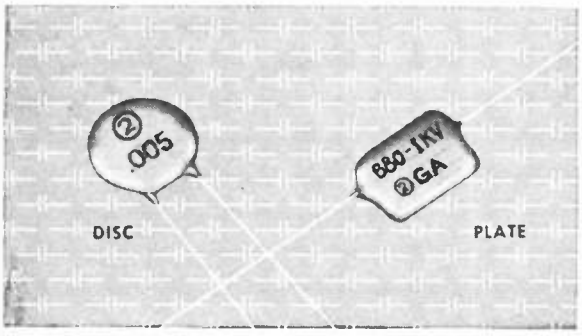
World Radio History

# SPRAGUE CAPACITORS

## CERA-MITE® CERAMIC CAPACITORS




- Tiny, Tough, Dependable In Every Application
- Low Self-inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85 °C (185 °F) Continuous Operation

### GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications
- Ideal For Replacing Older Types Of General Application Capacitors Such as Molded Micas, Tubular Ceramics, and Paper Tubulars

| μμF | Cat. No. | List |
|---|---|---|
| **300 WVDC (plates)** Std. Tolerance ±20% | | |
| 470 | 3GAB-T47 | $.35 |
| 1000 | 3GAB-D1 | .35 |
| 2200 | 3GAB-D22 | .45 |
| 4700 | 3GAB-D47 | .45 |
| .01 MF | 3GAB-S1 | .65 |
| .022 | 3GAB-S22 | .65 |
| .047 | 3GAB-S47 | .70 |
| .1 | 3GAB-P1 | .75 |
| .15 | 3GAB-P15 | .80 |
| **400 WVDC (discs)** Std. Tolerance ±20% | | |
| 10 | 4GA-Q1 | $.25 |
| 15 | 4GA-Q15 | .25 |
| 22 | 4GA-Q22 | .25 |
| 33 | 4GA-Q33 | .25 |
| 47 | 4GA-Q47 | .25 |
| 68 | 4GA-Q68 | .25 |
| 100 | 4GA-T1 | .25 |
| 150 | 4GA-T15 | .25 |
| 220 | 4GA-T22 | .25 |
| 330 | 4GA-T33 | .25 |
| 470 | 4GA-T47 | .25 |
| **1000 WVDC (discs)** Std. Tolerance ±20% | | |
| 5 | 5GA-V5 | $.25 |
| 6 | 5GA-V6 | .25 |
| 7.5 | 5GA-V75 | .25 |
| 8 | 5GA-V8 | .25 |
| 10 | 5GA-Q1 | .25 |
| 12 | 5GA-Q12 | .25 |
| 15 | 5GA-Q15 | .25 |
| 18 | 5GA-Q18 | .25 |
| 20 | 5GA-Q2 | .25 |
| 22 | 5GA-Q22 | .25 |
| 25 | 5GA-Q25 | .25 |
| 27 | 5GA-Q27 | .25 |
| 30 | 5GA-Q3 | .25 |
| 33 | 5GA-Q33 | .25 |
| 39 | 5GA-Q39 | .25 |

| μμF | Cat. No. | List |
|---|---|---|
| 47 | 5GA-Q47 | $.25 |
| 50 | 5GA-Q5 | .25 |
| 56 | 5GA-Q56 | .25 |
| 68 | 5GA-Q68 | .25 |
| 75 | 5GA-Q75 | .25 |
| 82 | 5GA-Q82 | .25 |
| 91 | 5GA-Q91 | .25 |
| 100 | 5GA-T1 | .25 |
| 120 | 5GA-T12 | .25 |
| 130 | 5GA-T13 | .25 |
| 150 | 5GA-T15 | .25 |
| 180 | 5GA-T18 | .25 |
| 200 | 5GA-T2 | .25 |
| 220 | 5GA-T22 | .25 |
| 240 | 5GA-T24 | .25 |
| 250 | 5GA-T25 | .25 |
| 270 | 5GA-T27 | .25 |
| 300 | 5GA-T3 | .25 |
| 330 | 5GA-T33 | .25 |
| 350 | 5GA-T35 | .25 |
| 360 | 5GA-T36 | .25 |
| 390 | 5GA-T39 | .25 |
| 400 | 5GA-T4 | .25 |
| 470 | 5GA-T47 | .25 |
| 500 | 5GA-T5 | .25 |
| 560 | 5GA-T56 | .25 |
| 600 | 5GA-T6 | .25 |
| 680 | 5GA-T68 | .25 |
| 750 | 5GA-T75 | .25 |
| 800 | 5GA-T8 | .25 |
| 820 | 5GA-T82 | .25 |
| 1000 | 5GA-D1 | .25 |
| 1200 | 5GA-D12 | .25 |
| 1300 | 5GA-D13 | .25 |
| 1500 | 5GA-D15 | .25 |
| 1600 | 5GA-D16 | .25 |
| 1800 | 5GA-D18 | .25 |
| 2000 | 5GA-D2 | .25 |
| 2200 | 5GA-D22 | .25 |
| 2500 | 5GA-D25 | .25 |
| 2700 | 5GA-D27 | .25 |
| 3000 | 5GA-D3 | .25 |
| 3300 | 5GA-D33 | .25 |
| 3900 | 5GA-D39 | .25 |
| 4000 | 5GA-D4 | .25 |

| μμF | Cat. No. | List |
|---|---|---|
| 4300 | 5GA-D43 | $.30 |
| 4700 | 5GA-D47 | .30 |
| 5000 | 5GA-D5 | .30 |
| 10000 | †5GA-S1 | .30 |
| 20000 | †5GA-S2 | .60 |
| †500WVDC | | |
| **1000 WVDC (plates)** Std. Tolerances: Type 10GAB-V47 ±.5 MMF, other types 10GAB ±20%, types 10HKB MRC | | |
| 4.7 | 10GAB-V47 | $.30 |
| 10 | 10GAB-Q1 | .30 |
| 18 | 10GAB-Q18 | .30 |
| 22 | 10GAB-Q22 | .30 |
| 25 | 10GAB-Q25 | .30 |
| 33 | 10GAB-Q33 | .30 |
| 39 | 10GAB-Q39 | .30 |
| 47 | 10GAB-Q47 | .30 |
| 68 | 10GAB-Q68 | .30 |
| 75 | 10GAB-Q75 | .30 |
| 82 | 10GAB-Q82 | .30 |
| 100 | 10GAB-T1 | .30 |
| 120 | 10GAB-T12 | .30 |
| 150 | 10GAB-T15 | .30 |
| 180 | 10GAB-T18 | .30 |
| 200 | 10GAB-T2 | .30 |
| 220 | 10GAB-T22 | .30 |
| 250 | 10GAB-T25 | .30 |
| 270 | 10GAB-T27 | .30 |
| 300 | 10GAB-T3 | .30 |
| 330 | 10GAB-T33 | .30 |
| 390 | 10GAB-T39 | .30 |
| 470 | 10GAB-T47 | .30 |
| 500 | 10GAB-T5 | .30 |
| 560 | 10GAB-T56 | .50 |
| 680 | *10HKB-T68 | .50 |
| 1000 | *10HKB-D1 | .50 |
| 1200 | *10HKB-D12 | .50 |
| 1500 | *10HKB-D15 | .50 |
| 2200 | *10HKB-D22 | .50 |
| 3300 | *10HKB-D33 | .50 |
| 4700 | *10HKB-D47 | .50 |
| .01 MF | *10HKB-S1 | .60 |
| .015 | *10HKB-S15 | 1.10 |
| .022 | *10HKB-S22 | 1.35 |

| μμF | Cat. No. | List |
|---|---|---|
| **1500 WVDC (plates)** Std. Tolerances: thru 4.7 MMF ±.5 MMF, all others ±20% | | |
| 3.3 | 15GAB-V33 | $.30 |
| 4.7 | 15GAB-V47 | .30 |
| 6 | 15GAB-V6 | .30 |
| 7.5 | 15GAB-V75 | .30 |
| 10 | 15GAB-Q1 | .30 |
| 12 | 15GAB-Q12 | .30 |
| 15 | 15GAB-Q15 | .30 |
| 18 | 15GAB-Q18 | .30 |
| 20 | 15GAB-Q2 | .30 |
| 22 | 15GAB-Q22 | .30 |
| 33 | 15GAB-Q33 | .30 |
| 47 | 15GAB-Q47 | .30 |
| 56 | 15GAB-Q56 | .30 |
| 62 | 15GAB-Q62 | .30 |
| 68 | 15GAB-Q68 | .30 |
| 82 | 15GAB-Q82 | .35 |
| 100 | 15GAB-T1 | .35 |
| 150 | 15GAB-T15 | .35 |
| 180 | 15GAB-T18 | .35 |
| 220 | 15GAB-T22 | .35 |
| 300 | 15GAB-T3 | .35 |
| 330 | 15GAB-T33 | .35 |
| 390 | 15GAB-T39 | .35 |
| 470 | 15GAB-T47 | .35 |
| **2000 WVDC (discs)** Std. Tolerances: thru 5 MMF ±.5 MMF, thru 82 MMF ±10%, thru 1000 MMF ±20%, thru 6000 MMF MRC | | |
| 3.3 | 20GA-V33 | $.35 |
| 5 | 20GA-V5 | .35 |
| 7.5 | 20GA-V75 | .35 |
| 10 | 20GA-Q1 | .35 |
| 12 | 20GA-Q12 | .35 |
| 15 | 20GA-Q15 | .35 |
| 18 | 20GA-Q18 | .35 |
| 20 | 20GA-Q2 | .35 |
| 22 | 20GA-Q22 | .35 |
| 33 | 20GA-Q33 | .35 |
| 39 | 20GA-Q39 | .35 |

| μμF | Cat. No. | List |
|---|---|---|
| 47 | 20GA-Q47 | $.35 |
| 56 | 20GA-Q56 | .35 |
| 62 | 20GA-Q62 | .35 |
| 68 | 20GA-Q68 | .35 |
| 75 | 20GA-Q75 | .35 |
| 82 | 20GA-Q82 | .35 |
| 100 | 20GA-T1 | .35 |
| 120 | 20GA-T12 | .35 |
| 150 | 20GA-T15 | .35 |
| 180 | 20GA-T18 | .35 |
| 200 | 20GA-T2 | .35 |
| 220 | 20GA-T22 | .35 |
| 300 | 20GA-T3 | .35 |
| 330 | 20GA-T33 | .35 |
| 390 | 20GA-T39 | .35 |
| 470 | 20GA-T47 | .35 |
| 500 | 20GA-T5 | .35 |
| 1000 | 20GA-D1 | .55 |
| 4000 | *20HK-D4 | .55 |
| 5000 | *20HK-D5 | .70 |
| 6000 | *20HK-D6 | .70 |
| **2000 WVDC (plates)** Std. Tolerances: 5 MMF ±.5 MMF, other types 20GAB ±20%, types 20HKB MRC | | |
| 5 | 20GAB-V5 | $.35 |
| 10 | 20GAB-Q1 | .35 |
| 15 | 20GAB-Q15 | .35 |
| 22 | 20GAB-Q22 | .35 |
| 30 | 20GAB-Q3 | .35 |
| 33 | 20GAB-Q33 | .35 |
| 39 | 20GAB-Q39 | .35 |
| 47 | 20GAB-Q47 | .35 |
| 100 | 20GAB-T1 | .35 |
| 150 | 20GAB-T15 | .35 |
| 200 | 20GAB-T2 | .35 |
| 220 | *20HKB-T22 | .35 |
| 300 | *20HKB-T3 | .35 |
| 500 | *20HKB-T5 | .35 |
| 1000 | *20HKB-D1 | .55 |
| 5000 | *20HKB-D5 | .70 |
| 8000 | *20HKB-D8 | .70 |
| 10000 | *20HKB-S1 | .70 |

*High-K Type

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# SPRAGUE CAPACITORS

## CERA-MITE CERAMIC CAPACITORS, continued

### 3000 WVDC (discs)

Std. Tolerances:
1.5 μμF ±.25 μμF
4.7 μμF ±.5 μμF,
thru 68 μμF ±10%
thru 500 μμF ±20%

| μμF | Cat. No. | List |
|---|---|---|
| 1.5 | 30GA-V15 | $.40 |
| 4.7 | 30GA-V47 | .40 |
| 10 | 30GA-Q1 | .40 |
| 12 | 30GA-Q12 | .40 |
| 15 | 30GA-Q15 | .40 |
| 25 | 30GA-Q25 | .40 |
| 30 | 30GA-Q3 | .40 |
| 39 | 30GA-Q39 | .40 |
| 50 | 30GA-Q5 | .40 |
| 60 | 30GA-Q6 | .40 |
| 68 | 30GA-Q68 | .40 |
| 100 | 30GA-T1 | .40 |
| 120 | 30GA-T12 | .40 |
| 150 | 30GA-T15 | $.40 |
| 180 | 30GA-T18 | .40 |
| 200 | 30GA-T2 | .40 |
| 220 | 30GA-T22 | .40 |
| 250 | 30GA-T25 | .40 |
| 270 | 30GA-T27 | .40 |
| 300 | 30GA-T3 | .40 |
| 500 | 30GA-T5 | .40 |

### 3000 WVDC (plates)

Std. Tolerances:
1.5 μμF ±.25 μμF,
4.7 μμF ±.5 μμF,
other types 30GAB ±20%

| μμF | Cat. No. | List |
|---|---|---|
| 1.5 | 30GAB-V15 | $.40 |
| 4.7 | 30GAB-V47 | .40 |
| 10 | 30GAB-Q1 | .40 |
| 15 | 30GAB-Q15 | .40 |
| 47 | 30GAB-Q47 | .40 |
| 60 | 30GAB-Q6 | .40 |
| 68 | 30GAB-Q68 | $.40 |
| 100 | 30GAB-T1 | .40 |
| 120 | 30GAB-T12 | .40 |
| 150 | 30GAB-T15 | .40 |
| 180 | 30GAB-T18 | .40 |

### 5000 WVDC (discs)

Std. Tolerances:
4.7 μμF ±.5 μμF,
thru 22μμF ±10%,
thru 500 μμF ±20%

| μμF | Cat. No. | List |
|---|---|---|
| 4.7 | 50GA-V47 | $.45 |
| 10 | 50GA-Q1 | .45 |
| 22 | 50GA-Q22 | .45 |
| 47 | 50GA-Q47 | .45 |
| 100 | 50GA-T1 | .45 |
| 220 | 50GA-T22 | .45 |
| 330 | 50GA-T33 | .55 |
| 500 | 50GA-T5 | 1.00 |

### 6000 WVDC (plates)

Std. Tolerances:
4.7 μμF ±.5 μμF,
other types 60GAB ±20%
types 60HKB MRC

| μμF | Cat. No. | List |
|---|---|---|
| 4.7 | 60GAB-V47 | $.50 |
| 8.2 | 60GAB-V82 | .50 |
| 10 | 60GAB-Q1 | .50 |
| 12 | 60GAB-Q12 | .50 |
| 15 | 60GAB-Q15 | .50 |
| 18 | 60GAB-Q18 | .50 |
| 20 | 60GAB-Q2 | .50 |
| 22 | 60GAB-Q22 | .50 |
| 30 | 60GAB-Q3 | .50 |
| 33 | 60GAB-Q33 | .50 |
| 47 | 60GAB-Q47 | .50 |
| 100 | *60HKB-T1 | .50 |
| 470 | *60HKB-T47 | .65 |

### 7500 WVDC (discs)

Std. Tolerances:
4.7 μμF ±.5 μμF,
thru 18 μμF ±10%,
thru 470 μμF ±20%

| μμF | Cat. No. | List |
|---|---|---|
| 4.7 | 75GA-V47 | $.50 |
| 8.2 | 75GA-V82 | .50 |
| 10 | 75GA-Q1 | .50 |
| 12 | 75GA-Q12 | .50 |
| 15 | 75GA-Q15 | .50 |
| 18 | 75GA-Q18 | .50 |
| 20 | 75GA-Q2 | .50 |
| 22 | 75GA-Q22 | .50 |
| 30 | 75GA-Q3 | .50 |
| 33 | 75GA-Q33 | .50 |
| 47 | 75GA-Q47 | .50 |
| 56 | 75GA-Q56 | .50 |
| 100 | 75GA-T1 | .50 |
| 470 | 75GA-T47 | .65 |

## HIGH-K TYPES

- Designed Specifically for Minimum Capacitance Requirements
- Intended for By-pass and Coupling Applications where Additional Capacitance is Not Important
- Rated at 1000 WVDC
- Units listed below are discs

### SINGLE UNITS

| μF | Cat. No. | List |
|---|---|---|
| .001 | 5HK-D1 | $.25 |
| .0015 | 5HK-D15 | .25 |
| .002 | 5HK-D2 | .25 |
| .0022 | 5HK-D22 | .25 |
| .0025 | 5HK-D25 | .25 |
| .0033 | 5HK-D33 | .25 |
| .004 | 5HK-D4 | .25 |
| .0047 | 5HK-D47 | .25 |
| .005 | 5HK-D5 | .25 |
| .0068 | 5HK-D68 | .25 |
| .01 | 5HK-S1 | .30 |
| .015 | 5HK-S15 | .40 |
| .02 | 5HK-S2 | $.60 |
| .025 | 5HK-S25 | .65 |
| .03 | 5HK-S3 | .65 |
| .05 | †5HK-S5 | .70 |
| .1 | †5HK-P1 | .80 |

### DUAL UNITS

| μF | Cat. No. | List |
|---|---|---|
| 2 x .001 | 5HK-2D1 | $.40 |
| 2 x .0015 | 5HK-2D15 | .40 |
| 2 x .002 | 5HK-2D2 | .40 |
| 2 x .0022 | 5HK-2D22 | .40 |
| 2 x .004 | 5HK-2D4 | .45 |
| 2 x .0047 | 5HK-2D47 | .45 |
| 2 x .01 | 5HK-2S1 | .50 |
| 2 x .02 | †5HK-2S2 | .70 |

†500 WVDC

## NPO TYPES

- Zero Temperature-coefficient Capacitors
- Used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and Insulation Resistance
- Rated at 500 WVDC
- Units listed below are discs, except those marked with a star (★), which are plate capacitors

| μμF | Cat. No. | List |
|---|---|---|
| 1.0 | ★5TCCB-V1 | $.50 |
| 1.5 | ★5TCCB-V15 | .50 |
| 2.2 | ★5TCCB-V22 | .50 |
| 3.3 | ★5TCCB-V33 | .50 |
| 4.7 | ★5TCCB-V47 | .50 |
| 6.8 | ★5TCCB-V68 | .50 |
| 10 | 5TCC-Q1 | .50 |
| 15 | 5TCC-Q15 | .50 |
| 20 | 5TCC-Q2 | .50 |
| 22 | 5TCC-Q22 | .50 |
| 25 | 5TCC-Q25 | .50 |
| 33 | 5TCC-Q33 | $.50 |
| 39 | 5TCC-Q39 | .55 |
| 47 | 5TCC-Q47 | .55 |
| 50 | 5TCC-Q5 | .55 |
| 68 | 5TCC-Q68 | .55 |
| 75 | 5TCC-Q75 | .55 |
| 100 | 5TCC-T1 | .55 |
| 120 | 5TCC-T12 | .60 |
| 150 | 5TCC-T15 | .60 |
| 175 | 5TCC-T175 | .60 |
| 220 | 5TCC-T22 | .70 |
| 270 | 5TCC-T27 | .80 |

## N750 TYPES

- Eliminate Frequency Drift
- Negative Temp-Coefficient is 750 ppm/° C.
- Rated at 500 V
- Starred (★) item is a Plate. All others are Discs

| μμF | Cat. No. | List |
|---|---|---|
| 5.0 | ★5TCUB-V5 | $.50 |
| 10 | 5TCU-Q1 | .50 |
| 15 | 5TCU-Q15 | .50 |
| 20 | 5TCU-Q2 | .50 |
| 22 | 5TCU-Q22 | .50 |
| 25 | 5TCU-Q25 | .50 |
| 33 | 5TCU-Q33 | .50 |
| 47 | 5TCU-Q47 | .50 |
| 68 | 5TCU-Q68 | .50 |
| 75 | 5TCU-Q75 | .50 |
| 100 | 5TCU-T1 | .50 |
| 150 | 5TCU-T15 | .50 |
| 200 | 5TCU-T2 | .50 |
| 220 | 5TCU-T22 | .50 |
| 330 | 5TCU-T33 | .50 |

## DISC CERAMIC TYPES FOR AC APPLICATIONS

- Rated at 125 VAC
- Standard Capacitance Tolerance ±20%

| μF | Cat. No. | List |
|---|---|---|
| .001 | 125L-D10 | $.25 |
| .0015 | 125L-D15 | .25 |
| .002 | 125L-D20 | .25 |
| .0047 | 125L-D47 | .30 |
| .005 | 125L-D50 | .30 |
| .01 | 125L-S10 | .30 |
| .015 | 125L-S15 | .50 |
| .02 | 125L-S20 | .50 |
| 2 x .005 | 125L-2D50 | .50 |
| 2 x .01 | 125L-2S10 | .55 |

## DISC CERAMIC TYPES FOR BUFFER APPLICATIONS

- Rated at 2000 WVDC
- Standard Capacitance Tolerance ±20%

| μF | Cat. No. | List |
|---|---|---|
| .001 | BL-D10 | $.35 |
| .002 | BL-D20 | .35 |
| .003 | BL-D30 | .35 |
| .004 | BL-D40 | .35 |
| .005 | BL-D50 | .35 |
| .006 | BL-D60 | .35 |
| .007 | BL-D70 | .35 |
| .0075 | BL-D75 | .35 |
| .008 | BL-D80 | .35 |
| .01 | BL-S10 | .35 |

## MINIATURIZED DISC CERAMIC TYPES FOR TRANSISTORIZED CIRCUITRY

- Fit Crowded Spaces in New Transistorized Sets
- Tiny in Size, But Tough and Dependable
- High-K Type for Coupling and By-pass Applications
- Rated at 50 WVDC

| μF | Cat. No. | List |
|---|---|---|
| .005 | TG-D50 | $.45 |
| .01 | TG-S10 | .65 |
| .02 | TG-S20 | .65 |
| .025 | TG-S25 | .65 |
| .03 | TG-S30 | .65 |
| .05 | TG-S50 | .70 |
| .1 | TG-P10 | .90 |

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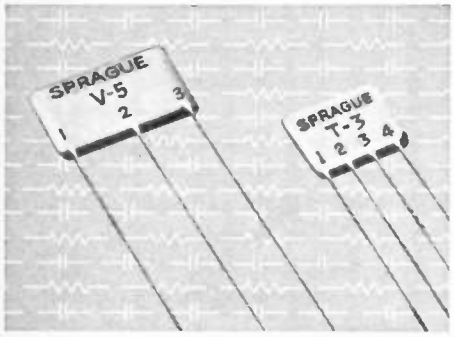
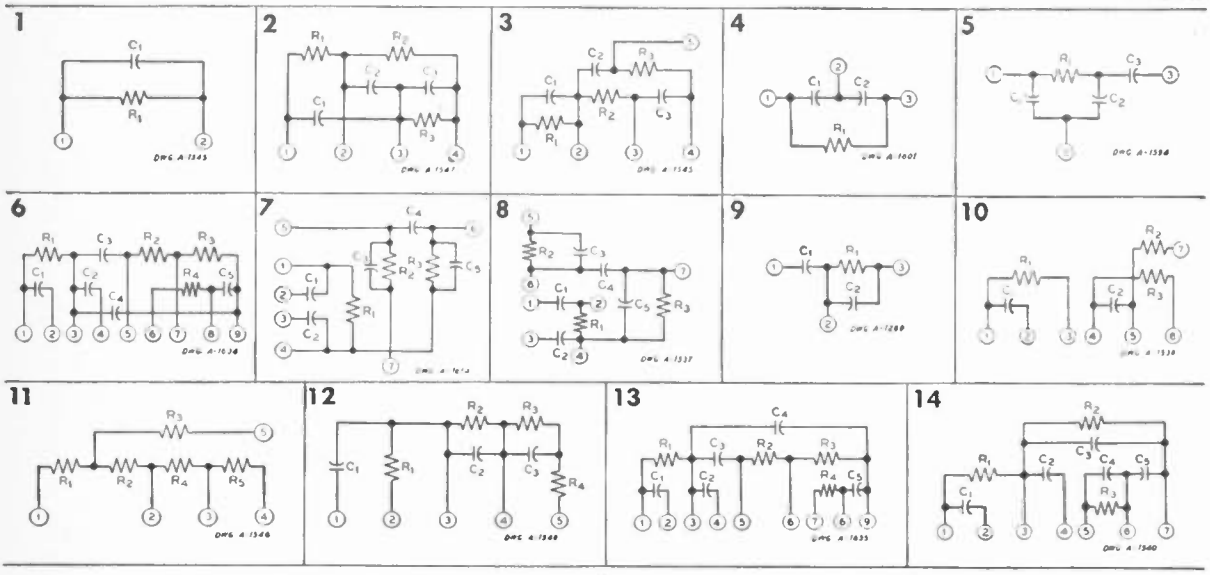
# SPRAGUE CAPACITORS

## BULPLATE® and MULTI-COMP* PRINTED CIRCUITS




- Bulplates (rectangular plates) and Multi-comps (circular discs) are especially designed to save space and reduce assembly time.
- Combinations of resistors and capacitors of maximum compactness
- Integral connections are "printed" and brought out to external leads which are anchored to the basic ceramic plate
- Completed units are protected by a tough moisture-proof coating
- Maximum voltage to be applied across these units is 250 volts d-c, except on D-1 which is rated at 100 volts d-c
- Types ACI-1, ACI-2, ACI-3, ACI-4, PRC-1, PRC-3, PRC-4, PRC-5, PRC-6, V-14, and V-15 are Multi-comp disc-type units—All others are Bulplate rectangular plates

*trademark




### ANTENNA-CHASSIS ISOLATION

| Fig. | $C_1$ ($\mu\mu$F) | $R_1$ (MΩ) | Cat. No. | List Price |
|---|---|---|---|---|
| 1 | 470 | .2 - 1.0 | **AC1-1** | $.25 |
| 1 | 4700 | .75 - 1.5 | **AC1-2** | .35 |
| 1 | 1000 | .75 - 1.5 | **AC1-3** | .30 |
| 1 | 5000 | .2 - 1.0 | **AC1-4** | .35 |

### AUTOMATIC GAIN CONTROL

| Fig. | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | $R_4$ (KΩ) | $R_5$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| 11 | 71.2 | 126 | 389 | 82 | 820 | **AGC-1** | $.65 |

### PHASE COMPARATOR

| Fig. | $C_1$ ($\mu\mu$F) | $C_2$ ($\mu\mu$F) | $C_3$ ($\mu\mu$F) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | $R_4$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 82 | 100 | 1000 | 680 | 680 | 4700 | 200 | **C-1** | $.70 |
| 2 | 1000 | 150 | 150 | 100 | 100 | 100 | | **C-2** | .65 |
| 3 | 180 | 150 | 150 | 680 | 390 | 8.2 | | **C-3** | .70 |
| 12 | 68 | 120 | 1000 | 100 | 680 | 4700 | 220 | **C-4** | .70 |
| 12 | 82 | 200 | 1500 | 100 | 680 | 4700 | 220 | **C-5** | .80 |

### DIODE FILTER

| Fig. | $C_1$ ($\mu\mu$F) | $C_2$ ($\mu\mu$F) | $R_1$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|
| 4 | 100 | 100 | 47 | **D-1** | $.60 |
| 4 | 150 | 150 | 47 | **D-2** | .60 |

### DIODE FILTER (Continued)

| Fig. | $C_1$ ($\mu\mu$F) | $C_2$ ($\mu\mu$F) | $C_3$ ($\mu\mu$F) | $R_1$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|
| 4 | 50 | 50 | —— | 47 | **D-3** | $ .60 |
| 4 | 100 | 100 | —— | 100 | **D-4** | .60 |
| 5 | 330 | 680 | .01 | 100 | **D-5** | .80 |

### DETECTOR PENTODE COUPLING

| Fig. | $C_1$ ($\mu$F) | $C_2$, $C_3$ ($\mu\mu$F) | $C_4$ ($\mu$F) | $C_5$ ($\mu$F) | $R_1$ (MΩ) | $R_2$ (MΩ) | $R_3$ (MΩ) | $R_4$ (MΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | .002 | 150 | .01 | .005 | 10 | 4.7 | 1.0 | 3.3 | **DP-1** | $1.25 |
| 6 | .002 | 150 | .01 | .005 | 4.7 | 4.7 | 1.0 | 2.2 | **DP-2** | 1.00 |
| 13 | .005 | 150 | .01 | .0005 | 10 | 4.7 | 1.0 | 3.3 | **DP-3** | 1.50 |
| 6 | .001 | 68 | .01 | .0025 | 10 | 4.7 | 1.0 | 3.3 | **DP-4** | 1.25 |
| 6 | .002 | 150 | .01 | .005 | 10 | 4.7 | 1.0 | 3.3 | **DP-5** | 1.25 |

### DETECTOR TRIODE COUPLING

| Fig. | $C_1$ ($\mu$F) | $C_2$ ($\mu\mu$F) | $C_3$ ($\mu\mu$F) | $C_4$ ($\mu$F) | $C_5$ ($\mu\mu$F) | $R_1$ (MΩ) | $R_2$, $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 7 | .0022 | 220 | 220 | .0047 | 220 | 6.8 | 470 | **DT-1** | $1.00 |
| 7 | .005 | 220 | 220 | .005 | 220 | 6.8 | 470 | **DT-2** | 1.15 |
| 7 | .002 | 220 | 500 | .005 | 500 | 6.8 | 470 | **DT-3** | 1.00 |
| 7 | .002 | 220 | 250 | .005 | 250 | 6.8 | 470 | **DT-4** | 1.00 |
| 7 | .005 | 220 | 250 | .005 | 250 | 6.8 | 470 | **DT-5** | 1.15 |
| 7 | .005 | 220 | 250 | .005 | 250 | 10 | 470 | **DT-6** | 1.15 |
| 7 | .005 | 220 | 375 | .005 | 375 | 6.8 | 470 | **DT-7** | 1.00 |
| 14 | .002 | 400 | 220 | .00022 | 5000 | 6.8 | 470 | **DT-8** | .95 |
| 8 | .002 | 400 | 220 | .005 | 220 | 6.8 | 470 | **DT-9** | .70 |
| 10 | .005 | 5000 | —— | —— | —— | 6.8 | 470 | **DT-10** | .85 |
| 9 | .01 | 50 | | (Formerly PB-2) | | 4.7 | —— | **DT-11** | .75 |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World Radio History

# SPRAGUE CAPACITORS

## BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued

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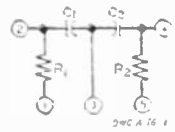


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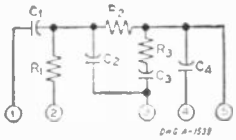


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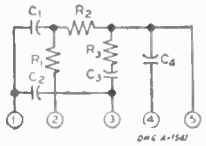


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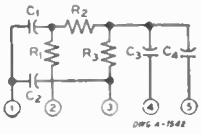


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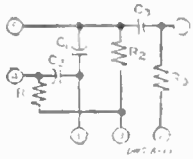


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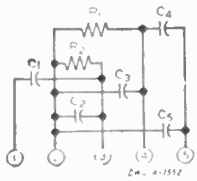


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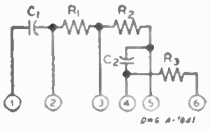


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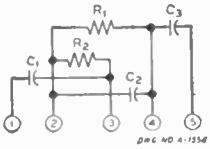


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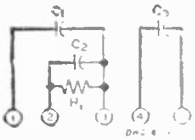


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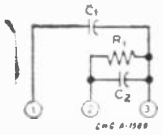


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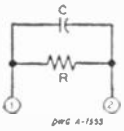


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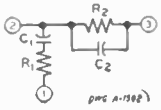


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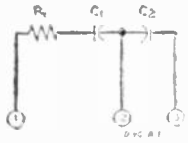


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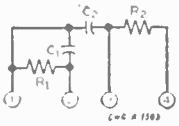


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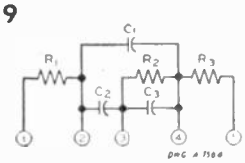


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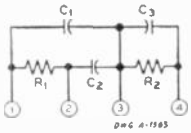


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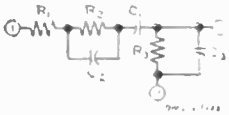


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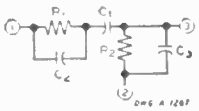


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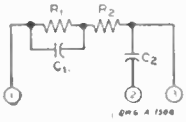


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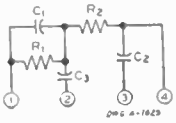


### DECOUPLING FILTER

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $R_1$ (Ω) | $R_2$ (Ω) | Cat. No. | List Price |
|---|---|---|---|---|---|---|
| 15 | .0047 | .0047 | 1000 | 1000 | **F-1** | $ .85 |
| 15 | .0047 | .0047 | 220 | 820 | **F-2** | .85 |

### HORIZONTAL NETWORK

| Fig. | $C_1$ (μF) | $C_4$ (μF) | $C_2$ (μμF) | $C_4$ (μF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 16 | .001 | .0015 | 390 | .003 | 10 | 39 | 5.6 | **HN-1** | $ .90 |
| 17 | .001 | .002 | 390 | .003 | 15 | 39 | 5.6 | **HN-2** | .90 |
| 18 | .001 | .001 | 390 | .003 | 8.2 | 39 | 8.2 | **HN-3** | .90 |

### PENTODE COUPLING

| Fig. | $C_1$ (μμF) | $C_2$ (μF) | $C_3$ (μF) | $C_4$ (μF) | $R_1$ (MΩ) | $R_2$ (MΩ) | $R_3$ (MΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 47 | .0022 | .0047 | — | 4.7 | 1.0 | 2.2 | **P-1** | $ .90 |
| 19 | 100 | .0047 | .0047 | — | 4.7 | 1.0 | 2.2 | **P-2** | .90 |
| 19 | 100 | .005 | .002 | — | 4.7 | 1.0 | 2.2 | **P-3** | 1.00 |
| 20 | 5000 | .00047 | .00047 | .003 | 1.5 | 10 | — | **P-4** | .85 |
| 21 | 6800 | .01 | — | — | 6.8 | 1.0 | .47 | **P-5** | 1.00 |
| 22 | 5000 | .001 | .003 | — | .39 | 10 | — | **P-6** | .85 |
| 23 | 5000 | .00033 | .003 | — | 10 | — | — | **P-7** | .75 |
| 24 | 5000 | .00035 | — | — | 10 | — | — | **P-8** | .60 |

### PARALLEL RESISTOR-CAPACITOR

| Fig. | $C_1$ (μμF) | $R_1$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|
| 25 | 56 | 47 | **PRC-1** | $ .25 |
| 25 | 330 | 220 | **PRC-2** | .25 |

### PARALLEL RESISTOR-CAPACITOR (Continued)

| Fig. | $C_1$ (μμF) | $R_1$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|
| 25 | 470 | 470 | **PRC-3** | $ .25 |
| 25 | 800 | 22 | **PRC-4** | .25 |
| 25 | 330 | 150 | **PRC-5** | .30 |
| 25 | 5000 | 68 | **PRC-6** | .25 |

### RETRACE SUPPRESSION

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $R_1$ (KΩ) | $R_2$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|
| 26 | .005 | .01 | 10 | 1 | **RS-1** | $ .70 |
| 26 | .005 | .002 | 10 | 1 | **RS-2** | .70 |
| 26 | .01 | .01 | 56 | 2.7 | **RS-3** | .90 |
| 27 | — | — | — | — | **RS-4** | .55 |

### SOUND I-F

| Fig. | $C_1$ (μμF) | $C_2$ (μμF) | $C_3$ (μμF) | $R_1$ (Ω) | $R_2$ (Ω) | $R_3$ (Ω) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 28 | 5000 | 5000 | — | 150 | 220 | — | **SI-1** | $ .90 |
| 28 | 5000 | 2000 | — | 330 | 27 K | — | **SI-2** | .60 |
| 29 | 470 | 5 | 5 | 47 | 33 K | 470 | **SI-3** | 1.00 |
| 30 | 470 | 470 | 1500 | 470 | 2.2 Meg. | — | **SI-4** | .80 |

### SYNC TAKEOFF

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $C_3$ (μμF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 31 | .01 | .00027 | 25 | 10 | 330 | 2200 | **ST-1** | $1.25 |
| 31 | .01 | .00027 | 25 | 10 | 220 | 2200 | **ST-2** | 1.25 |
| 32 | .01 | .00027 | 25 | 220 | 2200 | — | **ST-3** | 1.25 |
| 31 | .01 | .00027 | 2.2 | 10 | 330 | 2200 | **ST-4** | 1.00 |
| 33 | .001 | .014 | — | 4700 | 220 | — | **ST-5** | .70 |
| 34 | .00047 | .0008 | 10000 | 470 | 2200 | — | **ST-6** | 1.00 |

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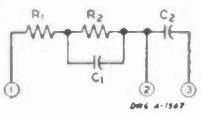
World Radio History

# SPRAGUE CAPACITORS

## BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued

35

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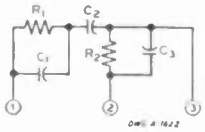


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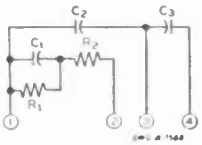


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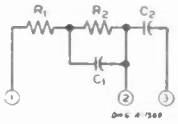


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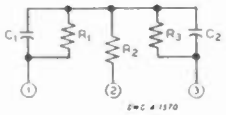


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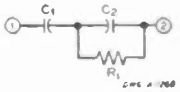


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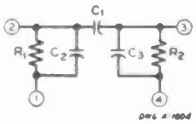


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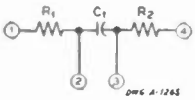


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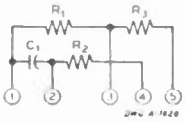


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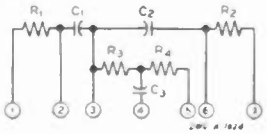


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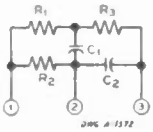


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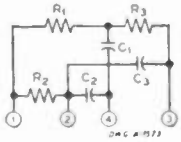


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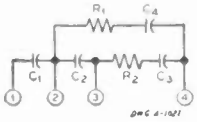


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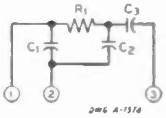


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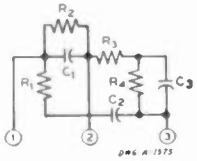


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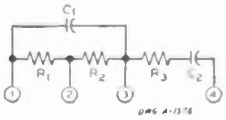


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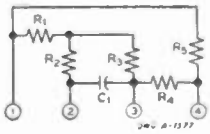


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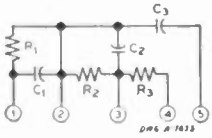


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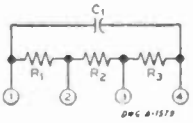


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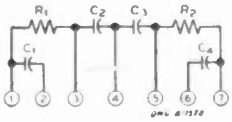


### SYNC TAKEOFF (Continued)

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $C_3$ (μμF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|
| 35 | .00068 | .005 | — | 10 | 220 | — | **ST-7** | $ .60 |
| 36 | .00015 | .01 | 25 | 470 | 2200 | — | **ST-8** | 1.25 |
| 37 | .001 | .001 | 3300 | 4700 | 200 | — | **ST-9** | .65 |
| 38 | .00068 | .005 | — | 4.7 | 220 | — | **ST-10** | .75 |
| 39 | .00015 | — | — | 15 | 270 | — | **ST-11** | .65 |
| 40 | .00033 | .00033 | — | 270 | 2200 | 560 | **ST-12** | .75 |
| 41 | .01 | .00015 | — | 270 | (Formerly PB-1) | | **ST-13** | .70 |

### TRIODE COUPLING

| Fig. | $C_1$ (μF) | $C_2$, $C_3$ (μμF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| 42 | .01 | 250 | 500 | 500 | — | **T-1** | $ .75 |
| 42 | .01 | 250 | 250 | 500 | — | **T-2** | .70 |
| 42 | .005 | 250 | 500 | 500 | — | **T-3** | .75 |
| 42 | .005 | 250 | 250 | 500 | — | **T-4** | .70 |
| 43 | .01 | — | 470 | 1000 | — | **T-5** | .75 |
| 42 | .01 | 500 | 500 | 500 | — | **T-6** | 1.00 |
| 44 | .01 | — | 150 | 1000 | 147 | **T-7** | .60 |

### TONE COMPENSATION

| Fig. | $C_1$ (μμF) | $C_2$ (μμF) | $C_3$ (μμF) | $C_4$ (μμF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | $R_4$, $R_5$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 4700 | 4700 | 100 | — | 100 | 100 | 470 | 1.0 | **TC-1** | $1.25 |
| 46 | 1500 | 1500 | — | — | 4700 | 4700 | 4700 | — | **TC-2** | .60 |
| 47 | 3000 | 400 | 250 | — | 4700 | 4700 | 4700 | — | **TC-3** | .75 |
| 48 | 200 | 100 | 4500 | 4500 | 50 | 50 | — | — | **TC-4** | 1.00 |
| 48 | 100 | 50 | 2500 | 2500 | 100 | 100 | — | — | **TC-5** | 1.00 |
| 49 | 1000 | 4000 | 10000 | — | 22 | — | — | — | **TC-6** | .60 |
| 50 | 150 | 4700 | 2200 | — | 220 | 47 | 47 | 270 | **TC-7** | 1.10 |
| 51 | 150 | 10000 | — | — | 150 | 47 | 27 | — | **TC-8** | .75 |
| 52 | 10 | — | — | — | 7.3 | 107 | 132 | 150 | **TC-9** | 1.00 |
| 53 | 390 | 2200 | 5000 | — | 47 | 10 | 10 | — | **TC-11** | 1.25 |
| 54 | 47 | — | — | — | 100 | 100 | 100 | — | **TC-12** | .75 |
| 55 | 10 | 900 | 10 | 4700 | 10 | 22 | — | — | **TC-13** | 1.25 |


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World Radio History

# SPRAGUE CAPACITORS

## BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued

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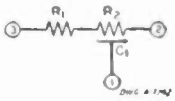


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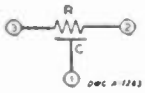


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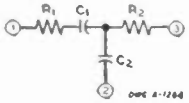


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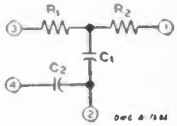


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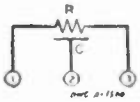


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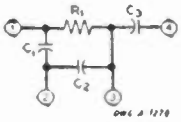
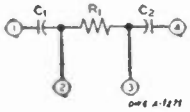



62

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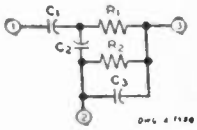
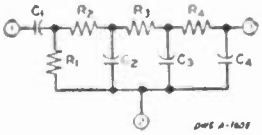



64

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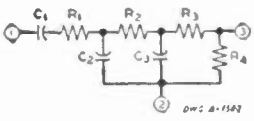


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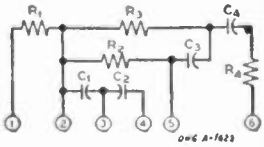


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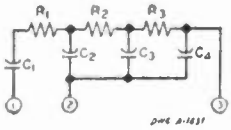


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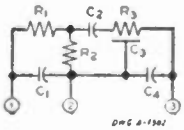


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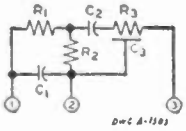
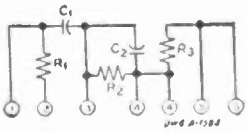
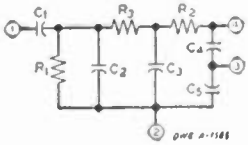


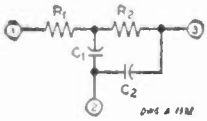

70




71




72




### VERTICAL INTEGRATOR

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $C_3$ (μF) | $C_4$ (μF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | $R_4$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 56 | .012 | — | — | — | 22 | 16.4 | — | — | V-1/V-3 | $1.10 |
| 64 | .01 | .002 | .005 | .005 | 22 | 22 | 8.2 | 8.2 | **V-2** | 1.25 |
| 57 | .012 | — | — | — | 16.4 | — | — | — | **V-4** | 1.10 |
| 58 | .0047 | .0047 | — | — | 22 | 10 | — | — | **V-5** | 1.00 |
| 65 | .004 | .01 | .01 | — | 10 | 10 | 10 | 1000 | **V-6** | .80 |
| 66 | .00018 | .00013 | .0008 | .0008 | 47 | 47 | 68 | 100 | **V-7** | 1.00 |
| 67 | .01 | .002 | .005 | .005 | 22 | 8.2 | 8.2 | — | **V-8** | 1.25 |
| 59 | .0025 | .00033 | — | — | 33 | 15 | — | — | **V-9** | .60 |
| 68 | .00015 | .005 | .004 | .004 | 33 | 33 | 90 | — | **V-10** | 1.10 |
| 69 | .00015 | .005 | .004 | — | 33 | 33 | 90 | — | **V-11** | 1.05 |
| 70 | .05 | .002 | — | — | 1000 | 1000 | 10 | — | **V-12** | 2.00 |

### VERTICAL INTEGRATOR (Continued)

| Fig. | $C_1$ (μF) | $C_2$ (μF) | $C_3$ (μF) | $C_4$ (μF) | $C_5$ (μμF) | $R_1$ (KΩ) | $R_2$ (KΩ) | $R_3$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | .0051 | .01 | .0022 | .001 | 470 | 47 | 33 | 82 | **V-13** | $ .80 |
| 60 | .001 | — | — | — | — | 70 | — | — | **V-14** | .35 |
| 60 | .001 | — | — | — | — | 90 | — | — | **V-15** | .35 |
| 72 | .001 | .002 | — | — | — | 82 | 39 | — | **V-16** | .75 |
| 61 | .001 | .004 | .01 | — | — | 22 | (Formerly PB-3) | | **V-17** | .75 |
| 62 | .00025 | .01 | — | — | — | 4700 | (Formerly PB-4) | | **V-18** | 1.00 |

### VERTICAL FEEDBACK

| Fig. | $C_1$ $C_2$ (μF) | $C_3$ (μF) | $R_1$ $R_2$ (KΩ) | Cat. No. | List Price |
|---|---|---|---|---|---|
| 63 | .001 | .002 | 100 | **VF-1** | $ .75 |

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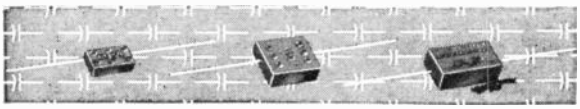
World Radio History

# SPRAGUE CAPACITORS

## MICA TYPES

- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality
- Section Foils on Foil Micas are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Impregnation and Molding

### TYPE MS & 1FM MICAS



#### TYPE MS—SILVERED MICA

(Standard Capacity Tolerance ±5%)

| MF | Cat. No. | List | MF | Cat. No. | List | MF | Cat. No. | List |
|---|---|---|---|---|---|---|---|---|
| **500 WVDC, 1000 V Test** | | | .000120 | MS-312 | $ .45 | .001300 | MS-213 | $ 1.25 |
| | | | .000130 | MS-313 | .45 | .001500 | MS-215 | 1.35 |
| | | | .000150 | MS-315 | .45 | .001600 | MS-216 | 1.35 |
| .000005 | MS-55 | $ .45 | .000160 | MS-316 | .45 | .001800 | MS-218 | 1.35 |
| .000010 | MS-41 | .40 | .000180 | MS-318 | .45 | .002000 | MS-22 | 1.35 |
| .000012 | MS-412 | .40 | .000200 | MS-32 | .45 | .002200 | MS-222 | 1.50 |
| .000015 | MS-415 | .40 | .000220 | MS-322 | .45 | .002400 | MS-224 | 1.80 |
| .000018 | MS-418 | .40 | .000240 | MS-324 | .55 | .002500 | MS-225 | 1.80 |
| .000020 | MS-42 | .40 | .000250 | MS-325 | .55 | .002700 | MS-227 | 1.90 |
| .000022 | MS-422 | .40 | .000270 | MS-327 | .55 | .003000 | MS-23 | 2.05 |
| .000024 | MS-424 | .40 | .000300 | MS-33 | .55 | .003300 | MS-233 | 2.05 |
| .000025 | MS-425 | .40 | .000330 | MS-333 | .55 | .003600 | MS-236 | 2.10 |
| .000027 | MS-427 | .40 | .000360 | MS-336 | .55 | .003900 | MS-239 | 2.15 |
| .000030 | MS-43 | .40 | .000390 | MS-339 | .65 | .004000 | MS-24 | 2.15 |
| .000033 | MS-433 | .40 | .000400 | MS-34 | .65 | .004300 | MS-243 | 2.15 |
| .000036 | MS-436 | .40 | .000430 | MS-343 | .65 | .004700 | MS-247 | 2.15 |
| .000039 | MS-439 | .40 | .000470 | MS-347 | .70 | .005000 | MS-25 | 2.25 |
| .000040 | MS-44 | .40 | .000500 | MS-35 | .70 | .005100 | MS-251 | 2.25 |
| .000043 | MS-443 | .40 | .000510 | MS-351 | .70 | .005600 | MS-256 | 2.50 |
| .000047 | MS-447 | .40 | .000560 | MS-356 | .75 | .006000 | MS-26 | 2.40 |
| .000050 | MS-45 | .40 | .000600 | MS-36 | .80 | .006200 | MS-262 | 2.60 |
| .000051 | MS-451 | .40 | .000620 | MS-362 | .80 | | | |
| .000056 | MS-456 | .40 | .000680 | MS-368 | .85 | **300 WVDC, 600 V Test** | | |
| .000060 | MS-46 | .40 | .000700 | MS-37 | .85 | | | |
| .000062 | MS-462 | .40 | .000750 | MS-375 | .90 | .006800 | MS-268 | 2.60 |
| .000068 | MS-468 | .40 | .000800 | MS-38 | .95 | .007000 | MS-27 | 2.60 |
| .000070 | MS-47 | .40 | .000820 | MS-382 | .95 | .007500 | MS-275 | 2.80 |
| .000075 | MS-475 | .40 | .000900 | MS-39 | 1.00 | .008000 | MS-28 | 2.80 |
| .000082 | MS-482 | .40 | .000910 | MS-391 | 1.00 | .008200 | MS-282 | 2.80 |
| .000091 | MS-491 | .40 | .001000 | MS-21 | 1.10 | .009000 | MS-29 | 3.10 |
| .000100 | MS-31 | .40 | .001100 | MS-211 | 1.20 | .009100 | MS-291 | 3.10 |
| .000110 | MS-311 | .45 | .001200 | MS-212 | 1.30 | .010000 | MS-11 | 3.40 |

#### TYPE 1FM

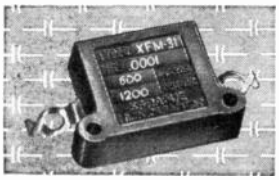
(Standard Capacity Tolerance ± 20%)

| MF | Cat. No. | List | MF | Cat. No. | List | MF | Cat. No. | List |
|---|---|---|---|---|---|---|---|---|
| **500 WVDC 1000 V Test** | | | .000150 | 1FM-315 | $ .20 | .001500 | 1FM-215 | $ .30 |
| | | | .000160 | 1FM-316 | .20 | .001600 | 1FM-216 | .30 |
| | | | .000180 | 1FM-318 | .20 | .001800 | 1FM-218 | .40 |
| .000010 | 1FM-41 | $ .25 | .000200 | 1FM-32 | .20 | .002000 | 1FM-22 | .40 |
| .000012 | 1FM-412 | .25 | .000220 | 1FM-322 | .25 | .002200 | 1FM-222 | .40 |
| .000015 | 1FM-415 | .25 | .000240 | 1FM-324 | .25 | .002400 | 1FM-224 | .50 |
| .000018 | 1FM-418 | .25 | .000250 | 1FM-325 | .25 | .002500 | 1FM-225 | .50 |
| .000020 | 1FM-42 | .25 | .000270 | 1FM-327 | .25 | .002700 | 1FM-227 | .50 |
| .000022 | 1FM-422 | .25 | .000300 | 1FM-33 | .25 | .003000 | 1FM-23 | .50 |
| .000024 | 1FM-424 | .25 | .000330 | 1FM-333 | .25 | .003300 | 1FM-233 | .60 |
| .000027 | 1FM-427 | .25 | .000350 | 1FM-335 | .25 | .003600 | 1FM-236 | .60 |
| .000030 | 1FM-43 | .25 | .000360 | 1FM-336 | .25 | .003900 | 1FM-239 | .60 |
| .000033 | 1FM-433 | .25 | .000390 | 1FM-339 | .25 | .004000 | 1FM-24 | .55 |
| .000036 | 1FM-436 | .25 | .000400 | 1FM-34 | .25 | .004300 | 1FM-243 | .60 |
| .000039 | 1FM-439 | .25 | .000430 | 1FM-343 | .25 | .004700 | 1FM-247 | .60 |
| .000040 | 1FM-44 | .25 | .000470 | 1FM-347 | .25 | .005000 | 1FM-25 | .60 |
| .000043 | 1FM-443 | .20 | .000500 | 1FM-35 | .25 | .005100 | 1FM-251 | .60 |
| .000047 | 1FM-447 | .20 | .000510 | 1FM-351 | .25 | .005600 | 1FM-256 | .65 |
| .000050 | 1FM-45 | .20 | .000560 | 1FM-356 | .25 | .006000 | 1FM-26 | .65 |
| .000051 | 1FM-451 | .20 | .000620 | 1FM-362 | .25 | .006200 | 1FM-262 | .65 |
| .000056 | 1FM-456 | .20 | .000680 | 1FM-368 | .25 | **300 WVDC, 600 V Test** | | |
| .000062 | 1FM-462 | .20 | .000700 | 1FM-37 | .25 | | | |
| .000068 | 1FM-468 | .20 | .000750 | 1FM-375 | .30 | .006800 | 1FM-268 | .85 |
| .000075 | 1FM-475 | .20 | .000820 | 1FM-382 | .30 | .007000 | 1FM-27 | .85 |
| .000082 | 1FM-482 | .20 | .000910 | 1FM-391 | .30 | .007500 | 1FM-275 | .85 |
| .000091 | 1FM-491 | .20 | .001000 | 1FM-21 | .30 | .008000 | 1FM-28 | 1.00 |
| .000100 | 1FM-31 | .20 | .001100 | 1FM-211 | .30 | .008200 | 1FM-282 | 1.00 |
| .000110 | 1FM-311 | .20 | .001200 | 1FM-212 | .30 | .009000 | 1FM-29 | 1.00 |
| .000120 | 1FM-312 | .20 | .001300 | 1FM-213 | .30 | .009100 | 1FM-291 | 1.00 |
| .000130 | 1FM-313 | .20 | | | | .010000 | 1FM-11 | 1.20 |

#### MS and 1FM Dimensions

| Catalog Nos. | L x W x T | Catalog Nos. | L x W x T |
|---|---|---|---|
| MS-55 through MS-356 | 21/32 x 13/32 x 7/32 | 1FM-41 through 1FM-356 | 51/64 x 15/32 x 7/32 |
| MS-36 through MS-236 | 25/32 x 25/32 x 9/32 | 1FM-362 through 1FM-236 | 53/64 x 53/64 x 9/32 |
| MS-239 through MS-282 | 25/32 x 25/32 x 11/32 | 1FM-239 through 1FM-282 | 53/64 x 53/64 x 11/32 |
| MS-29 through MS-11 | 1 x 5/8 x 5/16 | 1FM-29 through 1FM-11 | 1 x 5/8 x 5/16 |

### TYPES XFM, YFM & ZFM



(Standard Capacity Tolerance ±10%)

| MF | Cat. No. | List |
|---|---|---|
| **XFM—600 WVDC, 1200 V TEST** | | |
| .00005 | XFM-45 | $1.20 |
| .0001 | XFM-31 | 1.20 |
| .0002 | XFM-32 | 1.20 |
| .00025 | XFM-325 | 1.20 |
| .0003 | XFM-33 | 1.20 |
| .0004 | XFM-34 | 1.20 |
| .0005 | XFM-35 | 1.20 |
| .001 | XFM-21 | 1.20 |
| .0015 | XFM-215 | 1.20 |
| .002 | XFM-22 | 1.30 |
| .0025 | XFM-225 | 1.30 |
| .003 | XFM-23 | 1.45 |
| .004 | XFM-24 | 1.50 |
| .005 | XFM-25 | 1.55 |
| .006 | XFM-26 | 1.80 |
| .007 | XFM-27 | 1.85 |
| .008 | XFM-28 | 1.90 |
| .01 | XFM-11 | 2.15 |
| .02 | XFM-12 | 3.05 |
| .03 | XFM-13 | 4.45 |

| Catalog Nos. | L x W x T |
|---|---|
| XFM-45 thru XFM-11 | 1 5/8 x 1 1/8 x 11/32 |
| XFM-12 thru XFM-13 | 1 5/8 x 1 1/8 x 7/16 |

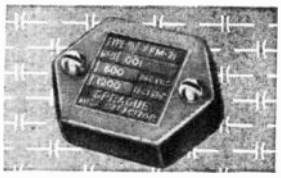
| | | |
|---|---|---|
| **YFM—1200 WVDC, 2500 V TEST** | | |
| .00005 | YFM-45 | 1.60 |
| .0001 | YFM-31 | 1.60 |
| .0002 | YFM-32 | 1.60 |
| .00025 | YFM-325 | 1.60 |
| .0003 | YFM-33 | 1.60 |
| .0004 | YFM-34 | 1.60 |
| .0005 | YFM-35 | 1.60 |
| .001 | YFM-21 | 1.80 |
| .0015 | YFM-215 | 2.30 |
| .002 | YFM-22 | 2.40 |
| .0025 | YFM-225 | 2.80 |
| .003 | YFM-23 | 3.05 |
| .004 | YFM-24 | 3.05 |
| .005 | YFM-25 | 3.30 |
| .006 | YFM-26 | 3.30 |
| .007 | YFM-27 | 3.45 |
| .008 | YFM-28 | 3.85 |
| .01 | YFM-11 | 5.10 |

| Catalog Nos. | L x W x T |
|---|---|
| YFM-45 thru YFM-24 | 1 5/8 x 1 1/8 x 11/32 |
| YFM-25 thru YFM-11 | 1 5/8 x 1 1/8 x 7/16 |

| | | |
|---|---|---|
| **ZFM—2500 WVDC, 5000 V TEST** | | |
| .00005 | ZFM-45 | 1.90 |
| .0001 | ZFM-31 | 1.90 |
| .0002 | ZFM-32 | 1.90 |
| .00025 | ZFM-325 | 2.20 |
| .0003 | ZFM-33 | 2.25 |
| .0004 | ZFM-34 | 2.30 |
| .0005 | ZFM-35 | 2.40 |
| .001 | ZFM-21 | 2.80 |
| .0015 | ZFM-215 | 3.55 |
| .002 | ZFM-22 | 4.15 |
| .003 | ZFM-23 | 4.90 |
| .004 | ZFM-24 | 5.65 |
| 005 | ZFM-25 | 6.40 |

| Catalog Nos. | L x W x T |
|---|---|
| ZFM-45 thru ZFM-22 | 1 5/8 x 1 1/8 x 11/32 |
| ZFM-23 thru ZFM-25 | 1 5/8 x 1 1/8 x 7/16 |

### TYPES 7FM, 8FM & 9FM



(Standard Capacity Tolerance ±10%)

| MF | Cat. No. | List |
|---|---|---|
| **7FM—600 WVDC, 1200 V TEST** | | |
| .00005 | 7FM-45 | $1.45 |
| .0001 | 7FM-31 | 1.45 |
| .00015 | 7FM-315 | 1.45 |
| .0002 | 7FM-32 | 1.45 |
| .00025 | 7FM-325 | 1.45 |
| .0005 | 7FM-35 | 1.45 |
| .001 | 7FM-21 | 1.45 |
| .002 | 7FM-22 | 1.65 |
| .0025 | 7FM-225 | 1.70 |
| .003 | 7FM-23 | 1.85 |
| .004 | 7FM-24 | 2.00 |
| .005 | 7FM-25 | 2.10 |
| .006 | 7FM-26 | 2.20 |
| .008 | 7FM-28 | 2.45 |
| .01 | 7FM-11 | 2.80 |
| .015 | 7FM-115 | 3.05 |
| .02 | 7FM-12 | 3.55 |
| .03 | 7FM-13 | 4.55 |
| .04 | 7FM-14 | 5.85 |
| .05 | 7FM-15 | 7.10 |
| .06 | 7FM-16 | 8.05 |

| Catalog Nos. | L x W x T |
|---|---|
| 7FM-45 thru 7FM-13 | 1 3/4 x 1 3/16 x 7/16 |
| 7FM-14 thru 7FM-16 | 1 3/4 x 1 3/16 x 3/4 |

| | | |
|---|---|---|
| **8FM—1200 WVDC, 2500 V TEST** | | |
| .00005 | 8FM-45 | 1.60 |
| .0001 | 8FM-31 | 1.60 |
| .00015 | 8FM-315 | 1.60 |
| .0002 | 8FM-32 | 1.60 |
| .00025 | 8FM-325 | 1.60 |
| .0005 | 8FM-35 | 1.60 |
| .001 | 8FM-21 | 1.90 |
| .002 | 8FM-22 | 2.50 |
| .0025 | 8FM-225 | 2.80 |
| .003 | 8FM-23 | 2.95 |
| .004 | 8FM-24 | 3.10 |
| .005 | 8FM-25 | 3.30 |
| .006 | 8FM-26 | 3.45 |
| .008 | 8FM-28 | 4.10 |
| .01 | 8FM-11 | 4.70 |
| .015 | 8FM-115 | 5.80 |
| .02 | 8FM-12 | 7.05 |
| .025 | 8FM-125 | 7.90 |
| .03 | 8FM-13 | 8.10 |

| Catalog Nos. | L x W x T |
|---|---|
| 8FM-45 thru 8FM-115 | 1 3/4 x 1 3/16 x 7/16 |
| 8FM-12 thru 8FM-13 | 1 3/4 x 1 3/16 x 3/4 |

| | | |
|---|---|---|
| **9FM—2500 WVDC, 5000 V TEST** | | |
| .00005 | 9FM-45 | 1.90 |
| .0001 | 9FM-31 | 1.90 |
| .00025 | 9FM-325 | 2.15 |
| .0005 | 9FM-35 | 2.55 |
| .001 | 9FM-21 | 2.90 |
| .002 | 9FM-22 | 4.25 |
| .0025 | 9FM-225 | 4.60 |
| .003 | 9FM-23 | 5.10 |
| .004 | 9FM-24 | 5.65 |
| .005 | 9FM-25 | 6.20 |
| .006 | 9FM-26 | 6.35 |
| .008 | 9FM-28 | 6.85 |
| .01 | 9FM-11 | 7.30 |
| .015 | 9FM-115 | 8.05 |

| Catalog Nos. | L x W x T |
|---|---|
| 9FM-45 thru 9FM-26 | 1 3/4 x 1 3/16 x 7/16 |
| 9FM-28 thru 9FM-115 | 1 3/4 x 1 3/16 x 3/4 |



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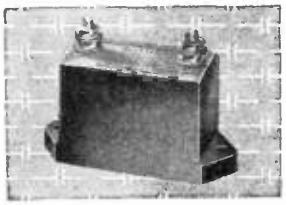
World Radio History

# SPRAGUE CAPACITORS

## MICA CAPACITORS, continued

## TYPES 1MC & 2MC



(Standard Capacity Tolerance ±5%)

### TYPE 1MC

Dimensions—2" L. x 1 5/16" W. x 1 19/32" H.

| MF | VAC Peak | Cat. No. | List |
|---|---|---|---|
| .00005 | 3000 | 1MC-45 | $12.60 |
| .0001 | 3000 | 1MC-31 | 12.60 |
| .00015 | 3000 | 1MC-315 | 12.60 |
| .0002 | 3000 | 1MC-32 | 12.60 |
| .00025 | 3000 | 1MC-325 | 12.60 |
| .0003 | 3000 | 1MC-33 | 12.60 |
| .0004 | 3000 | 1MC-34 | 12.60 |
| .0005 | 3000 | 1MC-35 | 12.60 |
| .0006 | 3000 | 1MC-36 | 12.60 |
| .0007 | 3000 | 1MC-37 | 12.60 |
| .0008 | 3000 | 1MC-38 | 12.60 |
| .001 | 3000 | 1MC-21 | 12.60 |
| .0015 | 3000 | 1MC-215 | 12.60 |
| .002 | 3000 | 1MC-22 | 12.60 |
| .003 | 2000 | 1MC-23 | 12.60 |
| .004 | 2000 | 1MC-24 | 12.60 |
| .005 | 2000 | 1MC-25 | 12.60 |
| .006 | 2000 | 1MC-26 | 12.60 |
| .007 | 2000 | 1MC-27 | 12.60 |
| .008 | 1500 | 1MC-28 | 12.60 |
| .01 | 1000 | 1MC-11 | 12.60 |
| .015 | 1000 | 1MC-115 | 12.60 |
| .02 | 1000 | 1MC-12 | 14.30 |
| .03 | 500 | 1MC-13 | 14.30 |
| .04 | 500 | 1MC-14 | 14.30 |
| .05 | 250 | 1MC-15 | 14.30 |
| .1 | 250 | 1MC-1 | 15.10 |

### TYPE 2MC

Dimensions—2 1/4" L. x 1 1/4" W. x 1 13/16" H.

| | | | |
|---|---|---|---|
| .00005 | 5000 | 2MC-45 | 17.30 |
| .0001 | 5000 | 2MC-31 | 17.30 |
| .00015 | 5000 | 2MC-315 | 17.30 |
| .0002 | 5000 | 2MC-32 | 17.30 |
| .00025 | 5000 | 2MC-325 | 17.30 |
| .0003 | 5000 | 2MC-33 | 17.30 |
| .0004 | 5000 | 2MC-34 | 17.30 |
| .0005 | 5000 | 2MC-35 | 17.30 |
| .0006 | 5000 | 2MC-36 | 17.30 |
| .0007 | 5000 | 2MC-37 | 17.30 |
| .0008 | 5000 | 2MC-38 | 17.30 |
| .001 | 5000 | 2MC-21 | 17.30 |
| .0015 | 5000 | 2MC-215 | 17.30 |
| .002 | 5000 | 2MC-22 | 17.30 |
| .003 | 3000 | 2MC-23 | 17.30 |
| .004 | 3000 | 2MC-24 | 17.30 |
| .005 | 3000 | 2MC-25 | 17.30 |
| .006 | 3000 | 2MC-26 | 17.30 |
| .007 | 3000 | 2MC-27 | 17.30 |
| .008 | 2000 | 2MC-28 | 17.30 |
| .01 | 2000 | 2MC-11 | 17.30 |
| .015 | 2000 | 2MC-115 | 17.30 |
| .02 | 2000 | 2MC-12 | 17.30 |
| .03 | 1500 | 2MC-13 | 17.30 |
| .04 | 1500 | 2MC-14 | 17.30 |
| .05 | 1500 | 2MC-15 | 17.30 |
| .06 | 1000 | 2MC-16 | 18.60 |
| .07 | 1000 | 2MC-17 | 18.60 |
| .08 | 500 | 2MC-18 | 19.20 |
| .1 | 500 | 2MC-1 | 19.20 |

## TYPES 1CC, 2CC, 3CC & 4CC

(Standard Capacity Tolerance ±5%)

### TYPE 1CC

Dimensions—2 13/16" D. x 2 1/2" H.

| MF | Cat. No. | List |
|---|---|---|
| **6000 VAC Peak** | | |
| .00005 | 1CC-45 | $38.20 |
| .000075 | 1CC-475 | 40.00 |
| .0001 | 1CC-31 | 40.60 |
| .00015 | 1CC-315 | 40.60 |
| .0002 | 1CC-32 | 40.60 |
| .00025 | 1CC-325 | 40.60 |
| .0003 | 1CC-33 | 44.35 |
| .0004 | 1CC-34 | 44.35 |
| .0005 | 1CC-35 | 46.65 |
| .0006 | 1CC-36 | 46.65 |
| .0007 | 1CC-37 | 46.65 |
| .0008 | 1CC-38 | 46.65 |
| .001 | 1CC-21 | 46.65 |
| .0015 | 1CC-215 | 48.90 |
| .002 | 1CC-22 | 48.90 |
| .003 | 1CC-23 | 50.60 |
| .004 | 1CC-24 | 50.60 |
| **4000 VAC Peak** | | |
| .005 | 1CC-25 | 50.60 |
| .006 | 1CC-26 | 51.45 |
| .007 | 1CC-27 | 51.45 |
| .008 | 1CC-28 | 51.45 |
| .01 | 1CC-11 | 51.45 |
| **3000 VAC Peak** | | |
| .015 | 1CC-115 | 51.45 |
| **2000 VAC Peak** | | |
| .02 | 1CC-12 | 51.45 |
| .025 | 1CC-125 | 51.80 |
| **1500 VAC Peak** | | |
| .03 | 1CC-13 | 55.75 |
| .04 | 1CC-14 | 58.50 |
| .05 | 1CC-15 | 60.75 |
| .06 | 1CC-16 | 62.80 |
| **1000 VAC Peak** | | |
| .07 | 1CC-17 | 64.25 |
| .08 | 1CC-18 | 65.75 |
| .1 | 1CC-1 | 68.50 |

### TYPE 2CC

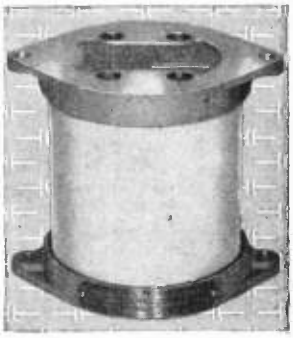
Dimensions—3 1/2" D. x 3" H.

| MF | Cat. No. | List |
|---|---|---|
| **10,000 VAC Peak** | | |
| .00005 | 2CC-45 | 65.55 |
| .000075 | 2CC-475 | 65.55 |
| .0001 | 2CC-31 | 65.55 |
| .00015 | 2CC-315 | 65.55 |
| .0002 | 2CC-32 | 65.55 |
| .0003 | 2CC-33 | 65.55 |
| .0004 | 2CC-34 | 65.55 |
| .0005 | 2CC-35 | 65.55 |
| .0006 | 2CC-36 | 65.55 |
| .0007 | 2CC-37 | 65.55 |
| .0008 | 2CC-38 | 65.55 |
| .001 | 2CC-21 | 65.55 |
| .0015 | 2CC-215 | 65.55 |
| .002 | 2CC-22 | 65.55 |
| **8000 VAC Peak** | | |
| .003 | 2CC-23 | 65.55 |
| .004 | 2CC-24 | 65.55 |
| **6000 VAC Peak** | | |
| .005 | 2CC-25 | 65.55 |
| **5000 VAC Peak** | | |
| .006 | 2CC-26 | 69.15 |
| .007 | 2CC-27 | 69.15 |
| .008 | 2CC-28 | 69.15 |
| .01 | 2CC-11 | 69.15 |
| **4000 VAC Peak** | | |
| .015 | 2CC-115 | $ 69.15 |
| **3000 VAC Peak** | | |
| .02 | 2CC-12 | 69.15 |
| .025 | 2CC-125 | 72.00 |
| **2000 VAC Peak** | | |
| .03 | 2CC-13 | 73.50 |
| .04 | 2CC-14 | 77.80 |
| .05 | 2CC-15 | 80.75 |
| .06 | 2CC-16 | 83.00 |
| **1500 VAC Peak** | | |
| .07 | 2CC-17 | 85.00 |
| .08 | 2CC-18 | 86.50 |
| .1 | 2CC-1 | 90.00 |

### TYPE 3CC

Dimensions—5" D. x 4" H.

| MF | Cat. No. | List. |
|---|---|---|
| **20,000 VAC Peak** | | |
| .00005 | 3CC-45 | 110.90 |
| .000075 | 3CC-475 | 121.00 |
| .0001 | 3CC-31 | 121.00 |
| .00015 | 3CC-315 | 131.10 |
| .0002 | 3CC-32 | 131.10 |
| .0003 | 3CC-33 | 131.10 |
| .0004 | 3CC-34 | 137.15 |
| .0005 | 3CC-35 | 137.15 |
| .0006 | 3CC-36 | 137.15 |
| .0007 | 3CC-37 | 137.15 |
| .0008 | 3CC-38 | 137.15 |
| .001 | 3CC-21 | 141.15 |
| **15,000 VAC Peak** | | |
| .0015 | 3CC-215 | 143.20 |
| .002 | 3CC-22 | 143.20 |
| **12,000 VAC Peak** | | |
| .003 | 3CC-23 | 151.25 |
| .004 | 3CC-24 | 151.25 |
| **10,000 VAC Peak** | | |
| .005 | 3CC-25 | 151.25 |
| .006 | 3CC-26 | 151.25 |
| .007 | 3CC-27 | 151.25 |
| .008 | 3CC-28 | 151.25 |
| **8000 VAC Peak** | | |
| .01 | 3CC-11 | 151.25 |
| **5000 VAC Peak** | | |
| .015 | 3CC-115 | 151.25 |
| .02 | 3CC-12 | 151.25 |
| **3000 VAC Peak** | | |
| .025 | 3CC-125 | 151.25 |
| .03 | 3CC-13 | 151.25 |
| .04 | 3CC-14 | 151.25 |
| .05 | 3CC-15 | 151.25 |
| .06 | 3CC-16 | 158.50 |
| **2000 VAC Peak** | | |
| .07 | 3CC-17 | 164.00 |
| .08 | 3CC-18 | 172.00 |
| .1 | 3CC-1 | 182.00 |



### TYPE 4CC

Dimensions—5" D. x 5 3/4" H.

| MF | Cat. No. | List |
|---|---|---|
| **30,000 VAC Peak** | | |
| .0001 | 4CC-31 | $210.30 |
| .00015 | 4CC-315 | 210.30 |
| .0002 | 4CC-32 | 221.16 |
| .0003 | 4CC-33 | 221.16 |
| .0004 | 4CC-34 | 221.16 |
| .0005 | 4CC-35 | 221.16 |
| .0006 | 4CC-36 | 221.16 |
| .0007 | 4CC-37 | 221.16 |
| .0008 | 4CC-38 | 221.16 |
| .001 | 4CC-21 | 229.10 |
| **25,000 VAC Peak** | | |
| .0015 | 4CC-215 | 229.10 |
| **20,000 VAC Peak** | | |
| .002 | 4CC-22 | 229.10 |
| .003 | 4CC-23 | 229.10 |
| **15,000 VAC Peak** | | |
| .004 | 4CC-24 | 234.35 |
| .005 | 4CC-25 | 242.00 |
| .006 | 4CC-26 | 252.25 |
| .007 | 4CC-27 | 260.00 |
| **12,000 VAC Peak** | | |
| .008 | 4CC-28 | 260.00 |
| .009 | 4CC-29 | 260.00 |
| **10,000 VAC Peak** | | |
| .01 | 4CC-11 | 272.44 |
| **8000 VAC Peak** | | |
| .015 | 4CC-115 | 272.44 |
| **6000 VAC Peak** | | |
| .02 | 4CC-12 | 272.44 |
| .03 | 4CC-13 | 272.44 |
| **5000 VAC Peak** | | |
| .04 | 4CC-14 | 272.44 |
| .05 | 4CC-15 | 272.44 |
| .06 | 4CC-16 | 290.00 |
| **4000 VAC Peak** | | |
| .07 | 4CC-17 | 300.00 |
| **3000 VAC Peak** | | |
| .08 | 4CC-18 | 308.00 |
| .1 | 4CC-1 | 326.00 |

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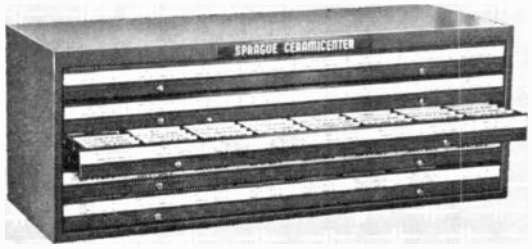
# SPRAGUE CAPACITORS

## 5-DRAWER STOCK CABINETS




- Ideal for Maintaining Complete Inventories in Laboratories, Industries, and Larger Service Shops
- Ruggedly Built, All-Welded, Heavy-Gauge Metal—Baked Enamel Blue Hammerloid Finish
- 30¾" x 11½" x 11⅜" Size Fits Standard Shelving
- Full-Suspension Drawers Open All the Way—Entire Contents Easy to Reach
- Completely Stocked, Including Appropriate Titles, Drawer Strips, and Pre-printed Index Cards
- Contents Packed in Plastic Kleer-Pak Boxes, Arranged in File-Drawer Fashion

### J-100A CERAMICENTER

Contains Every Disc and Plate Ceramic Capacitor in the Sprague Line—Over 3000 Cera-Mites® in 365 Different Ratings, Including a Variety of the More Popular Printed Circuits—Quantities of Each Rating Based on Frequency-of-Use ..... **$673.79 Net**

### J-111 LITTL-LYTIC CENTER

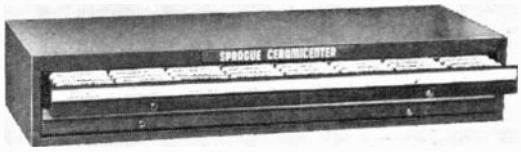
Contains 5 Each of the 134 Different Ratings in Sprague's Complete Line of TE Littl-Lytic Electrolytic Capacitors ..... **$608.45 Net**

### J-112 PRINTED CIRCUIT CENTER

Contains the Entire Sprague Line of 108 Different Printed Circuits—Stocked According to Popularity, Making a Total of 440 Units—The Most Complete Stock of Printed Circuits Available Anywhere ..... **$237.02 Net**

## 2-DRAWER STOCK CABINETS

- Similar to 5-Drawer Cabinets Described Above, Except for Number of Drawers and Height (5½")
- Provide Smaller Laboratories and Industries with Compact, yet Well-Balanced, Inventories




### J-101 CERAMICENTER

Contains 1240 Cera-Mite® Ceramic Capacitors—133 Different Capacitance and Voltage Ratings Stocked According to Popularity ..... **$244.40 Net**

### J-102 RESISTOCENTER

Contains 945 Blue Jacket Vitreous Enamel Resistors—172 Different Resistance and Wattage Ratings, Including 37 3-Watt, 61 5-Watt, and 74 10-Watt Blue Jacket Resistors ..... **$431.12 Net**

### J-103 MICACENTER

Contains 699 Axial Lead Mica Capacitors—Includes 90 Different Ratings in Type MS and 65 Different Ratings in Type 1FM ..... **$289.40 Net**

### J-110 LITTL-LYTIC CENTER

Contains 5 Each of the 58 Most Popular Ratings of TE Littl-Lytic Electrolytic Capacitors ..... **$293.30 Net**

### J-104 SERVICENTER

**Mica Capacitors and Blue Jacket Resistors**

One Drawer Contains 512 Mica Capacitors—59 Different Ratings in Type MS and 23 in Type 1FM. Other Drawer Contains 440 Blue Jacket Resistors in 88 Different Ratings ..... **$362.60 Net**

### J-105 SERVICENTER

**Mica Capacitors and Cera-Mite® Capacitors**

One Drawer Contains Mica Capacitors as in J-104. Other Drawer Contains 735 Ceramic Capacitors in 66 Different Ratings ..... **$281.51 Net**

### J-106 SERVICENTER

**Cera-Mite® Capacitors and Blue Jacket Resistors**

One Drawer Contains 735 Ceramic Capacitors in 66 Different Ratings. Other Drawer Contains 440 Blue Jackets in 88 Different Ratings ..... **$324.95 Net**

**NOTE: See Your Sprague Distributor for Complete Descriptions of Contents of These Cabinets**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World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

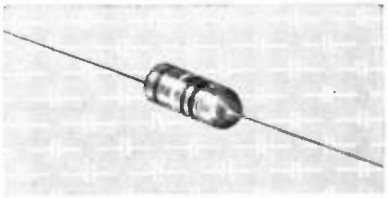
## TYPE 102P, 103P 'THRU-PASS' CAPACITORS

- Designed for Radio Interference Reduction in Radar and Communication Equipment
- Performance Closer to That of Theoretically Ideal Capacitor than Any Other Paper Capacitor Ever Made
- Three-Terminal Feed-Thru Design—Connect in a Circuit in Same Manner as Low-Pass Filter
- Hermetically Sealed, with Glass-to-Metal Solder-Seal Terminals
- Impregnated with Vitamin Q, for High Insulation Resistance and Minimum Capacitance Change with Temperature
- Type 102P is Designed for Operation from −55°C to +85°C; Type 103P for −55°C to +125°C

**NOTE: Capacitors listed below have wire leads. For tab terminals, which are also available, see your Sprague Industrial Distributor.**

| μF | Size Diam. x Lgth. | Catalog Number 85°C | Catalog Number 125°C |
|---|---|---|---|
| **100 WVDC** | | | |
| .001 | .400 x ¾ | 102P101 | 103P101 |
| .0047 | .400 x ¾ | 102P106 | 103P106 |
| .01 | .400 x ¾ | 102P111 | 103P111 |
| .047 | .400 x ¾ | 102P116 | 103P116 |
| .1 | .400 x ⅞ | 102P121 | 103P121 |
| .22 | .400 x 1⅜ | 102P126 | 103P126 |
| .33 | .562 x 1⅛ | 102P131 | 103P131 |
| .47 | .562 x 1⅜ | 102P136 | 103P136 |
| .68 | .562 x 1⅞ | 102P141 | 103P141 |
| 1.00 | .670 x 1⅞ | 102P145 | 103P145 |
| **200 WVDC** | | | |
| .001 | .400 x ¾ | 102P102 | 103P102 |
| .0047 | .400 x ¾ | 102P107 | 103P107 |
| .01 | .400 x ¾ | 102P112 | 103P112 |
| .047 | .400 x ⅞ | 102P117 | 103P117 |
| .1 | .400 x 1⅛ | 102P122 | 103P122 |
| .22 | .562 x 1⅛ | 102P127 | 103P127 |
| .33 | .562 x 1⅝ | 102P132 | 103P132 |
| .47 | .562 x 1⅞ | 102P137 | 103P137 |
| .68 | .670 x 1⅞ | 102P142 | 103P142 |
| 1.00 | .760 x 2⅛ | 102P146 | 103P146 |
| **300 WVDC** | | | |
| .001 | .400 x ¾ | 102P103 | 103P103 |
| .0047 | .400 x ¾ | 102P108 | 103P108 |
| .01 | .400 x ¾ | 102P113 | 103P113 |
| **300 WVDC (Continued)** | | | |
| .047 | .400 x 1⅛ | 102P118 | 103P118 |
| .1 | .400 x 1⅜ | 102P123 | 103P123 |
| .22 | .562 x 1⅜ | 102P128 | 103P128 |
| .33 | .562 x 1⅞ | 102P133 | 103P133 |
| .47 | .670 x 1⅞ | 102P138 | 103P138 |
| .68 | .750 x 2⅛ | 102P143 | 103P143 |
| **400 WVDC** | | | |
| .001 | .400 x ¾ | 102P104 | 103P104 |
| .0047 | .400 x ¾ | 102P109 | 103P109 |
| .01 | .400 x ¾ | 102P114 | 103P114 |
| .047 | .400 x 1⅜ | 102P119 | 103P119 |
| .1 | .562 x 1⅛ | 102P124 | 103P124 |
| .22 | .562 x 1⅞ | 102P129 | 103P129 |
| .33 | .670 x 1⅞ | 102P134 | 103P134 |
| .47 | .750 x 2⅛ | 102P139 | 103P139 |
| .68 | .750 x 2⅜ | 102P144 | 103P144 |
| **600 WVDC** | | | |
| .001 | .400 x ¾ | 102P105 | 103P105 |
| .0047 | .400 x ¾ | 102P110 | 103P110 |
| .01 | .400 x ¾ | 102P115 | 103P115 |
| .047 | .400 x 1⅜ | 102P120 | 103P120 |
| .1 | .562 x 1⅜ | 102P125 | 103P125 |
| .22 | .670 x 1⅞ | 102P130 | 103P130 |
| .33 | .750 x 2⅛ | 102P135 | 103P135 |
| .47 | .750 x 2⅜ | 102P140 | 103P140 |

## TYPE 65P PROKAR® MOLDED TUBULARS



- For Applications Requiring Small Paper Capacitors for Continuous Operation at High Temperatures
- No Voltage Derating Required for 125°C Operation
- Impregnated with an Exclusive Sprague Organic Material which Polymerizes to Form a Solid Capacitor Section
- Sections Molded in Mineral-Filled High-Temperature Plastic—All cases are 1 1/16" long
- Capacitance Tolerance of these Capacitors is ±5%

| μF | WVDC | Diam. | Cat. No. | μF | WVDC | Diam. | Cat. No. | μF | WVDC | Diam. | Cat. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| .01 | 200 | .175 | 65P10352 | .051 | 200 | .375 | 65P51352 | .002 | 300 | .175 | 65P20253 |
| .015 | 200 | .195 | 65P15352 | .056 | 200 | .375 | 65P56352 | .0039 | 300 | .175 | 65P39253 |
| .02 | 200 | .250 | 65P20352 | .062 | 200 | .375 | 65P62352 | .0047 | 300 | .175 | 65P47253 |
| .022 | 200 | .250 | 65P22352 | .082 | 200 | .375 | 65P82352 | .0051 | 300 | .175 | 65P51253 |
| .03 | 200 | .250 | 65P30352 | .091 | 200 | .375 | 65P91352 | .0056 | 300 | .175 | 65P56253 |
| .033 | 200 | .250 | 65P33352 | .1 | 200 | .375 | 65P10452 | .0068 | 300 | .175 | 65P68253 |
| .039 | 200 | .375 | 65P39352 | .001 | 300 | .175 | 65P10253 | .0082 | 300 | .195 | 65P82253 |
| .047 | 200 | .375 | 65P47352 | .0015 | 300 | .175 | 65P15253 | .0091 | 300 | .195 | 65P91253 |

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World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## VITAMIN Q® SUBMINIATURE PAPER CAPACITORS

These capacitors are the most widely used of all paper capacitors in commercial and military electronic equipment. Hermetically sealed in metal cases, they are electrically and mechanically designed to meet stringent operating requirements.

Impregnated with Vitamin Q, a substantially linear, controlled molecular weight, hydrocarbon polymer, which is exclusive with Sprague, these dependable capacitors are available for operation in two temperature ranges: −55°C to +85°C and −55°C to +125°C. Because of their Vitamin Q impregnation, these subminiature capacitors have a higher insulation resistance and longer life than comparable units with ordinary oils.

Sprague Subminiature paper capacitors exceed the performance requirements of military specification MIL-C-25A. A limited number of the ratings shown here are listed in the military specification and should be ordered by their MIL type designation where equipment specifications so require. (See page after next)

Listed below are the most popular insulated section (ungrounded case) capacitors. For information on other types, ratings, and tolerances, as well as on wax-impregnated units for absolute minimum size, consult your Sprague Industrial Distributor.

**NOTE: The capacitors listed in this table have a capacitance tolerance of ±10%. For ±20% units, change the 4th digit following the letter 'P' in the catalog number from 9 to 0.**

| µF | WVDC | INSERTED TAB CONSTRUCTION | | | | | EXTENDED FOIL CONSTRUCTION | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TYPE 91P (85°C) | | TYPE 96P (125°C) | | Size D. x L. | TYPE 191P (85°C) | | TYPE 196P (125°C) | | Size D. x L. |
| | | Plain Metal Case | Metal case with Insulating Sleeve* | Plain Metal Case | Metal case with Insulating Sleeve* | | Plain Metal Case | Metal case with Insulating Sleeve* | Plain Metal Case | Metal case with Insulating Sleeve* | |
| .001 | 100 | 91P10291S2 | 91P10291S4 | 96P10291S2 | 96P10291S4 | .175 x 3/4 | 191P10291S2 | 191P10291S4 | 196P10291S2 | 196P10291S4 | .175 x 3/4 |
| | 200 | 91P10292S2 | 91P10292S4 | 96P10292S2 | 96P10292S4 | .235 x 3/4 | 191P10292S2 | 191P10292S4 | 196P10292S2 | 196P10292S4 | .235 x 3/4 |
| | 300 | 91P10293S2 | 91P10293S4 | 96P10293S2 | 96P10293S4 | .235 x 3/4 | 191P10293S2 | 191P10293S4 | 196P10293S2 | 196P10293S4 | .235 x 3/4 |
| | 400 | 91P10294S2 | 91P10294S4 | 96P10294S2 | 96P10294S4 | .235 x 3/4 | 191P10294S2 | 191P10294S4 | 196P10294S2 | 196P10294S4 | .235 x 3/4 |
| | 600 | 91P10296S2 | 91P10296S4 | 96P10296S2 | 96P10296S4 | .235 x 3/4 | 191P10296S2 | 191P10296S4 | 196P10296S2 | 196P10296S4 | .235 x 3/4 |
| .0015 | 100 | 91P15291S2 | 91P15291S4 | 96P15291S2 | 96P15291S4 | .175 x 3/4 | 191P15291S2 | 191P15291S4 | 196P15291S2 | 196P15291S4 | .175 x 3/4 |
| | 200 | 91P15292S2 | 91P15292S4 | 96P15292S2 | 96P15292S4 | .235 x 3/4 | 191P15292S2 | 191P15292S4 | 196P15292S2 | 196P15292S4 | .235 x 3/4 |
| | 300 | 91P15293S2 | 91P15293S4 | 96P15293S2 | 96P15293S4 | .235 x 3/4 | 191P15293S2 | 191P15293S4 | 196P15293S2 | 196P15293S4 | .235 x 3/4 |
| | 400 | 91P15294S2 | 91P15294S4 | 96P15294S2 | 96P15294S4 | .235 x 3/4 | 191P15294S2 | 191P15294S4 | 196P15294S2 | 196P15294S4 | .235 x 3/4 |
| | 600 | 91P15296S2 | 91P15296S4 | 96P15296S2 | 96P15296S4 | .235 x 3/4 | 191P15296S2 | 191P15296S4 | 196P15296S2 | 196P15296S4 | .235 x 3/4 |
| .0022 | 100 | 91P22291S2 | 91P22291S4 | 96P22291S2 | 96P22291S4 | .175 x 3/4 | 191P22291S2 | 191P22291S4 | 196P22291S2 | 196P22291S4 | .175 x 3/4 |
| | 200 | 91P22292S2 | 91P22292S4 | 96P22292S2 | 96P22292S4 | .235 x 3/4 | 191P22292S2 | 191P22292S4 | 196P22292S2 | 196P22292S4 | .235 x 3/4 |
| | 300 | 91P22293S2 | 91P22293S4 | 96P22293S2 | 96P22293S4 | .235 x 3/4 | 191P22293S2 | 191P22293S4 | 196P22293S2 | 196P22293S4 | .235 x 3/4 |
| | 400 | 91P22294S2 | 91P22294S4 | 96P22294S2 | 96P22294S4 | .235 x 3/4 | 191P22294S2 | 191P22294S4 | 196P22294S2 | 196P22294S4 | .235 x 3/4 |
| | 600 | 91P22296S2 | 91P22296S4 | 96P22296S2 | 96P22296S4 | .235 x 3/4 | 191P22296S2 | 191P22296S4 | 196P22296S2 | 196P22296S4 | .235 x 3/4 |
| .0033 | 100 | 91P33291S2 | 91P33291S4 | 96P33291S2 | 96P33291S4 | .175 x 3/4 | 191P33291S2 | 191P33291S4 | 196P33291S2 | 196P33291S4 | .175 x 3/4 |
| | 200 | 91P33292S2 | 91P33292S4 | 96P33292S2 | 96P33292S4 | .235 x 3/4 | 191P33292S2 | 191P33292S4 | 196P33292S2 | 196P33292S4 | .235 x 3/4 |
| | 300 | 91P33293S2 | 91P33293S4 | 96P33293S2 | 96P33293S4 | .235 x 3/4 | 191P33293S2 | 191P33293S4 | 196P33293S2 | 196P33293S4 | .235 x 3/4 |
| | 400 | 91P33294S2 | 91P33294S4 | 96P33294S2 | 96P33294S4 | .235 x 3/4 | 191P33294S2 | 191P33294S4 | 196P33294S2 | 196P33294S4 | .235 x 3/4 |
| | 600 | 91P33296S2 | 91P33296S4 | 96P33296S2 | 96P33296S4 | .235 x 3/4 | 191P33296S2 | 191P33296S4 | 196P33296S2 | 196P33296S4 | .312 x 7/8 |
| .0047 | 100 | 91P47291S2 | 91P47291S4 | 96P47291S2 | 96P47291S4 | .175 x 3/4 | 191P47291S2 | 191P47291S4 | 196P47291S2 | 196P47291S4 | .175 x 3/4 |
| | 200 | 91P47292S2 | 91P47292S4 | 96P47292S2 | 96P47292S4 | .235 x 3/4 | 191P47292S2 | 191P47292S4 | 196P47292S2 | 196P47292S4 | .235 x 3/4 |
| | 300 | 91P47293S2 | 91P47293S4 | 96P47293S2 | 96P47293S4 | .235 x 3/4 | 191P47293S2 | 191P47293S4 | 196P47293S2 | 196P47293S4 | .235 x 3/4 |
| | 400 | 91P47294S2 | 91P47294S4 | 96P47294S2 | 96P47294S4 | .235 x 3/4 | 191P47294S2 | 191P47294S4 | 196P47294S2 | 196P47294S4 | .312 x 7/8 |
| | 600 | 91P47296S2 | 91P47296S4 | 96P47296S2 | 96P47296S4 | .235 x 3/4 | 191P47296S2 | 191P47296S4 | 196P47296S2 | 196P47296S4 | .312 x 7/8 |
| .0068 | 100 | 91P68291S2 | 91P68291S4 | 96P68291S2 | 96P68291S4 | .175 x 3/4 | 191P68291S2 | 191P68291S4 | 196P68291S2 | 196P68291S4 | .195 x 3/4 |
| | 200 | 91P68292S2 | 91P68292S4 | 96P68292S2 | 96P68292S4 | .235 x 3/4 | 191P68292S2 | 191P68292S4 | 196P68292S2 | 196P68292S4 | .235 x 3/4 |
| | 300 | 91P68293S2 | 91P68293S4 | 96P68293S2 | 96P68293S4 | .235 x 3/4 | 191P68293S2 | 191P68293S4 | 196P68293S2 | 196P68293S4 | .312 x 7/8 |
| | 400 | 91P68294S2 | 91P68294S4 | 96P68294S2 | 96P68294S4 | .235 x 3/4 | 191P68294S2 | 191P68294S4 | 196P68294S2 | 196P68294S4 | .312 x 7/8 |
| | 600 | 91P68296S2 | 91P68296S4 | 96P68296S2 | 96P68296S4 | .235 x 3/4 | 191P68296S2 | 191P68296S4 | 196P68296S2 | 196P68296S4 | .312 x 7/8 |
| .01 | 100 | 91P10391S2 | 91P10391S4 | 96P10391S2 | 96P10391S4 | .175 x 3/4 | 191P10391S2 | 191P10391S4 | 196P10391S2 | 196P10391S4 | .235 x 3/4 |
| | 200 | 91P10392S2 | 91P10392S4 | 96P10392S2 | 96P10392S4 | .235 x 3/4 | 191P10392S2 | 191P10392S4 | 196P10392S2 | 196P10392S4 | .312 x 7/8 |
| | 300 | 91P10393S2 | 91P10393S4 | 96P10393S2 | 69P10393S4 | .235 x 3/4 | 191P10393S2 | 191P10393S4 | 196P10393S2 | 196P10393S4 | .312 x 7/8 |
| | 400 | 91P10394S2 | 91P10394S4 | 96P10394S2 | 96P10394S4 | .235 x 3/4 | 191P10394S2 | 191P10394S4 | 196P10394S2 | 196P10394S4 | .312 x 7/8 |
| | 600 | 91P10396S2 | 91P10396S4 | 96P10396S2 | 96P10396S4 | .312 x 7/8 | 191P10396S2 | 191P10396S4 | 196P10396S2 | 196P10396S4 | .312 x 7/8 |
| .015 | 100 | 91P15391S2 | 91P15391S4 | 96P15391S2 | 96P15391S4 | .175 x 3/4 | 191P15391S2 | 191P15391S4 | 196P15391S2 | 196P15391S4 | .235 x 3/4 |
| | 200 | 91P15392S2 | 91P15392S4 | 96P15392S2 | 96P15392S4 | .235 x 3/4 | 191P15392S2 | 191P15392S4 | 196P15392S2 | 196P15392S4 | .312 x 7/8 |
| | 300 | 91P15393S2 | 91P15393S4 | 96P15393S2 | 96P15393S4 | .235 x 3/4 | 191P15393S2 | 191P15393S4 | 196P15393S2 | 196P15393S4 | .312 x 7/8 |
| | 400 | 91P15394S2 | 91P15394S4 | 96P15394S2 | 96P15394S4 | .312 x 7/8 | 191P15394S2 | 191P15394S4 | 196P15394S2 | 196P15394S4 | .312 x 7/8 |
| | 600 | 91P15396S2 | 91P15396S4 | 96P15396S2 | 96P15396S4 | .312 x 7/8 | 191P15396S2 | 191P15396S4 | 196P15396S2 | 196P15396S4 | .400 x 7/8 |

*On Style 4 units (metal case with insulating sleeve) add .0625" to Diameter and 1/16" to Length.


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World Radio History

## VITAMIN Q® SUBMINIATURE PAPER CAPACITORS, continued

| µF | WVDC | INSERTED TAB CONSTRUCTION | | | | | EXTENDED FOIL CONSTRUCTION | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TYPE 91P (85°C) | | TYPE 96P (125°C) | | Size D. x L. | TYPE 191P (85°C) | | TYPE 196P (125°C) | | Size D. x L. |
| | | Plain Metal Case | Metal case with Insulating Sleeve* | Plain Metal Case | Metal case with Insulating Sleeve* | | Plain Metal Case | Metal case with Insulating Sleeve* | Plain Metal Case | Metal case with Insulating Sleeve* | |
| .022 | 100 | 91P22391S2 | 91P22391S4 | 96P22391S2 | 96P22391S4 | .195 x 3/4 | 191P22391S2 | 191P22391S4 | 196P22391S2 | 196P22391S4 | .312 x 7/8 |
| | 200 | 91P22392S2 | 91P22392S4 | 96P22392S2 | 96P22392S4 | .235 x 3/4 | 191P22392S2 | 191P22392S4 | 196P22392S2 | 196P22392S4 | .312 x 7/8 |
| | 300 | 91P22393S2 | 91P22393S4 | 96P22393S2 | 96P22393S4 | .312 x 7/8 | 191P22393S2 | 191P22393S4 | 196P22393S2 | 196P22393S4 | .312 x 7/8 |
| | 400 | 91P22394S2 | 91P22394S4 | 96P22394S2 | 96P22394S4 | .312 x 7/8 | 191P22394S2 | 191P22394S4 | 196P22394S2 | 196P22394S4 | .400 x 7/8 |
| | 600 | 91P22396S2 | 91P22396S4 | 96P22396S2 | 96P22396S4 | .312 x 7/8 | 191P22396S2 | 191P22396S4 | 196P22396S2 | 196P22396S4 | .400 x 7/8 |
| .033 | 100 | 91P33391S2 | 91P33391S4 | 96P33391S2 | 96P33391S4 | .235 x 3/4 | 191P33391S2 | 191P33391S4 | 196P33391S2 | 196P33391S4 | .312 x 7/8 |
| | 200 | 91P33392S2 | 91P33392S4 | 96P33392S2 | 96P33392S4 | .312 x 7/8 | 191P33392S2 | 191P33392S4 | 196P33392S2 | 196P33392S4 | .312 x 7/8 |
| | 300 | 91P33393S2 | 91P33393S4 | 96P33393S2 | 96P33393S4 | .312 x 7/8 | 191P33393S2 | 191P33393S4 | 196P33393S2 | 196P33393S4 | .400 x 7/8 |
| | 400 | 91P33394S2 | 91P33394S4 | 96P33394S2 | 96P33394S4 | .312 x 7/8 | 191P33394S2 | 191P33394S4 | 196P33394S2 | 196P33394S4 | .400 x 7/8 |
| | 600 | 91P33396S2 | 91P33396S4 | 96P33396S2 | 96P33396S4 | .400 x 7/8 | 191P33396S2 | 191P33396S4 | 196P33396S2 | 196P33396S4 | .400 x 1 1/8 |
| .047 | 100 | 91P47391S2 | 91P47391S4 | 96P47391S2 | 96P47391S4 | .312 x 7/8 | 191P47391S2 | 191P47391S4 | 196P47391S2 | 196P47391S4 | .312 x 7/8 |
| | 200 | 91P47392S2 | 91P47392S4 | 96P47392S2 | 96P47392S4 | .312 x 7/8 | 191P47392S2 | 191P47392S4 | 196P47392S2 | 196P47392S4 | .400 x 7/8 |
| | 300 | 91P47393S2 | 91P47393S4 | 96P47393S2 | 96P47393S4 | .312 x 7/8 | 191P47393S2 | 191P47393S4 | 196P47393S2 | 196P47393S4 | .400 x 7/8 |
| | 400 | 91P47394S2 | 91P47394S4 | 96P47394S2 | 96P47394S4 | .400 x 7/8 | 191P47394S2 | 191P47394S4 | 196P47394S2 | 196P47394S4 | .400 x 1 1/8 |
| | 600 | 91P47396S2 | 91P47396S4 | 96P47396S2 | 96P47396S4 | .400 x 1 1/8 | 191P47396S2 | 191P47396S4 | 196P47396S2 | 196P47396S4 | .400 x 1 3/8 |
| .068 | 100 | 91P68391S2 | 91P68391S4 | 96P68391S2 | 96P68391S4 | .312 x 7/8 | 191P68391S2 | 191P68391S4 | 196P68391S2 | 196P68391S4 | .400 x 7/8 |
| | 200 | 91P68392S2 | 91P68392S4 | 96P68392S2 | 96P68392S4 | .312 x 7/8 | 191P68392S2 | 191P68392S4 | 196P68392S2 | 196P68392S4 | .400 x 7/8 |
| | 300 | 91P68393S2 | 91P68393S4 | 96P68393S2 | 96P68393S4 | .400 x 7/8 | 191P68393S2 | 191P68393S4 | 196P68393S2 | 196P68393S4 | .400 x 1 1/8 |
| | 400 | 91P68394S2 | 91P68394S4 | 96P68394S2 | 96P68394S4 | .400 x 1 1/8 | 191P68394S2 | 191P68394S4 | 196P68394S2 | 196P68394S4 | .400 x 1 3/8 |
| | 600 | 91P68396S2 | 91P68396S4 | 96P68496S2 | 96P68396S4 | .400 x 1 3/8 | 191P68396S2 | 191P68396S4 | 196P68396S2 | 196P68396S4 | .562 x 1 1/8 |
| .1 | 100 | 91P10491S2 | 91P10491S4 | 96P10491S2 | 96P10491S4 | .312 x 7/8 | 191P10491S2 | 191P10491S4 | 196P10491S2 | 196P10491S4 | .400 x 7/8 |
| | 200 | 91P10492S2 | 91P10492S4 | 96P10492S2 | 96P10492S4 | .400 x 7/8 | 191P10492S2 | 191P10492S4 | 196P10492S2 | 196P10492S4 | .400 x 1 1/8 |
| | 300 | 91P10493S2 | 91P10493S4 | 96P10493S2 | 96P10493S4 | .400 x 1 1/8 | 191P10493S2 | 191P10493S4 | 196P10493S2 | 196P10493S4 | .400 x 1 3/8 |
| | 400 | 91P10494S2 | 91P10494S4 | 96P10494S2 | 96P10494S4 | .400 x 1 3/8 | 191P10494S2 | 191P10494S4 | 196P10494S2 | 196P10494S4 | .562 x 1 1/8 |
| | 600 | 91P10496S2 | 91P10496S4 | 96P10496S2 | 96P10496S4 | .562 x 1 1/8 | 191P10496S2 | 191P10496S4 | 196P10496S2 | 196P10496S4 | .562 x 1 3/8 |
| .15 | 100 | 91P15491S2 | 91P15491S4 | 96P15491S2 | 96P15491S4 | .400 x 7/8 | 191P15491S2 | 191P15491S4 | 196P15491S2 | 196P15491S4 | .400 x 1 1/8 |
| | 200 | 91P15492S2 | 91P15492S4 | 96P15492S2 | 96P15492S4 | .400 x 1 1/8 | 191P15492S2 | 191P15492S4 | 196P15492S2 | 196P15492S4 | .400 x 1 3/8 |
| | 300 | 91P15493S2 | 91P15493S4 | 96P15493S2 | 96P15493S4 | .400 x 1 3/8 | 191P15493S2 | 191P15493S4 | 196P15493S2 | 196P15493S4 | .562 x 1 1/8 |
| | 400 | 91P15494S2 | 91P15494S4 | 96P15494S2 | 96P15494S4 | .562 x 1 1/8 | 191P15494S2 | 191P15494S4 | 196P15494S2 | 196P15494S4 | .562 x 1 3/8 |
| | 600 | 91P15496S2 | 91P15496S4 | 96P15496S2 | 96P15496S4 | .562 x 1 3/8 | 191P15496S2 | 191P15496S4 | 196P15496S2 | 196P15496S4 | .562 x 1 5/8 |
| .22 | 100 | 91P22491S2 | 91P22491S4 | 96P22491S2 | 96P22491S4 | .400 x 1 1/8 | 191P22491S2 | 191P22491S4 | 196P22491S2 | 196P22491S4 | .400 x 1 3/8 |
| | 200 | 91P22492S2 | 91P22492S4 | 96P22492S2 | 96P22492S4 | .400 x 1 3/8 | 191P22492S2 | 191P22492S4 | 196P22492S2 | 196P22492S4 | .562 x 1 1/8 |
| | 300 | 91P22493S2 | 91P22493S4 | 96P22493S2 | 96P22493S4 | .562 x 1 1/8 | 191P22493S2 | 191P22493S4 | 196P22493S2 | 196P22493S4 | .562 x 1 3/8 |
| | 400 | 91P22494S2 | 91P22494S4 | 96P22494S2 | 96P22494S4 | .562 x 1 3/8 | 191P22494S2 | 191P22494S4 | 196P22494S2 | 196P22494S4 | .562 x 1 5/8 |
| | 600 | 91P22496S2 | 91P22496S4 | 96P22496S2 | 96P22496S4 | .562 x 1 7/8 | 191P22496S2 | 191P22496S4 | 196P22496S2 | 196P22496S4 | .670 x 1 5/8 |
| .33 | 100 | 91P33491S2 | 91P33491S4 | 96P33491S2 | 96P33491S4 | .400 x 1 3/8 | 191P33491S2 | 191P33491S4 | 196P33491S2 | 196P33491S4 | .562 x 1 1/8 |
| | 200 | 91P33492S2 | 91P33492S4 | 96P33492S2 | 96P33492S4 | .562 x 1 1/8 | 191P33492S2 | 191P33492S4 | 196P33492S2 | 196P33492S4 | .562 x 1 3/8 |
| | 300 | 91P33493S2 | 91P33493S4 | 96P33493S2 | 96P33493S4 | .562 x 1 3/8 | 191P33493S2 | 191P33493S4 | 196P33493S2 | 196P33493S4 | .562 x 1 5/8 |
| | 400 | 91P33494S2 | 91P33494S4 | 96P33494S2 | 96P33494S4 | .562 x 1 7/8 | 191P33494S2 | 191P33494S4 | 196P33494S2 | 196P33494S4 | .670 x 1 5/8 |
| | 600 | 91P33496S2 | 91P33496S4 | 96P33496S2 | 96P33496S4 | .670 x 1 7/8 | 191P33496S2 | 191P33496S4 | 196P33496S2 | 196P33496S4 | .750 x 2 1/8 |
| .47 | 100 | 91P47491S2 | 91P47491S4 | 96P47491S2 | 96P47491S4 | .562 x 1 1/8 | 191P47491S2 | 191P47491S4 | 196P47491S2 | 196P47491S4 | .562 x 1 3/8 |
| | 200 | 91P47492S2 | 91P47492S4 | 96P47492S2 | 96P47492S4 | .562 x 1 3/8 | 191P47492S2 | 191P47492S4 | 196P47492S2 | 196P47492S4 | .562 x 1 5/8 |
| | 300 | 91P47493S2 | 91P47493S4 | 96P47493S2 | 96P47493S4 | .562 x 1 7/8 | 191P47493S2 | 191P47493S4 | 196P47493S2 | 196P47493S4 | .670 x 1 5/8 |
| | 400 | 91P47494S2 | 91P47494S4 | 96P47494S2 | 96P47494S4 | .670 x 1 7/8 | 191P47494S2 | 191P47494S4 | 196P47494S2 | 196P47494S4 | .750 x 2 1/8 |
| | 600 | 91P47496S2 | 91P47496S4 | 96P47496S2 | 96P47496S4 | .750 x 2 1/8 | 191P47496S2 | 191P47496S4 | 196P47496S2 | 196P47496S4 | .750 x 2 5/8 |
| .68 | 100 | 91P68491S2 | 91P68491S4 | 96P68491S2 | 96P68491S4 | .562 x 1 3/8 | 191P68491S2 | 191P68491S4 | 196P68491S2 | 196P68491S4 | .562 x 1 5/8 |
| | 200 | 91P68492S2 | 91P68492S4 | 96P68492S2 | 96P68492S4 | .562 x 1 7/8 | 191P68492S2 | 191P68492S4 | 196P68492S2 | 196P68492S4 | .670 x 1 5/8 |
| | 300 | 91P68493S2 | 91P68493S4 | 96P68493S2 | 96P68493S4 | .670 x 1 7/8 | 191P68493S2 | 191P68493S4 | 196P68493S2 | 196P68493S4 | .750 x 2 1/8 |
| 1.0 | 100 | 91P10591S2 | 91P10591S4 | 96P10591S2 | 96P10591S4 | .562 x 1 7/8 | 191P10591S2 | 191P10591S4 | 196P10591S2 | 196P10591S4 | .670 x 1 5/8 |
| | 200 | 91P10592S2 | 91P10592S4 | 96P10592S2 | 96P10592S4 | .670 x 1 7/8 | 191P10592S2 | 191P10592S4 | 196P10592S2 | 196P10592S4 | .750 x 2 1/8 |

*On Style 4 units (metal case with insulating sleeve) add .0625" to Diameter and 1/16" to Length.

### CHOICE OF INSERTED TAB OR EXTENDED FOIL CONSTRUCTION

In the past, inserted tab capacitors have not been recommended for low-voltage applications (e.g., below 10 volts) but recent improvements in design now make it possible to recommend them for operation at all voltages from 1 to rated, in nearly all applications.

From the application standpoint, the principal difference between the two construction types is that, at resonance, losses are likely to be lower in the extended foil type. This is because the resistive component of impedance is likely to be higher at resonance in the inserted tab type of construction. Unless unusual circuit requirements make the losses at resonance a critical factor, the inserted tab construction is recommended, primarily because of the smaller size of the capacitor roll.

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World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## MIL-C-25A CAPACITORS — TYPES CP04 and CP05

- Impregnation with Vitamin Q assures capacitors exceed MIL-C-25A performance requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP04 has plain metal case—Type CP05 has insulating sleeve.
- Available in Characteristic E (−55°C to +85°C) or Characteristic K (−55°C to +125°C).
- Only popular insulated section (ungrounded case) capacitors are listed. For information on grounded case units, consult your Sprague Industrial Distributor.

**NOTE: The capacitors listed in this table have a capacitance tolerance of ±10%. For ±20% units, change the last letter in the catalog number from K to M.**

| µF | WVDC | TYPE CP04 Plain Metal Case | | | TYPE CP05 Metal Case with Insulating Sleeve | | |
|---|---|---|---|---|---|---|---|
| | | Char. E −55°C to +85°C | Char. K −55°C to +125°C | Size D. x L. | Char. E −55°C to +85°C | Char. K −55°C to +125°C | Size D. x L. |
| .001 | 600 | CP04A1EF102K | CP04A1KF102K | .235 x 3/4 | CP05A1EF102K | CP05A1KF102K | .298 x 13/16 |
| .0015 | 600 | CP04A1EF152K | CP04A1KF152K | .235 x 3/4 | CP05A1EF152K | CP05A1KF152K | .298 x 13/16 |
| .0022 | 600 | CP04A1EF222K | CP04A1KF222K | .235 x 3/4 | CP05A1EF222K | CP05A1KF222K | .298 x 13/16 |
| .0033 | 600 | CP04A1EF332K | CP04A1KF332K | .235 x 3/4 | CP05A1EF332K | CP05A1KF332K | .298 x 13/16 |
| .0047 | 600 | CP04A1EF472K | CP04A1KF472K | .235 x 3/4 | CP05A1EF472K | CP05A1KF472K | .298 x 13/16 |
| .0068 | 600 | CP04A1EF682K | CP04A1KF682K | .235 x 3/4 | CP05A1EF682K | CP05A1KF682K | .298 x 13/16 |
| .01 | 400 | CP04A1EE103K | CP04A1KE103K | .235 x 3/4 | CP05A1EE103K | CP05A1KE103K | .298 x 13/16 |
| | 600 | CP04A1EF103K | CP04A1KF103K | .312 x 7/8 | CP05A1EF103K | CP05A1KF103K | .375 x 15/16 |
| .015 | 200 | CP04A1EC153K | CP04A1KC153K | .235 x 3/4 | CP05A1EC153K | CP05A1KC153K | .298 x 13/16 |
| | 600 | CP04A1EF153K | CP04A1KF153K | .312 x 7/8 | CP05A1EF153K | CP05A1KF153K | .375 x 15/16 |
| .022 | 200 | CP04A1EC223K | CP04A1KC223K | .235 x 3/4 | CP05A1EC223K | CP05A1KC223K | .298 x 13/16 |
| | 600 | CP04A1EF223K | CP04A1KF223K | .312 x 7/8 | CP05A1EF223K | CP05A1KF223K | .375 x 15/16 |
| .033 | 100 | CP04A1EB333K | CP04A1KB333K | .235 x 3/4 | CP05A1EB333K | CPO5A1KB333K | .298 x 13/16 |
| | 400 | CP04A1EE333K | CP04A1KE333K | .312 x 7/8 | CP05A1EE333K | CP05A1KE333K | .375 x 15/16 |
| | 600 | CP04A1EF333K | CP04A1KF333K | .400 x 7/8 | CP05A1EF333K | CP05A1KF333K | .463 x 15/16 |
| .047 | 200 | CP04A1EC473K | CP04A1KC473K | .312 x 7/8 | CP05A1EC473K | CP05A1KC473K | .375 x 15/16 |
| | 400 | CP04A1EE473K | CP04A1KE473K | .400 x 7/8 | CP05A1EE473K | CP05A1KF473K | .463 x 15/16 |
| | 600 | CP04A1EF473K | CP04A1KF473K | .400 x 1 1/8 | CP05A1EF473K | CP05A1KF473K | .463 x 15/16 |
| .068 | 200 | CP04A1EC683K | CP04A1KC683K | .312 x 7/8 | CP05A1EC683K | CP05A1KC683K | .375 x 15/16 |
| | 400 | CP04A1EE683K | CP04A1KE683K | .400 x 1 1/8 | CP05A1EE683K | CP05A1KE683K | .463 x 1 3/16 |
| | 600 | CP04A1EF683K | CP04A1KF683K | .400 x 1 3/8 | CP05A1EF683K | CP05A1KF683K | .463 x 1 7/16 |
| .1 | 100 | CP04A1EB104K | CP04A1KB104K | .312 x 7/8 | CP05A1EB104K | CP05A1KB104K | .375 x 15/16 |
| | 200 | CP04A1EC104K | CP04A1KC104K | .400 x 7/8 | CP05A1EC104K | CP05A1KC104K | .463 x 15/16 |
| | 400 | CP04A1EE104K | CP04A1KE104K | .400 x 1 3/8 | CP05A1EE104K | CP05A1KE104K | .463 x 1 7/16 |
| | 600 | CP04A1EF104K | CP04A1KF104K | .562 x 1 1/8 | CP05A1EF104K | CP05A1KF104K | .625 x 1 3/16 |
| .15 | 100 | CP04A1EB154K | CP04A1KB154K | .400 x 7/8 | CP05A1EB154K | CP05A1KB154K | .463 x 15/16 |
| | 200 | CP04A1EC154K | CP04A1KC154K | .400 x 1 1/8 | CP05A1EC154K | CP05A1KC154K | .463 x 1 3/16 |
| | 400 | CPO4A1EE154K | CP04A1KE154K | .562 x 1 1/8 | CP05A1EE154K | CP05A1KE154K | .625 x 1 3/16 |
| | 600 | CP04A1EF154K | CP04A1KF154K | .562 x 1 3/8 | CP05A1EF154K | CP05A1KF154K | .625 x 1 7/16 |
| .22 | 100 | CP04A1EB224K | CP04A1KB224K | .400 x 1 3/8 | CP05A1EB224K | CP05A1KB224K | .463 x 1 3/16 |
| | 200 | CP04A1EC224K | CP04A1KC224K | .400 x 1 3/8 | CP05A1EC224K | CP05A1KC224K | .463 x 1 7/16 |
| | 400 | CP04A1EE224K | CP04A1KE224K | .562 x 1 3/8 | CP05A1EE224K | CP05A1KE224K | .625 x 1 7/16 |
| | 600 | CP04A1EF224K | CP04A1KF224K | .562 x 1 7/8 | CP05A1EF224K | CP05A1KF224K | .625 x 1 15/16 |
| .33 | 100 | CP04A1EB334K | CP04A1KB334K | .400 x 1 3/8 | CP05A1EB334K | CP05A1KB334K | .463 x 1 7/16 |
| | 200 | CP04A1EC334K | CP04A1KC334K | .562 x 1 1/8 | CP05A1EC334K | CP05A1KC334K | .625 x 1 3/16 |
| | 400 | CP04A1EE334K | CP04A1KE334K | .562 x 1 7/8 | CP05A1EE334K | CP05A1KE334K | .625 x 1 15/16 |
| | 600 | CP04A1EF334K | CP04A1KF334K | .670 x 1 7/8 | CP05A1EF334K | CP05A1KF334K | .733 x 1 15/16 |
| .47 | 100 | CP04A1EB474K | CP04A1KB474K | .562 x 1 1/8 | CP05A1EB474K | CP05A1KB474K | .625 x 1 3/16 |
| | 200 | CP04A1EC474K | CP04A1KC474K | .562 x 1 3/8 | CP05A1EC474K | CP05A1KC474K | .625 x 1 7/16 |
| | 400 | CP04A1EE474K | CP04A1KE474K | .670 x 1 7/8 | CP05A1EE474K | CP05A1KE474K | .733 x 1 15/16 |
| | 600 | CP04A1EF474K | CP04A1KF474K | .750 x 2 1/8 | CP05A1EF474K | CP05A1KF474K | .813 x 2 3/16 |
| .68 | 100 | CP04A1EB684K | CP04A1KB684K | .562 x 1 3/8 | CP05A1EB684K | CP05A1KB684K | .625 x 1 7/16 |
| | 200 | CP04A1EC684K | CP04A1KC684K | .562 x 1 7/8 | CP05A1EC684K | CP05A1KC684K | .625 x 1 15/16 |
| | 400 | CP04A1EE684K | CP04A1KE684K | .750 x 2 1/8 | CP05A1EE684K | CP05A1KE684K | .813 x 2 3/16 |
| | 600 | CP04A1EF684K | CP04A1KF684K | 1.0 x 1 7/8 | CP05A1EF684K | CP05A1KF684K | 1.063 x 1 15/16 |
| 1.0 | 100 | CP04A1EB105K | CP04A1KB105K | .562 x 1 7/8 | CP05A1EB105K | CP05A1KB105K | .625 x 1 15/16 |
| | 200 | CP04A1EC105K | CP04A1KC105K | .670 x 1 7/8 | CP05A1EC105K | CP05A1KC105K | .733 x 1 15/16 |
| | 400 | CP04A1EE105K | CP04A1KE105K | 1.0 x 1 7/8 | CP05A1EE105K | CP05A1KE105K | 1.063 x 1 15/16 |


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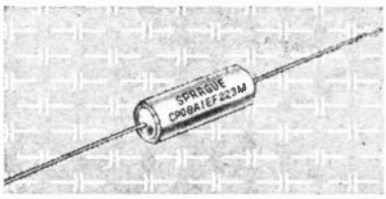
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## MIL-C-25A CAPACITORS — TYPES CP08 and CP09

- Vitamin Q impregnation assures performance above and beyond MIL-C-25A requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Available in Characteristic E (−55°C to +85°C) or Characteristic K (−55°C to +125°C).
- Type CP08 has plain metal case—Type CP09 has insulating sleeve.
- Extended foil (so-called non-inductive section) construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.




**NOTE: The capacitors listed in this table have a capacitance tolerance of ±10%. For ±20% units, change the last letter in the catalog number from K to M.**

| µF | WVDC | TYPE CP08 Plain Metal Case | | | TYPE CP09 Metal Case with Insulating Sleeve | | |
|---|---|---|---|---|---|---|---|
| | | Char. E −55 C to +85 C | Char. K −55 C to +125°C | Size D. x L. | Char. E −55°C to +85°C | Char. K −55°C to +125°C | Size D. x L. |
| .001 | 600 | CP08A1EF102K | CP08A1KF102K | .235 x 3/4 | CP09A1EF102K | CP09A1KF102K | .298 x 13/16 |
| .0015 | 600 | CP08A1EF152K | CP08A1KF152K | .235 x 3/4 | CP09A1EF152K | CP09A1KF152K | .298 x 13/16 |
| .0022 | 600 | CP08A1EF222K | CP08A1KF222K | .235 x 3/4 | CP09A1EF222K | CP09A1KF222K | .298 x 13/16 |
| .0033 | 400 | CP08A1EE332K | CP08A1KE332K | .235 x 3/4 | CP09A1EE332K | CP09A1KF332K | .298 x 13/16 |
| | 600 | CP08A1EF332K | CP08A1KF332K | .312 x 7/8 | CP09A1EF332K | CP09A1KF332K | .375 x 15/16 |
| .0047 | 200 | CP08A1EC472K | CP08A1KC472K | .235 x 3/4 | CP09A1EC472K | CP09A1KC472K | .298 x 13/16 |
| | 600 | CP08A1EF472K | CP08A1KF472K | .312 x 7/8 | CP09A1EF472K | CP09A1KF472K | .375 x 15/16 |
| .0068 | 200 | CP08A1EC682K | CP08A1KC682K | .235 x 3/4 | CP09A1EC682K | CP09A1KC682K | .298 x 13/16 |
| | 600 | CP08A1EF682K | CP08A1KF682K | .312 x 7/8 | CP09A1EF682K | CP09A1KF682K | .375 x 15/16 |
| .01 | 100 | CP08A1EB103K | CP08A1KB103K | .235 x 3/4 | CP09A1EB103K | CP09A1KB103K | .298 x 13/16 |
| | 600 | CP08A1EF103K | CP08A1KF103K | .312 x 7/8 | CP09A1EF103K | CP09A1KF103K | .375 x 15/16 |
| .015 | 100 | CP08A1EB153K | CP08A1KB153K | .235 x 3/4 | CP09A1EB153K | CP09A1KB153K | .298 x 13/16 |
| | 400 | CP08A1EE153K | CP08A1KE153K | .312 x 7/8 | CP09A1EE153K | CP09A1KE153K | .375 x 15/16 |
| | 600 | CP08A1EF153K | CP08A1KF153K | .400 x 7/8 | CP09A1EF153K | CP09A1KF153K | .463 x 15/16 |
| .022 | 200 | CP08A1EC223K | CP08A1KC223K | .312 x 7/8 | CP09A1EC223K | CP09A1KC223K | .375 x 15/16 |
| | 600 | CP08A1EF223K | CP08A1KF223K | .400 x 7/8 | CP09A1EF223K | CP09A1KF223K | .463 x 15/16 |
| .033 | 200 | CP08A1EC333K | CP08A1KC333K | .312 x 7/8 | CP09A1EC333K | CP09A1KC333K | .375 x 15/16 |
| | 400 | CP08A1EE333K | CP08A1KE333K | .400 x 7/8 | CP09A1EE333K | CP09A1KE333K | .463 x 15/16 |
| | 600 | CP08A1EF333K | CP08A1KF333K | .400 x 1 1/8 | CP09A1EF333K | CP09A1KF333K | .463 x 1 3/16 |
| .047 | 100 | CP08A1EB473K | CP08A1KB473K | .312 x 7/8 | CP09A1EB473K | CP09A1KB473K | .375 x 15/16 |
| | 200 | CP08A1EC473K | CP08A1KC473K | .400 x 7/8 | CP09A1EC473K | CP09A1KC473K | .463 x 15/16 |
| | 400 | CP08A1EE473K | CP08A1KE473K | .400 x 1 1/8 | CP09A1EE473K | CP09A1KE473K | .463 x 1 3/16 |
| | 600 | CP08A1EF473K | CP08A1KF473K | .400 x 1 3/8 | CP09A1EF473K | CP09A1KF473K | .463 x 1 7/16 |
| .068 | 200 | CP08A1EC683K | CP08A1KC683K | .400 x 7/8 | CP09A1EC683K | CP09A1KC683K | .463 x 15/16 |
| | 400 | CP08A1EE683K | CP08A1KE683K | .400 x 1 3/8 | CP09A1EE683K | CP09A1KE683K | .463 x 1 7/16 |
| | 600 | CP08A1EF683K | CP08A1KF683K | .562 x 1 1/8 | CP09A1EF683K | CP09A1KF683K | .625 x 1 3/16 |
| .1 | 100 | CP08A1EB104K | CP08A1KB104K | .400 x 7/8 | CP09A1EB104K | CP09A1KB104K | .463 x 15/16 |
| | 200 | CP08A1EC104K | CP08A1KC104K | .400 x 1 1/8 | CP09A1EC104K | CP09A1KC104K | .463 x 1 3/16 |
| | 400 | CP08A1EE104K | CP08A1KE104K | .562 x 1 1/8 | CP09A1EE104K | CP09A1KE104K | .625 x 1 3/16 |
| | 600 | CP08A1EF104K | CP08A1KF104K | .562 x 1 3/8 | CP09A1EF104K | CP09A1KF104K | .625 x 1 7/16 |
| .15 | 100 | CP08A1EB154K | CP08A1KB154K | .400 x 1 1/8 | CP09A1EB154K | CP09A1KB154K | .463 x 1 3/16 |
| | 200 | CP08A1EC154K | CP08A1KC154K | .400 x 1 3/8 | CP09A1EC154K | CP09A1KC154K | .463 x 1 7/16 |
| | 400 | CP08A1EE154K | CP08A1KE154K | .562 x 1 3/8 | CP09A1EE154K | CP09A1KE154K | .625 x 1 7/16 |
| | 600 | CP08A1EF154K | CP08A1KF154K | .562 x 1 5/8 | CP09A1EF154K | CP09A1KF154K | .625 x 1 11/16 |
| .22 | 100 | CP08A1EB224K | CP08A1KB224K | .400 x 1 3/8 | CP09A1EB224K | CP09A1KB224K | .463 x 1 7/16 |
| | 200 | CP08A1EC224K | CP08A1KC224K | .562 x 1 1/8 | CP09A1EC224K | CP09A1KC224K | .625 x 1 3/16 |
| | 400 | CP08A1EE224K | CP08A1KE224K | .562 x 1 5/8 | CP09A1EE224K | CP09A1KE224K | .625 x 1 11/16 |
| | 600 | CP08A1EF224K | CP08A1KF224K | .670 x 1 5/8 | CP09A1EF224K | CP09A1KF224K | .733 x 1 11/16 |
| .33 | 100 | CP08A1EB334K | CP08A1KB334K | .562 x 1 1/8 | CP09A1EB334K | CP09A1KB334K | .625 x 1 3/16 |
| | 200 | CP08A1EC334K | CP08A1KC334K | .562 x 1 3/8 | CP09A1EC334K | CP09A1KC334K | .625 x 1 7/16 |
| | 400 | CP08A1EE334K | CP08A1KE334K | .670 x 1 5/8 | CP09A1EE334K | CP09A1KE334K | .733 x 1 11/16 |
| | 600 | CP08A1EF334K | CP08A1KF334K | .750 x 2 1/8 | CP09A1EF334K | CP09A1KF334K | .813 x 2 3/16 |
| .47 | 100 | CP08A1EB474K | CP08A1KB474K | .562 x 1 3/8 | CP09A1EB474K | CP09A1KB474K | .625 x 1 7/16 |
| | 200 | CP08A1EC474K | CP08A1KC474K | .562 x 1 5/8 | CP09A1EC474K | CP09A1KC474K | .625 x 1 11/16 |
| | 400 | CP08A1EE474K | CP08A1KE474K | .750 x 2 1/8 | CP09A1EE474K | CP09A1KE474K | .813 x 2 3/16 |
| | 600 | CP08A1EF474K | CPO8A1KF474K | .750 x 2 3/8 | CP09A1EF474K | CPO9A1KF474K | .813 x 2 7/16 |
| .68 | 100 | CP08A1EB684K | CP08A1KB684K | .562 x 1 5/8 | CP09A1EB684K | CP09A1KB684K | .625 x 1 11/16 |
| | 200 | CP08A1EC684K | CP08A1KC684K | .670 x 1 5/8 | CP09A1EC684K | CP09A1KC684K | .733 x 1 11/16 |
| 1.0 | 100 | CP08A1EB105K | CP08A1KB105K | .670 x 1 5/8 | CP09A1EB105K | CP09A1KB105K | .733 x 1 11/16 |
| | 200 | CP08A1EC105K | CP08A1KC105K | .750 x 2 1/8 | CP09A1EC105K | CP09A1KC105K | .813 x 2 3/16 |

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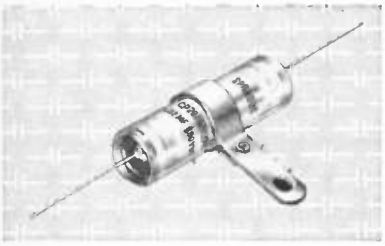
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## MIL-C-25A CAPACITORS — TYPES CP26 and CP28



- Impregnated with specially processed mineral oil to exceed performance requirements of Spec. MIL-C-25A
- Type CP26 has outer insulating sleeve— Type CP28 has insulating sleeve plus radial mounting bracket
- Hermetically sealed for protection against leakage and contamination
- Meet temperature characteristic E (−55°C to +85°C operation)
- Capacitor sections are insulated from metal cases

NOTE: Capacitors listed below have a capacitance tolerance of ±10%. For ±20% units, change last letter in catalog number from K to M.

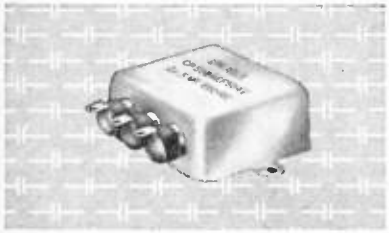
| TYPE CP26 (without Mounting Bracket) | | | | TYPE CP28 (Radial Mounting Bracket) | | | |
|---|---|---|---|---|---|---|---|
| μF | Volts | Diam. x Length | Cat. No. | μF | Volts | Diam. x Length | Cat. No. |
| .006 | 600 | 1/2 x 1 5/16 | CP26A1EF602K | .1 | 600 | 11/16 x 2 1/16 | CP28A1EF104K |
| .01 | 600 | 1/2 x 1 5/16 | CP26A1EF103K | .25 | 600 | 1 1/16 x 2 5/16 | CP28A1EF254K |
| .02 | 600 | 1/2 x 1 13/16 | CP26A1EF203K | .5 | 600 | 1 1/16 x 2 13/16 | CP28A1EF504K |
| .05 | 600 | 11/16 x 1 11/16 | CP26A1EF503K | | | | |
| .5 | 200 | 1 1/16 x 2 5/16 | CP26A1EC504K | | | | |

## MIL-C-25A CAPACITORS — TYPES CP40 and CP41

- Designed and manufactured for service life and performance characteristics exceeding MIL requirements
- Type CP40 has screw and nut connection on positive terminal, can is negative—Type CP41 has two solder lug terminals, with capacitor section insulated from metal case
- Impregnated with specially processed mineral oil for characteristic E operation—Will withstand wide temperature variations (−55°C to +85°C)
- Hermetically sealed in metal cases, with threaded screw necks for mounting purposes

NOTE: Capacitors listed below have a capacitance tolerance of ±10%. For ±20% units, change last letter in catalog number from K to M.

| TYPE CP40 (One Terminal) | | | | TYPE CP41 (Two Terminals) | | | |
|---|---|---|---|---|---|---|---|
| μF | Volts | Diam. x Length | Cat. No. | μF | Volts | Diam. x Length | Cat. No. |
| 2.0 | 600 | 1 1/2 x 3 3/8 | CP40C2EF205K | 2.0 | 600 | 1 1/2 x 3 3/8 | CP41B1EF205K |
| 4.0 | 600 | 1 1/2 x 5 1/4 | CP40C2EF405K | 4.0 | 600 | 1 1/2 x 5 1/4 | CP41B1EF405K |



## MIL-C-25A CAPACITORS—TYPE CP53

- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- −55°C to +85°C operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections—triple capacitance units have grounded cases

NOTE: Capacitors listed below have capacitance tolerances of +20%, −10% (V) or ±10% (K). For ±20% units, change last letter in catalog number from K to M or V to M.

| μF | Volts | L. x W. x H. | Cat. No. |
|---|---|---|---|
| | | **Single Capacitance** | |
| .05 | 600 | 1 13/16 x 1 x 3/4 | CP53B1EF503K |
| .05 | 1000 | 1 13/16 x 1 x 3/4 | CP53B1EG503K |
| .1 | 600 | 1 13/16 x 1 x 3/4 | CP53B1EF104K |
| .1 | 1000 | 1 13/16 x 1 x 3/4 | CP53B1EG104K |
| .25 | 600 | 1 13/16 x 1 x 3/4 | CP53B1EF254K |
| .25 | 1000 | 1 13/16 x 1 x 7/8 | CP53B1EG254K |
| .5 | 400 | 1 13/16 x 1 x 7/8 | CP53B1EE504K |
| .5 | 600 | 1 13/16 x 1 x 1 | CP53B1EF504K |
| .5 | 1000 | 2 x 1 3/4 x 7/8 | CP53B1EG504K |
| 1.0 | 600 | 2 x 1 3/4 x 1 | CP53B1EF105K |
| 1.0 | 1000 | 2 x 2 x 1 1/8 | CP53B1EG105K |
| 2.0 | 100 | 2 x 1 3/4 x 7/8 | CP53B1EB205K |
| 2.0 | 200 | 2 x 2 x 1 | CP53B1EC205K |
| 2.0 | 600 | 2 x 2 x 1 1/8 | CP53B1EF205K |
| 4.0 | 100 | 2 x 2 x 1 1/8 | CP53B1EB405K |

| μF | Volts | L. x W. x H. | Cat. No. |
|---|---|---|---|
| | | **Dual Capacitance** | |
| .05+ .05 | 600 | 1 13/16 x 1 x 3/4 | CP53B4EF503V |
| .05+ .05 | 1000 | 1 13/16 x 1 x 3/4 | CP53B4EG503V |
| .1 + .1 | 600 | 1 13/16 x 1 x 3/4 | CP53B4EF104V |
| .1 + .1 | 1000 | 1 13/16 x 1 x 7/8 | CP53B4EG104V |
| .25+ .25 | 600 | 1 13/16 x 1 x 1 | CP53B4EF254V |
| .25+ .25 | 1000 | 2 x 1 3/4 x 7/8 | CP53B4EG254V |
| .5 + .5 | 600 | 2 x 1 3/4 x 1 | CP53B4EF504V |
| .5 + .5 | 1000 | 2 x 2 x 1 1/8 | CP53B4EG504V |
| 1.0 +1.0 | 600 | 2 x 2 x 1 1/8 | CP53B4EF105V |
| | | **Triple Capacitance** | |
| .05+.05+.05 | 600 | 1 13/16 x 1 x 3/4 | CP53B5EF503V |
| .1 +.1 +.1 | 600 | 1 13/16 x 1 x 7/8 | CP53B5EF104V |
| .5 +.5 +.5 | 600 | 2 x 2 x 1 1/8 | CP53B5EF504V |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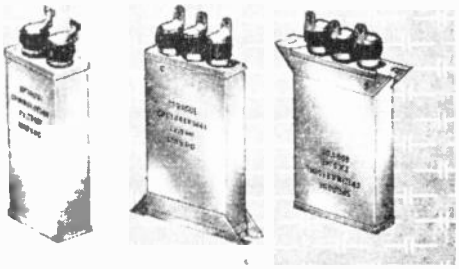
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## MIL-C-25A CAPACITORS — TYPES CP61, CP67, CP69

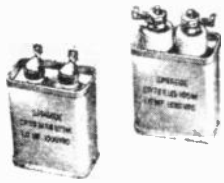
- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Have Silicone Rubber Compression Terminals for Positive Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements



**NOTE: These units have capacitance tolerances of ±10% (K) or +20%, −10% (V). For ±20% units, change the last letter in the catalog number from K to M or V to M.**

| Cap. µF | Volts DC | Type CP61 No Mounting Bracket | | Type CP67 Top Terminals | | Type CP69 Bottom Terminals | |
|---|---|---|---|---|---|---|---|
| | | Cat. No. | Size | Cat. No. | Size | Cat. No. | Size |
| .05 | 600 | CP61B1EF503K | 1 5/16 x 1 1/16 x 1 1/16 | — | — | CP69B1EF503K | 1 3/4 x 4 1/64 x 1 1/16 |
| .1 | 600 | CP61B1EF104K | 1 5/16 x 1 1/16 x 1 3/8 | CP67B1EF104K | 1 3/4 x 4 1/64 x 1 1/16 | CP69B1EF104K | 1 3/4 x 4 1/64 x 1 1/16 |
| .25 | 600 | CP61B1EF254K | 1 5/16 x 1 1/16 x 1 3/8 | CP67B1EF254K | 1 3/4 x 4 1/64 x 1 1/2 | CP69B1EF254K | 1 3/4 x 4 1/64 x 1 1/2 |
| .5 | 600 | CP61B1EF504K | 1 5/16 x 1 1/16 x 2 | CP67B1EF504K | 1 3/4 x 4 1/64 x 2 | CP69B1EF504K | 1 3/4 x 4 1/64 x 2 |
| 1.0 | 600 | CP61B1EF105K | 1 5/16 x 1 1/16 x 2 3/4 | CP67B1EF105K | 1 3/4 x 4 1/64 x 2 3/4 | CP69B1EF105K | 1 3/4 x 4 1/64 x 2 3/4 |
| .1 + .1 | 600 | CP61B6EF104V | 1 5/16 x 1 1/16 x 1 3/8 | — | — | — | — |
| .25 + .25 | 600 | CP61B6EF254V | 1 5/16 x 1 1/16 x 2 | — | — | — | — |
| .5 + .5 | 600 | CP61B6EF504V | 1 5/16 x 1 1/16 x 2 3/4 | — | — | — | — |

## MIL-C-25A CAPACITORS—TYPE CP70



- Ruggedly Constructed for Exacting Heavy-Duty Applications
- Long Life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seals (B)
- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Recommended primarily for ground equipment where no low temperatures are encountered

**NOTE: These units have a capacitance tolerance of ±10%. For ±20% tolerance, change the last letter in the catalog number from K to M.**

| Cap. µF | Volts DC | Char. E (E Term.) | | Char. F (B Term.) | | Char. E (B Term.) | |
|---|---|---|---|---|---|---|---|
| | | Cat. No. | W x T x H | Cat. No. | W x T x H | Cat. No. | W x T x H |
| .1 | 1000 | CP70E1EG104K | 1 13/16 x 1 1/16 x 1 3/8 | — | — | — | — |
| .1 | 2000 | CP70E1EJ104K | 2 1/2 x 1 3/16 x 2 1/2 | — | — | — | — |
| .25 | 1000 | CP70E1EG254K | 1 13/16 x 1 1/16 x 2 1/4 | — | — | — | — |
| .25 | 2000 | CP70E1EJ254K | 2 1/2 x 1 3/16 x 2 1/2 | — | — | — | — |
| .5 | 600 | CP70E1EF504K | 1 13/16 x 1 1/16 x 2 1/4 | — | — | — | — |
| .5 | 1000 | CP70E1EG504K | 1 13/16 x 1 1/16 x 2 1/4 | — | — | CP70B1EG504K | 1 13/16 x 1 1/16 2 1/4 |
| .5 | 1500 | CP70E1EH504K | 1 13/16 x 1 1/16 x 2 7/8 | — | — | — | — |
| .5 | 2000 | CP70E1EJ504K | 2 1/2 x 1 3/16 x 2 7/8 | — | — | — | — |
| .5 | 2500 | CP70E1EK504K | 2 1/2 x 1 3/16 x 3 7/8 | — | — | — | — |
| 1.0 | 600 | CP70E1EF105K | 1 13/16 x 1 1/16 x 2 1/4 | — | — | CP70B1EF105K | 1 13/16 x 1 1/16 x 2 1/4 |
| 1.0 | 1000 | CP70E1EG105K | 1 13/16 x 1 1/16 x 2 7/8 | — | — | CP70B1EG105K | 1 13/16 x 1 1/16 x2 7/8 |
| 1.0 | 1500 | CP70E1EH105K | 1 13/16 x 1 1/16 x 4 3/4 | — | — | — | — |
| 1.0 | 2000 | CP70E1EJ105K | 2 1/2 x 1 3/16 x 4 3/4 | — | — | — | — |
| 1.0 | 2500 | CP70E1EK105K | 3 3/4 x 1 3/4 x 3 7/8 | — | — | — | — |
| 2.0 | 600 | CP70E1EF205K | 1 13/16 x 1 1/16 x 3 1/4 | CP70B1FF205K | 1 13/16 x 1 1/16 x 2 7/8 | CP70B1EF205K | 1 13/16 x 1 1/16 x 3 1/4 |
| 2.0 | 1000 | CP70E1EG205K | 1 13/16 x 1 1/16 x 4 3/4 | CP70B1FG205K | 1 13/16 x 1 1/16 x 3 7/8 | CP70B1EG205K | 1 13/16 x 1 1/16 x 4 3/4 |
| 2.0 | 1500 | CP70E1EH205K | 2 1/2 x 1 3/16 x 4 3/4 | — | — | CP70B1EH205K | 2 1/2 x 1 3/16 x 4 3/4 |
| 2.0 | 2000 | CP70E1EJ205K | 3 3/4 x 1 1/4 x 4 3/4 | — | — | — | — |
| 2.0 | 2500 | CP70E1EK205K | 3 3/4 x 2 1/4 x 4 3/4 | — | — | — | — |
| 4.0 | 600 | CP70E1EF405K | 2 1/2 x 1 3/16 x 3 7/8 | CP70B1FF405K | 2 1/2 x 1 3/16 x 3 1/2 | CP70B1EF405K | 2 1/2 x 1 3/16 x 3 7/8 |
| 4.0 | 1000 | CP70E1EG405K | 3 3/4 x 1 1/4 x 3 7/8 | CP70B1FG405K | 2 1/2 x 1 3/16 x 4 3/4 | CP70B1EG405K | 3 3/4 x 1 1/4 x 3 7/8 |
| 4.0 | 1500 | CP70E1EH405K | 3 3/4 x 1 3/4 x 4 1/4 | — | — | CP70B1EH405K | 3 3/4 x 1 3/4 x 4 1/4 |
| 4.0 | 2000 | CP70E1EJ405K | 3 3/4 x 2 1/4 x 5 1/8 | — | — | — | — |
| 4.0 | 2500 | CP70E1EK405K | 4 9/16 x 3 3/4 x 4 3/8 | — | — | — | — |
| 6.0 | 600 | CP70E1EF605K | 3 3/4 x 1 1/4 x 3 7/8 | CP70B1FF605K | 2 1/2 x 1 3/16 x 4 3/4 | CP70B1EF605K | 3 3/4 x 1 1/4 x 3 7/8 |
| 6.0 | 1000 | CP70E1EG605K | 3 3/4 x 1 3/4 x 4 | CP70B1FG605K | 3 3/4 x 1 1/4 x 4 3/4 | CP70B1EG605K | 3 3/4 x 1 3/4 x 4 |
| 6.0 | 1500 | CP70E1EH605K | 3 3/4 x 2 1/4 x 4 3/4 | — | — | CP70B1EH605K | 3 3/4 x 2 1/4 x 4 3/4 |
| 8.0 | 600 | CP70E1EF805K | 3 3/4 x 1 1/4 x 4 1/4 | CP70B1FF805K | 3 3/4 x 1 1/4 x 3 7/8 | CP70B1EF805K | 3 3/4 x 1 1/4 x 4 1/4 |
| 8.0 | 1000 | CP70E1EG805K | 3 3/4 x 1 3/4 x 4 3/4 | CP70B1FG805K | 3 3/4 x 1 3/4 x 3 7/8 | CP70B1EG805K | 3 3/4 x 1 3/4 x 4 3/4 |
| 8.0 | 1500 | CP70E1EH805K | 3 3/4 x 2 1/2 x 5 3/4 | — | — | CP70B1EH805K | 3 3/4 x 2 1/2 x 5 3/4 |
| 10.0 | 600 | CP70E1EF106K | 3 3/4 x 1 3/4 x 4 | CP70B1FF106K | 3 3/4 x 1 1/4 x 4 3/4 | CP70B1EF106K | 3 3/4 x 1 3/4 x 4 |
| 10.0 | 1000 | CP70E1EG106K | 3 3/4 x 2 1/4 x 4 3/4 | CP70B1FG106K | 3 3/4 x 1 3/4 x 4 3/4 | CP70B1EG106K | 3 3/4 x 2 1/4 x 4 3/4 |
| 10.0 | 1500 | CP70E1EH106K | 3 3/4 x 3 3/16 x 5 1/2 | — | — | CP70B1EH106K | 3 3/4 x 3 3/16 x 5 1/2 |
| 12.0 | 1000 | CP70E1EG126K | 3 3/4 x 2 1/4 x 5 1/8 | — | — | CP70B1EG126K | 3 3/4 x 2 1/4 x 5 1/8 |
| 15.0 | 1000 | CP70E1EG156K | 3 3/4 x 3 3/16 x 4 3/4 | — | — | — | — |

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World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## 118P DIFILM® METALLIZED CAPACITORS

- The best of their type which it is possible to produce in the present state of the art
- Rated for operation at 125°C WITHOUT VOLTAGE DERATING
- Unique dual dielectric—a combination of metallized paper and of polyester film, impregnated with special high-temperature mineral wax
- Subjected to stringent quality control during manufacture
- Higher insulation resistance than any other metallized paper capacitors—at 125°C, minimum product of insulation resistance and capacitance is 10 megohm-microfarads for 200 V units or 40 megohm-microfarads for 400 and 600 V units
- Capacitor sections are effectively of non-inductive construction, resulting in capacitors unmatched in performance quality by any other metallized capacitors
- Hermetically sealed, with glass-to-metal solder-seal terminals
- Have unusual self-healing characteristics, in the rare event of capacitor dielectric breakdown
- May be used at extremely low voltages where metallized paper construction has previously been unsatisfactory
- For complete performance characteristics, see Engineering Bulletin 2211A
- Capacitors listed below are ungrounded case (insulated section) units without outer insulating sleeves. For information on other styles consult your Sprague Industrial Distributor

| μF | Diam. x Length | Catalog Number ±20% Tol. | Catalog Number ±10% Tol. |
|---|---|---|---|
| **200 WVDC** | | | |
| .01 | .235 x ¾ | 118P10302S2 | 118P10392S2 |
| .012 | .235 x ¾ | | 118P12392S2 |
| .015 | .235 x ¾ | 118P15302S2 | 118P15392S2 |
| .018 | .235 x ¾ | | 118P18392S2 |
| .022 | .235 x ¾ | 118P22302S2 | 118P22392S2 |
| .027 | .235 x ¾ | | 118P27392S2 |
| .033 | .235 x ¾ | 118P33302S2 | 118P33392S2 |
| .039 | .312 x ⅞ | | 118P39392S2 |
| .047 | .312 x ⅞ | 118P47302S2 | 118P47392S2 |
| .056 | .312 x ⅞ | | 118P56392S2 |
| .068 | .312 x ⅞ | 118P68302S2 | 118P68392S2 |
| .082 | .312 x ⅞ | | 118P82392S2 |
| .1 | .312 x ⅞ | 118P10402S2 | 118P10492S2 |
| .12 | .312 x 1⅛ | | 118P12492S2 |
| .15 | .312 x 1⅛ | 118P15402S2 | 118P15492S2 |
| .18 | .400 x ⅞ | | 118P18492S2 |
| .22 | .400 x ⅞ | 118P22402S2 | 118P22492S2 |
| .27 | .400 x 1⅛ | | 118P27492S2 |
| .33 | .400 x 1⅛ | 118P33402S2 | 118P33492S2 |
| .39 | .500 x 1⅛ | | 118P39492S2 |
| .47 | .500 x 1⅛ | 118P47402S2 | 118P47492S2 |
| .56 | .500 x 1⅛ | | 118P56492S2 |
| .68 | .500 x 1⅛ | 118P68402S2 | 118P68492S2 |
| .82 | .562 x 1⅛ | | 118P82492S2 |
| 1.0 | .562 x 1⅛ | 118P10502S2 | 118P10592S2 |
| 1.5 | .562 x 1⅝ | 118P15502S2 | 118P15592S2 |
| 2.0 | .670 x 1⅝ | 118P20502S2 | 118P20592S2 |
| 3.0 | .670 x 1⅞ | 118P30502S2 | 118P30592S2 |
| 4.0 | .750 x 1⅞ | 118P40502S2 | 118P40592S2 |
| 5.0 | 1.000 x 1⅞ | 118P50502S2 | 118P50592S2 |
| 6.0 | 1.000 x 1⅞ | 118P60502S2 | 118P60592S2 |
| 8.0 | 1.000 x 1⅞ | 118P80502S2 | 118P80592S2 |
| 10.0 | 1.000 x 2⅜ | 118P10602S2 | 118P10692S2 |
| 12.0 | 1.000 x 2⅝ | 118P12602S2 | 118P12692S2 |
| **400 WVDC** | | | |
| .01 | .312 x ⅞ | 118P10304S2 | 118P10394S2 |
| .012 | .312 x ⅞ | | 118P12394S2 |
| .015 | .312 x ⅞ | 118P15304S2 | 118P15394S2 |
| .018 | .312 x ⅞ | | 118P18394S2 |
| .022 | .312 x ⅞ | 118P22304S2 | 118P22394S2 |
| .027 | .312 x 1⅛ | | 118P27394S2 |
| .033 | .312 x 1⅛ | 118P33304S2 | 118P33394S2 |
| .039 | .400 x 1⅛ | | 118P39394S2 |
| .047 | .400 x 1⅛ | 118P47304S2 | 118P47394S2 |
| .056 | .400 x 1⅛ | | 118P56394S2 |
| .068 | .400 x 1⅛ | 118P68304S2 | 118P68394S2 |
| .082 | .500 x 1⅛ | | 118P82394S2 |
| .1 | .500 x 1⅛ | 118P10404S2 | 118P10494S2 |
| .12 | .500 x 1⅛ | | 118P12494S2 |
| .15 | .500 x 1⅛ | 118P15404S2 | 118P15494S2 |
| .18 | .562 x 1⅜ | | 118P18494S2 |
| .22 | .562 x 1⅜ | 118P22404S2 | 118P22494S2 |
| .27 | .562 x 1⅝ | | 118P27494S2 |
| .33 | .562 x 1⅝ | 118P33404S2 | 118P33494S2 |
| .39 | .670 x 1⅝ | | 118P39494S2 |
| .47 | .670 x 1⅝ | 118P47404S2 | 118P47494S2 |
| .56 | .670 x 1⅞ | | 118P56494S2 |
| .68 | .670 x 1⅞ | 118P68404S2 | 118P68494S2 |
| .82 | .750 x 1⅞ | | 118P82494S2 |
| 1.0 | .750 x 1⅞ | 118P10504S2 | 118P10594S2 |
| 1.5 | 1.000 x 1⅞ | 118P15504S2 | 118P15594S2 |
| 2.0 | 1.000 x 1⅞ | 118P20504S2 | 118P20594S2 |
| 3.0 | 1.000 x 2⅝ | 118P30504S2 | 118P30594S2 |
| **600 WVDC** | | | |
| .01 | .312 x ⅞ | 118P10306S2 | 118P10396S2 |
| .012 | .312 x ⅞ | | 118P12396S2 |
| .015 | .312 x ⅞ | 118P15306S2 | 118P15396S2 |
| .018 | .312 x 1⅛ | | 118P18396S2 |
| .022 | .312 x 1⅛ | 118P22306S2 | 118P22396S2 |
| .027 | .312 x 1⅛ | | 118P27396S2 |
| .033 | .312 x 1⅛ | 118P33306S2 | 118P33396S2 |
| .039 | .400 x 1⅛ | | 118P39396S2 |
| .047 | .400 x 1⅛ | 118P47306S2 | 118P47396S2 |
| .056 | .400 x 1⅛ | | 118P56396S2 |
| .068 | .400 x 1⅛ | 118P68306S2 | 118P68396S2 |
| .082 | .500 x 1⅛ | | 118P82396S2 |
| .1 | .500 x 1⅛ | 118P10406S2 | 118P10496S2 |
| .12 | .562 x 1⅛ | | 118P12496S2 |
| .15 | .562 x 1⅛ | 118P15406S2 | 118P15496S2 |
| .18 | .562 x 1⅜ | | 118P18496S2 |
| .22 | .562 x 1⅜ | 118P22406S2 | 118P22496S2 |
| .27 | .562 x 1⅝ | | 118P27496S2 |
| .33 | .562 x 1⅝ | 118P33406S2 | 118P33496S2 |
| .39 | .670 x 1⅝ | | 118P39496S2 |
| .47 | .670 x 1⅝ | 118P47406S2 | 118P47496S2 |
| .56 | .670 x 1⅞ | | 118P56496S2 |
| .68 | .670 x 1⅞ | 118P68406S2 | 118P68496S2 |
| .82 | 1.000 x 1⅞ | | 118P82496S2 |
| 1.0 | 1.000 x 1⅞ | 118P10506S2 | 118P10596S2 |
| 1.5 | 1.000 x 1⅞ | 118P15506S2 | 118P15596S2 |
| 2.0 | 1.000 x 2⅛ | 118P20506S2 | 118P20596S2 |
| 2.5 | 1.000 x 2⅝ | 118P25506S2 | 118P25596S2 |


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World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## 121P METALLIZED PAPER CAPACITORS

- Designed to operate at 125°C WITHOUT VOLTAGE DERATING —extremely important in military and industrial equipment where higher temperatures are encountered
- Quality of these capacitors is surpassed only by Type 118P units described on opposite page
- High insulation resistance—at 85°C, minimum product of insulation resistance and capacitance is 20 megohm-microfarads. At 125°C, minimum product is 1.0 megohm-microfarads
- Hermetically sealed with glass-to-metal solder-seal terminals—capacitor cases are of corrosion resistant materials—similar in appearance to Type 118P
- May be operated at low voltages, unlike many other metallized capacitors
- For complete performance data, see Engineering Bulletin 2210
- Capacitors listed below are ungrounded case (insulated section) units without outer insulating sleeves. For information on other styles consult your Sprague Industrial Distributor

| μF | Diam. x Length | Catalog Number ±20% Tol. | Catalog Number ±10% Tol. |
|---|---|---|---|
| **150 WVDC** | | | |
| 1.5 | .562 x 1 1/8 | 121P15501R5S2 | 121P15591R5S2 |
| 2.0 | .562 x 1 3/8 | 121P20501R5S2 | 121P20591R5S2 |
| 2.5 | .562 x 1 5/8 | 121P25501R5S2 | 121P25591R5S2 |
| 3.0 | .670 x 1 3/8 | 121P30501R5S2 | 121P30591R5S2 |
| 3.5 | .670 x 1 5/8 | 121P35501R5S2 | 121P35591R5S2 |
| 4.0 | .670 x 1 5/8 | 121P40501R5S2 | 121P40591R5S2 |
| 5.0 | .670 x 1 7/8 | 121P50501R5S2 | 121P50591R5S2 |
| 6.0 | .750 x 1 7/8 | 121P60501R5S2 | 121P60591R5S2 |
| 8.0 | .750 x 2 3/8 | 121P80501R5S2 | 121P80591R5S2 |
| 10 | .750 x 2 5/8 | 121P10601R5S2 | 121P10691R5S2 |
| 12 | 1.000 x 1 7/8 | 121P12601R5S2 | 121P12691R5S2 |
| 14 | 1.000 x 2 1/8 | 121P14601R5S2 | 121P14691R5S2 |
| 16 | 1.000 x 2 3/8 | 121P16601R5S2 | 121P16691R5S2 |
| 18 | 1.000 x 2 5/8 | 121P18601R5S2 | 121P18691R5S2 |
| **200 WVDC** | | | |
| .047 | .235 x 3/4 | 121P47302S2 | 121P47392S2 |
| .056 | .312 x 7/8 | | 121P56392S2 |
| .068 | .312 x 7/8 | 121P68302S2 | 121P68392S2 |
| .082 | .312 x 7/8 | | 121P82392S2 |
| .1 | .312 x 7/8 | 121P10402S2 | 121P10492S2 |
| .12 | .312 x 7/8 | | 121P12492S2 |
| .15 | .312 x 7/8 | 121P15402S2 | 121P15492S2 |
| .18 | .312 x 1 1/8 | | 121P18492S2 |
| .22 | .312 x 1 1/8 | 121P22402S2 | 121P22492S2 |
| .27 | .400 x 1 1/8 | | 121P27492S2 |
| .33 | .400 x 1 1/8 | 121P33402S2 | 121P33492S2 |
| .39 | .400 x 1 1/8 | | 121P39492S2 |
| .47 | .400 x 1 1/8 | 121P47402S2 | 121P47492S2 |
| .56 | .500 x 1 1/8 | | 121P56492S2 |
| .68 | .500 x 1 1/8 | 121P68402S2 | 121P68492S2 |
| .82 | .562 x 1 1/8 | | 121P82492S2 |
| 1.0 | .562 x 1 1/8 | 121P10502S2 | 121P10592S2 |
| 1.5 | .562 x 1 3/8 | 121P15502S2 | 121P15592S2 |
| 2.0 | .562 x 1 7/8 | 121P20502S2 | 121P20592S2 |
| 2.5 | .670 x 1 5/8 | 121P25502S2 | 121P25592S2 |
| 3.0 | .670 x 1 7/8 | 121P30502S2 | 121P30592S2 |
| 3.5 | .750 x 1 7/8 | 121P35502S2 | 121P35592S2 |
| 4.0 | .750 x 1 7/8 | 121P40502S2 | 121P40592S2 |
| 5.0 | .750 x 2 1/8 | 121P50502S2 | 121P50592S2 |
| 6.0 | .750 x 2 3/8 | 121P60502S2 | 121P60592S2 |
| 8.0 | 1.000 x 1 7/8 | 121P80502S2 | 121P80592S2 |
| 10 | 1.000 x 2 1/8 | 121P10602S2 | 121P10692S2 |
| 12 | 1.000 x 2 5/8 | 121P12602S2 | 121P12692S2 |
| **400 WVDC** | | | |
| .01 | .235 x 3/4 | 121P10304S2 | 121P10394S2 |
| .012 | .312 x 7/8 | | 121P12394S2 |
| .015 | .312 x 7/8 | 121P15304S2 | 121P15394S2 |
| .018 | .312 x 7/8 | | 121P18394S2 |
| .022 | .312 x 7/8 | 121P22304S2 | 121P22394S2 |
| .027 | .312 x 7/8 | | 121P27394S2 |
| .033 | .312 x 7/8 | 121P33304S2 | 121P33394S2 |
| .039 | .312 x 1 1/8 | | 121P39394S2 |
| .047 | .312 x 1 1/8 | 121P47304S2 | 121P47394S2 |
| .056 | .312 x 1 1/8 | | 121P56394S2 |
| .068 | .312 x 1 1/8 | 121P68304S2 | 121P68394S2 |
| .082 | .400 x 1 1/8 | | 121P82394S2 |
| .1 | .400 x 1 1/8 | 121P10404S2 | 121P10494S2 |
| .12 | .400 x 1 3/8 | | 121P12494S2 |
| .15 | .400 x 1 3/8 | 121P15404S2 | 121P15494S2 |
| .18 | .500 x 1 1/8 | | 121P18494S2 |
| .22 | .500 x 1 1/8 | 121P22404S2 | 121P22494S2 |
| .27 | .562 x 1 3/8 | | 121P27494S2 |
| .33 | .562 x 1 3/8 | 121P33404S2 | 121P33494S2 |
| .39 | .562 x 1 5/8 | | 121P39494S2 |
| .47 | .562 x 1 5/8 | 121P47404S2 | 121P47494S2 |
| .56 | .670 x 1 5/8 | | 121P56494S2 |
| .68 | .670 x 1 5/8 | 121P68404S2 | 121P68494S2 |
| .82 | .670 x 1 7/8 | | 121P82494S2 |
| 1.0 | .670 x 1 7/8 | 121P10504S2 | 121P10594S2 |
| 1.5 | .750 x 2 3/8 | 121P15504S2 | 121P15594S2 |
| 2.0 | 1.000 x 1 7/8 | 121P20504S2 | 121P20594S2 |
| 2.5 | 1.000 x 2 1/8 | 121P25504S2 | 121P25594S2 |
| 3.0 | 1.000 x 2 3/8 | 121P30504S2 | 121P30594S2 |
| 3.5 | 1.000 x 2 5/8 | 121P35504S2 | 121P35594S2 |
| **600 WVDC** | | | |
| .001 | .235 x 3/4 | 121P10206S2 | 121P10296S2 |
| .0012 | .235 x 3/4 | | 121P12296S2 |
| .0015 | .235 x 3/4 | 121P15206S2 | 121P15296S2 |
| .0018 | .235 x 3/4 | | 121P18296S2 |
| .0022 | .235 x 3/4 | 121P22206S2 | 121P22296S2 |
| .0027 | .235 x 3/4 | | 121P27296S2 |
| .0033 | .235 x 3/4 | 121P33206S2 | 121P33296S2 |
| .0039 | .235 x 3/4 | | 121P39296S2 |
| .0047 | .235 x 3/4 | 121P47206S2 | 121P47296S2 |
| .0056 | .312 x 7/8 | | 121P56296S2 |
| .0068 | .312 x 7/8 | 121P68206S2 | 121P68296S2 |
| .0082 | .312 x 7/8 | | 121P82296S2 |
| .01 | .312 x 7/8 | 121P10306S2 | 121P10396S2 |
| .012 | .312 x 7/8 | | 121P12396S2 |
| .015 | .312 x 7/8 | 121P15306S2 | 121P15396S2 |
| .018 | .312 x 1 1/8 | | 121P18396S2 |
| .022 | .312 x 1 1/8 | 121P22306S2 | 121P22396S2 |
| .027 | .312 x 1 1/8 | | 121P27396S2 |
| .033 | .312 x 1 1/8 | 121P33306S2 | 121P33396S2 |
| .039 | .400 x 1 1/8 | | 121P39396S2 |
| .047 | .400 x 1 1/8 | 121P47306S2 | 121P47396S2 |
| .056 | .400 x 1 1/8 | | 121P56396S2 |
| .068 | .400 x 1 1/8 | 121P68306S2 | 121P68396S2 |
| .082 | .500 x 1 1/8 | | 121P82396S2 |
| .1 | .500 x 1 1/8 | 121P10406S2 | 121P10496S2 |
| .12 | .562 x 1 1/8 | | 121P12496S2 |
| .15 | .562 x 1 1/8 | 121P15406S2 | 121P15496S2 |
| .18 | .562 x 1 3/8 | | 121P18496S2 |
| .22 | .562 x 1 3/8 | 121P22406S2 | 121P22496S2 |
| .27 | .562 x 1 7/8 | | 121P27496S2 |
| .33 | .562 x 1 7/8 | 121P33406S2 | 121P33496S2 |
| .39 | .670 x 1 7/8 | | 121P39496S2 |
| .47 | .670 x 1 7/8 | 121P47406S2 | 121P47496S2 |
| .56 | .670 x 1 7/8 | | 121P56496S2 |
| .68 | .670 x 1 7/8 | 121P68406S2 | 121P68496S2 |
| .82 | .750 x 2 3/8 | | 121P82496S2 |
| 1.0 | .750 x 2 3/8 | 121P10506S2 | 121P10596S2 |
| 1.5 | 1.000 x 2 1/8 | 121P15506S2 | 121P15596S2 |
| 2.0 | 1.000 x 2 3/8 | 121P20506S2 | 121P20596S2 |

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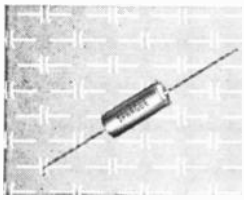
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

# FILM CAPACITORS



Plastic film-dielectric capacitors find wide use in critical applications where requirements such as very high insulation resistance, high capacitance stability with temperature change, low dissipation factor (High Q), and low dielectric absorption are especially important. Operation at higher temperatures is another property which film capacitors have over standard paper capacitors. The capacitors listed here are hermetically sealed in metal cases.

## 114P STYRACON® TUBULARS

Specially processed polystyrene film dielectric ● Operating temperature range, —55°C to +85°C ● High insulation resistance ● Low dielectric absorption (under .05%) ● High capacitance stability (less than ±.2% drift) ● Extremely low power factor (high Q) ● Units listed below have capacitance tolerance of ±5%. For ±20%, change 8th digit in catalog number from 5 to 0; For ±10% change to 9; For ±2% change to 2; For ±1% change to 1 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

| 200 WVDC | | | 400 WVDC | | | 600 WVDC | | |
|---|---|---|---|---|---|---|---|---|
| µF | Diam. x Length | Cat. No. | µF | Diam. x Length | Cat. No. | µF | Diam. x Length | Cat. No. |
| .001 | .235 x 7/8 | 114P10252S4 | .001 | .235 x 7/8 | 114P10254S4 | .001 | .400 x 7/8 | 114P10256S4 |
| .0015 | .235 x 7/8 | 114P15252S4 | .0015 | .312 x 7/8 | 114P15254S4 | .0015 | .400 x 1 1/8 | 114P15256S4 |
| .0022 | .235 x 7/8 | 114P22252S4 | .0022 | .312 x 7/8 | 114P22254S4 | .0022 | .400 x 1 1/8 | 114P22256S4 |
| .0033 | .312 x 7/8 | 114P33252S4 | .0033 | .312 x 7/8 | 114P33254S4 | .0033 | .400 x 1 1/8 | 114P33256S4 |
| .0047 | .312 x 7/8 | 114P47252S4 | .0047 | .400 x 7/8 | 114P47254S4 | .0047 | .400 x 1 1/8 | 114P47256S4 |
| .0068 | .400 x 7/8 | 114P68252S4 | .0068 | .400 x 1 1/8 | 114P68254S4 | .0068 | .400 x 1 1/8 | 114P68256S4 |
| .01 | .400 x 1 1/8 | 114P10352S4 | .01 | .400 x 1 1/8 | 114P10354S4 | .01 | .400 x 1 3/8 | 114P10356S4 |
| .0015 | .400 x 1 1/8 | 114P15352S4 | .015 | .400 x 1 3/8 | 114P15354S4 | .015 | .400 x 1 3/8 | 114P15356S4 |
| .022 | .400 x 1 3/8 | 114P22352S4 | .022 | .562 x 1 1/8 | 114P22354S4 | .022 | .562 x 1 3/8 | 114P22356S4 |
| .033 | .562 x 1 1/8 | 114P33352S4 | .033 | .562 x 1 3/8 | 114P33354S4 | .033 | .562 x 1 3/8 | 114P33356S4 |
| .047 | .562 x 1 3/8 | 114P47352S4 | .047 | .562 x 1 3/8 | 114P47354S4 | .047 | .670 x 1 3/8 | 114P47356S4 |
| .068 | .562 x 1 3/8 | 114P68352S4 | .068 | .670 x 1 5/8 | 114P68354S4 | .068 | .750 x 2 1/8 | 114P68356S4 |
| .1 | .670 x 1 5/8 | 114P10452S4 | .1 | .750 x 2 1/8 | 114P10454S4 | .1 | .750 x 2 1/8 | 114P10456S4 |
| .15 | .750 x 2 1/8 | 114P15452S4 | .15 | .750 x 2 1/8 | 114P15454S4 | .15 | 1.000 x 2 1/8 | 114P15456S4 |
| .22 | .750 x 2 1/8 | 114P22452S4 | .22 | 1.000 x 2 1/8 | 114P22454S4 | .22 | 1.000 x 2 5/8 | 114P22456S4 |
| .33 | 1.000 x 2 1/8 | 114P33452S4 | .33 | 1.000 x 2 1/8 | 114P33454S4 | | | |
| .47 | 1.000 x 2 1/8 | 114P47452S4 | .47 | 1.000 x 2 5/8 | 114P47454S4 | | | |

## 111P STYRACON® BATHTUBS

Same electrical characteristics as Type 114P ● Drawn metal bathtub cases ● Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

| µF | WVDC | L. x W. x H. | Cat. No. |
|---|---|---|---|
| 1 | 100 | 2 x 2 x 1 | 111P6J |
| 1 | 200 | 2 x 2 x 1 1/8 | 111P2J |
| 1 | 400 | 2 9/16 x 2 1/16 x 1 3/16 | 111P5J |
| 0.5 | 600 | 2 9/16 x 2 1/16 x 1 1/16 | 111P3J |
| 1 | 600 | 2 9/16 x 2 1/16 x 2 1/8 | 111P4J |

## 139P FILMITE 'F' TUBULARS

Operating temperature range, —55°C to +125°C ● Extremely high capacitance stability (.05% capacitance change at temperatures between +10°C and +85°C) ● High insulation resistance ● Extended foil construction for low series inductance ● Low dissipation factor (1% or less) ● Units listed below have capacitance tolerance of ±10%. For ±20%, change 8th digit in catalog number from 9 to 0; For ±5% change to 5; For ±2% change to 2 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

| 200 WVDC | | | 400 WVDC | | | 600 WVDC | | |
|---|---|---|---|---|---|---|---|---|
| µF | Diam. x Length | Cat. No. | µF | Diam. x Length | Cat. No. | µF | Diam. x Length | Cat. No. |
| .001 | .235 x 3/4 | 139P10292S4 | .001 | .235 x 3/4 | 139P10294S4 | .001 | .235 x 3/4 | 139P10296S4 |
| .0015 | .235 x 3/4 | 139P15292S4 | .0015 | .235 x 3/4 | 139P15294S4 | .0015 | .312 x 7/8 | 139P15296S4 |
| .0022 | .235 x 3/4 | 139P22292S4 | .0022 | .312 x 7/8 | 139P22294S4 | .0022 | .312 x 7/8 | 139P22296S4 |
| .0033 | .312 x 7/8 | 139P33292S4 | .0033 | .312 x 7/8 | 139P33294S4 | .0033 | .312 x 7/8 | 139P33296S4 |
| .0047 | .312 x 7/8 | 139P47292S4 | .0047 | .312 x 7/8 | 139P47294S4 | .0047 | .312 x 1 | 139P47296S4 |
| .0068 | .312 x 7/8 | 139P68292S4 | .0068 | .312 x 1 | 139P68294S4 | .0068 | .400 x 1 | 139P68296S4 |
| .01 | .312 x 1 | 139P10392S4 | .01 | .400 x 7/8 | 139P10394S4 | .01 | .400 x 1 1/8 | 139P10396S4 |
| .015 | .400 x 7/8 | 139P15392S4 | .015 | .400 x 1 | 139P15394S4 | .015 | .400 x 1 3/8 | 139P15396S4 |
| .022 | .400 x 1 | 139P22392S4 | .022 | .400 x 1 1/4 | 139P22394S4 | .022 | .562 x 1 1/8 | 139P22396S4 |
| .033 | .400 x 1 1/4 | 139P33392S4 | .033 | .562 x 1 1/8 | 139P33394S4 | .033 | .562 x 1 3/8 | 139P33396S4 |
| .047 | .500 x 1 1/8 | 139P47392S4 | .047 | .562 x 1 1/4 | 139P47394S4 | .047 | .670 x 1 5/8 | 139P47396S4 |
| .068 | .562 x 1 1/8 | 139P68392S4 | .068 | .670 x 1 5/8 | 139P68394S4 | .068 | .750 x 1 7/8 | 139P68396S4 |
| .1 | .670 x 1 5/8 | 139P10492S4 | .1 | .750 x 1 7/8 | 139P10494S4 | .1 | .750 x 2 1/8 | 139P10496S4 |
| .15 | .750 x 1 7/8 | 139P15492S4 | .15 | .750 x 2 1/8 | 139P15494S4 | .15 | 1.000 x 1 7/8 | 139P15496S4 |
| .22 | .750 x 2 1/8 | 139P22492S4 | .22 | 1.000 x 1 7/8 | 139P22494S4 | .22 | 1.000 x 2 3/8 | 139P22496S4 |
| .33 | 1.000 x 1 7/8 | 139P33492S4 | .33 | 1.000 x 2 3/3 | 139P33494S4 | | | |
| .47 | 1.000 x 2 3/8 | 139P47492S4 | | | | | | |

## 140P FILMITE 'F' BATHTUBS

Same electrical characteristics as Type 139P ● Drawn metal bathtub cases ● Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

| µF | WVDC | L. x W. x H. | Cat. No. |
|---|---|---|---|
| .68 | 200 | 2 x 2 x 1 | 140P1J |
| 1.0 | 200 | 2 x 2 x 1 1/2 | 140P2J |
| .47 | 400 | 2 x 2 x 1 | 140P3J |
| .68 | 400 | 2 x 2 x 1 1/2 | 140P4J |
| 1.0 | 400 | 2 9/16 x 2 1/16 x 1 3/4 | 140P5J |
| .33 | 600 | 2 x 2 x 1 | 140P6J |
| .47 | 600 | 2 x 2 x 1 1/2 | 140P7J |
| .68 | 600 | 2 9/16 x 2 1/16 x 1 3/4 | 140P8J |
| 1.0 | 600 | 2 9/16 x 2 1/16 x 2 1/8 | 140P9J |



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## FILM CAPACITORS, continued

### 127P FILMITE 'E' TUBULARS

Operating temperature range, —55°C to +150°C ● Even at 150°C, insulation resistance is higher than that of best paper capacitors ● Practically zero capacitance change with temperature ● Dissipation factor will not exceed 1.3% ● Extended foil construction for low series resistance ● Units listed below have capacitance tolerance of ±10%. For ±20%, change 8th digit in catalog number from 9 to 0; for 5% change to 5 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| **200 WVDC** | | |
| .0068 | .235 x 13/16 | 127P68292S4 |
| .01 | .235 x 13/16 | 127P10392S4 |
| .015 | .235 x 13/16 | 127P15392S4 |
| .022 | .235 x 13/16 | 127P22392S4 |
| .033 | .312 x 15/16 | 127P33392S4 |
| .047 | .312 x 15/16 | 127P47392S4 |
| .068 | .312 x 15/16 | 127P68392S4 |
| .1 | .400 x 15/16 | 127P10492S4 |
| .15 | .400 x 1 1/16 | 127P15492S4 |
| .22 | .400 x 1 3/16 | 127P22492S4 |
| .33 | .400 x 1 9/16 | 127P33492S4 |
| .47 | .562 x 1 1/8 | 127P47492S4 |
| .68 | .562 x 1 3/8 | 127P68492S4 |
| 1.00 | .562 x 1 7/8 | 127P10592S4 |
| **400 WVDC** | | |
| .0033 | .235 x 13/16 | 127P33294S4 |
| .0047 | .235 x 13/16 | 127P47294S4 |
| .01 | .312 x 15/16 | 127P10394S4 |
| .015 | .312 x 15/16 | 127P15394S4 |
| .022 | .312 x 1 1/16 | 127P22394S4 |
| .033 | .400 x 15/16 | 127P33394S4 |
| .047 | .400 x 1 1/16 | 127P47394S4 |
| .068 | .400 x 1 5/16 | 127P68394S4 |
| .1 | .400 x 1 9/16 | 127P10494S4 |
| .15 | .562 x 1 1/4 | 127P15494S4 |
| .22 | .562 x 1 1/2 | 127P22494S4 |
| .33 | .562 x 1 7/8 | 127P33494S4 |
| .47 | .670 x 1 7/8 | 127P47494S4 |
| .68 | .750 x 2 1/8 | 127P68494S4 |
| 1.00 | .750 x 2 5/8 | 127P10594S4 |

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| **600 WVDC** | | |
| .001 | .235 x 13/16 | 127P10296S4 |
| .0015 | .235 x 13/16 | 127P15296S4 |
| .0022 | .235 x 13/16 | 127P22296S4 |
| .0047 | .312 x 15/16 | 127P47296S4 |
| .0068 | .312 x 15/16 | 127P68296S4 |
| .01 | .312 x 1 1/16 | 127P10396S4 |
| .015 | .400 x 15/16 | 127P15396S4 |
| .022 | .400 x 1 1/16 | 127P22396S4 |
| .033 | .400 x 1 3/16 | 127P33396S4 |
| .047 | .400 x 1 9/16 | 127P47396S4 |
| .068 | .562 x 1 1/4 | 127P68396S4 |
| .1 | .562 x 1 1/2 | 127P10496S4 |
| .15 | .562 x 1 7/8 | 127P15496S4 |
| .22 | .670 x 1 7/8 | 127P22496S4 |
| .33 | .750 x 2 1/8 | 127P33496S4 |
| .47 | .750 x 2 5/8 | 127P47496S4 |
| .68 | 1.000 x 2 1/8 | 127P68496S4 |
| **1000 WVDC** | | |
| .001 | .312 x 15/16 | 127P102910S4 |
| .0015 | .312 x 15/16 | 127P152910S4 |
| .0022 | .312 x 15/16 | 127P222910S4 |
| .0033 | .312 x 15/16 | 127P332910S4 |
| .0047 | .400 x 15/16 | 127P472910S4 |
| .0068 | .400 x 1 1/16 | 127P682910S4 |
| .01 | .400 x 1 3/16 | 127P103910S4 |
| .015 | .400 x 1 9/16 | 127P153910S4 |
| .022 | .562 x 1 1/4 | 127P223910S4 |
| .033 | .562 x 1 1/2 | 127P333910S4 |
| .047 | .562 x 1 7/8 | 127P473910S4 |
| .068 | .670 x 1 7/8 | 127P683910S4 |
| .1 | .750 x 2 1/8 | 127P104910S4 |
| .15 | 1.000 x 1 7/8 | 127P154910S4 |
| .22 | 1.000 x 2 3/8 | 127P224910S4 |

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| **1700 WVDC** | | |
| .001 | .400 x 15/16 | 127P102917S4 |
| .0015 | .400 x 15/16 | 127P152917S4 |
| .0022 | .400 x 15/16 | 127P222917S4 |
| .0033 | .400 x 1 1/16 | 127P332917S4 |
| .0047 | .400 x 1 3/16 | 127P472917S4 |
| .0068 | .400 x 1 7/16 | 127P682917S4 |
| .01 | .562 x 1 1/8 | 127P103917S4 |
| .015 | .562 x 1 1/4 | 127P153917S4 |
| .022 | .562 x 1 3/8 | 127P223917S4 |
| .033 | .670 x 1 7/8 | 127P333917S4 |
| .047 | .750 x 1 7/8 | 127P473917S4 |
| .068 | .750 x 1 1/8 | 127P683917S4 |
| .1 | 1.000 x 1 7/8 | 127P104917S4 |
| .15 | 1.000 x 2 3/8 | 127P154917S4 |
| **2500 WVDC** | | |
| .001 | .562 x 7/8 | 127P102925S4 |
| .0015 | .562 x 7/8 | 127P152925S4 |
| .0022 | .562 x 1 | 127P222925S4 |
| .0033 | .562 x 1 1/8 | 127P332925S4 |
| .0047 | .562 x 1 1/8 | 127P472925S4 |
| .0068 | .562 x 1 3/8 | 127P682925S4 |
| .01 | .562 x 1 7/8 | 127P103925S4 |
| .015 | .670 x 1 3/8 | 127P153925S4 |
| .022 | .750 x 1 7/8 | 127P223925S4 |
| .033 | .750 x 2 3/8 | 127P333925S4 |
| .047 | 1.000 x 1 7/8 | 127P473925S4 |
| .068 | 1.000 x 2 3/8 | 127P683925S4 |

### 141P FILMITE 'G' TUBULARS

Operating temperature range, —55°C to +200°C ● Unusually high insulation resistance (in excess of 100,000 megohm-microfarads at 25°C) ● Low dielectric absorption ● Low dissipation factor (less than .02%) ● Excellent humidity resistance ● Small capacitance change with temperature ● Units listed below have capacitance tolerance of ±10%. For ±20%, change 8th digit in catalog number from 9 to 0; For ±5% change to 5; For ±2% change to 2; For ±1% change to 1 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| **200 WVDC** | | |
| .0015 | .235 x 13/16 | 141P15292S4 |
| .0039 | .312 x 15/16 | 141P39292S4 |
| .0047 | .312 x 15/16 | 141P47292S4 |
| .0082 | .400 x 15/16 | 141P82292S4 |
| .01 | .400 x 15/16 | 141P10392S4 |
| .012 | .400 x 1 3/16 | 141P12392S4 |
| .015 | .400 x 1 3/16 | 141P15392S4 |
| .018 | .400 x 1 3/16 | 141P18392S4 |
| .022 | .400 x 1 3/16 | 141P22392S4 |
| .027 | .562 x 1 1/8 | 141P27392S4 |
| .033 | .562 x 1 1/8 | 141P33392S4 |
| .039 | .562 x 1 1/4 | 141P39392S4 |
| .047 | .562 x 1 1/4 | 141P47392S4 |
| .056 | .562 x 1 1/2 | 141P56392S4 |
| .068 | .562 x 1 1/2 | 141P68392S4 |
| .082 | .562 x 1 7/8 | 141P82392S4 |
| .1 | .562 x 1 7/8 | 141P10492S4 |

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| **400 WVDC** | | |
| .1 | .670 x 1 7/8 | 141P10494S4 |
| .12 | .750 x 2 1/8 | 141P12494S4 |
| .15 | .750 x 2 1/8 | 141P15494S4 |
| .18 | 1.000 x 1 7/8 | 141P18494S4 |
| .22 | 1.000 x 1 7/8 | 141P22494S4 |
| .27 | 1.000 x 2 3/8 | 141P27494S4 |
| .33 | 1.000 x 2 3/8 | 141P33494S4 |
| **600 WVDC** | | |
| .001 | .235 x 13/16 | 141P10296S4 |
| .0012 | .312 x 15/16 | 141P12296S4 |
| .0015 | .312 x 15/16 | 141P15296S4 |
| .0018 | .312 x 15/16 | 141P18296S4 |
| .0022 | .312 x 15/16 | 141P22296S4 |
| .0027 | .312 x 15/16 | 141P27296S4 |
| .0033 | .312 x 15/16 | 141P33296S4 |
| .0039 | .400 x 15/16 | 141P39296S4 |
| .0047 | .400 x 15/16 | 141P47296S4 |

| µF | Diam. x Length | Cat. No. |
|---|---|---|
| .0056 | .400 x 15/16 | 141P56296S4 |
| .0068 | .400 x 15/16 | 141P68296S4 |
| .0082 | .400 x 1 3/16 | 141P82296S4 |
| .01 | .400 x 1 3/16 | 141P10396S4 |
| .012 | .400 x 1 3/16 | 141P12396S4 |
| .015 | .400 x 1 3/16 | 141P15396S4 |
| .018 | .562 x 1 1/8 | 141P18396S4 |
| .022 | .562 x 1 1/8 | 141P22396S4 |
| .027 | .562 x 1 1/4 | 141P27396S4 |
| .033 | .562 x 1 1/4 | 141P33396S4 |
| .039 | .562 x 1 1/2 | 141P39396S4 |
| .047 | .562 x 1 1/2 | 141P47396S4 |
| .056 | .562 x 1 7/8 | 141P56396S4 |
| .068 | .562 x 1 7/8 | 141P68396S4 |
| .082 | 1.000 x 1 7/8 | 141P82396S4 |
| .1 | 1.000 x 1 7/8 | 141P10496S4 |
| .12 | 1.000 x 2 3/8 | 141P12496S4 |
| .15 | 1.000 x 2 3/8 | 141P15496S4 |

### 142P FILMITE 'G' OVALS

Same electrical characteristics as Type 141P ● Drawn metal oval cases ● Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

| µF | WVDC | W. x T. x H. | Cat. No. |
|---|---|---|---|
| .68 | 200 | 2 5/32 x 1 3/16 x 2 1/8 | 142P1J |
| 1.0 | 200 | 2 5/32 x 1 3/16 x 2 3/4 | 142P2J |
| .68 | 400 | 2 5/32 x 1 5/16 x 2 1/2 | 142P3J |
| 1.0 | 400 | 2 5/32 x 1 3/16 x 3 3/8 | 142P4J |
| .33 | 600 | 2 5/32 x 1 5/16 x 2 5/8 | 142P5J |
| .47 | 600 | 2 5/32 x 1 5/16 x 3 1/2 | 142P6J |

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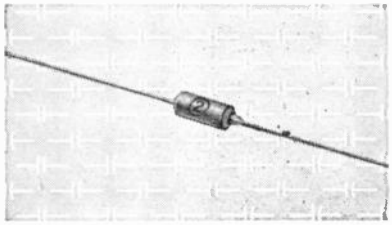
# SPRAGUE INDUSTRIAL CAPACITORS

## TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS

- Combine True Miniaturization with Electrical and Performance Characteristics Previously Unobtainable in Electrolytic Capacitors
- Hermetically Sealed in Subminiature Metal Cases
- Solid Electrolyte Cannot Leak or Corrode, Even if Hermetic Seal is Accidentally Broken
- Exhibit Stable Capacitance and Low Dissipation Factor over Wide Temperature Range of −80 C to +85°C
- Temperature Coefficient of Capacitance is Unusually low and Linear—Nominally 600 ppm/°C
- Supplied with Plastic Film Sleeves. For Plain Metal Cases, Change Last Digit in Catalog Number from 1 to 0



| µF | Size Code | Catalog Number ±20% Tol. | ±10% Tol. |
|---|---|---|---|
| **6 WVDC — 8 VDC SURGE** | | | |
| .22 | A | 150D224X0006A1 | 150D224X9006A1 |
| .27 | A | — | 150D274X9006A1 |
| .33 | A | 150D334X0006A1 | 150D334X9006A1 |
| .39 | A | — | 150D394X9006A1 |
| .47 | A | 150D474X0006A1 | 150D474X9006A1 |
| .56 | A | — | 150D564X9006A1 |
| .68 | A | 150D684X0006A1 | 150D684X9006A1 |
| .82 | A | — | 150D824X9006A1 |
| 1.0 | A | 150D105X0006A1 | 150D105X9006A1 |
| 1.2 | A | — | 150D125X9006A1 |
| 1.5 | A | 150D155X0006A1 | 150D155X9006A1 |
| 1.8 | A | — | 150D185X9006A1 |
| 2.2 | A | 150D225X0006A1 | 150D225X9006A1 |
| 2.7 | A | — | 150D275X9006A1 |
| 3.3 | A | 150D335X0006A1 | 150D335X9006A1 |
| 3.9 | A | — | 150D395X9006A1 |
| 4.7 | A | 150D475X0006A1 | 150D475X9006A1 |
| 5.6 | A | — | 150D565X9006A1 |
| 6.8 | A | 150D685X0006A1 | 150D685X9006A1 |
| 8.2 | B | — | 150D825X9006A1 |
| 10 | B | 150D106X0006B1 | 150D106X9006B1 |
| 12 | B | — | 150D126X9006B1 |
| 15 | B | 150D156X0006B1 | 150D156X9006B1 |
| 18 | B | — | 150D186X9006B1 |
| 22 | B | 150D226X0006B1 | 150D226X9006B1 |
| 27 | B | — | 150D276X9006B1 |
| 33 | B | 150D336X0006B1 | 150D336X9006B1 |
| 39 | B | — | 150D396X9006B1 |
| 47 | B | 150D476X0006B1 | 150D476X9006B1 |
| 56 | B | — | 150D566X9006B1 |
| 60 | B | 150D606X0006B1 | — |
| 68 | R | 150D686X0006R1 | — |
| 100 | R | 150D107X0006R1 | — |
| 120 | R | 150D127X0006R1 | — |
| 150 | R | 150D157X0006R1 | — |
| 180 | R | 150D187X0006R1 | — |
| 220 | S | 150D227X0006S1 | — |
| 330 | S | 150D337X0006S1 | — |
| **10 WVDC — 13 VDC SURGE** | | | |
| .22 | A | 150D224X0010A1 | 150D224X9010A1 |
| .27 | A | — | 150D274X9010A1 |
| .33 | A | 150D334X0010A1 | 150D334X9010A1 |
| .39 | A | — | 150D394X9010A1 |
| .47 | A | 150D474X0010A1 | 150D474X9010A1 |
| .56 | A | — | 150D564X9010A1 |
| .68 | A | 150D684X0010A1 | 150D684X9010A1 |
| .82 | A | — | 150D824X9010A1 |
| 1.0 | A | 150D105X0010A1 | 150D105X9010A1 |
| 1.2 | A | — | 150D125X9010A1 |
| 1.5 | A | 150D155X0010A1 | 150D155X9010A1 |
| 1.8 | A | — | 150D185X9010A1 |
| 2.2 | A | 150D225X0010A1 | 150D225X9010A1 |
| 2.7 | A | — | 150D275X9010A1 |
| 3.3 | A | 150D335X0010A1 | 150D335X9010A1 |
| 3.9 | A | — | 150D395X9010A1 |
| 4.7 | A | 150D475X0010A1 | 150D475X9010A1 |
| 5.6 | B | — | 150D565X9010B1 |
| 6.8 | B | 150D685X0010B1 | 150D685X9010B1 |
| 8.2 | B | — | 150D825X9010B1 |
| 10 | B | 150D106X0010B1 | 150D106X9010B1 |
| 12 | B | — | 150D126X9010B1 |
| 15 | B | 150D156X0010B1 | 150D156X9010B1 |
| 18 | B | — | 150D186X9010B1 |
| 22 | B | 150D226X0010B1 | 150D226X9010B1 |
| 27 | B | — | 150D276X9010B1 |
| 33 | B | 150D336X0010B1 | 150D336X9010B1 |
| 39 | B | — | 150D396X9010B1 |
| 40 | B | 150D406X0010B1 | — |
| 68 | R | 150D686X0010R1 | — |
| 100 | R | 150D107X0010R1 | — |
| 120 | R | 150D127X0010R1 | — |
| 150 | S | 150D157X0010S1 | — |
| 220 | S | 150D227X0010S1 | — |
| **15 WVDC — 18 VDC SURGE** | | | |
| .22 | A | 150D224X0015A1 | 150D224X9015A1 |
| .27 | A | — | 150D274X9015A1 |
| .33 | A | 150D334X0015A1 | 150D334X9015A1 |
| .39 | A | — | 150D394X9015A1 |
| .47 | A | 150D474X0015A1 | 150D474X9015A1 |
| .56 | A | — | 150D564X9015A1 |
| .68 | A | 150D684X0015A1 | 150D684X9015A1 |
| .82 | A | — | 150D824X9015A1 |
| 1.0 | A | 150D105X0015A1 | 150D105X9015A1 |
| 1.2 | A | — | 150D125X9015A1 |
| 1.5 | A | 150D155X0015A1 | 150D155X9015A1 |
| 1.8 | A | — | 150D185X9015A1 |
| 2.2 | A | 150D225X0015A1 | 150D225X9015A1 |
| 2.7 | A | — | 150D275X9015A1 |
| 3.3 | A | 150D335X0015A1 | 150D335X9015A1 |
| 3.9 | B | — | 150D395X9015B1 |
| 4.7 | B | 150D475X0015B1 | 150D475X9015B1 |
| 5.6 | B | — | 150D565X9015B1 |
| 6.8 | B | 150D685X0015B1 | 150D685X9015B1 |
| 8.2 | B | — | 150D825X9015B1 |
| 10 | B | 150D106X0015B1 | 150D106X9015B1 |
| 12 | B | — | 150D126X9015B1 |
| 15 | B | 150D156X0015B1 | 150D156X9015B1 |
| 18 | B | — | 150D186X9015B1 |
| 22 | B | 150D226X0015B1 | 150D226X9015B1 |
| 33 | R | 150D336X0015R1 | — |
| 47 | R | 150D476X0015R1 | — |
| 68 | R | 150D686X0015R1 | — |
| 100 | S | 150D107X0015S1 | — |
| 150 | S | 150D157X0015S1 | — |
| **20 WVDC — 23 VDC SURGE** | | | |
| .0047 | A | 150D472X0020A1 | 150D472X9020A1 |
| .0056 | A | — | 150D562X9020A1 |
| .0068 | A | 150D682X0020A1 | 150D682X9020A1 |
| .0082 | A | — | 150D822X9020A1 |
| .01 | A | 150D103X0020A1 | 150D103X9020A1 |
| .012 | A | — | 150D123X9020A1 |
| .015 | A | 150D153X0020A1 | 150D153X9020A1 |
| .018 | A | — | 150D183X9020A1 |
| .022 | A | 150D223X0020A1 | 150D223X9020A1 |
| .027 | A | — | 150D273X9020A1 |
| .033 | A | 150D333X0020A1 | 150D333X9020A1 |
| .039 | A | — | 150D393X9020A1 |
| .047 | A | 150D473X0020A1 | 150D473X9020A1 |
| .056 | A | — | 150D563X9020A1 |
| .068 | A | 150D683X0020A1 | 150D683X9020A1 |
| .082 | A | — | 150D823X9020A1 |
| .1 | A | 150D104X0020A1 | 150D104X9020A1 |
| .12 | A | — | 150D124X9020A1 |
| .15 | A | 150D154X0020A1 | 150D154X9020A1 |
| .18 | A | — | 150D184X9020A1 |
| .22 | A | 150D224X0020A1 | 150D224X9020A1 |
| .27 | A | — | 150D274X9020A1 |
| .33 | A | 150D334X0020A1 | 150D334X9020A1 |
| .39 | A | — | 150D394X9020A1 |
| .47 | A | 150D474X0020A1 | 150D474X9020A1 |
| .56 | A | — | 150D564X9020A1 |
| .68 | A | 150D684X0020A1 | 150D684X9020A1 |
| .82 | A | — | 150D824X9020A1 |
| 1.0 | A | 150D105X0020A1 | 150D105X9020A1 |
| 1.2 | A | — | 150D125X9020A1 |
| 1.5 | A | 150D155X0020A1 | 150D155X9020A1 |
| 1.8 | A | — | 150D185X9020A1 |
| 2.2 | A | 150D225X0020A1 | 150D225X9020A1 |
| 2.7 | B | — | 150D275X9020B1 |
| 3.3 | B | 150D335X0020B1 | 150D335X9020B1 |
| 3.9 | B | — | 150D395X9020B1 |
| 4.7 | B | 150D475X0020B1 | 150D475X9020B1 |
| 5.6 | B | — | 150D565X9020B1 |
| 6.8 | B | 150D685X0020B1 | 150D685X9020B1 |
| 8.2 | B | — | 150D825X9020B1 |
| 10 | B | 150D106X0020B1 | 150D106X9020B1 |
| 12 | B | — | 150D126X9020B1 |
| 15 | B | 150D156X0020B1 | 150D156X9020B1 |
| 22 | R | 150D226X0020R1 | — |
| 33 | R | 150D336X0020R1 | — |
| 47 | R | 150D476X0020R1 | — |
| 68 | S | 150D686X0020S1 | — |
| 100 | S | 150D107X0020S1 | — |
| **35 WVDC — 40 VDC SURGE** | | | |
| .0047 | A | 150D472X0035A1 | 150D472X9035A1 |
| .0056 | A | — | 150D562X9035A1 |
| .0068 | A | 150D682X0035A1 | 150D682X9035A1 |
| .0082 | A | — | 150D822X9035A1 |
| .01 | A | 150D103X0035A1 | 150D103X9035A1 |
| .012 | A | — | 150D123X9035A1 |
| .015 | A | 150D153X0035A1 | 150D153X9035A1 |
| .018 | A | — | 150D183X9035A1 |
| .022 | A | 150D223X0035A1 | 150D223X9035A1 |
| .027 | A | — | 150D273X9035A1 |
| .033 | A | 150D333X0035A1 | 150D333X9035A1 |
| .039 | A | — | 150D393X9035A1 |
| .047 | A | 150D473X0035A1 | 150D473X9035A1 |
| .056 | A | — | 150D563X9035A1 |
| .068 | A | 150D683X0035A1 | 150D683X9035A1 |
| .082 | A | — | 150D823X9035A1 |
| .10 | A | 150D104X0035A1 | 150D104X9035A1 |
| .12 | A | — | 150D124X9035A1 |
| .15 | A | 150D154X0035A1 | 150D154X9035A1 |
| .18 | A | — | 150D184X9035A1 |
| .22 | A | 150D224X0035A1 | 150D224X9035A1 |
| .27 | A | — | 150D274X9035A1 |
| .33 | A | 150D334X0035A1 | 150D334X9035A1 |
| .39 | A | — | 150D394X9035A1 |
| .47 | A | 150D474X0035A1 | 150D474X9035A1 |
| .56 | A | — | 150D564X9035A1 |
| .68 | A | 150D684X0035A1 | 150D684X9035A1 |
| .82 | A | — | 150D824X9035A1 |
| 1.0 | A | 150D105X0035A1 | 150D105X9035A1 |
| 1.2 | B | — | 150D125X9035B1 |
| 1.5 | B | 150D155X0035B1 | 150D155X9035B1 |
| 1.8 | B | — | 150D185X9035B1 |
| 2.2 | B | 150D225X0035B1 | 150D225X9035B1 |
| 2.7 | B | — | 150D275X9035B1 |
| 3.3 | B | 150D335X0035B1 | 150D335X9035B1 |
| 3.9 | B | — | 150D395X9035B1 |
| 4.7 | B | 150D475X0035B1 | 150D475X9035B1 |
| 5.6 | B | — | 150D565X9035B1 |
| 6.8 | B | 150D685X0035B1 | 150D685X9035B1 |
| 10 | R | 150D106X0035R1 | — |
| 15 | R | 150D156X0035R1 | — |
| 22 | R | 150D226X0035R1 | — |
| 33 | S | 150D336X0035S1 | — |
| 47 | S | 150D476X0035S1 | — |

| Code | Diam. x Length | Code | Diam. x Length |
|---|---|---|---|
| A | .104″ x .312″ | R | .285″ x .759″ |
| B | .190″ x .500″ | S | .347″ x .859″ |



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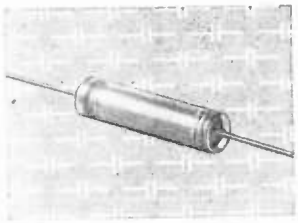
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## 85°C TANTALEX® CAPACITORS — TYPE 110D, 111D, 112D



- Designed for military and industrial electronic equipment where small physical size, stable electrical characteristics, and long service life are important
- High capacitance stability even at low operating temperatures, unlike aluminum-foil electrolytics
- Extremely low leakage current
- New end-seal design with virtually leak-proof TFE-fluorocarbon elastomer seal
- Type 110D is of polarized plain-foil construction—Type 111D is non-polarized, with plain foil—Type 112D is of polarized etched-foil construction
- Standard capacitance tolerance: Types 110D and 111D, ±20%; Type 112D, −15%, +75%
- Units listed below have plastic insulating sleeves. For plain metal case, change last digit in cat. no. from 1 to 0

### TYPE 110D

| µF | Size Code | Catalog Number |
|---|---|---|
| **3 WORKING VOLTS D-C** | | |
| 10 | D | 110D106X0003D1 |
| 55 | G | 110D556X0003G1 |
| 160 | J | 110D167X0003J1 |
| 350 | M | 110D357X0003M1 |
| 440 | P | 110D447X0003P1 |
| **6 WORKING VOLTS D-C** | | |
| 8 | D | 110D805X0006D1 |
| 30 | G | 110D306X0006G1 |
| 35 | G | 110D356X0006G1 |
| 100 | J | 110D107X0006J1 |
| 200 | M | 110D207X0006M1 |
| 300 | P | 110D307X0006P1 |
| **10 WORKING VOLTS D-C** | | |
| 6 | D | 110D605X0010D1 |
| 25 | G | 110D256X0010G1 |
| 80 | J | 110D806X0010J1 |
| 160 | M | 110D167X0010M1 |
| 220 | P | 110D227X0010P1 |
| **15 WORKING VOLTS D-C** | | |
| 4.5 | D | 110D455X0015D1 |
| 18 | G | 110D186X0015G1 |
| 55 | J | 110D556X0015J1 |
| 110 | M | 110D117X0015M1 |
| 160 | P | 110D167X0015P1 |
| **25 WORKING VOLTS D-C** | | |
| 3 | D | 110D305X0025D1 |
| 12 | G | 110D126X0025G1 |
| 35 | J | 110D356X0025J1 |
| 70 | M | 110D706X0025M1 |
| 100 | P | 110D107X0025P1 |
| **30 WORKING VOLTS D-C** | | |
| 2.5 | D | 110D255X0030D1 |
| 10 | G | 110D106X0030G1 |
| 30 | J | 110D306X0030J1 |
| 60 | M | 110D606X0030M1 |
| 85 | P | 110D856X0030P1 |
| **50 WORKING VOLTS D-C** | | |
| 1.5 | D | 110D155X0050D1 |
| 6 | G | 110D605X0050G1 |
| 20 | J | 110D206X0050J1 |
| 40 | M | 110D406X0050M1 |
| 55 | P | 110D556X0050P1 |
| **60 WORKING VOLTS D-C** | | |
| 1.2 | D | 110D125X0060D1 |
| 5 | G | 110D505X0060G1 |
| 17 | J | 110D176X0060J1 |
| 34 | M | 110D346X0060M1 |
| 48 | P | 110D486X0060P1 |
| **75 WORKING VOLTS D-C** | | |
| 1 | D | 110D105X0075D1 |
| 4 | G | 110D405X0075G1 |
| 14 | J | 110D146X0075J1 |
| 28 | M | 110D286X0075M1 |
| 40 | P | 110D406X0075P1 |
| **100 WORKING VOLTS D-C** | | |
| .8 | D | 110D804X0100D1 |
| 3 | G | 110D305X0100G1 |
| 10 | J | 110D106X0100J1 |
| 20 | M | 110D206X0100M1 |
| 30 | P | 110D306X0100P1 |
| **150 WORKING VOLTS D-C** | | |
| .5 | D | 110D504X0150D1 |
| 1 | G | 110D105X0150G1 |
| 2 | G | 110D205X0150G1 |
| 7 | J | 110D705X0150J1 |
| 14 | M | 110D146X0150M1 |
| 20 | P | 110D206X0150P1 |

### TYPE 111D

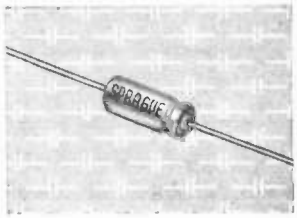
| µF | Size Code | Catalog Number |
|---|---|---|
| **6 WORKING VOLTS N.P.** | | |
| 5 | D | 111D505X0006D1 |
| 25 | G | 111D256X0006G1 |
| 85 | J | 111D856X0006J1 |
| 170 | M | 111D177X0006M1 |
| 250 | P | 111D257X0006P1 |
| **10 WORKING VOLTS N.P.** | | |
| 3 | D | 111D305X0010D1 |
| 16 | G | 111D166X0010G1 |
| 55 | J | 111D556X0010J1 |
| 110 | M | 111D117X0010M1 |
| 150 | P | 111D157X0010P1 |
| **15 WORKING VOLTS N.P.** | | |
| 2.5 | D | 111D255X0015D1 |
| 10 | G | 111D106X0015G1 |
| 35 | J | 111D356X0015J1 |
| 70 | M | 111D706X0015M1 |
| 100 | P | 111D107X0015P1 |
| **25 WORKING VOLTS N.P.** | | |
| 1.5 | D | 111D155X0025D1 |
| 6 | G | 111D605X0025G1 |
| 20 | J | 111D206X0025J1 |
| 40 | M | 111D406X0025M1 |
| 60 | P | 111D606X0025P1 |
| **30 WORKING VOLTS N.P.** | | |
| 1.4 | D | 111D145X0030D1 |
| 5.5 | G | 111D555X0030G1 |
| 18 | J | 111D186X0030J1 |
| 36 | M | 111D366X0030M1 |
| 45 | P | 111D456X0030P1 |
| **50 WORKING VOLTS N.P.** | | |
| .8 | D | 111D804X0050D1 |
| 3 | G | 111D305X0050G1 |
| 10 | J | 111D106X0050J1 |
| 20 | M | 111D206X0050M1 |
| 30 | P | 111D306X0050P1 |
| **60 WORKING VOLTS N.P.** | | |
| .6 | D | 111D604X0060D1 |
| 2.5 | G | 111D255X0060G1 |
| 8.5 | J | 111D855X0060J1 |
| 17 | M | 111D176X0060M1 |
| 24 | P | 111D246X0060P1 |
| **75 WORKING VOLTS N.P.** | | |
| .5 | D | 111D504X0075D1 |
| 2 | G | 111D205X0075G1 |
| 7 | J | 111D705X0075J1 |
| 14 | M | 111D146X0075M1 |
| 20 | P | 111D206X0075P1 |
| **100 WORKING VOLTS N.P.** | | |
| .4 | D | 111D404X0100D1 |
| 1.5 | G | 111D155X0100G1 |
| 5 | J | 111D505X0100J1 |
| 10 | M | 111D106X0100M1 |
| 15 | P | 111D156X0100P1 |
| **150 WORKING VOLTS N.P.** | | |
| .25 | D | 111D254X0150D1 |
| 1 | G | 111D105X0150G1 |
| 3.5 | J | 111D355X0150J1 |
| 7 | M | 111D705X0150M1 |
| 10 | P | 111D106X0150P1 |

### TYPE 112D

| µF | Size Code | Catalog Number |
|---|---|---|
| **15 WORKING VOLTS D-C** | | |
| 15 | D | 112D156C7015D1 |
| 60 | G | 112D606C7015G1 |
| 200 | J | 112D207C7015J1 |
| 400 | M | 112D407C7015M1 |
| 580 | P | 112D587C7015P1 |
| **25 WORKING VOLTS D-C** | | |
| 10 | D | 112D106C7025D1 |
| 40 | G | 112D406C7025G1 |
| 120 | J | 112D127C7025J1 |
| 250 | M | 112D257C7025M1 |
| 350 | P | 112D257C7025P1 |
| **30 WORKING VOLTS D-C** | | |
| 8 | D | 112D805C7030D1 |
| 32 | G | 112D236C7030G1 |
| 110 | J | 112D117C7030J1 |
| 220 | M | 112D227C7030M1 |
| 300 | P | 112D307C7030P1 |
| **50 WORKING VOLTS D-C** | | |
| 4.5 | D | 112D455C7050D1 |
| 18 | G | 112D186C7050G1 |
| 60 | J | 112D607C7050J1 |
| 100 | M | 112D107C7050M1 |
| 150 | P | 112D157C7050P1 |
| **60 WORKING VOLTS D-C** | | |
| 4 | D | 112D405C7060D1 |
| **75 WORKING VOLTS D-C** | | |
| 3 | D | 112D305C7075D1 |
| 12 | G | 112D126C7075G1 |
| 30 | J | 112D306C7075J1 |
| 70 | M | 112D706C7075M1 |
| 100 | P | 112D107C7075P1 |

## TYPE 109D SINTERED-ANODE TANTALEX® CAPACITORS

- Intended for applications where superior quality and reliable design in military equipment is required
- May be operated to 85°C at rated voltage and to 105°C with 15% voltage derating
- Will meet 2000 cycle missile vibration requirements
- Double spun TFE-fluorocarbon elastomer high temperature end seals
- Sintered-anode permits higher capacitance
- Exhibit optimum characteristics with respect to frequency and temperature-coefficient of capacitance
- Unusual stability due to chemical inertness of tantalum oxide film to the specific electrolytes used
- Units listed below have plastic insulating sleeves. For plain metal case, change last digit in cat. no. from 1 to 0




| µF | WVDC | Size Code | Catalog Number |
|---|---|---|---|
| **GROUP 1: +20, −15% CAP. TOL.** | | | |
| 30 | 6 | C | 109D306C2006C1 |
| 140 | 6 | F | 109D147C2006F1 |
| 25 | 8 | C | 109D256C2008C1 |
| 20 | 10 | C | 109D206C2010C1 |
| 100 | 10 | F | 109D107C2010F1 |
| 15 | 15 | C | 109D156C2015C1 |
| 70 | 15 | F | 109D706C2015F1 |
| 10 | 25 | C | 109D106C2025C1 |
| 8 | 30 | C | 109D805C2030C1 |
| 40 | 30 | F | 109D406C2030F1 |
| 5 | 50 | C | 109D505C2050C1 |
| 25 | 50 | F | 109D256C2050F1 |
| 4 | 60 | C | 109D405C2060C1 |
| 20 | 60 | F | 109D206C2060F1 |
| 3.5 | 75 | C | 109D355C2075C1 |
| 15 | 75 | F | 109D156C2075F1 |
| 11 | 100 | F | 109D116C2100F1 |
| **GROUP 2: ±20% CAP. TOL.** | | | |
| 68 | 6 | C | 109D686X0006C1 |
| 270 | 6 | F | 109D276X0006F1 |
| 47 | 10 | C | 109D476X0010C1 |
| 180 | 10 | F | 109D187X0010F1 |
| 33 | 15 | C | 109D336X0015C1 |
| 120 | 15 | F | 109D127X0015F1 |
| 22 | 25 | C | 109D226X0025C1 |
| 15 | 30 | C | 109D156X0030C1 |
| 68 | 30 | F | 109D686X0030F1 |
| 10 | 50 | C | 109D106X0050C1 |
| 47 | 50 | F | 109D476X0050F1 |
| 6.8 | 75 | C | 109D685X0075C1 |
| 33 | 75 | F | 109D336X0075F1 |
| 4.7 | 100 | C | 109D475X0100C1 |
| 22 | 100 | F | 109D226X0100F1 |

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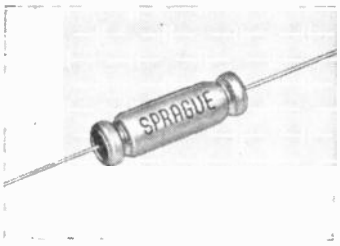
World Radio History

# SPRAGUE INDUSTRIAL CAPACITORS

## 125°C TANTALEX® CAPACITORS — TYPE 120D, 121D

- These capacitors admirably fit basic military requirements of small physical size, stable electrical characteristics, and long service and shelf life
- Will operate to 125°C without impairment of capacitor seals
- Capacitance remains stable at low operating temperatures—may be used where aluminum-foil electrolytics are inoperable
- Extremely low leakage current
- May often replace, where circuit parameters permit, aluminum electrolytics, paper capacitors, and metallized paper capacitors, resulting in substantial saving of weight and space
- Double synthetic-rubber and TFE-Fluorocarbon elastomer combination seals ensure reliable service life
- Standard capacitance tolerance: ±20%
- Units listed below have plastic insulating sleeves. For plain metal case, change last digit in cat. no. from 1 to 0



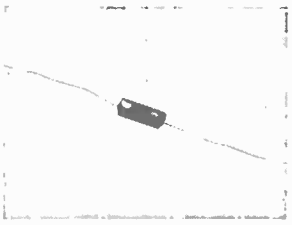

### TYPE 120D — POLARIZED

| μF | Size Code | Catalog Number |
|---|---|---|
| **10 WORKING VOLTS D-C** | | |
| 4.5 | E | 120D455X0010E1 |
| 18 | H | 120D186X0010H1 |
| 55 | K | 120D556X0010K1 |
| 110 | N | 120D117X0010N1 |
| 160 | Q | 120D167X0010Q1 |
| **15 WORKING VOLTS D-C** | | |
| 3 | E | 120D305X0015E1 |
| 12 | H | 120D126X0015H1 |
| 35 | K | 120D356X0015K1 |
| 70 | N | 120D706X0015N1 |
| 100 | Q | 120D107X0015Q1 |
| **30 WORKING VOLTS D-C** | | |
| 1.5 | E | 120D155X0030E1 |
| 6 | H | 120D605X0030H1 |
| 20 | K | 120D206X0030K1 |
| 40 | N | 120D406X0030N1 |
| 55 | Q | 120D556X0030Q1 |
| **50 WORKING VOLTS D-C** | | |
| 1 | E | 120D105X0050E1 |
| 4 | H | 120D405X0050H1 |
| 14 | K | 120D146X0050K1 |
| 28 | N | 120D286X0050N1 |
| 40 | Q | 120D406X0050Q1 |
| **65 WORKING VOLTS D-C** | | |
| .8 | E | 120D804X0065E1 |
| 3 | H | 120D305X0065H1 |
| 10 | K | 120D106X0065K1 |
| 20 | N | 120D206X0065N1 |
| 30 | Q | 120D306X0065Q1 |
| **100 WORKING VOLTS D-C** | | |
| .5 | E | 120D504X0100E1 |
| 2 | H | 120D205X0100H1 |
| 7 | K | 120D705X0100K1 |
| 14 | N | 120D146X0100N1 |
| 20 | Q | 120D206X0100Q1 |
| **150 WORKING VOLTS D-C** | | |
| .35 | E | 120D354X0150E1 |
| 1.5 | H | 120D155X0150H1 |
| 5 | K | 120D505X0150K1 |
| 10 | N | 120D106X0150N1 |
| 15 | Q | 120D156X0150Q1 |

### TYPE 121D — NON-POLARIZED

| μF | Size Code | Catalog Number |
|---|---|---|
| **10 WORKING VOLTS N.P.** | | |
| 2.5 | E | 121D255X0010E1 |
| 10 | H | 121D106X0010H1 |
| 35 | K | 121D356X0010K1 |
| 70 | N | 121D706X0010N1 |
| 100 | Q | 121D107X0010Q1 |
| **15 WORKING VOLTS N.P.** | | |
| 1.5 | E | 121D155X0015E1 |
| 6 | H | 121D605X0015H1 |
| 20 | K | 121D206X0015K1 |
| 40 | N | 121D406X0015N1 |
| 60 | Q | 121D606X0015Q1 |
| **30 WORKING VOLTS N.P.** | | |
| .8 | E | 121D804X0030E1 |
| 3 | H | 121D305X0030H1 |
| 10 | K | 121D106X0030K1 |
| 20 | N | 121D206X0030N1 |
| 30 | Q | 121D306X0030Q1 |
| **50 WORKING VOLTS N.P.** | | |
| .5 | E | 121D504X0050E1 |
| 2 | H | 121D205X0050H1 |
| 7 | K | 121D705X0050K1 |
| 14 | N | 121D146X0050N1 |
| 20 | Q | 121D206X0050Q1 |
| **65 WORKING VOLTS N.P.** | | |
| .4 | E | 121D404X0065E1 |
| 1.5 | H | 121D155X0065H1 |
| 5 | K | 121D505X0065K1 |
| 10 | N | 121D106X0065N1 |
| 15 | Q | 121D156X0065Q1 |
| **100 WORKING VOLTS N.P.** | | |
| .25 | E | 121D254X0100E1 |
| 1.0 | H | 121D150X0100H1 |
| 3.5 | K | 121D355X0100K1 |
| 7 | N | 121D705X0100N1 |
| 10 | Q | 121D106X0100Q1 |
| **150 WORKING VOLTS N.P.** | | |
| .15 | E | 121D154X0150E1 |
| .75 | H | 121D754X0150H1 |
| 2.5 | K | 121D255X0150K1 |
| 5.0 | N | 121D505X0150N1 |
| 7.5 | Q | 121D755X0150Q1 |

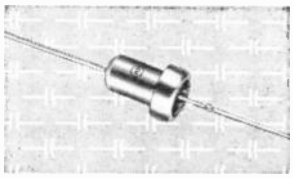
## TYPE 160D SOLID ELECTROLYTE TANTALEX® CAPACITORS



- Especially designed for hearing aid applications—Meet the need for tiny, leakproof, high capacitance capacitors with long, trouble-free service life
- Solid, non-corrosive electrolyte—nothing to leak!
- Long shelf and service life
- Capacitor elements are sealed in polyester film tubes with epoxy end fill resulting in completely insulated, moisture-proof units
- Operating temperature range: −55°C to +65°C
- Standard capacitance tolerance: −0%, +100%

| .080 D. x .200 L. | | | .080 D. x .250 L. | | | .105 D. x .250 L. | | |
|---|---|---|---|---|---|---|---|---|
| μF | WVDC | Cat. No. | μF | WVDC | Cat. No. | μF | WVDC | Cat. No. |
| 2 | 4 | 160D1 | 4 | 4 | 160D4 | 8 | 4 | 160D7 |
| 1 | 8 | 160D2 | 2 | 8 | 160D5 | 4 | 8 | 160D8 |
| 0.5 | 15 | 160D3 | 1 | 15 | 160D6 | 2 | 15 | 160D9 |

## TYPE 104D MINIATURE TANTALEX® CAPACITORS



- Designed for −55°C to +85°C operation at rated voltage—May be operated at 100°C with 15% voltage derating
- These tiny units exhibit virtually no shelf aging
- Extremely Low leakage
- Stable in performance characteristics over entire temperature range—Large values of capacitance in small physical size
- Only 7/32" in diameter and 15/32" in length

| μF | WVDC | Surge VDC | Cat. No. —15, +50% Tol. | Cat. No. —15, +20% Tol. |
|---|---|---|---|---|
| 30 | 6 | 7 | 104D101 | 104D101A1 |
| 25 | 8 | 10 | 104D102 | 104D102A1 |
| 20 | 10 | 12 | 104D103 | 104D103A1 |
| 15 | 15 | 18 | 104D104 | 104D104A1 |
| 10 | 25 | 30 | 104D105 | 104D105A1 |
| 8 | 30 | 36 | 104D106 | 104D106A1 |
| 5 | 50 | 60 | 104D107 | 104D107A1 |
| 4 | 60 | 72 | 104D108 | 104D108A1 |
| 3.5 | 75 | 87 | 104D109 | 104D109A1 |
| 2 | 100 | 115 | 104D110 | 104D110A1 |
| 1.75 | 125 | 140 | 104D111 | 104D111A1 |

### SIZE CODE

| Code | Diam. x Length | Code | Diam. x Length | Code | Diam. x Length | Code | Diam. x Length |
|---|---|---|---|---|---|---|---|
| C | 13/64 x 33/64 | F | 19/64 x 45/64 | J | 25/64 x 1 1/2 | N | 25/64 x 2 5/16 |
| D | 13/64 x 3/4 | G | 19/64 x 15/16 | K | 25/64 x 1 5/8 | P | 25/64 x 2 13/16 |
| E | 13/64 x 13/16 | H | 19/64 x 1 3/32 | M | 25/64 x 2 3/16 | Q | 25/64 x 2 15/16 |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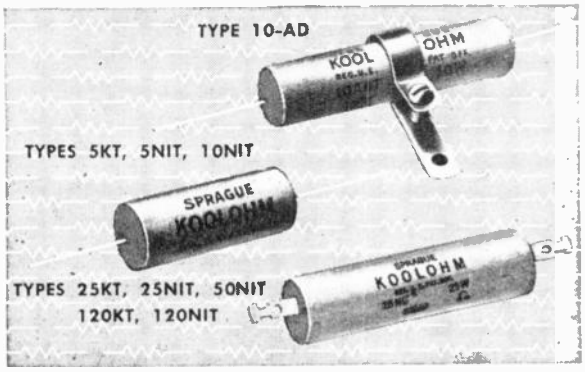
World Radio History

# SPRAGUE INDUSTRIAL RESISTORS

## KOOLOHM® WIREWOUND RESISTORS




- Wound with wire which is insulated before winding with a flexible ceramic coating. Coating is impervious to 1000°C
- Each resistor is "tropicalized" by a ceramic outer shell and special end seals for complete protection against all climatic conditions
- Insulated wire permits winding higher values in layers, which means much smaller physical sizes and true "non - inductive" wound designs
- May be mounted anywhere—even flat against chassis or grounded parts
- Standard resistance tolerance, ±5%
- NIT Types are non-inductive

**5 WATTS**
TYPES 5KT & 5NIT
13/32" dia. x 1 7/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 5 | 1000 | 5.00 |
| 10 | 707 | 7.07 |
| 15 | 587 | 8.67 |
| 20 | 500 | 10 |
| 25 | 446 | 11 |
| 30 | 406 | 12 |
| 40 | 354 | 14 |
| 50 | 316 | 15 |
| 75 | 258 | 19 |
| 100 | 224 | 22 |
| 150 | 183 | 27 |
| 200 | 158 | 31 |
| 250 | 141 | 35 |
| 300 | 129 | 38 |
| 400 | 112 | 44 |
| 500 | 100 | 50 |
| 600 | 91 | 54 |
| 700 | 84 | 59 |
| 800 | 79 | 63 |
| 900 | 74 | 67 |
| 1000 | 70 | 70 |
| 1250 | 63 | 79 |
| 1500 | 57 | 86 |
| 1750 | 53 | 93 |
| 2000 | 50 | 100 |
| 2500 | 44 | 112 |
| 3000 | 40 | 123 |
| 4000 | 35 | 141 |
| 5000 | 31 | 158 |
| 6000* | 28 | 173 |
| 7000* | 26 | 187 |
| 7500* | 25 | 194 |
| 8000* | 25 | 200 |
| 9000* | 23 | 212 |
| 10000* | 22 | 224 |
| 12500* | 20 | 250 |
| 14000* | 18 | 265 |
| 15000* | 18 | 274 |
| 20000* | 15 | 333 |
| 25000* | 14 | 354 |
| 30000* | 13 | 387 |
| 35000* | 12 | 418 |
| 40000* | 11 | 447 |

**10 WATTS**
TYPES 10KT & 10NIT
15/32" dia. x 1 27/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 5 | 1414 | 7.07 |
| 10 | 1000 | 10 |
| 15 | 830 | 12.3 |
| 20 | 707 | 14.1 |
| 25 | 630 | 15.8 |
| 30 | 575 | 17.4 |
| 40 | 500 | 20 |
| 50 | 447 | 22.4 |
| 75 | 365 | 27.4 |
| 100 | 316 | 31.6 |
| 150 | 259 | 38.7 |
| 200 | 223 | 44.6 |
| 250 | 200 | 50 |
| 300 | 182 | 54.7 |
| 400 | 158 | 63.3 |
| 500 | 141 | 70.7 |
| 600 | 129 | 77.6 |
| 700 | 119 | 84 |
| 750 | 115 | 86.9 |
| 800 | 112 | 89.5 |
| 900 | 105 | 95 |
| 1000 | 100 | 100 |
| 1250 | 89 | 112 |
| 1500 | 81 | 123 |
| 1750 | 75 | 133 |
| 2000 | 70 | 143 |
| 2500 | 63 | 158 |
| 3000 | 57 | 174 |
| 4000 | 50 | 200 |
| 5000 | 44 | 227 |
| 6000 | 41 | 245 |
| 7500 | 36 | 275 |
| 8000 | 35 | 283 |
| 9000 | 33 | 300 |
| 10000 | 32 | 316 |
| 12000* | 29 | 346 |
| 14000* | 26 | 384 |
| 15000* | 25 | 400 |
| 17500* | 24 | 419 |
| 20000* | 21 | 475 |
| 25000* | 20 | 500 |
| 30000* | 18 | 555 |
| 35000* | 17 | 591 |
| 40000* | 16 | 632 |
| 50000* | 14 | 700 |
| 60000* | 13 | 780 |
| 70000* | 12 | 840 |

**10 WATTS**
ADJUSTABLE†
TYPE 10-AD
15/32" dia. x 1 29/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 10 | 1000 | 10 |
| 25 | 630 | 15.8 |
| 50 | 447 | 22.4 |
| 100 | 316 | 31.6 |
| 150 | 259 | 38.7 |
| 200 | 223 | 44.6 |
| 250 | 200 | 50 |
| 300 | 182 | 54.7 |
| 400 | 158 | 63.3 |
| 500 | 141 | 70.7 |
| 750 | 115 | 86.9 |
| 1000 | 100 | 100 |
| 1500 | 81 | 123 |
| 2000 | 70 | 143 |
| 2500 | 63 | 158 |
| 3000 | 57 | 174 |
| 4000 | 50 | 200 |
| 5000 | 44 | 227 |
| 7500 | 36 | 275 |
| 10000 | 32 | 316 |

**25 WATTS**
TYPES 25KT & 25NIT
23/32" dia. x 2 7/8" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 2.23 | 11 |
| 10 | 1.58 | 15 |
| 25 | 1.0 | 25 |
| 50 | .707 | 35 |
| 75 | .577 | 43 |
| 100 | .500 | 50 |
| 150 | .408 | 61 |
| 200 | .353 | 70 |
| 250 | .316 | 79 |
| 500 | .223 | 111 |
| 600 | .204 | 122 |
| 750 | .182 | 137 |
| 1000 | .158 | 158 |
| 1500 | .129 | 193 |
| 2000 | .111 | 223 |
| 2500 | .100 | 250 |
| 3000 | .091 | 273 |
| 4000 | .079 | 316 |
| 5000 | .070 | 353 |
| 7500 | .057 | 432 |
| 10000 | .050 | 500 |
| 12000 | .046 | 548 |
| 15000 | .041 | 612 |
| 20000 | .035 | 707 |
| 25000 | .032 | 790 |
| 40000 | .025 | 1000 |
| 50000 | .022 | 1118 |
| 75000 | .018 | 1370 |
| 100000 | .016 | 1580 |

**50 WATTS**
TYPES 50KT & 50NIT
7/8" dia. x 4" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 3.16 | 15 |
| 10 | 2.23 | 22 |
| 25 | 1.41 | 35 |
| 50 | 1.000 | 50 |
| 75 | .816 | 61 |
| 100 | .707 | 70 |
| 150 | .577 | 86 |
| 200 | .500 | 100 |
| 250 | .477 | 111 |
| 500 | .316 | 158 |
| 600 | .289 | 173 |
| 750 | .258 | 193 |
| 1000 | .223 | 223 |
| 1500 | .182 | 274 |
| 2000 | .158 | 316 |
| 2500 | .141 | 353 |
| 3000 | .129 | 387 |
| 4000 | .111 | 447 |
| 5000 | .100 | 500 |
| 7500 | .081 | 612 |
| 10000 | .070 | 707 |
| 12000 | .064 | 775 |
| 15000 | .057 | 870 |
| 20000 | .050 | 1000 |
| 25000 | .044 | 1120 |
| 50000 | .032 | 1580 |
| 75000 | .026 | 1936 |
| 100000 | .022 | 2238 |

**120 WATTS**
TYPES 120KT & 120NIT
1 1/16" dia. x 8 15/16" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 4.9 | 24.5 |
| 10 | 3.46 | 34.6 |
| 25 | 2.18 | 54.6 |
| 50 | 1.54 | 77.4 |
| 75 | 1.26 | 94.8 |
| 100 | 1.09 | 109.5 |
| 150 | .884 | 134 |
| 200 | .775 | 155 |
| 250 | .692 | 173 |
| 390 | .574 | 211 |
| 500 | .490 | 245 |
| 600 | .446 | 268 |
| 750 | .400 | 300 |
| 1000 | .346 | 346 |
| 1500 | .282 | 424 |
| 2000 | .245 | 490 |
| 2500 | .219 | 548 |
| 3000 | .200 | 600 |
| 5000 | .154 | 774 |
| 7500 | .126 | 948 |
| 10000 | .109 | 1095 |
| 15000 | .089 | 1340 |
| 20000 | .077 | 1550 |
| 25000 | .069 | 1733 |
| 50000 | .049 | 2450 |
| 75000 | .040 | 3000 |
| 100000 | .034 | 3460 |

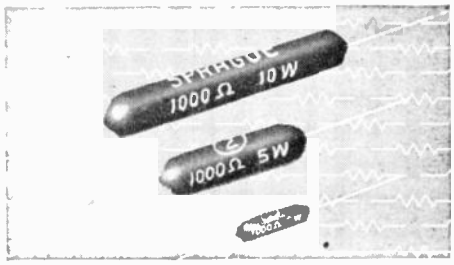
*KT Types Only

†Adjustable Resistors Are Not Tropicalized

### NEW IMPROVED KOOLOHM RESISTORS FOR INDUSTRIAL APPLICATIONS

Designed especially for severe duty cycles encountered in heavy-duty industrial electronic equipment, these units are available in 3, 5, 7, 10, and 14 watt ratings, in both standard and non-inductive windings. The unique construction of these resistors allows them to operate at "hottest-spot" temperatures to 350 C. Every unit is production aged for maximum stability. For complete data write for Engineering Bulletin 7300.

## BLUE JACKET® WIREWOUND RESISTORS




- Dependable in critical equipment yet priced low enough for radio-TV service work
- Ideal for point-to-point and terminal board wiring, as well as on printed wiring boards
- Will meet stringent MIL performance requirements with 35% to 50% Reduction in Size
- Crazeproof vitreous enamel coating guards against humidity and prevents failure from electrolysis
- Hot spot rating, 300 C rise above 40 C amb. temp.
- Standard resistance tolerance: to 50 ohms, ±10%. Over 50 ohms, ±5%.

TYPE 151E, **3 WATTS**, 15/64" Max. D. x 5/16" Max. L.

| Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA |
|---|---|---|---|---|---|---|---|
| 10 | 548 | 82 | 191 | 390 | 88 | 2200 | 37 |
| 12 | 500 | 100 | 173 | 470 | 80 | 2500 | 35 |
| 15 | 446 | 120 | 158 | 500 | 77 | 2700 | 33 |
| 18 | 409 | 150 | 141 | 560 | 73 | 3300 | 30 |
| 22 | 370 | 180 | 129 | 680 | 66 | 3900 | 28 |
| 27 | 334 | 200 | 123 | 820 | 60 | 4700 | 25 |
| 33 | 302 | 220 | 117 | 1000 | 55 | 5000 | 24 |
| 39 | 278 | 250 | 110 | 1200 | 50 | 5600 | 23 |
| 47 | 253 | 270 | 105 | 1500 | 45 | 6800 | 21 |
| 50 | 245 | 300 | 100 | 1800 | 41 | 8200 | 91 |
| 56 | 232 | 330 | 95 | 2000 | 39 | 10000 | 15 |
| 68 | 210 | | | | | | |

TYPE 27E, **5 WATTS**, 11/32" Max. D. x 1 3/16" Max. L.

| Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA |
|---|---|---|---|---|---|---|---|
| 1 | 2236 | 75 | 258 | 800 | 79 | 5000 | 31 |
| 1.5 | 1928 | 100 | 224 | 900 | 74 | 6000 | 28 |
| 2 | 1581 | 125 | 205 | 1000 | 70 | 7000 | 26 |
| 3 | 1356 | 150 | 183 | 1100 | 67 | 7500 | 25 |
| 4 | 1118 | 200 | 158 | 1200 | 64 | 8000 | 25 |
| 5 | 1000 | 225 | 150 | 1250 | 63 | 9000 | 23 |
| 7.5 | 862 | 250 | 141 | 1500 | 57 | 10000 | 22 |
| 10 | 707 | 300 | 129 | 1750 | 53 | 12000 | 20 |
| 12 | 646 | 350 | 122 | 2000 | 50 | 14000 | 18 |
| 15 | 587 | 400 | 112 | 2250 | 47 | 15000 | 18 |
| 20 | 500 | 450 | 106 | 2500 | 44 | 17500 | 16 |
| 25 | 447 | 500 | 100 | 3000 | 40 | 20000 | 15 |
| 30 | 406 | 600 | 91 | 3500 | 37 | 22500 | 15 |
| 35 | 377 | 700 | 84 | 4000 | 35 | 25000 | 14 |
| 40 | 354 | 750 | 82 | 4500 | 33 | 30000 | 13 |
| 50 | 316 | | | | | | |

TYPE 28E, **10 WATTS**, 11/32" Max. D. x 1 15/16" Max. L.

| Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA |
|---|---|---|---|---|---|---|---|
| 1 | 3162 | 150 | 259 | 1500 | 81 | 10000 | 32 |
| 1.5 | 2701 | 200 | 224 | 1750 | 75 | 11000 | 30 |
| 2 | 2236 | 225 | 213 | 2000 | 71 | 12000 | 29 |
| 3 | 1918 | 250 | 200 | 2250 | 67 | 12500 | 28 |
| 4 | 1581 | 300 | 182 | 2500 | 63 | 13500 | 27 |
| 5 | 1414 | 350 | 170 | 3000 | 57 | 14300 | 26 |
| 7.5 | 1252 | 400 | 158 | 3300 | 55 | 15000 | 25 |
| 10 | 1000 | 450 | 148 | 3500 | 54 | 16000 | 25 |
| 12 | 911 | 500 | 141 | 3900 | 51 | 17500 | 24 |
| 15 | 830 | 600 | 129 | 4000 | 50 | 18000 | 23 |
| 20 | 707 | 700 | 119 | 4500 | 47 | 20000 | 21 |
| 25 | 632 | 750 | 115 | 5000 | 45 | 22500 | 21 |
| 30 | 575 | 800 | 112 | 6000 | 41 | 25000 | 20 |
| 35 | 539 | 900 | 105 | 7000 | 38 | 30000 | 18 |
| 40 | 500 | 1000 | 100 | 7500 | 36 | 35000 | 17 |
| 50 | 447 | 1100 | 95 | 8000 | 35 | 40000 | 16 |
| 75 | 365 | 1200 | 91 | 8500 | 34 | 45000 | 15 |
| 100 | 316 | 1250 | 89 | 9000 | 33 | 50000 | 14 |
| 125 | 288 | 1450 | 82 | | | | |

### INDUSTRIAL BLUE JACKET RESISTORS

Available in 2, 3, 5, 7, and 11 watt ratings, these units feature new, improved end cap construction, with wire and leads welded to end cap. Hot spot rating is 350°C rise above 40°C ambient temperature. For complete data write for Engineering Bulletin 7410.

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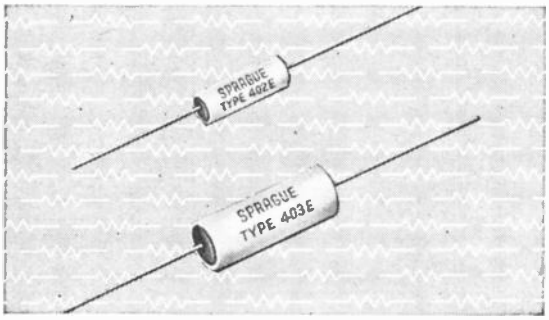
World Radio History

# SPRAGUE INDUSTRIAL RESISTORS

## FILMISTOR® DEPOSITED-CARBON RESISTORS




- Carbon-film resistors intended for close tolerance applications in military, industrial, and telephone electronic equipment where small size and stability of electrical characteristics are important

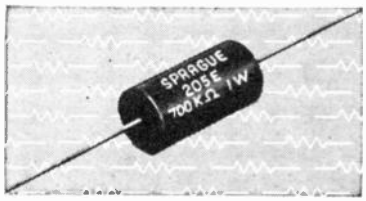
- Furnished in hermetically-sealed dense ceramic cases using ceramic-to-metal solder seals
- Long-term stability of resistance is maintained because the Filmistor case not only sheds water but is vapor resistant as well, eliminating field failure through electrolytic action and penetration of vapor
- Ceramic case provides excellent physical protection during handling and installation—permits mounting in contact with conducting surfaces, thus saving space.
- Designed to meet stringent performance requirements of MIL Spec. MIL-R-10509B
- High frequency characteristics superior to conventional composition resistors
- Standard resistance tolerances: ±1%, ±2%, ±5%

For lower-cost commercial applications, Filmistor Resistors are also available with molded plastic cases in wattage ratings of 1/8, 1/4, 1/2, 1, and 2 watts. For complete data write for Engineering Bulletin 7000.

### SIZES AND ELECTRICAL RATINGS

| Sprague Type No. | MIL Style No. | MIL Wattage | Comm. Wattage | Dimensions in Inches: MIL Dia. | MIL Length | SPRAGUE Dia. | SPRAGUE Length | SPRAGUE Resistance Limits Min. Ω | Max. MΩ | Max. Voltage | Lead AWG |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 400E | RN60 | 1/8 | 1/4 | 1/8 +.040 −.010 | 3/8 + 1/16 − 1/32 | .155±.010 | 13/32±1/32 | 25 | .5 | 250 | No. 22 |
| 401E | RN65 | 1/4 | 1/2 | 3/16 + 1/16 − 1/32 | 5/8 + 1/32 − 1/16 | .240±.010 | 5/8±1/32 | 25 | .75 | 300 | No. 20 |
| 402E | RN70 | 1/2 | 1/2 | 1/4 ± 1/32 | 3/4 + 3/32 − 1/16 | .250±.015 | 3/4±1/16 | 25 | 1 | 350 | No. 20 |
| 403E | RN75 | 1 | 1 | 3/8 + 1/16 − 1/32 | 1 1/16 ± 1/16 | .400±.020 | 1 1/16±1/16 | 25 | 2 | 500 | No. 20 |
| 404E | RN80 | 2 | 2 | 3/8 + 1/16 − 1/32 | 2 3/16 + 3/32 − 1/16 | .400±.020 | 2 7/32±1/16 | 100 | 10 | 750 | No. 20 |

## PERMASEAL®
### ACCURATE WIREWOUND RESISTORS

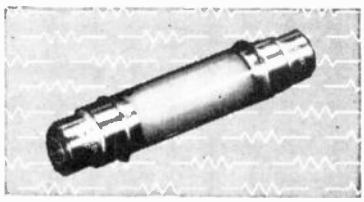



- Especially designed for applications which require highly accurate resistance values in small physical sizes
- Embedded in special plastic resin for maximum mechanical protection and humidity resistance
- Available for continuous full-load operation at two ambient temperatures —85°C and 125°C
- Carefully aged for high stability by special process
- Will meet severe humidity requirements of MIL Specifications MIL-R-93A and MIL-R-9444
- Available in close resistance tolerances down to 0.1%
- For complete data write for Engineering Bulletin 122A

## SPIRAMEG®
### HIGH-OHMIC RESISTORS

- A new concept of reliability with economy
- Ideally suited for use in high voltage circuits of color TV and other cathode-ray equipment as well as in nuclear electronic apparatus
- Stable resistance element helically applied to ceramic rod base, providing long resistance path in small space with relatively low voltage per unit length
- Encapsulated in tough plastic resin housing for positive protection against moisture and mechanical damage
- Available in resistance ratings from .1 to 300 Megohms at voltages to 30KV
- Standard resistance tolerances: ±5%, ±10%, ±15%, ±20%
- For complete data write for Engineering Bulletin 7100

## KOOLOHM®
### GLASS-ENCASED RESISTORS



- Designed to meet the 9-cycle salt-water immersion and thermal shock tests for characteristics F and G, in accordance with MIL Specification MIL-R-26C
- The first resistors on the market able to meet the Navy's Grade 1, Class 1 requirement
- These Koolohms have true hermetic seals, being completely encasd in high-voltage, heat-treated glass tubes, with glass-to-metal soldered end seals
- Will withstand 15KV 60 cycles r.m.s. flash voltage from winding to ground
- Ferrule terminals for fuse clip mounting are made of electro-tinned brass
- Available with standard, non-inductive, and super-non-inductive windings
- Standard resistance tolerance, ±5%
- For complete data, write for Engineering Bulletin 7350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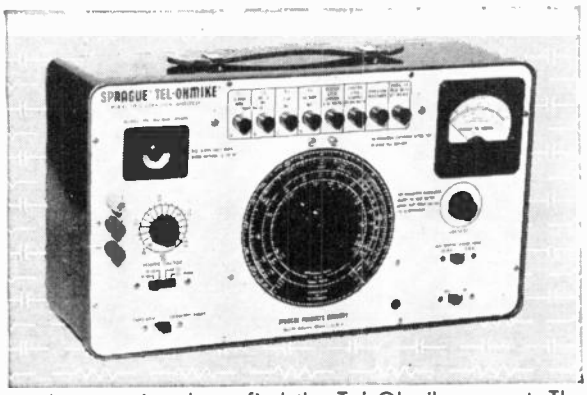
# SPRAGUE TEST EQUIPMENT

## TO-5 TEL-OHMIKE® CAPACITOR ANALYZER




Modern service shops find the Tel-Ohmike a must. The TO-5 is a moderately priced instrument with laboratory quality and accuracy. Guaranteed accuracy ±3% for values up to 200 mf (+ 1mmf for 0-100 mmf scale) and ±5% from 200 mf to 2000 mf.

### MODEL TO-5RM FOR RACK MOUNTING

Electrically identical with the standard instrument, Model TO-5RM has a standard 19" wide x 10½" high panel for mounting in standard relay racks. User net price of the TO-5RM is $93.90.

- **CAPACITANCE BRIDGE** measures up to 2000 mf in five overlapping ranges. The special 1 mmf to 100 mmf range is exclusive with the Tel-Ohmike.
- **INSULATION RESISTANCE** directly read on large meter up to 20,000 megohms for papers, ceramics, and micas. No guessing with neon lamps.
- **LEAKAGE CURRENT** of electrolytics measured directly on meter, with exact rated voltage up to 600v. applied from continuously adjustable power supply. Two ranges: 0-6-60 ma. No guessing on eye-width or counting lamp blinks!
- **POWER FACTOR** of electrolytics measured by Wien Bridge up to 55% in three ranges.
- **TURNS RATIO SCALE** to measure turns ratio of power and audio transformers.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements.
- **PUSH-BUTTONS** for instant range selection, also discharge capacitors for safety upon release.
- **MODERN CASE** finished in two-tone gray; measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 12½ pounds.

**MODEL TO-5** ..... **115 VAC 50-60 cy** ..... **$83.90 net**

Model TO-5X..... ....115-230 V/25-60 cy .. $89.90 net

## LF-1 TRANSIMULATOR

### SPEEDS DESIGN OF TRANSISTOR CIRCUITS BY ELIMINATING BREADBOARD LAYOUT

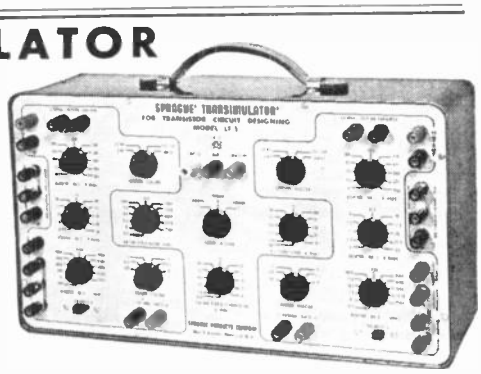
Bring transistor circuits to life in a matter of minutes with the Sprague LF-1 Transimulator. This new instrument lets you simulate any amplifier stage, a-c or direct-coupled, short of high power audio output; also multivibrator, switching, phasing, push-pull, Class A and B, and many others using cross-coupled Transimulators . . . whether the circuit is common or grounded emitter, base, or collector . . . whether the transistors are PNP, NPN, or Surface Barrier. You can simulate circuits stage-by-stage for cascade operation . . . or use a separate Transimulator for each stage to get simultaneous multi-stage operation.

### Bring Circuit Diagrams To Life In Minutes

Everything you need for RC amplifier circuits is built right into the LF-1, including coupling capacitors . . . bias and load resistors . . . battery voltage supplies . . . Base Collector—Voltage Divider stabilization circuits . . . 5-way binding posts for transformer coupling and metering. Whether you're designing audio circuits or switching circuits, you'll get a true picture of operating parameters minutes after you've drawn the circuit diagram . . . without wasting valuable time with breadboard and soldering gun.

### Pays For Itself In A Matter Of Weeks

An ideal laboratory instrument, Transimulators are inexpensive enough to justify several on every bench. You can even use the LF-1 to test transistors *in the circuit* . . . the only real proof of design parameters. And a complete step-by-step instruction manual makes operation fast, simple, and easy.




**FEATURES OF THE LF-1 TRANSIMULATOR**

- TRANSISTORS—PNP and NPN Junction, and Surface Barrier.
- CIRCUITS—Common or Grounded Emitter, Base, Collector.
- RANGE—Audio, up to 100 kc.
- TRANSISTOR POWER—Through medium power audio output.
- BATTERY SUPPLY—Separate bias and load. 1.5, 3, 4.5, 6 volts d-c. Polarity Reversing Switch.
- COUPLING—2 μf and 20 μF Direct, and Ext. C. posts, on both Input and Output.
- BIAS RESISTANCE—Up to 555,000 ohms continuously variable.
- LOAD RESISTANCE—Up to 277,500 ohms continuously variable.
- EMITTER RESISTANCE—Up to 2,500 ohms variable. Series resistor and bypass capacitor can be added.
- BASE COLLECTOR STABILITY—Up to 250,000 ohms variable. Series resistor and bypass capacitor can be added.
- VOLTAGE DIVIDER STABILITY—Up to 50,000 ohms variable.
- 5-WAY BINDING POSTS—For meters, transformer coupling, external supply voltage, degeneration, bypass, coupling, signal input and output, almost any connection required.

**$79.50 NET**
LESS BATTERIES

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World Radio History

# TAN-O-MITE® TANTALUM CAPACITORS

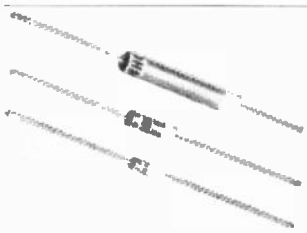
## THREE TYPES — WIRE - FOIL - SLUG

Tantalum electrolytic capacitors are distinguished for their extremely high capacitance and small size. They provide *microfarads* of capacity in less space than that required for *micro-microfarads* in other units. They offer excellent performance under wide temperature extremes (−55°C to +85°C) and feature unusual stability in shelf life and performance — a characteristic stemming from the inertness of tantalum metal and the stability of its oxide film. The three types available satisfy a wide range of industrial and military applications and are intended for coupling, filter and by-pass applications where capacitance tolerance is not critical.

## SERIES TW TANTALUM WIRE TYPE

**Polar Type Only**

The smallest subminiature capacitors available, these polar type units can be used in DC circuits where capacitance value can exceed nominal circuit requirements considerably (standard tolerance is −0 + 100%). Nine case sizes provide overall capacitance range of .01 to 80 mfds. Voltages to 150 VDC are available depending upon capacity. Wide use in hearing aids and other subminiature apparatus.



| CASE SIZE | INSULATED TYPE D ±.005 | INSULATED TYPE L ±.005 |
|---|---|---|
| T | .080 | .203 |
| S | .080 | .234 |
| H | .075 | .255 |
| M | .100 | .218 |
| A | .100 | .312 |
| B | .134 | .375 |
| C | .134 | .562 |
| D | .134 | .687 |
| E | .134 | .812 |

### SERIES TW STOCK VALUES

**Quantity Discounts Offered**

| Mfd. | DC WV† | Stock No. | Net Price | Mfd | DC WV† | Stock No. | Net Price |
|---|---|---|---|---|---|---|---|
| 0.1 | 4 | R1T4MA | $1.61 | 2 | 4 | 2T4MA | $1.61 |
| | 20 | R1T20MA | 1.61 | | 8 | 2H8MA | 1.61 |
| | 80 | R1B80MA | 1.77 | | 40 | 2B40MA | 1.77 |
| | 150 | R1D150MA | 2.70 | | 80 | 2D80MA | 2.70 |
| 0.5 | 4 | R5T4MA | 1.61 | 4 | 4 | 4H4MA | 1.61 |
| | 20 | R5H20MA | 1.61 | | 10 | 4B10MA | 1.68 |
| | 80 | R5B80MA | 1.77 | | 60 | 4D60MA | 2.70 |
| 1 | 4 | 1T4MA | 1.61 | 8 | 4 | 8B4MA | 1.68 |
| | 8 | 1T8MA | 1.61 | | | | |
| | 20 | 1M20MA | 1.61 | | | | |
| | 60 | 1B60MA | 1.77 | | | | |
| | 80 | 1C80MA | 2.19 | | | | |

†Capacitor may be operated at any voltage less than that shown in table. Letter following first no. in stock no. indicates size. Request information on other sizes.

## SERIES TF TANTALUM FOIL TYPE

**Polar and Non-Polar Types**

The only type available as a polar or non-polar unit. Non-polar units are intended for DC applications where reversals of potential occur or for AC applications at limited voltage; polar units are intended for applications where reversals of potential do not occur. However, polar units will withstand reversals up to 3.75 VDC. These foil type units have closer capacitance tolerance (±20%), better leakage and power factor characteristics than wire type units. Supplied in three case sizes, Series TF capacitors offer a capacitance range from .25 to 140 mfds. Working voltages to 150 volts are available depending upon capacity.

| CASE SIZE | D | L |
|---|---|---|
| J | 3/16" | 11/16" |
| K | 9/32" | 7/8" |
| L | 3/8" | 1 7/16" |

### SERIES TF STOCK VALUES*

**Polar Units Only**

For Non-Polar units or Unlisted Values, Inquire of Factory.

| Mfd. | WVDC | Stock No.* | Mfd. | WVDC | Stock No.* |
|---|---|---|---|---|---|
| 0.5 | 150 | R5J150 | 7 | 150 | 7L150 |
| 1 | 75 | 1J75 | 10 | 30 | 10K30 |
| 1.5 | 50 | 1R5J50 | 12 | 25 | 12K25 |
| 2 | 150 | 2K150 | 14 | 75 | 14L75 |
| 2.5 | 30 | 2R5J30 | 20 | 50 | 20L50 |
| 3 | 25 | 3J25 | 25 | 10 | 25K10 |
| 4 | 75 | 4K75 | 30 | 30 | 30L30 |
| 4.5 | 15 | 4R5J15 | 35 | 6 | 35K6 |
| 5 | 60 | 5K60 | 35 | 25 | 35L25 |
| 6 | 50 | 6K50 | 100 | 6 | 100L6 |

*Letters J, K or L in Stock No. indicates case size.

**NET PRICES—QUANTITY DISCOUNTS OFFERED**

| CASE SIZE | |
|---|---|
| J | $5.60 |
| K | 8.58 |
| L | 14.00 |

## SERIES TS TANTALUM SLUG TYPE — Polar Type Only

For polar applications, the slug type unit offers extremely low leakage current and the lowest power factor combined with minimum temperature coefficient characteristics. Available in two tolerances "S", −15 + 20%; "T", −15 + 50%; and one case size— 19/32 x 5/16" diameter, overall. Range — 1.75 to 30 mfds; voltages to 125 VDC depending upon capacity.

### SERIES TS STOCK VALUES

| Mfd. | WVDC | CATALOG NUMBER Capacitance Tolerance S −15% +20% | CATALOG NUMBER Capacitance Tolerance T −15% +50% |
|---|---|---|---|
| 30 | 6 | 30UB6S | 30UB6T |
| 25 | 8 | 25UB8S | 25UB8T |
| 20 | 10 | 20UB10S | 20UB10T |
| 15 | 15 | 15UB15S | 15UB15T |
| 10 | 25 | 10UB25S | 10UB25T |
| 8 | 30 | 8UB30S | 8UB30T |
| 5 | 50 | 5UB50S | 5UB50T |
| 4 | 60 | 4UB60S | 4UB60T |
| 3.5 | 75 | 3R5UB75S | 3R5UB75T |
| 2 | 100 | 2UB100S | 2UB100T |
| 1.75 | 125 | 1R75UB125S | 1R75UB125T |
| NET PRICES | | $3.50 | $3.15 |

For unlisted values, write to factory.



Net

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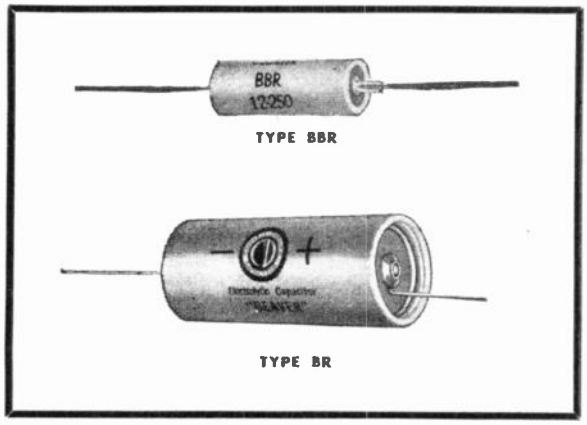
# CORNELL DUBILIER

## "BLUE BEAVER" ELECTROLYTIC TUBULARS




### BBR

Type BBR "BLUE BEAVERS," miniature versions of the BR, are especially popular for cramped space installations in television receivers, hearing aids, miniature radios and other small assemblies. They are hermetically sealed *in tubular aluminum containers with cardboard sleeve* and ideally suited to meet requirements in low voltage circuits. NEGATIVE TERMINAL IS GROUNDED TO CAN.

**TEMPERATURE RANGE:** to +85°C.

| BBR Cat. No. | Cap. Mfd. | *Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **3 Volts** | | |
| BBR 25-3 | 25 | 3/8 x 1 11/16 | $ .85 | $ .51 |
| BBR 50-3 | 50 | 3/8 x 1 11/16 | .95 | .57 |
| | | **6 Volts** | | |
| BBR 5-6 | 5 | 3/8 x 1 11/16 | .80 | .48 |
| BBR 25-6 | 25 | 3/8 x 1 11/16 | .85 | .51 |
| BBR 50-6 | 50 | 3/8 x 1 11/16 | .95 | .57 |
| BBR 100-6 | 100 | 1/2 x 1 11/16 | 1.20 | .72 |
| BBR 250-6 | 250 | 1/2 x 1 7/16 | 1.35 | .81 |
| | | **15 Volts** | | |
| BBR 100-15 | 100 | 1/2 x 1 11/16 | 1.25 | .75 |
| | | **25 Volts** | | |
| BBR 10-25 | 10 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 20-25 | 20 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 25-25 | 25 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 50-25 | 50 | 1/2 x 1 11/16 | 1.10 | .66 |
| BBR 100-25 | 100 | 1/2 x 1 7/16 | 1.35 | .81 |
| | | **50 Volts** | | |
| BBR 1-50 | 1 | 3/8 x 1 11/16 | .90 | .54 |
| BBR 2-50 | 2 | 3/8 x 1 11/16 | .90 | .54 |
| BBR 4-50 | 4 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 5-50 | 5 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 10-50 | 10 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 25-50 | 25 | 1/2 x 1 11/16 | 1.05 | .63 |
| | | **90 Volts** | | |
| BBR 10-90 | 10 | 1/2 x 1 11/16 | 1.10 | .66 |
| BBR 16-90 | 16 | 1/2 x 1 7/16 | 1.10 | .66 |
| | | **150 Volts** | | |
| BBR 4-150 | 4 | 3/8 x 1 11/16 | 1.00 | .60 |
| BBR 8-150 | 8 | 1/2 x 1 11/16 | 1.05 | .63 |
| BBR 10-150 | 10 | 1/2 x 1 11/16 | 1.05 | .63 |
| BBR 12-150 | 12 | 1/2 x 1 11/16 | 1.10 | .66 |
| BBR 16-150 | 16 | 1/2 x 1 7/16 | 1.15 | .69 |
| BBR 20-150 | 20 | 1/2 x 1 7/16 | 1.20 | .72 |
| | | **250 Volts** | | |
| BBR 4-250 | 4 | 1/2 x 1 11/16 | 1.00 | .60 |
| BBR 8-250 | 8 | 1/2 x 1 7/16 | 1.15 | .69 |
| BBR 12-250 | 12 | 1/2 x 1 7/16 | 1.25 | .75 |

*For Overall Size add 1/16" to Diam. and 5/32" to Length.

### BR

Type BR is the compact unit in *aluminum can with cardboard outer sleeve*. Fits neatly into the cramped quarters, self-supported by rigid tinned copper leads. Larger sizes may be further supported by a metal strap. NEGATIVE TERMINAL IS GROUNDED TO CAN.

**TEMPERATURE RANGE:** to +85°C except 500 V. D.C., to +65°C.

| BR Cat. No. | Cap. Mfd. | *Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **6 D.C. W. Volts** | | |
| BR 500-6 | 500 | 3/4 x 1 11/16 | $1.55 | $ .93 |
| BR 1000-6 | 1000 | 7/8 x 2 | 1.90 | 1.14 |
| BR 2000-6 | 2000 | 1 x 2 1/2 | 2.30 | 1.38 |
| | | **15 D.C. W. Volts** | | |
| BR 2501 | 250 | 3/4 x 1 11/16 | 1.55 | .93 |
| BR 5001 | 500 | 7/8 x 2 | 1.75 | 1.05 |
| BR 10001 | 1000 | 1 x 2 | 2.30 | 1.38 |
| BR 20001 | 2000 | 1 x 3 | 3.20 | 1.92 |
| | | **25 D.C. W. Volts** | | |
| BR 2502 | 250 | 7/8 x 1 11/16 | 1.70 | 1.02 |
| BR 5002 | 500 | 1 x 2 | 2.30 | 1.38 |
| | | **50 D.C. W. Volts** | | |
| BR 505 | 50 | 5/8 x 1 7/16 | 1.20 | .72 |
| BR 1005 | 100 | 3/4 x 2 | 1.40 | .84 |
| BR 1505 | 150 | 7/8 x 2 | 1.55 | .93 |
| BR 2505 | 250 | 1 x 2 | 1.75 | 1.05 |
| BR 5005 | 500 | 1 x 3 | 2.40 | 1.44 |
| | | **150 V. D.C.** | | |
| BR 2515 | 25 | 3/4 x 1 7/16 | 1.25 | .75 |
| BR 3015 | 30 | 3/4 x 1 7/16 | 1.30 | .78 |
| BR 4015 | 40 | 3/4 x 1 11/16 | 1.35 | .81 |
| BR 5015 | 50 | 7/8 x 1 11/16 | 1.40 | .84 |
| BR 6015 | 60 | 7/8 x 2 | 1.50 | .90 |
| BR 8015 | 80 | 7/8 x 2 | 1.60 | .96 |
| BR 10015 | 100 | 1 x 2 1/2 | 1.75 | 1.05 |
| BR 15015 | 150 | 1 x 3 | 1.90 | 1.14 |
| BR 20015 | 200 | 1 x 3 | 2.20 | 1.32 |
| BR 30015 | 300 | 1 x 4 1/16 | 2.55 | 1.53 |
| | | **250 V. D.C.** | | |
| BR 1625 | 16 | 3/4 x 1 11/16 | 1.30 | .78 |
| BR 2025 | 20 | 3/4 x 1 11/16 | 1.35 | .81 |
| BR 3025 | 30 | 7/8 x 1 11/16 | 1.45 | .87 |
| BR 4025 | 40 | 7/8 x 2 | 1.55 | .93 |
| BR 5025 | 50 | 1 x 2 | 1.70 | 1.02 |
| BR 6025 | 60 | 1 x 2 1/2 | 1.80 | 1.08 |
| | | **350 V. D.C.** | | |
| BR 435 | 4 | 5/8 x 1 7/16 | 1.05 | .63 |
| BR 835 | 8 | 5/8 x 1 11/16 | 1.20 | .72 |
| BR 1235 | 12 | 3/4 x 1 11/16 | 1.30 | .78 |
| BR 1635 | 16 | 7/8 x 1 11/16 | 1.40 | .84 |
| BR 2035 | 20 | 7/8 x 1 11/16 | 1.45 | .87 |
| BR 3035 | 30 | 1 x 2 | 1.65 | .99 |
| BR 4035 | 40 | 1 x 2 1/2 | 1.75 | 1.05 |
| BR 5035 | 50 | 1 x 2 1/2 | 1.85 | 1.11 |
| BR 6035 | 60 | 1 x 2 1/2 | 1.95 | 1.17 |
| BR 8035 | 80 | 1 x 3 5/16 | 2.10 | 1.26 |
| BR 10035 | 100 | 1 x 4 1/16 | 2.30 | 1.38 |
| | | **450 V. D.C.** | | |
| BR 145 | 1 | 5/8 x 1 1/16 | 1.10 | .66 |
| BR 245 | 2 | 5/8 x 1 1/16 | 1.10 | .66 |
| BR 445 | 4 | 5/8 x 1 7/16 | 1.15 | .69 |
| BR 845 | 8 | 3/4 x 1 7/16 | 1.25 | .75 |
| BR 1045 | 10 | 3/4 x 1 11/16 | 1.30 | .78 |
| BR 1245 | 12 | 3/4 x 1 11/16 | 1.35 | .81 |
| BR 1645 | 16 | 7/8 x 2 | 1.40 | .84 |
| BR 2045 | 20 | 7/8 x 2 | 1.55 | .93 |
| BR 3045 | 30 | 1 x 2 1/2 | 1.70 | 1.02 |
| BR 4045 | 40 | 1 x 2 1/2 | 1.80 | 1.08 |
| BR 5045 | 50 | 1 x 3 | 2.10 | 1.26 |
| BR 6045 | 60 | 1 x 3 9/16 | 2.35 | 1.41 |
| BR 8045 | 80 | 1 x 4 1/16 | 2.80 | 1.68 |
| BR 10045 | 100 | 1 x 4 1/16 | 3.20 | 1.92 |
| | | **500 V. D.C.** | | |
| BR 450 | 4 | 5/8 x 1 11/16 | 1.20 | .72 |
| BR 850 | 8 | 3/4 x 1 11/16 | 1.30 | .78 |
| BR 1250 | 12 | 7/8 x 2 | 1.40 | .84 |
| BR 1650 | 16 | 1 x 2 | 1.50 | .90 |
| BR 2050 | 20 | 1 x 2 | 1.60 | .96 |
| BR 3050 | 30 | 1 x 2 1/2 | 1.75 | 1.05 |

*For Overall Size add 1/16" to Diam. and 3/16" to Length.

### LOW CAPACITY BRHV HIGH VOLTAGE

| BRHV Cat. No. | Cap. Mfd. | OVERALL Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **600 D.C. W. Volts** | | |
| BRHV 604 | 4 | 13/16 x 2 7/16 | $1.95 | $1.17 |
| BRHV 608 | 8 | 13/16 x 3 3/16 | 2.10 | 1.26 |
| BRHV 610 | 10 | 1 1/16 x 3 3/16 | 2.20 | 1.32 |
| BRHV 612 | 12 | 1 1/16 x 3 3/16 | 2.40 | 1.44 |
| BRHV 616 | 16 | 1 1/16 x 3 3/16 | 2.55 | 1.53 |
| BRHV 620 | 20 | 1 1/16 x 3 11/16 | 2.70 | 1.62 |
| | | **700 D.C. W. Volts** | | |
| BRHV 708 | 8 | 1 1/16 x 3 3/16 | 2.20 | 1.32 |
| BRHV 710 | 10 | 1 1/16 x 3 3/16 | 2.35 | 1.41 |
| BRHV 712 | 12 | 1 1/16 x 3 11/16 | 2.45 | 1.47 |
| BRHV 716 | 16 | 1 1/16 x 4 5/16 | 2.65 | 1.59 |

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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY



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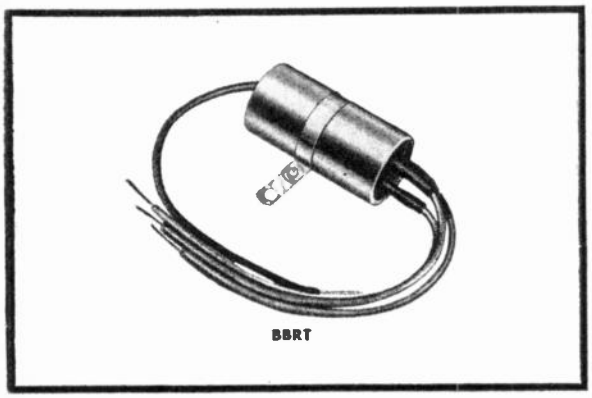
# CORNELL DUBILIER

## MULTI-SECTION TUBULAR ELECTROLYTICS



BBRT

A series of compact, tubular METAL-CASED, CARDBOARD SLEEVED electrolytics—specially sealed against heat and humidity.

Featuring—

- Direct-to-terminal internal lead construction reduces possibility of shorts. (Pure aluminum wires crimped securely together with outer leads within aluminum stud terminals.)
- New high-insulation vinylite covered leads — generous 7 inches long.
- Sections sealed in aluminum tube for protection against moisture getting in, or electrolyte drying out.
- Wax impregnated cardboard outer insulation sleeve.
- Rubber diaphragm-type vent insures ideal vent action under all conditions.
- **IDEAL FOR OPERATION AT TEMPERATURES UP TO 85° C.**

### BBRD — Dual Common Negative

| BBRD Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| BBRD 2202 | 20-20 | 25 | ¾ x 1 1/16 | $1.40 | $ .84 |
| BBRD 115 | 10-10 | 50 | ¾ x 1 1/16 | 1.40 | .84 |
| BBRD 2115 | 20-10 | 150 | ¾ x 1 7/16 | 1.55 | .93 |
| BBRD 2215 | 20-20 | 150 | ¾ x 1 11/16 | 1.65 | .99 |
| BBRD 3215 | 30-20 | 150 | ⅞ x 1 11/16 | 1.70 | 1.02 |
| BBRD 3315 | 30-30 | 150 | ⅞ x 1 11/16 | 1.80 | 1.08 |
| BBRD 4215 | 40-20 | 150 | ⅞ x 1 11/16 | 1.75 | 1.05 |
| BBRD 4315 | 40-30 | 150 | ⅞ x 2 | 1.80 | 1.08 |
| BBRD 4415 | 40-40 | 150 | ⅞ x 2 | 1.85 | 1.11 |
| BBRD 5315 | 50-30 | 150 | ⅞ x 2 | 1.95 | 1.17 |
| BBRD 5515 | 50-50 | 150 | 1 x 2 | 2.10 | 1.26 |
| BBRD 8415 | 80-40 | 150 | 1 x 2 3/16 | 2.25 | 1.35 |
| BBRD 8515 | 80-50 | 150 | 1 x 2½ | 2.30 | 1.38 |
| *BBRD 0183.7 | 100-50 | 150 | 1 x 3 | 3.00 | 1.80 |
| *BBRD 101015 | 100-100 | 150 | 1 x 3 | 3.20 | 1.92 |
| *BBRD 0196 | 200-5 | 200 | 1 x 4 1/16 | 3.50 | 2.10 |
| BBRD 8D25 | 8-8 | 250 | ¾ x 1 7/16 | 1.60 | .96 |
| BBRD 16825 | 16-8 | 250 | ¾ x 2 | 1.70 | 1.02 |
| BBRD 16025 | 16-16 | 250 | ⅞ x 2 | 1.80 | 1.08 |
| BBRD 2225 | 20-20 | 250 | 1 x 1 11/16 | 1.85 | 1.11 |
| BBRD 3325 | 30-30 | 250 | 1 x 2 3/16 | 2.25 | 1.35 |
| *BBRD 7V225 | 75-20 | 250 | 1 x 3 | 2.60 | 1.56 |
| *BBRD 0242 | 80-10 | 250 | 1 x 3 | 2.55 | 1.53 |
| *BBRD 0246 | 120-80 | 250 | 1⅜ x 3 1/16 | 4.00 | 2.40 |
| *BBRD 0286 | 150-100 | 300 | 1⅜ x 4 3/16 | 5.25 | 3.15 |
| *BBRD 0334 | 140-5 | 350 | 1⅜ x 4 1/16 | 4.15 | 2.49 |
| BBRD 8D45 | 8-8 | 450 | ⅞ x 1 11/16 | 1.70 | 1.02 |
| BBRD 16845 | 16-8 | 450 | 1 x 2 3/16 | 2.00 | 1.20 |
| BBRD 16D45 | 16-16 | 450 | 1 x 2½ | 2.25 | 1.35 |
| *BBRD 2245 | 20-20 | 450 | 1 x 3 | 2.50 | 1.50 |
| *BBRD 3345 | 30-30 | 450 | 1⅛ x 3 9/16 | 3.00 | 1.80 |
| *BBRD 4445 | 40-40 | 450 | 1 x 4 1/16 | 3.40 | 2.04 |
| *BBRD 0576 | 60, 125 | 200, 50 | 1 x 3 | 3.25 | 1.95 |
| BBRD 0646 | 20, 100 | 450, 25 | 1 x 2½ | 2.20 | 1.32 |
| *BBRD 0652 | 40, 50 | 450, 50 | 1 x 3 9/16 | 3.00 | 1.80 |
| *BBRD 0722 | 80, 100 | 450, 50 | 1⅜ x 3 9/16 | 3.75 | 2.25 |
| *BBRD 0707 | 30, 50 | 450, 200 | 1⅛ x 2½ | 2.85 | 1.71 |

### BBRT — Triple-Common Negative

| BBRT Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| BBRT 22215 | 20-20-20 | 150 | ⅞ x 1 11/16 | $2.20 | $1.32 |
| BBRT 32V215 | 30-25-20 | 150 | ⅞ x 2 | 2.25 | 1.35 |
| BBRT 33315 | 30-30-30 | 150 | 1 x 2 | 2.35 | 1.41 |
| BBRT 42215 | 40-20-20 | 150 | 1 x 1 11/16 | 2.25 | 1.35 |
| BBRT 43215 | 40-30-20 | 150 | 1 x 2 | 2.35 | 1.41 |
| BBRT 44215 | 40-40-20 | 150 | 1 x 2 | 2.35 | 1.41 |
| BBRT 44415 | 40-40-40 | 150 | 1 x 2 5/16 | 2.45 | 1.47 |
| BBRT 53215 | 50-30-20 | 150 | 1 x 2 | 2.45 | 1.47 |
| *BBRT 84215 | 80-40-20 | 150 | 1 x 3 | 2.75 | 1.65 |
| *BBRT 0126.5 | 150-150-150 | 150 | 1⅜ x 4 5/16 | 4.75 | 2.85 |
| *BBRT 7V4125 | 75-40-10 | 250 | 1⅛ x 3 | 3.45 | 2.07 |
| *BBRT 0185 | 40-40-40 | 300 | 1⅛ x 3 | 4.60 | 2.76 |
| *BBRT 0196 | 120-40-10 | 300 | 1⅜ x 3 1/16 | 4.85 | 2.91 |
| *BBRT 0235 | 60-60-5 | 350 | 1⅜ x 3 1/16 | 4.25 | 2.55 |
| *BBRT 11145 | 10-10-10 | 450 | 1 x 2½ | 2.45 | 1.47 |
| *BBRT 16T45 | 16-16-16 | 450 | 1⅛ x 3 | 3.10 | 1.86 |
| BBRT 4415X25 | 40-40, 250 | 150, 10 | 1 x 2 5/16 | 2.60 | 1.56 |
| BBRT 5315X20 | 50-30, 200 | 150, 10 | 1 x 2 5/16 | 2.55 | 1.53 |
| BBRT 5315C | 50-30, 20 | 150, 25 | 1 x 1 11/16 | 2.35 | 1.41 |
| BBRT 5515C | 50-50, 20 | 150, 25 | 1 x 2 3/16 | 2.50 | 1.50 |
| BBRT 8415C | 80-40, 20 | 150, 25 | 1 x 2½ | 2.65 | 1.59 |
| BBRT 3215C10 | 30-20, 100 | 150, 25 | 1 x 2 | 2.35 | 1.41 |
| BBRT 2215C | 20-20, 20 | 150, 25 | ⅞ x 1 11/16 | 2.05 | 1.23 |
| BBRT 3315C | 30-30, 20 | 150, 25 | ⅞ x 2 | 2.20 | 1.32 |
| BBRT 4215C | 40-20, 20 | 150, 25 | 1 x 1 11/16 | 2.15 | 1.29 |
| BBRT 4315C | 40-30, 20 | 150, 25 | 1 x 1 11/16 | 2.20 | 1.32 |
| BBRT 4415C | 40-40, 20 | 150, 25 | 1 x 1 11/16 | 2.25 | 1.35 |
| BBRT 5315C10 | 50-30, 100 | 150, 25 | 1 x 2 3/16 | 2.45 | 1.47 |
| *BBRT 5315C25 | 50-30, 250 | 150, 25 | 1 x 3 | 3.10 | 1.86 |
| BBRT 8215C10 | 80-20, 100 | 150, 25 | 1 x 2½ | 2.75 | 1.65 |
| BBRT 2225C | 20-20, 20 | 250, 25 | 1 x 2 | 2.25 | 1.35 |
| BBRT 4225C | 40-20, 20 | 250, 25 | 1 x 2 3/16 | 2.55 | 1.53 |
| BBRT 4425C | 40-40, 20 | 250, 25 | 1 x 2 11/16 | 2.90 | 1.74 |
| *BBRT 0733 | 80-10, 100 | 300, 50 | 1⅜ x 3 1/16 | 4.05 | 2.43 |
| *BBRT 0878 | 140-5, 200 | 350, 200 | 1½ x 4 3/16 | 6.70 | 4.02 |
| *BBRT 2245C | 20-20, 20 | 450, 25 | 1 x 3 | 2.90 | 1.74 |
| *BBRT 1238 | 5, 80-40 | 450,400 | 1⅜ x 3 5/16 | 4.55 | 2.73 |
| *BBRT 1411 | 30, 50, 100 | 450, 150, 25 | 1⅛ x 3 | 3.70 | 2.22 |

### BBRQ — Quadruple-Common Negative

| BBRQ Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| *BBRQ 111145 | 10-10-10-10 | 450 | 1 x 3 | $3.20 | $1.92 |
| *BBRQ 222245 | 20-20-20-20 | 450 | 1⅛ x 4 1/16 | 4.50 | 2.70 |
| *BBRQ 0125 | 20-20-20-10 | 450 | 1⅜ x 3 1/16 | 4.25 | 2.55 |
| *BBRQ 0170.5 | 40-20-20-10 | 450 | 1⅜ x 3 9/16 | 4.70 | 2.82 |
| *BBRQ 0174 | 40-40-20-20 | 450 | 1⅜ x 4 3/16 | 5.45 | 3.27 |
| BBRQ 33215C | 30-30-20, 20 | 150, 25 | 1 x 2 | 2.90 | 1.74 |
| BBRQ 42215C | 40-20-20, 20 | 150, 25 | 1 x 2 | 2.85 | 1.71 |
| BBRQ 44315C | 40-40-30, 20 | 150, 25 | 1 x 2½ | 3.00 | 1.80 |
| BBRQ 53215C | 50-30-20, 20 | 150, 25 | 1 x 2½ | 3.05 | 1.83 |
| *BBRQ 55515C | 50-50-50, 20 | 150, 25 | 1 x 3 | 3.45 | 2.07 |
| *BBRQ 0789.4 | 140-5, 200-30 | 300, 150 | 1½ x 4 3/16 | 5.15 | 3.09 |
| *BBRQ 0385 | 120-40-40, 10 | 300, 250 | 1⅜ x 3 9/16 | 6.20 | 3.72 |
| *BBRQ 22245C | 20-20-20, 20 | 450, 25 | 1⅛ x 3 9/16 | 4.05 | 2.43 |
| *BBRQ 0695.3 | 10, 20-20-10 | 450, 350 | 1⅛ x 3 | 3.50 | 2.10 |
| *BBRQ 0789.5 | 80-60, 40, 20 | 350, 300, 150 | 1⅜ x 3 9/16 | 5.90 | 3.54 |
| *BBRQ 0925 | 140, 5, 200-30 | 350, 300, 200 | 1½ x 4 3/16 | 7.65 | 4.59 |
| *BBRQ 0805 | 80-10, 40, 100 | 400, 300, 50 | 1¾ x 3 9/16 | 5.45 | 3.27 |
| *BBRQ 0926.5 | 10, 80, 40-40 | 450, 300, 250 | 1¾ x 3 9/16 | 4.95 | 2.97 |
| *BBRQ 0934 | 10, 80, 40, 100 | 450, 300, 250, 50 | 1⅜ x 3 9/16 | 4.80 | 2.88 |
| BBRQ 0954.5 | 20, 120, 40, 100 | 450, 300, 250, 50 | 1⅜ x 4 3/16 | 6.15 | 3.69 |

### EDL — Dual SEPARATE Section

Type EDL Capacitors are dual units in CARDBOARD TUBE containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

**TEMPERATURE RANGE:** to +65°C.

| EDL Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| *EDL 22155S | 20-20 | 150 | 15/16 x 2⅝ | $1.65 | $ .99 |
| *EDL 33155S | 30-30 | 150 | 1 x 2⅝ | 1.80 | 1.08 |
| *EDL 42155S | 40-20 | 150 | 1 x 2⅝ | 1.75 | 1.05 |
| *EDL 44155S | 40-40 | 150 | 1 1/16 x 2⅞ | 1.85 | 1.11 |
| *EDL 53155S | 50-30 | 150 | 1 1/16 x 2⅞ | 1.95 | 1.17 |
| *EDL 55155S | 50-50 | 150 | 1⅛ x 3⅛ | 2.10 | 1.26 |
| *EDL 84155S | 80-40 | 150 | 1 3/16 x 3⅜ | 2.25 | 1.35 |

†For OVERALL size add 1/16" to Diam. and 3/16" to Length.
All above Packed—5 Units per Carton, except those marked (*) which are individual Carton Packed.



Net

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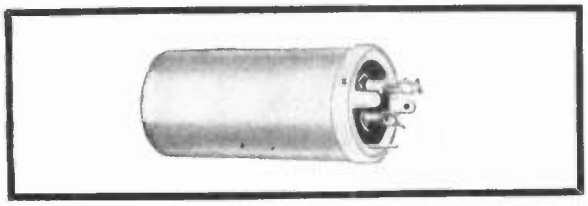
**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# CORNELL DUBILIER

## TWIST-PRONG BASE ELECTROLYTICS



Small round-can TWIST-PRONG electrolytic units. Each is furnished with a bakelite and a metal mounting washer.

**X** types are especially designed for SELENIUM RECTIFIER circuit applications. ONLY THIS TYPE SHOULD BE USED FOR THIS SERVICE.

**TEMP. RANGE:** to 475 V.D.C.W. +85°C.
over 475 V.D.C.W. +65°C.

★ **PREFERRED TYPE**

### SINGLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 10 Ohms 30 CPS. | A0010 | ¾ x 2 | $2.50 | $1.50 |
| .5 Ohms 15,750 CPS. | A0020 | 1 x 2 | 2.75 | 1.65 |
| 1 Ohms 60 CPS. | A0030 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 2000/6 | A0040 | 1⅜ x 2 | 2.55 | 1.53 |
| 3000/10 | A0050 | 1⅜ x 2½ | 3.65 | 2.19 |
| ★ 225/15 | A0053 | ¾ x 2 | 1.75 | 1.05 |
| ★ 1000/15 | A0060 | 1 x 2½ | 2.55 | 1.53 |
| ★ 2000/15 | A0070 | 1⅜ x 2½ | 3.45 | 2.07 |
| ★ 3000/15 | A0080 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 40/25 | A0090 | ¾ x 2 | 1.35 | .81 |
| 100/25 | A0100 | ¾ x 2 | 2.00 | 1.20 |
| 500/25 | A0110 | 1 x 2½ | 3.20 | 1.92 |
| ★ 500/25 | A0120 | 1 x 2 | 2.55 | 1.53 |
| ★ 1000/25 | A0130 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 100/50 | A0140 | ¾ x 2 | 1.65 | .99 |
| ★ 150/50 | A0150 | 1 x 2 | 1.80 | 1.08 |
| ★ 500/50 | A0160 | 1⅜ x 2 | 2.65 | 1.59 |
| ★ 1000/50 | A0170 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 1500/50 | A0174 | 1⅜ x 4⅛ | 3.85 | 2.31 |
| ★ 30/150 | A0180 | ¾ x 2 | 1.55 | .93 |
| 40/150 | A0190 | 1 x 2 | 2.00 | 1.20 |
| 40/150 | XA0191 | ¾ x 2 | 2.00 | 1.20 |
| ★ 50/150 | A0200 | 1 x 2 | 1.65 | .99 |
| 60/150 | A0220 | 1 x 2 | 2.20 | 1.32 |
| 80/150 | A0230 | 1 x 2 | 2.30 | 1.38 |
| ★ 80/150 | XA0231 | 1 x 2 | 1.85 | 1.11 |
| 100/150 | A0240 | 1 x 2½ | 2.50 | 1.50 |
| ★ 100/150 | XA0241 | 1 x 2½ | 2.00 | 1.20 |
| ★ 120/150 | XA0248 | 1 x 2½ | 2.05 | 1.23 |
| ★ 120/150 | A0250 | 1⅜ x 2 | 2.05 | 1.23 |
| 150/150 | A0260 | 1 x 3 | 2.70 | 1.62 |
| ★ 150/150 | XA0261 | 1 x 3 | 2.15 | 1.29 |
| ★ 200/150 | XA0262 | 1⅜ x 2½ | 2.45 | 1.47 |
| ★ 200/150 | XA0262.1 | 1 x 3⅝ | 2.45 | 1.47 |
| ★ 300/150 | XA0263 | 1⅜ x 3 | 2.80 | 1.68 |
| 80/200 | XA0265 | 1⅜ x 2 | 2.45 | 1.47 |
| ★ 120/200 | XA0265.3 | 1⅜ x 2 | 2.80 | 1.68 |
| 150/200 | XA0266 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 20/250 | A0270 | ¾ x 2 | 1.60 | .96 |
| 30/250 | A0280 | 1 x 2 | 2.15 | 1.29 |
| 40/250 | A0290 | 1 x 2 | 2.25 | 1.35 |
| ★ 40/250 | XA0291 | 1 x 2 | 1.80 | 1.08 |
| 60/250 | A0300 | 1 x 2½ | 2.55 | 1.53 |
| 80/250 | A0310 | 1 x 3 | 2.70 | 1.62 |
| ★ 100/250 | XA0312 | 1 x 3 | 2.70 | 1.62 |
| ★ 150/250 | XA0315 | 1⅜ x 2½ | 3.10 | 1.86 |
| ★ 200/250 | XA0318 | 1⅜ x 3 | 3.95 | 2.37 |
| 50/300 | A0320 | 1 x 2½ | 2.55 | 1.53 |
| 60/300 | XA0324 | 1 x 2½ | 2.65 | 1.59 |
| 80/300 | A0330 | 1 x 3 | 3.20 | 1.92 |
| ★ 80/300 | XA0331 | 1 x 3 | 2.55 | 1.53 |
| ★ 100/300 | A0340 | 1⅜ x 3 | 2.90 | 1.74 |
| ★ 100/300 | A0350 | 1 x 3⅝ | 2.90 | 1.74 |
| ★ 150/300 | XA0355 | 1⅜ x 3 | 3.50 | 2.10 |

### SINGLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 15/350 | A0360 | 1 x 2 | $2.05 | $1.23 |
| ★ 30/350 | A0370 | 1 x 2 | 1.90 | 1.14 |
| ★ 40/350 | A0380 | 1 x 2½ | 2.00 | 1.20 |
| ★ 50/350 | A0390 | 1 x 3 | 2.10 | 1.26 |
| 80/350 | A0400 | 1⅜ x 2½ | 3.55 | 2.13 |
| ★ 80/350 | XA0401 | 1⅜ x 2½ | 2.80 | 1.68 |
| 125/350 | A0410 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 125/350 | XA0411 | 1⅜ x 3 | 3.65 | 2.19 |
| ★ 150/350 | XA0415 | 1⅜ x 3⅝ | 3.95 | 2.37 |
| 80/400 | A0420 | 1⅜ x 3 | 3.70 | 2.22 |
| ★ 10/450 | A0430 | 1 x 2 | 1.55 | .93 |
| 10/450 | A0440 | ¾ x 2 | 1.95 | 1.17 |
| 15/450 | A0450 | 1 x 2 | 2.15 | 1.29 |
| ★ 20/450 | A0460 | 1 x 2 | 1.80 | 1.08 |
| ★ 30/450 | A0470 | 1 x 2½ | 1.95 | 1.17 |
| ★ 40/450 | A0480 | 1 x 3 | 2.05 | 1.23 |
| ★ 50/450 | A0490 | 1 x 3⅝ | 2.35 | 1.41 |
| ★ 60/450 | A0500 | 1⅜ x 2½ | 2.60 | 1.56 |
| ★ 80/450 | A0510 | 1⅜ x 3 | 3.05 | 1.83 |
| ★ 100/450 | A0512 | 1⅜ x 3 | 3.45 | 2.07 |
| ★ 125/450 | A0514 | 1⅜ x 4⅛ | 3.75 | 2.25 |
| ★ 40/475 | A0516 | 1⅜ x 2 | 2.50 | 1.50 |
| ★ 10/500 | A0520 | 1 x 2 | 1.60 | .96 |
| ★ 20/500 | A0530 | 1 x 2½ | 1.85 | 1.11 |
| 25/500 | A0532 | 1 x 2½ | 2.45 | 1.47 |
| 30/500 | A0540 | 1 x 3 | 2.50 | 1.50 |
| ★ 30/500 | XA0541 | 1 x 3 | 2.00 | 1.20 |
| ★ 40/500 | A0550 | 1 x 3⅝ | 2.50 | 1.50 |
| ★ 80/500 | A0560 | 1⅜ x 3⅝ | 3.20 | 1.92 |
| ★ 90/500 | A0570 | 1⅜ x 3⅝ | 3.50 | 2.10 |

### DUAL SECTION

| | | | | |
|---|---|---|---|---|
| .5 Ohms 15,750 CPS. | B0010 | 1⅜ x 2 | 4.90 | 2.94 |
| 2.5 Ohms 60 CPS. 1000-500/6 VNP | B0020 | 1⅜ x 2 | 4.80 | 2.88 |
| ★ 1000-1000/15 | B0030 | 1 x 3⅝ | 4.40 | 2.64 |
| ★ 1000-1000/15 | B0040 | 1⅜ x 2½ | 4.40 | 2.64 |
| ★ 500-100/20 | B0045 | 1 x 2 | 3.15 | 1.89 |
| 20-20/25 | B0050 | 1 x 2 | 1.80 | 1.08 |
| 40-40/25 | B0060 | 1 x 2 | 2.00 | 1.20 |
| 150-50/25 | B0070 | 1 x 2 | 2.40 | 1.44 |
| ★ 50-50/50 | B0080 | 1 x 2 | 1.70 | 1.02 |
| ★ 100-100/50 | B0085 | 1 x 2 | 2.10 | 1.26 |
| 20-20/150 | B0090 | 1 x 2 | 2.15 | 1.29 |
| ★ 20-20/150 | XB0091 | 1 x 2 | 1.70 | 1.02 |
| ★ 30-20/150 | B0100 | 1 x 2 | 2.20 | 1.32 |
| 30-30/150 | B0110 | 1 x 2 | 1.85 | 1.11 |
| ★ 40-20/150 | B0120 | 1 x 2 | 1.80 | 1.08 |
| ★ 40-30/150 | B0130 | 1 x 2 | 1.85 | 1.11 |
| 40-40/150 | B0140 | 1 x 2 | 2.40 | 1.44 |
| ★ 40-40/150 | XB0141 | 1 x 2 | 1.90 | 1.14 |
| ★ 50-30/150 | B0150 | 1 x 2 | 2.00 | 1.20 |
| 50-50/150 | B0160 | 1 x 2½ | 2.70 | 1.62 |
| ★ 50-50/150 | XB0161 | 1 x 2½ | 2.15 | 1.29 |
| ★ 60-60/150 | XB0165 | 1 x 3 | 2.35 | 1.41 |
| ★ 75-75/150 | B0170 | 1 x 3 | 2.60 | 1.56 |
| 80-40/150 | B0180 | 1 x 2½ | 2.90 | 1.74 |
| ★ 80-40/150 | XB0181 | 1 x 2½ | 2.30 | 1.38 |
| ★ 80-80/150 | XB0183 | 1⅜ x 2 | 2.65 | 1.59 |
| 100-100/150 | XB0184 | 1⅜ x 2½ | 4.05 | 2.43 |
| ★ 125-100/150 | XB0184.5 | 1⅜ x 2½ | 3.50 | 2.10 |
| 150-150/150 | XB0185 | 1⅜ x 3 | 4.40 | 2.64 |
| 200-5/150 | B0186 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 200-125/150 | XB0187 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 200-150/150 | XB0188 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 200-200/150 | XB0189 | 1⅜ x 3⅝ | 4.00 | 2.40 |
| ★ 60-60/200 | B0190 | 1⅜ x 2 | 2.55 | 1.53 |
| ★ 100-100/200 | XB0194 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 200-5/200 | XB0196 | 1⅜ x 2½ | 2.70 | 1.62 |
| 10-10/250 | B0200 | 1 x 2 | 2.15 | 1.29 |
| ★ 20-20/250 | B0210 | 1 x 2 | 1.90 | 1.14 |
| 30-30/250 | B0220 | 1 x 2½ | 2.90 | 1.74 |

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World Radio History

# CORNELL DUBILIER

## TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

### DUAL SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40-20 250 | B0230 | 1 x 2½ | $2.75 | $1.65 |
| 40-40 250 | B0240 | 1 x 3 | 3.20 | 1.92 |
| ★ 40-40 250 | XB0241 | 1 x 3 | 2.50 | 1.50 |
| 80-40 250 | XB0243 | 1⅜ x 2½ | 3.75 | 2.25 |
| ★ 150-150/250 | B0250 | 1⅜ x 4⅛ | 5.15 | 3.09 |
| ★ 200-200/250 | XB0252 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 40-40/300 | XB0254 | 1 x 3 | 3.75 | 2.25 |
| 50-50/300 | B0260 | 1⅜ x 2½ | 4.20 | 2.52 |
| 80-40/300 | XB0264 | 1⅜ x 2½ | 4.45 | 2.67 |
| ★ 80-80/300 | B0270 | 1⅜ x 3 | 4.05 | 2.43 |
| ★ 120-20/300 | B0280 | 1⅜ x 3 | 4.00 | 2.40 |
| 120-40/300 | B0282 | 1⅜ x 3⅝ | 5.45 | 3.27 |
| ★ 200-80/300 | B0286 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 15-15 350 | B0290 | 1 x 2 | 2.25 | 1.35 |
| 20-20/350 | B0300 | 1 x 2½ | 2.90 | 1.74 |
| ★ 30-30 350 | B0310 | 1 x 3 | 2.90 | 1.74 |
| ★ 50-30 350 | B0320 | 1⅜ x 2½ | 3.15 | 1.89 |
| ★ 80-20 350 | B0322 | 1 x 3⅝ | 3.50 | 2.10 |
| ★ 80-20 350 | B0324 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 80-40 350 | B0326 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 80-80 350 | B0330 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 90-40 350 | B0331 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 100-100/350 | B0332 | 1⅜ x 4⅛ | 6.15 | 3.69 |
| ★ 160-10 350 | B0334 | 1⅜ x 3⅝ | 4.30 | 2.58 |
| ★ 40-120/400 | B0336 | 1⅜ x 4⅛ | 5.25 | 3.15 |
| 60-60 400 | B0340 | 1⅜ x 3⅝ | 5.50 | 3.30 |
| 80-10 400 | B0350 | 1⅜ x 3 | 4.25 | 2.55 |
| ★ 80-60 400 | B0354 | 1⅜ x 3⅝ | 4.85 | 2.91 |
| ★ 80-80 400 | B0356 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 4-4 450 | B0360 | 1 x 2 | 2.05 | 1.23 |
| ★ 5-5/450 | B0362 | 1 x 2 | 1.60 | .96 |
| ★ 10-10 450 | B0370 | 1 x 2 | 1.90 | 1.14 |
| 15-10/450 | B0374 | 1 x 2½ | 2.55 | 1.53 |
| ★ 15-15/450 | B0380 | 1 x 2½ | 2.25 | 1.35 |
| ★ 20-10 450 | B0390 | 1 x 2½ | 2.25 | 1.35 |
| ★ 20-20/450 | B0400 | 1 x 3 | 2.55 | 1.53 |
| ★ 30-10 450 | B0410 | 1 x 3 | 2.50 | 1.50 |
| 30-10 450 | B0420 | 1⅜ x 2 | 3.00 | 1.80 |
| ★ 30-30 450 | B0430 | 1⅜ x 2½ | 3.05 | 1.83 |
| 40-5/450 | B0436 | 1 x 3 | 3.20 | 1.92 |
| ★ 40-20/450 | B0440 | 1⅜ x 2½ | 3.00 | 1.80 |
| ★ 40-40/450 | B0450 | 1⅜ x 3 | 3.45 | 2.07 |
| ★ 50-50/450 | XB0455 † | 1⅜ x 3 | 3.85 | 2.31 |
| ★ 60-20/450 | B0460 | 1⅜ x 3 | 3.55 | 2.13 |
| ★ 60-40/450 | B0462 | 1⅜ x 3⅝ | 3.95 | 2.37 |
| 60-60/450 | B0464 | 1⅜ x 3⅝ | 5.65 | 3.39 |
| ★ 80-10/450 | B0470 | 1⅜ x 3 | 3.60 | 2.16 |
| ★ 80-20/450 | B0473 | 1⅜ x 3⅝ | 3.90 | 2.34 |
| ★ 80-40/450 | B0480 | 1⅜ x 3⅝ | 4.35 | 2.61 |
| ★ 100-40/450 | B0483 | 1⅜ x 4⅛ | 4.85 | 2.91 |
| ★ 15-15/475 | B0485 | 1 x 2½ | 2.35 | 1.41 |
| ★ 30-10/475 | B0486 | 1⅜ x 2 | 2.60 | 1.56 |
| ★ 40-10 475 | B0487 | 1⅜ x 2½ | 3.10 | 1.86 |
| ★ 80-50/475 | B0489 | 1⅜ x 4⅛ | 5.20 | 3.12 |
| ★ 10-10 500 | B0490 | 1 x 2½ | 1.95 | 1.17 |
| ★ 20-20 500 | B0500 | 1⅜ x 2½ | 2.85 | 1.71 |
| 25-40/500 | B0510 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 30-10 500 | B0520 | 1⅜ x 2½ | 2.60 | 1.56 |
| ★ 40-40/500 | B0530 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| ★ 60-40 500 | B0540 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 250/10 1000/6 | B0550 | 1⅜ x 2 | 2.85 | 1.71 |
| 40 150 20/50 | B0560 | 1 x 2 | 2.15 | 1.29 |
| 40 150 150 25 | B0570 | 1 x 2 | 2.55 | 1.53 |
| ★ 50, 150 500/5 | B0574 | 1 x 2½ | 2.45 | 1.47 |
| ★ 150/150 100 25 | B0575 | 1⅜ x 2½ | 2.70 | 1.62 |
| 60/200 125 50 | B0576 | 1 x 3 | 3.00 | 1.80 |
| 40/250 20 25 | B0580 | 1 x 2 | 2.50 | 1.50 |
| 50 250 100 50 | B0590 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 100 250 150 50 | B0600 | 1⅜ x 3 | 3.65 | 2.19 |
| ★ 35 300 500/6 | XB0603 | 1 x 2½ | 2.80 | 1.68 |
| 80 300 100/50 | B0606 | 1⅜ x 2½ | 3.95 | 2.37 |
| ★ 150 300 100 150 | B0608 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| 20 350 20/25 | B0610 | 1 x 2 | 2.40 | 1.44 |
| 20 350 100/75 | B0612 | 1 x 2½ | 2.80 | 1.68 |

### DUAL SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40/350 20/25 | B0620 | 1 x 2½ | $2.95 | $1.77 |
| ★ 35 400 100/50 | B0623 | 1 x 3 | 2.60 | 1.56 |
| ★ 100 400 30/50 | B0626 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 10 450 20/25 | B0630 | 1 x 2 | 1.70 | 1.02 |
| 20/450 20/25 | B0640 | 1 x 2 | 2.50 | 1.50 |
| 20/450 100/25 | B0646 | 1 x 2½ | 2.75 | 1.65 |
| 40/450 20/25 | B0650 | 1 x 3 | 3.05 | 1.83 |
| 40/450 50/50 | B0652 | 1 x 3⅝ | 3.75 | 2.25 |
| 80/450 20/25 | B0660 | 1⅜ x 3 | 4.25 | 2.55 |
| 10 450 100/50 | B0670 | 1⅜ x 2 | 2.55 | 1.53 |
| ★ 20 450 50/250 | B0674 | 1 x 3 | 2.80 | 1.68 |
| ★ 20/450 80/350 | B0680 | 1⅜ x 3 | 3.65 | 2.19 |
| 20 450 100/100 | B0690 | 1⅜ x 2 | 3.30 | 1.98 |
| 30/450 40/150 | B0700 | 1⅜ x 2 | 3.15 | 1.89 |
| ★ 30/450 200/150 | B0705 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 40/450 10/350 | B0710 | 1⅜ x 2 | 2.60 | 1.56 |
| ★ 50/450 100/50 | B0715 | 1⅜ x 2½ | 3.00 | 1.80 |
| ★ 80/450 50/50 | B0720 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 80/450 100/50 | B0722 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 20/475 100/400 | B0726 | 1⅜ x 4⅛ | 4.50 | 2.70 |
| 15/500 20/300 | B0730 | 1 x 2½ | 2.90 | 1.74 |
| 20/500 100/300 | B0740 | 1⅜ x 3 | 4.95 | 2.97 |
| 40/500 50/200 | B0750 | 1⅜ x 2½ | 4.20 | 2.52 |
| 60/500 80/150 | B0760 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| 80/500 50/50 | B0770 | 1⅜ x 3⅝ | 4.75 | 2.85 |

### TRIPLE SECTION

| | | | | |
|---|---|---|---|---|
| ★ 20-20-20 25 | C0010 | 1 x 2 | 1.95 | 1.17 |
| ★ 40-40-40/25 | C0020 | 1 x 2 | 2.15 | 1.29 |
| 30-30-30/50 | C0030 | 1 x 2 | 3.25 | 1.95 |
| 20-20-20 150 | C0040 | 1 x 2 | 3.55 | 2.13 |
| ★ 20-20-20/150 | XC0041 | 1 x 2 | 2.30 | 1.38 |
| 30-30-10/150 | C0050 | 1 x 2 | 3.55 | 2.13 |
| ★ 40-20-10/150 | C0060 | 1 x 2 | 2.35 | 1.41 |
| 40-20-20/150 | C0070 | 1 x 2 | 3.60 | 2.16 |
| ★ 40-20-20/150 | XC0071 | 1 x 2 | 2.40 | 1.44 |
| ★ 40-30-20/150 | C0080 | 1 x 2 | 2.50 | 1.50 |
| ★ 40-40-40/150 | C0090 | 1 x 2½ | 2.60 | 1.56 |
| ★ 40-70-40/150 | C0100 | 1 x 3 | 2.95 | 1.77 |
| ★ 50-40-10/150 | C0103 | 1 x 2½ | 2.55 | 1.53 |
| ★ 50-50-50/150 | XC0105 | 1 x 3 | 3.00 | 1.80 |
| ★ 60-40-20/150 | C0110 | 1 x 2½ | 2.75 | 1.65 |
| ★ 70-15-15/150 | C0113 | 1 x 2½ | 2.70 | 1.62 |
| ★ 80-40-20/150 | C0120 | 1 x 3 | 2.90 | 1.74 |
| 80-80-80/150 | XC0123 | 1⅜ x 3 | 5.65 | 3.39 |
| ★ 120-80-40/150 | XC0125 | 1⅜ x 3 | 3.80 | 2.28 |
| ★ 120-120-40/150 | XC0126 | 1⅜ x 3 | 4.05 | 2.43 |
| ★ 200-100-60/150 | XC0127 | 1⅜ x 3⅝ | 4.55 | 2.73 |
| ★ 200-150-150/150 | XC0128 | 1⅜ x 4⅛ | 7.50 | 4.50 |
| ★ 250-200-10/150 | XC0129 | 1⅜ x 4⅛ | 5.60 | 3.36 |
| 20-20-10/250 | C0130 | 1 x 2 | 3.75 | 2.25 |
| ★ 20-20-20/250 | C0132 | 1 x 2 | 2.60 | 1.56 |
| 30-20-10/250 | C0140 | 1 x 2½ | 4.05 | 2.43 |
| 40-20-10/250 | C0150 | 1⅜ x 2 | 4.30 | 2.58 |
| ★ 40-20-20/250 | C0160 | 1 x 3 | 2.90 | 1.74 |
| ★ 80-80-60/250 | C0170 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| 20-80-10/300 | C0180 | 1⅜ x 2½ | 5.70 | 3.42 |
| ★ 60-20-10/300 | C0190 | 1⅜ x 2½ | 3.45 | 2.07 |
| ★ 80-40-40/300 | C0194 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 120-50-40/300 | C0200 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10-10-10/350 | C0210 | 1 x 2 | 2.40 | 1.44 |
| 20-20-10/350 | C0220 | 1 x 3 | 4.45 | 2.67 |
| ★ 30-20-10/350 | C0225 | 1 x 3 | 3.25 | 1.95 |
| ★ 60-40-20/350 | C0230 | 1⅜ x 3 | 4.25 | 2.55 |
| 60-40-40/350 | C0232 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 60-50-50/350 | C0234 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 80-60-60/350 | C0236 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 90-40-20/350 | C0237 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 100-100-10/350 | C0238 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 80-20-10/400 | C0239 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 90-10-5/400 | C0239.2 | 1⅜ x 3 | 4.40 | 2.64 |
| ★ 10-10-10/450 | C0240 | 1 x 2½ | 2.60 | 1.56 |
| 15-15-10/450 | C0250 | 1 x 3 | 4.45 | 2.67 |
| ★ 15-15-15/450 | C0254 | 1 x 3 | 3.10 | 1.86 |

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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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World Radio History

# CORNELL DUBILIER

## TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20-10-10/450 | C0260 | 1 x 3 | $2.95 | $1.77 |
| ★ 20-20-20/450 | C0270 | 1⅜ x 2½ | 3.60 | 2.16 |
| ★ 30-20-20/450 | C0280 | 1⅜ x 3 | 3.85 | 2.31 |
| 30-30-20/450 | C0290 | 1⅜ x 3 | 6.15 | 3.69 |
| ★ 30-30-30/450 | C0300 | 1⅜ x 3 | 4.35 | 2.61 |
| ★ 30-60-10/450 | C0310 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| ★ 40-10-10/450 | C0320 | 1⅜ x 3 | 3.35 | 2.01 |
| ★ 40-30-20/450 | C0330 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 40-40-10/450 | C0340 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 40-40-20/450 | C0344 | 1⅜ x 3⅝ | 4.45 | 2.67 |
| ★ 40-40-40/450 | C0350 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 50-40-30/450 | C0355 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 60-20-20/450 | C0360 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 60-40-20/450 | C0365 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 80-40-20/450 | C0370 | 1⅜ x 4⅛ | 5.40 | 3.24 |
| ★ 30-30-20/475 | C0371 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 40-20-20/475 | C0372 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 40-30-10/475 | C0373 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 40-30-30/475 | C0374 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 10-10-10/500 | C0380 | 1 x 3 | 2.70 | 1.62 |
| ★ 30-20-20/500 | C0390 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 40-10-10/500 | C0400 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 40-40-10/500 | C0410 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| ★ 15-15/150/1200/1.5 | C0420 | 1 x 2 | 3.00 | 1.80 |
| 20-20/150/20/25 | C0430 | 1 x 2 | 3.30 | 1.98 |
| 20-20/150/20/25 | XC0431 | 1 x 2 | 3.30 | 1.98 |
| 20-20/150/100/10 | C0440 | 1 x 2 | 3.55 | 2.13 |
| 20-20/150/250/10 | C0450 | 1 x 2 | 3.90 | 2.34 |
| 30-30/150/20/25 | C0460 | 1 x 2 | 3.55 | 2.13 |
| 30-30/150/200/10 | C0470 | 1 x 2 | 3.75 | 2.25 |
| 40-20/150/20/25 | C0480 | 1 x 2 | 3.45 | 2.07 |
| ★ 40-20/150/20/25 | XC0481 | 1 x 2 | 2.30 | 1.38 |
| 40-20/150/100/25 | C0490 | 1 x 2 | 3.75 | 2.25 |
| 40-20/150/100/10 | C0500 | 1 x 2 | 3.60 | 2.16 |
| ★ 40-20/150/200/25 | C0510 | 1 x 2½ | 2.70 | 1.62 |
| ★ 40-20/150/200/10 | C0520 | 1 x 2 | 2.40 | 1.44 |
| 40-20/150/250/10 | C0530 | 1 x 2 | 4.05 | 2.43 |
| 40-30/150/20/25 | C0540 | 1 x 2 | 3.55 | 2.13 |
| 40-40/150/20/25 | C0550 | 1 x 2 | 3.60 | 2.16 |
| ★ 40-40/150/20/25 | XC0551 | 1 x 2 | 2.40 | 1.44 |
| ★ 40-40/150/250/25 | XC0555 | 1 x 3 | 3.15 | 1.89 |
| ★ 50-30/150/20/25 | C0560 | 1 x 2 | 2.50 | 1.50 |
| ★ 50-30/150/100/25 | C0570 | 1 x 2½ | 2.70 | 1.62 |
| ★ 50-50/150/20/25 | C0580 | 1 x 2½ | 2.65 | 1.59 |
| 60-20/150/20/25 | C0590 | 1 x 2 | 3.85 | 2.31 |
| 60-40/150/20/25 | C0600 | 1 x 2½ | 4.00 | 2.40 |
| ★ 80-30/150/300/10 | XC0602 | 1⅜ x 2 | 3.15 | 1.89 |
| 80-30/150/300/25 | XC0604 | 1⅜ x 2½ | 5.50 | 3.30 |
| ★ 80-40/150/20/25 | C0610 | 1 x 2½ | 2.80 | 1.68 |
| ★ 80-40/150/300/25 | XC0613 | 1⅜ x 2½ | 3.70 | 2.22 |
| ★ 80-60/150/250/10 | XC0615 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 100-80/150/200/10 | XC0618 | 1⅜ x 2½ | 3.60 | 2.16 |
| 120-60/150/20/25 | C0620 | 1⅜ x 2½ | 5.05 | 3.03 |
| ★ 300-80/150/200/50 | C0626 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 30-20/200/20/25 | C0630 | 1 x 2 | 3.85 | 2.31 |
| ★ 30-20/200/40/150 | C0632 | 1 x 2½ | 2.70 | 1.62 |
| 40-80/200/100/50 | C0634 | 1⅜ x 3 | 5.25 | 3.15 |
| ★ 60-5/200/20/50 | C0636 | 1 x 2½ | 2.50 | 1.50 |
| 100-10/200/40/50 | C0640 | 1⅜ x 2 | 4.75 | 2.85 |
| ★ 15-15/250/20/25 | C0650 | 1 x 2 | 2.35 | 1.41 |
| 20-15/250/20/25 | C0660 | 1 x 2 | 3.55 | 2.13 |
| ★ 30-30/250/20/25 | C0670 | 1 x 2½ | 2.80 | 1.68 |
| 40-40/250/10/200 | C0674 | 1 x 3 | 4.45 | 2.67 |
| 70-70/250/20/50 | C0680 | 1⅜ x 3 | 5.85 | 3.51 |
| 80-80/250/10/450 | C0690 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| ★ 90-90/250/20/50 | C0695 | 1⅜ x 3 | 4.60 | 2.76 |
| 10-10/300/15/250 | C0700 | 1 x 2 | 3.70 | 2.22 |
| 20-20/300/20/25 | C0710 | 1 x 2 | 4.15 | 2.49 |
| 30-30/300/25/50 | C0720 | 1 x 3 | 4.35 | 2.61 |
| 40-15/300/20/25 | C0730 | 1 x 3 | 4.45 | 2.67 |
| 40-20/300/20/25 | XC0732 | 1 x 2½ | 4.65 | 2.79 |
| ★ 100-10/300/60/50 | C0733 | 1⅜ x 2½ | 4.05 | 2.43 |
| ★ 140-10/300/200/150 | C0734 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 140-100/300/60/50 | C0734.3 | 1⅜ x 4⅛ | 6.05 | 3.63 |

TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 200-20/300/10/100 | C0735 | 1⅜ x 4⅛ | $4.90 | $2.94 |
| 10-5/350/30/50 | C0739 | 1 x 2½ | 3.85 | 2.31 |
| 10-5/350/150/50 | C0740 | 1 x 3 | 4.05 | 2.43 |
| 10-10/350/20/25 | C0750 | 1 x 2 | 3.40 | 2.04 |
| 10-15/350/20/25 | C0760 | 1 x 2 | 3.75 | 2.25 |
| ★ 15-10/350/20/25 | C0770 | 1 x 2 | 2.50 | 1.50 |
| ★ 20-4/350/100/25 | C0773 | 1 x 2½ | 2.60 | 1.56 |
| ★ 20-5/350/150/50 | C0775 | 1 x 3 | 2.95 | 1.77 |
| ★ 20-10/350/20/25 | C0780 | 1 x 2 | 2.55 | 1.53 |
| ★ 20-10/350/5/250 | C0790 | 1 x 2 | 2.55 | 1.53 |
| ★ 20-20/350/20/25 | C0800 | 1 x 2½ | 2.80 | 1.68 |
| 30-5/350/100/200 | C0806 | 1⅜ x 2½ | 6.00 | 3.60 |
| 30-10/350/20/25 | C0810 | 1 x 2½ | 4.30 | 2.58 |
| 30-10/350/20/250 | C0820 | 1 x 3 | 4.60 | 2.76 |
| ★ 30-20/350/20/25 | C0830 | 1 x 3 | 3.10 | 1.86 |
| ★ 30-20/350/100/150 | C0835 | 1⅜ x 2½ | 4.00 | 2.40 |
| ★ 30-30/350/20/25 | C0840 | 1⅜ x 2 | 3.40 | 2.04 |
| 40-20/350/10/100 | C0850 | 1⅜ x 2 | 4.30 | 2.58 |
| 20-40/350/10/150 | C0860 | 1 x 3 | 4.80 | 2.88 |
| 40-40/350/50/25 | C0870 | 1⅜ x 2½ | 5.65 | 3.39 |
| ★ 80-40/350/400/50 | XC0874 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 100-60/350/20/250 | C0875 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 20-20/400/10/350 | C0876 | 1 x 3 | 3.00 | 1.80 |
| 30-10/400/150/50 | C0880 | 1⅜ x 2½ | 5.10 | 3.06 |
| ★ 60-30/400/20/350 | C0885 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 80-40/400/150/50 | C0890 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 100-10/400/20/50 | C0894 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| ★ 100-10/400/80/350 | C0896 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 15-5/450/15/350 | C0900 | 1 x 3 | 4.30 | 2.58 |
| ★ 10-10/450/20/25 | C0910 | 1 x 2 | 2.40 | 1.44 |
| ★ 10-10/450/40/50 | C0920 | 1 x 2½ | 2.50 | 1.50 |
| 10-10/450/50/100 | C0930 | 1⅜ x 2 | 4.00 | 2.40 |
| 15-15/450/20/25 | C0940 | 1 x 2½ | 4.15 | 2.49 |
| ★ 15-15/450/40/25 | C0945 | 1 x 2½ | 2.75 | 1.65 |
| 15-15/450/10/300 | C0950 | 1 x 3 | 4.35 | 2.61 |
| ★ 20-10/450/20/25 | C0960 | 1 x 2½ | 2.70 | 1.62 |
| ★ 20-10/450/50/50 | C0970 | 1 x 3 | 2.85 | 1.71 |
| 20-15/450/20/25 | C0980 | 1 x 3 | 4.35 | 2.61 |
| ★ 20-20/450/20/25 | C0990 | 1 x 3 | 3.05 | 1.83 |
| 20-20/450/100/50 | C0992 | 1⅜ x 2½ | 5.25 | 3.15 |
| 20-20/450/60/350 | C1000 | 1⅜ x 3 | 6.10 | 3.66 |
| ★ 30-10/450/150/50 | C1005 | 1⅜ x 2½ | 3.50 | 2.10 |
| 30-20/450/30/150 | C1010 | 1⅜ x 2½ | 5.25 | 3.15 |
| ★ 30-30/450/20/25 | C1020 | 1⅜ x 2½ | 3.55 | 2.13 |
| 30-30/450/40/50 | C1030 | 1⅜ x 3 | 5.50 | 3.30 |
| ★ 30-30/450/125/25 | C1034 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 35-25/450/100/50 | C1036 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-10/450/100/50 | C1040 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 40-10/450/80/200 | C1050 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 40-20/450/20/25 | C1060 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 40-40/450/20/25 | C1070 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-40/450/40/25 | C1080 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-40/450/100/50 | C1090 | 1⅜ x 3⅝ | 4.30 | 2.58 |
| ★ 40-40/450/40/150 | C1100 | 1⅜ x 3⅝ | 4.10 | 2.46 |
| ★ 40-40/450/60/200 | C1102 | 1⅜ x 3⅝ | 4.45 | 2.67 |
| ★ 40-40/450/80/350 | C1103 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 50-5/450/50/350 | C1103.5 | 1⅜ x 3⅝ | 4.25 | 2.55 |
| ★ 60-40/450/75/50 | C1104 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 80-10/450/125/25 | C1106 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| ★ 80-20/450/100/50 | C1108 | 1⅜ x 4⅛ | 4.80 | 2.88 |
| ★ 80-40/450/100/25 | C1110 | 1⅜ x 4⅛ | 5.10 | 3.06 |
| ★ 20-10/475/100/400 | C1114 | 1⅜ x 4⅛ | 5.25 | 3.15 |
| 10-10/500/100/50 | C1120 | 1 x 3 | 4.30 | 2.58 |
| 10-10/500/4/350 | C1130 | 1 x 2½ | 3.75 | 2.25 |
| ★ 20-10/500/100/50 | C1150 | 1 x 3⅝ | 3.30 | 1.98 |
| 20-20/500/60/400 | C1160 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 20-20/500/60/450 | C1162 | 1⅜ x 3⅝ | 4.85 | 2.91 |
| ★ 40/475/80-10/450 | C1167 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| 30-10/500/20/50 | C1170 | 1⅜ x 2½ | 4.65 | 2.79 |
| ★ 40-40/500/100/200 | C1180 | 1⅜ x 4⅛ | 5.85 | 3.51 |
| 100/100/50-25/25 | C1190 | 1 x 3 | 4.00 | 2.40 |
| 20/150/250-100/15 | C1200 | 1⅜ x 2 | 4.35 | 2.61 |
| ★ 60/200/200-140/150 | XC1202 | 1⅜ x 4⅛ | 4.80 | 2.88 |
| ★ 10/300/500-500/15 | XC1204 | 1⅜ x 2½ | 3.90 | 2.34 |

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World Radio History

# CORNELL DUBILIER

## TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

### TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20/300 150-80/150 | C1206 | 1⅜ x 3 | $3.95 | $2.37 |
| ★ 100/300 200-30/150 | XC1207 | 1⅜ x 4⅛ | 5.05 | 3.03 |
| ★ 100/300 200-60/150 | XC1208 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| 100 300 60-20/250 | XC1209 | 1⅜ x 4⅛ | 7.35 | 4.41 |
| 120/300 15-10/450 | C1210 | 1⅜ x 3⅝ | 6.75 | 4.05 |
| ★ 200 300 60-20/250 | XC1212 | 1⅜ x 5 | 5.80 | 3.48 |
| 4/350 100-40/25 | C1214 | 1 x 2 | 3.40 | 2.04 |
| 30, 350 20-10/250 | C1220 | 1 x 3 | 4.50 | 2.70 |
| ★ 40/350 200-100/150 | C1224 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 60/350 200-30/150 | C1226 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| 80/400 20-10/300 | C1230 | 1⅜ x 3⅝ | 6.40 | 3.84 |
| ★ 5 450 80-40/300 | C1231 | 1⅜ x 3 | 4.15 | 2.49 |
| 10/450 20-10/25 | C1232 | 1 x 2 | 3.25 | 1.95 |
| ★ 10, 450 80-80/250 | C1236 | 1⅜ x 3⅝ | 4.20 | 2.52 |
| 20/450 40-10/250 | C1240 | 1⅜ x 2 | 4.75 | 2.85 |
| ★ 20 450 40-10/350 | C1243 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 20/450 80-10/350 | C1246 | 1⅜ x 3⅝ | 4.25 | 2.55 |
| 30 450 100-25/25 | C1250 | 1⅜ x 2 | 4.50 | 2.70 |
| ★ 40/450 90-50/150 | C1260 | 1⅜ x 3 | 3.95 | 2.37 |
| 60/450 40-20/350 | C1261 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| ★ 80/450 40-40/250 | C1262 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 80/450 100-20/50 | C1263 | 1⅜ x 3⅝ | 6.40 | 3.84 |
| 40/475 40-10/250 | C1265 | 1⅜ x 2½ | 6.00 | 3.60 |
| 40/475 80-10/300 | C1266 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 40/475 20-20/450 | C1268 | 1⅜ x 3 | 6.75 | 4.05 |
| 10/500 80-10/150 | C1269 | 1 x 3⅝ | 4.30 | 2.58 |
| 40/150 25/25 130/15 | C1270 | 1 x 3 | 3.55 | 2.13 |
| 50/150 100/50 20/25 | C1274 | 1 x 3 | 4.30 | 2.58 |
| ★ 80/250 40/150 50/50 | C1280 | 1⅜ x 2½ | 2.35 | 1.41 |
| 100 300 60/150 20/50 | C1290 | 1⅜ x 3 | 6.30 | 3.78 |
| ★ 20/350 50/100 100/75 | C1300 | 1 x 3 | 3.10 | 1.86 |
| ★ 30 350 30/300 20/25 | C1310 | 1 x 3 | 3.15 | 1.89 |
| 50/350 10/250 500/5 | C1320 | 1⅜ x 2½ | 5.40 | 3.24 |
| ★ 125/350 5 200 100/75 | C1325 | 1⅜ x 3⅝ | 5.30 | 3.18 |
| 10/400 50/350 30/25 | C1330 | 1 x 3 | 4.65 | 2.79 |
| 40 400 80/350 100/200 | C1336 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| 60 400 40/300 20/25 | C1340 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| 10 450 50/150 100/25 | C1350 | 1 x 3 | 4.15 | 2.49 |
| ★ 10 450 50/150 100/75 | C1355 | 1 x 3 | 3.25 | 1.95 |
| ★ 10 450 40, 300 10/150 | C1360 | 1⅜ x 2 | 3.10 | 1.86 |
| 10/450 40/350 100/50 | C1366 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 10 450 30/400 30/300 | C1370 | 1⅜ x 2½ | 5.05 | 3.03 |
| 15, 450 20/350 20/250 | C1380 | 1 x 3 | 4.50 | 2.70 |
| ★ 20 450 80/200 50/50 | C1385 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 20 450 60/250 100/25 | C1390 | 1⅜ x 2½ | 3.65 | 2.19 |
| 20 450 15/350 10/300 | C1400 | 1 x 3 | 4.60 | 2.76 |
| 20/450 80/350 100/50 | C1410 | 1⅜ x 3⅝ | 6.75 | 4.05 |
| ★ 30 450 15/350 40/25 | C1412 | 1⅜ x 2 | 2.40 | 1.44 |
| ★ 30/450 40/350 50/25 | C1414 | 1 x 4⅛ | 3.70 | 2.22 |
| 30/450 50/400 40/25 | C1420 | 1⅜ x 3 | 5.95 | 3.57 |
| ★ 40/450 40/150 130/50 | C1430 | 1⅜ x 3 | 3.75 | 2.25 |
| 40 450 100/150 50/50 | C1440 | 1⅜ x 3 | 5.95 | 3.57 |
| 40/450 50/350 50/300 | C1442 | 1⅜ x 4⅛ | 7.30 | 4.38 |
| ★ 60/450 80/400 20/350 | C1443 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10/475 4/350 40/250 | C1444 | 1⅜ x 2 | 3.00 | 1.80 |
| 10, 475 4/350 100/50 | C1445 | 1 x 2½ | 4.50 | 2.70 |
| ★ 10/475 40/450 100/200 | C1445.3 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 20 475 50/50 20/25 | C1446 | 1 x 3 | 2.75 | 1.65 |
| 20, 475 10/350 5/150 | C1448 | 1 x 2½ | 4.90 | 2.94 |
| ★ 80 475 80/150 50/50 | C1449 | 1⅜ x 4⅛ | 4.85 | 2.91 |
| 10 500 100/200 40/50 | C1450 | 1⅜ x 2½ | 5.05 | 3.03 |
| 20/500 20/300 40/25 | C1460 | 1⅜ x 2 | 4.65 | 2.79 |
| 40 500 40/250 100/50 | C1470 | 1⅜ x 3 | 6.45 | 3.87 |
| 40 500 40/400 25/50 | C1480 | 1⅜ x 3 | 6.45 | 3.87 |

### QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 40-40-40-30/150 | D0010 | 1⅜ x 2 | 3.35 | 2.01 |
| ★ 100-80-60-40/150 | D0014 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 40-20-10-10/300 | D0016 | 1⅜ x 2 | 3.95 | 2.37 |
| ★ 40-40-20-10/300 | D0020 | 1⅜ x 2½ | 4.55 | 2.73 |
| ★ 40-40-30-20/300 | D0022 | 1⅜ x 3 | 4.85 | 2.91 |
| ★ 60-40-10-10/300 | D0024 | 1⅜ x 3⅝ | 4.55 | 2.73 |
| ★ 150-100-10-5/300 | D0025 | 1⅜ x 4⅛ | 6.60 | 3.96 |
| ★ 200-20-20-20/300 | D0026 | 1⅜ x 5 | 6.15 | 3.69 |

### QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 10-10-10-10/350 | D0030 | 1⅜ x 2 | $4.65 | $2.79 |
| ★ 40-20-20-10/350 | D0032 | 1⅜ x 2½ | 4.35 | 2.61 |
| ★ 40-40-40-40/350 | D0034 | 1⅜ x 3⅝ | 6.00 | 3.60 |
| 80-10-10-10/350 | D0040 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| 100-40-10-10/350 | D0044 | 1⅜ x 3⅝ | 7.60 | 4.56 |
| 100-40-10-10/350 | D0046 | 1⅜ x 4⅛ | 7.90 | 4.74 |
| 30-30-20-20/400 | D0050 | 1⅜ x 3 | 7.30 | 4.38 |
| ★ 50-40-30-20/400 | D0054 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| 80-10-10-10/400 | D0058 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 80-20-10-10/400 | D0060 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| 4-4-4-4/450 | D0070 | 1⅜ x 2 | 4.35 | 2.61 |
| ★ 5-5-5-5/450 | D0080 | 1⅜ x 2 | 3.00 | 1.80 |
| 10-10-10-5/450 | D0088 | 1⅜ x 2 | 4.90 | 2.94 |
| ★ 10-10-10-10/450 | D0090 | 1⅜ x 2 | 3.35 | 2.01 |
| 15-30-30-10/450 | D0100 | 1⅜ x 3 | 7.05 | 4.23 |
| 15-30-30-30/450 | D0110 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| ★ 20-10-10-10/450 | D0120 | 1⅜ x 2½ | 3.70 | 2.22 |
| ★ 20-20-20-20/450 | D0130 | 1⅜ x 3 | 4.70 | 2.82 |
| ★ 30-15-15-15/450 | D0140 | 1⅜ x 3 | 4.45 | 2.67 |
| ★ 30-30-20-20/450 | D0144 | 1⅜ x 3⅝ | 5.20 | 3.12 |
| ★ 35-35-10-5/450 | D0150 | 1⅜ x 3⅝ | 4.65 | 2.79 |
| ★ 40-10-10-10/450 | D0160 | 1⅜ x 3 | 4.15 | 2.49 |
| ★ 40-20-10-10/450 | D0170 | 1⅜ x 3 | 4.45 | 2.67 |
| ★ 40-35-10-10/450 | D0171 | 1⅜ x 3 | 4.80 | 2.88 |
| ★ 40-40-4-4/450 | D0172 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 40-40-20-20/450 | D0174 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 40-40-30-30/450 | D0176 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| ★ 40-40-40-40/450 | D0177 | 1⅜ x 5 | 6.45 | 3.87 |
| ★ 60-20-20-20/450 | D0177.4 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 60-30-10-2/450 | D0177.6 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 70-10-10-5/450 | D0178 | 1⅜ x 3⅝ | 7.15 | 4.29 |
| ★ 80-10-10-10/450 | D0179 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| ★ 20-20-10-10/475 | D0179.3 | 1⅜ x 2½ | 4.35 | 2.61 |
| ★ 20-20-20-20/475 | D0179.5 | 1⅜ x 3 | 5.20 | 3.12 |
| ★ 40-20-10-10/475 | D0179.7 | 1⅜ x 3 | 5.10 | 3.06 |
| ★ 10-10-10-10/500 | D0180 | 1⅜ x 2 | 3.50 | 2.10 |
| ★ 40-40-8-8/500 | D0185 | 1⅜ x 3⅝ | 5.70 | 3.42 |
| 20-20-20/150 20/25 | D0190 | 1⅜ x 2 | 4.35 | 2.61 |
| 30-20-20/150 200/10 | D0200 | 1⅜ x 2 | 4.65 | 2.79 |
| ★ 30-30-30/150 40/25 | D0210 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 40-20-20/150 20/25 | D0220 | 1⅜ x 2 | 2.95 | 1.77 |
| ★ 40-40-20/150 200/10 | D0230 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 40-40-30/150 20/25 | D0240 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 40-40-40/150 20/25 | D0250 | 1⅜ x 2 | 3.15 | 1.89 |
| 40-40-40/150 100/25 | D0260 | 1⅜ x 2 | 5.05 | 3.03 |
| ★ 40-40-40/150 160/25 | D0270 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 50-20-20/150 200/25 | D0275 | 1⅜ x 2 | 3.50 | 2.10 |
| ★ 50-30-30/150 100/25 | D0280 | 1⅜ x 2 | 3.45 | 2.07 |
| ★ 50-50-50/150 20/25 | D0290 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 60-40-20/150 200/10 | D0300 | 1⅜ x 2 | 3.50 | 2.10 |
| 75-75-75/150 30/25 | D0310 | 1⅜ x 3 | 6.45 | 3.87 |
| 80-40-40/150 20/25 | D0320 | 1⅜ x 2 | 5.35 | 3.21 |
| ★ 80-40-40/150 40/25 | D0325 | 1⅜ x 2 | 3.60 | 2.16 |
| ★ 80-40-40/150 100/25 | D0330 | 1⅜ x 2½ | 3.75 | 2.25 |
| ★ 100-90-60/150 200/25 | D0336 | 1⅜ x 3 | 4.95 | 2.97 |
| ★ 200-200-100/150 10/75 | D0338 | 1⅜ x 4⅛ | 5.95 | 3.57 |
| 40-20-10/250 20/25 | D0340 | 1⅜ x 2 | 5.10 | 3.06 |
| 80-60-40/250 20/150 | D0350 | 1⅜ x 3⅝ | 7.65 | 4.59 |
| ★ 100-40-10/250 100/50 | D0360 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 40-20-20/300 25/25 | D0367 | 1⅜ x 2 | 4.00 | 2.40 |
| ★ 40-40-40/300 20/150 | D0370 | 1⅜ x 3 | 4.90 | 2.94 |
| ★ 60-40-20/300 50/25 | D0380 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 120-40-40/300 10/250 | D0385 | 1⅜ x 4⅛ | 6.15 | 3.69 |
| ★ 150-20-10/300 250/50 | D0387 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| 10-10-10/350 20/25 | D0390 | 1⅜ x 2 | 4.45 | 2.67 |
| 15-15-15/350 50/50 | D0400 | 1⅜ x 2 | 5.70 | 3.42 |
| ★ 20-10-5/350 20/25 | D0410 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 30-10-5/350 200/25 | D0414 | 1⅜ x 2 | 3.80 | 2.28 |
| ★ 30-10-5/350 100/200 | D0416 | 1⅜ x 2½ | 4.40 | 2.64 |
| ★ 30-20-5, 350 100/200 | D0418 | 1⅜ x 3 | 4.70 | 2.82 |
| 30-20-20/350 20/25 | D0420 | 1⅜ x 2½ | 6.15 | 3.69 |
| ★ 40-40-20/350 20/25 | D0430 | 1⅜ x 3 | 4.70 | 2.82 |
| ★ 40-40-30/350 10/25 | D0433 | 1⅜ x 3 | 4.95 | 2.97 |
| 40-20-20/350 25/25 | D0440 | 1⅜ x 2½ | 6.40 | 3.84 |



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# CORNELL DUBILIER

## TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40-30-10 350 50/50 | D0450 | 1⅜ x 3 | $6.60 | $3.96 |
| ★ 40-40-40 350 40/25 | D0460 | 1⅜ x 3 | 5.20 | 3.12 |
| ★ 40-40-40 350 150/50 | D0470 | 1⅜ x 3⅝ | 5.70 | 3.42 |
| 80-60-60 350 10/50 | D0472 | 1⅜ x 4⅛ | 9.30 | 5.58 |
| ★ 90-30-5/350 100/75 | D0473 | 1⅜ x 3⅝ | 6.15 | 3.69 |
| ★ 100-10-10/350 20/50 | D0473.3 | 1⅜ x 3 | 5.15 | 3.09 |
| ★ 100-80-10/350 20/50 | D0473.5 | 1⅜ x 4⅛ | 6.60 | 3.96 |
| ★ 100-40-30/350 50/50 | D0474 | 1⅜ x 4⅛ | 6.55 | 3.93 |
| ★ 20-10-10 400 25 25 | D0476 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 80-40-10/400 20/25 | D0477 | 1⅜ x 3⅝ | 5.30 | 3.18 |
| ★ 80-40-10/400 100/200 | D0477.5 | 1⅜ x 4⅛ | 6.30 | 3.78 |
| ★ 80-40-30/400 40/25 | D0478 | 1⅜ x 4⅛ | 5.95 | 3.57 |
| ★ 10-10-10 450 20 25 | D0480 | 1⅜ x 2 | 3.15 | 1.89 |
| 10-10-10 450 100/25 | D0490 | 1⅜ x 2 | 5.05 | 3.03 |
| 10-10-10 450 150/50 | D0500 | 1⅜ x 2½ | 5.55 | 3.33 |
| 15-10-10 450 20 25 | D0504 | 1⅜ x 2 | 4.95 | 2.97 |
| 20-10-10 450 100 25 | D0510 | 1⅜ x 2 | 5.55 | 3.33 |
| ★ 20-20-20 450 20 25 | D0520 | 1⅜ x 2½ | 4.15 | 2.49 |
| ★ 20-20-20 450 100 50 | D0530 | 1⅜ x 3 | 4.55 | 2.73 |
| 30-15-15 450 40 25 | D0540 | 1⅜ x 2½ | 6.25 | 3.75 |
| 30-20-20 450 20 25 | D0550 | 1⅜ x 3 | 6.60 | 3.96 |
| ★ 30-30-10 450 125 25 | D0555 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 30-30-15 450 30 50 | D0560 | 1⅜ x 3 | 4.55 | 2.73 |
| 30-30-15 450 100 50 | D0570 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 30-30-10 450 20/25 | D0580 | 1⅜ x 3 | 6.55 | 3.93 |
| 30-30-20 450 20 25 | D0590 | 1⅜ x 3 | 7.00 | 4.20 |
| 35-35-10/450 10 200 | D0592 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| ★ 40-10-10/450 250 25 | D0600 | 1⅜ x 3 | 4.65 | 2.79 |
| 40-10-10/450 40/300 | D0604 | 1⅜ x 3⅝ | 7.00 | 4.20 |
| ★ 40-10-10 450 40/350 | D0606 | 1⅜ x 3 | 4.75 | 2.85 |
| 40-20-10 450 25 25 | D0610 | 1⅜ x 3 | 6.40 | 3.84 |
| ★ 40-20-10/450 100/50 | D0620 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 40-20-10 450 100 250 | D0622 | 1⅜ x 4⅛ | 5.85 | 3.51 |
| ★ 40-20-20/450 20/25 | D0624 | 1⅜ x 3 | 4.60 | 2.76 |
| ★ 40-20-20/450 40 25 | D0630 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 40-30-10/450 20/25 | D0640 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 40-40-10 450 25/50 | D0650 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 40-40-10/450 50/50 | D0655 | 1⅜ x 3⅝ | 4.80 | 2.88 |
| ★ 40-40-10 450 100/100 | D0660 | 1⅜ x 3⅝ | 5.35 | 3.21 |
| 40-40-10/450 10/350 | D0662 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 40-40-20/450 20/25 | D0663 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 40-40-40/450 40/25 | D0663.2 | 1⅜ x 3⅝ | 5.50 | 3.30 |
| 50-40-5/450 20/25 | D0664 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 60-10-10/450 20/150 | D0670 | 1⅜ x 3 | 4.60 | 2.76 |
| ★ 60-40-10/450 25/50 | D0672 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 60-40-40/450 10/25 | D0674 | 1⅜ x 4⅛ | 6.00 | 3.60 |
| ★ 60-50-5/450 20/25 | D0676 | 1⅜ x 3⅝ | 5.35 | 3.21 |
| 40-10-20/475 10/25 | D0680 | 1⅜ x 3 | 7.30 | 4.38 |
| ★ 20-20-10/500 10/300 | D0690 | 1⅜ x 2½ | 4.30 | 2.58 |
| ★ 50-30-10/500 20/300 | D0692 | 1⅜ x 3⅝ | 5.60 | 3.36 |
| ★ 10/300 200-140-30/150 | D0694 | 1⅜ x 5 | 5.10 | 3.06 |
| ★ 10/300 200-200-30/150 | XD0694.5 | 1⅜ x 5 | 5.35 | 3.21 |
| ★ 160/350 60-10-4/300 | XD0695 | 1⅜ x 4⅛ | 6.40 | 3.84 |
| ★ 10/450 100-20-20/300 | D0695.5 | 1⅜ x 3 | 5.25 | 3.15 |
| ★ 10/475 130-20-10/350 | D0695.7 | 1⅜ x 4⅛ | 6.00 | 3.60 |
| 20/475 60-40-10/350 | D0696 | 1⅜ x 3⅝ | 7.80 | 4.68 |
| ★ 30/475 130-10-10/350 | D0697 | 1⅜ x 4⅛ | 6.40 | 3.84 |
| ★ 20/500 80-20-10/300 | D0698 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| 5/75 25-25/25 100/15 | D0700 | 1⅜ x 2 | 4.15 | 2.49 |
| ★ 20/300 150-150/150 100/30 | D0710 | 1⅜ x 4⅛ | 5.30 | 3.18 |
| 15/350 80-40/200 200/25 | D0720 | 1⅜ x 3 | 6.75 | 4.05 |
| 20/350 150-80/150 20/25 | D0722 | 1⅜ x 3 | 6.85 | 4.11 |
| 40/350 50-20/150 80/50 | D0724 | 1⅜ x 3 | 6.10 | 3.66 |
| 10/400 50-30/350 30/25 | D0730 | 1⅜ x 3 | 6.60 | 3.96 |
| ★ 20 400 50-40 350 80/50 | D0730.4 | 1⅜ x 3 | 5.00 | 3.00 |
| 30/400 60-20/350 100/50 | D0731 | 1⅜ x 3 | 6.80 | 4.08 |
| ★ 40/400 120-10/250 150/50 | D0731.3 | 1⅜ x 4⅛ | 5.90 | 3.54 |
| 80/400 40-10/350 10/25 | D0732 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| 50 400 60-40/350 20/25 | D0733 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 10/450 100-20/300 20/25 | D0734 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 10/450 100-20/300 20/200 | D0736 | 1⅜ x 3⅝ | 7.60 | 4.56 |
| ★ 10/450 60-40/350 25/25 | D0740 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 10/450 100-10/350 20/25 | D0750 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 20/450 80-20/200 50/50 | D0760 | 1⅜ x 3 | 4.15 | 2.49 |

QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20/450 80-50 350 100 50 | D0764 | 1⅜ x 4⅛ | $6.00 | $3.60 |
| 25/450 100-10 300 60/50 | D0768 | 1⅜ x 3⅝ | 8.40 | 5.04 |
| 30 450 125-125 25 30 450 | D0770 | 1⅜ x 3 | 7.35 | 4.41 |
| 30/450 40-40/350 10 200 | D0780 | 1⅜ x 3⅝ | 7.75 | 4.65 |
| 40 450 40-40 250 20 25 | D0782 | 1⅜ x 3 | 6.85 | 4.11 |
| ★ 40/450 40-40 300 20 150 | D0783 | 1⅜ x 3 | 4.90 | 2.94 |
| ★ 60 450 80-40 250 20/150 | D0783.2 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10 475 140-4 350 100 50 | D0783.4 | 1⅜ x 4⅛ | 5.30 | 3.18 |
| ★ 10 475 40-10 450 100 50 | D0783.6 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 10 475 50-30 450 30 25 | D0783.8 | 1⅜ x 3⅝ | 4.75 | 2.85 |
| 5 500 100-10 300 200/150 | D0784 | 1⅜ x 3⅝ | 10.45 | 6.27 |
| ★ 10 500 10-4 300 20 25 | D0784.8 | 1⅜ x 2 | 2.90 | 1.74 |
| ★ 10/500 100-10/300 100/25 | D0785 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| 20 525 40-20 450 100 25 | D0786 | 1⅜ x 3⅝ | 8.95 | 5.37 |
| 5-5/75 25/25 100/15 | D0788 | 1⅜ x 2 | 4.00 | 2.40 |
| ★ 80-5/300 60/150 20 25 | D0788.2 | 1⅜ x 2½ | 4.30 | 2.58 |
| ★ 140-10/300 10/150 100/50 | D0788.3 | 1⅜ x 3⅝ | 5.20 | 3.12 |
| ★ 60-40/350 60 250 20 150 | D0789.2 | 1⅜ x 3⅝ | 5.40 | 3.24 |
| ★ 60-100/350 60 200 40 75 | D0789.4 | 1⅜ x 4⅛ | 6.55 | 3.93 |
| 5-5 400 50 300 80 250 | D0790 | 1⅜ x 3 | 7.00 | 4.20 |
| 40-60/400 40 350 10 50 | D0800 | 1⅜ x 3⅝ | 8.65 | 5.19 |
| ★ 100-10 400 20 350 20 50 | D0805 | 1⅜ x 3⅝ | 5.45 | 3.27 |
| ★ 10-10/450 60 200 100 50 | D0810 | 1⅜ x 3 | 3.85 | 2.31 |
| ★ 20-20/450 60 150 100 25 | D0816 | 1⅜ x 2½ | 4.25 | 2.55 |
| ★ 35-25/450 20 200 100 50 | D0820 | 1⅜ x 3⅝ | 4.65 | 2.79 |
| ★ 40-40 450 125/150 125 25 | D0825 | 1⅜ x 4⅛ | 5.70 | 3.42 |
| 10-5 475 80 450 40 50 | D0830 | 1⅜ x 3⅝ | 7.45 | 4.47 |
| ★ 15-15/475 80 300 40 50 | D0840 | 1⅜ x 3 | 4.80 | 2.88 |
| ★ 20-10 475 20 450 100 25 | D0841 | 1⅜ x 2½ | 4.20 | 2.52 |
| ★ 40-10 475 4 350 40 300 | D0842 | 1⅜ x 3 | 4.95 | 2.97 |
| ★ 20-20 150 160-40 25 | XD0844 | 1⅜ x 2 | 3.20 | 1.92 |
| 40-40 150 40-40 25 | D0850 | 1⅜ x 2 | 4.60 | 2.76 |
| 40-40 150 100-100 25 | D0860 | 1⅜ x 2 | 5.05 | 3.03 |
| ★ 50-20 150 150-30 15 | XD0862 | 1⅜ x 2 | 3.20 | 1.92 |
| 140-40/150 50-30 50 | XD0864 | 1⅜ x 2½ | 5.25 | 3.15 |
| ★ 100-10 300 200-30 150 | D0866 | 1⅜ x 5 | 5.90 | 3.54 |
| ★ 60-4 350 100-40 25 | D0868 | 1⅜ x 2½ | 3.80 | 2.28 |
| 60-40 350 60-20 200 | D0869 | 1⅜ x 3⅝ | 7.00 | 4.20 |
| 40-10 400 80-10 250 | D0870 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 100-10 400 30-20 50 | D0875 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 10-10 450 20-20/25 | D0880 | 1⅜ x 2 | 4.45 | 2.67 |
| ★ 20-20 450 20-20 25 | D0890 | 1⅜ x 2 | 3.55 | 2.13 |
| 20-20 450 30-30/350 | D0900 | 1⅜ x 3 | 7.60 | 4.56 |
| 30-10/450 150-30 50 | D0906 | 1⅜ x 3 | 6.15 | 3.69 |
| 40-10/450 35-10 350 | D0910 | 1⅜ x 3 | 6.90 | 4.14 |
| 40-20 450 80-10 350 | D0912 | 1⅜ x 4⅛ | 8.70 | 5.22 |
| ★ 40-40 450 100-60 200 | D0914 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| ★ 40-40 450 30-30 350 | D0920 | 1⅜ x 4⅛ | 5.90 | 3.54 |
| 100 300 40 50 80-20 25 | D0922 | 1⅜ x 2½ | 6.85 | 4.11 |
| 40/350 100/250 100-25/50 | D0924 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| 20/400 50/350 80-40 25 | D0926 | 1⅜ x 2½ | 6.25 | 3.75 |
| ★ 80/450 10/400 40-30 300 | D0927 | 1⅜ x 4⅛ | 5.80 | 3.48 |
| ★ 30/500 10 450 150-30 50 | D0928 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 100/300 60/200 10/150 20/50 | D0929 | 1⅜ x 3 | 5.35 | 3.21 |
| 120 300 20 250 20 25 100/50 | D0930 | 1⅜ x 4⅛ | 7.60 | 4.56 |
| ★ 200 300 20 250 20/25 100/50 | D0940 | 1⅜ x 5 | 5.80 | 3.48 |
| 20 350 40 300 10 150 250 50 | D0950 | 1⅜ x 3 | 6.90 | 4.14 |
| ★ 20/350 150 300 10/250 250/50 | D0951 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 10 400 100 300 10 75 100/25 | D0952 | 1⅜ x 3 | 6.70 | 4.02 |
| ★ 10 450 40/350 100 250 100 50 | D0953 | 1⅜ x 3 | 5.55 | 3.33 |
| 10/450 80/300 40/250 100 50 | D0954 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 60 450 40/250 10/150 80 50 | D0956 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 80 450 10/400 30 300 40 150 | D0960 | 1⅜ x 4⅛ | 7.90 | 4.74 |
| ★ 10 475 40 350 80 300 100 100 | D0961 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| 10/475 40 350 80 200 100 50 | D0962 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 10/475 40/400 100 50 10 25 | D0964 | 1⅜ x 2½ | 6.00 | 3.60 |
| ★ 10/475 40/400 4 350 100/50 | D0966 | 1⅜ x 2½ | 4.05 | 2.43 |
| 10 475 10/450 80 200 50 60 | D0970 | 1⅜ x 2½ | 5.80 | 3.48 |
| ★ 10/475 60/450 30/400 125 50 | D0980 | 1⅜ x 4⅛ | 5.45 | 3.27 |
| ★ 20/475 40 300 100 50 80 25 | D0990 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 20 475 40/350 80 200 100 100 | D0995 | 1⅜ x 4⅛ | 5.45 | 3.27 |
| ★ 25 475 20 450 20 300 100 50 | D0997 | 1⅜ x 3 | 4.60 | 2.76 |
| 25/475 20 450 40 300 100 50 | D1000 | 1⅜ x 3 | 7.45 | 4.47 |
| ★ 40 475 40 250 50/150 80 50 | D1004 | 1⅜ x 3⅝ | 5.00 | 3.00 |

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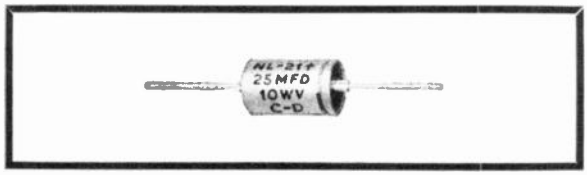
World Radio History

# CORNELL DUBILIER

## ULTRA SMALL ALUMINUM-CASED ELECTROLYTICS



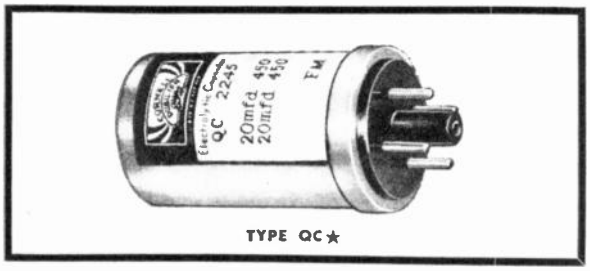

The Type NL Capacitors are hermetically sealed aluminum foil electrolytic capacitors. They are housed in aluminum containers.

Despite their extremely small size, the construction is very rugged and lends itself to applications where little space is available. They are especially suitable for printed circuit applications.

**TEMPERATURE RANGE:** — 20° C. to + 65° C.

| NL Cat. No. | Cap. Mfd. | WVDC | Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| NL 5-1 | 5 | 1 | 3/16 x 1/2 | $1.00 | $.60 |
| NL 2-3 | 2 | 3 | 3/16 x 1/2 | 1.00 | .60 |
| NL 10-3 | 10 | 3 | 1/4 x 5/8 | 1.00 | .60 |
| NL 25-3 | 25 | 3 | 1/4 x 5/8 | 1.00 | .60 |
| NL 40-3 | 40 | 3 | 1/4 x 3/4 | 1.00 | .60 |
| NL 50-3 | 50 | 3 | 1/4 x 3/4 | 1.00 | .60 |
| NL 110-3 | 110 | 3 | 3/8 x 3/4 | 1.10 | .66 |
| NL 200-3 | 200 | 3 | 3/8 x 1 | 1.20 | .72 |
| NL 1-6 | 1 | 6 | 3/16 x 1/2 | 1.00 | .60 |
| NL 2-6 | 2 | 6 | 3/16 x 1/2 | 1.00 | .60 |
| NL 3-6 | 3 | 6 | 3/16 x 1/2 | 1.00 | .60 |
| NL 4-6 | 4 | 6 | 3/16 x 5/8 | 1.00 | .60 |
| NL 5-6 | 5 | 6 | 3/16 x 5/8 | 1.00 | .60 |
| NL 8-6 | 8 | 6 | 1/4 x 5/8 | 1.05 | .63 |
| NL 10-6 | 10 | 6 | 1/4 x 5/8 | 1.05 | .63 |
| NL 15-6 | 15 | 6 | 1/4 x 5/8 | 1.05 | .63 |
| NL 20-6 | 20 | 6 | 1/4 x 5/8 | 1.05 | .63 |
| NL 25-6 | 25 | 6 | 1/4 x 5/8 | 1.05 | .63 |
| NL 30-6 | 30 | 6 | 3/8 x 5/8 | 1.10 | .66 |
| NL 40-6 | 40 | 6 | 3/8 x 5/8 | 1.10 | .66 |
| NL 50-6 | 50 | 6 | 3/8 x 5/8 | 1.10 | .66 |
| NL 60-6 | 60 | 6 | 3/8 x 3/4 | 1.10 | .66 |
| NL 100-6 | 100 | 6 | 3/8 x 7/8 | 1.20 | .72 |
| NL 10-10 | 10 | 10 | 1/4 x 5/8 | 1.05 | .63 |
| NL 15-10 | 15 | 10 | 1/4 x 5/8 | 1.05 | .63 |
| NL 25-10 | 25 | 10 | 3/8 x 5/8 | 1.05 | .63 |
| NL 50-10 | 50 | 10 | 3/8 x 3/4 | 1.15 | .69 |
| NL 100-10 | 100 | 10 | 3/8 x 1 | 1.25 | .75 |
| NL 5-15 | 5 | 15 | 1/4 x 5/8 | 1.10 | .66 |
| NL 10-15 | 10 | 15 | 1/4 x 5/8 | 1.10 | .66 |
| NL 20-15 | 20 | 15 | 3/8 x 5/8 | 1.15 | .69 |
| NL 30-15 | 30 | 15 | 3/8 x 3/4 | 1.20 | .72 |
| NL 5-25 | 5 | 25 | 1/4 x 5/8 | 1.10 | .66 |
| NL 6-25 | 6 | 25 | 1/4 x 5/8 | 1.10 | .66 |
| NL 10-25 | 10 | 25 | 3/8 x 5/8 | 1.15 | .69 |
| NL 15-25 | 15 | 25 | 3/8 x 5/8 | 1.15 | .69 |
| NL 20-25 | 20 | 25 | 3/8 x 5/8 | 1.20 | .72 |
| NL 5-50 | 5 | 50 | 1/4 x 3/4 | 1.15 | .69 |
| NL 10-50 | 10 | 50 | 3/8 x 5/8 | 1.20 | .72 |
| NL 20-50 | 20 | 50 | 3/8 x 7/8 | 1.20 | .72 |

## PLUG-IN ELECTROLYTIC




TYPE QC★

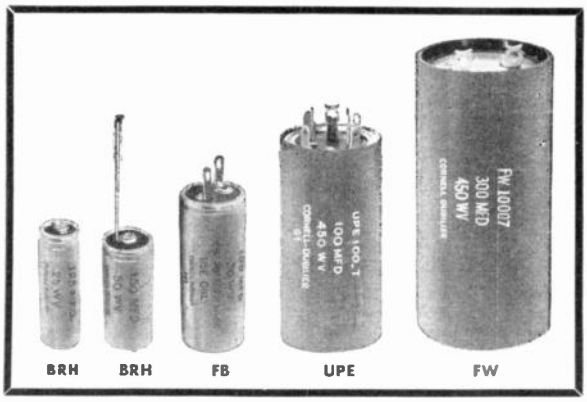
Type QC Capacitors are hermetically sealed in round aluminum containers with a four-pin octal base. Ideally suited for experimental, testing, juke box, government communication receiver uses and applications where quick capacitor changes are required. Ground lugs are furnished with all multiple-section units for cathode connection.

**TEMPERATURE RANGE:** to +85°C; except, +65°C at 500 V.D.C.W.

| QC Cat. No. | Cap. Mfd. | D.C. W. Volts | Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| **SINGLES** | | | | | |
| QC 1045 | 10 | 450 | 15/32 x 2 1/2 | $4.05 | $2.43 |
| QC 2045 | 20 | 450 | 15/32 x 2 1/2 | 4.30 | 2.58 |
| QC 4045 | 40 | 450 | 1 3/8 x 2 1/2 | 4.55 | 2.73 |
| QC 8045 | 80 | 450 | 1 3/8 x 3 1/2 | 5.55 | 3.33 |
| QC 4050 | 40 | 500 | 1 3/8 x 2 1/2 | 5.00 | 3.00 |
| **DUALS** | | | | | |
| QC 2215 | 20-20 | 150 | 15/32 x 2 1/2 | 4.20 | 2.52 |
| QC 4415 | 40-40 | 150 | 15/32 x 2 1/2 | 4.40 | 2.64 |
| QC 5515 | 50-50 | 150 | 15/32 x 2 1/2 | 4.65 | 2.79 |
| QC 8815 | 80-80 | 150 | 1 3/8 x 2 1/2 | 5.15 | 3.09 |
| QC 1145 | 10-10 | 450 | 15/32 x 2 1/2 | 4.40 | 2.64 |
| QC 2245 | 20-20 | 450 | 1 3/8 x 2 1/2 | 5.05 | 3.03 |
| QC 3345 | 30-30 | 450 | 1 3/8 x 3 | 5.55 | 3.33 |
| QC 4445 | 40-40 | 450 | 1 3/8 x 3 1/2 | 5.90 | 3.54 |
| QC 2250 | 20-20 | 500 | 1 3/8 x 2 1/2 | 5.30 | 3.18 |
| **TRIPLES** | | | | | |
| QC 22215 | 20-20-20 | 150 | 15/32 x 2 1/2 | 4.85 | 2.91 |
| QC 44415 | 40-40-40 | 150 | 1 3/8 x 2 1/2 | 5.10 | 3.06 |
| QC 11145 | 10-10-10 | 450 | 15/32 x 2 1/2 | 5.10 | 3.06 |
| QC 22245 | 20-20-20 | 450 | 1 3/8 x 3 | 6.10 | 3.66 |
| QC 4245C | 40-20/20 | 450/25 | 1 3/8 x 3 | 6.00 | 3.60 |
| QC 11150 | 10-10-10 | 500 | 1 3/8 x 2 1/2 | 5.30 | 3.18 |
| **QUADRUPLES** | | | | | |
| QC 11145C | 10-10-10/20 | 450/25 | 1 3/8 x 2 1/2 | 5.65 | 3.39 |
| QC 33145C | 30-30-10/20 | 450/50 | 1 3/8 x 4 1/4 | 6.85 | 4.11 |

★When JAN-C 62 units must be supplied, order according to specific CE type designations.

## HIGH VOLTAGE PHOTOFLASH




BRH BRH FB UPE FW

| Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Length | Watt Seconds | List Price | Net Price |
|---|---|---|---|---|---|---|
| XBO455* | 100 (2 x 50) | 450 | 1 3/8 x 3 | 10 | $3.85 | $2.31 |
| FB 10063* | 200 | 450 | 2 1/16 x 4 1/2 | 20 | 6.85 | 4.11 |
| FW 10005‡ | 200 | 500 | 2 1/16 x 4 3/8 | 25 | 10.50 | 6.30 |
| FW 10007‡ | 300 | 450 | 2 1/16 x 4 3/8 | 30 | 10.50 | 6.30 |
| FWS 10000† | 300 | 450 | 2 1/16 x 4 3/8 | 30 | 11.50 | 6.90 |
| FA 10300* | 400 | 450 | 2 1/16 x 4 1/2 | 40 | 17.95 | 10.77 |
| FWSN 10001† | 525 | 450 | 2 1/16 x 4 3/8 | 53 | 22.60 | 13.56 |

## LOW VOLTAGE PHOTOFLASH

| Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| BRE 10001♦ | 40 | 150 | 3/4 x 1 7/16 | $1.35 | $ .81 |
| FB 10077♦ | 100 | 30 | 1 x 2 11/16 | 3.35 | 2.01 |
| BRH 10062♦ | 125 | 25 | 5/8 x 1 15/16 | 1.35 | .81 |
| BRH 10067♦ | 150 | 50 | 3/4 x 1 11/16 | 1.35 | .81 |
| BRH 2525* | 250 | 25 | 15/16 x 1 7/8 | 1.70 | 1.02 |

*Aluminum can with cardboard sleeve. †Bakelite Case—Screw Terminals.
♦Aluminum can—no sleeve. ‡Bakelite Case—Solder Lug Terminals.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# CORNELL DUBILIER

## HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS

TYPE FB ★

Type FB capacitors in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.

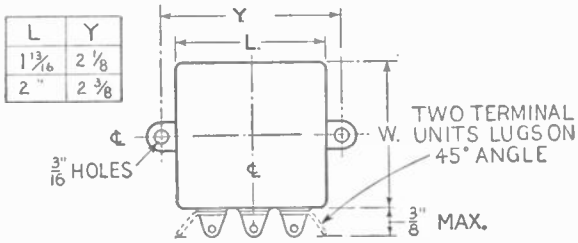
**TEMPERATURE RANGE:** to +85°C.

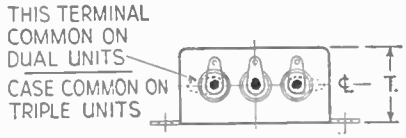
| FB Cat. No. | Cap. Mfd. | D.C. W. Volts | Can†† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| FB 1005 | 500 | 10 | 1⅜ x 2⅜ | $3.10 | **$1.86** |
| FB 1010 | 1000 | 10 | 1⅜ x 2⅜ | 3.55 | **2.13** |
| FB 1015 | 1500 | 10 | 1⅜ x 2⅜ | 3.75 | **2.25** |
| FB 1020 | 2000 | 10 | 1⅜ x 2⅝ | 3.95 | **2.37** |
| FB 1030 | 3000 | 10 | 1⅜ x 3⅛ | 4.35 | **2.61** |
| FB 1040 | 4000 | 10 | 1⅜ x 4⅛ | 4.75 | **2.85** |
| FB 1050 | 5000 | 10 | 1½ x 4⅛ | 5.15 | **3.09** |
| FB 1060 | 6000 | 10 | 1¾ x 4⅛ | 7.50 | **4.50** |
| FB 1205 | 500 | 12 | 1⅜ x 2⅜ | 3.20 | **1.92** |
| FB 1210 | 1000 | 12 | 1⅜ x 2⅜ | 3.75 | **2.25** |
| FB 1215 | 1500 | 12 | 1⅜ x 2⅝ | 3.95 | **2.37** |
| FB 1220 | 2000 | 12 | 1⅜ x 3⅛ | 4.15 | **2.49** |
| FB 1225 | 2500 | 12 | 1⅜ x 3⅛ | 4.85 | **2.91** |
| FB 1230 | 3000 | 12 | 1⅜ x 4⅛ | 5.05 | **3.03** |
| F2 1240 | 4000 | 12 | 1½ x 4⅛ | 5.25 | **3.15** |
| FB 1260 | 6000 | 12 | 2 x 4⅛ | 9.35 | **5.61** |
| FB 1505 | 500 | 15 | 1⅜ x 2⅜ | 3.25 | **1.95** |
| FB 1510 | 1000 | 15 | 1⅜ x 2⅜ | 3.80 | **2.28** |
| FB 1515 | 1500 | 15 | 1⅜ x 2⅝ | 4.00 | **2.40** |
| FB 1520 | 2000 | 15 | 1⅜ x 3⅛ | 4.70 | **2.82** |
| FB 1530 | 3000 | 15 | 1¾ x 4⅛ | 5.15 | **3.09** |
| FB 1540 | 4000 | 15 | 1½ x 4⅛ | 8.10 | **4.86** |
| FB 1560 | 6000 | 15 | 2 x 4⅛ | 10.00 | **6.00** |
| FB 1805 | 500 | 18 | 1⅜ x 2⅜ | 3.00 | **1.80** |
| FB 1810 | 1000 | 18 | 1⅜ x 2⅜ | 3.90 | **2.34** |
| FB 1820 | 2000 | 18 | 1⅜ x 3⅛ | 4.90 | **2.94** |
| FB 1840 | 4000 | 18 | 1½ x 4⅛ | 8.45 | **5.07** |
| FB 2005 | 500 | 20 | 1⅜ x 2⅜ | 3.40 | **2.04** |
| FB 2010 | 1000 | 20 | 1⅜ x 3⅛ | 4.10 | **2.46** |
| FB 2020 | 2000 | 20 | 1⅜ x 4⅛ | 5.20 | **3.12** |
| FB 2040 | 4000 | 20 | 2 x 4⅛ | 8.75 | **5.25** |
| FB 2505 | 500 | 25 | 1⅜ x 2⅜ | 3.55 | **2.13** |
| FB 2510 | 1000 | 25 | 1⅜ x 3⅛ | 4.80 | **2.88** |
| FB 2520 | 2000 | 25 | 1⅜ x 4⅛ | 5.75 | **3.45** |
| FB 2530 | 3000 | 25 | 1¾ x 4⅛ | 8.00 | **4.80** |
| FB 2540 | 4000 | 25 | 2 x 4⅛ | 9.50 | **5.70** |
| FB 2550 | 5000 | 25 | 2½ x 4⅛ | 11.00 | **6.60** |
| FB 3005 | 500 | 30 | 1⅜ x 3⅛ | 3.60 | **2.16** |
| FB 3010 | 1000 | 30 | 1⅜ x 4⅛ | 4.90 | **2.94** |
| FB 3020 | 2000 | 30 | 1¾ x 4⅛ | 7.40 | **4.44** |
| FB 3030 | 3000 | 30 | 2 x 4⅛ | 8.95 | **5.37** |
| FB 3040 | 4000 | 30 | 2½ x 4⅛ | 10.50 | **6.30** |
| FB 3505 | 500 | 35 | 1⅜ x 3⅛ | 3.70 | **2.22** |
| FB 3510 | 1000 | 35 | 1⅜ x 4⅛ | 5.00 | **3.00** |
| FB 3520 | 2000 | 35 | 1¾ x 4⅛ | 8.00 | **4.80** |
| FB 3530 | 3000 | 35 | 2 x 4⅛ | 9.50 | **5.70** |
| FB 3540 | 4000 | 35 | 2½ x 4⅛ | 11.00 | **6.60** |
| FB 4005 | 500 | 40 | 1⅜ x 3⅛ | 3.80 | **2.28** |
| FB 4010 | 1000 | 40 | 1⅜ x 4⅛ | 6.50 | **3.90** |
| FB 4020 | 2000 | 40 | 1¾ x 4⅛ | 9.00 | **5.40** |
| FB 4030 | 3000 | 40 | 2 x 4⅛ | 10.50 | **6.30** |
| FB 4040 | 4000 | 40 | 2½ x 4⅛ | 11.50 | **6.90** |
| FB 5005 | 500 | 50 | 1⅜ x 3⅛ | 3.90 | **2.34** |
| FB 5010 | 1000 | 50 | 1⅜ x 4⅛ | 7.00 | **4.20** |
| FB 5020 | 2000 | 50 | 1¾ x 4⅛ | 9.10 | **5.46** |
| FB 5030 | 3000 | 50 | 2 x 4⅛ | 11.50 | **6.90** |
| FB 5040 | 4000 | 50 | 2½ x 4⅛ | 12.50 | **7.50** |

## METAL CASED DYKANOL PAPER CAPACITORS

TYPE DYR
(Similar to CP53)

| L | Y |
|---|---|
| 1 13/16 | 2 1/8 |
| 2 " | 2 3/8 |




TYPE DYR

Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling under all humidity conditions. They are built to meet MIL-C25A performance and test requirements and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications.

**TEMPERATURE RANGE:** −55°C to +85°C.

**STANDARD TOLERANCE:** +20%, −10%.

| DYR Cat. No. | Cap. Mfd. | Size—Inches Lth. x Wid. x Thick. | List Price | Net Price |
|---|---|---|---|---|
| | | **600 V. D.C. Work.** | | |
| DYR 6005 | .05 | 1 13/16 x 1 x ¾ | $2.90 | **$1.74** |
| DYR 6010 | .1 | 1 13/16 x 1 x ¾ | 2.95 | **1.77** |
| DYR 6025 | .25 | 1 13/16 x 1 x ¾ | 3.10 | **1.86** |
| DYR 6050 | .5 | 1 13/16 x 1 x ⅞ | 3.30 | **1.98** |
| DYR 6100 | 1 | 2 x 1¾ x ⅞ | 3.75 | **2.25** |
| DYR 6200 | 2 | 2 x 2 x 1⅛ | 5.00 | **3.00** |
| DYR 60055 | .05-.05 | 1 13/16 x 1 x ¾ | 3.65 | **2.19** |
| DYR 6011 | .1 .1 | 1 13/16 x 1 x ¾ | 3.70 | **2.22** |
| DYR 6022X | .25 .25 | 1 13/16 x 1 x ⅞ | 3.75 | **2.25** |
| DYR 6055 | .5 .5 | 2 x 1¾ x ⅞ | 4.30 | **2.58** |
| DYR 6110 | 1.-1. | 2 x 2 x 1⅛ | 5.30 | **3.18** |
| DYR 6111 | .1 .1 .1 | 1 13/16 x 1 x ¾ | 4.20 | **2.52** |
| DYR 6222 | .25 .25 .25 | 2 x 1¾ x 1 7/16 | 4.75 | **2.85** |
| DYR 6555 | .5 .5-.5 | 2 x 2 x 1⅛ | 5.75 | **3.45** |
| | | **1000 V. D.C. Work.** | | |
| DYR 10005 | .05 | 1 13/16 x 1 x ¾ | 3.05 | **1.83** |
| DYR 10010 | .1 | 1 13/16 x 1 x ¾ | 3.15 | **1.89** |
| DYR 10025 | .25 | 1 13/16 x 1 x ¾ | 3.25 | **1.95** |
| DYR 10050 | .5 | 2 x 1¾ x 1 7/16 | 3.55 | **2.13** |
| DYR 10100 | 1 | 2 x 2 x 1⅛ | 4.40 | **2.64** |
| DYR 100055 | .05-.05 | 1 13/16 x 1 x ¾ | 3.85 | **2.31** |
| DYR 10011 | .1 .1 | 1 13/16 x 1 x ¾ | 4.00 | **2.40** |
| DYR 10022 | .25 .25 | 2 x 1¾ x 1 7/16 | 4.20 | **2.52** |
| DYR 10055 | .5-.5 | 2 x 2 x 1⅛ | 5.45 | **3.27** |
| DYR 10111X | .1-.1-.1 | 2 x 1¾ x ⅞ | 4.60 | **2.76** |
| DYR 10222 | .25 .25 .25 | 2 x 2 x 1⅛ | 5.50 | **3.30** |

††For Overall Size add 1/16" to Diam. and ⅜" to Length. ★When JAN-C-62 units must be supplied, order according to specific CE type designations.

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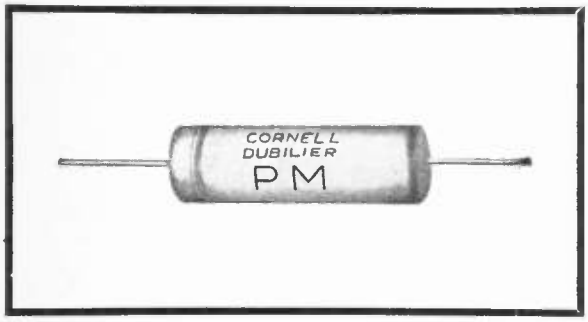
World Radio History

# CORNELL DUBILIER

## MOLDED MYLAR* TUBULARS



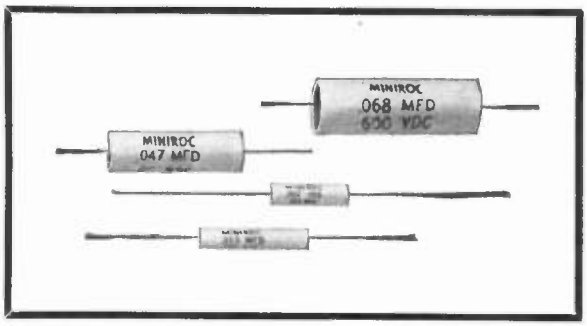

C-D type PM is a MYLAR* dielectric, high temperature, moisture resistant, thermoset MOLDED† tubular capacitor. High Insulation Resistance. Low RF Impedance. See special "PM KIT."

**TEMPERATURE RANGE:** —55°C to +130°C.

Derate by 10% at 100°C. Derate by 50% at 130°C. Full rating at 85°C.

| PM Cat. No. | Cap. Mfd. | Dimensions—Inches Diameter x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **200 V. D.C.W.** | | |
| PM 2S2 | .02 | 3/8 x 1 1/4 | $.25 | **$.15** |
| PM 2S47 | .047 | 3/8 x 1 1/4 | .25 | .15 |
| PM 2S5 | .05 | 3/8 x 1 1/4 | .25 | .15 |
| PM 2P1 | .10 | 7/16 x 1 1/4 | .35 | .21 |
| PM 2P15 | .15 | 1/2 x 1 1/2 | .35 | .21 |
| PM 2P22 | .22 | 1/2 x 1 1/2 | .40 | .24 |
| PM 2P25 | .25 | 9/16 x 1 13/16 | .45 | .27 |
| PM 2P47 | .47 | 5/8 x 1 7/8 | .60 | .36 |
| PM 2P5 | .50 | 5/8 x 1 7/8 | .60 | .36 |
| PM 2W1 | 1.00 | 3/4 x 2 1/4 | .95 | .57 |
| | | **400 V. D.C.W.** | | |
| PM 4S1 | .01 | 5/16 x 1 | .25 | .15 |
| PM 4S15 | .015 | 3/8 x 1 1/4 | .25 | .15 |
| PM 4S2 | .02 | 3/8 x 1 1/4 | .25 | .15 |
| PM 4S22 | .022 | 3/8 x 1 1/4 | .30 | .18 |
| PM 4S33 | .033 | 7/16 x 1 1/4 | .30 | .18 |
| PM 4S47 ● | .047 | 7/16 x 1 1/4 | .30 | .18 |
| PM 4S5 | .05 | 7/16 x 1 1/4 | .30 | .18 |
| PM 4S68 | .068 | 1/2 x 1 1/2 | .35 | .21 |
| PM 4P1 | .10 | 1/2 x 1 1/2 | .35 | .21 |
| PM 4P15 | .15 | 9/16 x 1 13/16 | .40 | .24 |
| PM 4P22 | .22 | 5/8 x 1 7/8 | .50 | .30 |
| PM 4P25 | .25 | 5/8 x 1 7/8 | .55 | .33 |
| PM 4P33 | .33 | 11/16 x 1 15/16 | .65 | .39 |
| PM 4P47 | .47 | 3/4 x 2 1/4 | .80 | .48 |
| PM 4P5 | .50 | 3/4 x 2 1/4 | .85 | .51 |
| PM 4P68 | .68 | 1 x 2 1/8 | 1.15 | .69 |
| PM 4W1 | 1.00 | 1 x 2 1/8 | 1.45 | .87 |
| | | **600 V. D.C.W.** | | |
| PM 6T1 | .0001 | 5/16 x 1 | .25 | .15 |
| PM 6T25 | .00025 | 5/16 x 1 | .25 | .15 |
| PM 6T4 | .0004 | 5/16 x 1 | .25 | .15 |
| PM 6T5 | .0005 | 5/16 x 1 | .25 | .15 |
| PM 6D1 | .001 | 5/16 x 1 | .25 | .15 |
| PM 6D15 | .0015 | 5/16 x 1 | .25 | .15 |
| PM 6D2 | .002 | 5/16 x 1 | .25 | .15 |
| PM 6D22 | .0022 | 5/16 x 1 | .25 | .15 |
| PM 6D3 | .003 | 5/16 x 1 | .25 | .15 |
| PM 6D33 | .0033 | 5/16 x 1 | .25 | .15 |
| PM 6D4 | .004 | 5/16 x 1 | .25 | .15 |
| PM 6D47 | .0047 | 5/16 x 1 | .25 | .15 |
| PM 6D5 | .005 | 5/16 x 1 | .25 | .15 |
| PM 6D6 | .006 | 5/16 x 1 | .25 | .15 |
| PM 6D68 | .0068 | 5/16 x 1 | .30 | .18 |
| PM 6S1 | .01 | 3/8 x 1 1/4 | .30 | .18 |
| PM 6S15 | .015 | 3/8 x 1 1/4 | .30 | .18 |
| PM 6S2 | .02 | 7/16 x 1 1/4 | .30 | .18 |
| PM 6S22 | .022 | 7/16 x 1 1/4 | .30 | .18 |
| PM 6S3 | .03 | 7/16 x 1 1/4 | .35 | .21 |
| PM 6S33 | .033 | 7/16 x 1 1/4 | .35 | .21 |
| PM 6S4 | .04 | 7/16 x 1 1/4 | .35 | .21 |
| PM 6S47 | .047 | 1/2 x 1 1/2 | .40 | .24 |
| PM 6S5 | .05 | 1/2 x 1 1/2 | .40 | .24 |
| PM 6S6 | .06 | 1/2 x 1 1/2 | .40 | .24 |
| PM 6S68 | .068 | 1/2 x 1 1/2 | .40 | .24 |
| PM 6P1 | .10 | 9/16 x 1 13/16 | .45 | .27 |
| PM 6P15 | .15 | 5/8 x 1 7/8 | .55 | .33 |
| PM 6P2 | .20 | 5/8 x 1 7/8 | .65 | .39 |
| PM 6P22 | .22 | 5/8 x 1 7/8 | .65 | .39 |
| PM 6P25 | .25 | 11/16 x 1 15/16 | .75 | .45 |
| PM 6P33 | .33 | 3/4 x 2 1/4 | .90 | .54 |
| PM 6P47 | .47 | 3/4 x 2 1/4 | 1.15 | .69 |
| PM 6P5 | .50 | 3/4 x 2 1/4 | 1.20 | .72 |

## STEATITE-CASED MYLAR*




Cornell-Dubilier "MINIROC" tubular capacitors are high quality, sub-miniature, high temperature components in non-metallic (Steatite) cases. Fabricated from DuPont "Mylar" polyester film dielectric material.

- STEATITE CASES: Conform to JAN-1-10. Carefully processed for maximum protection against moisture.
- POLYKANE END FILL: Anchors lead wires and sections securely, will not crack, soften, or flow.
- WIDE TEMPERATURE RANGE: Rated from —55°C to +130°C.
- MOISTURE RESISTANT: Exceeds MIL-C-91 requirements.
- NON-INDUCTIVE: Extended foil construction insures low resistance connections and low RF impedance.
- STRONG CONSTRUCTION: Withstands extremes of soldering temperature without damage to the case material, moisture seal, lead connections, or electrical performance.

*DU PONT trade mark.

| STM Cat. No. | Cap. Mfd. | Dimensions—Inches Diameter x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **100 V. D.C.W.** | | |
| STM 1D1 | .001 | .170 x 5/8 | $.80 | **$.48** |
| STM 1D15 | .0015 | .170 x 5/8 | .80 | .48 |
| STM 1D22 | .0022 | .170 x 5/8 | .80 | .48 |
| STM 1D33 | .0033 | .170 x 5/8 | .85 | .51 |
| STM 1D47 | .0047 | .170 x 5/8 | .85 | .51 |
| STM 1D68 | .0068 | .170 x 5/8 | .85 | .51 |
| STM 1S1 | .01 | .170 x 5/8 | .90 | .54 |
| STM 1S15 | .015 | .190 x 3/4 | .90 | .54 |
| STM 1S22 | .022 | .190 x 1 1/16 | .90 | .54 |
| STM 1S33 | .033 | 1/4 x 1 1/16 | .95 | .57 |
| STM 1S47 | .047 | 1/4 x 1 1/16 | .95 | .57 |
| STM 1S68 | .068 | 5/16 x 1 1/16 | 1.00 | .60 |
| STM 1P1 | .10 | 5/16 x 1 1/16 | 1.00 | .60 |
| | | **400 V. D.C.W.** | | |
| STM 4D1 | .001 | .170 x 3/4 | .80 | .48 |
| STM 4D15 | .0015 | .170 x 3/4 | .80 | .48 |
| STM 4D22 | .0022 | .190 x 3/4 | .85 | .51 |
| STM 4D33 | .0033 | .170 x 1 1/16 | .85 | .51 |
| STM 4D47 | .0047 | .170 x 1 1/16 | .85 | .51 |
| STM 4D68 | .0068 | .190 x 1 1/16 | .90 | .54 |
| STM 4S1 | .01 | 1/4 x 1 1/16 | .90 | .54 |
| STM 4S15 | .015 | 1/4 x 1 1/16 | .90 | .54 |
| STM 4S22 | .022 | 5/16 x 1 1/16 | .95 | .57 |
| STM 4S33 | .033 | 3/8 x 1 1/16 | .95 | .57 |
| STM 4S47 | .047 | 3/8 x 1 1/4 | 1.00 | .60 |
| STM 4S68 | .068 | 7/16 x 1 1/4 | 1.00 | .60 |
| STM 4P1 | .10 | 1/2 x 1 1/4 | 1.00 | .60 |
| | | **600 V. D.C.W.** | | |
| STM 6D1 | .001 | .170 x 3/4 | .80 | .48 |
| STM 6D15 | .0015 | .190 x 3/4 | .85 | .51 |
| STM 6D22 | .0022 | .190 x 1 1/16 | .85 | .51 |
| STM 6D33 | .0033 | .190 x 1 1/16 | .85 | .51 |
| STM 6D47 | .0047 | 1/4 x 1 1/16 | .85 | .51 |
| STM 6D68 | .0068 | 1/4 x 1 1/16 | .90 | .54 |
| STM 6S1 | .01 | 5/16 x 1 1/16 | .90 | .54 |
| STM 6S15 | .015 | 5/16 x 1 1/16 | .95 | .57 |
| STM 6S22 | .022 | 3/8 x 1 1/16 | .95 | .57 |
| STM 6S33 | .033 | 3/8 x 1 1/4 | 1.00 | .60 |
| STM 6S47 | .047 | 7/16 x 1 1/4 | 1.10 | .66 |
| STM 6S68 | .068 | 1/2 x 1 1/2 | 1.20 | .72 |
| STM 6P1 | .10 | 9/16 x 1 1/2 | 1.50 | .90 |

*Dupont TM.



Net

TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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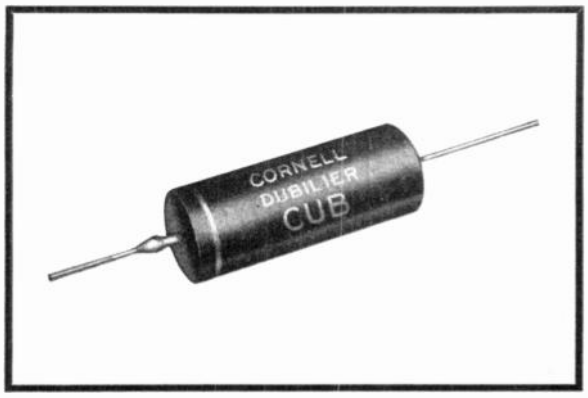
World Radio History

# CORNELL DUBILIER

## MOLDED TUBULAR
## "The CUB"




The Cornell-Dubilier "CUB" is an outstandingly superior molded paper tubular capacitor recommended for general replacement service. Sold exclusively through C-D electronic parts Distributors.

The "CUB" possesses characteristics, especially as to CAPACITANCE STABILITY, that will meet the wide and demanding applications found in critical industrial, military and experimental electronic equipment.

- Extra Hard, Non-Inflammable Bakelite Case
- Dry Assembly — Sealed After Impregnation
- Survives 30 Cycles JAN And MIL Temperature & Immersion Tests
- 50% Greater Resistance To Humidity
- 15%-25% Greater Voltage Breakdown
- Extra Strong Copper-weld Leads Eliminate Breakage

**TEMP. RANGE:** HT Compound —40°C to +90°C
Dykanol "C" —55°C to +100°C

### THE CUB

| CUB Cat. No. | Cap. Mfd. | Size Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **200 V. D.C.** | | |
| CUB 2S2 | .02 | 3/8 x 1 | $.25 | $.15 |
| CUB 2S47 | .047 | 7/16 x 1 1/4 | .25 | .15 |
| CUB 2S5 | .05 | 7/16 x 1 1/4 | .25 | .15 |
| CUB 2P1 | .1 | 7/16 x 1 1/4 | .35 | .21 |
| CUB 2P15 | .15 | 9/16 x 1 1/2 | .35 | .21 |
| CUB 2P22 | .22 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 2P25 | .25 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 2P47 | .47 | 11/16 x 1 7/8 | .60 | .36 |
| CUB 2P5 | .5 | 11/16 x 1 7/8 | .60 | .36 |
| CUB 2W1 | 1.0 | 3/4 x 2 1/4 | .90 | .54 |
| | | **400 V. D.C.** | | |
| CUB 4S1 | .01 | 3/8 x 1 | .25 | .15 |
| CUB 4S2 | .02 | 7/16 x 1 1/4 | .25 | .15 |
| CUB 4S22 | .022 | 7/16 x 1 1/4 | .25 | .15 |
| CUB 4S47 | .047 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 4S5 | .05 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 4S68 | .068 | 9/16 x 1 1/2 | .35 | .21 |
| CUB 4P1 | .1 | 9/16 x 1 1/2 | .35 | .21 |
| CUB 4P15 | .15 | 11/16 x 1 7/8 | .35 | .21 |
| CUB 4P22 | .22 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 4P25 | .25 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 4P47 | .47 | 3/4 x 2 1/4 | .60 | .36 |
| CUB 4P5 | .5 | 3/4 x 2 1/4 | .60 | .36 |
| *ST 4W1 | 1.0 | 1 x 2 7/8 | .90 | .54 |

### THE CUB

| CUB Cat. No. | Cap. Mfd. | Size— Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **600 V. D.C.** | | |
| CUB 6T1 | .0001 | 3/8 x 1 | $.25 | $.15 |
| CUB 6T25 | .00025 | 3/8 x 1 | .25 | .15 |
| CUB 6T4 | .0004 | 3/8 x 1 | .25 | .15 |
| CUB 6T5 | .0005 | 3/8 x 1 | .25 | .15 |
| CUB 6D1 | .001 | 3/8 x 1 | .25 | .15 |
| CUB 6D15 | .0015 | 3/8 x 1 | .25 | .15 |
| CUB 6D2 | .002 | 3/8 x 1 | .25 | .15 |
| CUB 6D22 | .0022 | 3/8 x 1 | .25 | .15 |
| CUB 6D3 | .003 | 3/8 x 1 | .25 | .15 |
| CUB 6D33 | .0033 | 3/8 x 1 | .25 | .15 |
| CUB 6D4 | .004 | 3/8 x 1 | .25 | .15 |
| CUB 6D47 | .0047 | 3/8 x 1 | .25 | .15 |
| CUB 6D5 | .005 | 3/8 x 1 | .25 | .15 |
| CUB 6D6 | .006 | 7/16 x 1 1/4 | .25 | .15 |
| CUB 6D68 | .0068 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 6S1 | .01 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 6S15 | .015 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 6S2 | .02 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 6S22 | .022 | 7/16 x 1 1/4 | .30 | .18 |
| CUB 6S3 | .03 | 7/16 x 1 1/4 | .35 | .21 |
| CUB 6S33 | .033 | 9/16 x 1 1/2 | .35 | .21 |
| CUB 6S4 | .04 | 9/16 x 1 1/2 | .35 | .21 |
| CUB 6S47 | .047 | 9/16 x 1 1/2 | .40 | .24 |
| CUB 6S5 | .05 | 9/16 x 1 1/2 | .40 | .24 |
| CUB 6S6 | .06 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 6S68 | .068 | 11/16 x 1 7/8 | .40 | .24 |
| CUB 6P1 | .1 | 11/16 x 1 7/8 | .45 | .27 |
| CUB 6P2 | .2 | 3/4 x 2 1/4 | .55 | .33 |
| CUB 6P22 | .22 | 3/4 x 2 1/4 | .55 | .33 |
| CUB 6P25 | .25 | 3/4 x 2 1/4 | .55 | .33 |
| *ST 6P5 | .5 | 1 x 2 7/8 | .80 | .48 |
| | | **1000 V. D.C.** | | |
| CUB 10T5 | .0005 | 3/8 x 1 | .50 | .30 |
| CUB 10D1 | .001 | 3/8 x 1 | .50 | .30 |
| CUB 10D15 | .0015 | 3/8 x 1 | .50 | .30 |
| CUB 10D2 | .002 | 3/8 x 1 | .50 | .30 |
| CUB 10D22 | .0022 | 3/8 x 1 | .50 | .30 |
| CUB 10D3 | .003 | 3/8 x 1 | .50 | .30 |
| CUB 10D4 | .004 | 7/16 x 1 1/4 | .50 | .30 |
| CUB 10D47 | .0047 | 7/16 x 1 1/4 | .50 | .30 |
| CUB 10D5 | .005 | 7/16 x 1 1/4 | .50 | .30 |
| CUB 10D68 | .0068 | 7/16 x 1 1/4 | .50 | .30 |
| CUB 10S1 | .01 | 7/16 x 1 1/4 | .50 | .30 |
| CUB 10S15 | .015 | 9/16 x 1 1/2 | .50 | .30 |
| CUB 10S2 | .02 | 9/16 x 1 1/2 | .50 | .30 |
| CUB 10S22 | .022 | 9/16 x 1 1/2 | .50 | .30 |
| CUB 10S3 | .03 | 9/16 x 1 1/2 | .50 | .30 |
| CUB 10S35 | .035 | 11/16 x 1 7/8 | .50 | .30 |
| CUB 10S47 | .047 | 11/16 x 1 7/8 | .60 | .36 |
| CUB 10S5 | .05 | 11/16 x 1 7/8 | .60 | .36 |
| CUB 10S68 | .068 | 11/16 x 1 7/8 | .65 | .39 |
| CUB 10P1 | .1 | 3/4 x 2 1/4 | .75 | .45 |
| | | **1600 V. D.C.** | | |
| CUB 16T5 | .0005 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D1 | .001 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D15 | .0015 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D2 | .002 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D22 | .0022 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D3 | .003 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D33 | .0033 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D4 | .004 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D47 | .0047 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D5 | .005 | 7/16 x 1 1/4 | .65 | .39 |
| CUB 16D6 | .006 | 9/16 x 1 1/2 | .65 | .39 |
| CUB 16D68 | .0068 | 9/16 x 1 1/2 | .65 | .39 |
| CUB 16D7 | .007 | 9/16 x 1 1/2 | .65 | .39 |
| CUB 16D75 | .0075 | 9/16 x 1 1/2 | .65 | .39 |
| CUB 16D8 | .008 | 9/16 x 1 1/2 | .65 | .39 |
| CUB 16S1 | .01 | 9/16 x 1 1/2 | .70 | .42 |
| CUB 16S15 | .015 | 9/16 x 1 1/2 | .70 | .42 |
| CUB 16S2 | .02 | 11/16 x 1 7/8 | .70 | .42 |
| CUB 16S22 | .022 | 11/16 x 1 7/8 | .70 | .42 |
| CUB 16S3 | .03 | 11/16 x 1 7/8 | .70 | .42 |
| CUB 16S4 | .04 | 3/4 x 2 1/4 | .70 | .42 |
| CUB 16S5 | .05 | 3/4 x 2 1/4 | .70 | .42 |
| | | **6000 V. D.C.** | | |
| CUB 60T5 | .0005 | 9/16 x 1 1/2 | 1.35 | .81 |
| CUB 60D1 | .001 | 9/16 x 1 1/2 | 1.35 | .81 |
| CUB 60D5 | .005 | 11/16 x 1 7/8 | 1.35 | .81 |
| | | **10,000 V. D.C.** | | |
| CUB 100T5 | .0005 | 11/16 x 1 7/8 | 1.50 | .90 |
| | | **12,500 V. D.C.** | | |
| CUB 125T25 | .00025 | 11/16 x 1 7/8 | 1.70 | 1.02 |

*Furnished as a "BUDROC" unit.

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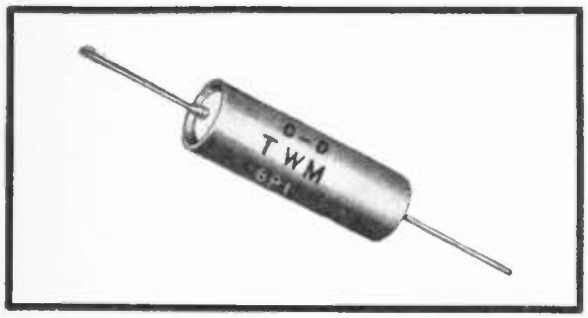
# CORNELL DUBILIER

## MINIATURE METAL-CASED TUBULARS "DEMICONS"




Cornell-Dubilier DEMICONS are hermetically sealed in metal cases, with glass-to-metal seal terminals and are available in a wide variety of mounting styles, impregnants, tolerances, and internal construction. See Bulletins 147A and 151.

**STANDARD TOLERANCE:** ±20%.

**TEMPERATURE RANGE:**

| | | |
|---|---|---|
| TWH | High Temperature wax | —40°C to +85°C. |
| TWC | "Dykanol C"* | —55°C to +85°C. |
| TWU | "Dykanol U"* | —55°C to +125°C. |
| TWMA | "Mylar"** polyester film | —55°C to +160°C.† |

†Full Rating at 85°C.
†Derate to 90% at 100°C.
†Derate to 50% at 125°C.
†Derate to 33% at 160°C.

PRICES shown below are for BASIC STYLE—UNGROUNDED.
*Registered Cornell-Dubilier trade mark. **Registered Dupont trade mark.

### "BASIC" STYLE UNGROUNDED

| TWH Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| TWH 1D1 | .001 | 100 | .175 x ¾ | $2.25 | $1.35 |
| TWH 1D47 | .0047 | 100 | .175 x ¾ | 2.30 | 1.38 |
| TWH 1S1 | .01 | 100 | .175 x ¾ | 2.30 | 1.38 |
| TWH 1S22 | .022 | 100 | .175 x ¾ | 2.30 | 1.38 |
| TWH 1S47 | .047 | 100 | .235 x ¾ | 2.35 | 1.41 |
| TWH 1P1 | .1 | 100 | .312 x ⅞ | 2.50 | 1.50 |
| TWH 1P22 | .22 | 100 | .400 x ⅞ | 2.55 | 1.53 |
| TWH 1P47 | .47 | 100 | .400 x 1⅜ | 2.70 | 1.62 |
| TWH 1W1 | 1.0 | 100 | .562 x 1⅜ | 3.20 | 1.92 |
| TWH 2D1 | .001 | 200 | .235 x ¾ | 2.35 | 1.41 |
| TWH 2D47 | .0047 | 200 | .235 x ¾ | 2.40 | 1.44 |
| TWH 2S1 | .01 | 200 | .235 x ¾ | 2.40 | 1.44 |
| TWH 2S22 | .022 | 200 | .235 x ¾ | 2.40 | 1.44 |
| TWH 2S47 | .047 | 200 | .312 x ⅞ | 2.50 | 1.50 |
| TWH 2P1 | .1 | 200 | .312 x ⅞ | 2.60 | 1.56 |
| TWH 2P47 | .47 | 200 | .562 x 1⅛ | 2.95 | 1.77 |
| TWH 2W1 | 1.0 | 200 | .562 x 1⅞ | 3.30 | 1.98 |
| TWH 4D1 | .001 | 400 | .235 x ¾ | 2.40 | 1.44 |
| TWH 4D47 | .0047 | 400 | .235 x ¾ | 2.45 | 1.47 |
| TWH 4S1 | .01 | 400 | .235 x ¾ | 2.50 | 1.50 |
| TWH 4S22 | .022 | 400 | .312 x ⅞ | 2.55 | 1.53 |
| TWH 4S47 | .047 | 400 | .312 x ⅞ | 2.55 | 1.53 |
| TWH 4P1 | .1 | 400 | .400 x 1⅛ | 2.70 | 1.62 |
| TWH 4P47 | .47 | 400 | .562 x 1⅞ | 3.35 | 2.01 |
| TWH 4W1 | 1.0 | 400 | .750 x 2⅛ | 3.90 | 2.34 |

| TWC Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| TWC 1D1 | .001 | 100 | .175 x ¾ | $2.30 | $1.38 |
| TWC 1D47 | .0047 | 100 | .175 x ¾ | 2.35 | 1.41 |
| TWC 1S1 | .01 | 100 | .175 x ¾ | 2.40 | 1.44 |
| TWC 1S22 | .022 | 100 | .195 x ¾ | 2.40 | 1.44 |
| TWC 1S47 | .047 | 100 | .312 x ⅞ | 2.50 | 1.50 |
| TWC 1P1 | .1 | 100 | .312 x ⅞ | 2.60 | 1.56 |
| TWC 1P47 | .47 | 100 | .562 x 1⅛ | 3.00 | 1.80 |
| TWC 1W1 | 1.0 | 100 | .562 x 1⅞ | 3.40 | 2.04 |
| TWC 2D1 | .001 | 200 | .235 x ¾ | 2.40 | 1.44 |
| TWC 2D47 | .0047 | 200 | .235 x ¾ | 2.45 | 1.47 |
| TWC 2S1 | .01 | 200 | .235 x ¾ | 2.50 | 1.50 |
| TWC 2S22 | .022 | 200 | .235 x ¾ | 2.50 | 1.50 |
| TWC 2S47 | .047 | 200 | .312 x ⅞ | 2.60 | 1.56 |
| TWC 2P1 | .1 | 200 | .400 x ⅞ | 2.70 | 1.62 |
| TWC 2P22 | .22 | 200 | .400 x 1⅜ | 2.90 | 1.74 |
| TWC 2P47 | .47 | 200 | .562 x 1⅜ | 3.25 | 1.95 |

### TWC (cont'd)

| | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| TWC 2W1 | 1.0 | 200 | .670 x 1⅞ | $3.80 | $2.28 |
| TWC 4D1 | .001 | 400 | .235 x ¾ | 2.50 | 1.50 |
| TWC 4D47 | .0047 | 400 | .235 x ¾ | 2.50 | 1.50 |
| TWC 4S1 | .01 | 400 | .235 x ¾ | 2.55 | 1.53 |
| TWC 4S22 | .022 | 400 | .312 x ⅞ | 2.65 | 1.59 |
| TWC 4S47 | .047 | 400 | .400 x ⅞ | 2.75 | 1.65 |
| TWC 4P1 | .1 | 400 | .400 x 1⅜ | 2.90 | 1.74 |
| TWC 4P22 | .22 | 400 | .562 x 1⅜ | 3.25 | 1.95 |
| TWC 4P47 | .47 | 400 | .670 x 1⅞ | 3.75 | 2.25 |
| TWC 6D1 | .001 | 600 | .235 x ¾ | 2.50 | 1.50 |
| TWC 6D47 | .0047 | 600 | .235 x ¾ | 2.55 | 1.53 |
| TWC 6S1 | .01 | 600 | .312 x ⅞ | 2.65 | 1.59 |
| TWC 6S22 | .022 | 600 | .312 x ⅞ | 2.70 | 1.62 |
| TWC 6S47 | .047 | 600 | .400 x 1⅛ | 2.80 | 1.68 |
| TWC 6P1 | .1 | 600 | .562 x 1⅛ | 3.10 | 1.86 |
| TWC 6P22 | .22 | 600 | .562 x 1⅞ | 3.45 | 2.07 |
| TWC 6P47 | .47 | 600 | .750 x 2⅛ | 4.05 | 2.43 |

| TWU Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| TWU 1D1 | .001 | 100 | .175 x ¾ | $2.60 | $1.56 |
| TWU 1D47 | .0047 | 100 | .175 x ¾ | 2.60 | 1.56 |
| TWU 1S1 | .01 | 100 | .175 x ¾ | 2.65 | 1.59 |
| TWU 1S22 | .022 | 100 | .195 x ¾ | 2.65 | 1.59 |
| TWU 1S47 | .047 | 100 | .312 x ⅞ | 2.80 | 1.68 |
| TWU 1P1 | .1 | 100 | .312 x ⅞ | 2.90 | 1.74 |
| TWU 1P47 | .47 | 100 | .562 x 1⅛ | 3.35 | 2.01 |
| TWU 1W1 | 1.0 | 100 | .562 x 1⅞ | 3.80 | 2.28 |
| TWU 2D1 | .001 | 200 | 235 x ¾ | 2.70 | 1.62 |
| TWU 2D47 | .0047 | 200 | .235 x ¾ | 2.75 | 1.65 |
| TWU 2S1 | .01 | 200 | .235 x ¾ | 2.80 | 1.68 |
| TWU 2S22 | .022 | 200 | .235 x ¾ | 2.80 | 1.68 |
| TWU 2S47 | .047 | 200 | .312 x ⅞ | 2.90 | 1.74 |
| TWU 2P1 | .1 | 200 | .400 x ⅞ | 3.00 | 1.80 |
| TWU 2P22 | .22 | 200 | .400 x 1⅜ | 3.20 | 1.92 |
| TWU 2P47 | .47 | 200 | .562 x 1⅜ | 3.60 | 2.16 |
| TWU 2W1 | 1.0 | 200 | .670 x 1⅞ | 4.25 | 2.55 |
| TWU 4D1 | .001 | 400 | .235 x ¾ | 2.80 | 1.68 |
| TWU 4D47 | .0047 | 400 | .235 x ¾ | 2.80 | 1.68 |
| TWU 4S1 | .01 | 400 | .235 x ¾ | 2.85 | 1.71 |
| TWU 4S22 | .022 | 400 | .312 x ⅞ | 2.95 | 1.77 |
| TWU 4S47 | .047 | 400 | .400 x ⅞ | 3.05 | 1.83 |
| TWU 4P1 | .1 | 400 | .400 x 1⅜ | 3.25 | 1.95 |
| TWU 4P22 | .22 | 400 | .562 x 1⅜ | 3.60 | 2.16 |
| TWU 4P47 | .47 | 400 | .670 x 1⅞ | 4.20 | 2.52 |
| TWU 6D1 | .001 | 600 | .235 x ¾ | 2.80 | 1.68 |
| TWU 6D47 | .0047 | 600 | .235 x ¾ | 2.85 | 1.71 |
| TWU 6S1 | .01 | 600 | .312 x ⅞ | 2.95 | 1.77 |
| TWU 6S22 | .022 | 600 | .312 x ⅞ | 3.00 | 1.80 |
| TWU 6S47 | .047 | 600 | .400 x 1⅛ | 3.15 | 1.89 |
| TWU 6P1 | .1 | 600 | .562 x 1⅛ | 3.50 | 2.10 |
| TWU 6P22 | .22 | 600 | .562 x 1⅞ | 3.90 | 2.34 |
| TWU 6P47 | .47 | 600 | .750 x 2⅛ | 4.55 | 2.73 |

| TWMA Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| TWMA 1S1 | .01 | 100 | .235 x ⅞ | $3.10 | $1.86 |
| TWMA 1S22 | .022 | 100 | .312 x ⅞ | 3.10 | 1.86 |
| TWMA 1S47 | .047 | 100 | .312 x ⅞ | 3.25 | 1.95 |
| TWMA 1P1 | .1 | 100 | .400 x ⅞ | 3.35 | 2.01 |
| TWMA 4D47 | .0047 | 400 | .235 x ⅞ | 3.25 | 1.95 |
| TWMA 4S1 | .01 | 400 | .312 x ⅞ | 3.30 | 1.98 |
| TWMA 4S22 | .022 | 400 | .400 x ⅞ | 3.40 | 2.04 |
| TWMA 4S47 | .047 | 400 | .400 x 1 | 3.55 | 2.13 |
| TWMA 4P1 | .1 | 400 | .562 x 1 | 3.75 | 2.25 |
| TWMA 4P22 | .22 | 400 | .562 x 1⅜ | 4.20 | 2.52 |
| TWMA 4P47 | .47 | 400 | .670 x 1⅞ | 4.85 | 2.91 |
| TWMA 4W1 | 1.0 | 400 | .750 x 2½ | 5.85 | 3.51 |
| TWMA 6D47 | .0047 | 600 | .312 x 1 | 3.30 | 1.98 |
| TWMA 6S1 | .01 | 600 | .312 x 1 | 3.40 | 2.04 |
| TWMA 6S22 | .022 | 600 | .400 x 1 | 3.50 | 2.10 |
| TWMA 6S47 | .047 | 600 | .400 x 1⅜ | 3.65 | 2.19 |
| TWMA 6P1 | .1 | 600 | .562 x 1⅜ | 4.05 | 2.43 |
| TWMA 6P22 | .22 | 600 | .670 x 1⅝ | 4.50 | 2.70 |
| TWMA 6P47 | .47 | 600 | .750 x 2⅜ | 5.30 | 3.18 |
| TWMA 6W1 | 1.0 | 600 | 1 x 2 11/16 | 7.00 | 4.20 |



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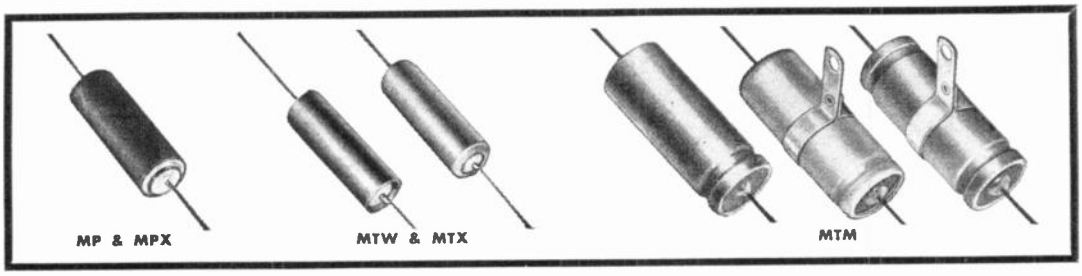
# CORNELL DUBILIER

## COMPACT METALIZED-PAPER CAPACITORS




Cornell-Dubilier self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. Units are light and compact.

"PUP" units have bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"METAPUPS" are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets.

"SEALPUPS" are a high quality metalized paper capacitor, designed for smallest size and positive seal against moisture. They are hermetically sealed in metal cases with solder—seal glass terminals. Especially recommended in military and commercial equipment where miniature size and light weight are paramount.

For further data on other style C-D metalized capacitors, write for Bulletins 142-3-4, 152 and 152-1.

**TEMPERATURE RANGE:** —40°C to +60°C.

### "PUP" METAL END-CAP CARDBOARD TUBULARS

| MP Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| MP 2S5 | .05 | 200 | 3/8 x 5/8 | $ .75 | $ .45 |
| MP 2P1 | .1 | 200 | 3/8 x 5/8 | .79 | .47 |
| MP 2P25 | .25 | 200 | 15/32 x 5/8 | 1.14 | .68 |
| MP 2P5 | .5 | 200 | 15/32 x 1 1/8 | 1.33 | .80 |
| MP 2W1 | 1.0 | 200 | 9/16 x 1 1/8 | 1.78 | 1.07 |
| MP 2W2 | 2.0 | 200 | 5/8 x 1 5/8 | 2.42 | 1.45 |
| MP 4S5 | .05 | 400 | 15/32 x 5/8 | .79 | .47 |
| MP 4P1 | .1 | 400 | 15/32 x 1 1/8 | .83 | .50 |
| MP 4P25 | .25 | 400 | 9/16 x 1 1/8 | 1.25 | .75 |
| MP 4P5 | .5 | 400 | 5/8 x 1 5/8 | 1.58 | .94 |
| MP 4W1 | 1.0 | 400 | 23/32 x 2 1/8 | 2.20 | 1.32 |
| MP 6S1 | .01 | 600 | 3/8 x 5/8 | .75 | .45 |
| MP 6P1 | .1 | 600 | 15/32 x 1 1/8 | .97 | .58 |
| MP 6P25 | .25 | 600 | 5/8 x 1 1/8 | 1.53 | .92 |
| MP 6P5 | .5 | 600 | 23/32 x 1 5/8 | 1.92 | 1.15 |
| MP 6W1 | 1.0 | 600 | 23/32 x 2 1/8 | 2.39 | 1.43 |

**TEMPERATURE RANGE:** —55°C to +95°C.

### "METAPUP" ONE-PIECE METAL TUBULARS

STYLE A (Ungrounded)

| MTM Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | * List Price | Net Price |
|---|---|---|---|---|---|
| MTM 2S5 | .05 | 200 | 3/8 x 11/16 | $2.03 | $1.22 |
| MTM 2P1 | .1 | 200 | 7/16 x 11/16 | 2.11 | 1.27 |
| MTM 2P25 | .25 | 200 | 1/2 x 15/16 | 2.34 | 1.40 |
| MTM 2P5 | .5 | 200 | 1/2 x 1 1/4 | 2.56 | 1.54 |
| MTM 2W1 | 1.0 | 200 | 5/8 x 1 7/16 | 3.00 | 1.80 |
| MTM 2W2 | 2.0 | 200 | 5/8 x 1 15/16 | 3.73 | 2.24 |
| MTM 4S5 | .05 | 400 | 7/16 x 11/16 | 2.11 | 1.27 |
| MTM 4P1 | .1 | 400 | 7/16 x 1 1/4 | 2.25 | 1.35 |
| MTM 4P25 | .25 | 400 | 5/8 x 1 1/4 | 2.61 | 1.57 |
| MTM 4P5 | .5 | 400 | 5/8 x 1 15/16 | 2.92 | 1.75 |
| MTM 4W1 | 1.0 | 400 | 3/4 x 2 7/16 | 3.70 | 2.22 |
| MTM 4W2 | 2.0 | 400 | 1 x 2 7/16 | 5.31 | 3.19 |
| MTM 6S1 | .01 | 600 | 3/8 x 15/16 | 2.17 | 1.30 |
| MTM 6P1 | .1 | 600 | 1/2 x 1 7/16 | 2.34 | 1.40 |
| MTM 6P25 | .25 | 600 | 5/8 x 1 7/16 | 2.89 | 1.73 |
| MTM 6P5 | .5 | 600 | 3/4 x 1 15/16 | 3.25 | 1.95 |
| MTM 6W1 | 1.0 | 600 | 11/16 x 2 7/16 | 4.25 | 2.55 |
| MTM 6W2 | 2.0 | 600 | 1 1/4 x 2 7/16 | 6.10 | 3.66 |

*DEDUCT 10¢ from List Price for Basic GROUNDED style.

**TEMPERATURE RANGE:** —55°C to +95°C.

### "SEALPUP" GLASS-METAL END-SEALED TUBULARS

STYLE A (Ungrounded)

| MTW Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | * List Price | Net Price |
|---|---|---|---|---|---|
| MTW 2S5 | .05 | 200 | .235 x 3/4 | $2.43 | $1.46 |
| MTW 2P1 | .1 | 200 | .312 x 3/4 | 2.53 | 1.52 |
| MTW 2P25 | .25 | 200 | .312 x 1 1/16 | 2.77 | 1.66 |
| MTW 2P5 | .5 | 200 | .400 x 1 1/16 | 3.03 | 1.82 |
| MTW 2W1 | 1.0 | 200 | .562 x 1 1/4 | 3.27 | 1.96 |
| MTW 2W15 | 1.5 | 200 | .562 x 1 3/4 | 4.62 | 2.77 |
| MTW 2W2 | 2.0 | 200 | .562 x 1 3/4 | 4.62 | 2.77 |
| MTW 4S5 | .05 | 400 | .400 x 3/4 | 2.45 | 1.47 |
| MTW 4P1 | .1 | 400 | .400 x 1 1/16 | 2.65 | 1.59 |
| MTW 4P25 | .25 | 400 | .562 x 1 1/16 | 3.08 | 1.85 |
| MTW 4P5 | .5 | 400 | .562 x 1 3/4 | 3.68 | 2.21 |
| MTW 4W1 | 1.0 | 400 | .670 x 2 1/4 | 3.92 | 2.35 |
| MTW 6S1 | .01 | 600 | .312 x 3/4 | 2.48 | 1.49 |
| MTW 6P1 | .1 | 600 | .500 x 1 1/4 | 2.75 | 1.65 |
| MTW 6P25 | .25 | 600 | .670 x 1 3/8 | 3.25 | 1.95 |
| MTW 6P5 | .5 | 600 | .750 x 1 3/4 | 3.80 | 2.28 |
| MTW 6W1 | 1.0 | 600 | .750 x 2 1/4 | 4.22 | 2.53 |

*DEDUCT 50¢ from List Price for Basic GROUNDED style.

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# CORNELL DUBILIER

## HIGH TEMPERATURE Metalized-Paper CAPACITORS

- **POLYKANE-IMPREGNATED:** This impregnant insures excellent electrical properties over long service life.
- **MOISTURE RESISTANT:** MTX tubulars have the finest glass-to-metal solder seal terminals for maximum protection against moisture. MPX tubulars have POLYKANE-impregnated paper tubes, bonded securely to the POLYKANE fill. An external flash wax dip provides an increased moisture seal for extra long storage and service conditions under extremes of humidity.
- **NON-LEAKING:** "POLYKANE" is a solid thermosetting plastic that will not soften, crack, or leak at the maximum temperature. No oil or wax is used internally with these units.

### MPX†—HIGH TEMPERATURE Paper-Cased TUBULARS

**STANDARD TOLERANCE:** +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

**TEMP. RANGE:** —35°C to +100°C

| MPX Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| MPX 2S5 | .05 | 200 | 1/4 x 13/16 | $ .75 | $ .45 |
| MPX 2P1 | .10 | 200 | 5/16 x 13/16 | .79 | .47 |
| MPX 2P25 | .25 | 200 | 13/32 x 13/16 | 1.14 | .68 |
| MPX 2P5 | .50 | 200 | 13/32 x 1 1/8 | 1.33 | .80 |
| MPX 2W1 | 1.0 | 200 | 9/16 x 1 3/16 | 1.78 | 1.07 |
| MPX 2W2 | 2.0 | 200 | 5/8 x 1 1/2 | 2.42 | 1.45 |
| MPX 4S5 | .05 | 400 | 3/8 x 13/16 | .79 | .47 |
| MPX 4P1 | .10 | 400 | 3/8 x 1 1/8 | .83 | .50 |
| MPX 4P25 | .25 | 400 | 9/16 x 1 3/16 | 1.25 | .75 |
| MPX 4P5 | .50 | 400 | 5/8 x 1 3/8 | 1.58 | .94 |
| MPX 4W1 | 1.0 | 400 | 11/16 x 1 7/8 | 2.20 | 1.32 |
| MPX 4W2 | 2.0 | 400 | 7/8 x 2 3/8 | 3.10 | 1.86 |
| MPX 6S1 | .01 | 600 | 1/4 x 13/16 | .75 | .45 |
| MPX 6P1 | .10 | 600 | 1/4 x 1 1/8 | .97 | .58 |
| MPX 6P25 | .25 | 600 | 5/8 x 1 3/16 | 1.53 | .92 |
| MPX 6P5 | .50 | 600 | 11/16 x 1 1/2 | 1.92 | 1.15 |
| MPX 6W1 | 1.0 | 600 | 13/16 x 1 7/8 | 2.39 | 1.43 |
| MPX 6W2 | 2.0 | 600 | 1 x 2 3/8 | 3.42 | 2.04 |

†For High Temperature Metalized Paper Capacitors in "BATHTUB" TYPE cases (Type SBX)—See Bulletin 152-1.

### MTX†—HIGH TEMPERATURE Metal-Cased‡ TUBULARS

STYLE BASIC (Ungrounded)

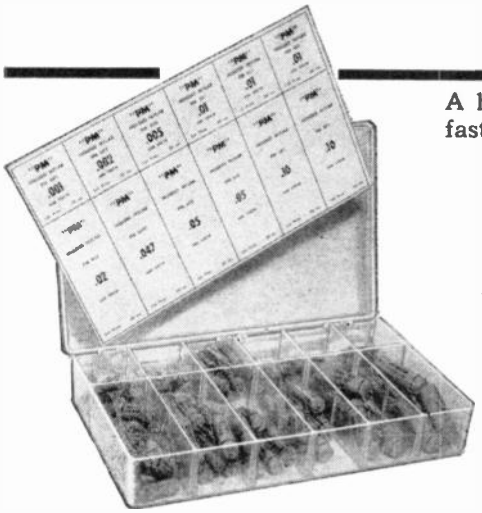
**STANDARD TOLERANCE:** +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

**TEMP. RANGE:** —55°C to +130°C

| MTX Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | *List Price | Net Price |
|---|---|---|---|---|---|
| MTX 2S5 | .05 | 200 | .235 x 13/16 | 2.37 | 1.42 |
| MTX 2P1 | .10 | 200 | .312 x 13/16 | 2.47 | 1.48 |
| MTX 2P25 | .25 | 200 | .312 x 1 1/8 | 2.70 | 1.62 |
| MTX 2P5 | .50 | 200 | .400 x 1 1/8 | 2.97 | 1.78 |
| MTX 2W1 | 1.0 | 200 | .562 x 1 1/8 | 3.20 | 1.92 |
| MTX 2W15 | 1.5 | 200 | .562 x 1 15/16 | 4.55 | 2.73 |
| MTX 2W2 | 2.0 | 200 | .562 x 1 15/16 | 4.55 | 2.73 |
| MTX 4S5 | .05 | 400 | .312 x 13/16 | 2.38 | 1.43 |
| MTX 4P1 | .10 | 400 | .400 x 1 1/8 | 2.58 | 1.55 |
| MTX 4P25 | .25 | 400 | .500 x 1 1/8 | 3.03 | 1.82 |
| MTX 4P5 | .50 | 400 | .562 x 1 15/16 | 3.63 | 2.18 |
| MTX 4W1 | 1.0 | 400 | .670 x 2 5/16 | 3.87 | 2.32 |
| MTX 6S1 | .01 | 600 | .312 x 13/16 | 2.42 | 1.45 |
| MTX 6P1 | .10 | 600 | .400 x 1 1/8 | 2.70 | 1.62 |
| MTX 6P25 | .25 | 600 | .562 x 1 5/16 | 3.20 | 1.92 |
| MTX 6P5 | .50 | 600 | .670 x 1 15/16 | 3.72 | 2.23 |
| MTX 6W1 | 1.0 | 600 | .750 x 2 5/16 | 4.17 | 2.50 |

‡Other Styles available—See Bulletins NB-142, 3, 4 and 152.
*DEDUCT 50¢ from List for Basic GROUNDED style.

## "The PM" MYLAR Molded Tubular CAPACITOR KIT



A handy quick-select assortment of 80 of the fastest moving C-D "PM" MYLAR tubulars IN A crystal clear plastic . . . hinged-cover . . . compartment type case (11x6½x1⅞) . . . the clean, orderly way of stocking capacitors . . . and service parts, too!

**YOU GET THE CASE AND THE CAPACITORS**

**ALL FOR THE PRICE OF THE CAPACITORS ALONE.**

"PM" KIT ..... List Price $26.40 Net $15.84

CONTAINS:

| | | |
|---|---|---|
| 10 — .001 | 6 — .002 | 10 — .005 |
| 12 — .01 | 10 — .02 | 10 — .047 |
| 12 — .05 | 10 — .10 | All 600V |

Keep a KIT in your field-service bag and one on your service-bench. They're great too — for screws, nuts and small parts.

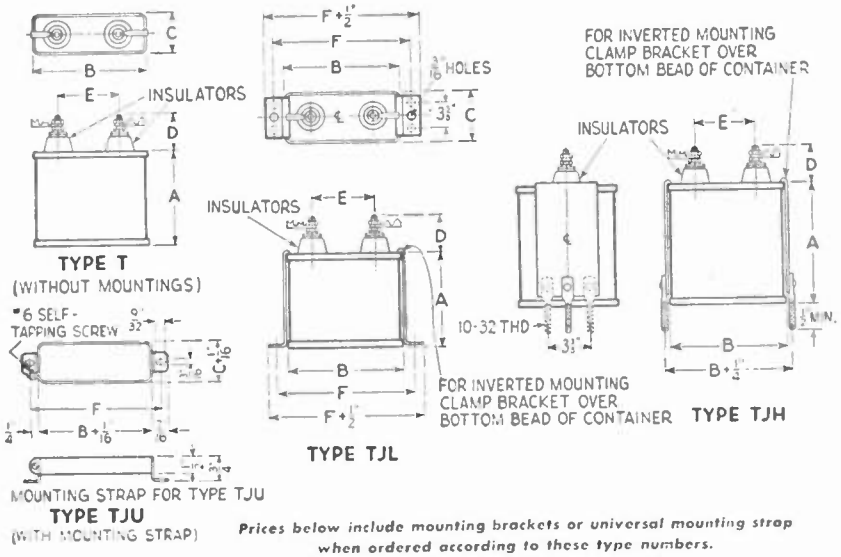
**ORDER YOUR "PM" MYLAR KITS FROM YOUR C-D DISTRIBUTOR . . . NOW!**



World Radio History

# CORNELL DUBILIER

## DYKANOL TRANSMITTING CAPACITORS



**TYPE T**
(Similar to CP70)
Provided with mounting brackets designated upon ordering as explained below.

*Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.*

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

**TYPE T**—(Basic unit) without mountings.
**TYPE TJH**—With screw spade-lug brackets.
**TYPE TJL**—With mounting foot brackets.
**TYPE TJU**—With universal mounting strap.

*Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.*

**TEMPERATURE RANGE:** −55°C to +85°C. **STANDARD TOLERANCE:** ±10%.

| T Cat. No. | Cap. Mfd. | Dimensions—Inches A | B | C | D | E | F | List Price | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| | | **600 V. D.C. Working** | | | | | | | |
| T 6005 | .5 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | $4.70 | **$2.82** |
| T 6010 | 1 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 5.80 | **3.48** |
| T 6020 | 2 | 2⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.15 | **4.29** |
| T 6030 | 3 | 3⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 8.25 | **4.95** |
| T 6040 | 4 | 3⅜ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 9.10 | **5.46** |
| T 6050 | 5 | 4¾ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 10.45 | **6.27** |
| T 6060 | 6 | 4⅜ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 11.30 | **6.78** |
| T 6080 | 8 | 3 13/16 | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 13.50 | **8.10** |
| T 6100 | 10 | 4⅝ | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 15.15 | **9.09** |
| | | **1000 V. D.C. Working** | | | | | | | |
| T 10001 | .1 | 2 | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.15 | **2.49** |
| T 100025 | .25 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.70 | **2.82** |
| T 10005 | .5 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.95 | **2.97** |
| T 10010 | 1 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 6.35 | **3.81** |
| T 10020 | 2 | 4 | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 8.25 | **4.95** |
| T 10030 | 3 | 3½ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 9.65 | **5.79** |
| T 10040 | 4 | 4⅛ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 10.45 | **6.27** |
| T 10050 | 5 | 3 13/16 | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 12.65 | **7.59** |
| T 10060 | 6 | 4¾ | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 14.05 | **8.43** |
| T 10080 | 8 | 4¾ | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 15.15 | **9.09** |
| T 10100 | 10 | 4⅛ | 3¾ | 1¾ | ⅞ | 2 | 4⅜ | 16.80 | **10.08** |
| T 10120 | 12 | 3 13/16 | 3¾ | 2¼ | ⅞ | 2 | 4⅜ | 18.15 | **10.89** |
| T 10150 | 15 | 4¾ | 3¾ | 2½ | ⅞ | 2 | 4⅜ | 20.10 | **12.06** |
| | | **1500 V. D.C. Working** | | | | | | | |
| T 15005 | .5 | 2⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 6.35 | **3.81** |
| T 15010 | 1 | 4 | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.45 | **4.47** |
| T 15020 | 2 | 4⅛ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 10.20 | **6.12** |
| T 15030 | 3 | 4¾ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 12.40 | **7.44** |
| T 15040 | 4 | 4⅜ | 3¾ | 1¼ | ⅞ | 2 | 4⅜ | 14.05 | **8.43** |
| T 15050 | 5 | 4¾ | 3¾ | 1¾ | ⅞ | 2 | 4⅜ | 15.15 | **9.09** |
| T 15060 | 6 | 4¾ | 3¾ | 1¾ | ⅞ | 2 | 4⅜ | 17.05 | **10.23** |
| T 15080 | 8 | 4¾ | 3¾ | 2½ | ⅞ | 2 | 4⅜ | 20.90 | **12.54** |
| *T 15100 | 10 | 4¾ | 3¾ | 3 1/16 | ⅞ | 2 | 4⅜ | 25.05 | **15.03** |
| *T 15120 | 12 | 4¾ | 3¾ | 3 13/16 | ⅞ | 2 | 4⅜ | 27.25 | **16.35** |
| †*T 15150 | 15 | 4¾ | 3¾ | 4 9/16 | ⅞ | 2 | 4⅜ | 30.00 | **18.00** |

NOTES—* Type TJU units are not furnished in these larger sizes.
† Types TJL and TJH units furnished with two mounting holes or spade lugs 3⅜" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

| T Cat. No. | Cap. Mfd. | Dimensions—Inches A | B | C | D | E | F | List Price | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| | | **2000 V. D.C. Working** | | | | | | | |
| T 20001 | .1 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | $6.60 | **$3.96** |
| T 200025 | .25 | 2⅛ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.15 | **4.29** |
| T 20005 | .5 | 2⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.45 | **4.47** |
| T 20010 | 1 | 3⅜ | 2½ | 1 3/16 | 1¼ | 1⅛ | 3 | 9.10 | **5.46** |
| T 20020 | 2 | 4 | 3¾ | 1¼ | 1¼ | 2 | 4⅜ | 10.75 | **6.45** |
| T 20030 | 3 | 4¾ | 3¾ | 1¼ | 1¼ | 2 | 4⅜ | 13.20 | **7.92** |
| T 20040 | 4 | 3 13/16 | 3¾ | 2¼ | 1¼ | 2 | 4⅜ | 15.15 | **9.09** |
| T 20050 | 5 | 4¾ | 3¾ | 2¼ | 1¼ | 2 | 4⅜ | 16.80 | **10.08** |
| *T 20060 | 6 | 4¾ | 3¾ | 3 1/16 | 1¼ | 2 | 4⅜ | 20.10 | **12.06** |
| *T 20080 | 8 | 4¾ | 3¾ | 3 1/16 | 1¼ | 2 | 4⅜ | 25.05 | **15.03** |
| †*T 20100 | 10 | 4¾ | 3¾ | 4 9/16 | 1¼ | 2 | 4⅜ | 30.55 | **18.33** |
| †*T 20120 | 12 | 5⅜ | 3¾ | 4 9/16 | 1¼ | 2 | 4⅜ | 33.30 | **19.98** |
| | | **2500 V. D.C. Working** | | | | | | | |
| T 25005 | .5 | 3½ | 3¾ | 1¼ | 1¼ | 2 | 4⅜ | 11.55 | **6.93** |
| T 25010 | 1 | 3⅛ | 3¾ | 1¾ | 1¼ | 2 | 4⅜ | 13.20 | **7.92** |
| T 25020 | 2 | 4¾ | 3¾ | 1¾ | 1¼ | 2 | 4⅜ | 21.45 | **12.87** |
| †*T 25040 | 4 | 4 | 3¾ | 4 9/16 | 1¼ | 2 | 4⅜ | 30.00 | **18.00** |
| †*T 25100A | 10 | 6⅜ | 3¾ | 4 9/16 | 1¼ | 2 | 4⅜ | 75.10 | **45.06** |
| | | **3000 V. D.C. Working** | | | | | | | |
| T 30001 | .1 | 2 | 2½ | 1 3/16 | 1¼ | 1⅛ | 1 | 14.05 | **8.43** |
| T 300025 | .25 | 2½ | 2½ | 1 3/16 | 1¼ | 1⅛ | 3 | 14.85 | **8.91** |
| T 30005 | .5 | 3⅜ | 2½ | 1 3/16 | 1¼ | 1⅛ | 3 | 16.80 | **10.08** |
| T 30010 | 1 | 3 13/16 | 3¾ | 2¼ | 1¼ | 2 | 4⅜ | 20.10 | **12.06** |
| *T 30020 | 2 | 4⅛ | 3¾ | 3 1/16 | 1¼ | 2 | 4⅜ | 25.05 | **15.03** |
| †*T 30040 | 4 | 4¾ | 3¾ | 4 9/16 | 1¼ | 2 | 4⅜ | 36.85 | **22.11** |
| | | **4000 V. D.C. Working** | | | | | | | |
| T 40001 | .1 | 2¾ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 18.00 | **10.80** |
| T 400025 | .25 | 2¾ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 20.00 | **12.00** |
| T 40005 | .5 | 4 | 3¾ | 2¼ | 2 | 2 | 4⅜ | 23.00 | **13.80** |
| T 40010 | 1 | 5 | 3¾ | 2¼ | 2 | 2 | 4⅜ | 29.00 | **17.40** |
| †*T 40020 | 2 | 5 | 3¾ | 4 9/16 | 2 | 2 | 4⅜ | 39.00 | **23.40** |
| †*T 40040A | 4 | 8 | 3¾ | 4 9/16 | 2 | 1¾ | 4⅜ | 66.85 | **40.11** |
| | | **5000 V. D.C. Working** | | | | | | | |
| T 50005 | .5 | 4⅛ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 25.00 | **15.00** |
| †*T 50010 | 1 | 4¼ | 3¾ | 4 9/16 | 2 | 2 | 4⅜ | 34.00 | **20.40** |
| †*T 50020 | 2 | 6 | 3¾ | 4 9/16 | 2 | 2 | 4⅜ | 52.00 | **31.20** |
| | | **6000 V. D.C. Working** | | | | | | | |
| T 60001 | .1 | 2¾ | 3¾ | 2¼ | 2 | 1¾ | 4⅜ | 27.00 | **16.20** |
| †*T 60010A | 1 | 8 | 3¾ | 4 9/16 | 2 | 1¾ | 4⅜ | 49.00 | **29.40** |

For higher voltage units, from 6,000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

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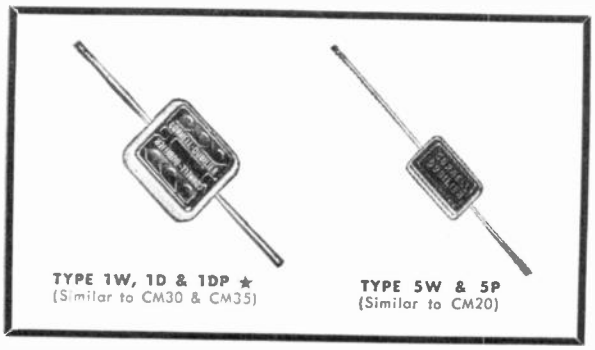
World Radio History

# MOLDED MIDGET MICA




Types 1W, 1D, and 5W are specially adapted to functions in low-voltage radio receiving circuits. Individually tested for capacity and voltage breakdown and designed to give dependable service where small size units are required.

**STANDARD TOLERANCE:** ±20%.

Also available, on order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.

**SIZES:** 1W—13/16" x 13/16" x 1/4"
1D—13/16" x 13/16" x 5/16"
5W—51/64" x 15/32" x 7/32"

| Cap. Mfd. | 500 V. D.C. W.—1000 V. D.C. T. Type 5W Cat. No. | Type 1W Cat. No. | Type 1D Cat. No. | List Price | Net Price |
|---|---|---|---|---|---|
| .000005 | 5W 5V5 | | | $ .25 | $ .15 |
| .00001 | 5W 5Q1 | | | .25 | .15 |
| .000012 | 5W 5Q12 | | | .25 | .15 |
| .000015 | 5W 5Q15 | | | .25 | .15 |
| .000018 | 5W 5Q18 | | | .25 | .15 |
| .00002 | 5W 5Q2 | | | .25 | .15 |
| .000022 | 5W 5Q22 | | | .25 | .15 |
| .000024 | 5W 5Q24 | | | .25 | .15 |
| .000025 | 5W 5Q25 | | | .25 | .15 |
| .000027 | 5W 5Q27 | | | .25 | .15 |
| .00003 | 5W 5Q3 | | | .25 | .15 |
| .000033 | 5W 5Q33 | | | .25 | .15 |
| .000036 | 5W 5Q36 | | | .25 | .15 |
| .000039 | 5W 5Q39 | | | .25 | .15 |
| .00004 | 5W 5Q4 | | | .20 | .12 |
| .000043 | 5W 5Q43 | | | .20 | .12 |
| .000047 | 5W 5Q47 | | | .20 | .12 |
| .00005 | 5W 5Q5 | | | .20 | .12 |
| .000051 | 5W 5Q51 | | | .20 | .12 |
| .000056 | 5W 5Q56 | | | .20 | .12 |
| .000062 | 5W 5Q62 | | | .20 | .12 |
| .000068 | 5W 5Q68 | | | .20 | .12 |
| .00007 | 5W 5Q7 | | | .20 | .12 |
| .000075 | 5W 5Q75 | | | .20 | .12 |
| .000082 | 5W 5Q82 | | | .20 | .12 |
| .000091 | 5W 5Q91 | | | .20 | .12 |
| .0001 | 5W 5T1 | | | .20 | .12 |
| .00011 | 5W 5T11 | | | .20 | .12 |
| .00012 | 5W 5T12 | | | .20 | .12 |
| .00013 | 5W 5T13 | | | .20 | .12 |
| .00015 | 5W 5T15 | | | .20 | .12 |
| .00016 | 5W 5T16 | | | .20 | .12 |
| .00018 | 5W 5T18 | | | .20 | .12 |
| .0002 | 5W 5T2 | | | .20 | .12 |
| .00022 | 5W 5T22 | | | .20 | .12 |
| .00024 | 5W 5T24 | | | .25 | .15 |
| .00025 | 5W 5T25 | | | .25 | .15 |
| .00027 | 5W 5T27 | | | .25 | .15 |
| .0003 | 5W 5T3 | | | .25 | .15 |
| .00033 | 5W 5T33 | | | .25 | .15 |
| .00036 | 5W 5T36 | | | .25 | .15 |
| .00039 | 5W 5T39 | | | .25 | .15 |
| .0004 | 5W 5T4 | | | .25 | .15 |
| .00043 | 5W 5T43 | | | .25 | .15 |
| .00047 | 5W 5T47 | | | .25 | .15 |
| .0005 | 5W 5T5 | | | .25 | .15 |
| .00051 | 5W 5T51 | | | .25 | .15 |
| .00056 | 5W 5T56 | | | .25 | .15 |
| .0006 | 5W 5T6 | | | .25 | .15 |
| .00062 | 5W 5T62 | | | .25 | .15 |
| .00068 | 5W 5T68 | | | .25 | .15 |
| .0007 | 5W 5T7 | | | .25 | .15 |
| .00075 | 5W 5T75 | | | .25 | .15 |
| .0008 | 5W 5T8 | | | .25 | .15 |

**5W, 1W (cont'd)**

| Cap. Mfd. | 500 V. D.C. W.—1000 V. D.C. T. Type 5W Cat. No. | Type 1W Cat. No. | Type 1D Cat. No. | List Price | Net Price |
|---|---|---|---|---|---|
| .00082 | 5W 5T82 | | | $ .25 | $ .15 |
| .0009 | 5W 5T9 | | | .25 | .15 |
| .00091 | 5W 5T91 | | | .25 | .15 |
| .001 | 5W 5D1 | | | .30 | .18 |
| .0011 | 5W 5D11 | | | .30 | .18 |
| .0012 | 5W 5D12 | | | .30 | .18 |
| .0013 | 5W 5D13 | | | .30 | .18 |
| .0015 | 5W 5D15 | | | .30 | .18 |
| .0016 | 5W 5D16 | | | .30 | .18 |
| .0018 | 5W 5D18 | | | .40 | .24 |
| .002 | 5W 5D2 | | | .40 | .24 |
| .0022 | | 1W 5D22 | | .45 | .27 |
| .0024 | | 1W 5D24 | | .45 | .27 |
| .0025 | | 1W 5D25 | | .45 | .27 |
| .0027 | | 1W 5D27 | | .50 | .30 |
| .003 | | 1W 5D3 | | .50 | .30 |
| .0033 | | 1W 5D33 | | .50 | .30 |
| .0036 | | 1W 5D36 | | .55 | .33 |
| .0039 | | 1W 5D39 | | .55 | .33 |
| .004 | | 1W 5D4 | | .55 | .33 |
| .0043 | | 1W 5D43 | | .60 | .36 |
| .0047 | | 1W 5D47 | | .60 | .36 |
| .005 | | 1W 5D5 | | .60 | .36 |
| .0051 | | 1W 5D51 | | .60 | .36 |
| .0056 | | 1W 5D56 | | .75 | .45 |
| .006 | | 1W 5D6 | | .75 | .45 |
| .0062 | | 1W 5D62 | | .75 | .45 |
| .0068 | | | 1D 5D68 | .90 | .54 |
| .007 | | | 1D 5D7 | .90 | .54 |
| .0075 | | | 1D 5D75 | 1.00 | .60 |
| .008 | | | 1D 5D8 | 1.00 | .60 |
| .0082 | | | 1D 5D82 | 1.00 | .60 |
| .009 | | | 1D 5D9 | 1.00 | .60 |
| .0091 | | | 1D 5D91 | 1.00 | .60 |
| .01 | | | 1D 5S1 | 1.20 | .72 |

# "HIVOMIKE"†

## High Voltage Molded Midget Mica Capacitors

Where high voltage, capacitance stability and high Q are important and units of the smallest size are requisite, the "HIVOMIKE" is ideal. Recommended for commercial—civilian and military uses under Characteristic "B." Voltage ratings actually exceed those required under JAN C-5.

**TYPE 5P (JAN CM20 Case 51/64" x 15/32" x 7/32")**

| Type | Cap. Mfd. | Voltage D.C. Working | List Price | Net Price |
|---|---|---|---|---|
| 5P25Q1 | .00001 | 2500 | $ .35 | $ .21 |
| 5P25Q2 | .00002 | 2500 | .35 | .21 |
| 5P25Q3 | .00003 | 2500 | .40 | .24 |
| 5P25Q5 | .00005 | 2500 | .40 | .24 |
| 5P25Q75 | .000075 | 2500 | .50 | .30 |
| 5P25T1 | .0001 | 2500 | .55 | .33 |
| 5P25T15 | .00015 | 2500 | .65 | .39 |
| 5P25T2 | .0002 | 2500 | .80 | .48 |
| 5P15Q1 | .00001 | 1500 | .35 | .21 |
| 5P15Q2 | .00002 | 1500 | .35 | .21 |
| 5P15Q3 | .00003 | 1500 | .35 | .21 |
| 5P15Q5 | .00005 | 1500 | .35 | .21 |
| 5P15Q75 | .000075 | 1500 | .35 | .21 |
| 5P15T1 | .0001 | 1500 | .40 | .24 |
| 5P15T15 | .00015 | 1500 | .40 | .24 |
| 5P15T2 | .0002 | 1500 | .45 | .27 |
| 5P15T25 | .00025 | 1500 | .55 | .33 |
| 5P15T3 | .0003 | 1500 | .60 | .36 |
| 5P15T47 | .00047 | 1500 | .70 | .42 |
| 5P15T5 | .0005 | 1500 | .70 | .42 |

**TYPE 1DP (JAN CM35 Case 13/16" x 13/16" x 5/16")**

| Type | Cap. Mfd. | Voltage D.C. Working | List Price | Net Price |
|---|---|---|---|---|
| 1DP25T25 | .00025 | 2500 | .60 | .36 |
| 1DP25T3 | .0003 | 2500 | .65 | .39 |
| 1DP25T5 | .0005 | 2500 | .85 | .51 |
| 1DP25T75 | .00075 | 2500 | 1.10 | .66 |
| 1DP25D1 | .001 | 2500 | 1.40 | .84 |
| 1DP25D12 | .0012 | 2500 | 1.50 | .90 |
| 1DP25D15 | .0015 | 2500 | 1.85 | 1.11 |
| 1DP25D18 | .0018 | 2500 | 2.20 | 1.32 |
| 1DP25D2 | .002 | 2500 | 2.30 | 1.38 |
| 1DP15T75 | .00075 | 1500 | .80 | .48 |
| 1DP15D1 | .001 | 1500 | .90 | .54 |
| 1DP15D12 | .0012 | 1500 | 1.10 | .66 |
| 1DP15D15 | .0015 | 1500 | 1.30 | .78 |
| 1DP15D18 | .0018 | 1500 | 1.45 | .87 |
| 1DP15D2 | .002 | 1500 | 1.60 | .96 |

†For Complete Listings—See Bulletin 422-3.

★When JAN-C-5 unit must be supplied, order according to specific CM type designations listed in C-D Mica Bulletin—Series 422.



Net

TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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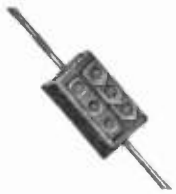
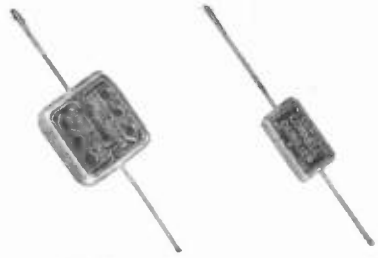
World Radio History

# CORNELL DUBILIER

## "SILVER-MIKE" MOLDED MIDGET MICA



TYPE 22R ★
(Similar to CM15)



TYPE 1R & 1DR ★
(Similar to CM30 & CM35)

TYPE 5R
(Similar to CM20)

### HIGH-STABILITY "SILVER-MIKE"† UNITS

Type 22R miniature "Silver-Mike" capacitors are especially adapted for use in circuits where accuracy and stability of capacity is of prime importance. They are rated at 500 volts D.C.W. and tested at 1,000 volts D.C., molded in low-loss red plastic and fully protected against physical damage or changes in characteristics due to varying atmospheric conditions.

**STANDARD TOLERANCE** ±5%, but in no instance less than ±1mmf. For capacity Tolerance of: 20% deduct 10% from List; 10% deduct 5% from List; 3% add 10% to List; 2% add 15% to List; 1% add 25% to List. (Applies also to 1R, 1DR, and 5R.)

**SIZE:** 1/2" x 19/64" x 3/16"

### 22 R

| 22R Cat. No. | Cap. Mfd. | List Price | Net Price |
|---|---|---|---|
| 22R 5V2 | .000002 | $.40 | $.24 |
| 22R 5V5 | .000005 | .40 | .24 |
| 22R 5Q1 | .00001 | .40 | .24 |
| 22R 5Q12 | .000012 | .40 | .24 |
| 22R 5Q15 | .000015 | .40 | .24 |
| 22R 5Q18 | .000018 | .40 | .24 |
| 22R 5Q2 | .00002 | .40 | .24 |
| 22R 5Q22 | .000022 | .40 | .24 |
| 22R 5Q24 | .000024 | .40 | .24 |
| 22R 5Q25 | .000025 | .40 | .24 |
| 22R 5Q27 | .000027 | .40 | .24 |
| 22R 5Q3 | .00003 | .40 | .24 |
| 22R 5Q33 | .000033 | .40 | .24 |
| 22R 5Q36 | .000036 | .40 | .24 |
| 22R 5Q39 | .000039 | .40 | .24 |
| 22R 5Q4 | .00004 | .40 | .24 |
| 22R 5Q43 | .000043 | .40 | .24 |
| 22R 5Q47 | .000047 | .40 | .24 |
| 22R 5Q5 | .00005 | .40 | .24 |
| 22R 5Q51 | .000051 | .40 | .24 |
| 22R 5Q56 | .000056 | .40 | .24 |
| 22R 5Q62 | .000062 | .40 | .24 |
| 22R 5Q68 | .000068 | .40 | .24 |
| 22R 5Q7 | .00007 | .40 | .24 |
| 22R 5Q75 | .000075 | .40 | .24 |
| 22R 5Q82 | .000082 | .40 | .24 |
| 22R 5Q91 | .000091 | .40 | .24 |
| 22R 5T1 | .0001 | .40 | .24 |
| 22R 5T11 | .00011 | .45 | .27 |
| 22R 5T12 | .00012 | .45 | .27 |
| 22R 5T13 | .00013 | .45 | .27 |
| 22R 5T15 | .00015 | .45 | .27 |
| 22R 5T16 | .00016 | .45 | .27 |
| 22R 5T18 | .00018 | .45 | .27 |
| 22R 5T2 | .0002 | .45 | .27 |
| 22R 5T22 | .00022 | .45 | .27 |
| 22R 5T24 | .00024 | .45 | .27 |
| 22R 5T25 | .00025 | .45 | .27 |
| 22R 5T27 | .00027 | .55 | .33 |
| 22R 5T3 | .0003 | .55 | .33 |
| 22R 5T33 | .00033 | .55 | .33 |
| 22R 5T36 | .00036 | .65 | .39 |
| 22R 5T39 | .00039 | .65 | .39 |
| 22R 5T43 | .00043 | .65 | .39 |
| 22R 5T47 | .00047 | .70 | .42 |
| 22R 5T51 | .00051 | .70 | .42 |

Types 1R, 1DR, and 5R "Silver-Mike" capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. Ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, tuning circuits and other similar applications.

**SIZES:** 5R—51/64" x 15/32" x 7/32"
1R—13/16" x 13/16" x 1/4" See Notes bottom of column 1.
1DR—13/16" x 13/16" x 5/16"

### 1R, 1DR, 5R

| Cap. Mfd. | 500 V. D.C. W.—1000 V. D.C. T. Type 5R Cat. No. | Type 1R Cat. No. | Type 1DR Cat. No. | List Price | Net Price |
|---|---|---|---|---|---|
| .00027 | 5R 5T27 | | | $ .55 | $ .33 |
| .0003 | 5R 5T3 | | | .55 | .33 |
| .00033 | 5R 5T33 | | | .55 | .33 |
| .00036 | 5R 5T36 | | | .65 | .39 |
| .00039 | 5R 5T39 | | | .65 | .39 |
| .0004 | 5R 5T4 | | | .65 | .39 |
| .00043 | 5R 5T43 | | | .65 | .39 |
| .00047 | 5R 5T47 | | | .70 | .42 |
| .0005 | 5R 5T5 | | | .70 | .42 |
| .00051 | 5R 5T51 | | | .70 | .42 |
| .00056 | | 1R 5T56 | | .85 | .51 |
| .0006 | | 1R 5T6 | | .85 | .51 |
| .00062 | | 1R 5T62 | | .85 | .51 |
| .00068 | | 1R 5T68 | | .85 | .51 |
| .0007 | | 1R 5T7 | | .85 | .51 |
| .00075 | | 1R 5T75 | | .95 | .57 |
| .0008 | | 1R 5T8 | | .95 | .57 |
| .00082 | | 1R 5T82 | | .95 | .57 |
| .0009 | | 1R 5T9 | | 1.00 | .60 |
| .00091 | | 1R 5T91 | | 1.00 | .60 |
| .001 | | 1R 5D1 | | 1.10 | .66 |
| .0011 | | 1R 5D11 | | 1.10 | .66 |
| .0012 | | 1R 5D12 | | 1.35 | .81 |
| .0013 | | 1R 5D13 | | 1.35 | .81 |
| .0015 | | 1R 5D15 | | 1.35 | .81 |
| .0016 | | 1R 5D16 | | 1.35 | .81 |
| .0018 | | 1R 5D18 | | 1.35 | .81 |
| .002 | | 1R 5D2 | | 1.35 | .81 |
| .0022 | | 1R 5D22 | | 1.80 | 1.08 |
| .0024 | | 1R 5D24 | | 1.80 | 1.08 |
| .0025 | | 1R 5D25 | | 1.80 | 1.08 |
| .0027 | | 1R 5D27 | | 2.05 | 1.23 |
| .003 | | 1R 5D3 | | 2.05 | 1.23 |
| .0033 | | 1R 5D33 | | 2.05 | 1.23 |
| .0036 | | 1R 5D36 | | 2.15 | 1.29 |
| .0039 | | 1R 5D39 | | 2.15 | 1.29 |
| .004 | | 1R 5D4 | | 2.15 | 1.29 |
| .0043 | | 1R 5D43 | | 2.15 | 1.29 |
| .0047 | | 1R 5D47 | | 2.25 | 1.35 |
| .005 | | | 1DR 5D5 | 2.25 | 1.35 |
| .0051 | | | 1DR 5D51 | 2.25 | 1.35 |
| .0056 | | | 1DR 5D56 | 2.25 | 1.35 |
| .0062 | | | 1DR 5D62 | 2.25 | 1.35 |
| | | | (300 V. D.C. W.—600 V. D.C. T.) | | |
| .0068 | | | 1DR 3D68 | 2.50 | 1.50 |
| .007 | | | 1DR 3D7 | 2.50 | 1.50 |
| .0075 | | | 1DR 3D75 | 2.50 | 1.50 |
| .008 | | | 1DR 3D8 | 2.50 | 1.50 |
| .0082 | | | 1DR 3D82 | 2.50 | 1.50 |
| .009 | | | 1DR 3D9 | 2.50 | 1.50 |
| .0091 | | | 1DR 3D91 | 2.50 | 1.50 |
| .01 | | | 1DR 3S1 | 2.50 | 1.50 |

### Notes On Ordering 5R, 1R, 1DR Units

**Standard capacity tolerance** is 5% (or within 1 mmfd.—whichever is greater). Also available, on special order, in tolerance ratings of plus or minus 3%, add 10% to list prices, 2% add 15% to list prices and 1% add 25% to list prices. All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

†Reg. U.S. Pat. Off.

★When JAN-C-5 unit must be supplied, order according to specific CM type designations listed in C-D Mica Bulletin—Series 422.

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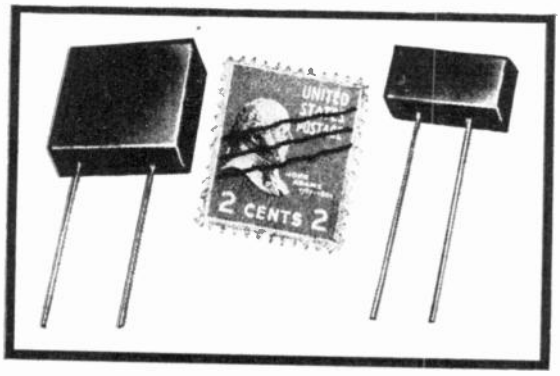
World Radio History

# CORNELL DUBILIER

## "Super
## ENCAPSULATED Molded-Case MIDGET MICA CAPACITORS




Cornell-Dubilier "SUPER MICADONS" represent an entirely new conception in Midget Mica Capacitor construction. The vastly improved design and construction of the new "C-D SUPER MICADONS" now makes it possible to produce miniature units of greatly increased capacitance and superior quality over conventional units of the same case size. Every characteristic desirable in a mica capacitor has been incorporated into one compact miniature sized unit. No mica capacitor of conventional design has achieved this comprehensive quality.

SEE ENG BUL 160 FOR DETAILED DATA AND COMPLETE LISTINGS.

| | | Long | Wide | Thick |
|---|---|---|---|---|
| Type | 1A | 53/64 | 53/64 | 9/32 |
| SIZES: | 1AD | 53/64 | 53/64 | 11/32 |
| in | 5A | 51/64 | 15/32 | 7/32 |
| Inches | 22A | 35/64 | 5/16 | 7/32 |

**TEMPERATURE RANGE:** −55°C to +130°C.

**STANDARD TOLERANCE:** ±5%; ±2% can also be supplied from stock when specified, ±½% and ±1% available on special order.

For ±2% Tol. add 15% to List.
For ±1% Tol. add 25% to List.
For ±½% Tol. add 50% to List.

**CHARACTERISTICS*:** All types are supplied from stock as follows.

From 1 to 24 mmfd. in Char. "C".
From 24 to 51 mmfd. in Char. "E".
From 51 to 41,000 mmfd. in Char. "E".
From 51 to 41,000 mmfd. ALSO AVAILABLE in Char. "F" on special order.*

### 22A - 5A - 1A - 1AD

**All units 500 VDCW, except as noted.**

| Type 22A | Cap. Mfd. | List* Price | Net* Price |
|---|---|---|---|
| 22A5V5 | .000005 | $ .40 | $ .24 |
| 22A5Q1 | .00001 | .40 | .24 |
| 22A5Q12 | .000012 | .40 | .24 |
| 22A5Q15 | .000015 | .40 | .24 |
| 22A5Q18 | .000018 | .40 | .24 |
| 22A5Q2 | .00002 | .40 | .24 |
| 22A5Q22 | .000022 | .40 | .24 |
| 22A5Q24 | .000024 | .40 | .24 |
| 22A5Q27 | .000027 | .40 | .24 |
| 22A5Q3 | .000030 | .40 | .24 |
| 22A5Q33 | .000033 | .40 | .24 |
| 22A5Q36 | .000036 | .40 | .24 |
| 22A5Q39 | .000039 | .40 | .24 |
| 22A5Q43 | .000043 | .40 | .24 |
| 22A5Q47 | .000047 | .40 | .24 |
| 22A5Q51 | .000051 | .40 | .24 |
| 22A5Q56 | .000056 | .40 | .24 |
| 22A5Q62 | .000062 | .40 | .24 |
| 22A5Q68 | .000068 | .40 | .24 |
| 22A5Q75 | .000075 | .40 | .24 |
| 22A5Q82 | .000082 | .40 | .24 |
| 22A5Q91 | .000091 | .40 | .24 |
| 22A5T1 | .0001 | .40 | .24 |
| 22A5T11 | .00011 | .45 | .27 |
| 22A5T12 | .00012 | .45 | .27 |
| 22A5T13 | .00013 | .45 | .27 |
| 22A5T15 | .00015 | .45 | .27 |
| 22A5T16 | .00016 | .45 | .27 |
| 22A5T18 | .00018 | .45 | .27 |
| 22A5T2 | .0002 | .45 | .27 |
| 22A5T22 | .00022 | .45 | .27 |
| 22A5T24 | .00024 | .45 | .27 |
| 22A5T27 | .00027 | .55 | .33 |
| 22A5T3 | .0003 | .55 | .33 |
| 22A5T33 | .00033 | .55 | .33 |
| 22A5T36 | .00036 | .65 | .39 |
| 22A5T39 | .00039 | .65 | .39 |
| 22A5T43 | .00043 | .65 | .39 |
| 22A5T47 | .00047 | .70 | .42 |
| 22A5T51 | .00051 | .70 | .42 |
| 22A5T56 | .00056 | .85 | .51 |
| 22A5T62 | .00062 | .85 | .51 |
| 22A5T68 | .00068 | .85 | .51 |
| 22A5T75 | .00075 | .95 | .57 |
| 22A5T82 | .00082 | .95 | .57 |
| 22A5T91 | .00091 | 1.00 | .60 |
| 22A5D1 | .001 | 1.10 | .66 |
| **Type 5A** | | | |
| 5A5D11 | .0011 | 1.10 | .66 |
| 5A5D12 | .0012 | 1.35 | .81 |
| 5A5D13 | .0013 | 1.35 | .81 |
| 5A5D15 | .0015 | 1.35 | .81 |
| 5A5D16 | .0016 | 1.35 | .81 |
| 5A5D18 | .0018 | 1.35 | .81 |
| 5A5D2 | .002 | 1.35 | .81 |
| 5A5D22 | .0022 | 1.80 | 1.08 |
| 5A5D24 | .0024 | 1.80 | 1.08 |
| 5A5D27 | .0027 | 2.05 | 1.23 |
| 5A5D3 | .003 | 2.05 | 1.23 |
| 5A5D33 | .0033 | 2.05 | 1.23 |
| 5A5D36 | .0036 | 2.15 | 1.29 |
| **Type 1A** | | | |
| 1A5D39 | .0039 | 2.15 | 1.29 |
| 1A5D43 | .0043 | 2.15 | 1.29 |
| 1A5D47 | .0047 | 2.25 | 1.35 |
| 1A5D51 | .0051 | 2.25 | 1.35 |
| 1A5D56 | .0056 | 2.25 | 1.35 |
| 1A5D62 | .0062 | 2.25 | 1.35 |
| 1A5D68 | .0068 | 2.50 | 1.50 |
| 1A5D75 | .0075 | 2.50 | 1.50 |
| 1A5D82 | .0082 | 2.50 | 1.50 |
| 1A5D91 | .0091 | 2.50 | 1.50 |
| 1A5S1 | .01 | 2.50 | 1.50 |
| 1A5S11 | .011 | 2.80 | 1.68 |
| 1A5S12 | .012 | 3.05 | 1.83 |
| 1A5S13 | .013 | 3.05 | 1.83 |
| 1A5S15 | .015 | 3.05 | 1.83 |
| **Type 1AD** | | | |
| 1AD5S16 | .016 | 3.55 | 2.13 |
| 1AD5S18 | .018 | 3.55 | 2.13 |
| 1AD5S2 | .02 | 3.55 | 2.13 |
| 1AD5S22 | .022 | 4.35 | 2.61 |
| 1AD5S24 | .024 | 4.35 | 2.61 |
| 1AD5S27 | .027 | 4.55 | 2.73 |
| 1AD5S3 | .03 | 4.55 | 2.73 |
| †1AD3S33 | .033 | 5.85 | 3.51 |
| †1AD3S36 | .036 | 5.85 | 3.51 |
| †1AD3S39 | .039 | 5.85 | 3.51 |
| †1AD3S4 | .040 | 5.85 | 3.51 |

*PRICES cover CHARACTERISTICS "C" or "E"; for CHAR. "F" add 25¢ each to List Price.

†Rated at 300 VDCW.



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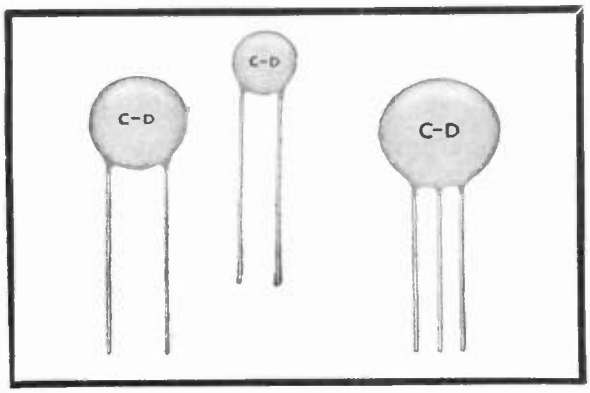
World Radio History

# CORNELL DUBILIER




## THE CERAMIC WITH THE MILLION DOLLAR BODY

- Small, space-saving and lightweight.
- Available in all popular capacities.
- Guaranteed minimum capacity tolerance.
- Adapted for wide variety of applications.
- Minimized eddy current losses due to construction.
- Low inductance, stable, dependable performance.
- Available with temperature compensating characteristics.

## General Purpose DISC HIGH K

**TYPE: BYA — BYB**

**VOLTAGE:** 1000 VDCW, except as noted.
**TOLERANCE:** GMC, except as noted.
**TEMPERATURE RANGE:** —55°C to +85°C.

### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 470 | BYA10T47 | 5/32 | 5/32 | $.20 | $.12 |
| 500 | BYA10T5 | 5/32 | 5/32 | .20 | .12 |
| 680 | BYA10T68 | 5/32 | 5/32 | .20 | .12 |
| 820 | BYA10T82 | 5/32 | 5/32 | .20 | .12 |
| 1000 | BYA10D1 | 5/32 | 5/32 | .20 | .12 |
| †1000 | BYA10D1M | 3/8 | 5/32 | .20 | .12 |
| 1500 | BYA10D15 | 3/8 | 5/32 | .20 | .12 |
| 2000 | BYA10D2 | 3/8 | 5/32 | .20 | .12 |
| 2200 | BYA10D22 | 3/8 | 5/32 | .20 | .12 |
| 2500 | BYA10D25 | 19/32 | 5/32 | .20 | .12 |
| 2700 | BYA10D27 | 19/32 | 5/32 | .20 | .12 |
| 3000 | BYA10D3 | 19/32 | 5/32 | .20 | .12 |
| 3300 | BYA10D33 | 19/32 | 5/32 | .20 | .12 |
| 4000 | BYA10D4 | 19/32 | 5/32 | .20 | .12 |
| †4700 | BYA10D47M | 19/32 | 5/32 | .25 | .15 |
| 5000 | BYA10D5 | 3/8 | 5/32 | .25 | .15 |
| †5000 | BYA10D5M | 3/8 | 5/32 | .25 | .15 |
| 6800 | BYA10D68 | 19/32 | 5/32 | .25 | .15 |
| *10000 | BYA6S1 | 3/8 | 5/32 | .25 | .15 |
| 10000 | BYA10S1 | 3/4 | 5/32 | .25 | .15 |
| †10000 | BYA10S1M | 3/8 | 5/32 | .25 | .15 |
| 15000 | BYA10S15 | 7/8 | 7/32 | .25 | .15 |
| *20000 | BYB6S2 | 7/8 | 7/32 | .25 | .15 |
| *30000 | BYB6S3 | 7/8 | 7/32 | .45 | .27 |
| *40000 | BYB6S4 | 7/8 | 7/32 | .50 | .30 |

*Rated at 600 VDCW.
†Tolerance ±20%.

## General Purpose DISC UNSHIELDED

**TYPE: BYC**

**VOLTAGE:** 600 VDCW
**TOLERANCE:** GMC
**TEMPERATURE RANGE:** —55°C to +85°C.

### DUALS

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 2 x 1000 | BYC6DD1 | 5/8 | 5/32 | $.40 | $.24 |
| 2 x 1500 | BYC6DD15 | 19/32 | 5/32 | .40 | .24 |
| 2 x 2000 | BYC6DD2 | 19/32 | 5/32 | .40 | .24 |
| 2 x 2200 | BYC6DD22 | 19/32 | 5/32 | .40 | .24 |
| 2 x 2500 | BYC6DD25 | 19/32 | 5/32 | .40 | .24 |
| 2 x 3000 | BYC6DD3 | 3/4 | 5/32 | .45 | .27 |
| 2 x 4000 | BYC6DD4 | 3/4 | 5/32 | .45 | .27 |
| 2 x 4700 | BYC6DD47 | 3/4 | 5/32 | .45 | .27 |
| 2 x 5000 | BYC6DD5 | 3/4 | 5/32 | .45 | .27 |

## General Purpose DISC SHIELDED

**TYPE: BYD**

**VOLTAGE:** 600 VDCW
**TOLERANCE:** GMC
**TEMPERATURE RANGE:** —55°C to +85°C.

### DUALS

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 2 x 1000 | BYD6DD1 | 3/8 | 7/32 | $.40 | $.24 |
| 2 x 2000 | BYD6DD2 | 3/8 | 7/32 | .45 | .27 |
| 2 x 5000 | BYD6DD5 | 19/32 | 7/32 | .45 | .27 |
| 2 x 10000 | BYD6DS1 | 5/8 | 7/32 | .50 | .30 |

## General Purpose DISC CLOSE TOLERANCE

**TYPE: L**

**VOLTAGE:** 1000 VDCW
**TOLERANCE:** ±10%, except as noted, to 390 mmfd. incl.
±20%, 400 mmfd. and over.
**TEMPERATURE RANGE:** —55°C to +85°C.

### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| †3.3 | L10V33 | 5/32 | 5/32 | $.25 | $.15 |
| †5.0 | L10V5 | 5/32 | 5/32 | .25 | .15 |
| †6.8 | L10V68 | 5/32 | 5/32 | .25 | .15 |
| 7.0 | L10V7 | 5/32 | 5/32 | .25 | .15 |
| 8.0 | L10V8 | 5/32 | 5/32 | .25 | .15 |
| 10 | L10Q1 | 5/32 | 5/32 | .25 | .15 |
| 12 | L10Q12 | 5/32 | 5/32 | .25 | .15 |
| 15 | L10Q15 | 5/32 | 5/32 | .25 | .15 |
| 18 | L10Q18 | 5/32 | 5/32 | .25 | .15 |
| 20 | L10Q2 | 5/32 | 5/32 | .25 | .15 |
| 22 | L10Q22 | 5/32 | 5/32 | .25 | .15 |
| 24 | L10Q24 | 5/32 | 5/32 | .25 | .15 |
| 25 | L10Q25 | 5/32 | 5/32 | .25 | .15 |
| 27 | L10Q27 | 5/32 | 5/32 | .25 | .15 |
| 30 | L10Q3 | 5/32 | 5/32 | .25 | .15 |
| 33 | L10Q33 | 5/32 | 5/32 | .25 | .15 |
| 39 | L10Q39 | 5/32 | 5/32 | .25 | .15 |
| 47 | L10Q47 | 5/32 | 5/32 | .25 | .15 |
| 50 | L10Q5 | 5/32 | 5/32 | .25 | .15 |
| 51 | L10Q51 | 5/32 | 5/32 | .25 | .15 |

†Tolerance ±.5 Mmfd.

(cont'd next page)

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World Radio History

# CORNELL DUBILIER

## "TINYMIKE" CERAMIC CAPACITORS

### TYPE: L (cont'd)

#### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 56 | L10Q56 | 9/32 | 5/32 | $.25 | $.15 |
| 68 | L10Q68 | 9/32 | 5/32 | .25 | .15 |
| 75 | L10Q75 | 9/32 | 5/32 | .25 | .15 |
| 82 | L10Q82 | 9/32 | 5/32 | .25 | .15 |
| 91 | L10Q91 | 9/32 | 5/32 | .25 | .15 |
| 100 | L10T1 | 9/32 | 5/32 | .25 | .15 |
| 110 | L10T11 | 9/32 | 5/32 | .25 | .15 |
| 120 | L10T12 | 9/32 | 5/32 | .25 | .15 |
| 130 | L10T13 | 9/32 | 5/32 | .25 | .15 |
| 150 | L10T15 | 9/32 | 5/32 | .25 | .15 |
| 180 | L10T18 | 9/32 | 5/32 | .25 | .15 |
| 200 | L10T2 | 9/32 | 5/32 | .25 | .15 |
| 220 | L10T22 | 9/32 | 5/32 | .25 | .15 |
| 240 | L10T24 | 9/32 | 5/32 | .25 | .15 |
| 250 | L10T25 | 9/32 | 5/32 | .25 | .15 |
| 270 | L10T27 | 9/32 | 5/32 | .25 | .15 |
| 300 | L10T3 | 9/32 | 5/32 | .25 | .15 |
| 330 | L10T33 | 9/32 | 5/32 | .25 | .15 |
| 350 | L10T35 | 9/32 | 5/32 | .25 | .15 |
| 360 | L10T36 | 9/32 | 5/32 | .25 | .15 |
| 390 | L10T39 | 9/32 | 5/32 | .25 | .15 |
| 400 | L10T4 | 9/32 | 5/32 | .25 | .15 |
| 420 | L10T42 | 3/8 | 5/32 | .25 | .15 |
| 470 | L10T47 | 3/8 | 5/32 | .25 | .15 |
| 500 | L10T5 | 3/8 | 5/32 | .25 | .15 |
| 510 | L10T51 | 3/8 | 5/32 | .25 | .15 |
| 560 | L10T56 | 3/8 | 5/32 | .25 | .15 |
| 600 | L10T6 | 3/8 | 5/32 | .25 | .15 |
| 620 | L10T62 | 3/8 | 5/32 | .25 | .15 |
| 680 | L10T68 | 3/8 | 5/32 | .25 | .15 |
| 750 | L10T75 | 3/8 | 5/32 | .25 | .15 |
| 800 | L10T8 | 3/8 | 5/32 | .25 | .15 |
| 820 | L10T82 | 19/32 | 5/32 | .25 | .15 |
| 910 | L10T91 | 19/32 | 5/32 | .25 | .15 |
| 1000 | L10D1 | 19/32 | 5/32 | .25 | .15 |
| 1200 | L10D12 | 19/32 | 5/32 | .25 | .15 |
| 1300 | L10D13 | 19/32 | 5/32 | .25 | .15 |
| 1500 | L10D15 | 19/32 | 5/32 | .25 | .15 |
| 1600 | L10D16 | 19/32 | 5/32 | .25 | .15 |
| 1800 | L10D18 | 19/32 | 5/32 | .25 | .15 |
| 2000 | L10D2 | 19/32 | 5/32 | .25 | .15 |
| 2200 | L10D22 | 19/32 | 5/32 | .25 | .15 |
| 2500 | L10D25 | 3/4 | 5/32 | .25 | .15 |
| 2700 | L10D27 | 3/4 | 5/32 | .25 | .15 |
| 3000 | L10D3 | 3/4 | 5/32 | .25 | .15 |
| 3300 | L10D33 | 3/4 | 5/32 | .25 | .15 |
| 3900 | L10D39 | 7/8 | 5/32 | .25 | .15 |
| 4000 | L10D4 | 7/8 | 5/32 | .25 | .15 |
| 4300 | L10D43 | 7/8 | 5/32 | .25 | .15 |
| 4700 | L10D47 | 7/8 | 5/32 | .25 | .15 |
| 5000 | L10D5 | 7/8 | 5/32 | .30 | .18 |
| 5100 | L10D51 | 7/8 | 5/32 | .30 | .18 |

### General Purpose DISC HIGH VOLTAGE

### TYPE: HVA — HVB — HVC

**VOLTAGE:** 1600 VDCW

**TEMPERATURE RANGE:** —55°C to +85°C.

**TOLERANCE:** 4.7 to 100 mmfd. incl. ±10%, except as noted.
150 to 1000 mmfd. incl. ±20%.
1200 to 6800 mmfd. incl. GMC.

#### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| †4.7 | HVA16V47 | 3/8 | 7/32 | $.30 | $.18 |
| 6.8 | HVA16V68 | 3/8 | 7/32 | .30 | .18 |
| 10 | HVA16Q1 | 3/8 | 7/32 | .30 | .18 |
| 12 | HVA16Q12 | 3/8 | 7/32 | .30 | .18 |
| 15 | HVA16Q15 | 3/8 | 7/32 | .30 | .18 |

### TYPE: HVA — HVB — HVC (Cont'd)

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 18 | HVA16Q18 | 3/8 | 7/32 | $.30 | $.18 |
| 20 | HVA16Q2 | 3/8 | 7/32 | .30 | .18 |
| 22 | HVA16Q22 | 3/8 | 7/32 | .30 | .18 |
| 33 | HVA16Q33 | 3/8 | 7/32 | .30 | .18 |
| 47 | HVA16Q47 | 19/32 | 7/32 | .30 | .18 |
| 56 | HVA16Q56 | 19/32 | 7/32 | .30 | .18 |
| 62 | HVA16Q62 | 19/32 | 7/32 | .30 | .18 |
| 68 | HVA16Q68 | 19/32 | 7/32 | .30 | .18 |
| 82 | HVA16Q82 | 19/32 | 7/32 | .30 | .18 |
| 100 | HVA16T1 | 19/32 | 7/32 | .30 | .18 |
| 150 | HVB16T15 | 3/8 | 7/32 | .30 | .18 |
| 180 | HVB16T18 | 3/8 | 7/32 | .30 | .18 |
| 220 | HVB16T22 | 3/8 | 7/32 | .30 | .18 |
| 300 | HVB16T3 | 3/8 | 7/32 | .30 | .18 |
| 330 | HVB16T33 | 3/8 | 7/32 | .30 | .18 |
| 390 | HVB16T39 | 3/8 | 7/32 | .30 | .18 |
| 470 | HVB16T47 | 19/32 | 7/32 | .30 | .18 |
| 680 | HVB16T68 | 19/32 | 7/32 | .30 | .18 |
| 1000 | HVB16D1 | 19/32 | 7/32 | .30 | .18 |
| 1200 | HVC16D12 | 19/32 | 7/32 | .30 | .18 |
| 1500 | HVC16D15 | 19/32 | 7/32 | .30 | .18 |
| 2000 | HVC16D2 | 19/32 | 7/32 | .30 | .18 |
| 2200 | HVC16D22 | 19/32 | 7/32 | .30 | .18 |
| 3300 | HVC16D33 | 19/32 | 7/32 | .30 | .18 |
| 4700 | HVC16D47 | 3/4 | 7/32 | .30 | .18 |
| 6800 | HVC16D68 | 7/8 | 7/32 | .30 | .18 |

†Tolerance ±.5 Mmfd.

### High Voltage DISC for BUFFER Applications

### TYPE: HVE

**VOLTAGE:** 1600 VDCW

**TOLERANCE:** GMC, except as noted.

**TEMPERATURE RANGE:** —55°C to +85°C.

#### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 3000 | HVE16D3 | 3/4 | 7/32 | $.35 | $.21 |
| 4000 | HVE16D4 | 3/4 | 7/32 | .35 | .21 |
| 5000 | HVE16D5 | 3/4 | 7/32 | .35 | .21 |
| 6000 | HVE16D6 | 7/8 | 7/32 | .35 | .21 |
| 7000 | HVE16D7 | 7/8 | 7/32 | .35 | .21 |
| 7500 | HVE16D75 | 7/8 | 7/32 | .35 | .21 |
| 8000 | HVE16D8 | 7/8 | 7/32 | .35 | .21 |
| 10000 | HVE16S1 | 7/8 | 7/32 | .35 | .21 |
| †15000 | HVE16S15 | 7/8 | 1/4 | .60 | .36 |

†Tolerance +80%, —20%.

### Low Voltage Miniature DISC for TRANSISTOR CIRCUITRY

### TYPE: H

**VOLTAGE:** 50 VDCW

**TOLERANCE:** +100%, —0%, except as noted.

**TEMPERATURE RANGE:** +10°C to +85°C.

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| .001 | H-05D1 | .290 | 1/8 | $.45 | $.27 |
| .005 | H-05D5 | .350 | 1/8 | .45 | .27 |
| .01 | H-05S1 | .350 | 1/8 | .65 | .39 |
| .02 | H-05S2 | .500 | 1/8 | .65 | .39 |
| .025 | H-05S25 | .500 | 1/8 | .65 | .39 |
| *.05 | H-05S5 | .625 | 1/8 | .70 | .42 |
| *.10 | H-05P1 | .625 | 3/16 | .90 | .54 |

*Tolerance +80%, —20%.



Net

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World Radio History

# CORNELL DUBILIER

## "TINYMIKE" CERAMIC CAPACITORS

### General Purpose DISC HIGH VOLTAGE

**TYPE: HVA — HVB — HVC**

**VOLTAGE:** 2000 VDCW

**TEMPERATURE RANGE:** —55°C to +85°C.

**TOLERANCE:** 4.7 to 82 mmfd. incl. ±10%, except as noted. 100 to 1500 mmfd. incl. ±20%. 2000 to 6000 mmfd. incl. GMC.

**SINGLES**

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| †4.7 | HVA20V47 | 3/8 | 7/32 | $.35 | $.21 |
| 6.8 | HVA20V68 | 3/8 | 7/32 | .35 | .21 |
| 10 | HVA20Q1 | 3/8 | 7/32 | .35 | .21 |
| 15 | HVA20Q15 | 3/8 | 7/32 | .35 | .21 |
| 22 | HVA20Q22 | 3/8 | 7/32 | .35 | .21 |
| 33 | HVA20Q33 | 3/8 | 7/32 | .35 | .21 |
| 39 | HVA20Q39 | 19/32 | 7/32 | .35 | .21 |
| 47 | HVA20Q47 | 19/32 | 7/32 | .35 | .21 |
| 56 | HVA20Q56 | 19/32 | 7/32 | .35 | .21 |
| 62 | HVA20Q62 | 11/32 | 7/32 | .35 | .21 |
| 68 | HVA20Q68 | 11/32 | 7/32 | .35 | .21 |
| 75 | HVA20Q75 | 19/32 | 7/32 | .35 | .21 |
| 82 | HVA20Q82 | 19/32 | 7/32 | .35 | .21 |
| 100 | HVB20T1 | 3/8 | 7/32 | .35 | .21 |
| 120 | HVB20T12 | 3/8 | 7/32 | .35 | .21 |
| 150 | HVB20T15 | 3/8 | 7/32 | .35 | .21 |
| 180 | HVB20T18 | 3/8 | 7/32 | .35 | .21 |
| 200 | HVB20T2 | 3/8 | 7/32 | .35 | .21 |
| 220 | HVB20T22 | 3/8 | 7/32 | .35 | .21 |
| 270 | HVB20T27 | 3/8 | 7/32 | .35 | .21 |
| 300 | HVB20T3 | 3/8 | 7/32 | .35 | .21 |
| 330 | HVB20T33 | 19/32 | 7/32 | .35 | .21 |
| 390 | HVB20T39 | 19/32 | 7/32 | .35 | .21 |
| 470 | HVB20T47 | 19/32 | 7/32 | .35 | .21 |
| 500 | HVB20T5 | 11/32 | 7/32 | .35 | .21 |
| 560 | HVB20T56 | 19/32 | 7/32 | .35 | .21 |
| 680 | HVB20T68 | 11/32 | 7/32 | .35 | .21 |
| 1000 | HVB20D1 | 3/4 | 7/32 | .35 | .21 |
| 1500 | HVB20D15 | 3/4 | 7/32 | .35 | .21 |
| 2000 | HVC20D2 | 13/32 | 7/32 | .35 | .21 |
| 2200 | HVC20D22 | 11/32 | 7/32 | .35 | .21 |
| 3300 | HVC20D33 | 3/4 | 7/32 | .35 | .21 |
| 4700 | HVC20D47 | 3/4 | 7/32 | .35 | .21 |
| 5000 | HVC20D5 | 3/4 | 7/32 | .35 | .21 |
| 6000 | HVC20D6 | 7/8 | 7/32 | .40 | .24 |

†Tolerance ±.5 Mmfd.

### High Voltage DISC for DEFLECTION YOKE Applications

**TYPE: HVD**

**VOLTAGE:** 2000 VDCW

**TOLERANCE:** ±10%

**TEMPERATURE RANGE:** —55°C to +85°C.

**SINGLES**

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 15 | HVD20Q15 | 3/8 | 7/32 | $.35 | $.21 |
| 18 | HVD20Q18 | 3/8 | 7/32 | .35 | .21 |
| 20 | HVD20Q2 | 3/8 | 7/32 | .35 | .21 |
| 22 | HVD20Q22 | 3/8 | 7/32 | .35 | .21 |
| 33 | HVD20Q33 | 3/8 | 7/32 | .35 | .21 |
| 39 | HVD20Q39 | 19/32 | 7/32 | .35 | .21 |
| 47 | HVD20Q47 | 19/32 | 7/32 | .35 | .21 |
| 62 | HVD20Q62 | 11/32 | 7/32 | .35 | .21 |
| 68 | HVD20Q68 | 19/32 | 7/32 | .35 | .21 |
| 75 | HVD20Q75 | 19/32 | 7/32 | .35 | .21 |
| 82 | HVD20Q82 | 19/32 | 7/32 | .35 | .21 |
| 91 | HVD20Q91 | 19/32 | 7/32 | .35 | .21 |

### General Purpose DISC HIGH VOLTAGE

**TYPE: HVA — HVB — HVC**

**VOLTAGE:** 3000 VDCW

**TEMPERATURE RANGE:** —55°C to +85°C.

**TOLERANCE:** 4.7 to 60 mmfd. .incl. ±10%, except as noted; 68 to 1000 mmfd. incl. ±20%; 1500 to 4000 mmfd. incl. GMC.

**SINGLES**

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| †4.7 | HVA30V47 | 3/8 | 7/32 | $.40 | $.24 |
| 6.8 | HVA30V68 | 3/8 | 7/32 | .40 | .24 |
| 10 | HVA30Q1 | 3/8 | 7/32 | .40 | .24 |
| 12 | HVA30Q12 | 3/8 | 7/32 | .40 | .24 |
| 15 | HVA30Q15 | 3/8 | 7/32 | .40 | .24 |
| 22 | HVA30Q22 | 3/8 | 7/32 | .40 | .24 |
| 33 | HVA30Q33 | 11/32 | 7/32 | .40 | .24 |
| 39 | HVA30Q39 | 19/32 | 7/32 | .40 | .24 |
| 47 | HVA30Q47 | 11/32 | 7/32 | .40 | .24 |
| 50 | HVA30Q5 | 11/32 | 7/32 | .40 | .24 |
| 60 | HVA30Q6 | 19/32 | 7/32 | .40 | .24 |
| 68 | HVB30Q68 | 3/8 | 7/32 | .40 | .24 |
| 100 | HVB30T1 | 3/8 | 7/32 | .40 | .24 |
| 120 | HVB30T12 | 3/8 | 7/32 | .40 | .24 |
| 150 | HVB30T15 | 3/8 | 7/32 | .40 | .24 |
| 180 | HVB30T18 | 3/8 | 7/32 | .40 | .24 |
| 200 | HVB30T2 | 3/8 | 7/32 | .40 | .24 |
| 220 | HVB30T22 | 19/32 | 7/32 | .40 | .24 |
| 250 | HVB30T25 | 19/32 | 7/32 | .40 | .24 |
| 270 | HVB30T27 | 19/32 | 7/32 | .40 | .24 |
| 300 | HVB30T3 | 19/32 | 7/32 | .40 | .24 |
| 330 | HVB30T33 | 19/32 | 7/32 | .40 | .24 |
| 390 | HVB30T39 | 19/32 | 7/32 | .40 | .24 |
| 470 | HVB30T47 | 19/32 | 7/32 | .40 | .24 |
| 500 | HVB30T5 | 19/32 | 7/32 | .40 | .24 |
| 680 | HVB30T68 | 3/4 | 7/32 | .40 | .24 |
| 1000 | HVB30D1 | 7/8 | 7/32 | .40 | .24 |
| 1500 | HVC30D15 | 19/32 | 7/32 | .40 | .24 |
| 2000 | HVC30D2 | 3/4 | 7/32 | .40 | .24 |
| 2200 | HVC30D22 | 3/4 | 7/32 | .40 | .24 |
| 3300 | HVC30D33 | 7/8 | 7/32 | .40 | .24 |
| 4000 | HVC30D4 | 7/8 | 7/32 | .40 | .24 |

†Tolerance ±.5 Mmfd.

### General Purpose DISC HIGH VOLTAGE

**TYPE: HVA — HVB**

**VOLTAGE:** 5000 VDCW

**TOLERANCE:** ±20%

**TEMPERATURE RANGE:** —55°C to +85°C.

**SINGLES**

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 4.7 | HVA50V47 | 3/8 | 7/32 | $.45 | $.27 |
| 10 | HVA50Q1 | 3/8 | 7/32 | .45 | .27 |
| 22 | HVA50Q22 | 19/32 | 7/32 | .45 | .27 |
| 47 | HVB50Q47 | 3/8 | 7/32 | .45 | .27 |
| 100 | HVB50T1 | 3/8 | 7/32 | .45 | .27 |
| 220 | HVB50T22 | 11/32 | 7/32 | .45 | .27 |
| 330 | HVB50T33 | 13/32 | 7/32 | .45 | .27 |
| 470 | HVB50T47 | 3/4 | 7/32 | .45 | .27 |

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World Radio History

# CORNELL DUBILIER

## "TINYMIKE" CERAMIC CAPACITORS

### Temperature Compensating DISC Coefficient NPO

**TYPE:** C
**VOLTAGE:** 1000 VDCW
**TOLERANCE:** ±10%, except as noted.
**TEMPERATURE RANGE:** −55°C to +85°C.

#### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| †1.5 | C10V15C | 9/32 | 5/32 | $.50 | $.30 |
| †2.0 | C10V2C | 9/32 | 5/32 | .50 | .30 |
| †2.2 | C10V22C | 9/32 | 5/32 | .50 | .30 |
| †3.0 | C10V3C | 9/32 | 5/32 | .50 | .30 |
| †3.3 | C10V33C | 9/32 | 5/32 | .50 | .30 |
| †4.0 | C10V4C | 9/32 | 5/32 | .50 | .30 |
| †4.7 | C10V47C | 9/32 | 5/32 | .50 | .30 |
| 5.0 | C10V5C | 9/32 | 5/32 | .50 | .30 |
| 6.0 | C10V6C | 9/32 | 5/32 | .50 | .30 |
| 6.8 | C10V68C | 9/32 | 5/32 | .50 | .30 |
| 7.0 | C10V7C | 9/32 | 5/32 | .50 | .30 |
| 8.0 | C10V8C | 9/32 | 5/32 | .50 | .30 |
| 8.2 | C10V82C | 9/32 | 5/32 | .50 | .30 |
| 9.0 | C10V9C | 9/32 | 5/32 | .50 | .30 |
| 10 | C10Q1C | 9/32 | 5/32 | .50 | .30 |
| 12 | C10Q12C | 3/8 | 5/32 | .50 | .30 |
| 13 | C10Q13C | 3/8 | 5/32 | .50 | .30 |
| 15 | C10Q15C | 3/8 | 5/32 | .50 | .30 |
| 18 | C10Q18C | 3/8 | 5/32 | .50 | .30 |
| 20 | C10Q2C | 3/8 | 5/32 | .50 | .30 |
| 22 | C10Q22C | 19/32 | 5/32 | .50 | .30 |
| 24 | C10Q24C | 19/32 | 5/32 | .50 | .30 |
| 25 | C10Q25C | 19/32 | 5/32 | .50 | .30 |
| 27 | C10Q27C | 19/32 | 5/32 | .50 | .30 |
| 30 | C10Q3C | 19/32 | 5/32 | .50 | .30 |
| 33 | C10Q33C | 19/32 | 5/32 | .50 | .30 |
| 36 | C10Q36C | 19/32 | 5/32 | .50 | .30 |
| 39 | C10Q39C | 19/32 | 5/32 | .50 | .30 |
| 43 | C10Q43C | 19/32 | 5/32 | .50 | .30 |
| 47 | C10Q47C | 19/32 | 5/32 | .50 | .30 |
| 50 | C10Q5C | 3/4 | 5/32 | .55 | .33 |
| 51 | C10Q51C | 3/4 | 5/32 | .55 | .33 |
| 56 | C10Q56C | 3/4 | 5/32 | .55 | .33 |
| 62 | C10Q62C | 3/4 | 5/32 | .55 | .33 |
| 68 | C10Q68C | 3/4 | 5/32 | .55 | .33 |
| 75 | C10Q75C | 3/4 | 5/32 | .55 | .33 |
| 82 | C10Q82C | 3/4 | 5/32 | .55 | .33 |
| 91 | C10Q91C | 7/8 | 5/32 | .55 | .33 |
| 100 | C10T1C | 7/8 | 5/32 | .55 | .33 |

†Tolerance ±.5 Mmfd.

### Temperature Compensating DISC Coefficient N750

**TYPE:** C
**VOLTAGE:** 1000 VDCW
**TOLERANCE:** ±10%
**TEMPERATURE RANGE:** −55°C to +85°C.

#### SINGLES

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 5.0 | C10V5U | 9/32 | 5/32 | $.50 | $.30 |
| 6.0 | C10V6U | 9/32 | 5/32 | .50 | .30 |
| 6.8 | C10V68U | 9/32 | 5/32 | .50 | .30 |
| 7.0 | C10V7U | 9/32 | 5/32 | .50 | .30 |
| 8.0 | C10V8U | 9/32 | 5/32 | .50 | .30 |
| 8.2 | C10V82U | 9/32 | 5/32 | .50 | .30 |
| 9.0 | C10V9U | 9/32 | 5/32 | .50 | .30 |
| 10 | C10Q1U | 9/32 | 5/32 | .50 | .30 |
| 12 | C10Q12U | 9/32 | 5/32 | .50 | .30 |
| 13 | C10Q13U | 9/32 | 5/32 | .50 | .30 |
| 15 | C10Q15U | 9/32 | 5/32 | .50 | .30 |
| 18 | C10Q18U | 9/32 | 5/32 | .50 | .30 |
| 20 | C10Q2U | 9/32 | 5/32 | .50 | .30 |
| 22 | C10Q22U | 9/32 | 5/32 | .50 | .30 |
| 24 | C10Q24U | 9/32 | 5/32 | .50 | .30 |

**TYPE:** C (cont'd)

| Cap. Mmfd. | Cat. No. | Dia. Max. (Inches) | Thick. Max. (Inches) | List Price | Net Price |
|---|---|---|---|---|---|
| 25 | C10Q25U | 9/32 | 5/32 | $.50 | $.30 |
| 27 | C10Q27U | 9/32 | 5/32 | .50 | .30 |
| 30 | C10Q3U | 9/32 | 5/32 | .50 | .30 |
| 33 | C10Q33U | 9/32 | 5/32 | .50 | .30 |
| 36 | C10Q36U | 3/8 | 5/32 | .50 | .30 |
| 39 | C10Q39U | 3/8 | 5/32 | .50 | .30 |
| 43 | C10Q43U | 3/8 | 5/32 | .50 | .30 |
| 47 | C10Q47U | 3/8 | 5/32 | .50 | .30 |
| 50 | C10Q5U | 3/8 | 5/32 | .50 | .30 |
| 51 | C10Q51U | 3/8 | 5/32 | .50 | .30 |
| 56 | C10Q56U | 3/8 | 5/32 | .50 | .30 |
| 62 | C10Q62U | 3/8 | 5/32 | .50 | .30 |
| 68 | C10Q68U | 3/8 | 5/32 | .50 | .30 |
| 75 | C10Q75U | 19/32 | 5/32 | .50 | .30 |
| 82 | C10Q82U | 19/32 | 5/32 | .50 | .30 |
| 91 | C10Q91U | 19/32 | 5/32 | .50 | .30 |
| 100 | C10T1U | 19/32 | 5/32 | .50 | .30 |
| 110 | C10T11U | 19/32 | 5/32 | .50 | .30 |
| 120 | C10T12U | 19/32 | 5/32 | .50 | .30 |
| 130 | C10T13U | 19/32 | 5/32 | .50 | .30 |
| 150 | C10T15U | 19/32 | 5/32 | .50 | .30 |
| 160 | C10T16U | 3/4 | 5/32 | .55 | .33 |
| 175 | C10T175U | 3/4 | 5/32 | .55 | .33 |
| 180 | C10T18U | 3/4 | 5/32 | .55 | .33 |
| 200 | C10T2U | 3/4 | 5/32 | .55 | .33 |
| 220 | C10T22U | 3/4 | 5/32 | .55 | .33 |
| 240 | C10T24U | 3/4 | 5/32 | .55 | .33 |
| 270 | C10T27U | 7/8 | 5/32 | .55 | .33 |
| 300 | C10T3U | 7/8 | 5/32 | .55 | .33 |
| 330 | C10T33U | 7/8 | 5/32 | .55 | .33 |

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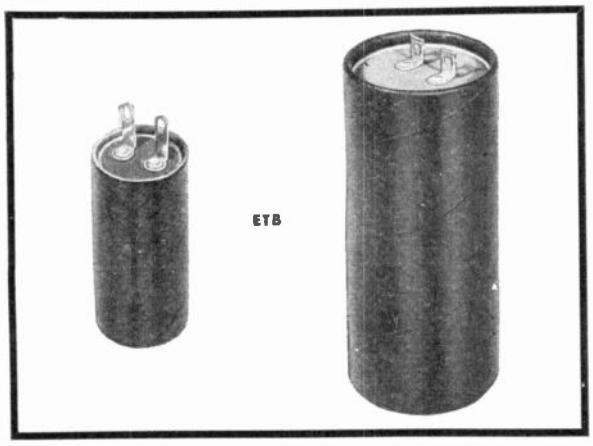
World Radio History

# CORNELL DUBILIER

## MOTOR START CAPACITORS
## A. C. Electrolytic Types

Over 25 years of design, development and engineering are represented in present-day CORNELL-DUBILIER MOTOR CAPACITORS. Only the highest-purity materials, the most modern processing techniques and most rigid quality controls are built-in to C-D Motor Capacitors. Ratings, styles and sizes are available for any known REPLACEMENT application. Consistent Dependability and Long Life are characteristic of these C-D units.




C-D types ETB, ETBJ, ETLJ and ETRJ are identical in appearance, differing only in their respective VOLTAGE ratings. Units are housed in round aluminum containers and supplied with a black "electrical" kraft cardboard external sleeve. Terminals are combination solder-lug and self-tapping screw, except for the 1" and 1⅛" diameter containers, in which case only solder-lug type terminals are furnished. End-Caps and/or Mounting Brackets are available on order.

### TYPE ETB—110 VOLTS A.C. 50-60 CYCLES

| ETB Cat. No. | Cap. Mfd. Min.–Max. | Can† Dimensions–Ins. Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETB-20 | 20-24 | 1⅜ x 2⅜ | $2.05 | $1.23 |
| ETB-35 | 32-36 | 1⅜ x 2⅜ | 2.10 | 1.26 |
| ETB-40 | 38-46 | 1⅜ x 2⅜ | 2.10 | 1.26 |
| ETB-45 | 43-48 | 1⅜ x 2⅜ | 2.10 | 1.26 |
| ETB-55-1 | 53-60 | 1⅜ x 2⅛ | 2.15 | 1.29 |
| ETB-70-2 | 64-72 | 1⅜ x 2⅛ | 2.25 | 1.35 |
| ETB-75-3 | 70-78 | 1⅛ x 2⅝ | 2.40 | 1.44 |
| ETB-80-1 | 75-84 | 1⅜ x 2⅝ | 2.55 | 1.53 |
| ETB-90-1 | 86-96 | 1⅛ x 2⅝ | 2.65 | 1.59 |
| ETB-100 | 97-107 | 1⅜ x 3⅛ | 2.80 | 1.68 |
| ETB-110-1 | 107-129 | 1⅛ x 2⅝ | 2.85 | 1.71 |
| ETB-115 | 108-120 | 1⅜ x 3⅛ | 2.85 | 1.71 |
| ETB-115-3 | 108-120 | 1⅜ x 2⅝ | 2.85 | 1.71 |
| ETB-130-3 | 124-138 | 1⅛ x 2⅝ | 2.95 | 1.77 |
| ETB-130-4 | 124-138 | 1⅜ x 2⅝ | 2.95 | 1.77 |
| ETB-135 | 124-149 | 1⅜ x 3⅛ | 2.95 | 1.77 |
| ETB-145-3 | 130-157 | 1⅜ x 3⅛ | 2.95 | 1.77 |
| ETB-150-1 | 137-162 | 1⅜ x 3⅛ | 3.10 | 1.86 |
| ETB-155-4 | 145-162 | 1⅜ x 3⅛ | 3.20 | 1.92 |
| ETB-170-2 | 158-191 | 1⅜ x 3⅛ | 3.25 | 1.95 |
| ETB-175-5 | 161-180 | 1⅜ x 3⅛ | 3.25 | 1.95 |
| ETB-200-1 | 189-210 | 1¾ x 3⅛ | 3.70 | 2.22 |
| ETB-200-4 | 189-210 | 1⅜ x 4⅛ | 3.70 | 2.22 |
| ETB-205-2 | 194-216 | 1⅜ x 4⅛ | 3.90 | 2.34 |
| ETB-210-3 | 192-232 | 1⅜ x 4⅛ | 3.90 | 2.34 |
| ETB-215 | 190-240 | 1⅜ x 3⅛ | 3.90 | 2.34 |
| ETB-225-5 | 216-240 | 1⅜ x 4⅛ | 4.05 | 2.43 |
| ETB-225-6 | 216-240 | 1½ x 3⅛ | 4.05 | 2.43 |
| ETB-250-2 | 233-281 | 1½ x 4⅛ | 4.50 | 2.70 |
| ETB-255-2 | 243-270 | 1½ x 4⅛ | 4.70 | 2.82 |
| ETB-285 | 270-300 | 1¾ x 4⅛ | 4.75 | 2.85 |
| ETB-310-1 | 297-330 | 2 x 3⅛ | 4.85 | 2.91 |
| ETB-315-1 | 282-340 | 2 x 3⅛ | 5.20 | 3.12 |
| ETB-340-2 | 324-360 | 1¾ x 4⅛ | 5.40 | 3.24 |
| ETB-400 | 378-420 | 2 x 4⅛ | 6.00 | 3.60 |
| ETB-450-1 | 432-480 | 2 x 4⅛ | 6.95 | 4.17 |
| ETB-460-1 | 413-498 | 2 x 4⅛ | 6.95 | 4.17 |
| ETB-525 | 485-580 | 2½ x 4⅛ | 7.70 | 4.62 |
| ETB-600 | 560-640 | 2½ x 4⅛ | 8.30 | 4.98 |
| ETB-675 | 640-720 | 2½ x 4⅛ | 8.90 | 5.34 |

### ETB (SPECIAL TYPES)—To fit in MOTOR END BELLS 110 VOLTS A.C. 60 CYCLES

| ETB Cat. No. | Cap. Mfd. Min.–Max. | Can† Dimensions–Ins. Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETB-70-3 | 64-72 | 1⅛ x 2⅝ | $2.25 | $1.35 |
| ETB-78-2 | 72-87 | 1⅛ x 2⅝ | 2.50 | 1.50 |
| ETB-95-1 | 86-106 | 1⅛ x 2⅝ | 2.60 | 1.56 |
| ETB-110-1 | 107-129 | 1⅛ x 2⅝ | 2.85 | 1.71 |
| ETB-130-3 | 124-138 | 1⅛ x 2⅝ | 2.95 | 1.77 |

### TYPE ETBJ—110 VOLTS A.C. 50-60 CYCLES

| ETBJ Cat. No. | Cap. Mfd. Min.–Max. | Can† Dimensions–Ins. Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETBJ-15 | 15-20 | 1 x 2⅛ | $2.05 | $1.23 |
| ETBJ-20 | 20-24 | 1 x 2⅛ | 2.05 | 1.23 |
| ETBJ-25 | 25-30 | 1 x 2⅛ | 2.10 | 1.26 |
| ETBJ-35 | 30-36 | 1 x 2⅛ | 2.10 | 1.26 |
| ETBJ-40 | 36-42 | 1 x 2⅛ | 2.10 | 1.26 |
| ETBJ-45 | 43-48 | 1 x 2⅛ | 2.10 | 1.26 |
| ETBJ-50 | 47-58 | 1 x 2⅛ | 2.10 | 1.26 |
| ETBJ-65 | 59-71 | 1 x 2⅛ | 2.15 | 1.29 |
| ETBJ-78 | 72-88 | 1 x 2⅝ | 2.30 | 1.38 |
| ETBJ-95 | 88-106 | 1⅛ x 2⅝ | 2.60 | 1.56 |
| ETBJ-110 | 107-129 | 1⅛ x 2⅝ | 2.85 | 1.71 |
| ETBJ-130 | 124-138 | 1⅛ x 2⅝ | 2.95 | 1.77 |
| ETBJ-145 | 130-156 | 1⅜ x 2⅝ | 2.95 | 1.77 |
| ETBJ-155 | 145-162 | 1⅜ x 2⅝ | 3.20 | 1.92 |
| ETBJ-170 | 158-191 | 1⅜ x 2⅝ | 3.25 | 1.95 |
| ETBJ-210 | 189-227 | 1⅜ x 2⅝ | 3.90 | 2.34 |
| ETBJ-225 | 216-240 | 1⅜ x 3⅛ | 4.05 | 3.43 |
| ETBJ-255 | 243-270 | 1⅜ x 3⅛ | 4.70 | 2.82 |
| ETBJ-285 | 270-324 | 1⅜ x 4⅛ | 4.75 | 2.85 |
| ETBJ-340 | 324-360 | 1⅜ x 4⅛ | 5.40 | 3.24 |
| ETBJ-380 | 340-408 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ETBJ-400 | 378-420 | 1⅜ x 4⅛ | 6.00 | 3.60 |
| ETBJ-440 | 400-480 | 1¾ x 4⅛ | 6.05 | 3.63 |
| ETBJ-500 | 460-540 | 1¾ x 4⅛ | 6.95 | 4.17 |
| ETBJ-575 | 540-600 | 1¾ x 4⅛ | 7.70 | 4.62 |
| ETBJ-650 | 590-700 | 1¾ x 4⅛ | 8.30 | 4.98 |
| ETBJ-675 | 640-720 | 2 x 4⅛ | 8.90 | 5.34 |

### TYPE ETRJ—125 VOLTS A.C. 50-60 CYCLES

| ETRJ Cat. No. | Cap. Mfd. Min.–Max. | Can† Dimensions–Ins. Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETRJ-15 | 15-20 | 1 x 2⅛ | $2.25 | $1.35 |
| ETRJ-20 | 20-24 | 1 x 2⅛ | 2.25 | 1.35 |
| ETRJ-25 | 25-30 | 1 x 2⅛ | 2.25 | 1.35 |
| ETRJ-35 | 30-36 | 1 x 2⅛ | 2.30 | 1.38 |
| ETRJ-40 | 36-42 | 1 x 2⅛ | 2.30 | 1.38 |
| ETRJ-45 | 43-48 | 1⅛ x 2⅝ | 2.30 | 1.38 |
| ETRJ-50 | 47-58 | 1⅛ x 2⅝ | 2.35 | 1.41 |
| ETRJ-65 | 59-71 | 1⅛ x 2⅝ | 2.40 | 1.44 |
| ETRJ-78 | 72-88 | 1⅛ x 2⅝ | 2.60 | 1.56 |
| ETRJ-95 | 88-106 | 1⅛ x 2⅝ | 2.75 | 1.65 |
| ETRJ-110 | 107-129 | 1⅜ x 2⅝ | 3.15 | 1.89 |
| ETRJ-130 | 124-138 | 1⅜ x 2⅝ | 3.25 | 1.95 |
| ETRJ-145 | 130-156 | 1⅜ x 2⅝ | 3.25 | 1.95 |
| ETRJ-155 | 145-162 | 1⅜ x 2⅝ | 3.65 | 2.19 |
| ETRJ-170 | 161-180 | 1⅜ x 3⅛ | 3.85 | 2.31 |
| ETRJ-210 | 189-227 | 1⅜ x 4⅛ | 4.30 | 2.58 |
| ETRJ-225 | 216-240 | 1⅜ x 4⅛ | 4.65 | 2.79 |
| ETRJ-255 | 243-270 | 1⅜ x 4⅛ | 5.20 | 3.12 |
| ETRJ-285 | 270-324 | 1¾ x 4⅛ | 5.40 | 3.24 |
| ETRJ-340 | 324-360 | 1¾ x 4⅛ | 5.80 | 3.48 |
| ETRJ-380 | 340-408 | 1¾ x 4⅛ | 6.50 | 3.90 |
| ETRJ-400 | 378-420 | 1¾ x 4⅛ | 6.75 | 4.05 |
| ETRJ-440 | 400-480 | 1¾ x 4⅛ | 6.85 | 4.11 |
| ETRJ-500 | 460-540 | 1¾ x 4⅛ | 8.95 | 5.37 |
| ETRJ-575 | 540-600 | 2 x 4⅛ | 9.65 | 5.79 |
| ETRJ-650 | 590-700 | 2 x 4⅛ | 10.40 | 6.24 |

†For Overall Size add 1/16" to Diam. and ⅜" to Length.

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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY



World Radio History

# CORNELL DUBILIER

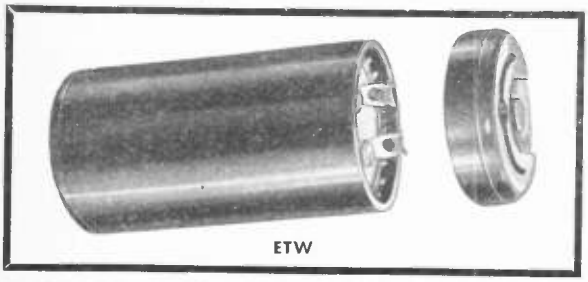
## MOTOR START CAPACITORS A. C. Electrolytic Types

### TYPE ETLJ—220 VOLTS A.C. 50-60 CYCLES

*(Similar in appearance to ETB)*

| ETLJ Cat. No. | Cap. Mfd. Min.–Max. | Can † Dimensions–Ins. Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETLJ-20 | 20-24 | 1⅜ x 2⅝ | $4.40 | **$2.64** |
| ETLJ-25 | 25-30 | 1⅜ x 2⅝ | 4.60 | **2.76** |
| ETLJ-35 | 30-36 | 1⅜ x 2⅝ | 4.90 | **2.94** |
| ETLJ-40 | 36-42 | 1⅜ x 3⅛ | 5.30 | **3.18** |
| ETLJ-45 | 43-48 | 1⅜ x 3⅛ | 5.55 | **3.33** |
| ETLJ-50 | 47-58 | 1⅜ x 3⅛ | 5.65 | **3.39** |
| ETLJ-65 | 59-71 | 1⅜ x 4⅛ | 6.35 | **3.81** |
| ETLJ-78 | 72-88 | 1⅜ x 4⅛ | 7.00 | **4.20** |
| ETLJ-95 | 88-106 | 1¾ x 4⅛ | 7.65 | **4.59** |
| ETLJ-110 | 107-129 | 1¾ x 4⅛ | 8.60 | **5.16** |
| ETLJ-130 | 124-138 | 2 x 4⅛ | 11.00 | **6.60** |
| ETLJ-145 | 130-156 | 2 x 4⅛ | 11.30 | **6.78** |
| ETLJ-155 | 145-162 | 2 x 4⅛ | 11.85 | **7.11** |

†For Overall Size add 1/16" to Diam. and ⅜" to Length.



ETW

### TYPE ETW, ETWJ—110 VOLTS A.C. 50-60 CYCLES

These types are housed in a tubular MOLDED BAKELITE CASE with self-tapping screw terminals. Also available with single end-cap and designated ETWJC—with end-cap and bracket Type ETWJCB.

| ETWJ Cat. No. | Cap. Mfd. Min.–Max. | Overall Dimensions–Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETWJ-5010 | 47-58 | 1 7/16 x 2¾ | $2.10 | **$1.26** |
| ETWJ-6510 | 59-71 | 1 7/16 x 2¾ | 2.15 | **1.29** |
| ETWJ-7810 | 72-88 | 1 7/16 x 2¾ | 2.30 | **1.38** |
| ETWJ-9510 | 88-106 | 1 7/16 x 2¾ | 2.60 | **1.56** |
| ETWJ-11010 | 107-129 | 1 7/16 x 2¾ | 2.85 | **1.71** |
| ETWJ-13010 | 124-138 | 1 7/16 x 2¾ | 2.95 | **1.77** |
| ETWJ-14510 | 130-156 | 1 7/16 x 2¾ | 2.95 | **1.77** |
| ETWJ-15510 | 145-162 | 1 7/16 x 2¾ | 3.20 | **1.92** |
| ETWJ-17010 | 158-191 | 1 7/16 x 3⅜ | 3.25 | **1.95** |
| ETWJ-21010 | 189-227 | 1 7/16 x 3⅜ | 3.90 | **2.34** |
| ETWJ-22510 | 216-240 | 1 7/16 x 3⅜ | 4.05 | **2.43** |
| ETWJ-25510 | 243-270 | 1 15/16 x 3⅜ | 4.70 | **2.82** |
| ETWJ-28510 | 270-324 | 1 15/16 x 3⅜ | 4.75 | **2.85** |
| ETWJ-34010 | 324-360 | 1 15/16 x 3⅜ | 5.40 | **3.24** |
| ETWJ-38010 | 340-408 | 1 15/16 x 3⅜ | 5.55 | **3.33** |
| ETWJ-40010 | 378-420 | 1 15/16 x 3⅜ | 6.00 | **3.60** |
| ETWJ-44010 | 400-480 | 1 15/16 x 3⅜ | 6.05 | **3.63** |
| ETWJ-50010 | 460-540 | 1 15/16 x 4⅜ | 6.95 | **4.17** |
| ETWJ-57510 | 540-600 | 1 15/16 x 4⅜ | 7.70 | **4.62** |
| ETWJ-65010 | 590-700 | 1 15/16 x 4⅜ | 8.30 | **4.98** |

### 125 VOLTS A.C. 50-60 CYCLES

| ETWJ Cat. No. | Cap. Mfd. Min.–Max. | Overall Dimensions–Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|
| ETWJ-5025 | 47-58 | 1 7/16 x 2¾ | $2.35 | **$1.41** |
| ETWJ-6525 | 59-71 | 1 7/16 x 2¾ | 2.40 | **1.44** |
| ETWJ-7825 | 72-88 | 1 7/16 x 2¾ | 2.60 | **1.56** |
| ETWJ-9525 | 88-106 | 1 7/16 x 2¾ | 2.75 | **1.65** |
| ETWJ-11025 | 107-129 | 1 7/16 x 2¾ | 3.15 | **1.89** |
| ETWJ-13025 | 124-138 | 1 7/16 x 2¾ | 3.25 | **1.95** |
| ETWJ-14525 | 130-156 | 1 7/16 x 2¾ | 3.25 | **1.95** |
| ETWJ-15525 | 145-162 | 1 7/16 x 2¾ | 3.65 | **2.19** |
| ETWJ-17025 | 158-191 | 1 7/16 x 3⅜ | 3.85 | **2.31** |
| ETWJ-21025 | 189-227 | 1 7/16 x 3⅜ | 4.30 | **2.58** |
| ETWJ-22525 | 216-240 | 1 15/16 x 3⅜ | 4.65 | **2.79** |
| ETWJ-25525 | 243-270 | 1 15/16 x 3⅜ | 5.20 | **3.12** |
| ETWJ-28525 | 270-324 | 1 15/16 x 3⅜ | 5.40 | **3.24** |
| ETWJ-34025 | 324-360 | 1 15/16 x 3⅜ | 5.80 | **3.48** |
| ETWJ-38025 | 340-408 | 1 15/16 x 3⅜ | 6.50 | **3.90** |
| ETWJ-40025 | 378-420 | 1 15/16 x 3⅜ | 6.75 | **4.05** |
| ETWJ-44025 | 400-480 | 1 15/16 x 3⅜ | 6.85 | **4.11** |
| ETWJ-50025 | 460-540 | 1 15/16 x 4⅜ | 8.95 | **5.37** |
| ETWJ-57525 | 540-600 | 1 15/16 x 4⅜ | 9.65 | **5.79** |
| ETWJ-65025 | 590-700 | 1 15/16 x 4⅜ | 10.40 | **6.24** |

### TYPE ETW

**For AIR CONDITIONING AND REFRIGERATION Applications.**

**BAKELITE CASED** *(Similar in appearance to ETB)*

| ETW Cat. No. | Cap. Mfd. Min.–Max. | V A C | Overall Dimensions–Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| ETW-8610 | 86-103 | 110 | 1 7/16 x 3⅜ | $2.65 | **$1.59** |
| ETW-16110 | 161-193 | 110 | 1 15/16 x 3⅜ | 3.25 | **1.95** |
| ETW-24310 | 243-270 | 110 | 1 15/16 x 3⅜ | 4.70 | **2.82** |
| ETW-28210 | 282-340 | 110 | 1 15/16 x 4⅜ | 5.20 | **3.12** |
| ETW-8650 | 86-103 | 250 | 1 15/16 x 4⅜ | 8.93 | **5.36** |
| ETW-9050 | 90-108 | 250 | 2 1/16 x 4⅜ | 7.55 | **4.53** |
| ETW-9550 | 95-115 | 250 | 2 1/16 x 4⅜ | 9.38 | **5.63** |
| ETW-10850 | 108-120 | 250 | 2 1/16 x 4⅜ | 9.80 | **5.88** |
| ETW-12150 | 121-145 | 250 | 2 1/16 x 4⅜ | 10.08 | **6.05** |
| ETW-13550 | 135-151 | 250 | 2 1/16 x 4⅜ | 10.26 | **6.16** |
| ETW-14550 | 145-162 | 250 | 2 1/16 x 4⅜ | 10.40 | **6.24** |
| ETW-15850 | 158-191 | 250 | 2 1/16 x 4⅜ | 15.52 | **9.30** |
| ETW-19550 | 195-220 | 250 | 2 1/16 x 4⅜ | 16.10 | **9.65** |
| ETW-2732 | 27-35 | 320 | 2 1/16 x 4⅜ | 5.60 | **3.36** |
| ETW-5532 | 55-68 | 320 | 2 1/16 x 4⅜ | 7.90 | **4.74** |
| ETW-8132 | 81-90 | 320 | 2 1/16 x 4⅜ | 10.80 | **6.48** |
| ETW-10832 | 108-120 | 320 | 2 1/16 x 4⅜ | 9.60 | **5.76** |
| ETW-12432 | 124-138 | 320 | 2 1/16 x 4⅜ | 14.50 | **8.70** |
| ETW-13032 | 130-156 | 320 | 2 1/16 x 4⅜ | 15.00 | **9.00** |

## CAPS & BRACKETS
### FOR ETB, ETBJ, ETLJ, ETRJ

| BOTTOM CAPS | | TOP CAPS | | | BRACKETS | | |
|---|---|---|---|---|---|---|---|
| Can Size D x L | Cat. No. | Cat. No. | List Price | Net Price | Cat. No. | List Price | Net Price |
| 1⅛ x 2⅝ | **29432-1J** | **29432-2J** | $.25 | **$.15** | **55145-J** | $.60 | **$.36** |
| 1⅜ x 2⅛ | **18437-J** | **29183-1** | .25 | **.15** | **19245-1J** | .60 | **.36** |
| 1⅜ x 2⅝ | **18437-J** | **29183-1** | .25 | **.15** | **19245-1J** | .60 | **.36** |
| 1⅜ x 3⅛ | **18437-J** | **29183-1** | .25 | **.15** | **19245-1J** | .60 | **.36** |
| 1⅜ x 4⅛ | **18437-J** | **29183-1** | .25 | **.15** | **20423-1J** | .60 | **.36** |
| 1½ x 3⅛ | **27512-J** | **29183-2** | .25 | **.15** | **19244-3J** | .60 | **.36** |
| 1½ x 4⅛ | **27512-J** | **29183-2** | .25 | **.15** | **20764-2J** | .60 | **.36** |
| 1¾ x 3⅛ | **18438-J** | **29183-3** | .25 | **.15** | **19246-1J** | .60 | **.36** |
| 1¾ x 4⅛ | **18438-J** | **29183-3** | .25 | **.15** | **20424-1J** | .60 | **.36** |
| 2 x 3⅛ | **18439-J** | **29183-4** | .30 | **.18** | **20331-2J** | .60 | **.36** |
| 2 x 4⅛ | **18439-J** | **29183-4** | .30 | **.18** | **20425-1J** | .60 | **.36** |
| 2½ x 3⅛ | **18440-J** | **29183-5** | .35 | **.21** | **19244-17J** | .60 | **.36** |
| 2½ x 4⅛ | **18440-J** | **29183-5** | .35 | **.21** | **20426-1J** | .60 | **.36** |

NOTE: If units, PRE-ASSEMBLED at our factory, with CAPS and BRACKETS are required, add suffix CB to CAPACITOR Catalog No. (Ex. ETBCB-215).

## CAPS & BRACKETS FOR ETW, ETWJ

| CAPS | | | | BRACKETS | | |
|---|---|---|---|---|---|---|
| Case Size D x L | Cat. No. | List Price | Net Price | Cat. No. | List Price | Net Price |
| 1 7/16 x 2¾ | **30066** | $.25 | **$.15** | **34946-2** | $.40 | **$.24** |
| 1 7/16 x 3⅜ | **30066** | .25 | **.15** | **34946** | .40 | **.24** |
| 1 15/16 x 3⅜ | **34618-3** | .35 | **.21** | **34946** | .40 | **.24** |
| 1 15/16 x 4⅜ | **34618-3** | .35 | **.21** | **34946-1** | .40 | **.24** |
| 2 1/16 x 4⅜ | **34618-2** | .35 | **.21** | **34946-1** | .40 | **.24** |
| 2 9/16 x 4⅜ | **34618-4** | .35 | **.21** | **34946-1** | .40 | **.24** |

### MOTOR START CAPACITOR REPLACEMENT GUIDE

| Use | To Replace | Use | To Replace | Use | To Replace |
|---|---|---|---|---|---|
| **ETB-55-1** | ETB-55 | **ETB-145-3** | ETB-145 | **ETB-210-3** | ETB-210 |
| **ETB-55-1** | ETB-55-2 | **ETB-145-3** | ETB-145-1 | **ETB-225-5** | ETB-225 |
| **ETB-70-2** | ETB-70 | **ETB-145-3** | ETB-145-2 | **ETB-225-5** | ETB-225-3 |
| **ETB-70-2** | ETB-70-1 | **ETB-150-1** | ETB-150 | **ETB-225-6** | ETB-225-1 |
| **ETB-75-3** | ETB-75 | **ETB-155-4** | ETB-155 | **ETB-225-6** | ETB-225-2 |
| **ETB-75-3** | ETB-75-2 | **ETB-155-4** | ETB-155-1 | **ETB-225-6** | ETB-225-4 |
| **ETB-78-2** | ETB-78 | **ETB-155-4** | ETB-155-3 | **ETB-250-2** | ETB-250-1 |
| **ETB-78-2** | ETB-78-1 | **ETB-170-2** | ETB-170 | **ETB-255-2** | ETB-255-1 |
| **ETB-80-1** | ETB-80 | **ETB-170-2** | ETB-170-1 | **ETB-255-2** | ETB-255-3 |
| **ETB-90-1** | ETB-90 | **ETB-175-5** | ETB-175 | **ETB-285** | ETB-285-3 |
| **ETB-90-1** | ETB-90-2 | **ETB-175-5** | ETB-175-2 | **ETB-310-1** | ETB-310 |
| **ETB-95-1** | ETB-95 | **ETB-175-5** | ETB-175-3 | **ETB-315-1** | ETB-315 |
| **ETB-110-1** | ETB-110 | **ETB-175-5** | ETB-175-4 | **ETB-340-2** | ETB-340 |
| **ETB-115** | ETB-115-1 | **ETB-175-5** | ETB-175-6 | **ETB-450-1** | ETB-450 |
| **ETB-130-3** | ETB-130 | **ETB-200-4** | ETB-200 | **ETB-460-1** | ETB-460 |
| **ETB-130-3** | ETB-130-1 | **ETB-200-1** | ETB-200-3 | **ETB-460-1** | ETB-460-2 |
| **ETB-130-3** | ETB-130-2 | **ETB-205-2** | ETB-205 | | |
| **ETB-135** | ETB-135-1 | **ETB-205-2** | ETB-205-1 | | |

NOTE: In some cases the smaller physical size unit ETBJ (see Page P-987), having the same electrical rating, can be selected as a replacement.



Net

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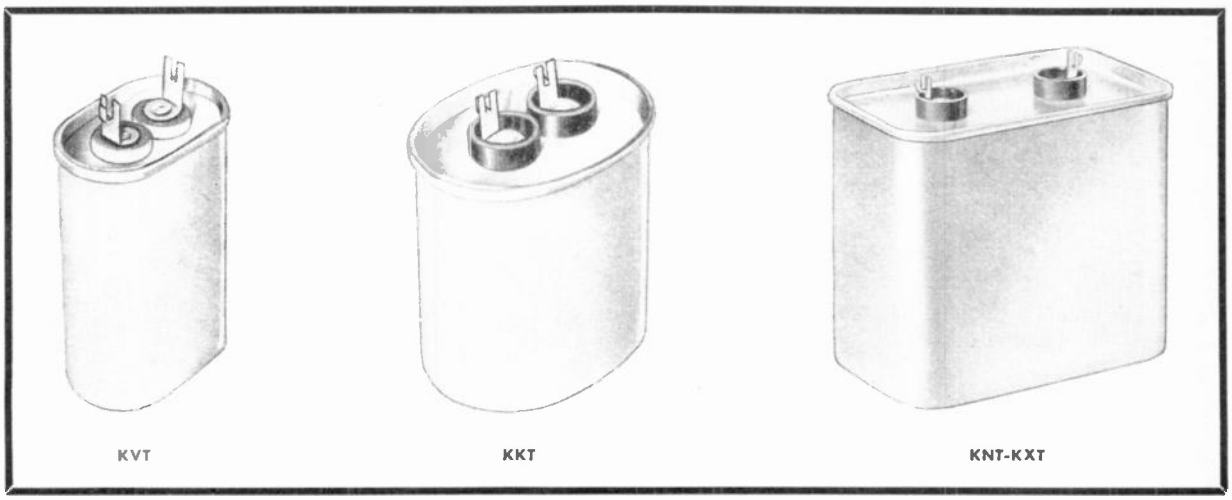
World Radio History

# CORNELL DUBILIER

## MOTOR RUN CAPACITORS

## A. C. Paper-Oil (Dykanol) Types




Types KKT and KVT are housed in OVAL drawn-case containers, and furnished with forked lug terminals set in cup insulators. The principal difference between these two types is simply in the case size. Types KNT and KXT are housed in RECTANGULAR, deep-drawn, no seam, solderless terne plate cases. The principal difference between these two types is in the case sizes.

## for Air Conditioning Applications

### 236 VOLTS A.C. OPERATING 50-60 CYCLES

| Cat. No. | Cap. Mfd. | Can Size–Inches High x Deep x Wide | List Price | Net Price |
|---|---|---|---|---|
| KKT-23B20 | 2 | 2 x 1 5/16 x 2 3/16 | $4.10 | $2.46 |
| KKT-2330 | 3 | 2 1/4 x 1 5/16 x 2 3/16 | 4.15 | 2.49 |
| KKT-23A40 | 4 | 2 7/8 x 1 5/16 x 2 3/16 | 4.50 | 2.70 |
| KKT-23A50 | 5 | 3 1/8 x 1 5/16 x 2 3/16 | 4.95 | 2.97 |
| KVT-23A75 | 7.5 | 2 1/2 x 2 1/4 x 2 15/16 | 8.65 | 5.19 |
| KVT-23B100 | 10 | 3 x 2 1/4 x 2 15/16 | 10.50 | 6.30 |
| KVT-23150 | 15 | 4 1/8 x 2 1/4 x 2 15/16 | 11.70 | 7.02 |
| KVT-23C200 | 20 | 4 1/8 x 2 1/4 x 2 15/16 | 19.20 | 11.52 |
| KXT-23A250 | 25 | 6 1/4 x 2 3/16 x 2 13/16 | 21.60 | 12.96 |
| KXT-23A300 | 30 | 6 1/4 x 2 3/16 x 2 13/16 | 21.85 | 13.11 |

### 350 VOLTS A.C. OPERATING 50-60 CYCLES

| Cat. No. | Cap. Mfd. | Can Size–Inches High x Deep x Wide | List Price | Net Price |
|---|---|---|---|---|
| KKT-3A020 | 2 | 2 x 1 5/16 x 2 3/16 | $4.45 | $2.67 |
| KKT-3B030 | 3 | 2 1/2 x 1 5/16 x 2 3/16 | 4.50 | 2.70 |
| KKT-3B040 | 4 | 3 1/8 x 1 5/16 x 2 3/16 | 4.75 | 2.85 |
| KKT-3050 | 5 | 3 3/4 x 1 5/16 x 2 3/16 | 5.75 | 3.45 |
| KKT-3060 | 6 | 3 3/4 x 1 5/16 x 2 3/16 | 7.60 | 4.56 |
| KVT-3G100 | 10 | 3 x 2 1/4 x 2 15/16 | 12.60 | 7.56 |
| KVT-3C150 | 15 | 4 1/8 x 2 1/4 x 2 15/16 | 13.35 | 8.01 |
| KVT-3200 | 20 | 5 1/16 x 2 1/4 x 2 15/16 | 18.15 | 10.89 |
| KXT-3350 | 35 | 6 3/4 x 2 3/16 x 2 13/16 | 27.40 | 16.44 |

### 370 VOLTS A.C. OPERATING 50-60 CYCLES

| Cat. No. | Cap. Mfd. | Can Size–Inches High x Deep x Wide | List Price | Net Price |
|---|---|---|---|---|
| KKT-3720 | 2 | 2 1/4 x 1 5/16 x 2 3/16 | $4.45 | $2.67 |
| KKT-3730 | 3 | 2 7/8 x 1 5/16 x 2 3/16 | 4.50 | 2.70 |
| KKT-3740 | 4 | 3 3/4 x 1 5/16 x 2 3/16 | 4.75 | 2.85 |
| KKT-3750 | 5 | 4 3/8 x 1 5/16 x 2 3/16 | 6.25 | 3.75 |
| KVT-3775 | 7.5 | 3 x 2 1/4 x 2 15/16 | 9.50 | 5.70 |
| KVT-37A100 | 10 | 3 3/4 x 2 1/4 x 2 15/16 | 10.75 | 6.45 |
| KVT-37A125 | 12.5 | 4 1/8 x 2 1/4 x 2 15/16 | 12.85 | 7.71 |
| KVT-37A150 | 15 | 4 5/8 x 2 1/4 x 2 15/16 | 13.35 | 8.01 |
| KVT-37A175 | 17.5 | 5 3/16 x 2 1/4 x 2 15/16 | 14.00 | 8.40 |
| KXT-37200 | 20 | 6 1/4 x 2 3/16 x 2 13/16 | 17.25 | 10.35 |
| KXT-37250 | 25 | 6 1/4 x 2 3/16 x 2 13/16 | 21.25 | 12.75 |
| KNT-37200 | 20 | 3 3/4 x 2 7/8 x 4 3/16 | 22.00 | 13.20 |
| KNT-37250 | 25 | 4 3/16 x 2 7/8 x 4 3/16 | 23.60 | 14.16 |
| KNT-37300 | 30 | 5 3/16 x 2 7/8 x 4 3/16 | 24.40 | 14.64 |
| KNT-37350 | 35 | 6 1/4 x 2 7/8 x 4 9/16 | 27.40 | 16.44 |
| KNT-37400 | 40 | 6 3/4 x 2 7/8 x 4 9/16 | 37.10 | 22.26 |
| KNT-37450 | 45 | 8 x 2 7/8 x 4 9/16 | 42.30 | 25.38 |

### 440 VOLTS A.C. OPERATING 50-60 CYCLES

| Cat. No. | Cap. Mfd. | Can Size–Inches High x Deep x Wide | List Price | Net Price |
|---|---|---|---|---|
| KKT-4B020 | 2 | 2 1/4 x 1 5/16 x 2 3/16 | $5.35 | $3.21 |
| KKT-4040 | 4 | 3 3/4 x 1 5/16 x 2 3/16 | 6.35 | 3.81 |
| KVT-4B050 | 5 | 2 1/2 x 2 1/4 x 2 15/16 | 8.25 | 4.95 |
| KVT-4100 | 10 | 4 1/8 x 2 1/4 x 2 15/16 | 11.25 | 6.75 |
| KVT-4150 | 15 | 6 1/4 x 2 1/4 x 2 15/16 | 15.55 | 9.33 |
| KNT-4200 | 20 | 4 3/16 x 2 7/8 x 4 9/16 | 22.15 | 13.29 |
| KNT-4250 | 25 | 5 3/16 x 2 7/8 x 4 9/16 | 26.75 | 16.05 |

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World Radio History

# Vitramon® CAPACITORS

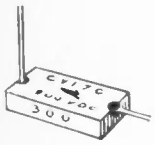
Porcelain Enamel and Fine Silver, Fused and Solidified into a Dense, Homogenous, Truly Monolithic Unit that Requires No Case or Hermetic Seal.

**Stable • Wide Temperature Range • Humidity Proof**

**Rugged • Low Loss • Low Noise • Miniature**

### AXIAL SERIES (-A)

Leads are tin-clad copper, soft solder coated and high temperature brazed to the capacitors. Capacitance range: 0.5 to 6800 mmf.



### AXIAL/RADIAL SERIES (-AR)

Silver leads are a continuation of the electrodes — not joined by solder or press-fit. Capacitance range: 0.5 to 5600 mmf. Interchangeable with —A Series.

### RADIAL SERIES (-R)

Designed to be mounted axially, radially or on edge. New thin design 5/64" to 7/64" makes them readily adaptable for minute circuit assemblies. Capacitance ranges: 0.5 to 470 mmf. 1-22 mmf, 500 vdc; 24-100 mmf, 300 vdc; 110-200 mmf, 100 vdc; 220-300 mmf, 50 vdc.

Only two materials go into "VITRAMON" Capacitors . . . porcelain enamel for the dielectric and encasing insulation . . . fine-silver for the electrodes. Perfectly bonded, the two become, effectively, one homogenous unit with absolutely retraceable temperature coefficient of 115 ± 25 p.p.m. o/C at ambient temperatures between —55° C. thru +125° C. . . .

### STABLE OVER A WIDE TEMPERATURE RANGE

The solid block of "quality crockery" in which the silver electrodes are immersed gives "VITRAMON" Capacitors the strength to withstand up to 2000 cps at 20G's, making them both

### RUGGED AND VAPORPROOF

Pure materials plus perfect bonding combine to eliminate both Loss and Noise. Q in excess of 2500.
Finally . . . their unique construction allows for "layering" the electrodes so that much greater active dielectric area can be squeezed into the same cubic content . . . They're MINIATURE.

### TOLERANCES

Standard Tolerance is ±5% of nominal, with a minimum of ±0.25 mmf. Closer tolerances are available as detailed in our Price List.

**Vitramon INCORPORATED** BRIDGEPORT, CONNECTICUT

TO ORDER: To the catalog numbers in the table below, add the suffix —AR for the Axial/Radial Series and —A for the Axial Series.

| Catalog No. | Capacity (mmf) |
|---|---|
| **500 VDCW** | |
| CY13C0R5J | 0.5 |
| CY13C1R0J | 1.0 |
| CY13C1R5J | 1.5 |
| CY13C2R2J | 2.2 |
| CY13C2R7J | 2.7 |
| CY13C3R0J | 3.0 |
| CY13C3R3J | 3.3 |
| CY13C3R6J | 3.6 |
| CY13C3R9J | 3.9 |
| CY13C4R3J | 4.3 |
| CY13C4R7J | 4.7 |
| CY13C5R1J | 5.1 |
| CY13C5R6J | 5.6 |
| CY13C6R2J | 6.2 |
| CY13C6R8J | 6.8 |
| CY13C7R5J | 7.5 |
| CY13C8R2J | 8.2 |
| CY13C9R1J | 9.1 |
| CY13C100J | 10 |
| CY13C110J | 11 |
| CY13C120J | 12 |
| CY13C130J | 13 |
| CY13C150J | 15 |
| CY13C160J | 16 |
| CY13C180J | 18 |
| CY13C200J | 20 |
| CY13C220J | 22 |
| CY13C240J | 24 |
| CY13C270J | 27 |
| CY13C300J | 30 |
| CY13C330J | 33 |
| CY13C360J | 36 |
| CY13C390J | 39 |
| CY13C430J | 43 |
| CY13C470J | 47 |
| CY13C510J | 51 |
| CY13C560J | 56 |
| CY13C620J | 62 |
| CY13C680J | 68 |
| CY13C750J | 75 |
| CY13C820J | 82 |
| CY13C910J | 91 |
| CY13C101J | 100 |
| CY13C111J | 110 |
| CY13C121J | 120 |
| CY13C131J | 130 |
| CY13C151J | 150 |
| CY13C161J | 160 |
| CY13C181J | 180 |
| CY13C201J | 200 |
| **300 VDCW** | |
| CY13C221J | 220 |
| CY13C241J | 240 |
| CY13C271J | 270 |
| CY13C301J | 300 |
| **500 VDCW** | |
| CY17C221J | 220 |
| CY17C241J | 240 |
| CY17C271J | 270 |
| CY17C301J | 300 |
| CY17C331J | 330 |
| CY17C361J | 360 |
| CY17C391J | 390 |
| CY17C431J | 430 |
| CY17C471J | 470 |
| **300 VDCW** | |
| CY17C511J | 510 |
| CY17C561J | 560 |
| CY17C621J | 620 |
| CY17C681J | 680 |
| CY17C751J | 750 |
| CY17C821J | 820 |
| CY17C911J | 910 |
| CY17C102J | 1000 |
| **500 VDCW** | |
| CY22C511J | 510 |
| CY22C561J | 560 |
| CY22C621J | 620 |
| CY22C681J | 680 |
| CY22C751J | 750 |
| CY22C821J | 820 |
| CY22C911J | 910 |
| CY22C102J | 1000 |
| **300 VDCW** | |
| CY22C112J | 1100 |
| CY22C122J | 1200 |
| CY22C132J | 1300 |
| CY22C152J | 1500 |
| CY22C162J | 1600 |
| CY22C182J | 1800 |
| CY22C202J | 2000 |
| CY22C222J | 2200* |
| CY22C242J | 2400* |
| **500 VDCW** | |
| CY32C112J | 1100 |
| CY32C122J | 1200 |
| CY32C132J | 1300 |
| CY32C152J | 1500 |
| CY32C162J | 1600 |
| CY32C182J | 1800 |
| CY32C202J | 2000 |
| CY32C222J | 2200 |
| CY32C242J | 2400 |
| CY32C272J | 2700 |
| CY32C302J | 3000 |
| CY32C332J | 3300 |
| **300 VDCW** | |
| CY32C362J | 3600 |
| CY32C392J | 3900 |
| CY32C432J | 4300 |
| CY32C472J | 4700 |
| CY32C512J | 5100 |
| CY32C562J | 5600 |
| CY32C622J | 6200** |
| CY32C512J | 6800** |

**RADIAL SERIES**

| Part Number | Capacity (mmf) | Volts DCW |
|---|---|---|
| CY13C0R5J-R | 0.5 | 500 |
| CY13C1R0J-R | 1.0 | 500 |
| CY13C1R5J-R | 1.5 | 500 |
| CY13C2R2J-R | 2.2 | 500 |
| CY13C2R7J-R | 2.7 | 500 |
| CY13C3R0J-R | 3.0 | 500 |
| CY13C3R3J-R | 3.3 | 500 |
| CY13C3R6J-R | 3.6 | 500 |
| CY13C3R9J-R | 3.9 | 500 |
| CY13C4R3J-R | 4.3 | 500 |
| CY13C4R7J-R | 4.7 | 500 |
| CY13C5R1J-R | 5.1 | 500 |
| CY13C5R6J-R | 5.6 | 500 |
| CY13C6R2J-R | 6.2 | 500 |
| CY13C6R8J-R | 6.8 | 500 |
| CY13C7R5J-R | 7.5 | 500 |
| CY13C8R2J-R | 8.2 | 500 |
| CY13C9R1J-R | 9.1 | 500 |
| CY13C100J-R | 10 | 500 |
| CY13C110J-R | 11 | 500 |
| CY13C120J-R | 12 | 500 |
| CY13C130J-R | 13 | 500 |
| CY13C150J-R | 15 | 500 |
| CY13C160J-R | 16 | 500 |
| CY13C180J-R | 18 | 500 |
| CY13C200J-R | 20 | 500 |
| CY13C220J-R | 22 | 500 |
| CY13C240J-R | 24 | 300 |
| CY13C270J-R | 27 | 300 |
| CY13C300J-R | 30 | 300 |
| CY13C330J-R | 33 | 300 |
| CY13C360J-R | 36 | 300 |
| CY13C390J-R | 39 | 300 |
| CY13C430J-R | 43 | 300 |
| CY13C470J-R | 47 | 300 |
| CY13C510J-R | 51 | 300 |
| CY13C560J-R | 56 | 300 |
| CY13C620J-R | 62 | 300 |
| CY13C680J-R | 68 | 300 |
| CY13C750J-R | 75 | 300 |
| CY13C820J-R | 82 | 300 |
| CY13C910J-R | 91 | 300 |
| CY13C101J-R | 100 | 300 |
| CY13C111J-R | 110 | 100 |
| CY13C121J-R | 120 | 100 |
| CY13C131J-R | 130 | 100 |
| CY13C151J-R | 150 | 100 |
| CY13C161J-R | 160 | 100 |
| CY13C181J-R | 180 | 100 |
| CY13C201J-R | 200 | 100 |
| CY13C221J-R | 220 | 50 |
| CY13C241J-R | 240 | 50 |
| CY13C271J-R | 270 | 50 |
| CY13C301J-R | 300 | 50 |

*Not available in Axial Series.
**Not available in Axial/Radial Series.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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

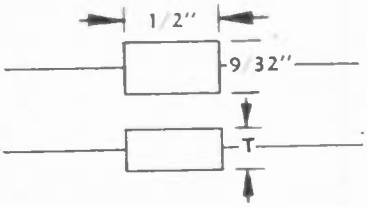
ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# MOLDED SILVERED MICA

## TYPE CM-15




T—from 1-300 mmf. 3/16"
T—from 301-510 mmf. 7/32"

**500 VDCW**

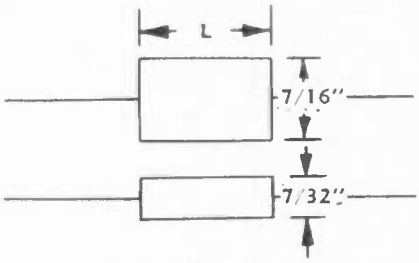
| Cap. Mmf. | Designation Type | List Price Tolerance 5% "J" | 2% "G" | 1% "F" |
|---|---|---|---|---|
| 1 | CM-15-C-010† | $0.40 | | |
| 2 | CM-15-C-020† | .40 | | |
| 3 | CM-15-C-030† | .40 | | |
| 5 | CM-15-C-050† | .40 | | |
| 10 | CM-15-C-100 | .40 | | |
| 12 | CM-15-C-120 | .40 | | |
| 15 | CM-15-C-150 | .40 | | |
| 18 | CM-15-C-180 | .40 | | |
| 20 | CM-15-C-200 | .40 | | |
| 22 | CM-15-C-220 | .40 | | |
| 24 | CM-15-E-240 | .40 | | |
| 27 | CM-15-E-270 | .40 | $0.46 | |
| 30 | CM-15-E-300 | .40 | .46 | |
| 33 | CM-15-E-330 | .40 | .46 | |
| 36 | CM-15-E-360 | .40 | .46 | |
| 39 | CM-15-E-390 | .40 | .46 | |
| 43 | CM-15-E-430 | .40 | .46 | |
| 47 | CM-15-E-470 | .40 | .46 | |
| 50 | CM-15-E-500 | .40 | .46 | $0.50 |
| 51 | CM-15-E-510 | .40 | .46 | .50 |
| 56 | CM-15-E-560 | .40 | .46 | .50 |
| 62 | CM-15-E-620 | .40 | .46 | .50 |
| 68 | CM-15-E-680 | .40 | .46 | .50 |
| 75 | CM-15-E-750 | .40 | .46 | .50 |
| 82 | CM-15-E-820 | .45 | .52 | .56 |
| 91 | CM-15-E-910 | .45 | .52 | .56 |
| 100 | CM-15-E-101 | .45 | .52 | .56 |
| 110 | CM-15-E-111 | .45 | .52 | .56 |
| 120 | CM-15-E-121 | .45 | .52 | .56 |
| 130 | CM-15-E-131 | .45 | .52 | .56 |
| 150 | CM-15-E-151 | .45 | .52 | .56 |
| 160 | CM-15-E-161 | .50 | .58 | .63 |
| 180 | CM-15-E-181 | .50 | .58 | .63 |
| 200 | CM-15-E-201 | .50 | .58 | .63 |
| 220 | CM-15-E-221 | .55 | .63 | .69 |
| 240 | CM-15-E-241 | .55 | .63 | .69 |
| 250 | CM-15-E-251 | .55 | .63 | .69 |
| 270 | CM-15-E-271 | .60 | .69 | .75 |
| 300 | CM-15-E-301 | .60 | .69 | .75 |
| 330 | CM-15-E-331 | .65 | .75 | .81 |
| 360 | CM-15-E-361 | .70 | .81 | .88 |
| 390 | CM-15-E-391 | .70 | .81 | .88 |
| 430* | CM-15-E-431 | .75 | .86 | .94 |
| 470* | CM-15-E-471 | .80 | .92 | 1.00 |
| 500* | CM-15-E-501 | .80 | .92 | 1.00 |
| 510* | CM-15-E-511 | .80 | .92 | 1.00 |

NOTES—* Voltage Rating 300 VDCW.
† Closest Tolerance ±0.5 mmf.

SPECIFICATIONS NOTES:

±½% tolerance available above 100 mmf. at double ±5% list price.
CM15, available "F" characteristic above 33 mmf.
CM19, 20 available "E" characteristic above 33 mmf.
CM19, 20 available "F" characteristic above 56 mmf.

## TYPE CM-19 & 20




L—CM-19—11/16": CM-20—25/32"

**500 VDCW**

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 5 | CM-20C-050 | $0.40 | | |
| 10 | CM-20C-100 | .40 | | |
| 12 | CM-20C-120 | .40 | | |
| 15 | CM-20C-150 | .40 | | |
| 18 | CM-20C-180 | .40 | | |
| 20 | CM-20C-200 | .40 | | |
| 22 | CM-20C-220 | .40 | | |
| 24 | CM-20C-240 | .40 | | |
| 27 | CM-20C-270 | .40 | $0.46 | |
| 30 | CM-20C-300 | .40 | .46 | |
| 33 | CM-20C-330 | .40 | .46 | |
| 36 | CM-20C-360 | .40 | .46 | |
| 39 | CM-20C-390 | .40 | .46 | |
| 43 | CM-20C-430 | .40 | .46 | |
| 47 | CM-20C-470 | .40 | .46 | |
| 50 | CM-20C-500 | .40 | .46 | $0.50 |
| 51 | CM-20C-510 | .40 | .46 | .50 |
| 56 | CM-20C-560 | .40 | .46 | .50 |
| 62 | CM-20C-620 | .40 | .46 | .50 |
| 68 | CM-20C-680 | .40 | .46 | .50 |
| 75 | CM-20C-750 | .40 | .46 | .50 |
| 82 | CM-20C-820 | .40 | .46 | .50 |
| 91 | CM-20C-910 | .40 | .46 | .50 |
| 100 | CM-20C-101 | .40 | .46 | .50 |
| 110 | CM-20C-111 | .45 | .52 | .56 |
| 120 | CM-20C-121 | .45 | .52 | .56 |
| 130 | CM-20C-131 | .45 | .52 | .56 |
| 150 | CM-20C-151 | .45 | .52 | .56 |
| 160 | CM-20C-161 | .45 | .52 | .56 |
| 180 | CM-20C-181 | .45 | .52 | .56 |
| 200 | CM-20D-201 | .45 | .52 | .56 |
| 220 | CM-20D-221 | .45 | .52 | .56 |
| 240 | CM-20D-241 | .55 | .63 | .69 |
| 250 | CM-20D-251 | .55 | .63 | .69 |
| 270 | CM-20D-271 | .55 | .63 | .69 |
| 300 | CM-20D-301 | .55 | .63 | .69 |
| 330 | CM-20D-331 | .55 | .63 | .69 |
| 360 | CM-20D-361 | .55 | .63 | .69 |
| 390 | CM-20D-391 | .65 | .75 | .81 |
| 430 | CM-20D-431 | .65 | .75 | .81 |
| 470 | CM-20D-471 | .70 | .81 | .88 |
| 500 | CM-20D-501 | .70 | .81 | .88 |
| 510 | CM-20D-511 | .70 | .81 | .88 |
| 560 | CM-20D-561 | .75 | .86 | .94 |
| 620 | CM-20D-621 | .75 | .86 | .94 |
| 680 | CM-20D-681 | .80 | .92 | 1.00 |
| 750 | CM-20D-751 | .80 | .92 | 1.00 |
| 820 | CM-20D-821 | .85 | .98 | 1.06 |
| 910 | CM-20D-911 | .85 | .98 | 1.06 |
| 1000 | CM-20E-102 | .90 | 1.04 | 1.13 |
| 1100 | CM-20E-112 | .90 | 1.04 | 1.13 |
| 1200 | CM-20E-122 | 1.00 | 1.15 | 1.25 |
| 1300 | CM-20E-132 | 1.00 | 1.15 | 1.25 |
| 1500 | CM-20E-152 | 1.10 | 1.27 | 1.38 |
| 1600 | CM-20E-162 | 1.10 | 1.27 | 1.38 |
| 1800 | CM-20E-182 | 1.20 | 1.38 | 1.50 |
| 2000 | CM-20E-202 | 1.30 | 1.50 | 1.63 |
| 2200 | CM-20E-222 | 1.40 | 1.61 | 1.75 |
| 2400 | CM-20E-242 | 1.45 | 1.67 | 1.81 |
| 2500 | CM-20E-252 | 1.50 | 1.73 | 1.88 |

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# MOLDED SILVERED MICA

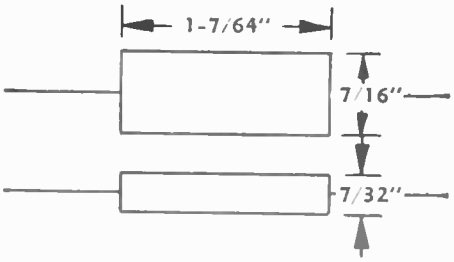
## TYPE CM-19 & 20

500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 2700 | CM-20E-272 | 1.60 | 1.84 | 2.00 |
| 3000 | CM-20E-302 | 1.80 | 2.07 | 2.25 |
| 3300 | CM-20E-332 | 1.90 | 2.19 | 2.38 |
| 3600* | CM-20E-362 | 1.90 | 2.19 | 2.38 |
| 3900* | CM-20E-392 | 2.00 | 2.30 | 2.50 |
| 4300* | CM-20E-432 | 2.10 | 2.42 | 2.63 |
| 4700* | CM-20E-472 | 2.20 | 2.53 | 2.75 |
| 5000* | CM-20E-502 | 2.30 | 2.65 | 2.88 |
| 5100* | CM-20E-512 | 2.30 | 2.65 | 2.88 |

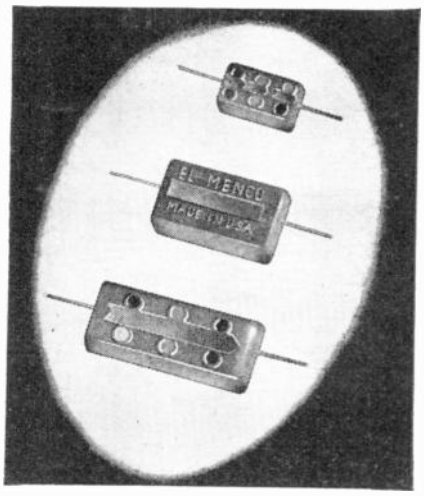
Capacities from 5 mmf. to 2700 mmf. can be supplied in CM-19 cases.

## TYPE CM-25

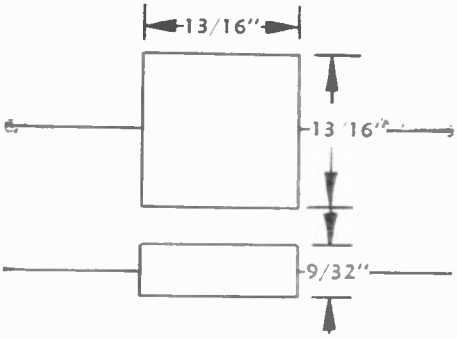



500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 51 | CM-25-E-510 | $0.40 | $0.46 | $0.50 |
| 56 | CM-25-E-560 | .40 | .46 | .50 |
| 62 | CM-25-E-620 | .40 | .46 | .50 |
| 68 | CM-25-E-680 | .40 | .46 | .50 |
| 75 | CM-25-E-750 | .40 | .46 | .50 |
| 82 | CM-25-E-820 | .40 | .46 | .50 |
| 91 | CM-25-E-910 | .40 | .46 | .50 |
| 100 | CM-25-E-101 | .40 | .46 | .50 |
| 110 | CM-25-E-111 | .45 | .52 | .56 |
| 120 | CM-25-E-121 | .45 | .52 | .56 |
| 130 | CM-25-E-131 | .45 | .52 | .56 |
| 150 | CM-25-E-151 | .45 | .52 | .56 |
| 160 | CM-25-E-161 | .45 | .52 | .56 |
| 180 | CM-25-E-181 | .45 | .52 | .56 |
| 200 | CM-25-E-201 | .45 | .52 | .56 |
| 220 | CM-25-E-221 | .45 | .52 | .56 |
| 240 | CM-25-E-241 | .55 | .63 | .69 |
| 250 | CM-25-E-251 | .55 | .63 | .69 |
| 270 | CM-25-E-271 | .55 | .63 | .69 |
| 300 | CM-25-E-301 | .55 | .63 | .69 |
| 330 | CM-25-E-331 | .55 | .63 | .69 |
| 360 | CM-25-E-361 | .55 | .63 | .69 |
| 390 | CM-25-E-391 | .65 | .75 | .81 |
| 430 | CM-25-E-431 | .65 | .75 | .81 |
| 470 | CM-25-E-471 | .70 | .81 | .88 |
| 500 | CM-25-E-501 | .70 | .81 | .88 |
| 510 | CM-25-E-511 | .70 | .81 | .88 |
| 560 | CM-25-E-561 | .75 | .86 | .94 |
| 620 | CM-25-E-621 | .80 | .92 | 1.00 |
| 680 | CM-25-E-681 | .85 | .98 | 1.06 |
| 750 | CM-25-E-751 | .90 | 1.04 | 1.13 |
| 820 | CM-25-E-821 | .95 | 1.09 | 1.19 |
| 910 | CM-25-E-911 | 1.00 | 1.15 | 1.25 |
| 1000 | CM-25-E-102 | 1.10 | 1.27 | 1.38 |
| 1100 | CM-25-E-112 | 1.20 | 1.38 | 1.50 |
| 1200 | CM-25-E-122 | 1.30 | 1.50 | 1.63 |
| 1300 | CM-25-E-132 | 1.40 | 1.61 | 1.75 |
| 1500 | CM-25-E-152 | 1.50 | 1.73 | 1.88 |
| 1600 | CM-25-E-162 | 1.60 | 1.84 | 2.00 |
| 1800 | CM-25-E-182 | 1.70 | 1.96 | 2.13 |
| 2000 | CM-25-E-202 | 1.80 | 2.07 | 2.25 |




## TYPE CM-30




500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 510 | CM-30-E-511 | $0.70 | $0.81 | $0.88 |
| 560 | CM-30-E-561 | .75 | .86 | .94 |
| 620 | CM-30-E-621 | .75 | .86 | .94 |
| 680 | CM-30-E-681 | .80 | .92 | 1.00 |
| 750 | CM-30-E-751 | .80 | .92 | 1.00 |
| 820 | CM-30-E-821 | .85 | .98 | 1.06 |
| 910 | CM-30-E-911 | .90 | 1.04 | 1.13 |
| 1000 | CM-30-E-102 | 1.00 | 1.15 | 1.25 |
| 1100 | CM-30-E-112 | 1.00 | 1.15 | 1.25 |
| 1200 | CM-30-E-122 | 1.15 | 1.32 | 1.44 |
| 1300 | CM-30-E-132 | 1.15 | 1.32 | 1.44 |
| 1500 | CM-30-E-152 | 1.25 | 1.44 | 1.56 |
| 1600 | CM-30-E-162 | 1.25 | 1.44 | 1.56 |
| 1800 | CM-30-E-182 | 1.25 | 1.44 | 1.56 |
| 2000 | CM-30-E-202 | 1.35 | 1.55 | 1.69 |
| 2200 | CM-30-E-222 | 1.35 | 1.55 | 1.69 |
| 2400 | CM-30-E-242 | 1.60 | 1.84 | 2.00 |
| 2500 | CM-30-E-252 | 1.60 | 1.84 | 2.00 |
| 2700 | CM-30-E-272 | 1.80 | 2.07 | 2.25 |
| 3000 | CM-30-E-302 | 1.90 | 2.19 | 2.38 |
| 3300 | CM-30-E-332 | 1.90 | 2.19 | 2.38 |
| 3600 | CM-30-E-362 | 2.00 | 2.30 | 2.50 |
| 3900 | CM-30-E-392 | 2.00 | 2.30 | 2.50 |
| 4300 | CM-30-E-432 | 2.10 | 2.42 | 2.63 |
| 4700 | CM-30-E-472 | 2.10 | 2.42 | 2.63 |
| 5000 | CM-30-E-502 | 2.15 | 2.47 | 2.69 |
| 5100 | CM-30-E-512 | 2.15 | 2.47 | 2.69 |
| 5600 | CM-30-E-562 | 2.25 | 2.59 | 2.81 |
| 6200 | CM-30-E-622 | 2.40 | 2.76 | 3.00 |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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

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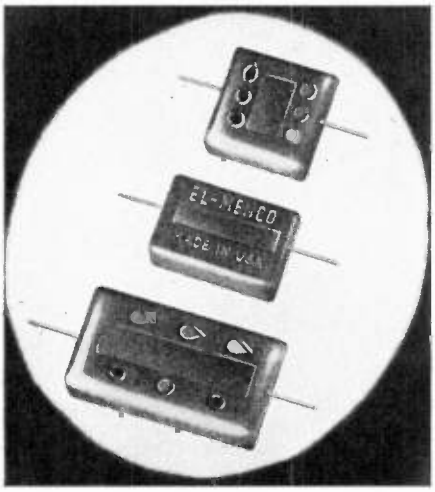
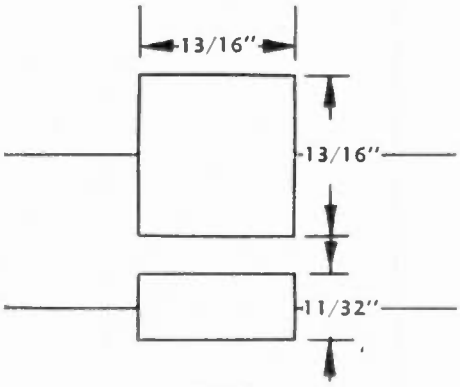
ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# MOLDED SILVERED MICA




## TYPE CM-35



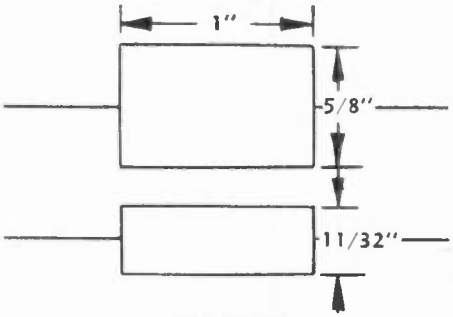

500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 6800* | CM-35-E-682 | $2.65 | $3.05 | $3.31 |
| 7500* | CM-35-E-752 | 2.80 | 3.22 | 3.50 |
| 8200* | CM-35-E-822 | 3.00 | 3.45 | 3.75 |
| 9100* | CM-35-E-912 | 3.20 | 3.68 | 4.00 |
| 10000* | CM-35-E-103 | 3.50 | 4.03 | 4.38 |
| 12000* | CM-35-E-123 | 4.25 | 4.89 | 5.31 |
| 15000* | CM-35-E-153 | 5.00 | 5.75 | 6.25 |
| 6800 | VCM-35-E-682 | 2.90 | 3.34 | 3.62 |
| 7500 | VCM-35-E-752 | 3.05 | 3.51 | 3.81 |
| 8200 | VCM-35-E-822 | 3.30 | 3.80 | 4.13 |
| 9100 | VCM-35-E-912 | 3.50 | 4.03 | 4.38 |
| 10000 | VCM-35-E-103 | 3.85 | 4.43 | 4.81 |

All capacities marked with * are 300WV.

NOTE:—All above "SILVERED MICA" units can be supplied in "F" Characteristic at no extra cost. For ±½% Tolerance double the 5% List prices.

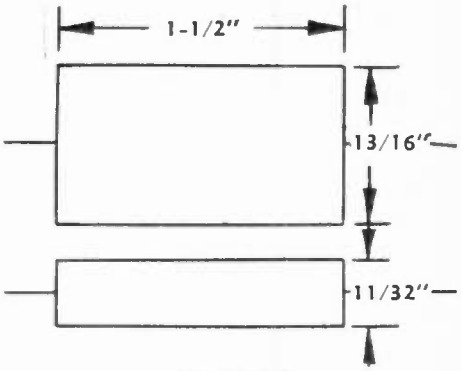
## TYPE CM-40




500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 2700 | CM-40-E-272 | $1.90 | $2.19 | $2.38 |
| 3000 | CM-40-E-302 | 2.05 | 2.36 | 2.56 |
| 3300 | CM-40-E-332 | 2.05 | 2.36 | 2.56 |
| 3600 | CM-40-E-362 | 2.10 | 2.42 | 2.63 |
| 3900 | CM-40-E-392 | 2.15 | 2.47 | 2.69 |
| 4300 | CM-40-E-432 | 2.15 | 2.47 | 2.69 |
| 4700 | CM-40-E-472 | 2.15 | 2.47 | 2.69 |
| 5000 | CM-40-E-502 | 2.25 | 2.59 | 2.81 |
| 5100 | CM-40-E-512 | 2.25 | 2.59 | 2.81 |
| 5600 | CM-40-E-562 | 2.50 | 2.88 | 3.13 |
| 6200 | CM-40-E-622 | 2.90 | 3.34 | 3.63 |
| 6800 | CM-40-E-682 | 3.30 | 3.80 | 4.13 |
| 7500 | CM-40-E-752 | 3.65 | 4.20 | 4.56 |
| 8200 | CM-40-E-822 | 3.85 | 4.43 | 4.81 |
| 9100 | VCM-40-E-912 | 4.40 | 5.06 | 5.50 |
| 10000 | VCM-40-E-103 | 4.40 | 5.06 | 5.50 |
| 9100* | CM-40-E-912 | 4.00 | 4.60 | 5.00 |
| 10000* | CM-40-E-103 | 4.00 | 4.60 | 5.00 |

## TYPE CM-42




500 VDCW

| | | | | |
|---|---|---|---|---|
| 12000 | CM-42-E-123 | 3.90 | 4.49 | 4.88 |
| 13000 | CM-42-E-133 | 4.20 | 4.83 | 5.25 |
| 15000 | CM-42-E-153 | 4.80 | 5.52 | 6.00 |
| 16000 | CM-42-E-163 | 5.10 | 5.87 | 6.38 |
| 18000 | CM-42-E-183 | 5.70 | 6.56 | 7.13 |
| 20000 | CM-42-E-203 | 6.30 | 7.25 | 7.88 |
| 22000 | CM-42-E-223 | 6.90 | 7.94 | 8.63 |
| 24000 | CM-42-E-243 | 7.50 | 8.63 | 9.38 |
| 25000 | CM-42-E-253 | 7.80 | 8.97 | 9.75 |
| 27000* | CM-42-E-273 | 7.50 | 8.63 | 9.38 |
| 30000* | CM-42-E-303 | 7.80 | 8.97 | 9.75 |
| 33000* | CM-42-E-333 | 8.50 | 9.78 | 10.63 |
| 36000* | CM-42-E-363 | 9.50 | 10.93 | 11.88 |
| 39000* | CM-42-E-393 | 10.50 | 12.08 | 13.13 |

NOTE:—All above "SILVERED MICA" units can be supplied in "F" Characteristic at no extra cost. For ±½% double the 1% List price.

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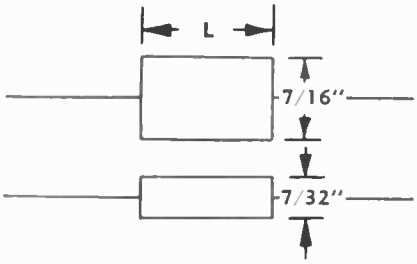
World Radio History

# MOLDED FOIL MICA

## TYPE CM-19 & 20



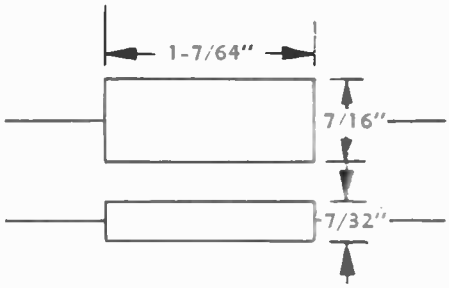

L—CM-19—11/16": CM-20—25/32"

**500 VDCW**

| Cap. Mmf. | Type Designation | List Price Tolerance "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 5 | CM-20B-050 | $0.30 | $0.33 | |
| 10 | CM-20B-100 | .30 | .33 | $0.38 |
| 12 | CM-20B-120 | .30 | .33 | .38 |
| 15 | CM-20B-150 | .30 | .33 | .38 |
| 18 | CM-20B-180 | .30 | .33 | .38 |
| 20 | CM-20B-200 | .30 | .33 | .38 |
| 22 | CM-20B-220 | .30 | .33 | .38 |
| 24 | CM-20B-240 | .30 | .33 | .38 |
| 27 | CM-20B-270 | .30 | .33 | .38 |
| 30 | CM-20B-300 | .30 | .33 | .38 |
| 33 | CM-20B-330 | .20 | .22 | .25 |
| 36 | CM-20B-360 | .20 | .22 | .25 |
| 39 | CM-20B-390 | .20 | .22 | .25 |
| 43 | CM-20B-430 | .20 | .22 | .25 |
| 47 | CM-20B-470 | .20 | .22 | .25 |
| 50 | CM-20B-500 | .20 | .22 | .25 |
| 51 | CM-20B-510 | .20 | .22 | .25 |
| 56 | CM-20B-560 | .20 | .22 | .25 |
| 62 | CM-20B-620 | .20 | .22 | .25 |
| 68 | CM-20B-680 | .20 | .22 | .25 |
| 75 | CM-20B-750 | .20 | .22 | .25 |
| 82 | CM-20B-820 | .20 | .22 | .25 |
| 91 | CM-20B-910 | .20 | .22 | .25 |
| 100 | CM-20B-101 | .20 | .22 | .25 |
| 110 | CM-20B-111 | .20 | .22 | .25 |
| 120 | CM-20B-121 | .20 | .22 | .25 |
| 130 | CM-20B-131 | .25 | .28 | .31 |
| 150 | CM-20B-151 | .25 | .28 | .31 |
| 160 | CM-20B-161 | .25 | .28 | .31 |
| 180 | CM-20B-181 | .25 | .28 | .31 |
| 200 | CM-20B-201 | .25 | .28 | .31 |
| 220 | CM-20B-221 | .25 | .28 | .31 |
| 240 | CM-20B-241 | .30 | .33 | .38 |
| 250 | CM-20B-251 | .30 | .33 | .38 |
| 270 | CM-20B-271 | .30 | .33 | .38 |
| 300 | CM-20B-301 | .30 | .33 | .38 |
| 330 | CM-20B-331 | .30 | .33 | .38 |
| 360 | CM-20B-361 | .30 | .33 | .38 |
| 390 | CM-20B-391 | .30 | .33 | .38 |
| 430 | CM-20B-431 | .30 | .33 | .38 |
| 470 | CM-20B-471 | .30 | .33 | .38 |
| 500 | CM-20B-501 | .30 | .33 | .38 |
| 510 | CM-20B-511 | .30 | .33 | .38 |
| 560 | CM-20B-561 | .35 | .39 | .44 |
| 620 | CM-20B-621 | .35 | .39 | .44 |
| 680 | CM-20B-681 | .35 | .39 | .44 |
| 750 | CM-20B-751 | .35 | .39 | .44 |
| 820 | CM-20B-821 | .40 | .44 | .50 |
| 910 | CM-20B-911 | .45 | .50 | .56 |
| 1000 | CM-20B-102 | .45 | .50 | .56 |
| 1100 | CM-20B-112 | .50 | .55 | .63 |
| 1200 | CM-20B-122 | .50 | .55 | .63 |
| 1300 | CM-20B-132 | .50 | .55 | .63 |
| 1500 | CM-20B-152 | .60 | .66 | .75 |
| 1600 | CM-20B-162 | .60 | .66 | .75 |
| 1800 | CM-20B-182 | .70 | .77 | .88 |
| 2000 | CM-20B-202 | .75 | .83 | .94 |
| 2200 | CM-20B-222 | .80 | .88 | 1.00 |
| 2400 | CM-20B-242 | .85 | .94 | 1.06 |
| 2500 | CM-20B-252 | .90 | .99 | 1.13 |
| 2700 | CM-20B-272 | $0.95 | $1.05 | $1.19 |
| 3000 | CM-20B-302 | 1.00 | 1.10 | 1.25 |
| 3300 | CM-20B-332 | 1.05 | 1.16 | 1.31 |
| 3600* | CM-20B-362 | 1.00 | 1.10 | 1.25 |
| 3900* | CM-20B-392 | 1.05 | 1.16 | 1.31 |
| 4300* | CM-20B-432 | 1.10 | 1.21 | 1.38 |
| 4700* | CM-20B-472 | 1.20 | 1.32 | 1.50 |
| 5000* | CM-20B-502 | 1.25 | 1.38 | 1.56 |
| 5100* | CM-20B-512 | 1.25 | 1.38 | 1.56 |

Capacities from 5 mmf. to 2700 mmf. can be supplied in CM-19 cases.

## TYPE CM-25




**500 VDCW**

| Cap. Mmf. | Type Designation | List Price Tolerance ±10% only |
|---|---|---|
| 51 | CM-25-B-510K | $0.28 |
| 56 | CM-25-B-560K | .28 |
| 62 | CM-25-B-620K | .28 |
| 68 | CM-25-B-680K | .28 |
| 75 | CM-25-B-750K | .28 |
| 82 | CM-25-B-820K | .28 |
| 91 | CM-25-B-910K | .28 |
| 100 | CM-25-B-101K | .28 |
| 110 | CM-25-B-111K | .28 |
| 120 | CM-25-B-121K | .28 |
| 130 | CM-25-B-131K | .28 |
| 150 | CM-25-B-151K | .28 |
| 160 | CM-25-B-161K | .28 |
| 180 | CM-25-B-181K | .28 |
| 200 | CM-25-B-201K | .28 |
| 220 | CM-25-B-221K | .28 |
| 240 | CM-25-B-241K | .33 |
| 250 | CM-25-B-251K | .33 |
| 270 | CM-25-B-271K | .33 |
| 300 | CM-25-B-301K | .33 |
| 330 | CM-25-B-331K | .33 |
| 360 | CM-25-B-361K | .33 |
| 390 | CM-25-B-391K | .33 |
| 430 | CM-25-B-431K | .33 |
| 470 | CM-25-B-471K | .33 |
| 500 | CM-25-B-501K | .33 |
| 510 | CM-25-B-511K | .33 |
| 560 | CM-25-B-561K | .39 |
| 620 | CM-25-B-621K | .39 |
| 680 | CM-25-B-681K | .39 |
| 750 | CM-25-B-751K | .39 |
| 820 | CM-25-B-821K | .44 |
| 910 | CM-25-B-911K | .50 |
| 1000 | CM-25-B-102K | .50 |
| 1100 | CM-25-B-112K | .55 |
| 1200 | CM-25-B-122K | .55 |
| 1300 | CM-25-B-132K | .55 |
| 1500 | CM-25-B-152K | .66 |
| 1600 | CM-25-B-162K | .66 |
| 1800 | CM-25-B-182K | .77 |
| 2000 | CM-25-B-202K | .83 |



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World Radio History

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CHICAGO 5, ILLINOIS

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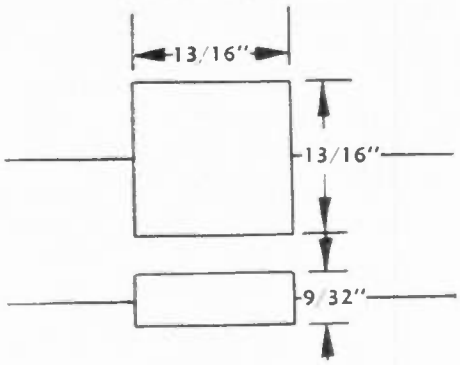
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# MOLDED FOIL MICA

## TYPE CM-30




500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 510 | CM-30-B-511 | $0.30 | $0.36 | $0.39 |
| 560 | CM-30-B-561 | .30 | .36 | .39 |
| 620 | CM-30-B-621 | .30 | .36 | .39 |
| 680 | CM-30-B-681 | .30 | .36 | .39 |
| 750 | CM-30-B-751 | .30 | .36 | .39 |
| 820 | CM-30-B-821 | .30 | .36 | .39 |
| 910 | CM-30-B-911 | .30 | .36 | .39 |
| 1000 | CM-30-B-102 | .35 | .39 | .44 |
| 1100 | CM-30-B-112 | .35 | .39 | .44 |
| 1200 | CM-30-B-122 | .35 | .39 | .44 |
| 1300 | CM-30-B-132 | .35 | .39 | .44 |
| 1500 | CM-30-B-152 | .40 | .44 | .50 |
| 1600 | CM-30-B-162 | .40 | .44 | .50 |
| 1800 | CM-30-B-182 | .45 | .50 | .56 |
| 2000 | CM-30-B-202 | .45 | .50 | .56 |
| 2200 | CM-30-B-222 | .45 | .50 | .56 |
| 2400 | CM-30-B-242 | .50 | .55 | .63 |
| 2500 | CM-30-B-252 | .50 | .55 | .63 |
| 2700 | CM-30-B-272 | .50 | .55 | .63 |
| 3000 | CM-30-B-302 | .60 | .66 | .75 |
| 3300 | CM-30-B-332 | .60 | .66 | .75 |
| 3600 | CM-30-B-362 | .60 | .66 | .75 |
| 3900 | CM-30-B-392 | .65 | .75 | .85 |
| 4300 | CM-30-B-432 | .65 | .75 | .85 |
| 4700 | CM-30-B-472 | .65 | .75 | .85 |
| 5000 | CM-30-B-502 | .70 | .81 | .91 |
| 5100 | CM-30-B-512 | .70 | .81 | .91 |
| 5600 | CM-30-B-562 | .70 | .81 | .91 |
| 6200 | CM-30-B-622 | .90 | 1.04 | 1.17 |

## TYPE CM-35

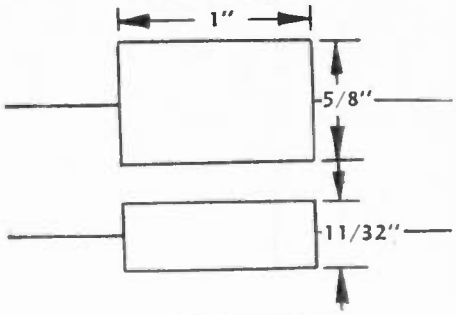
NOTE—Type CM-35 has same dimensions as type CM-30 above except that the thickness is 11/32".

500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 6800* | CM-35-B-682 | $0.95 | $1.05 | $1.19 |
| 7500* | CM-35-B-752 | 1.00 | 1.10 | 1.25 |
| 8200* | CM-35-B-822 | 1.15 | 1.27 | 1.44 |
| 9100* | CM-35-B-912 | 1.15 | 1.27 | 1.44 |
| 10000* | CM-35-B-103 | 1.40 | 1.54 | 1.75 |
| 12000* | CM-35-B-123 | 1.60 | 1.76 | 2.00 |
| 15000* | CM-35-B-153 | 2.00 | 2.20 | 2.50 |
| 6800 | VCM-35-B-682 | 1.05 | 1.16 | 1.31 |
| 7500 | VCM-35-B-752 | 1.15 | 1.27 | 1.44 |
| 8200 | VCM-35-B-822 | 1.30 | 1.43 | 1.62 |
| 9100 | VCM-35-B-912 | 1.30 | 1.43 | 1.62 |
| 10000 | VCM-35-B-103 | 1.55 | 1.71 | 1.94 |

All capacities marked with * are 300WV.

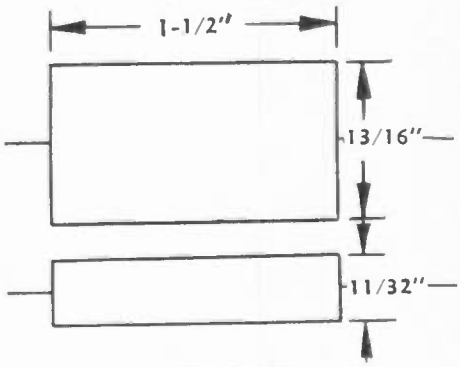
## TYPE CM-40




500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 2700 | CM-40-B-272 | $0.55 | $0.63 | $0.69 |
| 3000 | CM-40-B-302 | .60 | .69 | .75 |
| 3300 | CM-40-B-332 | .65 | .75 | .81 |
| 3600 | CM-40-B-362 | .70 | .81 | .88 |
| 3900 | CM-40-B-392 | .75 | .86 | .94 |
| 4300 | CM-40-B-432 | .80 | .92 | 1.00 |
| 4700 | CM-40-B-472 | .85 | .98 | 1.06 |
| 5000 | CM-40-B-502 | .90 | 1.04 | 1.13 |
| 5100 | CM-40-B-512 | .90 | 1.04 | 1.13 |
| 5600 | CM-40-B-562 | 1.00 | 1.15 | 1.25 |
| 6200 | CM-40-B-622 | 1.05 | 1.21 | 1.31 |
| 6800 | CM-40-B-682 | 1.15 | 1.32 | 1.44 |
| 7500 | CM-40-B-752 | 1.30 | 1.50 | 1.63 |
| 8200 | CM-40-B-822 | 1.40 | 1.61 | 1.75 |
| 9100 | VCM-40-B-912 | 1.60 | 1.84 | 2.00 |
| 10000 | VCM-40-B-103 | 1.70 | 1.96 | 2.13 |
| 9100* | CM-40-B-912 | 1.30 | 1.50 | 1.63 |
| 10000* | CM-40-B-103 | 1.50 | 1.73 | 1.88 |

## TYPE CM-42




500 VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance "M" ±20% | "K" ±10% |
|---|---|---|---|
| 12000 | CM-42-B-123 | $1.80 | $2.07 |
| 13000 | CM-42-B-133 | 1.95 | 2.24 |
| 15000 | CM-42-B-153 | 2.20 | 2.53 |
| 16000 | CM-42-B-163 | 2.30 | 2.65 |
| 18000 | CM-42-B-183 | 2.60 | 2.99 |
| 20000 | CM-42-B-203 | 2.80 | 3.22 |
| 22000 | CM-42-B-223 | 3.00 | 3.45 |
| 24000 | CM-42-B-243 | 3.30 | 3.80 |
| 25000 | CM-42-B-253 | 3.40 | 3.91 |
| 27000* | CM-42-B-273 | 3.10 | 3.57 |
| 30000* | CM-42-B-303 | 3.40 | 3.91 |
| 33000* | CM-42-B-333 | 3.65 | 4.20 |
| 36000* | CM-42-B-363 | 3.90 | 4.49 |
| 39000* | CM-42-B-393 | 4.20 | 4.83 |

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World Radio History

# ARCO ELECTRONICS INC.

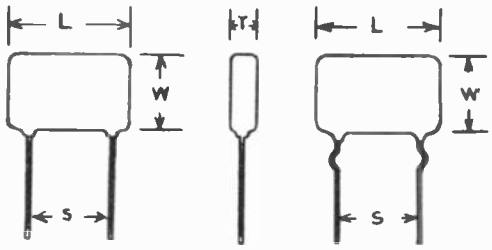
## ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

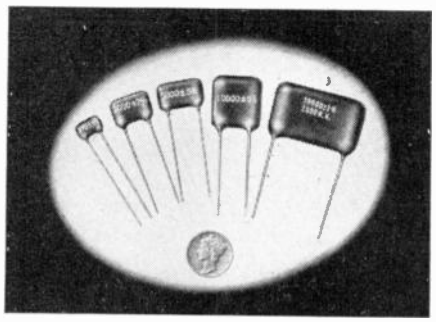



All ELMENCO Dur-Mica capacitors can be obtained with either straight or crimped leads as per line drawings above. The dimension from the bottom of the crimp to the coated portion of the lead is approximately 5/32 in all case sizes. Minimum length of crimped leads is 1¼". Lead sizes for both straight and crimped leads are identical except for the DM-15. Crimped lead DM-15 capacitors have #20 gage wire.

| | DM-15 | DM-19 | DM-20 | DM-30 | DM-40 | DM-42 |
|---|---|---|---|---|---|---|
| S (± 1/32) | 15/64 | 11/32 | 7/16 | 7/16 | 19/32 | 1-1/16 |
| WIRE LEAD | #22 | #20 | #20 | #18 | #18 | #18 |

## CASE SIZES — DUR-MICA SERIES

| Case Size | Cap. mmf. | Volt. VDCW | L max. | W max. | T max. |
|---|---|---|---|---|---|
| DM-15 | 10 | 500 | .446 | .351 | .163 |
| | 40 | 500 | .448 | .355 | .166 |
| | 100 | 500 | .451 | .360 | .175 |
| | 200 | 500 | .457 | .372 | .190 |
| | 400 | 500 | .470 | .395 | .220 |
| | 400 | 300 | .457 | .365 | .190 |
| | 600 | 300 | .463 | .371 | .204 |
| | 820 | 300 | .470 | .378 | .220 |
| DM-19 | 100 | 500 | .622 | .476 | .178 |
| | 200 | 500 | .624 | .478 | .180 |
| | 500 | 500 | .628 | .482 | .186 |
| | 1000 | 500 | .636 | .490 | .197 |
| | 2000 | 500 | .652 | .506 | .219 |
| | 3000 | 500 | .668 | .520 | .240 |
| | 3000 | 300 | .655 | .510 | .223 |
| | 4000 | 300 | .665 | .520 | .240 |
| DM-20 | 200 | 500 | .722 | .463 | .181 |
| | 600 | 500 | .726 | .469 | .189 |
| | 1000 | 500 | .730 | .475 | .196 |
| | 2000 | 500 | .740 | .490 | .215 |
| | 3000 | 500 | .750 | .505 | .234 |
| | 4300 | 500 | .760 | .525 | .258 |
| | 4300 | 300 | .750 | .511 | .233 |
| | 5000 | 300 | .755 | .520 | .242 |
| | 6200 | 300 | .763 | .533 | .258 |
| DM-30 | 3000 | 500 | .757 | .845 | .238 |
| | 5000 | 500 | .765 | .855 | .253 |
| | 7000 | 500 | .773 | .865 | .268 |
| | 10000 | 500 | .783 | .879 | .290 |
| | 10000 | 300 | .780 | .855 | .273 |
| | 15000 | 300 | .798 | .868 | .302 |
| | 20000 | 300 | .815 | .880 | .330 |
| DM-40 | 3000 | 500 | .927 | .659 | .220 |
| | 5000 | 500 | .938 | .682 | .247 |
| | 10000 | 500 | .965 | .740 | .315 |
| | 10000 | 300 | .962 | .693 | .263 |
| | 15000 | 300 | .990 | .725 | .305 |
| DM-42 | 10000 | 500 | 1.385 | .833 | .237 |
| | 20000 | 500 | 1.406 | .851 | .287 |
| | 30000 | 500 | 1.426 | .868 | .337 |
| | 40000 | 500 | 1.446 | .886 | .384 |
| | 40000 | 300 | 1.431 | .880 | .357 |
| | 50000 | 300 | 1.446 | .918 | .396 |
| | 63000 | 300 | 1.466 | .963 | .442 |



## TYPE DM-15

**500VDCW**

| Cap. Mmf. | Type Designation | List Price Tolerance ± 10% "K" | ± 5% "J" | ± 2% "G" | ± 1% "F" |
|---|---|---|---|---|---|
| 1 | DM-15-010† | $0.25 | | | |
| 2 | DM-15-020† | .25 | | | |
| 3 | DM-15-030† | .25 | | | |
| 5 | DM-15-050† | .25 | | | |
| 10 | DM-15-100 | .25 | $0.28 | | |
| 12 | DM-15-120 | .25 | .28 | | |
| 15 | DM-15-150 | .25 | .28 | | |
| 18 | DM-15-180 | .25 | .28 | | |
| 20 | DM-15-200 | .25 | .28 | | |
| 22 | DM-15-220 | .25 | .28 | | |
| 24 | DM-15-240 | .25 | .28 | | |
| 27 | DM-15-270 | .25 | .28 | $0.33 | |
| 30 | DM-15-300 | .25 | .28 | .33 | |
| 33 | DM-15-330 | .25 | .28 | .33 | |
| 36 | DM-15-360 | .25 | .28 | .33 | |
| 39 | DM-15-390 | .25 | .28 | .33 | |
| 43 | DM-15-430 | .25 | .28 | .33 | |
| 47 | DM-15-470 | .25 | .28 | .33 | |
| 50 | DM-15-500 | .25 | .28 | .33 | $0.40 |
| 51 | DM-15-510 | .25 | .28 | .33 | .40 |
| 56 | DM-15-560 | .25 | .28 | .33 | .40 |
| 62 | DM-15-620 | .25 | .28 | .33 | .40 |
| 68 | DM-15-680 | .25 | .28 | .33 | .40 |
| 75 | DM-15-750 | .25 | .28 | .33 | .40 |
| 82 | DM-15-820 | .25 | .28 | .33 | .40 |
| 91 | DM-15-910 | .25 | .28 | .33 | .40 |
| 100 | DM-15-101 | .25 | .28 | .33 | .40 |
| 110 | DM-15-111 | .30 | .33 | .39 | .48 |
| 120 | DM-15-121 | .30 | .33 | .39 | .48 |
| 130 | DM-15-131 | .30 | .33 | .39 | .48 |
| 150 | DM-15-151 | .30 | .33 | .39 | .48 |
| 160 | DM-15-161 | .35 | .39 | .46 | .56 |
| 180 | DM-15-181 | .35 | .39 | .46 | .56 |
| 200 | DM-15-201 | .35 | .39 | .46 | .56 |
| 220 | DM-15-221 | .40 | .44 | .52 | .64 |
| 240 | DM-15-241 | .40 | .44 | .52 | .64 |
| 250 | DM-15-251 | .40 | .44 | .52 | .64 |
| 270 | DM-15-271 | .45 | .50 | .59 | .72 |
| 300 | DM-15-301 | .45 | .50 | .59 | .72 |
| 330 | DM-15-331 | .50 | .55 | .65 | .80 |
| 360 | DM-15-361 | .50 | .55 | .65 | .80 |
| 390 | DM-15-391 | .55 | .61 | .72 | .88 |
| 430* | DM-15-431 | .55 | .61 | .72 | .88 |
| 470* | DM-15-471 | .60 | .66 | .78 | .96 |
| 500* | DM-15-501 | .60 | .66 | .78 | .96 |
| 510* | DM-15-511 | .60 | .66 | .78 | .96 |
| 560* | DM-15-561 | .65 | .72 | .85 | 1.04 |
| 620* | DM-15-621 | .70 | .77 | .91 | 1.12 |
| 680* | DM-15-681 | .75 | .83 | .98 | 1.20 |
| 750* | DM-15-751 | .80 | .88 | 1.04 | 1.28 |
| 820* | DM-15-821 | .85 | .94 | 1.11 | 1.36 |
| 910** | DM-15-911 | .95 | 1.05 | 1.14 | 1.43 |
| 1000** | DM-15-102 | 1.00 | 1.10 | 1.30 | 1.60 |

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

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NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

## TYPE DM-19 500VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance ±10% "K" | ±5% "J" | ±2% "G" | ±1% "F" |
|---|---|---|---|---|---|
| 100 | DM-19-101 | $0.25 | $0.28 | $0.30 | $0.38 |
| 110 | DM-19-111 | .30 | .33 | .36 | .45 |
| 120 | DM-19-121 | .30 | .33 | .36 | .45 |
| 130 | DM-19-131 | .30 | .33 | .36 | .45 |
| 150 | DM-19-151 | .30 | .33 | .36 | .45 |
| 160 | DM-19-161 | .30 | .33 | .36 | .45 |
| 180 | DM-19-181 | .30 | .33 | .36 | .45 |
| 200 | DM-19-201 | .30 | .33 | .36 | .45 |
| 220 | DM-19-221 | .30 | .33 | .36 | .45 |
| 240 | DM-19-241 | .35 | .39 | .42 | .53 |
| 250 | DM-19-251 | .35 | .39 | .42 | .53 |
| 270 | DM-19-271 | .40 | .44 | .48 | .60 |
| 300 | DM-19-301 | .40 | .44 | .48 | .60 |
| 330 | DM-19-331 | .40 | .44 | .48 | .60 |
| 360 | DM-19-361 | .45 | .50 | .54 | .68 |
| 390 | DM-19-391 | .45 | .50 | .54 | .68 |
| 430 | DM-19-431 | .45 | .50 | .54 | .68 |
| 470 | DM-19-471 | .50 | .55 | .60 | .75 |
| 500 | DM-19-501 | .50 | .55 | .60 | .75 |
| 510 | DM-19-511 | .50 | .55 | .60 | .75 |
| 560 | DM-19-561 | .55 | .61 | .66 | .83 |
| 620 | DM-19-621 | .55 | .61 | .66 | .83 |
| 680 | DM-19-681 | .60 | .66 | .72 | .90 |
| 750 | DM-19-751 | .60 | .66 | .72 | .90 |
| 820 | DM-19-821 | .60 | .66 | .72 | .90 |
| 910 | DM-19-911 | .65 | .72 | .78 | .98 |
| 1000 | DM-19-102 | .70 | .77 | .84 | 1.05 |
| 1100 | DM-19-112 | .70 | .77 | .84 | 1.05 |
| 1200 | DM-19-122 | .75 | .83 | .90 | 1.13 |
| 1300 | DM-19-132 | .80 | .88 | .96 | 1.20 |
| 1500 | DM-19-152 | .85 | .94 | 1.02 | 1.28 |
| 1600 | DM-19-162 | .90 | .99 | 1.08 | 1.35 |
| 1800 | DM-19-182 | 1.00 | 1.10 | 1.20 | 1.50 |
| 2000 | DM-19-202 | 1.10 | 1.21 | 1.32 | 1.65 |
| 2200 | DM-19-222 | 1.20 | 1.32 | 1.44 | 1.80 |
| 2400 | DM-19-242 | 1.30 | 1.43 | 1.56 | 1.95 |
| 2500 | DM-19-252 | 1.35 | 1.49 | 1.62 | 2.03 |
| 2700 | DM-19-272 | 1.40 | 1.54 | 1.68 | 2.10 |
| 3000 | DM-19-302 | 1.50 | 1.65 | 1.80 | 2.25 |

## TYPE DM-20 500VDCW

| | | | | | |
|---|---|---|---|---|---|
| 680 | DM-20-681 | $0.50 | $0.55 | $0.60 | $0.75 |
| 750 | DM-20-751 | .50 | .55 | .60 | .75 |
| 820 | DM-20-821 | .50 | .55 | .60 | .75 |
| 910 | DM-20-911 | 55 | .61 | .66 | .83 |
| 1000 | DM-20-102 | .60 | .66 | .72 | .90 |
| 1100 | DM-20-112 | .60 | .66 | .72 | .90 |
| 1200 | DM-20-122 | .65 | .72 | .78 | .98 |
| 1300 | DM-20-132 | .70 | .77 | .84 | 1.05 |
| 1500 | DM-20-152 | .75 | .83 | .90 | 1.13 |
| 1600 | DM-20-162 | .80 | .88 | .96 | 1.20 |
| 1800 | DM-20-182 | .90 | .99 | 1.08 | 1.35 |
| 2000 | DM-20-202 | .95 | 1.05 | 1.14 | 1.43 |
| 2200 | DM-20-222 | 1.05 | 1.16 | 1.26 | 1.58 |
| 2400 | DM-20-242 | 1.10 | 1.21 | 1.32 | 1.65 |
| 2500 | DM-20-252 | 1.10 | 1.21 | 1.32 | 1.65 |
| 2700 | DM-20-272 | 1.20 | 1.32 | 1.44 | 1.80 |
| 3000 | DM-20-302 | 1.30 | 1.43 | 1.56 | 1.95 |
| 3300 | DM-20-332 | 1.40 | 1.54 | 1.68 | 2.10 |
| 3600 | DM-20-362 | 1.50 | 1.65 | 1.80 | 2.25 |
| 3900 | DM-20-392 | 1.60 | 1.76 | 1.92 | 2.40 |
| 4300 | DM-20-432 | 1.70 | 1.87 | 2.04 | 2.55 |
| 4700 | DM-20-472 | 1.80 | 1.98 | 2.16 | 2.70 |
| 5000* | DM-20-502 | 1.75 | 1.93 | 2.10 | 2.63 |
| 5100* | DM-20-512 | 1.80 | 1.98 | 2.16 | 2.70 |
| 5600* | DM-20-562 | 1.90 | 2.09 | 2.28 | 2.85 |
| 6200* | DM-20-622 | 2.00 | 2.20 | 2.40 | 3.00 |
| 6800** | DM-20-682 | 2.10 | 2.31 | 2.52 | 2.73 |
| 7500** | DM-20-752 | 2.20 | 2.42 | 2.64 | 3.30 |
| 8200** | DM-20-822 | 2.50 | 2.75 | 3.00 | 3.25 |

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.

NOTE

Characteristics on above units are as follows:
DM-15 "C" Characteristic from 1 to 20 Mmf.
DM-15 "E" Characteristic from 22 to 51 Mmf.
DM-15 "F" Characteristic from 56 and up.
All capacities listed above in DM-19 and DM-20 are "F" Characteristic.

For ±½% from 100 Mmf. up double the list price of the 5% units.
† Minimum Tolerance ±0.5 Mmf.

## TYPE DM-30 500VDCW

| Cap. Mmf. | Type Designation | List Price Tolerance ±10% "K" | ±5% "J" | ±2% "G" | ±1% "F" |
|---|---|---|---|---|---|
| 4300 | DM-30-432 | $1.60 | $1.76 | $1.92 | $2.08 |
| 4700 | DM-30-472 | 1.70 | 1.87 | 2.04 | 2.21 |
| 5000 | DM-30-502 | 1.75 | 1.93 | 2.10 | 2.28 |
| 5100 | DM-30-512 | 1.75 | 1.93 | 2.10 | 2.28 |
| 5600 | DM-30-562 | 1.80 | 1.98 | 2.16 | 2.34 |
| 6200 | DM-30-622 | 1.90 | 2.09 | 2.28 | 2.47 |
| 6800 | DM-30-682 | 2.10 | 2.31 | 2.52 | 2.73 |
| 7500 | DM-30-752 | 2.30 | 2.53 | 2.76 | 2.99 |
| 8200 | DM-30-822 | 2.50 | 2.75 | 3.00 | 3.25 |
| 9100 | DM-30-912 | 2.70 | 2.97 | 3.24 | 3.51 |
| 10000 | DM-30-103 | 3.00 | 3.30 | 3.60 | 3.90 |
| 12000 | DM-30-123 | 3.50 | 3.85 | 4.03 | 4.55 |
| 13000 | DM-30-133 | 3.75 | 4.13 | 4.31 | 4.88 |
| 15000 | DM-30-156 | 4.25 | 4.68 | 4.89 | 5.53 |
| 16000 | DM-30-163 | 4.50 | 4.95 | 5.18 | 5.85 |
| 18000 | DM-30-183 | 5.00 | 5.50 | 5.75 | 6.50 |
| 20000 | DM-30-203 | 5.50 | 6.05 | 6.33 | 7.15 |
| 22000* | DM-30-223 | 5.70 | 6.27 | 6.56 | 7.41 |
| 24000* | DM-30-243 | 6.15 | 6.77 | 7.07 | 8.00 |
| 25000* | DM-30-253 | 6.40 | 7.04 | 7.36 | 8.32 |
| 27000* | DM-30-273 | 6.85 | 7.54 | 8.22 | 8.91 |
| 30000** | DM-30-303 | 7.50 | 8.25 | 9.00 | 9.75 |
| 33000** | DM-30-333 | 8.25 | 9.08 | 9.90 | 10.73 |
| 36000** | DM-30-363 | 9.00 | 9.90 | 10.80 | 11.70 |

## TYPE DM-40 500VDCW

his case size series is available, but it is not carried as a :andard stock item as yet. Add 15% to list prices for M-30 values with comparable specifications to determine le DM-40 list price. Delivery time is four weeks.

## TYPE DM-42 500VDCW

| | | | | |
|---|---|---|---|---|
| 10000 | DM-42-103 | $3.30 | $3.80 | $4.13 |
| 12000 | DM-42-123 | 3.90 | 4.49 | 4.88 |
| 13000 | DM-42-133 | 4.20 | 4.83 | 5.25 |
| 15000 | DM-42-153 | 4.80 | 5.52 | 6.00 |
| 16000 | DM-42-163 | 5.10 | 5.87 | 6.38 |
| 18000 | DM-42-183 | 5.70 | 6.56 | 7.13 |
| 20000 | DM-42-203 | 6.30 | 7.25 | 7.88 |
| 22000 | DM-42-223 | 6.90 | 7.94 | 8.63 |
| 24000 | DM-42-243 | 7.50 | 8.63 | 9.38 |
| 25000 | DM-42-253 | 7.80 | 8.97 | 9.75 |
| 27000 | DM-42-273 | 8.40 | 9.66 | 10.50 |
| 30000 | DM-42-303 | 9.30 | 10.70 | 11.63 |
| 33000 | DM-42-333 | 10.20 | 11.73 | 12.75 |
| 36000 | DM-42-363 | 11.10 | 12.77 | 13.88 |
| 39000 | DM-42-393 | 12.00 | 13.80 | 15.00 |
| 43000 | DM-42-433 | 13.00 | 14.95 | 16.25 |
| 47000* | DM-42-473 | 11.00 | 12.65 | 13.75 |
| 50000* | DM-42-503 | 12.80 | 14.72 | 16.00 |
| 51000* | DM-42-513 | 13.10 | 15.07 | 16.38 |
| 56000* | DM-42-563 | 14.20 | 16.33 | 17.75 |
| 62000* | DM-42-623 | 15.60 | 17.94 | 19.50 |
| 68000** | DM-42-683 | 17.00 | 19.55 | 21.25 |
| 75000** | DM-42-753 | 18.70 | 21.51 | 23.38 |
| 82000** | DM-42-823 | 20.40 | 23.46 | 25.50 |

## TYPE DM-43 500 VDCW

| | | | | |
|---|---|---|---|---|
| 50000 | DM-43-503 | $14.50 | $16.68 | $18.13 |
| 51000 | DM-43-513 | 14.80 | 17.02 | 18.50 |
| 56000 | DM-43-563 | 16.20 | 18.63 | 20.25 |
| 62000 | DM-43-623 | 17.90 | 20.58 | 22.38 |
| 68000 | DM-43-683 | 19.50 | 22.43 | 24.38 |
| 75000* | DM-43-753 | 16.00 | 18.40 | 20.00 |
| 82000* | DM-43-823 | 17.50 | 20.13 | 21.88 |
| 91000* | DM-43-913 | 19.00 | 21.85 | 23.75 |
| 100000* | DM-43-104 | 21.00 | 24.15 | 26.25 |
| 110000** | DM-43-114 | 17.00 | 19.55 | 21.25 |
| 120000** | DM-43-124 | 18.50 | 21.28 | 23.13 |
| 130000** | DM-43-134 | 20.00 | 23.00 | 25.00 |

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.

NOTE

All capacities listed above in DM-30, DM-40 and DM-42 case sizes are "F" characteristic. For ±½% tolerance, double the ±5% list price.

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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

Demand for smaller units in higher voltages designed to meet the requirements for TELEVISION, POWER AMPLIFIERS, LOW POWER TRANSMITTERS, and various INDUSTRIAL USES has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of TELEVISION RECEIVERS.

In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. NO SPECIAL MOUNTINGS ARE NECESSARY; just wire right into the circuit.

The capacitors are molded in low-loss Phenolic Resin in CM-20, CM-35, CM-42 cases and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient capacitance drift, susceptibility to humidity, and length of life, according to RMA Standards. All units are wax-dipped for protection against salt water immersion.

## VCM-20 HI-VOLTAGE MOLDED SILVER MICA

CHARACTERISTICS "B" - "C" & "D"

| | | 2000 VOLTS DC TEST 1000 VOLTS DC WKG. TOLERANCE . . . . . LIST PRICE | | | | | 3000 VOLTS DC TEST 1500 VOLTS DC WKG. TOLERANCE . . . . . LIST PRICE | | | | | 5000 VOLTS DC TEST 2500 VOLTS DC WKG. TOLERANCE . . . . . LIST PRICE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cap. Mmf. | Type Designation | "M" ±20% | "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% | "M" ±20% | "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% | "M" ±20% | "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% |
| 5 | VCM-20-050 | $0.30 | $0.35 | $0.45 | | | | | | | | $0.35 | $0.40 | | | |
| 10 | VCM-20-100 | .30 | .35 | .45 | | | | | $0.50 | | | .35 | .40 | $0.50 | | |
| 12 | VCM-20-120 | .30 | .35 | .45 | | | USE | | .50 | | | .35 | .40 | .50 | | |
| 15 | VCM-20-150 | .30 | .35 | .45 | | | 2500 | | .50 | | | .35 | .40 | .50 | | |
| 18 | VCM-20-180 | .30 | .35 | .45 | | | WV | | .50 | | | .35 | .40 | .50 | | |
| 20 | VCM-20-200 | .30 | .35 | .45 | | | UNITS | | | | | .35 | .40 | .50 | | |
| 22 | VCM-20-220 | .30 | .35 | .45 | | | | | .50 | | | .35 | .40 | .50 | | |
| 24 | VCM-20-240 | .30 | .35 | .45 | | | | | .50 | | | .35 | .40 | .50 | | |
| 27 | VCM-20-270 | .30 | .35 | .45 | $0.52 | | | | .50 | $0.58 | | .35 | .40 | .50 | $0.58 | |
| 30 | VCM-20-300 | .30 | .35 | .45 | .52 | | $0.35 | $0.40 | .50 | .58 | | .40 | .46 | .60 | .69 | |
| 33 | VCM-20-330 | .30 | .35 | .45 | .52 | | .35 | .40 | .50 | .58 | | .40 | .46 | .60 | .69 | |
| 36 | VCM-20-360 | .30 | .35 | .45 | .52 | | .35 | .40 | .50 | .58 | | .40 | .46 | .60 | .69 | |
| 39 | VCM-20-390 | .30 | .35 | .45 | .52 | | .35 | .40 | .50 | .58 | | .40 | .46 | .60 | .69 | |
| 43 | VCM-20-430 | .30 | .35 | .45 | .52 | | .35 | .40 | .50 | .58 | | .40 | .46 | .60 | .69 | |
| 47 | VCM-20-470 | .30 | .35 | .45 | .52 | | .35 | .40 | .55 | .63 | | .40 | .46 | .70 | .81 | |
| 50 | VCM-20-500 | .30 | .35 | .45 | .52 | $0.56 | .35 | .40 | .55 | .63 | $0.69 | .40 | .46 | .70 | .81 | $0.88 |
| 51 | VCM-20-510 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .40 | .46 | .70 | .81 | .88 |
| 56 | VCM-20-560 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .40 | .46 | .70 | .81 | .88 |
| 62 | VCM-20-620 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .40 | .46 | .70 | .81 | .88 |
| 68 | VCM-20-680 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .45 | .52 | .80 | .92 | 1.00 |
| 75 | VCM-20-750 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .50 | .58 | .90 | 1.04 | 1.13 |
| 82 | VCM-20-820 | .30 | .35 | .45 | .52 | .56 | .35 | .40 | .55 | .63 | .69 | .50 | .58 | .90 | 1.04 | 1.13 |
| 91 | VCM-20-910 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .60 | .69 | .75 | .50 | .58 | .90 | 1.04 | 1.13 |
| 100 | VCM-20-101 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .60 | .69 | .75 | .55 | .66 | 1.00 | 1.15 | 1.25 |
| 110 | VCM-20-111 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .60 | .69 | .75 | .60 | .72 | 1.10 | 1.27 | 1.38 |
| 120 | VCM-20-121 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .60 | .69 | .75 | .60 | .72 | 1.20 | 1.38 | 1.50 |
| 130 | VCM-20-131 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .60 | .69 | .75 | .60 | .72 | 1.20 | 1.38 | 1.50 |
| 150 | VCM-20-151 | .35 | .40 | .50 | .58 | .63 | .40 | .46 | .70 | .81 | .88 | .65 | .78 | 1.30 | 1.50 | 1.63 |
| 160 | VCM-20-161 | .35 | .40 | .55 | .63 | .69 | .40 | .46 | .70 | .81 | .88 | .70 | .84 | 1.40 | 1.61 | 1.75 |
| 180 | VCM-20-181 | .35 | .40 | .55 | .63 | .69 | .40 | .46 | .70 | .81 | .88 | .70 | .84 | 1.40 | 1.61 | 1.75 |
| 200 | VCM-20-201 | .40 | .46 | .55 | .63 | .69 | .45 | .52 | .80 | .92 | 100 | .80 | .96 | 1.60 | 1.84 | 2.00 |
| 220 | VCM-20-221 | .40 | .46 | .60 | .69 | .75 | .45 | .52 | .80 | .92 | 100 | .85 | 1.02 | 1.60 | 1.84 | 2.00 |
| 240 | VCM-20-241 | .40 | .46 | .60 | .69 | .75 | .45 | .52 | .80 | .92 | 100 | | | | | |
| 250 | VCM-20-251 | .40 | .46 | .65 | .75 | .81 | .55 | .66 | 1.00 | 1.15 | 1.25 | | | | | |
| 270 | VCM-20-271 | .40 | .46 | .65 | .75 | .81 | .55 | .66 | 1.00 | 1.15 | 1.25 | | | | | |
| 300 | VCM-20-301 | .45 | .52 | .70 | .81 | .88 | .60 | .72 | 1.10 | 1.27 | 1.38 | | | | | |
| 330 | VCM-20-331 | .45 | .52 | .70 | .81 | .88 | .60 | .72 | 1.10 | 1.27 | 1.38 | | | | | |
| 360 | VCM-20-361 | .45 | .52 | .70 | .81 | .88 | .60 | .72 | 1.15 | 1.32 | 1.44 | | | | | |
| 390 | VCM-20-391 | .45 | .52 | .70 | .81 | .88 | .65 | .78 | 1.15 | 1.32 | 1.44 | | | | | |
| 430 | VCM-20-431 | .50 | .58 | .75 | .86 | .94 | .65 | .78 | 1.20 | 1.38 | 1.50 | | | | | |
| 470 | VCM-20-471 | .50 | .58 | .75 | .86 | .94 | .70 | .84 | 1.25 | 1.44 | 1.56 | | | | | |
| 500 | VCM-20-501 | .50 | .58 | .75 | .86 | .94 | .70 | .84 | 1.30 | 1.50 | 1.63 | | | | | |
| 510 | VCM-20-511 | .50 | .58 | .75 | .86 | .94 | .70 | .84 | 1.30 | 1.50 | 1.63 | | | | | |
| 560 | VCM-20-561 | .55 | .66 | .80 | .92 | 1.00 | .80 | .96 | 1.35 | 1.55 | 1.69 | | | | | |
| 620 | VCM-20-621 | .55 | .66 | .85 | .98 | 1.06 | | | | | | | | | | |
| 680 | VCM-20-681 | .60 | .72 | .90 | 1.04 | 1.13 | | | | | | | | | | |
| 750 | VCM-20-751 | .60 | .72 | .95 | 1.09 | 1.19 | | | | | | | | | | |
| 820 | VCM-20-821 | .65 | .78 | 1.00 | 1.15 | 1.25 | | | | | | | | | | |
| 910 | VCM-20-911 | .70 | .84 | 1.05 | 1.21 | 1.31 | | | | | | | | | | |
| 1000 | VCM-20-102 | .75 | .90 | 1.10 | 1.27 | 1.38 | | | | | | | | | | |
| 1100 | VCM-20-112 | .80 | .92 | 1.20 | 1.38 | 1.50 | | | | | | | | | | |
| 1200 | VCM-20-122 | .85 | .98 | 1.25 | 1.44 | 1.56 | | | | | | | | | | |
| 1300 | VCM-20-132 | .90 | 1.04 | 1.30 | 1.50 | 1.63 | | | | | | | | | | |

**PLEASE SPECIFY WORKING VOLTAGE RATING WHEN ORDERING**



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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

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NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

## VCM-35 & 42 HI-VOLTAGE REGULAR FOIL MICA

## VCM-35 & 42 HI-VOLTAGE SILVERED MICA

| | | "B" CHARACTERISTIC | | | | | | "C" - "D" - "E" - "F" CHARACTERISTIC | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000VDC Test 1000VDC Wkg. List Price | | 3000VDC Test 1500VDC Wkg. List Price | | 5000VDC Test 2500VDC Wkg. List Price | | 2000VDC Test 1000VDC Wkg. List Price | | | 3000VDC Test 1500VDC Wkg. List Price | | | 5000VDC Test 2500VDC Wkg. List Price | | |
| Cap. Mmf. | Type Designation | "M" ±20% | "K" ±10% | "M" ±20% | "K" ±10% | "M" ±20% | "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% | "J" ±5% | "G" ±2% | "F" ±1% | "J" ±5% | "G" ±2% | "F" ±1% |
| 240 | VCM-35-241 | | | | | $0.60 | $0.69 | | | | | | | $1.20 | $1.38 | $1.50 |
| 250 | VCM-35-251 | | | | | .60 | .69 | | | | | | | 1.20 | 1.38 | 1.50 |
| 270 | VCM-35-271 | | | | | .60 | .69 | | | | | | | 1.20 | 1.38 | 1.50 |
| 300 | VCM-35-301 | | | | | .65 | .75 | | | | | | | 1.30 | 1.50 | 1.63 |
| 330 | VCM-35-331 | | | | | .65 | .75 | | | | | | | 1.30 | 1.50 | 1.63 |
| 360 | VCM-35-361 | | | | | .75 | .86 | | | | | | | 1.50 | 1.73 | 1.88 |
| 390 | VCM-35-391 | | | | | .80 | .92 | | | | | | | 1.60 | 1.84 | 2.00 |
| 430 | VCM-35-431 | | | | | .80 | .92 | | | | | | | 1.60 | 1.84 | 2.00 |
| 470 | VCM-35-471 | | | | | .80 | .92 | | | | | | | 1.60 | 1.84 | 2.00 |
| 500 | VCM-35-501 | | | | | .85 | .98 | | | | | | | 1.70 | 1.96 | 2.13 |
| 510 | VCM-35-511 | | | | | .85 | .98 | | | | | | | 1.70 | 1.96 | 2.13 |
| 560 | VCM-35-561 | | | | | .90 | 1.04 | | | | | | | 1.80 | 2.07 | 2.25 |
| 620 | VCM-35-621 | | | | | .95 | 1.09 | | | | | | | 1.90 | 2.19 | 2.38 |
| 680 | VCM-35-681 | | | $0.75 | $0.86 | 1.05 | 1.21 | | | | $1.50 | $1.73 | $1.88 | 2.10 | 2.42 | 2.63 |
| 750 | VCM-35-751 | | | .75 | .86 | 1.10 | 1.27 | | | | 1.50 | 1.73 | 1.88 | 2.20 | 2.53 | 2.75 |
| 820 | VCM-35-821 | | | .85 | .98 | 1.15 | 1.32 | | | | 1.70 | 1.96 | 2.13 | 2.30 | 2.65 | 2.88 |
| 910 | VCM-35-911 | | | .90 | 1.04 | 1.35 | 1.55 | | | | 1.80 | 2.07 | 2.25 | 2.70 | 3.10 | 3.38 |
| 1000 | VCM-35-102 | | | .90 | 1.04 | 1.40 | 1.61 | | | | 1.80 | 2.07 | 2.25 | 2.80 | 3.22 | 3.50 |
| 1100 | VCM-35-112 | $0.60 | $0.69 | .95 | 1.09 | 1.40 | 1.61 | $1.20 | $1.38 | $1.50 | 1.90 | 2.19 | 2.38 | 2.80 | 3.22 | 3.50 |
| 1200 | VCM-35-122 | .65 | .75 | 1.10 | 1.27 | 1.50 | 1.73 | 1.30 | 1.50 | 1.63 | 2.20 | 2.53 | 2.75 | 3.00 | 3.45 | 3.75 |
| 1300 | VCM-35-132 | .65 | .75 | 1.15 | 1.32 | 1.65 | 1.90 | 1.30 | 1.50 | 1.63 | 2.30 | 2.65 | 2.88 | 3.30 | 3.80 | 4.13 |
| 1500 | VCM-35-152 | .75 | .86 | 1.30 | 1.50 | 1.85 | 2.03 | 1.50 | 1.73 | 1.88 | 2.60 | 2.99 | 3.25 | 3.70 | 4.20 | 4.63 |
| 1600 | VCM-35-162 | .80 | .92 | 1.30 | 1.50 | 2.00 | 2.30 | 1.60 | 1.84 | 2.00 | 2.60 | 2.99 | 3.25 | 4.00 | 4.60 | 5.00 |
| 1800 | VCM-35-182 | .80 | .92 | 1.45 | 1.67 | | | 1.60 | 1.84 | 2.00 | 2.90 | 3.34 | 3.63 | | | |
| 2000 | VCM-35-202 | .85 | .98 | 1.60 | 1.84 | | | 1.70 | 1.96 | 2.13 | 3.20 | 3.68 | 4.00 | | | |
| 2200 | VCM-35-222 | .95 | 1.09 | 1.70 | 1.96 | | | 1.90 | 2.19 | 2.38 | 3.40 | 3.91 | 4.25 | | | |
| 2400 | VCM-35-242 | 1.05 | 1.21 | 1.80 | 2.07 | | | 2.10 | 2.42 | 2.63 | 3.60 | 4.14 | 4.50 | | | |
| 2700 | VCM-35-272 | 1.05 | 1.21 | 2.00 | 2.30 | | | 2.10 | 2.42 | 2.63 | 4.00 | 4.60 | 5.00 | | | |
| 3000 | VCM-35-302 | 1.15 | 1.32 | 2.20 | 2.53 | | | 2.30 | 2.65 | 2.88 | 4.40 | 5.06 | 5.50 | | | |
| 3300 | VCM-35-332 | 1.20 | 1.38 | 2.30 | 2.65 | | | 2.40 | 2.76 | 3.00 | 4.60 | 5.29 | 5.75 | | | |
| 3600 | VCM-35-362 | 1.35 | 1.55 | | | | | 2.70 | 3.10 | 3.38 | | | | | | |
| 3900 | VCM-35-392 | 1.40 | 1.61 | | | | | 2.80 | 3.22 | 3.50 | | | | | | |
| 4300 | VCM-35-432 | 1.50 | 1.73 | | | | | 3.00 | 3.45 | 3.75 | | | | | | |
| 4700 | VCM-35-472 | 1.65 | 1.90 | | | | | 3.30 | 3.80 | 4.13 | | | | | | |
| 5000 | VCM-35-502 | 1.75 | 2.00 | | | | | 3.40 | 3.91 | 4.25 | | | | | | |
| 5100 | VCM-35-512 | 1.75 | 2.00 | | | | | 3.40 | 3.91 | 4.25 | | | | | | |
| 5600 | VCM-35-562 | 2.00 | 2.30 | | | | | 3.80 | 4.37 | 4.75 | | | | | | |
| 6200 | VCM-42-622 | 2.10 | 2.42 | | | | | 4.30 | 4.95 | 5.38 | | | | | | |
| 6800 | VCM-42-682 | 2.20 | 2.53 | | | | | 4.60 | 5.29 | 5.75 | | | | | | |
| 7500 | VCM-42-752 | 2.30 | 2.65 | | | | | 4.90 | 5.64 | 6.13 | | | | | | |
| 8200 | VCM-42-822 | 2.40 | 2.76 | | | | | 5.30 | 6.10 | 6.63 | | | | | | |
| 9100 | VCM-42-912 | 2.60 | 2.99 | | | | | 5.80 | 6.67 | 7.25 | | | | | | |
| 10000 | VCM-42-103 | 2.80 | 3.22 | | | | | 6.30 | 7.25 | 7.88 | | | | | | |
| 12000 | VCM-42-123 | 3.00 | 3.45 | | | | | 7.30 | 8.40 | 9.13 | | | | | | |
| 13000 | VCM-42-133 | 3.50 | 4.03 | | | | | 8.00 | 9.20 | 10.00 | | | | | | |
| 15000 | VCM-42-153 | 4.00 | 4.60 | | | | | 9.00 | 10.35 | 11.25 | | | | | | |
| 16000 | VCM-42-163 | 4.50 | 5.18 | | | | | 9.60 | 11.04 | 12.00 | | | | | | |

NOTE:—All above units can be supplied in characteristic "C"-"D"-"E"-"F" at the above list prices.

## WHEN ORDERING PLEASE SPECIFY WORKING VOLTAGE RATING

**REGULAR FOIL MICA**
**Designate VCM-35B**

**SILVERED MICA**
**Designate VCM-35C-D-E or F**

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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

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ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

**NEW**

**dp**

**TUBULARS**

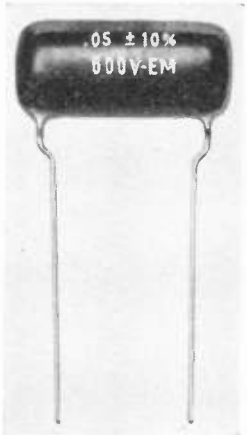
Another ELMENCO "first" is announced with the introduction of the new dipped tubular capacitor. The "DP" series is designed for use in a variety of circuits ranging from TV by-pass to critical industrial applications requiring stringent electrical and environmental characteristics. New high levels of ruggedness, stability, and reliability have been achieved. The new ELMENCO DP Tubulars are miniaturized for transistor circuitry yet compare favorably in price with commercial general purpose units.

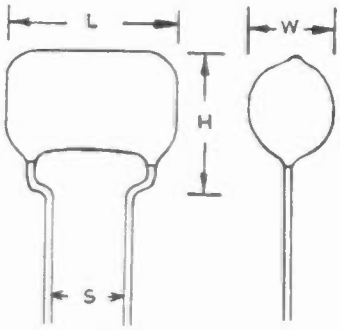
ELMENCO DP Tubulars are non-inductively wound and vacuum dipped to obtain solid impregnation and rugged moisture-resistant coat. Special winding design provides insulation resistance comparable to competitive polyester film units. High reliability is maintained in constant operation at highest temperature and humidity encountered in TV and radio circuits.

Leads are radial and crimped to facilitate use in printed circuits. They are tinned copper #20 gage and are 1 5/8" min. below the crimp.

Standard tolerance is ±10%.

Tolerance of ±5% is available on request.




### DIMENSIONS FOR DP TYPE CAPACITORS

| | L | H | W | S |
|---|---|---|---|---|
| DP-1 | 3/4 | 11/16 | 7/16 | 1/4 |
| DP-2 | 7/8 | 3/4 | 1/2 | 7/16 |
| DP-3 | 1-1/4 | 7/8 | 5/8 | 23/32 |
| DP-4 | 1-11/32 | 15/16 | 11/16 | 27/32 |
| DP-5 | 1-9/16 | 1-1/16 | 7/8 | 1-3/32 |

L, H, and W dimensions are maximum and include highest capacitance values in each size. Since dipped unit size varies with size of winding, lower capacities will have smaller dimensions, particularly in values of "H" and "W". If size is critical, inquiry as to exact size for value required is recommended. For example, although maximum "H" dimension of a DP-5 is 1-1/16", some units will have a corresponding size of only 13/16". Tabulation of size vs. capacity similar to "DM" mica units will be published when completed.

| Cap. Mfd. | Part No. | List Price |
|---|---|---|
| | **100VDCW** | |
| .005 | 1DP-1-502 | $0.35 |
| .006 | 1DP-1-602 | .35 |
| .0068 | 1DP-1-682 | .35 |
| .0075 | 1DP-1-752 | .35 |
| .01 | 1DP-1-103 | .35 |
| .015 | 1DP-1-153 | .35 |
| .02 | 1DP-1-203 | .35 |
| .022 | 1DP-1-223 | .35 |
| .025 | 1DP-1-253 | .35 |
| .03 | 1DP-1-303 | .35 |
| .033 | 1DP-2-333 | .35 |
| .04 | 1DP-2-403 | .40 |
| .047 | 1DP-2-473 | .40 |
| .05 | 1DP-2-503 | .40 |
| .056 | 1DP-2-563 | .40 |
| .068 | 1DP-2-683 | .40 |
| .075 | 1DP-2-753 | .45 |
| .1 | 1DP-2-104 | .45 |
| .15 | 1DP-3-154 | .45 |
| .2 | 1DP-3-204 | .50 |
| .22 | 1DP-3-224 | .50 |
| .25 | 1DP-3-254 | .55 |
| | **200V** | |
| .1 | 2DP-3-104 | .45 |
| .15 | 2DP-3-154 | .50 |
| .2 | 2DP-4-204 | .55 |
| .22 | 2DP-4-224 | .55 |
| .25 | 2DP-4-254 | .60 |
| .33 | 2DP-5-334 | $0.70 |
| .47 | 2DP-5-474 | .85 |
| .5 | 2DP-5-504 | .85 |
| | **400V** | |
| .01 | 4DP-1-103 | .35 |
| .015 | 4DP-1-153 | .35 |
| .02 | 4DP-2-203 | .35 |
| .022 | 4DP-2-223 | .40 |
| .025 | 4DP-2-253 | .40 |
| .03 | 4DP-2-303 | .40 |
| .033 | 4DP-2-333 | .40 |
| .04 | 4DP-3-403 | .40 |
| .047 | 4DP-3-473 | .40 |
| .05 | 4DP-3-503 | .40 |
| .056 | 4DP-3-563 | .40 |
| .068 | 4DP-3-683 | .50 |
| .075 | 4DP-3-753 | .50 |
| .1 | 4DP-3-104 | .50 |
| .15 | 4DP-4-154 | .55 |
| .2 | 4DP-4-204 | .65 |
| .22 | 4DP-5-224 | .65 |
| .25 | 4DP-5-254 | .70 |
| .27 | 4DP-5-274 | .70 |
| | **600V** | |
| .001 | 6DP-1-102 | .35 |
| .0012 | 6DP-1-122 | .35 |
| .0015 | 6DP-1-152 | .35 |
| .002 | 6DP-1-202 | .35 |
| .0022 | 6DP-1-222 | .35 |
| .0025 | 6DP-1-252 | $0.35 |
| .0027 | 6DP-1-272 | .35 |
| .003 | 6DP-1-302 | .35 |
| .0033 | 6DP-1-332 | .35 |
| .0039 | 6DP-1-392 | .35 |
| .004 | 6DP-1-402 | .35 |
| .0047 | 6DP-1-472 | .35 |
| .005 | 6DP-1-502 | .35 |
| .0056 | 6DP-1-562 | .35 |
| .006 | 6DP-1-602 | .40 |
| .0068 | 6DP-1-682 | .40 |
| .0075 | 6DP-2-752 | .40 |
| .008 | 6DP-2-802 | .40 |
| .0082 | 6DP-2-822 | .40 |
| .01 | 6DP-2-103 | .40 |
| .012 | 6DP-2-123 | .40 |
| .015 | 6DP-2-153 | .40 |
| .02 | 6DP-2-203 | .40 |
| .022 | 6DP-2-223 | .40 |
| .025 | 6DP-3-253 | .45 |
| .027 | 6DP-3-273 | .45 |
| .03 | 6DP-3-303 | .45 |
| .033 | 6DP-3-333 | .45 |
| .039 | 6DP-3-393 | .45 |
| .04 | 6DP-3-403 | .45 |
| .047 | 6DP-3-473 | .50 |
| .05 | 6DP-3-503 | .50 |
| .056 | 6DP-3-563 | .50 |
| .06 | 6DP-4-603 | .55 |
| .068 | 6DP-4-683 | .55 |
| .075 | 6DP-4-753 | $0.55 |
| .082 | 6DP-4-823 | .55 |
| .1 | 6DP-4-104 | .55 |
| .15 | 6DP-5-154 | .70 |
| .2 | 6DP-5-204 | .80 |
| .22 | 6DP-5-224 | .80 |
| .25 | 6DP-5-254 | .85 |
| | **1600V** | |
| .001 | 16DP-1-102 | .55 |
| .0015 | 16DP-1-152 | .55 |
| .0018 | 16DP-1-182 | .55 |
| .002 | 16DP-1-202 | .55 |
| .0022 | 16DP-2-222 | .55 |
| .0025 | 16DP-2-252 | .55 |
| .003 | 16DP-2-302 | .55 |
| .0033 | 16DP-2-332 | .55 |
| .004 | 16DP-2-402 | .55 |
| .0047 | 16DP-2-472 | .55 |
| .005 | 16DP-2-502 | .55 |
| .006 | 16DP-3-602 | .60 |
| .007 | 16DP-3-702 | .60 |
| .0075 | 16DP-3-752 | .60 |
| .008 | 16DP-3-802 | .60 |
| .01 | 16DP-3-103 | .60 |
| .015 | 16DP-4-153 | .65 |
| .02 | 16DP-4-203 | .70 |
| .022 | 16DP-4-223 | .70 |
| .025 | 16DP-4-253 | .70 |
| .03 | 16DP-4-303 | .70 |
| .033 | 16DP-4-333 | .70 |
| .04 | 16DP-5-403 | .75 |
| .047 | 16DP-5-473 | .80 |
| .05 | 16DP-5-503 | .80 |



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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

MAIN OFFICE
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NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# PAPER DIELECTRIC CAPACITORS CP TYPE

El-Menco CP type paper tubular capacitors are sealed into Steatite Tubes which serve to insulate the capacitor electrically as well as against moisture and heat. The capacitor insert is impregnated with Mineral Oil, thereby assuring long life at 85° C operating conditions. This feature insures successful operation at the high ambient temperatures existing in small, compact enclosures.

The Non-Inductively wound paper and foil units are sealed in the Ceramic Tubes by means of baked Synthetic Resin End Fills which cannot melt at any conceivable operating temperature. The end fills will not dissolve in wax, permitting the capacitors to be potted without damage to the insert. Leads are of tinned copper 2¼" long.

## MINERAL OIL IMPREGNATION NON INDUCTIVE WINDING SYNTHETIC RESIN END SEALS — STEATITE CASE

The Steatite tube and baked synthetic resin end-fill provide a seal which rivals that of hermetically sealed construction, resulting in a dependability and longevity previously unequalled. Whether in operation or on the shelf, this paper tubular capacitor will maintain its excellent characteristics for years.

### DIMENSIONS FOR CP TYPE CAPACITORS

| | Max. Diameter | Max. Length |
|---|---|---|
| CP-1 | 23/64" | 1-1/8" |
| CP-2 | 27/64" | 1-3/8" |
| CP-3 | 31/64" | 1-3/8" |
| CP-4 | 9/16" | 1-5/8" |
| CP-5 | 3/4" | 2" |
| CP-6 | 51/64" | 2" |

Part numbers can be read as follows: First one or two numbers indicate voltage rating in hundreds of volts. CP indicates type of capacitor. Next number between the dashes indicates case size. Last three digits indicate capacity, the first two being significant figures and the last the decimal multiplier.

| Cap. Mfd. | Part No. | List Price |
|---|---|---|
| **200VDCW** | | |
| .02 | 2CP-1-203 | $0.30 |
| .022 | 2CP-1-223 | .30 |
| .05 | 2CP-3-503 | .35 |
| .1 | 2CP-4-104 | .45 |
| .15 | 2CP-4-154 | .50 |
| .2 | 2CP-5-204 | .55 |
| .22 | 2CP-5-224 | .55 |
| .25 | 2CP-5-254 | .55 |
| .33 | 2CP-6-334 | .65 |
| .47 | 2CP-6-474 | .75 |
| .5 | 2CP-6-504 | .75 |
| **400VDCW** | | |
| .01 | 4CP-1-103 | .30 |
| .015 | 4CP-2-153 | .30 |
| .02 | 4CP-2-203 | .35 |
| .022 | 4CP-2-223 | .35 |
| .025 | 4CP-3-253 | .35 |
| .03 | 4CP-3-303 | .35 |
| .033 | 4CP-3-333 | .35 |
| .04 | 4CP-4-403 | .40 |
| .047 | 4CP-4-473 | .40 |
| .05 | 4CP-4-503 | .40 |
| .056 | 4CP-4-563 | .40 |
| .068 | 4CP-4-683 | .45 |
| .075 | 4CP-4-753 | .45 |
| .1 | 4CP-4-104 | .45 |
| .15 | 4CP-5-154 | .55 |
| .2 | 4CP-6-204 | .60 |
| .22 | 4CP-6-224 | .60 |
| .25 | 4CP-6-254 | .65 |
| .33 | 4CP-7-334 | .85 |
| .47 | 4CP-7-474 | 1.05 |
| .5 | 4CP-7-504 | 1.05 |

| Cap. Mfd. | Part No. | List Price |
|---|---|---|
| **600VDCW** | | |
| .001 | 6CP-1-102 | $0.30 |
| .0012 | 6CP-1-122 | .30 |
| .0015 | 6CP-1-152 | .30 |
| .002 | 6CP-1-202 | .30 |
| .0022 | 6CP-1-222 | .30 |
| .0025 | 6CP-1-252 | .30 |
| .0027 | 6CP-1-272 | .30 |
| .003 | 6CP-1-302 | .30 |
| .0033 | 6CP-1-332 | .30 |
| .0039 | 6CP-1-392 | .30 |
| .004 | 6CP-1-402 | .30 |
| .0047 | 6CP-1-472 | .30 |
| .005 | 6CP-1-502 | .30 |
| .0056 | 6CP-1-562 | .30 |
| .006 | 6CP-2-602 | .30 |
| .0068 | 6CP-2-682 | .35 |
| .0075 | 6CP-2-752 | .35 |
| .008 | 6CP-2-802 | .35 |
| .0082 | 6CP-2-822 | .35 |
| .01 | 6CP-2-103 | .35 |
| .012 | 6CP-2-123 | .35 |
| .015 | 6CP-2-153 | .35 |
| .02 | 6CP-3-203 | .35 |
| .022 | 6CP-3-223 | .35 |
| .025 | 6CP-3-253 | .40 |
| .03 | 6CP-4-303 | .45 |
| .033 | 6CP-4-333 | .45 |
| .04 | 6CP-4-403 | .45 |
| .047 | 6CP-4-473 | .45 |
| .05 | 6CP-4-503 | .45 |
| .056 | 6CP-4-563 | .45 |
| .06 | 6CP-5-603 | .50 |
| .068 | 6CP-5-683 | .50 |

| Cap. Mfd. | Part No. | List Price |
|---|---|---|
| **600VDCW** | | |
| .075 | 6CP-5-753 | $0.50 |
| .082 | 6CP-5-823 | .50 |
| .1 | 6CP-5-104 | .50 |
| .15 | 6CP-5-154 | .60 |
| .2 | 6CP-6-204 | .70 |
| .22 | 6CP-6-224 | .75 |
| .25 | 6CP-6-254 | .75 |
| .33 | 6CP-7-334 | .95 |
| .47 | 6CP-7-474 | 1.25 |
| .5 | 6CP-7-504 | 1.25 |
| **1000VDCW** | | |
| .001 | 10CP-1-102 | .40 |
| .0015 | 10CP-1-152 | .40 |
| .002 | 10CP-1-202 | .40 |
| .0022 | 10CP-1-222 | .40 |
| .0025 | 10CP-1-252 | .40 |
| .003 | 10CP-1-302 | .40 |
| .0033 | 10CP-2-332 | .40 |
| .004 | 10CP-2-402 | .40 |
| .0047 | 10CP-2-472 | .40 |
| .005 | 10CP-2-502 | .40 |
| .006 | 10CP-2-602 | .40 |
| .0068 | 10CP-2-682 | .40 |
| .0075 | 10CP-2-752 | .40 |
| .01 | 10CP-2-103 | .45 |
| .015 | 10CP-3-153 | .45 |
| .02 | 10CP-4-203 | .45 |
| .022 | 10CP-4-223 | .45 |
| .025 | 10CP-4-253 | .45 |
| .03 | 10CP-4-303 | .45 |
| .033 | 10CP-5-333 | .55 |
| .04 | 10CP-5-403 | .55 |
| .047 | 10CP-5-473 | .55 |

| Cap. Mfd. | Part No. | List Price |
|---|---|---|
| **1000VDCW** | | |
| .05 | 10CP-5-503 | $0.55 |
| .056 | 10CP-5-563 | .60 |
| .068 | 10CP-5-683 | .60 |
| .075 | 10CP-6-753 | .65 |
| .1 | 10CP-6-104 | .70 |
| **1600VDCW** | | |
| .001 | 16CP-2-102 | .55 |
| .0015 | 16CP-2-152 | .55 |
| .002 | 16CP-2-202 | .55 |
| .0022 | 16CP-2-222 | .55 |
| .0025 | 16CP-3-252 | .55 |
| .003 | 16CP-3-302 | .55 |
| .0033 | 16CP-3-332 | .55 |
| .004 | 16CP-3-402 | .55 |
| .0047 | 16CP-3-472 | .55 |
| .005 | 16CP-3-502 | .55 |
| .006 | 16CP-4-602 | .55 |
| .0068 | 16CP-4-682 | .55 |
| .007 | 16CP-4-702 | .60 |
| .0075 | 16CP-4-752 | .60 |
| .008 | 16CP-4-802 | .60 |
| .01 | 16CP-4-103 | .60 |
| .015 | 16CP-5-153 | .65 |
| .02 | 16CP-5-203 | .65 |
| .022 | 16CP-5-223 | .65 |
| .025 | 16CP-5-253 | .65 |
| .03 | 16CP-5-303 | .65 |
| .033 | 16CP-5-333 | .65 |
| .04 | 16CP-6-403 | .70 |
| .047 | 16CP-6-473 | .70 |
| .05 | 16CP-6-503 | .70 |

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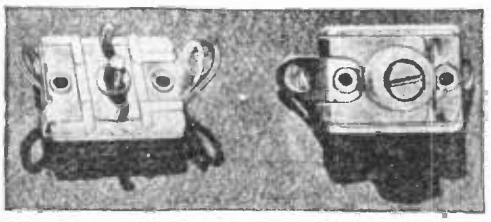
ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# TRIMMERS

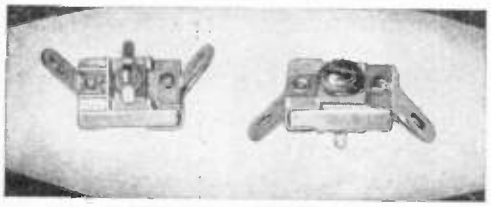
- The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.
- The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.
- El-Menco Trimming Condensers are treated for resistance to humidity and for permanence of capacity setting.
- Trimmers shown here are standard sizes and capacities.
- Voltage 350 VDCT — 175 VDCW.



TYPE 46 STANDARD TRIMMER ¾" x ⅝"

## TYPE 46—STANDARD TRIMMER

| TYPE 46W NUMBER PART | PLATES NUMBER OF | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 3 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 460 | 1¼ Pl. | 15 | 1.5 | $0.40 |
| 461 | 1¾ Pl. | 30 | 2.7 | .40 |
| 462 | 2 Pl. | 80 | 5 | .45 |
| 463 | 3 Pl. | 180 | 9 | .50 |
| 464 | 4 Pl. | 280 | 25 | .55 |
| 465 | 5 Pl. | 380 | 50 | .60 |
| 466 | 6 Pl. | 480 | 80 | .65 |
| 467 | 7 Pl. | 580 | 110 | .75 |
| 468 | 8 Pl. | 680 | 140 | .80 |
| 469 | 9 Pl. | 780 | 170 | .85 |

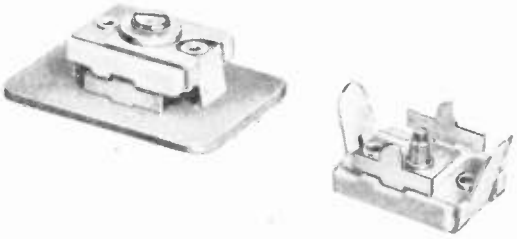


TYPE 40 MINIATURE TRIMMER ⅜" x 9/16"

## TYPE 40—MINIATURE TRIMMER

| TYPE 40 NUMBER PART | PLATES NUMBER OF | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 3 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 400 | 1⅛ Pl. | 7 | 0.9 | $0.40 |
| 402 | 2 Pl. | 20 | 1.5 | .45 |
| 403 | 3 Pl. | 35 | 3 | .50 |
| 404 | 4 Pl. | 60 | 8 | .55 |

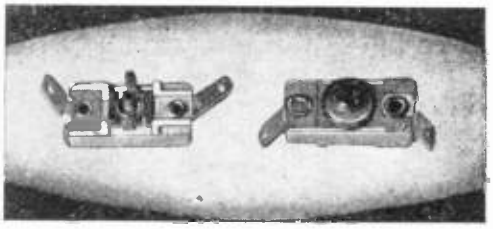
## ANNOUNCING THE NEW PRINTED CIRCUIT TRIMMER



The Elmenco Type 46 trimmer series has been adapted for printed circuit techniques through alteration of terminals and mounting configuration. The holes in the terminal lugs are removed since necessity for hook-up is eliminated. The resulting solid terminals have greatly increased spring action, allowing the trimmer to be "snapped-in" the circuit and firmly held until soldered.

This printed circuit trimmer, available at present only in the Type 46 style, is identified by the prefix letter "PC". All capacitance ranges listed for Type 46 are available, designated as part numbers PC460 through PC468.

For list price add $0.05 to list price of standard Type 46 trimmer.



TYPE 42 MIDGET TRIMMER ⅜" x ¾"

## TYPE 42—MIDGET TRIMMER

| TYPE 42 NUMBER PART | PLATES NUMBER OF | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 3 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 420 | 1⅛ Pl. | 12 | 1 | $0.40 |
| 421 | 1¾ Pl. | 25 | 2 | .40 |
| 422 | 2 Pl. | 40 | 4 | .45 |
| 423 | 3 Pl. | 100 | 7 | .50 |
| 424 | 4 Pl. | 150 | 14 | .55 |
| 425 | 5 Pl. | 200 | 24 | .60 |
| 426 | 6 Pl. | 250 | 37 | .65 |
| 427 | 7 Pl. | 300 | 55 | .75 |
| 428 | 8 Pl. | 350 | 70 | .80 |
| 429 | 9 Pl. | 400 | 90 | .85 |

## Metal Mounting Brackets For These Trimmers Can Be Supplied From Stock

| | LIST PRICE |
|---|---|
| Bracket for mounting 1 Trimmer | $0.15 |
| Bracket for mounting 2 Trimmers | .18 |
| Bracket for mounting 3 Trimmers | .21 |
| Bracket for mounting 4 Trimmers | .24 |
| Bracket for mounting 5 Trimmers | .27 |
| Bracket for mounting 6 Trimmers | .30 |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ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

## Single and Dual
# PADDERS

EL-MENCO PADDING CONDENSERS have been acclaimed by engineers as the finest development in adjustable mica condensers.

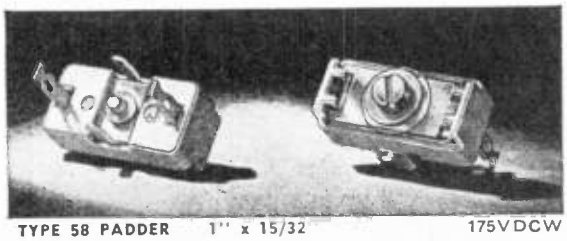
The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

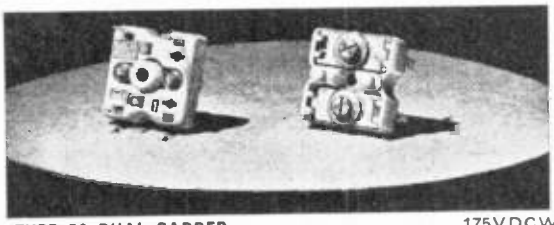
## TYPE 30
### 500 Volts DC Flash-Test — 250 WVDC

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF. | At 2½ Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 302 | 2 Pl. | 130 | 15 | $0.80 |
| 303 | 3 Pl. | 340 | 65 | .85 |
| 304 | 4 Pl. | 550 | 100 | .90 |
| 305 | 5 Pl. | 760 | 190 | 1.00 |
| 306 | 6 Pl. | 970 | 275 | 1.10 |
| 307 | 7 Pl. | 1180 | 350 | 1.20 |
| 308 | 8 Pl. | 1390 | 450 | 1.25 |
| 309 | 9 Pl. | 1600 | 550 | 1.35 |
| 310 | 10 Pl. | 1890 | 650 | 1.45 |
| 311 | 11 Pl. | 2110 | 780 | 1.55 |
| 312 | 12 Pl. | 2330 | 880 | 1.65 |
| 313 | 13 Pl. | 2605 | 1150 | 1.75 |
| 314 | 14 Pl. | 2830 | 1300 | 1.85 |
| 315 | 15 Pl. | 3055 | 1400 | 1.95 |

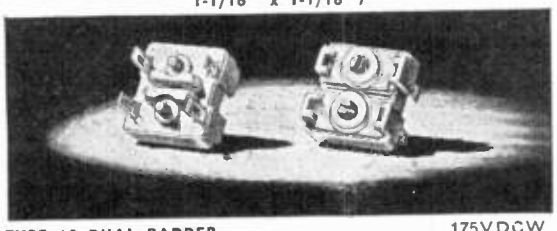
Screw is insulated from top plate my mica washer. Above maximum capacity values are based on using 1½ to 1¾ Mil Mica films.



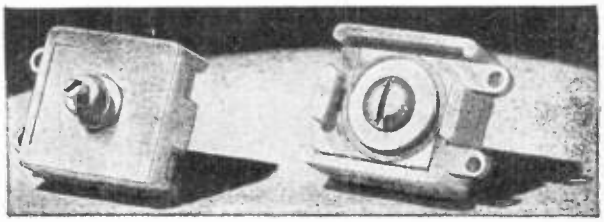
TYPE 58 PADDER 1" x 15/32 175VDCW



TYPE 50 DUAL PADDER 175VDCW
(will fit any size shield having dimensions exceeding 1-1/16" x 1-1/16")



TYPE 60 DUAL PADDER 175VDCW
(will fit any size shield having dimensions exceeding ¾" x ¾")



TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

## TYPE 30-M
### 1000 Volts DC Flash-Test — 500 Working Volts DC

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF. | At 2½ Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 302-M | 2 Pl. | 120 | 15 | $0.80 |
| 303-M | 3 Pl. | 320 | 65 | .90 |
| 304-M | 4 Pl. | 500 | 100 | .95 |
| 305-M | 5 Pl. | 690 | 180 | 1.05 |
| 306-M | 6 Pl. | 880 | 265 | 1.20 |
| 307-M | 7 Pl. | 1070 | 340 | 1.30 |
| 308-M | 8 Pl. | 1260 | 425 | 1.35 |
| 309-M | 9 Pl. | 1415 | 525 | 1.45 |
| 310-M | 10 Pl. | 1600 | 615 | 1.55 |
| 311-M | 11 Pl. | 1785 | 730 | 1.65 |
| 312-M | 12 Pl. | 1970 | 800 | 1.75 |
| 313-M | 13 Pl. | 2155 | 1000 | 1.85 |
| 314-M | 14 Pl. | 2340 | 1100 | 1.95 |
| 315-M | 15 Pl. | 2525 | 1200 | 2.10 |

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2¼ Mil Mica.

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 2 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 582 | 2 Pl. | 80 | 7.5 | $0.55 |
| 583 | 3 Pl. | 160 | 19 | .60 |
| 584 | 4 Pl. | 240 | 50 | .65 |

◄ TYPE 58 Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 2 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 502 | 2 Pl. | 80 | 7.5 | $0.85 |
| 503 | 3 Pl. | 160 | 19 | 1.00 |
| 504 | 4 Pl. | 240 | 50 | 1.15 |

◄ TYPE 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1 1/16" x 1 1/16".

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At 2 Turns Open Cap. Will Be Less Than MMF. | LIST PRICE |
|---|---|---|---|---|
| 602 | 2 Pl. | 55 | 7 | $0.80 |
| 603 | 3 Pl. | 100 | 15 | .95 |
| 604 | 4 Pl. | 160 | 35 | 1.10 |
| 605 | 5 Pl. | 220 | 60 | 1.25 |

◄ TYPE 60 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding ¾" x ¾".

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World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

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ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# ARCO CM-15 MINIATURE MICA CAPACITOR KIT #1

## FOR EXPERIMENTAL WORK

THESE MINIATURES FIT INTO THE SMALLEST AREA CAPACITOR SIZE (9/32" x ½" x 3/16")

SPECIAL KIT LIST PRICE

ONLY $90.00

### DON'T GET CAUGHT SHORT!

### ALWAYS HAVE THE CORRECT CAPACITY ON HAND!

This Handy Kit consists of 46 most commonly used Capacitors . . . five of each capacity as listed on page P-991 packed in individual tuck boxes, properly identified for permanent use.

•

The complete set of capacitors amounts to $111.50 at list prices. You get the entire set *for only* $90.00.

COMPARE THE COST!

### THESE KITS CONTAIN FIVE EACH OF THE FOLLOWING ELMENCO MICA CAPACITORS (500 V D C W)

| CM20 Cap. mmf. | CM20 Cap. mmf. | CM20 Cap. mmf. | CM20 Cap. mmf. | CM30 Cap. mmf. | CM35 Cap. mmf. |
|---|---|---|---|---|---|
| 5 | 39 | 120 | 390 | 1100 | 3600 |
| 10 | 43 | 130 | 430 | 1200 | 3900 |
| 12 | 47 | 150 | 470 | 1300 | 4300 |
| 15 | 51 | 160 | 510 | 1500 | 4700 |
| 18 | 56 | 180 | 560 | 1600 | 5100 |
| 20 | 62 | 200 | 620 | 1800 | 5600 |
| 22 | 68 | 220 | 680 | 2000 | 6200 |
| 24 | 75 | 240 | 750 | 2200 | 6800* |
| 27 | 82 | 270 | 820 | 2400 | 7500* |
| 30 | 91 | 300 | 910 | 2700 | 8200* |
| 33 | 100 | 330 | 1000 | 3000 | 9100* |
| 36 | 110 | 360 | | 3300 | 10000* |

*300VDCW *PER JAN-C-5 SPECIFICATIONS*

JAN-C-5

## ARCO SILVERED MICA KIT #3

SPECIAL KIT LIST PRICE

**$325**

Purchased individually the total list price value of the capacitors contained in this kit would be . . . $385

This kit contains the complete range of ELMENCO silvered molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with JAN-C-5 specications. All units are of letters "C", "D" or "E" characteristics as specified and letter "J" (5%) tolerance and are JAN color coded.

JAN-C-5

## ARCO REG. FOIL MICA KIT #2

SPECIAL KIT LIST PRICE

**$140**

Purchased individually the total list price value of the capacitors contained in this kit would be . . . $158.40

This kit contains the complete range of ELMENCO regular foil molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with JAN-C-5 specifications. All units are of the letter "B" characteristics and letter "K" (10%) tolerance and are JAN color coded.


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ARCO CAPACITORS INC.
LOS ANGELES 35 CALIFORNIA

## FOR: ENGINEERING LABS • GOVERNMENTAL AGENCIES • EXPERIMENTAL LABS SCHOOLS, ETC.

**DUR-MICA the silvered mica capacitor coated with a specially developed plastic coating for extra durability . . . provides maximum protection at environmental extremes of moisture and temperature.**

## ARCO DM-15 KIT #10

This handy kit consists of five of each DM-15 capacity as listed. All are 500 VDCW and ±5% tolerance . . packed in individual transparent plastic snap boxes, properly identified for ease of handling.

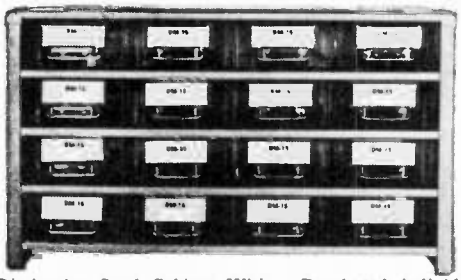
**SPECIAL KIT LIST PRICE $95.00**

Purchased individually the total list price value of the capacitors contained in this kit would be — **$103.31**

| CAP. MMF. | TYPE DESIGNATION | CAP. MMF. | TYPE DESIGNATION |
|---|---|---|---|
| 1 | DM-15-010† | 91 | DM-15-910 |
| 2 | DM-15-020† | 100 | DM-15-101 |
| 3 | DM-15-030† | 110 | DM-15-111 |
| 5 | DM-15-050† | 120 | DM-15-121 |
| 10 | DM-15-100 | 130 | DM-15-131 |
| 12 | DM-15-120 | 150 | DM-15-151 |
| 15 | DM-15-150 | 160 | DM-15-161 |
| 18 | DM-15-180 | 180 | DM-15-181 |
| 20 | DM-15-200 | 200 | DM-15-201 |
| 22 | DM-15-220 | 220 | DM-15-221 |
| 24 | DM-15-240 | 240 | DM-15-241 |
| 27 | DM-15-270 | 250 | DM-15-251 |
| 30 | DM-15-300 | 270 | DM-15-271 |
| 33 | DM-15-330 | 300 | DM-15-301 |
| 36 | DM-15-360 | 330 | DM-15-331 |
| 39 | DM-15-390 | 360 | DM-15-361 |
| 43 | DM-15-430 | 390 | DM-15-391 |
| 47 | DM-15-470 | 430* | DM-15-431 |
| 50 | DM-15-500 | 470* | DM-15-471 |
| 51 | DM-15-510 | 500* | DM-15-501 |
| 56 | DM-15-560 | 510* | DM-15-511 |
| 62 | DM-15-620 | 560* | DM-15-561 |
| 68 | DM-15-680 | 620* | DM-15-621 |
| 75 | DM-15-750 | 680* | DM-15-681 |
| 82 | DM-15-820 | 750* | DM-15-751 |
| | | 820* | DM-15-821 |

* All capacitors marked with * are 300WV.
† Minimum tolerance ±0.5 mmf.

## ARCO MINIATURE DM-15 CAPACITOR STOCK PACKAGE



**SPECIAL LIST PRICE $596**

Distinctive Steel Cabinet With Plastic Pull-Out Drawers Supplied FREE With DM-15 Package.

Purchased individually the total list price value of the capacitors contained in this package would be — **$715**

A complete stock of DM-15 capacitors (fifty-one items) totaling 2100 capacitors; fifty each of the most used values and 25 each of the others. Capacity range is 1-820 mmf., tolerance ±5% or ±0.5 mmf., whichever is greater.

## ARCO DUR-MICA KIT #11

This Kit contains five each of the following listed DUR-MICA capacitors, all 500 VDCW and ±5% tolerance; or ±0.5 mmf., whichever is greater. Packed in individual transparent plastic snap boxes, properly identified for ease of handling.

**SPECIAL KIT LIST PRICE $250.00**

Purchased individually the total list price value of the capacitors contained in this kit would be — **$286.35**

| CAP. MMF. | TYPE DESIGNATION | CAP. MMF. | TYPE DESIGNATION |
|---|---|---|---|
| 2 | DM15-020M | 360 | DM19-361J |
| 5 | DM15-050K | 390 | DM19-391J |
| 10 | DM15-100J | 430 | DM19-431J |
| 12 | DM15-120J | 470 | DM19-471J |
| 15 | DM15-150J | 510 | DM19-511J |
| 18 | DM15-180J | 560 | DM19-561J |
| 20 | DM15-200J | 620 | DM19-621J |
| 22 | DM15-220J | 680 | DM20-681J |
| 24 | DM15-240J | 750 | DM20-751J |
| 27 | DM15-270J | 820 | DM20-821J |
| 30 | DM15-300J | 910 | DM20-911J |
| 33 | DM15-330J | 1000 | DM20-102J |
| 36 | DM15-360J | 1100 | DM20-112J |
| 39 | DM15-390J | 1200 | DM20-122J |
| 43 | DM15-430J | 1300 | DM20-132J |
| 47 | DM15-470J | 1500 | DM20-152J |
| 51 | DM15-510J | 1600 | DM20-162J |
| 56 | DM15-560J | 1800 | DM20-182J |
| 62 | DM15-620J | 2000 | DM20-202J |
| 68 | DM15-680J | 2200 | DM20-222J |
| 75 | DM15-750J | 2400 | DM20-242J |
| 82 | DM15-820J | 2700 | DM20-272J |
| 91 | DM15-910J | 3000 | DM20-302J |
| 100 | DM15-101J | 3300 | DM20-332J |
| 110 | DM15-111J | 3600 | DM20-362J |
| 120 | DM15-121J | 3900 | DM20-392J |
| 130 | DM15-131J | 4300 | DM20-432J |
| 150 | DM15-151J | 4700 | DM30-472J |
| 160 | DM19-161J | 5100 | DM30-512J |
| 180 | DM19-181J | 5600 | DM30-562J |
| 200 | DM19-201J | 6200 | DM30-622J |
| 220 | DM19-221J | 6800 | DM30-682J |
| 240 | DM19-241J | 7500 | DM30-752J |
| 270 | DM19-271J | 8200 | DM30-822J |
| 300 | DM19-301J | 9100 | DM30-912J |
| 330 | DM19-331J | 10000 | DM30-103J |

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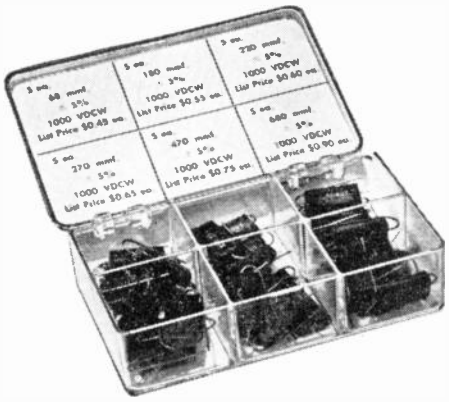
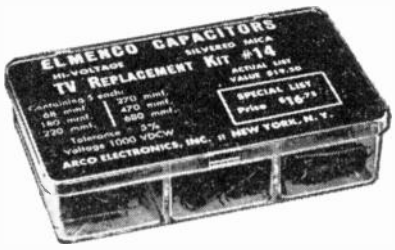





## NEW! ARCO TV HI-VOLTAGE REPLACEMENT KIT #14

(For Resale To Service Dealers)

Actual List Value $19.50

SPECIAL LIST PRICE

$16.75

CONTAINS 5 EACH OF:

68 mmf. 270 mmf.
180 mmf. 470 mmf.
220 mmf. 680 mmf.

AVAILABLE FOR THE FIRST TIME!

*An Assortment Of The Most Popular*

**ELMENCO**

**HI-VOLTAGE SILVERED**

MICA CAPACITORS

USED IN ALL TV CIRCUITS

- ALL SILVERED MICA
- ALL 1000 WORKING VOLTS
- ALL ±5% TOLERANCE
- ALL CAPACITIES, TOLERANCES AND VOLTAGES IMPRINTED ON EACH UNIT
- HANDY COMPACT PLASTIC CONTAINER

---

A complete stock of HI-VOLTAGE capacitors (forty-nine items) totaling 1180 capacitors; 40 each of the most used values and 20 each of the others. Capacity range:—5 mmf to 56 mmf 1500 VDCW, 62 mmf to 1000 mmf 1000 VDCW.

- ALL SILVERED MICA
- ALL 5% TOLERANCE
- ALL HI-VOLTAGE CAPACITORS
- FULL 20 DRAWER COMPACT STEEL CABINET FREE!

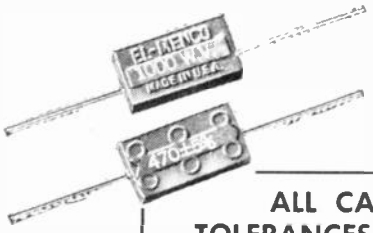
## NEW! ARCO TV REPLACEMENT "HI-VOLT" Stock Package

A complete distributor stock assortment of the most popular

**ELMENCO**

**HI-VOLTAGE SILVERED MICA CAPACITORS**

USED IN ALL TV CIRCUITS



SPECIAL LIST PRICE

$575.00

Purchased individually the total list price would be $689.90

ALL CAPACITIES TOLERANCES & VOLTAGES IMPRINTED ON EACH UNIT



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ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

## "TV-1000" HI-VOLTAGE STOCK PACKAGE

(For Resale To Service Dealers)

A complete stock assortment of 101 of the most popular

# ELMENCO

## SILVERED MICA HI-VOLTAGE CAPACITORS

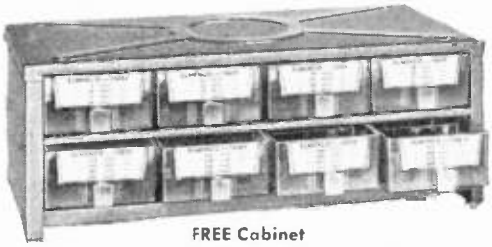
USED IN ALL TV CIRCUITS
All ±5% Tolerance

List Price $63.00

CAPACITIES TOLERANCES & VOLTAGES IMPRINTED ON EACH UNIT

**FREE!** *THIS HANDY 8 DRAWER STURDY METAL CABINET*

GIVEN FREE WITH EVERY "TV-1000" HI-VOLTAGE STOCK PACKAGE ORDER



FREE Cabinet
$4.95 VALUE

### CONTENTS

| Quantity | Cap. mmf. | Voltage Rating | Quantity | Cap. mmf. | Voltage Rating |
|---|---|---|---|---|---|
| 3 | 5 | 1500 | 3 | 150 | 1000 |
| 3 | 10 | 1500 | 4 | 180 | 1000 |
| 3 | 15 | 1500 | 4 | 220 | 1000 |
| 2 | 20 | 1500 | 3 | 250 | 1000 |
| 3 | 22 | 1500 | 4 | 270 | 1000 |
| 2 | 27 | 1500 | 3 | 300 | 1000 |
| 2 | 30 | 1500 | 4 | 330 | 1000 |
| 2 | 33 | 1500 | 3 | 360 | 1000 |
| 3 | 39 | 1500 | 3 | 390 | 1000 |
| 4 | 47 | 1500 | 4 | 470 | 1000 |
| 3 | 50 | 1500 | 3 | 510 | 1000 |
| 4 | 56 | 1500 | 3 | 560 | 1000 |
| 4 | 68 | 1000 | 4 | 680 | 1000 |
| 4 | 82 | 1000 | 4 | 820 | 1000 |
| 2 | 91 | 1000 | 3 | 1000 | 1000 |
| 3 | 100 | 1000 | | | |
| 2 | 120 | 1000 | | | |

## "TV-600" TUBULAR STOCK PACKAGE

(For Resale To Service Dealers)

A complete stock assortment of 200 of the most popular

# ELMENCO

## STEATITE TUBULAR CAPACITORS

List Price $66.00

**FREE!** *THIS HANDY 16 DRAWER STURDY METAL CABINET*

GIVEN FREE WITH EVERY "TV-600" TUBULAR STOCK PACKAGE ORDER

FREE Cabinet
$6.00 VALUE

### CONTENTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15 | .001 | 5 | .0033 | 15 | .02 | 15 | .047 |
| 10 | .002 | 10 | .0047 | 10 | .022 | 25 | .05 |
| 5 | .0022 | 15 | .005 | 5 | .03 | 20 | .1 |
| 10 | .003 | 30 | .01 | 5 | .033 | 5 | .25 |

A TOTAL OF 200 ASSORTED 600 VOLT ELMENCO STEATITE TUBULAR CAPACITORS

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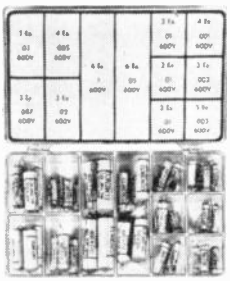
LOS ANGELES 35, CALIFORNIA

## FOR RESALE TO SERVICE DEALERS

## ARCO BY-PASS CAPACITOR KIT #9



LIST PRICE **$11.95**

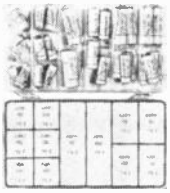
TOTAL LIST VALUE OF CAPACITORS $12.65 PLUS A HANDY CONTAINER FREE

A low cost, practical assortment of fast moving sizes for service replacement!

CONTENTS

| | | | | | |
|---|---|---|---|---|---|
| 4 ea. | — .001 | — 600V | 3 ea. | — .02 | — 600V |
| 3 ea. | — .002 | — 600V | 3 ea. | — .03 | — 600V |
| 3 ea. | — .003 | — 600V | 3 ea. | — .047 | — 600V |
| 4 ea. | — .005 | — 600V | 6 ea. | — .05 | — 600V |
| 6 ea. | — .01 | — 600V | 4 ea. | — .1 | — 600V |

## ARCO 1600V — BUFFER CAPACITOR KIT #12



LIST PRICE **$14.75**

TOTAL LIST VALUE OF CAPACITORS $15.60 PLUS A HANDY PLASTIC CONTAINER FREE

CONTENTS

| | | |
|---|---|---|
| 2 ea. | — .001 | — 1600V |
| 2 ea. | — .002 | — 1600V |
| 2 ea. | — .003 | — 1600V |
| 2 ea. | — .004 | — 1600V |
| 2 ea. | — .005 | — 1600V |
| 2 ea. | — .006 | — 1600V |
| 3 ea. | — .007 | — 1600V |
| 4 ea. | — .008 | — 1600V |
| 3 ea. | — .01 | — 1600V |
| 2 ea. | — .02 | — 1600V |
| 2 ea. | — .03 | — 1600V |
| 2 ea. | — .05 | — 1600V |

A low cost, practical assortment of fast moving 1600V-Buffers for service replacement!

## ARCO 1000 VOLT PAPER TUBULAR CAPACITOR KIT #8

SPECIAL KIT LIST PRICE **$27.50**

Purchased individually the total list price value of the capacitors contained in this kit would be — **$34.75**

### This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES

| PART NUMBER | CAPACITY MFD. | WORKING VOLTAGE |
|---|---|---|
| 10CP-1-102 | .001 | 1000 |
| 10CP-1-152 | .0015 | 1000 |
| 10CP-1-202 | .002 | 1000 |
| 10CP-1-252 | .0025 | 1000 |
| 10CP-2-302 | .003 | 1000 |
| 10CP-2-332 | .0033 | 1000 |
| 10CP-2-402 | .004 | 1000 |
| 10CP-2-472 | .0047 | 1000 |
| 10CP-2-502 | .005 | 1000 |
| 10CP-2-602 | .006 | 1000 |
| 10CP-2-752 | .0075 | 1000 |
| 10CP-2-103 | .01 | 1000 |
| 10CP-3-153 | .015 | 1000 |
| 10CP-4-203 | .02 | 1000 |
| 10CP-4-253 | .025 | 1000 |
| 10CP-4-333 | .033 | 1000 |
| 10CP-4-503 | .05 | 1000 |

El-Menco CP type paper tubular capacitors are sealed in impervious steatite ceramic tubes through use of synthetic resin end fills which are waterproof and will not melt at any conceivable operating temperature. The non-inductively wound paper and foil inserts are mineral oil impregnated. This combination of fine quality material and construction insures long life at high ambient temperatures, indefinite shelf-life and trouble-free operation under the most adverse conditions.

## ARCO STANDARD PAPER TUBULAR CAPACITOR KIT #7

SPECIAL KIT LIST PRICE **$37.50**

Purchased individually the total list price value of the capacitors would be — **$40.50**

### This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES

| PART NUMBER | CAPACITY MFD. | WORKING VOLTAGE |
|---|---|---|
| 6CP-1-102 | .001 | 600 |
| 6CP-1-152 | .0015 | 600 |
| 6CP-1-202 | .002 | 600 |
| 6CP-1-222 | .0022 | 600 |
| 6CP-1-252 | .0025 | 600 |
| 6CP-1-302 | .003 | 600 |
| 6CP-1-332 | .0033 | 600 |
| 6CP-1-402 | .004 | 600 |
| 6CP-1-472 | .0047 | 600 |
| 6CP-1-502 | .005 | 600 |
| 6CP-2-602 | .006 | 600 |
| 6CP-2-682 | .0068 | 600 |
| 6CP-2-752 | .0075 | 600 |
| 6CP-2-103 | .01 | 600 |
| 6CP-2-153 | .015 | 600 |
| 6CP-3-203 | .02 | 600 |
| 6CP-3-223 | .022 | 600 |
| 6CP-4-303 | .03 | 600 |
| 6CP-4-333 | .033 | 600 |
| 6CP-4-403 | .04 | 600 |
| 6CP-4-473 | .047 | 600 |
| 6CP-4-503 | .05 | 600 |
| 6CP-5-104 | .1 | 600 |
| 4CP-6-254 | .25 | 400 |
| 2CP-6-504 | .5 | 200 |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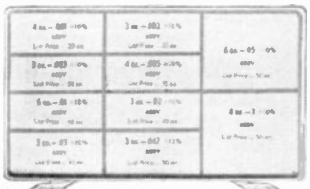
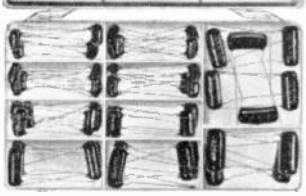
LOS ANGELES 35, CALIFORNIA





## ANNOUNCING ARCO'S NEWEST KIT...

# TUBULAR BY-PASS CAPACITOR KIT #15

### A REVOLUTIONARY LOW COST QUALITY TUBULAR THAT CAN BE INSTALLED WITH COMPLETE CONFIDENCE

### ARCO KIT #15 CONTENTS

4 each — .001 — 600V
3 each — .002 — 600V
3 each — .003 — 600V
4 each — .005 — 600V
6 each — .01 — 600V
3 each — .02 — 600V
3 each — .03 — 600V
3 each — .047 — 600V
6 each — .05 — 600V
4 each — .1 — 600V

LIST PRICE

**$16.50**

### FEATURES

- HIGH TEMPERATURE OPERATION
- SUPERIOR MOISTURE RESISTANCE
- LONG LIFE AND HIGH RELIABILITY
- HIGH INSULATION RESISTANCE
- ALL VALUES ±10 % TOLERANCE
- TRANSISTOR AND PRINTED CIRCUIT APPLICATION

---

# ARCO TYPE 46 TRIMMER KIT #5

### This Kit Contains 24 of Each Trimmer Listed Below

The total list price for all units included in the kit is $142.80.

SPECIAL KIT LIST PRICE

**$120**

TYPE 46W

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At Tight Cap. Will Be More Than MMF. | At A Turns Open Cap. Will Be Less Than MMF. |
|---|---|---|---|
| 460 | 1¼ Pl. | 15 | 1.5 |
| 461 | 1¾ Pl. | 30 | 2.7 |
| 462 | 2 Pl. | 80 | 5 |
| 463 | 3 Pl. | 180 | 9 |
| 464 | 4 Pl. | 280 | 25 |
| 465 | 5 Pl. | 380 | 50 |
| 466 | 6 Pl. | 480 | 80 |
| 467 | 7 Pl. | 580 | 110 |
| 468 | 8 Pl. | 680 | 140 |
| 469 | 9 Pl. | 780 | 170 |

---

# ARCO TYPE 30 PADDER KIT #6

### This Kit Contains 12 Each of Padders Listed Below

The total list price for all units included in the kit is $223.80.

SPECIAL KIT LIST PRICE **$195**

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF. | At 2½ Turns Open Cap. Will Be Less Than MMF. |
|---|---|---|---|
| 302 | 2 Pl. | 130 | 15 |
| 303 | 3 Pl. | 340 | 65 |
| 304 | 4 Pl. | 550 | 100 |
| 305 | 5 Pl. | 760 | 190 |
| 306 | 6 Pl. | 970 | 275 |
| 307 | 7 Pl. | 1180 | 350 |
| 308 | 8 Pl. | 1390 | 450 |
| 309 | 9 Pl. | 1600 | 550 |
| 310 | 10 Pl. | 1890 | 650 |
| 311 | 11 Pl. | 2110 | 780 |
| 312 | 12 Pl. | 2330 | 880 |
| 313 | 13 Pl. | 2605 | 1150 |
| 314 | 14 Pl. | 2830 | 1300 |
| 315 | 15 Pl. | 3055 | 1400 |

# ARCO TYPE 30M PADDER KIT #6M

### This Kit Contains 12 Each of Padders Listed Below

The total list price for all units included in the kit is $238.20.

SPECIAL KIT LIST PRICE **$200**

| PART NUMBER | NUMBER OF PLATES | GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF. | At 2½ Turns Open Cap. Will Be Less Than MMF. |
|---|---|---|---|
| 302-M | 2 Pl. | 120 | 15 |
| 303-M | 3 Pl. | 320 | 65 |
| 304-M | 4 Pl. | 500 | 100 |
| 305-M | 5 Pl. | 690 | 180 |
| 306-M | 6 Pl. | 880 | 265 |
| 307-M | 7 Pl. | 1070 | 340 |
| 308-M | 8 Pl. | 1260 | 425 |
| 309-M | 9 Pl. | 1415 | 525 |
| 310-M | 10 Pl. | 1600 | 615 |
| 311-M | 11 Pl. | 1785 | 730 |
| 312-M | 12 Pl. | 1970 | 800 |
| 313-M | 13 Pl. | 2155 | 1000 |
| 314-M | 14 Pl. | 2340 | 1100 |
| 315-M | 15 Pl. | 2525 | 1200 |

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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY



World Radio History

# ARCO ELECTRONICS INC.

## ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

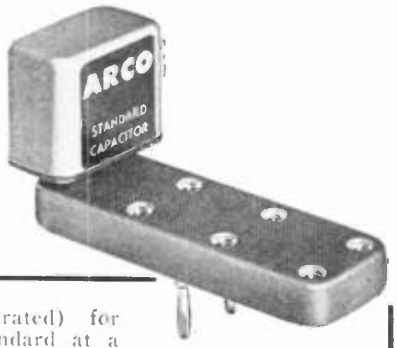
ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

# NEW ARCO Type SS Standard Capacitor

The new line of Arco Capacitor Standards is designed to provide high precision laboratory standards at moderate prices. The units are compact and readily combined to duplicate the function of decades. The banana plug terminals are detachable. Their removal leaves a threaded 6-32 bushing for easy attachment of terminals of another design.




A 4-position adapter (illustrated) for mounting more than one standard at a time is available. It is supplied free with the purchase of a set of ten or more standards. The use of a complete capacitance set and the 4-position adapter provides a highly accurate decade system. Tolerance approaches the ±0.1% accuracy of the individual standard.

All Arco Capacitor Standards through 0.1 mfd are constructed using silvered mica capacitors. Values from 0.2 mfd through 0.5 mfd are a combination of polystyrene and mica. All standards are individually calibrated at one kilocycle and 24°C. with an accuracy of ±0.1% +0.5 mmf. Long term stability is ±0.05% +0.1 mmf. It is recommended that measurement frequency be limited to the 400 cycle to ten kilocycle range. Error due to frequency variation from one kilocycle in this range will not exceed a few hundredths of a percent. At no time should full A.C. voltage be applied to capacitors above 0.01 mfd at frequencies exceeding 20 kc. The lower values can operate at full voltage at radio frequency.

| Part No. | Cap. mfd. | Net Price | Part No. | Cap. mfd. | Net Price |
|---|---|---|---|---|---|
| SS-101 | .0001 | $13.00 | SS-802 | .008 | $15.00 |
| SS-201 | .0002 | 13.00 | SS-902 | .009 | 15.00 |
| SS-301 | .0003 | 13.00 | SS-103 | .01 | 15.00 |
| SS-401 | .0004 | 13.00 | SS-203 | .02 | 16.00 |
| SS-501 | .0005 | 13.00 | SS-303 | .03 | 16.00 |
| SS-601 | .0006 | 13.00 | SS-403 | .04 | 17.00 |
| SS-701 | .0007 | 13.00 | SS-503 | .05 | 17.00 |
| SS-801 | .0008 | 13.00 | SS-603 | .06 | 18.00 |
| SS-901 | .0009 | 13.00 | SS-703 | .07 | 19.00 |
| SS-102 | .001 | 13.00 | SS-803 | .08 | 20.00 |
| SS-202 | .002 | 13.00 | SS-903 | .09 | 21.00 |
| SS-302 | .003 | 13.00 | SS-104 | .1 | 22.00 |
| SS-402 | .004 | 14.00 | SS-204 | .2 | 24.00 |
| SS-502 | .005 | 14.00 | SS-304 | .3 | 26.00 |
| SS-602 | .006 | 14.00 | SS-404 | .4 | 28.00 |
| SS-702 | .007 | 14.00 | SS-504 | .5 | 30.00 |

### MAXIMUM PEAK VOLTAGE RATING

.0001 to .04 mfd. — 500V
.05 to 0.5 mfd. — 300V

### DISSIPATION FACTOR

.0001 to .0004 mfd. — 0.15%
.0001 to .0004 mfd. — 0.1%
.0005 to .001 mfd. — 0.08%
.002 to 0.5 mfd. — 0.05%

### CASE SIZE

All standards $1\frac{9}{16}$ long x $1\frac{15}{16}$ wide (mounting base)
.0001 to 0.1 mfd. — $1\frac{5}{16}$ high (excluding banana plugs)
0.2 to 0.5 mfd. — $2\frac{5}{32}$ high (excluding banana plugs)

### MATERIAL

Drawn aluminum



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World Radio History

# ASTRON Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## MINIMITE* TYPE MM

**Miniature Metal-Cased Tubular Electrolytics**

***"SM"* Safety Margin Construction***

- Hermetically sealed aluminum-cased tubulars. Small and light. Ideal for under-chassis mounting in compact, tight assemblies.
- Designed to withstand high surge voltages and high ripple currents. Stable capacitance characteristics. Long service life.
- Exceptionally low leakage. Terminal tab connections provide permanent low-resistance contact for life of the unit.
- Outer insulating tube. Duals have centered mounting strap, and 3 leads (common negative).
- #20 bare wire leads, 3" long.
- Widely specified for original equipment and as popular replacements with quality-minded servicemen.

### SINGLE MINIMITE (2 leads)

| Cat. No. | Cap. Mf. | WVDC | †Dia x L. | List Price |
|---|---|---|---|---|
| MM-500-6 | 500 | 6 | ¾ x 1 5/8 | $1.55 |
| MM-1000-6 | 1000 | 6 | 7/8 x 2 1/16 | 1.90 |
| MM-500-15 | 500 | 15 | 7/8 x 2 1/16 | 1.75 |
| MM-1000-15 | 1000 | 15 | 1 x 2 11/16 | 2.30 |
| MM-10-25 | 10 | 25 | 1/2 x 1 1/16 | 1.00 |
| MM-25-25 | 25 | 25 | 1/2 x 1 1/16 | 1.00 |
| MM-50-25 | 50 | 25 | 5/8 x 1 3/16 | 1.10 |
| MM-100-25 | 100 | 25 | 5/8 x 1 5/8 | 1.35 |
| MM-250-25 | 250 | 25 | 7/8 x 1 5/8 | 1.70 |
| MM-500-25 | 500 | 25 | 1 x 2 1/16 | 2.40 |
| MM-4-50 | 1 | 50 | 1/2 x 1 1/16 | .95 |
| MM-10-50 | 10 | 50 | 1/2 x 1 1/16 | 1.00 |
| MM-25-50 | 25 | 50 | 5/8 x 1 1/16 | 1.00 |
| MM-50-50 | 50 | 50 | 5/8 x 1 5/8 | 1.20 |
| MM-100-50 | 100 | 50 | ¾ x 1 5/8 | 1.40 |
| MM-4-150 | 4 | 150 | 1/2 x 1 1/16 | 1.00 |
| MM-8-150 | 8 | 150 | 1/2 x 1 5/8 | 1.05 |
| MM-16-150 | 16 | 150 | 5/8 x 1 5/8 | 1.15 |
| MM-20-150 | 20 | 150 | 5/8 x 1 5/8 | 1.20 |
| MM-30-150 | 30 | 150 | ¾ x 1 5/8 | 1.30 |
| MM-40-150 | 40 | 150 | ¾ x 1 5/8 | 1.35 |
| MM-50-150 | 50 | 150 | 7/8 x 1 5/8 | 1.40 |
| MM-80-150 | 80 | 150 | 7/8 x 2 1/16 | 1.60 |
| MM-100-150 | 100 | 150 | 7/8 x 2 3/4 | 1.75 |
| MM-150-150 | 150 | 150 | 1 x 2 3/8 | 1.90 |
| MM-200-150 | 200 | 150 | 1 1/8 x 3 | 2.05 |
| MM-8-250 | 8 | 250 | 5/8 x 1 5/8 | 1.15 |
| MM-16-250 | 16 | 250 | ¾ x 1 5/8 | 1.30 |
| MM-20-250 | 20 | 250 | ¾ x 1 5/8 | 1.35 |
| MM-40-250 | 40 | 250 | 7/8 x 1 ¾ | 1.55 |
| MM-8-350 | 8 | 350 | 5/8 x 1 5/8 | 1.20 |
| MM-10-350 | 10 | 350 | ¾ x 1 5/8 | 1.25 |
| MM-20-350 | 20 | 350 | 7/8 x 1 5/8 | 1.45 |
| MM-4-450 | 4 | 450 | 5/8 x 1 3/8 | 1.15 |
| MM-8-450 | 8 | 450 | ¾ x 1 3/8 | 1.25 |
| MM-10-450 | 10 | 450 | ¾ x 1 5/8 | 1.30 |
| MM-12-450 | 12 | 450 | 7/8 x 1 5/8 | 1.35 |
| MM-16-450 | 16 | 450 | 7/8 x 1 ¾ | 1.40 |
| MM-20-450 | 20 | 450 | 7/8 x 2 1/16 | 1.55 |
| MM-30-450 | 30 | 450 | 1 x 2 3/8 | 1.70 |
| MM-40-450 | 40 | 450 | 1 x 2 11/16 | 1.80 |
| MM-50-450 | 50 | 450 | 1 x 3 | 2.05 |
| MM-60-450 | 60 | 450 | 1 1/8 x 3 | 2.30 |
| MM-80-450 | 80 | 450 | 1 1/8 x 3 ¾ | 2.80 |
| MM-8-500 | 8 | 500 | 7/8 x 2 1/16 | 1.30 |
| MM-16-500 | 16 | 500 | 1 x 2 3/8 | 1.50 |
| MM-20-500 | 20 | 500 | 1 x 2 3/8 | 1.60 |

### ††DUAL MINIMITE
### (3 leads, Common Negative)

| | | | | |
|---|---|---|---|---|
| MM-2x20-450 | 20+20 | 450 | ¾ x 1 5/8 * | $1.55 |
| MM-2x30-450 | 30+30 | 450 | 7/8 x 1 5/8 * | 1.80 |
| MM-2x40-450 | 40+40 | 450 | 7/8 x 2 1/16 * | 1.85 |
| MM-5030-450 | 50+30 | 450 | 7/8 x 2 11/16 * | 1.95 |
| MM-2x50-450 | 50+50 | 450 | 7/8 x 2 3/4 * | 2.10 |
| MM-8040-450 | 80+40 | 450 | 1 x 2 3/4 * | 2.20 |
| MM-2x8-450 | 8+8 | 450 | 7/8 x 2 1/16 * | 1.70 |
| MM-2x10-450 | 10+10 | 450 | 7/8 x 2 11/16 * | 1.85 |
| MM-168-450 | 16+8 | 450 | 1 x 2 1/16 * | 1.95 |
| MM-2x16-450 | 16+16 | 450 | 1 x 2 11/16 * | 2.25 |
| MM-2x20-450 | 20+20 | 450 | 1 x 2 11/16 * | 2.50 |
| MM-2x40-450 | 40+40 | 450 | 1 x 2 11/16 * | 3.40 |

†Dimensions are for metal tubes. Add 1/16" to diameter and 1/8" to length for dimensions over cardboard insulating tubes.

††Supplied with radial mounting strap.

*TRADE MARK

## TYPE ET

**Subminiature Electrolytics**

***"SM"* Safety Margin Construction***

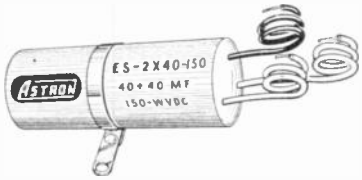
- Industry's widest range of values.
- Conservative ratings in subminiature cases.
- Hermetically sealed for reliable operation in all climates.
- Dependable 85°C. operation.
- Stable capacitance characteristics due to extremely pure foil and special high-gain etch process.
- Exceptionally low leakage current.
- Low-resistance terminal tab connection.

| Cat. No. | Rating Cap. | Rating Volts | Size | List Price Each |
|---|---|---|---|---|
| ET-25-3 | 25 | 3 | 3/8 x 1 1/16 | $0.85 |
| ET-50-3 | 50 | 3 | 3/8 x 1 1/16 | .95 |
| ET-100-3 | 100 | 3 | 3/8 x 1 1/16 | 1.10 |
| ET-150-3 | 150 | 3 | 3/8 x 1 7/8 | 1.10 |
| ET-200-3 | 200 | 3 | 3/8 x 1 5/8 | 1.25 |
| ET-360-3 | 300 | 3 | 3/8 x 1 5/8 | 1.30 |
| ET-5-6 | 5 | 6 | 3/8 x 1 3/16 | .80 |
| ET-25-6 | 25 | 6 | 3/8 x 1 3/16 | .85 |
| ET-50-6 | 50 | 6 | 3/8 x 1 1/16 | .95 |
| ET-75-6 | 75 | 6 | 3/8 x 1 1/16 | 1.00 |
| ET-100-6 | 100 | 6 | 3/8 x 1 5/8 | 1.20 |
| ET-125-6 | 125 | 6 | 3/8 x 1 5/8 | 1.20 |
| ET-50-15 | 50 | 15 | 3/8 x 1 3/16 | 1.00 |
| ET-100-15 | 100 | 15 | 3/8 x 1 5/8 | 1.25 |
| ET-5-25 | 5 | 25 | 3/8 x 1 1/16 | 1.00 |
| ET-10-25 | 10 | 25 | 3/8 x 1 1/16 | 1.00 |
| ET-20-25 | 20 | 25 | 3/8 x 1 1/16 | 1.00 |
| ET-25-25 | 25 | 25 | 3/8 x 1 1/16 | 1.00 |
| ET-50-25 | 50 | 25 | 3/8 x 1 5/8 | 1.10 |
| ET-1-50 | 1 | 50 | 3/8 x 1 1/16 | .90 |
| ET-2-50 | 2 | 50 | 3/8 x 1 1/16 | .90 |
| ET-4-50 | 4 | 50 | 3/8 x 1 1/16 | 1.00 |
| ET-5-50 | 5 | 50 | 3/8 x 1 1/16 | 1.00 |
| ET-10-50 | 10 | 50 | 3/8 x 1 3/16 | 1.00 |
| ET-15-50 | 15 | 50 | 3/8 x 1 3/16 | 1.00 |
| ET-20-50 | 20 | 50 | 3/8 x 1 1/16 | 1.05 |
| ET-25-50 | 25 | 50 | 3/8 x 1 5/8 | 1.05 |
| ET-10-90 | 10 | 90 | 3/8 x 1 5/8 | 1.10 |
| ET-5-100 | 5 | 100 | 3/8 x 1 3/16 | 1.00 |
| ET-10-100 | 10 | 100 | 3/8 x 1 5/8 | 1.00 |
| ET-1-150 | 1 | 150 | 3/8 x 1 3/16 | 1.00 |
| ET-2-150 | 2 | 150 | 3/8 x 1 3/16 | 1.00 |
| ET-4-150 | 4 | 150 | 3/8 x 1 3/16 | 1.00 |
| ET-5-150 | 5 | 150 | 3/8 x 1 3/16 | 1.00 |
| ET-8-150 | 8 | 150 | 3/8 x 1 5/8 | 1.05 |
| ET-10-150 | 10 | 150 | 3/8 x 1 5/8 | 1.05 |
| ET-12-150 | 12 | 150 | 3/8 x 1 5/8 | 1.10 |
| ET-4-250 | 4 | 250 | 3/8 x 1 5/8 | 1.00 |

*TRADE MARK

## TYPE ES

**Cardboard-Cased Electrolytics**




- ASTRON-improved design. Long service life. Electrically and mechanically superior to similar-appearing units.
- Dual and triple-section units. Can be used in place of costlier metal-can types of equal rating in television, radio, radio-phonos and other equipment. 65°C. operation.
- Sections wrapped in plastic film. Lasting protection from moisture, humidity, severest climatic conditions. High-melting-point wax fill.
- Centered radial mounting strap. Plastic insulated wire leads, 6" long. Color coding on tubes.
- Overall wax coating for added protection against moisture and humidity.

### DUAL UNITS
### (Common Negative)

| Cat. No. | Cap. Mf. WVDC | D. x L. | List Price |
|---|---|---|---|
| ESD-155 | 20-20-150 | ¾ x 2 1/2 | $1.65 |
| ESD-160 | 30-20-150 | 7/8 x 2 1/2 | 1.80 |
| ESD-163 | 10-20-150 | 7/8 x 2 1/2 | 1.75 |
| ESD-165 | 40-40-150 | 1 x 2 1/2 | 1.85 |
| ESD-170 | 50-30-150 | 1 x 2 1/2 | 1.95 |
| ESD-175 | 50-50-150 | 1 x 3 | 2.10 |
| ESD-190 | 80-40-150 | 1 1/8 x 3 | 2.25 |
| ESD-255 | 20-20-250 | 7/8 x 2 1/2 | 1.85 |
| ESD-455 | 20-20-450 | 1 1/8 x 3 1/4 | 2.50 |
| ESD-475 | 40-40/450 | 1 5/8 x 3 1/2 | 3.40 |

### TRIPLE UNITS
### (Common Negative)

| Cat. No. | Cap. Mf. WVDC | D. x L. | Price |
|---|---|---|---|
| EST-555 | 20-20-20-150 | 1 x 2 1/2 | $2.20 |
| EST-570 | 40-30-20/150 | 1 x 2 1/2 | 2.35 |
| EST-575 | 40-40-20-150 | 1 x 3 | 2.35 |
| EST-585 | 60-40-20/150 | 1 x 3 1/4 | 2.40 |
| EST-595 | 80-10-20-150 | 1 1/8 x 3 1/4 | 2.50 |
| EST-610 | 40-10-150-20-25 | 1 x 2 1/2 | 1.95 |
| EST-620 | 40-30-150-20-25 | 1 x 2 1/2 | 2.30 |
| EST-625 | 40-40-150-40-25 | 1 x 3 1/4 | 2.40 |
| EST-640 | 50-50-150-100-25 | 1 x 3 1/4 | 2.50 |
| EST-655 | 50-30-150-200-10 | 1 x 3 1/4 | 2.55 |

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World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## TYPE EY

### Twist-Prong Electrolytics

### *"SM"* Safety Margin Construction*

- Widest choice of singles, and dual, triple and quadruple capacitance-voltage combinations in smallest practical aluminum can sizes.
- Ideal for replacement in television, radio and other high quality electronic equipment where high ripple and high surge voltages are encountered.
- Hermetically sealed. Designed for 85°C. operation.
- Quick, easy, firm mounting through chassis slots or slotted plates for insulated or grounded connection. Mounting prong ring serves as common negative terminal.
- Terminal coding clearly stamped on container.
- Individually packaged for the service trade, including metal and phenolic mounting plates.

### SINGLE UNITS

| Cat. No. | Cap. Mf./WVDC | Dia x Length | List Price |
|---|---|---|---|
| EYS-100 | 1000/15 | 1 x3 | $2.55 |
| EYS-105 | 2000/15 | 1⅜ x3 | 3.45 |
| EYS-115 | 100/25 | 1 x2 | 1.60 |
| EYS-120 | 500/25 | 1 x3 | 2.55 |
| EYS-125 | 1000/25 | 1⅜ x3 | 3.55 |
| EYS-130 | 500/50 | 1⅜ x2½ | 2.65 |
| EYS-133 | 1500/50 | 1⅜ x4 | 3.75 |
| EYS-135 | 50/150 | 1 x2 | 1.65 |
| EYS-140 | 80/150 | 1 x2 | 1.85 |
| EYS-145 | 100/150 | 1 x2 | 2.00 |
| EYS-150 | 120/150 | 1 x2½ | 2.10 |
| EYS-151 | 120/150 | 1⅜x3 | 2.10 |
| EYS-155 | 140/150 | 1 x3 | 2.15 |
| EYS-160 | 150/150 | 1 x3 | 2.15 |
| EYS-162 | 300/150 | 1⅜x3 | 2.80 |
| EYS-165 | 15/250 | 1 x2 | 1.55 |
| EYS-170 | 30/250 | 1 x2 | 1.70 |
| EYS-175 | 40/250 | 1 x2 | 1.80 |
| EYS-180 | 60/250 | 1 x2½ | 2.05 |
| EYS-185 | 80/250 | 1 x3 | 2.15 |
| EYS-190 | 150/250 | 1¾ x2½ | 3.10 |
| EYS-193 | 150/300 | 1⅜ x3 | 3.50 |
| EYS-195 | 30/350 | 1 x2 | 1.90 |
| EYS-200 | 40/350 | 1 x2½ | 2.00 |
| EYS-205 | 50/350 | 1 x3 | 2.10 |
| EYS-215 | 80/350 | 1¾ x2½ | 2.85 |
| EYS-220 | 125/350 | 1¾ x3 | 3.65 |
| EYS-225 | 80/400 | 1¾ x2½ | 2.95 |
| EYS-230 | 10/450 | 1 x2 | 1.55 |
| EYS-235 | 20/450 | 1 x2 | 1.75 |
| EYS-240 | 30/450 | 1 x2½ | 1.95 |
| EYS-245 | 40/450 | 1 x3 | 2.05 |
| EYS-250 | 80/450 | 1¾ x3 | 3.05 |
| EYS-253 | 125/450 | 1⅜ x4 | 4.25 |
| EYS-255 | 30/475 | 1 x3 | 2.00 |
| EYS-260 | 40/475 | 1⅜ x2 | 2.50 |
| EYS-265 | 90/475 | 1⅜ x3½ | 3.50 |

### DUAL UNITS

| Cat. No. | Cap. Mf./WVDC | Dia x Length | List Price |
|---|---|---|---|
| EYD-500 | 1000-1000/15 | 1⅜ x3 | $4.40 |
| EYD-505 | 150-50/25 | 1 x2 | 1.75 |
| EYD-507 | 100-25/50 | 1 x2 | 1.85 |
| EYD-510 | 30-30/150 | 1 x2 | 1.75 |
| EYD-515 | 50-50/150 | 1 x2½ | 1.95 |
| EYD-517 | 200-5/150 | 1⅜ x2½ | 2.75 |
| EYD-520 | 200-200/150 | 1⅜ x3½ | 4.00 |
| EYD-525 | 20-20/250 | 1 x2 | 1.90 |
| EYD-530 | 40-40/250 | 1 x2½ | 2.50 |
| EYD-540 | 80-80/300 | 1⅜ x3½ | 4.05 |
| EYD-545 | 120-20/300 | 1⅜ x3 | 3.80 |
| EYD-547 | 120-40/300 | 1⅜ x3½ | 4.35 |
| EYD-550 | 15-15/350 | 1 x2 | 2.25 |
| EYD-555 | 20-20/350 | 1 x2½ | 2.35 |
| EYD-560 | 80-80/350 | 1⅜ x3½ | 4.70 |
| EYD-563 | 40-10/400 | 1⅜ x2½ | 2.50 |
| EYD-565 | 10-10/450 | 1 x2 | 1.90 |
| EYD-575 | 20-20/450 | 1 x3 | 2.55 |
| EYD-580 | 30-30/450 | 1⅜ x2½ | 3.05 |
| EYD-585 | 40-40/450 | 1⅜ x3 | 3.45 |
| EYD-590 | 80-10/450 | 1⅜ x3 | 3.60 |
| EYD-600 | 80-40/450 | 1⅜ x4 | 4.35 |
| EYD-605 | 40-40/475 | 1⅜ x3½ | 4.30 |
| EYD-610 | 20-20/500 | 1⅜ x2½ | 2.85 |
| EYD-615 | 40-40/500 | 1⅜ x4 | 4.40 |
| EYD-617 | 100/400 + 30/50 | 1⅜ x2½ | 3.10 |
| EYD-620 | 250/10 +1000/6 | 1⅜ x2 | 2.85 |
| EYD-625 | 20/350+ 30/250 | 1 x2½ | 2.30 |
| EYD-630 | 60/350+ 80/250 | 1⅜ x3 | 3.45 |
| EYD-633 | 80/350+ 100/50 | 1⅜ x3 | 3.95 |
| EYD-635 | 20/450+ 20/25 | 1 x2½ | 2.00 |
| EYD-640 | 20/450+ 100/100 | 1⅜ x2½ | 2.65 |
| EYD-645 | 20/450+ 80/350 | 1⅜ x3 | 3.65 |
| EYD-650 | 30/450+ 40/150 | 1⅜ x2 | 2.50 |
| EYD-655 | 40/450+ 20/25 | 1 x3½ | 2.40 |
| EYD-660 | 40/450+ 10/350 | 1⅜ x2½ | 2.60 |
| EYD-665 | 80/450+ 50/30 | 1⅜ x3 | 3.50 |
| EYD-670 | 20/475+ 100/300 | 1⅜ x3½ | 3.95 |
| EYD-675 | 40/500+ 50/200 | 1⅜ x3½ | 3.35 |

*TRADE MARK

### TRIPLE UNITS

| Cat. No. | Cap. Mf./WVDC | Dia x Length | List Price |
|---|---|---|---|
| EYT-1000 | 40-10-40/25 | 1 x2 | $2.15 |
| EYT-1005 | 40-20-20/150 | 1 x2 | 2.40 |
| EYT-1010 | 40-40-40/150 | 1 x2½ | 2.60 |
| EYT-1015 | 50-50-50/150 | 1 x3 | 3.00 |
| EYT-1020 | 40-20-10/250 | 1 x2½ | 2.85 |
| EYT-1025 | 60-40-20/350 | 1⅜ x3 | 4.25 |
| EYT-1027 | 40-40-20/400 | 1¾ x4 | 3.75 |
| EYT-1028 | 30-50-4/400 | 1⅜ x2½ | 3.85 |
| EYT-1030 | 10-10-10/450 | 1 x3 | 2.60 |
| EYT-1035 | 20-10-10/450 | 1 x3 | 2.95 |
| EYT-1040 | 20-20-20/450 | 1⅜ x3 | 3.60 |
| EYT-1045 | 30-30-30/450 | 1⅜ x3½ | 4.35 |
| EYT-1046 | 40-10-10/450 | 1⅜ x2½ | 3.60 |
| EYT-1050 | 40-40-10/450 | 1⅜ x3½ | 4.15 |
| EYT-1055 | 40-40-40/450 | 1⅜ x4 | 4.90 |
| EYT-1060 | 60-30-10/450 | 1⅜ x3½ | 4.50 |
| EYT-1065 | 80-40-20/450 | 1⅜ x4½ | 5.40 |
| EYT-1070 | 10-10-10/475 | 1 x3 | 2.70 |
| EYT-1075 | 30-30-20/475 | 1⅜ x3½ | 4.40 |
| EYT-1078 | 40-10-10/475 | 1⅜ x3½ | 3.90 |
| EYT-1080 | 10-10-10/500 | 1 x3½ | 2.70 |
| EYT-1085 | 40-20/150+ 20/25 | 1 x2 | 2.30 |
| EYT-1087 | 40-20/150+100/25 | 1 x2½ | 2.50 |
| EYT-1089 | 50-30/150+ 30/25 | 1 x2 | 2.60 |
| EYT-1090 | 50-50/150+ 20/25 | 1 x2½ | 2.70 |
| EYT-1095 | 120-60/150+ 20/25 | 1⅜ x2½ | 3.30 |
| EYT-1097 | 30-20/200+ 40/25 | 1 x2 | 2.80 |
| EYT-1100 | 100-10/200+ 40/50 | 1⅜ x2 | 3.10 |
| EYT-1105 | 40-20/250+ 10/150 | 1 x2½ | 2.75 |
| EYT-1110 | 70-70/250+ 20/50 | 1⅜ x2½ | 3.90 |
| EYT-1113 | 10-10/300+ 10/15 | 1 x2 | 2.35 |
| EYT-1115 | 10-10/300+ 15/250 | 1 x2 | 2.45 |
| EYT-1117 | 100-10/300+ 60/50 | 1⅜ x2½ | 4.05 |
| EYT-1120 | 10-5/350+150/50 | 1 x3 | 2.70 |
| EYT-1125 | 15-15/350+ 20/25 | 1 x2½ | 2.50 |
| EYT-1130 | 30-20/350+ 20/25 | 1 x3 | 3.10 |
| EYT-1135 | 30-30/350+ 20/25 | 1⅜ x2 | 3.40 |
| EYT-1140 | 30-30/350+ 50/50 | 1⅜ x2½ | 3.50 |
| EYT-1145 | 40-20/350+ 10/100 | 1⅜ x2 | 2.80 |
| EYT-1150 | 40-40/350+ 50/25 | 1⅜ x2½ | 3.70 |
| EYT-1153 | 40-10/400+200/50 | 1⅜ x3½ | 3.70 |
| EYT-1155 | 10-10/450+ 20/25 | 1 x2½ | 2.40 |
| EYT-1160 | 10-10/450+ 40/50 | 1 x2½ | 2.75 |
| EYT-1165 | 20-10/450+ 50/50 | 1 x3 | 2.85 |
| EYT-1170 | 20-20/450+ 20/25 | 1 x3½ | 3.10 |
| EYT-1175 | 20-20/450+ 60/350 | 1⅜ x3½ | 4.00 |
| EYT-1177 | 30-10/450+150/50 | 1⅜ x2½ | 2.50 |
| EYT-1180 | 30-30/450+ 20/25 | 1¾ x2½ | 3.50 |
| EYT-1185 | 30-30/450+ 40/50 | 1⅜ x3 | 3.65 |
| EYT-1190 | 40-10/450+ 80/200 | 1⅜ x3 | 3.90 |
| EYT-1195 | 40-10/450+100/200 | 1⅜ x3½ | 4.10 |
| EYT-1200 | 40-10/450+ 10/350 | 1⅜ x2½ | 3.30 |
| EYT-1205 | 40-20/450+ 25/50 | 1⅜ x3 | 3.40 |
| EYT-1210 | 40-40/450+ 20/25 | 1⅜ x3½ | 3.95 |
| EYT-1215 | 40-40/450+ 40/25 | 1⅜ x3½ | 4.00 |
| EYT-1217 | 40-40/450+100/50 | 1⅜ x3½ | 4.30 |
| EYT-1220 | 40-40/450+ 40/150 | 1⅜ x3½ | 4.15 |
| EYT-1225 | 40-40/450+100/200 | 1⅜ x4 | 4.95 |
| EYT-1240 | 80-40/450+100/25 | 1¾ x4½ | 5.10 |
| EYT-1245 | 20-20/475+ 60/400 | 1⅜ x4 | 4.80 |
| EYT-1250 | 10-10/500+ 4/350 | 1 x3 | 2.50 |
| EYT-1255 | 10-10 500+100/50 | 1 x3½ | 2.85 |
| EYT-1260 | 30-10 500+ 20/50 | 1¾ x2½ | 3.10 |
| EYT-1265 | 40 300+ 80-40/250 | 1¾ x3 | 4.35 |
| EYT-1267 | 60/400+ 20-20/350 | 1¾ x3 | 4.25 |
| EYT-1270 | 80/400+ 20-10 300 | 1⅜ x3½ | 4.25 |
| EYT-1273 | 10 450+ 20-10/25 | 1 x2 | 2.15 |
| EYT-1275 | 20 450+ 40-10/250 | 1⅜ x2 | 3.15 |
| EYT-1280 | 30 450+100-25/25 | 1⅜ x2 | 3.00 |
| EYT-1290 | 40/450+ 90-50/150 | 1⅜ x3½ | 4.00 |
| EYT-1295 | 20-350+ 30/250+ 20/25 | 1 x2½ | 2.80 |
| EYT-1300 | 100/300+ 60/150+ 20/25 | 1⅜ x2½ | 2.85 |
| EYT-1310 | 10/350+ 50/150+100/50 | 1 x3 | 2.85 |
| EYT-1313 | 20/350+ 10/300+ 20/25 | 1 x2½ | 2.50 |
| EYT-1315 | 20/350+ 40/300+ 10/150 | 1 x3 | 3.15 |
| EYT-1320 | 30/350+ 30/300+ 20/25 | 1 x3 | 3.15 |
| EYT-1325 | 40/350+ 20/300+ 10/200 | 1¾ x2 | 3.30 |
| EYT-1327 | 60 400+ 40/300+ 20/25 | 1⅜ x3 | 4.20 |
| EYT-1330 | 10/450+ 30/400+ 30/300 | 1⅜ x2½ | 3.35 |
| EYT-1335 | 20 450+ 60 250+100/25 | 1⅜ x2½ | 3.65 |
| EYT-1340 | 20 450+ 80 350+100/50 | 1⅜ x3½ | 4.50 |
| EYT-1345 | 40/450+ 40/150+130/50 | 1¾ x3 | 3.65 |
| EYT-1350 | 10/475+100/200+ 40/50 | 1¾ x2½ | 3.35 |
| EYT-1360 | 20 500+ 20/300+ 40/25 | 1¾ x2½ | 3.10 |
| EYT-1365 | 40/500+ 40 250+100/50 | 1⅜ x3½ | 3.75 |



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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

World Radio History

*(continued)*

## TYPE EY

**Twist-Prong Electrolytics**

***"SM"* Safety Margin Construction***

### QUADRUPLE UNITS

| Cat. No. | Cap. Mf./WVDC | Dia x Length | List Price |
|---|---|---|---|
| EYQ-2000 | 40-40-20-10 300 | 1⅜x2½ | $4.55 |
| EYQ-2003 | 80 40-20-10 350 | 1⅜x3½ | 5.20 |
| EYQ-2005 | 30-30 20 20 100 | 1⅜x3½ | 4.85 |
| EYQ-2007 | 50-40-30-20 400 | 1⅜x4 | 5.65 |
| EYQ-2010 | 80-10 10-10 100 | 1⅜x3½ | 4.70 |
| EYQ-2015 | 10-10-10-10 150 | 1⅜x2 | 3.35 |
| EYQ-2020 | 20 10-10-10 450 | 1⅜x2½ | 3.70 |
| EYQ-2025 | 20-20-20-20 450 | 1⅜x3 | 4.70 |
| EYQ-2027 | 20-60-20-20, 450 | 1⅜x3½ | 5.65 |
| EYQ-2030 | 30-15-15-15 150 | 1⅜x3 | 4.45 |
| EYQ-2035 | 30-30-15-10 450 | 1⅜x3½ | 4.70 |
| EYQ-2040 | 40-20-10-10 450 | 1⅜x3 | 4.45 |
| EYQ-2042 | 40 40- 4- 1 450 | 1⅜x3½ | 4.65 |
| EYQ-2044 | 40+40+40+40/450 | 1⅜x4½ | 6.45 |
| EYQ-2045 | 10-10 10 10 475 | 1⅜x2 | 3.50 |
| EYQ-2050 | 10-20-10-10 475 | 1⅜x3½ | 5.10 |
| EYQ-2055 | 40-40-40/150+ 20 25 | 1⅜x2 | 3.15 |
| EYQ-2060 | 80-60-10/250+ 20 150 | 1⅜x3 | 5.10 |
| EYQ-2065 | 100-40-10/250+100 50 | 1⅜x3 | 5.15 |
| EYQ-2070 | 60 40-20/300+ 50 25 | 1⅜x2½ | 4.70 |
| EYQ-2074 | 10-10-10/300+20 15 | 1⅜x2½ | 4.25 |
| EYQ-2075 | 40-40-40/300+ 20 150 | 1⅜x2½ | 4.90 |
| EYQ-2077 | 150-10-10 300+100 50 | 1⅜x4 | 5.90 |
| EYQ-2080 | 10 20 20 350+ 25 25 | 1⅜x2½ | 4.25 |
| EYQ-2085 | 40-10-10/350+ 10 25 | 1⅜x3 | 5.20 |
| EYQ-2090 | 40 40 10/350+150 50 | 1⅜x3½ | 5.70 |
| EYQ-2095 | 20-20-20/100+ 20 25 | 1⅜x2½ | 3.85 |
| EYQ-2097 | 80 60-15/400+ 60 50 | 1⅜x4 | 6.25 |
| EYQ-2105 | 10-10 10/150+ 20 25 | 1⅜x2 | 3.15 |
| EYQ-2110 | 10 10-10/150+ 10 150 | 1⅜x2 | 3.15 |
| EYQ-2115 | 20-10-10/150+100 25 | 1⅜x2½ | 3.70 |
| EYQ-2120 | 20 20-20/150+ 20 25 | 1⅜x2½ | 4.15 |
| EYQ-2125 | 20-20-20/450+100 50 | 1⅜x3 | 4.55 |
| EYQ-2130 | 30 30 15/150+ 30 50 | 1⅜x3 | 4.15 |
| EYQ-2135 | 30 30 20/450+ 20 25 | 1⅜x3½ | 4.65 |
| EYQ-2140 | 40 10-10 150 250 25 | 1⅜x3½ | 4.25 |
| EYQ-2145 | 40 10 10/150+ 10 350 | 1⅜x3 | 3.90 |
| EYQ-2150 | 40 15 10/150+ 20 25 | 1⅜x3 | 4.10 |
| EYQ-2153 | 40 20 20/150+ 20 25 | 1⅜x3½ | 4.60 |
| EYQ-2155 | 40-20 20/150+ 10 25 | 1⅜x3½ | 4.65 |
| EYQ-2160 | 40-30-10/150+ 20 25 | 1⅜x3 | 4.60 |
| EYQ-2163 | 40 10 10/150+100 100 | 1⅜x4 | 5.35 |
| EYQ-2165 | 40-10-10/150+ 25 50 | 1⅜x4 | 4.70 |
| EYQ-2170 | 60 10-10 150+ 20 150 | 1⅜x3½ | 4.60 |
| EYQ-2175 | 20 20 10 175+ 10 300 | 1⅜x3 | 4.30 |
| EYQ-2180 | 40 20-10/175+ 10 25 | 1⅜x3½ | 4.85 |
| EYQ-2185 | 10-10/100+ 80-10 250 | 1⅜x3½ | 4.70 |
| EYQ-2190 | 10-10/150+ 20 20 25 | 1⅜x2 | 2.95 |
| EYQ-2195 | 20 20/450+ 20-20 25 | 1⅜x2 | 3.60 |
| EYQ-2197 | 10 10/150+ 35-10 350 | 1⅜x4 | 5.50 |
| EYQ-2200 | 40 10/450+ 30-30 350 | 1⅜x4½ | 5.90 |
| EYQ-2202 | 60-10/300+ 10/ 75+ 10 25 | 1⅜x2 | 3.60 |
| EYQ-2203 | 60 10 350+ 60/200+ 20/150 | 1⅜x3½ | 5.00 |
| EYQ-2205 | 10 5 175+ 80 150 40 50 | 1⅜x4 | 4.95 |
| EYQ-2210 | 15-15 175+ 80/300+ 10/50 | 1⅜x3½ | 4.80 |
| EYQ-2215 | 10/450+120-10/300+ 25 25 | 1⅜x4 | 5.25 |
| EYQ-2220 | 10 150+ 60 10 350+ 25 25 | 1⅜x3½ | 4.60 |
| EYQ-2222 | 10/150+100-10/350+ 20 25 | 1⅜x3½ | 5.25 |
| EYQ-2225 | 20/150+ 80 20 200+ 50 50 | 1⅜x3 | 4.15 |
| EYQ-2227 | 25 150+100-10/300+ 50 50 | 1⅜x3 | 5.25 |
| EYQ-2230 | 25 500+ 80 10/350+ 10 50 | 1⅜x4½ | 4.50 |
| EYQ-2235 | 100 300+ 10/50 80 20 25 | 1⅜x3 | 4.50 |
| EYQ-2237 | 30/500+ 10/450+150-30 50 | 1⅜x3 | 4.20 |
| EYQ-2240 | 120 300+20 250+100 50 + 20 25 | 1⅜x3½ | 5.05 |
| EYQ-2245 | 200 300 20 250+100 50 + 20 25 | 1⅜x4½ | 5.45 |
| EYQ-2250 | 10/450+10 300+ 60 200+100 50 | 1⅜x2½ | 3.80 |
| EYQ-2255 | 20 450+20 100+ 20 350+ 20 25 | 1⅜x3 | 3.80 |
| EYQ-2260 | 80 450+10 100+ 30 300 10 150 | 1⅜x4½ | 5.25 |
| EYQ-2263 | 20/300+20-8-1/250 | 1¾x2 | 3.10 |
| EYQ-2265 | 10 475+10 150+ 80 200+ 50 60 | 1⅜x3 | 3.85 |
| EYQ-2270 | 10 475+60 150+ 30 100+125 50 | 1⅜x4 | 5.45 |
| EYQ-2275 | 20/475+10 300+100/50 + 80 25 | 1⅜x3 | 4.50 |
| EYQ-2280 | 25 175 20 150+ 40 500 100 50 | 1⅜x3½ | 4.95 |

### ACCESSORIES FOR TYPE EY

| Part Number | Item | Description | List Price |
|---|---|---|---|
| EYP-1 | Metal Mtg. Plate | for 1" can | $0.07 |
| EYP-2 | Phenolic Mtg. Plate | for 1" can | .07 |
| EYP-3 | Metal Mtg. Plate | for 1¾" can | .07 |
| EYP-4 | Phenolic Mtg. Plate | for 1¾" can | .07 |
| EYP-101 | Insulating Tube | 1" x2" | .15 |
| EYP-102 | Insulating Tube | 1" x2½" | .15 |
| EYP-103 | Insulating Tube | 1" x3" | .15 |
| EYP-104 | Insulating Tube | 1" x3½" | .15 |
| EYP-201 | Insulating Tube | 1¾"x2" | .15 |
| EYP-202 | Insulating Tube | 1¾"x2½" | .15 |
| EYP-203 | Insulating Tube | 1¾"x3" | .15 |
| EYP-204 | Insulating Tube | 1¾"x3½" | .15 |
| EYP-205 | Insulating Tube | 1¾"x4" | .15 |
| EYP-206 | Insulating Tube | 1⅜"x4½" | .15 |

*TRADE MARK

## TYPE E

**Metal Screw-Base Electrolytics**

***"SM"* Safety Margin Construction***

### SINGLE UNITS (2 leads)

| Cat. No. | Mf. | WVDC | D. x L. | List Price |
|---|---|---|---|---|
| E-8-450 | 8 | 450 | 1⅜x3½ | $2.20 |
| E-12-450 | 12 | 450 | 1⅜x3½ | 2.40 |
| E-16-450 | 16 | 450 | 1⅜x3½ | 2.45 |
| E-20-450 | 20 | 450 | 1⅜x3½ | 2.75 |
| E-30-450 | 30 | 450 | 1⅜x3½ | 3.00 |
| E-40-450 | 40 | 450 | 1⅜x3½ | 3.15 |

### High Voltage Series Wound Units

| Cat. No. | Mf. | WVDC | D. x L. | List Price |
|---|---|---|---|---|
| E-4-600 | 4 | 600 | 1⅜x3½ | $2.95 |
| E-8-600 | 8 | 600 | 1⅜x3½ | 3.15 |
| E-16-600 | 16 | 600 | 1⅜x3½ | 3.75 |

### DUAL UNITS (4 leads) and TRIPLE UNITS (6 leads)

| Cat. No. | Mf. | WVDC | D. x L. | List Price |
|---|---|---|---|---|
| E-2x8-450 | 8+8 | 450 | 1⅜x3½ | $3.00 |
| E-2x16-450 | 16+16 | 450 | 1⅜x3½ | 3.55 |
| E-3x8-450 | 8+8+8 | 450 | 1⅜x3½ | 5.00 |

## MILITARY TYPES TO MIL C-62A

### MIL TYPES, CE61, CE62, CE63, CE64

| ASTRON Catalog Number | ‡ASTRON Cat. No. based on Spec. JAN-C-62 | Cap. Mf. | WVDC | List Price |
|---|---|---|---|---|
| ED-100-15 | AS-CE63C101E | 100 | 15 | $4.75 |
| ED-25-25 | AS-CE63C250F | 25 | 25 | 4.50 |
| ED-50-25 | AS-CE63C500F | 50 | 25 | 4.60 |
| ED-75-25 | AS-CE63C750F | 75 | 25 | 4.75 |
| ED-25-50 | AS-CE63C250G | 25 | 50 | 4.55 |
| ED-50-50 | AS-CE63C500G | 50 | 50 | 4.70 |
| ED-10-100 | AS-CE63C100H | 10 | 100 | 4.55 |
| ED-25-100 | AS-CE63C250H | 25 | 100 | .475 |
| ED-10-150 | AS-CE63C100J | 10 | 150 | 4.55 |
| ED-20-150 | AS-CE63C200J | 20 | 150 | 4.70 |
| ED-10-200 | AS-CE63C100K | 10 | 200 | 4.65 |
| ED-15-200 | AS-CE63C150K | 15 | 200 | 4.75 |
| ED-10-250 | AS-CE63C100M | 10 | 250 | 4.70 |
| ED-12-250 | AS-CE63C120M | 12 | 250 | 4.75 |
| ED-10-300 | AS-CE63C100N | 10 | 300 | 4.75 |
| ED-8-350 | AS-CE63C080P | 8 | 350 | 4.70 |
| ED-6-400 | AS-CE63C060Q | 6 | 400 | 4.70 |
| ED-4-450 | AS-CE63F040R | 4 | 450 | 4.65 |

**NOTE:** For Jan Type CE61 — order (EDG) single terminal on side case grounded. Same list price.

For Jan Type CE62 — order (EDGT) single terminal on top case grounded. Same list price.

For Jan Type CE63 — order (ED) two terminals on side. Same list price.

For Jan Type CE64 — order (EDT) two terminal units with terminals on top. Same list price.

(All item; listed are furn. in case size 1-13/16x1x7/8 in accord. with MIL-C-62)

* Trade Mark

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World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## BLUE POINT® TYPE BP

**Molded Plastic Tubulars**

- A MAJOR ACHIEVEMENT in molded capacitor construction and performance. Engineered and produced exclusively by ASTRON (Pat. Pend.). Greatest protection against heat, moisture and humidity.
- Designed for continuous operation at 85°C. WITHOUT DERATING.
- Toughest shell bonded with tightest immersion-proof seal . . . unaffected by soldering iron heat. Leads cannot pull or melt out.
- Solid thermosetting impregnant. Vacuum impregnated sections—as in hermetically sealed metal case capacitors—insure uniformity and dependability of every unit.

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| **200 VOLTS DC WORKING** | | | |
| BP-2-01 | .01 | 3/8 x 1 | $0.25 |
| BP-2-02 | .02 | 3/8 x 1 | .25 |
| BP-2-05 | .05 | 3/8 x 1 1/4 | .25 |
| BP-2-1 | .1 | 7/16 x 1 1/4 | .35 |
| BP-2-2 | .2 | 5/8 x 1 7/8 | .45 |
| BP-2-022 | .022 | 3/8 x 1 | .25 |
| BP-2-25 | .25 | 5/8 x 1 7/8 | .45 |
| BP-2-5 | .5 | 5/8 x 1 7/8 | .60 |
| **400 VOLTS DC WORKING** | | | |
| BP-4-01 | .01 | 3/8 x 1 | .25 |
| BP-4-02 | .02 | 3/8 x 1 1/4 | .25 |
| BP-4-022 | .022 | 3/8 x 1 1/4 | .25 |
| BP-4-03 | .03 | 7/16 x 1 1/4 | .30 |
| BP-4-033 | .033 | 7/16 x 1 1/4 | .30 |
| BP-4-047 | .047 | 7/16 x 1 1/4 | .30 |
| BP-4-05 | .05 | 7/16 x 1 1/4 | .30 |
| BP-4-1 | .1 | 1/2 x 1 3/8 | .35 |
| BP-4-2 | .2 | 5/8 x 1 7/8 | .40 |
| BP-4-25 | .25 | 5/8 x 1 7/8 | .45 |
| **600 VOLTS DC WORKING** | | | |
| BP-6-001 | .001 | 3/8 x 1 | .25 |
| BP-6-0015 | .0015 | 3/8 x 1 | .25 |
| BP-6-002 | .002 | 3/8 x 1 | .25 |
| BP-6-0022 | .0022 | 3/8 x 1 | .25 |
| BP-6-003 | .003 | 3/8 x 1 | .25 |
| BP-6-0033 | .0033 | 3/8 x 1 | .25 |
| BP-6-004 | .004 | 3/8 x 1 | .25 |
| BP-6-0047 | .0047 | 3/8 x 1 | .25 |
| BP-6-005 | .005 | 3/8 x 1 | .25 |
| BP-6-006 | .006 | 3/8 x 1 | .25 |
| BP-6-01 | .01 | 3/8 x 1 1/4 | .30 |
| BP-6-015 | .015 | 3/8 x 1 1/4 | .30 |
| BP-6-02 | .02 | 7/16 x 1 1/4 | .30 |
| BP-6-022 | .022 | 7/16 x 1 1/4 | .30 |
| BP-6-03 | .03 | 1/2 x 1 3/8 | .35 |
| BP-6-033 | .033 | 1/2 x 1 3/8 | .35 |
| BP-6-04 | .04 | 1/2 x 1 3/8 | .35 |
| BP-6-047 | .047 | 1/2 x 1 3/8 | .40 |
| BP-6-05 | .05 | 1/2 x 1 3/8 | .40 |
| BP-6-06 | .06 | 5/8 x 1 7/8 | .40 |
| BP-6-08 | .08 | 5/8 x 1 7/8 | .40 |
| BP-6-1 | .1 | 5/8 x 1 7/8 | .45 |
| **1600 VOLTS DC WORKING** | | | |
| BP-16-001 | .001 | 7/16 x 1 1/4 | .55 |
| BP-16-002 | .002 | 7/16 x 1 1/4 | .55 |
| BP-16-003 | .003 | 7/16 x 1 1/4 | .55 |
| BP-16-004 | .004 | 7/16 x 1 1/4 | .55 |
| BP-16-005 | .005 | 7/16 x 1 1/4 | .55 |
| BP-16-006 | .006 | 1/2 x 1 3/8 | .55 |
| BP-16-007 | .007 | 1/2 x 1 5/8 | .60 |
| BP-16-008 | .008 | 1/2 x 1 3/8 | .60 |
| BP-16-01 | .01 | 1/2 x 1 3/8 | .60 |
| BP-16-015 | .015 | 5/8 x 1 7/8 | .60 |
| BP-16-02 | .02 | 5/8 x 1 7/8 | .60 |
| BP-16-03 | .03 | 5/8 x 1 7/8 | .60 |
| BP-16-033 | .033 | 5/8 x 1 7/8 | .60 |
| BP-16-05 | .05 | 5/8 x 1 7/8 | .60 |

**CAPACITANCE TOLERANCES**

| Nominal Capacitance | Capacitance Tolerance |
|---|---|
| .001 mfd — .0019 mfd | +60% —25% |
| .002 mfd — .009 mfd | +40% —20% |
| .01 mfd — .1 mfd | +20% —20% |
| .11 mfd — .5 mfd | +20% —10% |

## TYPE AP

**Ceramic Cased Paper Capacitor**

- Non-melting cement compound end-seals are firmly bonded to case and wire terminals.
- Low power factor and high insulation resistance over the entire temperature range of —55°C to + 85°C.
- Leads 2" long. Individually tested and fully guaranteed. Withstands a steady pull of 5 pounds applied axially to the leads for 1 minute.

| TYPE | CAP. | VOLT | SIZE | LIST PRICE |
|---|---|---|---|---|
| **200 VOLTS DC WORKING** | | | | |
| AP-2-01 | .01 | 200 | 5/8 x 1 | $0.25 |
| AP-2-02 | .02 | 200 | 5/8 x 1 | .25 |
| AP-2-05 | .05 | 200 | 7/16 x 1 1/4 | .25 |
| AP-2-1 | .1 | 200 | 1/2 x 1 1/2 | .35 |
| AP-2-2 | .2 | 200 | 5/8 x 1 7/8 | .45 |
| AP-2-22 | .22 | 200 | 5/8 x 1 7/8 | .25 |
| AP-2-25 | .25 | 200 | 5/8 x 1 7/8 | .45 |
| AP-2-5 | .5 | 200 | 13/16 x 2 1/8 | .60 |
| AP-2-1M | 1.0 | 200 | 1 x 2 1/4 | .75 |
| **400 VOLTS DC WORKING** | | | | |
| AP-4-01 | .01 | 400 | 3/8 x 1 | .25 |
| AP-4-02 | .02 | 400 | 5/8 x 1 1/4 | .25 |
| AP-4-022 | .022 | 400 | 5/8 x 1 1/4 | .30 |
| AP-4-03 | .03 | 400 | 5/8 x 1 1/4 | .25 |
| AP-4-033 | .033 | 400 | 5/8 x 1 1/4 | .30 |
| AP-4-047 | .047 | 400 | 7/16 x 1 1/4 | .30 |
| AP-4-05 | .05 | 400 | 7/16 x 1 1/4 | .30 |
| AP-4-1 | .1 | 400 | 9/16 x 1 1/2 | .35 |
| AP-4-2 | .2 | 400 | 3/4 x 1 7/8 | .40 |
| AP-4-25 | .25 | 400 | 3/4 x 1 7/8 | .45 |
| AP-4-5 | .5 | 400 | 7/8 x 2 1/4 | .60 |
| AP-4-1M | 1.0 | 400 | 1 x 2 7/8 | 1.10 |
| **600 VOLTS DC WORKING** | | | | |
| AP-6-001 | .001 | 600 | 5/16 x 1 | .25 |
| AP-6-0015 | .0015 | 600 | 5/16 x 1 | .25 |
| AP-6-002 | .002 | 600 | 5/16 x 1 | .25 |
| AP-6-0022 | .0022 | 600 | 5/16 x 1 | .25 |
| AP-6-003 | .003 | 600 | 5/16 x 1 | .25 |
| AP-6-0033 | .0033 | 600 | 5/16 x 1 | .25 |
| AP-6-004 | .004 | 600 | 5/16 x 1 | .25 |
| AP-6-0047 | .0047 | 600 | 5/16 x 1 | .25 |
| AP-6-005 | .005 | 600 | 5/16 x 1 | .25 |
| AP-6-006 | .006 | 600 | 5/8 x 1 | .25 |
| AP-6-01 | .01 | 600 | 5/8 x 1 1/4 | .30 |
| AP-6-015 | .015 | 600 | 5/8 x 1 1/4 | .30 |
| AP-6-02 | .02 | 600 | 7/16 x 1 1/4 | .30 |
| AP-6-022 | .022 | 600 | 7/16 x 1 1/4 | .30 |
| AP-6-03 | .03 | 600 | 1/2 x 1 1/2 | .35 |
| AP-6-033 | .033 | 600 | 1/2 x 1 1/2 | .35 |
| AP-6-04 | .04 | 600 | 1/2 x 1 1/2 | .35 |
| AP-6-047 | .047 | 600 | 1/2 x 1 1/2 | .40 |
| AP-6-05 | .05 | 600 | 1/2 x 1 1/2 | .40 |
| AP-6-06 | .06 | 600 | 9/16 x 1 1/2 | .40 |
| AP-6-08 | .08 | 600 | 9/16 x 1 7/8 | .40 |
| AP-6-1 | .1 | 600 | 9/16 x 1 7/8 | .45 |
| AP-6-22 | .22 | 600 | 13/16 x 2 1/8 | .60 |
| AP-6-25 | .25 | 600 | 3/16 x 2 1/8 | .60 |
| AP-6-5 | .5 | 600 | 1 x 2 7/8 | .80 |
| **1600 VOLTS DC WORKING** | | | | |
| AP-16-001 | .001 | 1600 | 3/4 x 1 | .55 |
| AP-16-002 | .002 | 1600 | 3/8 x 1 | .55 |
| AP-16-003 | .003 | 1600 | 7/16 x 1 1/4 | .55 |
| AP-16-004 | .004 | 1600 | 7/16 x 1 1/4 | .55 |
| AP-16-005 | .005 | 1600 | 7/16 x 1 1/4 | .55 |
| AP-16-006 | .006 | 1600 | 1/2 x 1 1/2 | .55 |
| AP-16-007 | .007 | 1600 | 1/2 x 1 1/2 | .60 |
| AP-16-008 | .008 | 1600 | 1/2 x 1 1/2 | .60 |
| AP-16-01 | .01 | 1600 | 1/2 x 1 1/2 | .60 |
| AP-16-015 | .015 | 1600 | 5/8 x 1 7/8 | .60 |
| AP-16-02 | .02 | 1600 | 5/8 x 1 7/8 | .60 |
| AP-16-03 | .03 | 1600 | 5/8 x 1 7/8 | .60 |
| AP-16-033 | .033 | 1600 | 5/8 x 1 7/8 | .60 |
| AP-16-05 | .05 | 1600 | 3/4 x 2 1/4 | .60 |

**CAPACITANCE TOLERANCES**

| Nominal Capacitance | Capacitance Tolerance |
|---|---|
| .001 mfd — .0019 mfd | +60% —25% |
| .002 mfd — .009 mfd | +40% —20% |
| .01 mfd — .1 mfd | +20% —20% |
| .11 mfd — .5 mfd | +20% —10% |

## TYPE ARMF

**Oil Filled**
**Metal Tubulars**
**85°C. Operation**

**CP25 thru CP29 of MIL C-25A**

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Excellent capacitance stability and low power factor over entire temperature range —55°C. to +85°C.
- Units listed are internally insulated from case. Also available with capacitor section grounded to case (Type ARMG) and in accordance with all Specification MIL-C-25A styles CP25-26-27-28-29.
- Wire leads 1 1/2" long. Standard capacitance tolerance ±20%.

**CAPACITOR SECTION INSULATED FROM CASE: CIRCUIT 1**

**ARMF (MIL Style CP25):** Sizes and list prices as shown.

**ARMFP (MIL Style CP26):** Basic ARMF with plastic outer sleeve (P) for insulated body. Add 3/32" to length and 1/32" to diameter. Add 15¢ to ARMF list prices.

**ARMF-Y (MIL Style CP27):** Basic ARMF with riveted radial mounting strap "Y" on uninsulated body. Case sizes as listed. Add 10¢ to ARMF list prices.

**ARMFP-Y (MIL Style CP28):** Basic ARMF with plastic outer sleeve (P) and riveted radial mounting strap "Y". Add 3/32" to length, 1/32" to diameter. Add 25¢ to ARMF list prices.

**ARMF-A (MIL Style CP29):** Basic ARMF with tangential soldered-on mounting bracket "A". Case sizes as listed. Add 40¢ to ARMF list prices.

**CAPACITOR SECTION GROUNDED TO CASE: CIRCUIT 3—ARMG (MIL Style CP25):** Deduct 1/8" from length of ARMF sizes listed. Uninsulated body. Same list prices as ARMF.

**ARMGP (MIL Style CP26):** Basic ARMG with plastic outer sleeve (P) for insulated body. Add 3/32" to length and diameter of ARMF sizes listed. Add 15¢ to ARMF list prices.

**ARMG-Y (MIL Style CP27):** Basic ARMG with riveted radial mounting strap "Y" on uninsulated body. Deduct 1/8" from length of ARMF sizes listed. Add 10¢ to ARMF list prices.

**ARMGP-Y (MIL Style CP28):** Basic ARMG with plastic outer sleeve (P) and riveted radial mounting strap "Y". Add 1/32" to diameter and length of ARMF sizes listed. Add 25¢ to ARMF list prices.

**ARMG-A (MIL Style CP29):** Basic ARMG with tangential soldered-on mounting bracket "A". Deduct 1/8" from length of ARMF sizes listed. Add 40¢ to ARMF list prices.

| Mil. Type as CP25 | Astron Type | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|---|
| **200 VOLTS DC WORKING** | | | | |
| A1EC104M | ARMF-2-1 | .1 | 5/8x1 5/8 | $1.30 |
| A1EC254M | ARMF-2-25 | .25 | 3/4x2 1/8 | 1.60 |
| A1EC504M | ARMF-2-5 | .5 | 1x2 1/8 | 1.90 |
| **600 VOLTS DC WORKING** | | | | |
| A1EF302M | ARMF-6-003 | .003 | 7/16x1 1/8 | 1.00 |
| A1EF602M | ARMF-6-006 | .006 | 7/16x1 1/8 | 1.05 |
| A1EF103M | ARMF-6-01 | .01 | 7/16x1 1/8 | 1.05 |
| A1EF203M | ARMF-6-02 | .02 | 7/16x1 5/8 | 1.15 |
| A1EF503M | ARMF-6-05 | .05 | 5/8x1 1/2 | 1.25 |
| A1EF104M | ARMF-6-1 | .1 | 5/8x1 7/8 | 1.40 |
| A1EF254M | ARMF-6-25 | .25 | 1x2 1/8 | 1.90 |
| A1EF504M | ARMF-6-5 | .5 | 1x2 5/8 | 2.45 |
| **1000 VOLTS DC WORKING** | | | | |
| A1EG302M | ARMF-10-003 | .003 | 5/8x1 1/8 | 1.10 |
| A1EG602M | ARMF-10-006 | .006 | 5/8x1 1/8 | 1.15 |
| A1EG103M | ARMF-10-01 | .01 | 5/8x1 1/8 | 1.25 |
| A1EG203M | ARMF-10-02 | .02 | 5/8x1 1/2 | 1.35 |
| A1EG503M | ARMF-10-05 | .05 | 3/4x1 5/8 | 1.45 |
| A1EG104M | ARMF-10-1 | .1 | 1x1 7/8 | 1.65 |
| A1EG254M | ARMF-10-25 | .25 | 1x2 5/8 | 1.90 |
| **1500 VOLTS DC WORKING** | | | | |
| A1EH302M | ARMF-15-003 | .003 | 1x1 1/4 | 1.50 |
| A1EH602M | ARMF-15-006 | .006 | 1x1 1/4 | 1.50 |
| A1EH103M | ARMF-15-01 | .01 | 1x1 1/4 | 1.50 |
| A1EH203M | ARMF-15-02 | .02 | 1x1 5/8 | 1.60 |
| A1EH503M | ARMF-15-05 | .05 | 1x1 7/8 | 1.70 |
| A1EH104M | ARMF-15-1 | .1 | 1x2 1/8 | 2.10 |

CAPACITANCE TOLERANCE: ±20% (M).


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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

World Radio History

# ASTRON Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

**CP53 thru CP55 of MIL C-25A**

## TYPE ADM

**Bathtub Paper Capacitors**
***85°C. Operation***

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Operating temperature range —55°C. to +85°C.
- Built to comply with strict requirements of MIL-C-25A. Silicone rubber compression-seal lug terminals. Completely immersion-proof.
- Single units have two terminals; duals have three terminals (one common); triple units have three terminals (case common).
- Standard position of Type ADM terminals is on side (MIL C-25A Style CP53). Available also with terminals on top (ASTRON Type ADMT or MIL Style CP54) and bottom terminals (ASTRON Type ADMB or MIL Style CP55).
- Cap. Tolerance: ±20%.

| Military Number | Astron Type | L. x W. x H. | List Price |
|---|---|---|---|
| **100 VOLTS DC WORKING** | | | |
| AS-CP53B1EB105M | ADM-1-1M | 1 13/16 x 1 x 7/8 | $3.15 |
| AS-CP53B1EB205M | ADM-1-2M | 2 x 1 3/4 x 7/8 | 4.50 |
| AS-CP53B1EB405M | ADM-1-4M | 2 x 2 x 1 1/8 | 6.40 |
| **200 VOLTS DC WORKING** | | | |
| AS-CP53B1EC504M | ADM-2-5 | 1 13/16 x 1 x 7/8 | 2.45 |
| AS-CP53B1EC105M | ADM-2-1M | 2 x 1 3/4 x 7/8 | 3.00 |
| AS-CP53B1EC205M | ADM-2-2M | 2 x 2 x 1 | 3.95 |
| **400 VOLTS DC WORKING** | | | |
| AS-CP53B1EE504M | ADM-4-5 | 1 13/16 x 1 x 7/8 | 2.65 |
| AS-CP53B1EE105M | ADM-4-1M | 2 x 1 3/4 x 7/8 | 3.15 |
| AS-CP53B5EE504M | ADM-4-3x5 | 2 x 2 x 1 1/8 | 4.50 |
| **600 VOLTS DC WORKING** | | | |
| AS-CP53B1EF503M | ADM-6-05 | 1 13/16 x 1 x 3/4 | 2.60 |
| AS-CP53B1EF104M | ADM-6-1 | 1 13/16 x 1 x 3/4 | 2.65 |
| AS-CP53B1EF254M | ADM-6-25 | 1 13/16 x 1 x 3/4 | 2.80 |
| AS-CP53B1EF504M | ADM-6-5 | 1 13/16 x 1 x 1 | 3.00 |
| AS-CP53B1EF105M | ADM-6-1M | 2 x 1 3/4 x 1 | 3.40 |
| AS-CP53B1EF205M | ADM-6-2M | 2 x 2 x 1 1/8 | 4.55 |
| AS-CP53B4EF503M | ADM-6-2x05 | 1 13/16 x 1 x 3/4 | 3.30 |
| AS-CP53B4EF104M | ADM-6-2x1 | 1 13/16 x 1 x 3/4 | 3.35 |
| AS-CP53B4EF254M | ADM-6-2x25 | 1 13/16 x 1 x 1 | 3.40 |
| AS-CP53B4EF504M | ADM-6-2x5 | 2 x 1 3/4 x 1 | 3.90 |
| AS-CP53B4EF105M | ADM-6-2x1M | 2 x 2 x 1 1/8 | 4.80 |
| AS-CP53B5EF503M | ADM-6-3x05 | 1 13/16 x 1 x 3/4 | 3.45 |
| AS-CP53B5EF104M | ADM-6-3x1 | 1 13/16 x 1 x 7/8 | 3.80 |
| AS-CP53B5EF254M | ADM-6-3x25 | 2 x 1 3/4 x 7/8 | 4.30 |
| AS-CP53B5EF504M | ADM-6-3x5 | 2 x 2 x 1 1/8 | 5.20 |
| **1000 VOLTS DC WORKING** | | | |
| AS-CP53B1EG503M | ADM-10-05 | 1 13/16 x 1 x 3/4 | 2.75 |
| AS-CP53B1EG104M | ADM-10-1 | 1 13/16 x 1 x 3/4 | 2.85 |
| AS-CP53B1EG254M | ADM-10-25 | 1 13/16 x 1 x 7/8 | 2.95 |
| AS-CP53B1EG504M | ADM-10-5 | 2 x 1 3/4 x 7/8 | 3.20 |
| AS-CP53B1EG105M | ADM-10-1M | 2 x 2 x 1 1/8 | 4.00 |
| AS-CP53B4EG503M | ADM-10-2X05 | 1 13/16 x 1 x 3/4 | 3.50 |
| AS-CP53B4EG104M | ADM-10-2X1 | 1 13/16 x 1 x 3/4 | 3.60 |
| AS-CP53B4EG254M | ADM-10-2X25 | 2 x 1 3/4 x 7/8 | 3.80 |
| AS-CP53B4EG504M | ADM-10-2X5 | 2 x 2 x 1 1/8 | 4.95 |
| AS-CP53B5EG503M | ADM-10-3X05 | 1 13/16 x 1 x 3/4 | 4.00 |
| AS-CP53B5EG104M | ADM-10-3X1 | 2 x 1 3/4 x 7/8 | 4.15 |
| AS-CP53B5EG254M | ADM-10-3X25 | 2 x 2 x 1 1/8 | 5.00 |

## METEOR* TYPE ADZ

**Bathtub Capacitors**
***125°C. Operation***

**MIL TYPE**
**CP53**
**CP54 Char. K**
**CP55**

- Designed for operation at temperatures up to 125°C. without voltage derating.
- Excellent capacitance stability, less than 5% change over entire range —65°C. to +125°C. achieved by use of ASTRON-developed X-250* impregnant.
- Temperature characteristics exceed MIL specifications for Characteristic K.
- Compact sizes in handy, easy-mounting bathtub cases. Glass-to-metal sealed lug-type terminals. Positive immersion proof seal.
- Standard position of terminals is on side (ASTRON Type ADZ or MIL Style CP53). Available also with terminals on top (ASTRON Type ADZT or MIL Style CP54); bottom terminals (ASTRON Type ADZB or MIL Style CP55).
- Standard Capacitance Tolerance: ±20%.

| Cat. No. | Cap. Mf. | L. x W. x H. | Mtg. Ctr. | List Price |
|---|---|---|---|---|
| **200 VOLTS DC WORKING** | | | | |
| ADZ-2-5 | .5 | 1 1/2 x 1 x 7/8 | 2 1/8 | $5.45 |
| ADZ-2-1M | 1.0 | 2 x 1 3/4 x 7/8 | 2 3/8 | 5.85 |
| ADZ-2-2M | 2.0 | 2 x 2 x 1 | 2 3/8 | 7.40 |
| **400 VOLTS DC WORKING** | | | | |
| ADZ-4-05 | .05 | 1 1/2 x 1 x 3/4 | 2 1/8 | 4.50 |
| ADZ-4-1 | .1 | 1 1/2 x 1 x 3/4 | 2 1/8 | 4.80 |
| ADZ-4-25 | .25 | 1 1/2 x 1 x 3/4 | 2 1/8 | 5.20 |
| ADZ-4-5 | .5 | 1 1/2 x 1 x 7/8 | 2 1/8 | 5.90 |
| ADZ-4-1M | 1.0 | 2 x 1 3/4 x 7/8 | 2 3/8 | 6.80 |
| **600 VOLTS DC WORKING** | | | | |
| ADZ-6-05 | .05 | 1 1/2 x 1 x 3/4 | 2 1/8 | 5.10 |
| ADZ-6-1 | .1 | 1 1/2 x 1 x 3/4 | 2 1/8 | 5.80 |
| ADZ-6-25 | .25 | 1 1/2 x 1 x 3/4 | 2 1/8 | 5.90 |
| ADZ-6-5 | .5 | 1 1/2 x 1 x 1 | 2 1/8 | 7.05 |
| ADZ-6-1M | 1.0 | 2 x 1 3/4 x 1 | 2 3/8 | 7.95 |
| ADZ-6-2M | 2.0 | 2 x 2 x 1 1/8 | 2 3/8 | 9.50 |

CAPACITANCE TOLERANCE: ±20% (M). Other tolerances are available.
*Case ht. (C dim.) 1 1/8" for top terminals (ADZT) or bot. terminals (ADZB)

## TYPE AXM

**MIL C-25 TYPE**
**(CP70 (B Terminal) Char. E)**

**Terneplate "Squeeze Seam" Case with Spade Bolt Brackets**

| Cat. No. | Cap. MF | L. x W. x H. | List Price |
|---|---|---|---|
| **600 VOLTS DC WORKING** | | | |
| AXM 6-25 | .25 | 1 1/2 x 1 1/16 x 1 3/4 | 5.30 |
| AXM 6-5 | .5 | 1 1/2 x 1 1/16 x 2 1/4 | 5.30 |
| AXM 6-1M | 1.0 | 1 1/2 x 1 1/16 x 2 1/4 | 6.70 |
| AXM 6-2M | 2.0 | 1 1/2 x 1 1/16 x 3 1/4 | 8.30 |
| AXM 6-4M | 4.0 | 2 1/4 x 1 1/16 x 3 7/8 | 10.65 |
| AXM 6-6M | 6.0 | 3 3/4 x 1 1/4 x 3 7/8 | 13.35 |
| AXM 6-8M | 8.0 | 3 3/4 x 1 1/4 x 4 1/4 | 15.95 |
| AXM 6-10M | 10.0 | 3 3/4 x 1 3/4 x 4 | 17.95 |
| **1000 VOLTS DC WORKING** | | | |
| AXM 10-1 | .1 | 1 1/2 x 1 1/16 x 1 3/4 | 4.65 |
| AXM 10-25 | .25 | 1 1/2 x 1 1/16 x 2 1/4 | 5.30 |
| AXM 10-5 | .5 | 1 1/2 x 1 1/16 x 2 1/4 | 5.65 |
| AXM 10-1M | 1.0 | 1 1/2 x 1 1/16 x 2 7/8 | 7.35 |
| AXM 10-2M | 2.0 | 1 1/2 x 1 1/16 x 4 3/4 | 9.65 |
| AXM 10-4M | 4.0 | 3 3/4 x 1 1/4 x 3 7/8 | 12.30 |
| AXM 10-6M | 6.0 | 3 3/4 x 1 3/4 x 4 | 16.65 |
| AXM 10-8M | 8.0 | 3 3/4 x 1 3/4 x 4 3/4 | 17.95 |

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World Radio History

# METEOR* SUBMINIATURE PAPER CAPACITORS

***For 125°C. Operation without voltage derating***

- Amazingly small sizes, compact and light-weight units.
- Highly dependable operation at temperatures up to 125°C. *without voltage derating.*
- Exceptional capacitance stability, less than 5% change, over entire temperature range of −65°C. to +125°C. due to use of ASTRON-developed high-temperature impregnant X-250*.
- High insulation resistance, low power factor, unusually low resonance loss. High test voltage indicates extra margin of safety in operation.
- Built to exceed stringent requirements of Specification MIL-C-25A.
- Positive hermetic closure of the metal cases is assured by glass-to-metal solder seal terminals.
- Tubulars supplied in a variety of construction and mounting styles to meet your specific needs: extended foil or inserted tab; capacitor section grounded to case or insulated from case; plastic outer sleeve; with soldered-on tangential or L-type bracket; screw neck mounting style; or stud-base mounting style.

**CP08* AND CP09* MIL C-25A**

* Complete MIL-Listings Page P-1025

## METEOR* TYPE AQF

**Glass-to-Metal Sealed**
**SUBMINIATURE TUBULARS**

- No voltage derating necessary over entire operating temperature range —65°C. to +125°C.
- Extended foil, non-inductively wound construction offers extremely small size and lowest possible resonant losses in low and high voltage applications.
- Excellent capacitance-temperature stability, long life.
- Available in a variety of construction styles to meet your specific needs, as follows:

**CAPACITOR SECTION INSULATED FROM CASE (Glass-to-Metal terminal both ends): CIRCUIT 1**

**AQF (MIL Style CP08):** Basic unit in "floating" construction. Sizes and list prices as shown. Uninsulated body.

**AQFP (MIL Style CP09):** Basic AQF unit with plastic outer sleeve (P) or insulated body. Add 1/16" to diameter and length of AQF sizes listed. Add 15¢ to list price.

**AQF-A:** Basic AQF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for AQF. Add 40¢ to AQF list prices.

**AQF-B:** Basic AQF unit with soldered on L-type mounting bracket "B" on uninsulated body. Case sizes as listed for AQF. Add 40¢ to AQF list prices.

**AQFS:** Screwneck mounting type. Uninsulated body. Available in same ratings as AQF. Minimum case diameter is .100". Add 80¢ to AQF list prices.

**AQV:** Stud base mounting type. Uninsulated body. Available in same ratings and case sizes as AQ. Add 60¢ to AQ list prices.

**CAPACITOR SECTION GROUNDED TO CASE (Glass-to-Metal terminal at one end): CIRCUIT 3**

**AQ (MIL Style CP08):** Basic grounded unit. Deduct 1/16" from length of AQF sizes listed. Uninsulated body. Deduct $1.00 from AQF list prices.

**AQP (MIL Style CP09):** Basic AQ unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of AQF sizes listed. Deduct 85¢ from list prices.

**AQ-A:** Basic AQ unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of AQF sizes listed. Deduct 60¢ from AQF list prices.

**AQ-B:** Basic AQ unit with soldered-on L-type bracket "B" on uninsulated body. Deduct 1/16" from length of AQF sizes listed. Deduct 60¢ from AQF list prices.

**AQS:** Screwneck mounting type. Uninsulated body. Available in same ratings as AQF listed. Minimum case diameter .100". Deduct 1/16" from length of AQF sizes listed. Deduct 20¢ from AQF list prices.

**AQV:** Stud-base mounting type. Uninsulated body. Available in same ratings as AQF listed. Deduct 1/16" from AQF sizes. Deduct 10¢ from AQF list prices.

*TRADE MARK

### 100 VOLTS DC WORKING

| Mil. Type as CP08 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| | AQF-1-001 | .001 | .235x¾ | 3.30 |
| | AQF-1-0015 | .0015 | .235x¾ | 3.30 |
| | AQF-1-0022 | .0022 | .235x¾ | 3.30 |
| | AQF-1-0033 | .0033 | .235x¾ | 3.30 |
| | AQF-1-0047 | .0047 | .235x¾ | 3.30 |
| | AQF-1-01 | .01 | .235x¾ | 3.40 |
| | AQF-1-015 | .015 | .235x¾ | 3.45 |
| | AQF-1-022 | .022 | .312x⅞ | 3.55 |
| | AQF-1-033 | .033 | .312x⅞ | 3.60 |
| | AQF-1-047 | .047 | .312x⅞ | 3.60 |
| | AQF-1-068 | .068 | .400x⅞ | 3.70 |
| | AQF-1-1 | .1 | .400⅞ | 3.70 |
| | AQF-1-15 | .15 | .400x1⅛ | 3.80 |
| | AQF-1-22 | .22 | .400x1⅜ | 3.95 |
| | AQF-1-27 | .27 | .562x1⅛ | 4.20 |
| | AQF-1-33 | .33 | .562x1⅛ | 4.30 |
| | AQF-1-47 | .47 | .562x1⅜ | 4.55 |
| | AQF-1-56 | .56 | .562x1⅝ | 4.70 |
| | AQF-1-68 | .68 | .562x1⅝ | 4.80 |
| | AQF-1-1M | 1.0 | .670x1⅝ | 5.35 |

### 200 VOLTS DC WORKING

| Mil. Type as CP08 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| | AQF-2-001 | .001 | .235x¾ | 3.40 |
| | AQF-2-0015 | .0015 | .235x¾ | 3.40 |
| | AQF-2-0022 | .0022 | .235x¾ | 3.40 |
| | AQF-2-0033 | .0033 | .235x¾ | 3.45 |
| | AQF-2-0047 | .0047 | .235x¾ | 3.45 |
| | AQF-2-0068 | .0068 | .235x¾ | 3.45 |
| | AQF-2-01 | .01 | .312x⅞ | 3.65 |
| | AQF-2-015 | .015 | .312⅞ | 3.65 |
| | AQF-2-022 | .022 | .235x¾ | 3.70 |
| | AQF-2-033 | .033 | .312x⅞ | 3.70 |
| | AQF-2-047 | .047 | .400x⅞ | 3.80 |
| | AQF-2-056 | .056 | .400x⅞ | 3.85 |
| | AQF-2-068 | .068 | .400x⅞ | 3.85 |
| | AQF-2-1 | .1 | .400x⅛ | 3.85 |
| | AQF-2-15 | .15 | .400x1⅜ | 4.10 |
| | AQF-2-22 | .22 | .400x1⅜ | 4.35 |
| | AQF-2-27 | .27 | .562x1⅜ | 4.50 |
| | AQF-2-33 | .33 | .562x1⅜ | 4.60 |
| | AQF-2-47 | .47 | .562x1⅝ | 4.90 |
| | AQF-2-56 | .56 | .670x1⅝ | 5.25 |
| | AQF-2-68 | .68 | .670x1⅝ | 5.35 |
| | AQF-2-1M | 1.0 | .750x2⅛ | 5.65 |

### 300 VOLTS DC WORKING

| Mil. Type as CP08 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| | AQF-3-001 | .001 | .235x¾ | 3.45 |
| | AQF-3-0015 | .0015 | .235x¾ | 3.45 |
| | AQF-3-0022 | .0022 | .235x¾ | 3.45 |
| | AQF-3-0033 | .0033 | .235x¾ | 3.50 |
| | AQF-3-0047 | .0047 | .235x¾ | 3.50 |
| | AQF-3-01 | .01 | .312x⅞ | 3.70 |
| | AQF-3-015 | .015 | .312x⅞ | 3.80 |
| | AQF-3-022 | .022 | .312x⅞ | 3.80 |
| | AQF-3-033 | .033 | .400x⅞ | 3.85 |
| | AQF-3-047 | .047 | .400x⅞ | 3.85 |
| | AQF-3-068 | .068 | .400x1⅛ | 3.90 |
| | AQF-3-1 | .1 | .400x1⅜ | 4.05 |
| | AQF-3-15 | .15 | .562x1⅛ | 4.35 |
| | AQF-3-22 | .22 | .562x1⅜ | 4.60 |
| | AQF-3-27 | .27 | .562x1⅝ | 4.65 |
| | AQF-3-33 | .33 | .562x1⅝ | 4.75 |
| | AQF-3-47 | .47 | .670x1⅝ | 4.85 |
| | AQF-3-56 | .56 | .750x2⅛ | 5.20 |
| | AQF-3-68 | .68 | .750x2⅛ | 5.35 |
| | AQF-3-1M | 1.0 | .750x2⅛ | 5.60 |

### 400 VOLTS DC WORKING

| Mil. Type as CP08 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| | AQF-4-001 | .001 | .235x¾ | 3.55 |
| | AQF-4-0015 | .0015 | .235x¾ | 3.55 |
| | AQF-4-0022 | .0022 | .235x¾ | 3.55 |
| | AQF-4-0033 | .0033 | .235x¾ | 3.55 |
| | AQF-4-0047 | .0047 | .312x⅞ | 3.75 |
| | AQF-4-0068 | .0068 | .312x⅞ | 3.75 |
| | AQF-4-01 | .01 | .312x⅞ | 3.80 |
| | AQF-4-015 | .015 | .312x⅞ | 3.80 |
| | AQF-4-022 | .022 | .400x⅞ | 3.90 |
| | AQF-4-033 | .033 | .400x⅞ | 3.90 |
| | AQF-4-047 | .047 | .400x1⅛ | 4.00 |
| | AQF-4-068 | .068 | .400x1⅜ | 4.10 |
| | AQF-4-1 | .1 | .562x1⅛ | 4.35 |
| | AQF-4-15 | .15 | .562x1⅜ | 4.60 |
| | AQF-4-22 | .22 | .562x1⅝ | 4.85 |
| | AQF-4-27 | .27 | .562x1⅝ | 5.10 |
| | AQF-4-33 | .33 | .670x1⅝ | 5.35 |
| | AQF-4-47 | .47 | .750x2⅛ | 5.65 |

### 600 VOLTS DC WORKING

| Mil. Type as CP08 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| | AQF-6-001 | .001 | .235x¾ | 3.55 |
| | AQF-6-0015 | .0015 | .235x¾ | 3.55 |
| | AQF-6-0022 | .0022 | .235x¾ | 3.55 |
| | AQF-6-0033 | .0033 | .312x⅞ | 3.75 |
| | AQF-6-0047 | .0047 | .312⅞ | 3.75 |
| | AQF-6-0068 | .0068 | .312x⅞ | 3.80 |
| | AQF-6-01 | .01 | .312x⅞ | 3.80 |
| | AQF-6-015 | .015 | .400x⅞ | 3.95 |
| | AQF-6-022 | .022 | .400x⅞ | 4.00 |
| | AQF-6-033 | .033 | .400x1⅛ | 4.00 |
| | AQF-6-047 | .047 | .400x1⅜ | 4.20 |
| | AQF-6-068 | .068 | .562x1⅛ | 4.45 |
| | AQF-6-1 | .1 | .562x1⅜ | 4.60 |
| | AQF-6-15 | .15 | .562x1⅜ | 4.95 |
| | AQF-6-22 | .22 | .670x1⅝ | 5.50 |
| | AQF-6-27 | .27 | .750x2⅛ | 5.65 |
| | AQF-6-33 | .33 | .750x2⅛ | 5.75 |
| | AQF-6-47 | .47 | .750x2⅛ | 6.10 |

Above units are standard tolerance of ±20%. Where last letter of military number is K (instead of M) tolerance is ±10% and is available. (Add 10% to list price for (K) tolerance.


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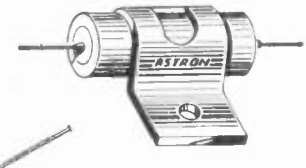
TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*
World Radio History

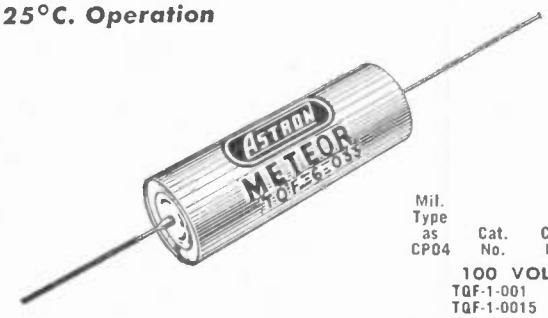
# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## METEOR* TYPE TQF
### Glass-to-Metal Sealed SUBMINIATURE TUBULARS

***125°C. Operation***



**CP04***
**CP05***
**CP10***
**CP11***
**of**
**MIL C-25A**

* Complete MIL-Listings Page P-1025

- Inserted tab construction provides smallest paper-foil capacitors available. Ideal where resonant losses are secondary to small size.
- No voltage derating necessary over entire operating temperature range —65°C. to +125°C.
- Excellent capacitance stability over entire temperature range.
- Available in a variety of construction styles to meet your specific needs, as follows:

**CAPACITOR SECTION INSULATED FROM CASE CIRCUIT 1 (Glass-to-Metal terminal both ends).**

**TQF (MIL Style CP04):** Basic unit in "floating" construction. Sizes and list prices as shown. Uninsulated body.

**TQFP (MIL Style CP05):** Basic TQF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and length of TQF sizes listed. Add 15¢ to list price.

**TQF-A (MIL Style CP10):** Basic TQF unit with soldered on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

**TQF-B:** Basic TQF unit with soldered on L type mounting bracket "B" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

**TQFS (MIL Style CP11):** Screw neck mounting type. Uninsulated body. Available in same ratings as TQF. Minimum case diameter is .400". Add 80¢ to TQF list prices.

**CAPACITOR SECTION GROUNDED TO CASE CIRCUIT 3 (Glass-to-Metal terminal at one end):**

**TQ (MIL Style CP04):** Basic grounded unit. Deduct 1/16" from length of TQF sizes listed. Uninsulated body. Deduct $1.00 from TQF list prices.

**TQP (MIL Style CP05):** Basic TQ unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of TQF sizes listed. Deduct 85¢ from TQF list prices.

**TQ-A (MIL Style CP10):** Basic TQ unit with soldered on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

**TQ-B:** Basic TQ unit with soldered on L type bracket "B" on uninsulated body. Deduct 1/16" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

**TQS (MIL Style CP11):** Screw neck mounting type. Uninsulated body. Available in same ratings as TQF listed. Minimum case diameter .400". Deduct 1/16" from length of TQF sizes listed. Deduct 20¢ from TQF list prices.

**TQV:** Stud base mounting type. Uninsulated body. Available in same ratings as TQF listed. Deduct 1/16" from TQF sizes. Deduct 40¢ from TQF list prices.

*TRADE MARK

| Mil. Type as CP04 | Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| **100 VOLTS DC WORKING** | | | | |
| | TQF-1-001 | .001 | .235x3/4 | 3.35 |
| | TQF-1-0015 | .0015 | .235x3/4 | 3.35 |
| | TQF-1-0022 | .0022 | .235x3/4 | 3.35 |
| | TQF-1-0033 | .0033 | .235x3/4 | 3.35 |
| | TQF-1-0047 | .0047 | .235x3/4 | 3.35 |
| | TQF-1-0068 | .0068 | .235x3/4 | 3.35 |
| | TQF-1-01 | .01 | .235x3/4 | 3.40 |
| | TQF-1-015 | .015 | .235x3/4 | 3.40 |
| | TQF-1-022 | .022 | .235x3/4 | 3.40 |
| | TQF-1-027 | .027 | .235x3/4 | 3.40 |
| | TQF-1-033 | .033 | .235x3/4 | 3.45 |
| | TQF-1-047 | .047 | .312x7/8 | 3.60 |
| | TQF-1-068 | .068 | .312x7/8 | 3.65 |
| | TQF-1-1 | .1 | .312x7/8 | 3.70 |
| | TQF-1-15 | .15 | .400x7/8 | 3.75 |
| | TQF-1-22 | .22 | .400x1 1/8 | 3.85 |
| | TQF-1-27 | .27 | .400x1 3/8 | 3.95 |
| | TQF-1-33 | .33 | .400x1 3/8 | 4.00 |
| | TQF-1-47 | .47 | .562x1 1/8 | 4.35 |
| | TQF-1-68 | .68 | .562x1 3/8 | 4.60 |
| | TQF-1-1M | 1.0 | .562x1 7/8 | 4.90 |
| **200 VOLTS DC WORKING** | | | | |
| | TQF-2-001 | .001 | .235x3/4 | 3.45 |
| | TQF-2-0015 | .0015 | .235x3/4 | 3.45 |
| | TQF-2-0022 | .0022 | .235x3/4 | 3.45 |
| | TQF-2-0033 | .0033 | .235x3/4 | 3.50 |
| | TQF-2-0047 | .0047 | .235x3/4 | 3.50 |
| | TQF-2-0068 | .0068 | .235x3/4 | 3.50 |
| | TQF-2-01 | .01 | .235x3/4 | 3.55 |
| | TQF-2-015 | .015 | .235x3/4 | 3.55 |
| | TQF-2-022 | .022 | .235x3/4 | 3.55 |
| | TQF-2-027 | .027 | .312x7/8 | 3.65 |
| | TQF-2-033 | .033 | .312x7/8 | 3.70 |
| | TQF-2-047 | .047 | .312x7/8 | 3.75 |
| | TQF-2-068 | .068 | .312x7/8 | 3.80 |
| | TQF-2-1 | .1 | .400x7/8 | 3.85 |
| | TQF-2-15 | .15 | .400x1 1/8 | 3.90 |
| | TQF-2-22 | .22 | .400x1 3/8 | 4.10 |
| | TQF-2-27 | .27 | .562x1 1/8 | 4.30 |
| | TQF-2-33 | .33 | .562x1 1/8 | 4.40 |
| | TQF-2-47 | .47 | .562x1 3/8 | 4.65 |
| | TQF-2-68 | .68 | .562x1 7/8 | 4.95 |
| | TQF-2-1M | 1.0 | .670x1 7/8 | 5.45 |
| **300 VOLTS DC WORKING** | | | | |
| | TQF-3-001 | .001 | .235x3/4 | 3.50 |
| | TQF-3-0015 | .0015 | .235x3/4 | 3.50 |
| | TQF-3-0022 | .0022 | .235x3/4 | 3.50 |
| | TQF-3-0033 | .0033 | .235x3/4 | 3.55 |
| | TQF-3-0047 | .0047 | .235x3/4 | 3.55 |
| | TQF-3-0068 | .0068 | .235x3/4 | 3.55 |
| | TQF-3-01 | .01 | .235x3/4 | 3.60 |
| | TQF-3-015 | .015 | .235x3/4 | 3.60 |
| | TQF-3-022 | .022 | .312x7/8 | 3.75 |
| | TQF-3-027 | .027 | .312x7/8 | 3.75 |
| | TQF-3-033 | .033 | .312x7/8 | 3.75 |
| | TQF-3-047 | .047 | .312x7/8 | 3.80 |
| | TQF-3-068 | .068 | .400x7/8 | 3.90 |
| | TQF-3-1 | .1 | .400x1 1/8 | 3.95 |
| | TQF-3-15 | .15 | .400x1 3/8 | 4.10 |
| | TQF-3-22 | .22 | .562x1 1/8 | 4.40 |
| | TQF-3-27 | .27 | .562x1 3/8 | 4.55 |
| | TQF-3-33 | .33 | .562x1 3/8 | 4.65 |
| | TQF-3-47 | .47 | .562x1 7/8 | 4.90 |
| | TQF-3-68 | .68 | .670x1 7/8 | 5.40 |
| | TQF-3-1M | 1.0 | .750x2 1/8 | 5.80 |
| **400 VOLTS DC WORKING** | | | | |
| | TQF-4-001 | .001 | .235x3/4 | 3.60 |
| | TQF-4-0015 | .0015 | .235x3/4 | 3.60 |
| | TQF-4-0022 | .0022 | .235x3/4 | 3.60 |
| | TQF-4-0033 | .0033 | .235x3/4 | 3.60 |
| | TQF-4-0047 | .0047 | .235x3/4 | 3.60 |
| | TQF-4-0068 | .0068 | .235x3/4 | 3.60 |
| | TQF-4-01 | .01 | .235x3/4 | 3.65 |
| | TQF-4-015 | .015 | .235x7/8 | 3.80 |
| | TQF-4-022 | .022 | .312x7/8 | 3.80 |
| | TQF-4-027 | .027 | .312x7/8 | 3.85 |
| | TQF-4-033 | .033 | .312x7/8 | 3.85 |
| | TQF-4-047 | .047 | .400x7/8 | 3.95 |
| | TQF-4-068 | .068 | .400x1 1/8 | 4.05 |
| | TQF-4-1 | .1 | .400x1 3/8 | 4.15 |
| | TQF-4-15 | .15 | .562x1 1/8 | 4.40 |
| | TQF-4-22 | .22 | .562x1 3/8 | 4.65 |
| | TQF-4-27 | .27 | .562x1 7/8 | 4.90 |
| | TQF-4-33 | .33 | .562x1 7/8 | 4.90 |
| | TQF-4-47 | .47 | .670x1 7/8 | 5.40 |
| | TQF-4-56 | .56 | .750x2 1/8 | 5.55 |
| | TQF-4-68 | .68 | .750x2 1/8 | 5.75 |
| | TQF-4-1M | 1.0 | 1x1 7/8 | 6.50 |
| **600 VOLTS DC WORKING** | | | | |
| | TQF-6-001 | .001 | .235x3/4 | 3.60 |
| | TQF-6-0015 | .0015 | .235x3/4 | 3.60 |
| | TQF-6-0022 | .0022 | .235x3/4 | 3.60 |
| | TQF-6-0033 | .0033 | .235x3/4 | 3.70 |
| | TQF-6-0047 | .0047 | .235x3/4 | 3.70 |
| | TQF-6-0068 | .0068 | .235x3/4 | 3.70 |
| | TQF-6-01 | .01 | .312x7/8 | 3.80 |
| | TQF-6-015 | .015 | .312x7/8 | 3.85 |
| | TQF-6-022 | .022 | .312x7/8 | 3.85 |
| | TQF-6-027 | .027 | .400x7/8 | 3.85 |
| | TQF-6-033 | .033 | .400x7/8 | 4.00 |
| | TQF-6-047 | .047 | .400x1 1/8 | 4.05 |
| | TQF-6-068 | .068 | .400x1 3/8 | 4.25 |
| | TQF-6-1 | .1 | .562x1 1/8 | 4.50 |
| | TQF-6-15 | .15 | .562x1 3/8 | 4.65 |
| | TQF-6-22 | .22 | .562x1 7/8 | 5.00 |
| | TQF-6-27 | .27 | .670x1 7/8 | 5.35 |
| | TQF-6-33 | .33 | .670x1 7/8 | 5.55 |
| | TQF-6-47 | .47 | .750x2 1/8 | 5.85 |
| | TQF-6-68 | .68 | 1x1 7/8 | 6.15 |

Standard Tol., ±20%. For ±10% Tol., add 10% to List Price.

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TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*



World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J

## METALITE®

### *Metallized Paper Capacitors for 65°C. and 85°C. Operation*

### METALITE CAPACITORS

### Feature:

- Ultra-compact sizes. Light weight. Ideal for miniaturization applications, and portable, mobile and airborne equipment.
- As much as 75% reduction in size over conventional paper-foil capacitors.
- Self-healing — the ability to withstand high dielectric stresses. METALITE capacitors can be subjected to momentary overvoltages and surges over and over again without danger of permanent failure.
- Temperature Range (Metal cased units) −65°C. to +85°C.; (cardboard cased Type ML) −55°C. to +65°C.
- Excellent RF characteristics. Low RF impedance due to small sizes and short current path. Low power factor.
- Wide variety of applications: RF and audio bypass circuits, noise suppression filters and systems, instruments, and various types of communication equipment where small size, light weight and the self-healing feature are especially desirable characteristics to meet specific circuit requirements.
- Interchangeability with standard paper-foil capacitor designs when operated within published ratings and circuit requirements.

## METALITE® TYPE MQCF

**85°C. Operation**

### Glass-to-Metal Sealed SUBMINIATURE TUBULARS

- Smallest paper capacitor type available.
- Temperature Range —65°C. to +85°C.
- Non-inductively wound. Mineral wax impregnated and filled. Tinned, non-ferrous metal cases.
- Capacitor section grounded to case (Type MQC) with glass-to-metal terminal at one end. Available also with capacitor section insulated from case (Type MQCF) with glass-to-metal terminal at each end.
- Lead length 1⅜" minimum. Standard capacitance tolerance: ±20%.

**CAPACITOR SECTION GROUNDED TO CASE (Glass-to-metal terminal at one end):**

**MQC:** Basic grounded unit. Deduct 1/16" from length of MQCF sizes listed. Uninsulated body. Deduct 50¢ from MQCF list prices.

**MQCP:** Basic MQC unit with plastic outer sleeve (P). For insulated body, add 1/16" to diameter of MQCF sizes listed. Deduct 35¢ from MQCF list prices.

**MQC-A:** Basic MQC unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of MQCF sizes listed. Deduct 10¢ from MQCF list prices.

**MQC-B:** Basic MQC unit soldered on L-type bracket "B" on uninsulated body. Deduct 1/16" from length of MQCF sizes. Deduct 10¢ from MQCF list prices.

**MQCS:** Screwneck mounting type. uninsulated body. Available in same ratings as MQCF listed. Minimum case diameter .100". Same as MQCF list prices.

**MQV:** Stud base mounting type. Uninsulated body. Available in same ratings and case sizes as MQCF. Add 10¢ to MQCF list prices.

**CAPACITOR SECTION INSULATED FROM CASE (Glass-to-metal terminal each end):**

**MQCF:** Basic unit in "floating" construction. Uninsulated body.

**MQCFP:** Basic MQCF unit with plastic outer sleeve (P) insulated body. Add 1/16" to diameter and length of MQCF sizes listed. Add 15¢ to MQCF list prices.

**MQCF-A:** Basic MQCF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Add 10¢ to MQCF list prices.

**MQCF-B:** Basic MQCF unit with soldered-on L-type bracket "B" on uninsulated body. Add 10¢ to MQCF list prices.

**MQCFS:** Screwneck mounting type. Uninsulated body. Available in same ratings as MQC. Minimum case diameter .100". Add 50¢ to MQCF list prices.

| Cat. No. | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|
| **150 VOLTS DC WORKING** | | | |
| MQCF-1.5-4M | 4.0 | 1x1 13/16 | $5.50 |
| MQCF-1.5-6M | 6.0 | 1x1 13/16 | 6.35 |
| MQCF-1.5-8M | 8.0 | 1x2 5/16 | 7.15 |
| **200 VOLTS DC WORKING** | | | |
| MQCF-2-01 | .01 | .235x1 3/16 | 2.55 |
| MQCF-2-02 | .02 | .235x1 3/16 | 2.60 |
| MQCF-2-033 | .033 | .235x1 3/16 | 2.60 |
| MQCF-2-04 | .04 | .235x1 3/16 | 2.60 |
| MQCF-2-05 | .05 | .235x1 3/16 | 2.60 |
| MQCF-2-1 | .1 | .312x1 3/16 | 2.65 |
| MQCF-2-15 | .15 | .400x1 3/16 | 2.70 |
| MQCF-2-2 | .2 | .400x1 3/16 | 2.80 |
| MQCF-2-25 | .25 | .400x1 3/16 | 2.85 |
| MQCF-2-33 | .33 | .400x1 1/8 | 2.90 |
| MQCF-2-5 | .5 | .400x1 1/8 | 2.90 |
| MQCF-2-68 | .68 | .562x1 5/16 | 3.05 |
| MQCF-2-1M | 1.0 | .562x1 5/16 | 3.15 |
| MQCF-2-1.5M | 1.5 | .562x1 13/16 | 3.35 |
| MQCF-2-2M | 2.0 | .562x1 13/16 | 4.45 |
| **400 VOLTS DC WORKING** | | | |
| MQCF-4-01 | .01 | .235x1 3/16 | 2.60 |
| MQCF-4-02 | .02 | .235x1 3/16 | 2.65 |
| MQCF-4-03 | .03 | .312x1 3/16 | 2.65 |
| MQCF-4-04 | .04 | .312x1 1/8 | 2.70 |
| MQCF-4-05 | .05 | .312x1 1/8 | 2.70 |
| MQCF-4-1 | .1 | .400x1 1/8 | 2.75 |
| MQCF-4-15 | .15 | .562x1 1/8 | 2.85 |
| MQCF-4-2 | .2 | .562x1 1/8 | 2.90 |
| MQCF-4-25 | .25 | .562x1 1/8 | 2.95 |
| MQCF-4-33 | .33 | .562x1 5/16 | 3.05 |
| MQCF-4-5 | .5 | .562x1 13/16 | 3.25 |
| MQCF-4-68 | .68 | .670x1 13/16 | 3.45 |
| MQCF-4-1M | 1.0 | .670x2 5/16 | 3.55 |
| MQCF-4-1.5M | 1.5 | 1x2 5/16 | 4.60 |
| MQCF-4-2M | 2.0 | 1x2 5/16 | 5.15 |
| MQCF-4-4M | 4.0 | 1 1/8x2 5/16 | 7.35 |
| **600 VOLTS DC WORKING** | | | |
| MQCF-6-01 | .01 | .235x1 3/16 | 2.65 |
| MQCF-6-015 | .015 | .312x1 3/16 | 2.65 |
| MQCF-6-02 | .02 | .312x1 3/16 | 2.65 |
| MQCF-6-03 | .03 | .312x1 3/16 | 2.70 |
| MQCF-6-04 | .04 | .312x1 1/8 | 2.75 |
| MQCF-6-05 | .05 | .312x1 1/8 | 2.75 |
| MQCF-6-1 | .1 | .400x1 1/8 | 2.80 |
| MQCF-6-15 | .15 | .562x1 1/8 | 2.95 |
| MQCF-6-22 | .22 | .562x1 5/16 | 3.15 |
| MQCF-6-25 | .25 | .562x1 5/16 | 3.20 |
| MQCF-6-33 | .33 | .670x1 5/16 | 3.35 |
| MQCF-6-5 | .5 | .670x1 13/16 | 3.50 |
| MQCF-6-68 | .68 | .670x2 5/16 | 3.95 |
| MQCF-6-1M | 1.0 | .750x2 5/16 | 4.15 |
| MQCF-6-2M | 2.0 | 1x2 5/16 | 5.65 |

STANDARD CAPACITANCE TOLERANCE: ±20%.

## METALITE® TYPE ML

**Cardboard Tubulars**

**65°C. Operation**

- Temperature Range —55°C. to +65°C.
- Microcrystalline hydrocarbon wax impregnated.
- Sturdy, wax-impregnated cardboard tubes. Strong terminal connections, metal end caps. Units can be point-to-point connected and supported by own leads.
- Wire leads 1½" long.
- Overall mineral wax coating for added protection against moisture and humidity.
- Standard capacitance tolerance: —20% +30%.

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| **200 VOLTS DC WORKING** | | | |
| ML-2-01 | .01 | 3/8 x 5/8 | $0.65 |
| ML-2-02 | .02 | 3/8 x 5/8 | .65 |
| ML-2-03 | .03 | 3/8 x 5/8 | .65 |
| ML-2-05 | .05 | 3/8 x 5/8 | .65 |
| ML-2-1 | .1 | 3/8 x 5/8 | .70 |
| ML-2-25 | .25 | 15/32 x 5/8 | .90 |
| ML-2-5 | .5 | 15/32 x1 1/8 | 1.05 |
| ML-2-1M | 1.0 | 9/16 x1 1/8 | 1.30 |
| ML-2-2M | 2.0 | 5/8 x1 5/8 | 1.80 |
| **400 VOLTS DC WORKING** | | | |
| ML-4-01 | .01 | 3/8 x 5/8 | .70 |
| ML-4-02 | .02 | 3/8 x 5/8 | .70 |
| ML-4-03 | .03 | 3/8 x 5/8 | .70 |
| ML-4-05 | .05 | 15/32 x 5/8 | .70 |
| ML-4-1 | .1 | 15/32 x1 1/8 | .80 |
| ML-4-25 | .25 | 9/16 x1 1/8 | 1.00 |
| ML-4-5 | .5 | 5/8 x1 5/8 | 1.15 |
| ML-4-1M | 1.0 | 27/32 x2 1/8 | 1.60 |
| **600 VOLTS DC WORKING** | | | |
| ML-6-01 | .01 | 3/8 x 5/8 | .70 |
| ML-6-02 | .02 | 3/8 x 5/8 | .70 |
| ML-6-03 | .03 | 15/32 x 5/8 | .80 |
| ML-6-05 | .05 | 15/32 x 5/8 | .80 |
| ML-6-1 | .1 | 15/32 x1 1/8 | .90 |
| ML-6-25 | .25 | 5/8 x1 1/8 | 1.10 |
| ML-6-5 | .5 | 23/32 x1 5/8 | 1.45 |
| ML-6-1M | 1.0 | 27/32 x2 1/8 | 1.80 |

STANDARD CAPACITANCE TOLERANCE: —20% +30%.



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World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## METALITE® TYPE MRF

**Metal Cased Tubulars**

***85°C. Operation***

- Temperature Range −65°C. to +85°C.
- Mineral wax impregnated and filled.
- Hermetically sealed. Neoprene-phenolic end discs.
- Type MRF supplied with capacitor section insulated from case. Also available with section grounded to case (Type MRG).
- Lead length 1¾" minimum.
- Standard capacitance tolerance: ±20%.

CAPACITOR SECTION INSULATED FROM CASE:

**MRF**: Basic unit. Sizes and list prices as shown.
**MRFP**: Basic MRF unit with plastic outer sleeve (P). Add 1/16" to length and 1/16" to diameter of MRF listed. Add 15¢ to MRF list prices.
**MRF-Y**: Basic MRF unit with riveted radial mounting strap "Y." Case sizes as listed for MRF. Add 10¢ to MRF list prices.
**MRFP-Y**: Basic MRF unit with riveted radial mounting strap "Y" over plastic insulating sleeve (P). Add 1/16" to length and 1/16" to diameter of MRF listed. Add 25¢ to MRF list prices.
**MRF-A**: Basic MRF unit with tangential soldered-on mounting bracket "A." Case sizes as listed for MRF. Add 10¢ to MRF list prices.

CAPACITOR SECTION GROUNDED TO CASE:

**MRG**: Basic style in grounded construction. Deduct 1/16" from MRF sizes listed. Same list prices as MRF.
**MRGP**: Basic MRG unit with plastic outer sleeve (P). Add 1/16" to length and 1/16" to diameter of MRF units listed. Add 15¢ to MRF list prices.
**MRG-Y**: Basic MRG unit with riveted radial mounting strap "Y." Deduct 1/16" from MRF sizes listed. Add 10¢ to MRF list prices.
**MRGP-Y**: Basic MRG unit with riveted radial mounting strap "Y" over plastic insulating sleeve (P). Add 1/16" to length and 1/16" to diameter of MRF listed. Add 25¢ to MRF list prices.
**MRG-A**: Basic MRG unit with tangential soldered-on mounting bracket "A." Deduct 1/16" from length of MRF sizes listed. Add 10¢ to MRF list prices.

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| **150 VOLTS DC WORKING** | | | |
| MRF-1.5-4M | 4.0 | 1 x1 13/16 | $4.35 |
| MRF-1.5-6M | 6.0 | 1 x1 13/16 | 5.30 |
| MRF-1.5-8M | 8.0 | 1 1/16 x1 13/16 | 6.10 |
| MRF-1.5-10M | 10.0 | 1 1/16 x1 13/16 | 7.20 |
| **200 VOLTS DC WORKING** | | | |
| MRF-2-05 | .05 | 5/16 x 7/8 | 1.40 |
| MRF-2-1 | .1 | 7/16 x 7/8 | 1.45 |
| MRF-2-25 | .25 | 1/2 x 7/8 | 1.60 |
| MRF-2-5 | .5 | 1/2 x1 7/8 | 1.70 |
| MRF-2-1M | 1.0 | .670x1 7/8 | 2.10 |
| MRF-2-2M | 2.0 | .670x1 7/8 | 2.60 |
| **400 VOLTS DC WORKING** | | | |
| MRF-4-03 | .03 | 5/16 x 7/8 | 1.35 |
| MRF-4-05 | .05 | 1/2 x 7/8 | 1.45 |
| MRF-4-1 | .1 | 1/2 x1 7/8 | 1.60 |
| MRF-4-25 | .25 | .670x1 7/8 | 1.80 |
| MRF-4-5 | .5 | .670x1 7/8 | 2.00 |
| MRF-4-1M | 1.0 | 3/4 x2 7/8 | 2.50 |
| MRF-4-2M | 2.0 | 1 x2 7/8 | 3.60 |
| MRF-4-3M | 3.0 | 1 1/16 x2 7/8 | 4.80 |
| MRF-4-4M | 4.0 | 1 1/16 x2 7/8 | 5.90 |
| **600 VOLTS DC WORKING** | | | |
| MRF-6-01 | .01 | 5/16 x 7/8 | 1.35 |
| MRF-6-02 | .02 | 7/16 x 7/8 | 1.45 |
| MRF-6-03 | .03 | 1/2 x 7/8 | 1.50 |
| MRF-6-05 | .05 | 1/2 x 7/8 | 1.55 |
| MRF-6-1 | .1 | 1/2 x1 7/8 | 1.70 |
| MRF-6-2 | .2 | .670x1 7/8 | 1.90 |
| MRF-6-25 | .25 | .670x1 7/8 | 2.00 |
| MRF-6-5 | .5 | .670x1 7/8 | 2.40 |
| MRF-6-1M | 1.0 | 3/4 x2 7/8 | 3.00 |
| MRF-6-2M | 2.0 | 1 1/16 x2 7/8 | 4.00 |
| MRF-6-3M | 3.0 | 1 1/16 x2 7/8 | 5.30 |

Standard capacitance tolerance: ±20%. Other tolerances are available.

## METALITE® TYPE MD

**Bathtub Capacitors**

***85°C. Operation***

- Units meet MIL tests for moisture resistance, thermal cycle immersion and vibration.
- Single units have two terminals; dual units have three terminals, one terminal common negative.
- Standard position of terminals on side. Also available with terminals on top (Type MDT) or bottom (Type MDB).
- Standard capacitance tolerance: ±20%.
- Compact sizes. Light weight. Up to 75% reduction in sizes over conventional paper-foil capacitors.
- Temperature Range —65°C. to +85°C.
- Space-saving metallized paper dielectric makes possible wider choice of high capacitance ratings than ever before obtainable in bathtub cases.
- Hermetically sealed. Silicone rubber compression seal lug terminals.

| Cat. No. | Cap. Mf. | L. x W. x H. | Mtg. Ctr. | List Price |
|---|---|---|---|---|
| **150 VOLTS DC WORKING** | | | | |
| MD-1.5-4M | 4.0 | 1 3/4 x1 x 7/8 | 2 1/8 | 5.75 |
| MD-1.5-6M | 6.0 | 2 x1 3/4 x 7/8 | 2 3/8 | 6.10 |
| MD-1.5-8M | 8.0 | 2 x2 x 7/8 | 2 3/8 | 8.40 |
| MD-1.5-10M | 10.0 | 2 x2 x 7/8 | 2 3/8 | 9.70 |
| MD-1.5-12M | 12.0 | 2 x2 x1 | 2 3/8 | 11.00 |
| MD-1.5-16M | 15.0 | 2 x2 x1 5/8 | 2 3/8 | 13.50 |
| MD-1.5-18M | 18.0 | 2 x2 x1 1/2 | 2 3/8 | 15.00 |
| MD-1.5-2x4M | 4.0-4.0 | 2 x2 x 7/8 | 2 3/8 | 9.00 |
| MD-1.5-2x6M | 6.0-6.0 | 2 x2 x1 | 2 3/8 | 11.50 |
| **200 VOLTS DC WORKING** | | | | |
| MD-2-5 | .5 | 1 3/4 x1 x 3/4 | 2 1/8 | $3.30 |
| MD-2-1M | 1.0 | 1 3/4 x1 x 3/4 | 2 1/8 | 3.55 |
| MD-2-2M | 2.0 | 1 3/4 x1 x 3/4 | 2 1/8 | 4.45 |
| MD-2-2x1M | 1.0-1.0 | 1 3/4 x1 x 3/4 | 2 1/8 | 5.00 |
| MD-2-2x2M | 2.0-2.0 | 1 3/4 x1 x 7/8 | 2 1/8 | 6.30 |
| **400 VOLTS DC WORKING** | | | | |
| MD-4-25 | .25 | 1 3/4 x1 x 3/4 | 2 1/8 | 3.35 |
| MD-4-5 | .5 | 1 3/4 x1 x 3/4 | 2 1/8 | 3.55 |
| MD-4-1M | 1.0 | 1 3/4 x1 x 7/8 | 2 1/8 | 3.95 |
| MD-4-2M | 2.0 | 2 x1 3/4 x 7/8 | 2 3/8 | 4.90 |
| MD-4-4M | 4.0 | 2 x2 x1 1/4 | 2 3/8 | 7.85 |
| MD-4-6M | 6.0 | 2 x2 x1 1/2 | 2 3/8 | 9.50 |
| MD-4-2x5 | .5-.5 | 1 3/4 x1 x 7/8 | 2 1/8 | 4.35 |
| MD-4-2x1M | 1.0-1.0 | 2 x1 3/4 x 7/8 | 2 3/8 | 5.50 |
| MD-4-2x2M | 2.0-2.0 | 2 x2 x1 1/4 | 2 3/8 | 8.10 |
| **600 VOLTS DC WORKING** | | | | |
| MD-6-1 | .1 | 1 3/4 x1 x 3/4 | 2 1/8 | 3.50 |
| MD-6-25 | .25 | 1 3/4 x1 x 3/4 | 2 1/8 | 3.55 |
| MD-6-5 | .5 | 1 3/4 x1 x 3/4 | 2 1/8 | 4.25 |
| MD-6-1M | 1.0 | 1 3/4 x1 1/4 x 7/8 | 2 1/8 | 4.90 |
| MD-6-2M | 2.0 | 2 x2 x1 | 2 3/8 | 6.25 |
| MD-6-3M | 3.0 | 2 x2 x1 3/8 | 2 3/8 | 7.75 |
| MD-6-4M | 4.0 | 2 x2 x1 1/2 | 2 3/8 | 9.75 |
| MD-6-2x25 | .25-.25 | 1 3/4 x1 x 3/4 | 2 1/8 | 4.95 |
| MD-6-2x5 | .5-.5 | 1 3/4 x1 1/4 x 7/8 | 2 1/8 | 5.70 |
| MD-6-2x1M | 1.0-1.0 | 2 x2 x1 | 2 3/8 | 6.60 |

STANDARD CAPACITANCE TOLERANCE: ±20%.

## METALITE® TYPE MXJ

**in Terneplate Cases**

***85°C. Operation***

- Most extensive range of capacitance ratings ever offered in Style CP70 cases.
- Temperature range —65°C. to +85°C. Mineral wax impregnated and filled.
- Hermetically sealed. Silicone rubber compression seal lug terminals. Units meet MIL tests for moisture resistance, thermal cycle immersion and vibration.
- Spade bolt "J" brackets supplied with each unit for convenient, rigid mounting.
- Standard capacitance tolerance: ±20%.

| Cat. No. | Cap. Mf. | L. x W. x H. | Mtg. Ctr. | List Price |
|---|---|---|---|---|
| **100 VOLTS DC WORKING** | | | | |
| MXJ-1-100M | 100.0 | 3 3/4 x1 3/4 x1 13/16 | 4 | $98.50 |
| **150 VOLTS DC WORKING** | | | | |
| MXJ-1.5-4M | 4.0 | 1 3/4 x1 x1 5/8 | 2 | 14.00 |
| MXJ-1.5-10M | 10.0 | 1 3/4 x1 x2 5/8 | 2 | 20.75 |
| MXJ-1.5-12M | 12.0 | 1 3/4 x1 x2 7/8 | 2 | 22.00 |
| MXJ-1.5-15M | 15.0 | 1 3/4 x1 x3 3/8 | 2 | 26.75 |
| MXJ-1.5-20M | 20.0 | 1 3/4 x1 x4 3/8 | 2 | 31.50 |
| MXJ-1.5-25M | 25.0 | 2 1/2 x1 3/8 x3 | 2 3/4 | 37.00 |
| MXJ-1.5-30M | 30.0 | 2 1/2 x1 3/8 x3 7/8 | 2 3/4 | 42.00 |
| MXJ-1.5-50M | 50.0 | 2 1/2 x1 3/8 x4 3/4 | 2 3/4 | 59.00 |
| **400 VOLTS DC WORKING** | | | | |
| MXJ-4-2M | 2.0 | 1 3/4 x1 x2 1/8 | 2 | 14.00 |
| MXJ-4-4M | 4.0 | 1 3/4 x1 x2 7/8 | 2 | 19.00 |
| MXJ-4-6M | 6.0 | 1 3/4 x1 x3 7/8 | 2 | 23.25 |
| MXJ-4-8M | 8.0 | 1 3/4 x1 x4 3/4 | 2 | 27.25 |
| MXJ-4-10M | 10.0 | 2 1/2 x1 3/8 x3 7/8 | 2 3/4 | 30.50 |
| MXJ-4-20M | 20.0 | 2 1/2 x1 3/8 x4 3/4 | 2 3/4 | 50.50 |
| MXJ-4-30M | 30.0 | 3 3/4 x1 1/4 x4 3/4 | 4 | 63.50 |
| **600 VOLTS DC WORKING** | | | | |
| MXJ-6-1M | 1.0 | 1 3/4 x1 x1 5/8 | 2 | 13.75 |
| MXJ-6-2M | 2.0 | 1 3/4 x1 x2 5/8 | 2 | 16.75 |
| MXJ-6-4M | 4.0 | 1 3/4 x1 x3 5/8 | 2 | 22.90 |
| MXJ-6-6M | 6.0 | 1 3/4 x1 x4 3/4 | 2 | 26.25 |
| MXJ-6-8M | 8.0 | 2 1/2 x1 3/8 x3 7/8 | 2 3/4 | 30.45 |
| MXJ-6-10M | 10.0 | 2 1/2 x1 3/8 x4 3/4 | 2 3/4 | 34.35 |
| MXJ-6-15M | 15.0 | 3 3/4 x1 1/4 x4 3/4 | 4 | 41.50 |
| MXJ-6-20M | 20.0 | 3 3/4 x1 3/4 x4 3/4 | 4 | 56.20 |

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

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World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J

## NEW COMET* TYPE MBP

**Molded Plastic Metallized Paper Tubulars**

*125°C. Operation*

- First, molded plastic metallized paper tubular capacitor . . . ever!
- Tough, metallized paper capacitor sections for miniature size, self-healing characteristics, light weight and dependable operation.
- Impervious immersion-proof shell is uneffected by any heat and/or moisture condition.
- Exclusive bonded seal locks out environmental effects . . . locks in performance.
- Solid thermosetting impregnant for reliable operation over temperature range of −65°C. to +125°C. . . . vacuum impregnation guarantees uniformity of units.
- Firmly implanted leads won't pull or melt out . . . makes soldering in tight places easy!

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| MBP-2-01 | .01 | 3/8 x 1 | $ .65 |
| MBP-2-02 | .02 | 3/8 x 1 | .65 |
| MBP-2-03 | .03 | 3/8 x 1 | .65 |
| MBP-2-047 | .047 | 3/8 x 1 | .65 |
| MBP-2-05 | .05 | 3/8 x 1 | .65 |
| MBP-2-1 | .1 | 3/8 x 1 | .70 |
| MBP-2-2 | .2 | 3/8 x 1 1/4 | .80 |
| MBP-2-25 | .25 | 3/8 x 1 1/4 | .90 |
| MBP-2-33 | .33 | 7/16 x 1 1/4 | .95 |
| MBP-2-47 | .47 | 1/2 x 1 5/8 | 1.05 |
| MBP-2-5 | .5 | 1/2 x 1 5/8 | 1.05 |
| MBP-2-68 | .68 | 1/2 x 1 5/8 | 1.20 |
| MBP-2-1M | 1.0 | 5/8 x 1 7/8 | 1.30 |
| MBP-2-2M | 2.0 | 5/8 x 1 7/8 | 1.80 |
| MBP-4-01 | .01 | 3/8 x 1 | .70 |
| MBP-4-02 | .02 | 3/8 x 1 | .70 |
| MBP-4-03 | .03 | 3/8 x 1 | .70 |
| MBP-4-047 | .047 | 3/8 x 1 1/4 | .70 |
| MBP-4-05 | .05 | 3/8 x 1 1/4 | .70 |
| MBP-4-1 | .1 | 7/16 x 1 1/4 | .80 |
| MBP-4-2 | .2 | 1/2 x 1 5/8 | .90 |
| MBP-4-25 | .25 | 1/2 x 1 5/8 | 1.00 |
| MBP-4-33 | .33 | 5/8 x 1 7/8 | 1.10 |
| MBP-4-47 | .47 | 5/8 x 1 7/8 | 1.15 |
| MBP-4-5 | .5 | 5/8 x 1 7/8 | 1.15 |
| MBP-6-01 | .01 | 3/8 x 1 | .70 |
| MBP-6-02 | .02 | 3/8 x 1 | .70 |
| MBP-6-03 | .03 | 3/8 x 1 1/4 | .80 |
| MBP-6-047 | .047 | 3/8 x 1 1/4 | .80 |
| MBP-6-05 | .05 | 3/8 x 1 1/4 | .80 |
| MBP-6-068 | .068 | 7/16 x 1 1/4 | .85 |
| MBP-6-1 | .1 | 1/2 x 1 5/8 | .90 |
| MBP-6-2 | .2 | 5/8 x 1 7/8 | 1.00 |
| MBP-6-25 | .25 | 5/8 x 1 7/8 | 1.10 |

*TRADE MARK

## METALITE® HY-MET* TYPE MLL

**Cardboard Tubulars**

*85°C. Operation*

- Sturdy cardboard cased units. Temperature Range −55° to +100°C. Solid thermosetting impregnant.
- Exceptional strength. Metal end caps. Units can be point-to-point connected and supported by own leads. Leads 1½" minimum length.
- Overall mineral wax coat provides added protection against moisture and humidity.
- Standard capacitance tolerance: −20% +30%.

**200 VOLTS DC WORKING**

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| MLL-2-01 | .01 | 3/8 x 5/8 | $1.00 |
| MLL-2-02 | .02 | 3/8 x 5/8 | 1.00 |
| MLL-2-03 | .03 | 3/8 x 5/8 | 1.00 |
| MLL-2-05 | .05 | 3/8 x 5/8 | 1.00 |
| MLL-2-1 | .1 | 3/8 x 5/8 | 1.05 |
| MLL-2-25 | .25 | 13/32 x 5/8 | 1.35 |
| MLL-2-5 | .5 | 13/32 x 1 1/8 | 1.60 |
| MLL-2-1M | 1.0 | 9/16 x 1 1/8 | 1.95 |
| MLL-2-2M | 2.0 | 5/8 x 1 5/8 | 2.70 |

**400 VOLTS DC WORKING**

| | | | |
|---|---|---|---|
| MLL-4-01 | .01 | 3/8 x 5/8 | 1.05 |
| MLL-4-02 | .02 | 3/8 x 5/8 | 1.05 |
| MLL-4-03 | .03 | 3/8 x 5/8 | 1.05 |
| MLL-4-05 | .05 | 13/32 x 5/8 | 1.05 |
| MLL-4-1 | .1 | 13/32 x 1 1/8 | 1.20 |
| MLL-4-25 | .25 | 9/16 x 1 1/8 | 1.50 |
| MLL-4-5 | .5 | 5/8 x 1 5/8 | 1.75 |
| MLL-4-1M | 1.0 | 23/32 x 2 1/8 | 2.40 |

**600 VOLTS DC WORKING**

| | | | |
|---|---|---|---|
| MLL-6-01 | .01 | 3/8 x 5/8 | 1.05 |
| MLL-6-02 | .02 | 3/8 x 5/8 | 1.05 |
| MLL-6-03 | .03 | 13/32 x 5/8 | 1.20 |
| MLL-6-05 | .05 | 13/32 x 5/8 | 1.20 |
| MLL-6-1 | .1 | 13/32 x 1 1/8 | 1.35 |
| MLL-6-25 | .25 | 5/8 x 1 1/8 | 1.65 |
| MLL-6-5 | .5 | 23/32 x 1 5/8 | 2.20 |
| MLL-6-1M | 1.0 | 23/32 x 2 1/8 | 2.70 |

CAPACITANCE TOLERANCE: −20% +30%.

*TRADE MARK


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World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## METALITE® HY-MET* TYPE MTL

**Subminiature Bathtub Capacitors**
***125°C. Operation***

- Popular, handy bathtub case in tiny 1⅛" x 1" base size and minimum case heights.
- Solid thermosetting impregnant enables operation up to 125°C. Temperature Range —65°C. to +125°C.
- Excellent RF characteristics due to non-inductive extended foil construction and extremely small capacitor sections.
- Ideal for all types of miniaturized equipment and tight assemblies to meet extreme minimum weight and size, long life, and high temperature operation requirements.
- Hermetically sealed. Glass-to-metal sealed lug terminals.
- Capacitance tolerance: ±20%.

| Cat. No. | Cap. Mf. | L. x W. x H. | List Price |
|---|---|---|---|
| **200 VOLTS DC WORKING** | | | |
| MTL-2-1 | .1 | 1⅛x1 x ½ | $4.35 |
| MTL-2-25 | .25 | 1⅛x1 x ½ | 4.65 |
| MTL-2-5 | .5 | 1⅛x1 x ½ | 5.45 |
| MTL-2-1M | 1.0 | 1⅛x1 x ½ | 5.85 |
| MTL-2-2M | 2.0 | 1⅛x1 x 11/16 | 7.40 |
| **400 VOLTS DC WORKING** | | | |
| MTL-4-1 | .1 | 1⅛x1 x ½ | 5.35 |
| MTL-4-25 | .25 | 1⅛x1 x ½ | 5.55 |
| MTL-4-5 | .5 | 1⅛x1 x 11/16 | 5.90 |
| **600 VOLTS DC WORKING** | | | |
| MTL-6-1 | .1 | 1⅛x1 x ½ | 5.80 |
| MTL-6-25 | .25 | 1⅛x1 x ½ | 5.90 |
| MTL-6-5 | .5 | 1⅛x1 x 11/16 | 7.05 |

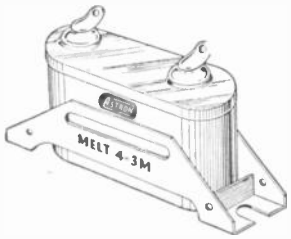
STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

*TRADE MARK

## METALITE® HY-MET* TYPE MEL

**Compact Seamless Cases**

***125°C. Operation***




- High-temperature, high-capacitance, single and dual units designed to fit tight, narrow chassis space.
- Higher capacitance than ever before achieved in MIL Style CP67-69 containers due to use of space saving metallized paper sections.
- Temperature Range —65°C. to +125°C. due to use of solid thermosetting impregnant.
- Hermetically sealed. Glass-to-metal sealed lug terminals. Convenient bracket mounting.
- Single units have two terminals: dual units have three terminals (one common negative).
- Standard style is Type MELT (with top terminals) for mounting on chassis surface. for through-the-chassis terminal connections, with terminals on bottom, specify Type MELB.
- Capacitance tolerance: ±20%.

| Cat. No. | Cap. Mf. | L. x W. x H.* | Price |
|---|---|---|---|
| **SINGLE UNITS — 2 terminals** | | | |
| **150 VOLTS DC WORKING** | | | |
| MELT-1.5-3M | 3.0 | 1.788x.619x1½ | $ 8.75 |
| MELT-1.5-4M | 4.0 | 1.788x.619x2 | 9.65 |
| MELT-1.5-6M | 6.0 | 1.788x.619x2½ | 11.85 |
| **200 VOLTS DC WORKING** | | | |
| MELT-2-2M | 2.0 | 1.788x.619x1 | 7.45 |
| **400 VOLTS DC WORKING** | | | |
| MELT-4-5 | .5 | 1.788x.619x1 | 6.60 |
| MELT-4-1M | 1.0 | 1.788x.619x1½ | 8.00 |
| MELT-4-2M | 2.0 | 1.788x.619x2½ | 10.20 |
| MELT-4-3M | 3.0 | 1.788x.619x2¾ | 12.40 |
| **600 VOLTS DC WORKING** | | | |
| MELT-6-5 | .5 | 1.788x.619x1 | 7.15 |
| MELT-6-1M | 1.0 | 1.788x.619x1¾ | 8.80 |
| MELT-6-2M | 2.0 | 1.788x.619x2¾ | 12.10 |
| **DUAL UNITS — 3 terminals** | | | |
| **200 VOLTS DC WORKING** | | | |
| MELT-2-2x1M | 1.0-1.0 | 1.788x.619x1 | 8.25 |
| MELT-2-2x2M | 2.0-2.0 | 1.788x.619x2 | 10.75 |
| **400 VOLTS DC WORKING** | | | |
| MELT-4-2x1M | 1.0-1.0 | 1.788x.619x2½ | 11.10 |
| **600 VOLTS DC WORKING** | | | |
| MELT-6-2x1M | 1.0-1.0 | 1.788x.619x2¾ | 13.75 |

CAPACITANCE TOLERANCE: ±20%.
*Add ½" to height for bracket.

*TRADE MARK

## METALITE® HY-MET* TYPE MQLF

**Glass-to-Metal Sealed**
**SUBMINIATURE TUBULARS**
***125°C. Operation***

- Smallest paper capacitors available for the given ratings.
- Solid thermosetting impregnant. Temperature Range: −65°C. to +125°C.
- Tinned, non-ferrous metal cases. Hermetically sealed.
- Non-inductively wound. Capacitor section grounded to case, glass-to-metal seal terminal at one end. Available also with section insulated from case with glass-to-metal terminal at each end (Type MQLF).

**CAPACITOR SECTION GROUNDED TO CASE (Glass-to-metal terminal at one end):**

**MQL:** Basic grounded unit. Deduct 1/16" from length of MQLF sizes listed. Uninsulated body. Deduct 50¢ from MQLF list prices.

**MQLP:** Basis MQL unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of MQLF sizes listed. Deduct 35¢ from MQLF list prices.

**MQL-A:** Basic MQL unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of MQLF sizes listed. Deduct 10¢ from MQLF list prices.

**MQL-B:** Basic MQL unit with soldered on L-type bracket "B" on uninsulated body. Deduct 1/16" from length of MQLF sizes. Deduct 10¢ from MQLF list prices.

**MQLS:** Screwneck mounting type, uninsulated body. Available in same ratings as MQLF listed. Minimum case diameter .400". Add 50¢ to MQLF list prices.

**MQLV:** Stud base mounting type. Uninsulated body. Same ratings and case sizes as MQLF. Add 10¢ to MQLF list prices.

**CAPACITOR SECTION INSULATED FROM CASE (Glass-to-metal terminal each end):**

**MQLF:** Basic unit in "floating" construction. Uninsulated body.

**MQLFP:** Basic MQLF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of MQLF sizes listed. Add 15¢ to MQLF list prices.

**MQLF-A:** Basic MQLF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Add 10¢ to MQLF list prices.

**MQLF-B:** Basic MQLF unit with soldered-on L-type bracket "B" on uninsulated body. Add 40¢ to MQLF list prices.

**MQLFS:** Screwneck mounting type. Uninsulated body. Same ratings as MQL. Minimum case diameter .400". Add 50¢ to MQLF list prices.

*TRADE MARK

| Cat. No. | Cap. Mf. | Dia. x Length | List Price |
|---|---|---|---|
| **150 VOLTS DC WORKING** | | | |
| MQLF-1.5-4M | 4.0 | 1x1-13/16 | $7.50 |
| MQLF-1.5-6M | 6.0 | 1x1-13/16 | 8.70 |
| MQLF-1.5-8M | 8.0 | 1x2-5/16 | 9.85 |
| **200 VOLTS DC WORKING** | | | |
| MQLF-2-01 | .01 | .235x13/16 | $3.60 |
| MQLF-2-022 | .022 | .235x13/16 | 3.65 |
| MQLF-2-033 | .033 | .235x13/16 | 3.65 |
| MQLF-2-047 | .047 | .235x13/16 | 3.65 |
| MQLF-2-05 | .05 | .235x13/16 | 3.65 |
| MQLF-2-068 | .068 | .312x13/16 | 3.75 |
| MQLF-2-1 | .1 | .312x13/16 | 3.75 |
| MQLF-2-15 | .15 | .312x1⅛ | 3.80 |
| MQLF-2-22 | .22 | .312x1⅛ | 3.95 |
| MQLF-2-25 | .25 | .312x1⅛ | 4.05 |
| MQLF-2-33 | .33 | .400x1⅛ | 4.05 |
| MQLF-2-47 | .47 | .400x1⅛ | 4.10 |
| MQLF-2-5 | .5 | .400x1⅛ | 4.10 |
| MQLF-2-68 | .68 | .500x1⅛ | 4.25 |
| MQLF-2-1M | 1.0 | .562x1⅛ | 4.50 |
| MQLF-2-2M | 2.0 | .562x1-13/16 | 6.45 |
| **400 VOLTS DC WORKING** | | | |
| MQLF-4-01 | .01 | .235x13/16 | $3.65 |
| MQLF-4-022 | .022 | .235x13/16 | 3.75 |
| MQLF-4-033 | .033 | .312x13/16 | 3.75 |
| MQLF-4-047 | .047 | .312x1⅛ | 3.80 |
| MQLF-4-05 | .05 | .312x1⅛ | 3.80 |
| MQLF-4-068 | .068 | .400x1⅛ | 3.85 |
| MQLF-4-1 | .1 | .400x1⅛ | 3.90 |
| MQLF-4-22 | .22 | .500x1⅛ | 4.10 |
| MQLF-4-25 | .25 | .500x1⅛ | 4.20 |
| MQLF-4-33 | .33 | .562x1-5/16 | 4.35 |
| MQLF-4-47 | .47 | .562x1-13/16 | 4.60 |
| MQLF-4-5 | .5 | .562x1-13/16 | 4.60 |
| MQLF-4-68 | .68 | .670x1-13/16 | 4.95 |
| MQLF-4-1M | 1.0 | .670x2-5/16 | 5.10 |
| MQLF-4-2M | 2.0 | 1 x2-5/16 | 7.50 |
| **600 VOLTS DC WORKING** | | | |
| MQLF-6-01 | .01 | .235x13/16 | $3.75 |
| MQLF-6-022 | .022 | .312x13/16 | 3.80 |
| MQLF-6-033 | .033 | .400x13/16 | 3.85 |
| MQLF-6-047 | .047 | .400x13/16 | 3.90 |
| MQLF-6-05 | .05 | .400x13/16 | 3.90 |
| MQLF-6-068 | .068 | .400x1⅛ | 3.90 |
| MQLF-6-1 | .1 | .400x1⅛ | 3.95 |
| MQLF-6-15 | .15 | .500x1⅛ | 4.15 |
| MQLF-6-22 | .22 | .562x1-5/16 | 4.30 |
| MQLF-6-25 | .25 | .562x1-5/16 | 4.55 |
| MQLF-6-33 | .33 | .562x1-13/16 | 4.85 |
| MQLF-6-47 | .47 | .670x1-13/16 | 5.00 |
| MQLF-6-5 | .5 | .670x1-13/16 | 5.00 |
| MQLF-6-68 | .68 | .670x2-5/16 | 5.50 |
| MQLF-6-1M | 1.0 | .750x2-5/16 | 5.95 |
| MQLF-6-2M | 2.0 | 1 x2-5/16 | 8.25 |

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

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World Radio History

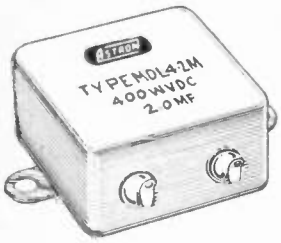
# ASTRON® Capacitors

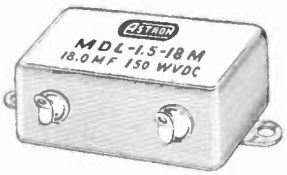
**ASTRON CORPORATION**
EAST NEWARK, N. J.

## METALITE® HY-MET* TYPE MDL

### Bathtub Capacitors

*125°C. Operation*




- Higher capacitance ratings than ever before offered in same size MIL Style CP53-55 cases in conventional paper-foil types.
- Solid thermosetting plastic impregnant enables operation to 125°C. Temperature Range: –65°C. to +125°C.
- Hermetically sealed. Lug type glass-to-metal sealed terminals.
- Standard position of terminals is on side. Can be supplied with top terminals (Type MDLT) or bottom terminals (Type MDLB).
- Standard capacitance tolerance: ±20%.

*TRADE MARK

| Cat. No. | Cap. Mf. | L. x W. x H. | List Price |
|---|---|---|---|
| **150 VOLTS DC WORKING** | | | |
| MDL-1.5-3M | 3.0 | 1¾ x1 x ⅞ | $ 8.10 |
| MDL-1.5-4M | 4.0 | 1¾ x1 x ⅞ | 8.65 |
| MDL-1.5-5M | 5.0 | 1¾ x1 x ⅞ | 8.95 |
| MDL-1.5-6M | 6.0 | 1¾ x1 1¼ x ⅞ | 9.15 |
| MDL-1.5-8M | 8.0 | 2 x1 ¾ x ¾ | 12.60 |
| MDL-1.5-10M | 10.0 | 2 x1 ¾ x ¾ | 14.55 |
| MDL-1.5-12M | 12.0 | 2 x2 x ⅞ | 16.50 |
| MDL-1.5-15M | 15.0 | 2 x2 x1 | 19.85 |
| MDL-1.5-18M | 18.0 | 2 x2 x1 ¼ | 22.50 |
| MDL-1.5-20M | 20.0 | 2 x2 x1 ½ | 25.10 |
| **200 VOLTS DC WORKING** | | | |
| MDL-2-1 | .1 | 1¾ x1 x ¾ | 3.95 |
| MDL-2-25 | .25 | 1¾ x1 x ¾ | 4.25 |
| MDL-2-5 | .5 | 1¾ x1 x ¾ | 4.95 |
| MDL-2-1M | 1.0 | 1¾ x1 x ¾ | 5.35 |
| MDL-2-2M | 2.0 | 1¾ x1 x ¾ | 6.70 |
| **400 VOLTS DC WORKING** | | | |
| MDL-4-1 | .1 | 1¾ x1 x ¾ | 4.85 |
| MDL-4-25 | .25 | 1¾ x1 x ¾ | 5.05 |
| MDL-4-5 | .5 | 1¾ x1 x ¾ | 5.35 |
| MDL-4-1M | 1.0 | 1¾ x1 x ⅞ | 5.95 |
| MDL-4-2M | 2.0 | x1 ¾ x 15/16 | 7.35 |
| MDL-4-3M | 3.0 | 2 x1 ¾ x 15/16 | 9.75 |
| MDL-4-4M | 4.0 | 2 x2 x1 | 11.80 |
| MDL-4-5M | 5.0 | 2 x2 x1 ¼ | 13.20 |
| MDL-4-6M | 6.0 | 2 x2 x1 ½ | 14.00 |
| **600 VOLTS DC WORKING** | | | |
| MDL-6-1 | .1 | 1¾ x1 x ¾ | 5.25 |
| MDL-6-25 | .25 | 1¾ x1 x ¾ | 5.35 |
| MDL-6-5 | .5 | 1¾ x1 x ¾ | 6.40 |
| MDL-6-1M | 1.0 | 1¾ x1 1¼ x ⅞ | 7.35 |
| MDL-6-2M | 2.0 | 2 x2 x ⅞ | 9.40 |
| MDL-6-3M | 3.0 | 2 x2 x1 ⅛ | 11.65 |
| MDL-6-4M | 4.0 | 2 x2 x1 ⅜ | 14.65 |

STANDARD CAPACITANCE TOLERANCE: ±20%. OTHER TOLERANCES ARE AVAILABLE

## METALITE® HY-MET* TYPE MXLJ

### In Terneplate Cases

*125°C. Operation*

*TRADE MARK

- Higher capacitance than ever before achieved in MIL Style CP70 cases, due to use of metallized paper sections.
- Temperature range –65°C. to +125°C. due to use of solid thermosetting impregnant.
- Hermetically sealed. Glass-to-metal sealed lug terminals.
- Exceptionally small sizes for the given ratings. Size reductions of 50% to 75% over equal ratings in conventional paper-foil units.
- Spade bolt "J" brackets supplied with each unit for convenient, rigid mounting.
- Standard capacitance tolerance: ±20%.

| Cat. No. | Cap. Mf. | L. x W. x H. | List Price |
|---|---|---|---|
| **150 VOLTS DC WORKING** | | | |
| MXLJ-1.5-4M | 4.0 | 1¾ x1 x1 ⅝ | $15.30 |
| MXLJ-1.5-10M | 10.0 | 1¾ x1 x2 ⅝ | 22.75 |
| MXLJ-1.5-12M | 12.0 | 1¾ x1 x2 ⅞ | 24.10 |
| MXLJ-1.5-15M | 15.0 | 1¾ x1 x3 ⅜ | 29.35 |
| MXLJ-1.5-20M | 20.0 | 1¾ x1 x4 ⅜ | 34.55 |
| MXLJ-1.5-25M | 25.0 | 2½ x1 3/16 x3 | 40.60 |
| MXLJ-1.5-30M | 30.0 | 2½ x1 3/16 x3 ⅞ | 46.10 |
| MXLJ-1.5-50M | 50.0 | 2½ x1 3/16 x4 ¾ | 64.80 |
| **400 VOLTS DC WORKING** | | | |
| MXLJ-4-2M | 2.0 | 1¾ x1 x2 ⅛ | 15.30 |
| MXLJ-4-4M | 4.0 | 1¾ x1 x2 ⅞ | 20.80 |
| MXLJ-4-6M | 6.0 | 1¾ x1 x3 ⅞ | 25.50 |
| MXLJ-4-8M | 8.0 | 1¾ x1 x4 ¾ | 29.90 |
| MXLJ-4-10M | 10.0 | 2½ x1 3/16 x3 ⅞ | 33.45 |
| MXLJ-4-20M | 20.0 | 2½ x1 3/16 x4 ¾ | 55.45 |
| MXLJ-4-30M | 30.0 | 3¾ x1 ¼ x4 ¾ | 69.75 |
| **600 VOLTS DC WORKING** | | | |
| MXLJ-6-1M | 1.0 | 1¾ x1 x1 ⅝ | 15.05 |
| MXLJ-6-2M | 2.0 | 1¾ x1 x2 ⅜ | 18.35 |
| MXLJ-6-4M | 4.0 | 1¾ x1 x3 ⅞ | 25.10 |
| MXLJ-6-6M | 6.0 | 1¾ x1 x4 ¾ | 28.80 |
| MXLJ-6-8M | 8.0 | 2½ x1 3/16 x3 ⅞ | 33.40 |
| MXLJ-6-10M | 10.0 | 2½ x1 3/16 x4 ¾ | 37.70 |
| MXLJ-6-15M | 15.0 | 3¾ x1 ¼ x4 ¾ | 45.55 |
| MXLJ-6-20M | 20.0 | 3¾ x1 ¾ x4 ¼ | 61.70 |

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.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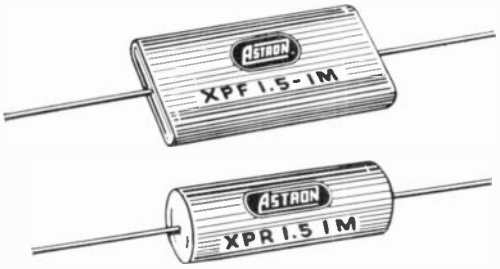
TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

World Radio History

# ASTRON® Capacitors

**ASTRON CORPORATION**
EAST NEWARK, N. J.

## FLAT AND ROUND MINIATURE MYLAR* DIELECTRIC CAPACITORS



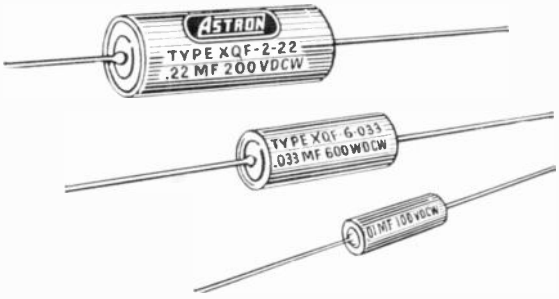

- **TYPES XPR & XPF** capacitors use "Mylar" polyester film as a dielectric. This new series of non-metallic cased units employ an outer Mylar polyester tape wrap and ends sealed with a plastic thermosetting resin to afford excellent protection against moisture.
- Series XPR and XPF are for use in applications requiring minimum size, high insulation resistance an exceptional capacitance stability.
- For added flexibility in design, they are supplied in both flat and round case styles as listed.

| ROUND | | | | | FLAT | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cat. No. | Cap. Mfds. | L | Dia. | List | Cat. No. | Cap. Mds. | L | T | W | List |
| XPR-1.5-01 | .01 | 3/4" | .230 | .80 | XPF-1.5-01 | .01 | 3/4" | 5/32" | 9/32" | 1.00 |
| XPR-1.5-015 | .015 | 3/4" | .270 | .85 | XPF-1.5-015 | .015 | 3/4" | 3/16" | 5/16" | 1.00 |
| XPR-1.5-022 | .022 | 3/4" | .310 | .85 | XPF-1.5-022 | .022 | 3/4" | 1/4" | 3/8" | 1.05 |
| XPR-1.5-033 | .033 | 3/4" | .280 | .90 | XPF-1.5-033 | .033 | 3/4" | 7/32" | 11/32" | 1.10 |
| XPR-1.5-047 | .047 | 3/4" | .330 | .90 | XPF-1.5-047 | .047 | 3/4" | 1/4" | 3/8" | 1.10 |
| XPR-1.5-068 | .068 | 7/8" | .320 | .95 | XPF-1.5-068 | .068 | 7/8" | 7/32" | 3/8" | 1.15 |
| XPR-1.5-082 | .082 | 7/8" | .350 | 1.00 | XPF-1.5-082 | .082 | 7/8" | 1/4" | 13/32" | 1.20 |
| XPR-1.5-1 | .1 | 7/8" | .380 | 1.10 | XPF-1.5-1 | .1 | 7/8" | 9/32" | 7/16" | 1.30 |
| XPR-1.5-15 | .15 | 1" | .390 | 1.15 | XPF-1.5-15 | .15 | 1" | 5/16" | 7/16" | 1.35 |
| XPR-1.5-22 | .22 | 1 1/4" | .390 | 1.15 | XPF-1.5-22 | .22 | 1 1/4" | 9/32" | 15/32" | 1.40 |
| XPR-1.5-33 | .33 | 1 1/4" | .460 | 1.30 | XPF-1.5-33 | .33 | 1 1/4" | 3/8" | 17/32" | 1.55 |
| XPR-1.5-47 | .47 | 1 3/8" | .500 | 1.45 | XPF-1.5-47 | .47 | 1 3/8" | 13/32" | 9/16" | 1.75 |
| XPR-1.5-68 | .68 | 1 5/8" | .530 | 1.50 | XPF-1.5-68 | .68 | 1 5/8" | 7/16" | 19/32" | 1.85 |
| XPR-1.5-82 | .82 | 1 5/8" | .580 | 1.75 | XPF-1.5-82 | .82 | 1 5/8" | 15/32" | 5/8" | 2.10 |
| XPR-1.5-1M | 1.0M | 1 7/8" | .580 | 1.85 | XPF-1.5-1M | 1.0M | 1 7/8" | 15/32" | 5/8" | 2.20 |

Standard Tolerance ±20%.

* Reg. Dupont Trade Mark

## SERIES "X" MYLAR-PLUS CAPACITORS




| WVDC | Catalog Number | Cap. Mf. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| 50 | XQF-.5-0047 | .0047 | .235 x 13/16 | $4.40 |
| | XQF-.5-01 | .01 | .235 x 13/16 | 4.60 |
| | XQF-.5-022 | .022 | .235 x 13/16 | 4.65 |
| | XQF-.5-033 | .033 | .235 x 15/16 | 4.75 |
| | XQF-.5-047 | .047 | .312 x 15/16 | 4.85 |
| | XQF-.5-1 | .1 | .400 x 15/16 | 4.95 |
| | XQF-.5-22 | .22 | .400 x 1 1/16 | 5.25 |
| | XQF-.5-27 | .27 | .400 x 1 7/16 | 5.40 |
| | XQF-.5-47 | .47 | .562 x 1 1/16 | 6.10 |
| | XQF-.5-1M | 1.0 | .562 x 1 11/16 | 7.00 |
| 100 | XQF-1-0047 | .0047 | .235 x 13/16 | $4.65 |
| | XQF-1-01 | .01 | .235 x 13/16 | 4.85 |
| | XQF-1-022 | .022 | .312 x 15/16 | 4.90 |
| | XQF-1-033 | .033 | .312 x 15/16 | 5.00 |
| | XQF-1-047 | .047 | .312 x 15/16 | 5.10 |
| | XQF-1-1 | .1 | .400 x 15/16 | 5.20 |
| | XQF-1-22 | .22 | .562 x 1 1/16 | 5.55 |
| | XQF-1-27 | .27 | .562 x 1 1/16 | 5.70 |
| | XQF-1-47 | .47 | .562 x 1 11/16 | 6.40 |
| | XQF-1-1M | 1.0 | .750 x 1 11/16 | 7.35 |
| 200 | XQF-2-0047 | .0047 | .235 x 13/16 | $4.85 |
| | XQF-2-01 | .01 | .235 x 15/16 | 5.05 |
| | XQF-2-022 | .022 | .312 x 15/16 | 5.10 |
| | XQF-2-033 | .033 | .400 x 15/16 | 5.20 |
| | XQF-2-047 | .047 | .400 x 1 1/16 | 5.25 |
| | XQF-2-1 | .1 | .400 x 1 7/16 | 5.40 |
| | XQF-2-22 | .22 | .562 x 1 7/16 | 5.75 |
| | XQF-2-27 | .27 | .670 x 1 11/16 | 5.90 |
| | XQF-2-47 | .47 | .750 x 1 11/16 | 7.55 |
| | XQF-2-1M | 1.0 | 1 x 2 3/16 | 7.85 |
| 400 | XQF-4-0047 | .0047 | .235 x 13/16 | $5.10 |
| | XQF-4-01 | .01 | .312 x 15/16 | 5.30 |
| | XQF-4-022 | .022 | .312 x 1 1/16 | 5.40 |
| | XQF-4-033 | .033 | .400 x 1 1/16 | 5.45 |
| | XQF-4-047 | .047 | .400 x 1 7/16 | 5.50 |
| | XQF-4-1 | .1 | .562 x 1 7/16 | 5.65 |
| | XQF-4-22 | .22 | .670 x 1 11/16 | 6.05 |
| | XQF-4-27 | .27 | .750 x 1 11/16 | 6.95 |
| | XQF-4-47 | .47 | .750 x 2 3/16 | 7.20 |
| 600 | XQF-6-0047 | .0047 | .235 x 15/16 | $5.20 |
| | XQF-6-01 | .01 | .312 x 15/16 | 5.40 |
| | XQF-6-022 | .022 | .400 x 15/16 | 5.45 |
| | XQF-6-033 | .033 | .400 x 1 7/16 | 5.50 |
| | XQF-6-047 | .047 | .400 x 1 7/16 | 5.55 |
| | XQF-6-1 | .1 | .562 x 1 7/16 | 5.90 |
| | XQF-6-22 | .22 | .750 x 1 11/16 | 6.70 |
| | XQF-6-27 | .27 | .750 x 2 3/16 | 6.85 |
| | XQF-6-47 | .47 | 1 x 2 3/16 | 7.85 |

STANDARD CAPACITANCE TOLERANCE: ±20%. Closer tolerances can be supplied.

### SERIES "X" MYLAR-PLUS CAPACITORS

Astron's new series "X" Mylar capacitors are engineered for reliable operation up to 150° without derating. These miniaturized, metal tubulars provide exceptional capacitance stability, excellent insulation resistance, power factor and long life. The XQF series are designed to meet MIL-C-25A specifications.

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World Radio History

## METALLIZED MYLAR* CAPACITORS

**ASTRON TYPE RLR** metallized Mylar* capacitors provide reliable operation even under adverse conditions in spite of their smaller size and lower cost.
Type RLR is an uncased unit, with a tough, protective Mylar* wrap and epoxy end seal . . . ideal for potted assembly, military and commercial applications.

| WVDC | Catalog Number | Cap. Mfd. | Dia. x Lgth. | List Price |
|---|---|---|---|---|
| 200 | RLR 2-01 | .01 | .155" x 5/8" | $1.60 |
| | RLR 2-012 | .012 | .165" x 5/8" | 1.60 |
| | RLR 2-015 | .015 | .180" x 5/8" | 1.60 |
| | RLR 2-018 | .018 | .190" x 5/8" | 1.60 |
| | RLR 2-022 | .022 | .205" x 5/8" | 1.60 |
| | RLR 2-027 | .027 | .220" x 5/8" | 1.60 |
| | RLR 2-047 | .047 | .200" x 3/4" | 1.60 |
| | RLR 2-068 | .068 | .220" x 3/4" | 1.75 |
| | RLR 2-1 | .1 | .255" x 3/4" | 1.90 |
| | RLR 2-15 | .15 | .227" x 1 1/8" | 2.15 |
| | RLR 2-22 | .22 | .262" x 1 1/8" | 2.40 |
| | RLR 2-33 | .33 | .305" x 1 1/8" | 2.70 |
| | RLR 2-47 | .47 | .355" x 1 1/8" | 2.90 |
| | RLR 2-56 | .56 | .380" x 1 1/8" | 3.10 |
| | RLR 2-68 | .68 | .415" x 1 1/8" | 3.30 |
| | RLR 2-1M | 1.0 | .490" x 1 1/8" | 3.45 |
| | RLR 2-1.5M | 1.5 | .470" x 1 5/8" | 4.45 |
| | RLR 2-2M | 2.0 | .535" x 1 5/8" | 5.15 |
| | RLR 2-3M | 3.0 | .595" x 1 7/8" | 7.90 |
| | RLR 2-6M | 6.0 | .825" x 1 7/8" | 12.35 |

Cap. Tolerance ±20%. * Reg. Dupont Trade Mark

## MYLAR* METALLIZED CAPACITORS

**ASTRON TYPE RQL** combines in a miniature hermetically sealed case the outstanding attributes of reliability at high temperatures — 125°C without derating — with significant savings of space. They will find their main applications in military reliabilty equipment and in critical industrial circuits.
Type RQL Mylar* metallized capacitors are available in various military case and mounting styles.

| WVDC | Catalog Number | Cap. Mfd. | Dia. x Lgth. in inches | List Price |
|---|---|---|---|---|
| 200 | RQL 2-01 | .010 | .235 x 11/16 | $4.00 |
| | RQL 2-012 | .012 | .235 x 11/16 | 4.00 |
| | RQL 2-015 | .015 | .235 x 11/16 | 4.00 |
| | RQL 2-018 | .018 | .235 x 11/16 | 4.10 |
| | RQL 2-022 | .022 | .235 x 11/16 | 4.10 |
| | RQL 2-027 | .027 | .235 x 11/16 | 4.10 |
| | RQL 2-033 | .033 | .235 x 11/16 | 4.10 |
| | RQL 2-039 | .039 | .312 x 13/16 | 4.10 |
| | RQL 2-047 | .047 | .312 x 13/16 | 4.10 |
| | RQL 2-056 | .056 | .312 x 13/16 | 4.10 |
| | RQL 2-068 | .068 | .312 x 13/16 | 4.25 |
| | RQL 2-082 | .082 | .312 x 13/16 | 4.25 |
| | RQL 2-1 | .1 | .312 x 13/16 | 4.25 |
| | RQL 2-12 | .12 | .312 x 13/16 | 4.30 |
| | RQL 2-15 | .15 | .312 x 13/16 | 4.30 |
| | RQL 2-18 | .18 | .400 x 13/16 | 4.30 |
| | RQL 2-22 | .22 | .400 x 13/16 | 4.50 |
| | RQL 2-27 | .27 | .400 x 13/16 | 4.60 |
| | RQL 2-33 | .33 | .400 x 13/16 | 4.60 |
| | RQL 2-39 | .39 | .500 x 11/16 | 4.60 |
| | RQL 2-47 | .47 | .500 x 11/16 | 4.70 |
| | RQL 2-56 | .56 | .500 x 11/16 | 4.70 |
| | RQL 2-68 | .68 | .500 x 11/16 | 4.90 |
| | RQL 2-82 | .82 | .562 x 11/16 | 4.90 |
| | RQL 2-1. M | 1.0 | .562 x 11/16 | 5.20 |
| | RQL 2-1.5 M | 1.5 | .562 x 19/16 | 6.50 |
| | RQL 2-2. M | 2.0 | .670 x 19/16 | 7.75 |
| | RQL 2-3. M | 3.0 | .670 x 1 13/16 | 9.10 |
| | RQL 2-4. M | 4.0 | .750 x 1 13/16 | 9.80 |
| | RQL 2-5. M | 5.0 | 1.00 x 1 13/16 | 10.65 |
| | RQL 2-6. M | 6.0 | 1.00 x 1 13/16 | 11.50 |
| | RQL 2-8. M | 8.0 | 1.00 x 1 13/16 | 13.10 |
| | RQL 2-10. M | 10.0 | 1.00 x 2 5/16 | 18.90 |
| | RQL 2-12. M | 12.0 | 1.00 x 2 9/16 | 21.45 |
| 400 | RQL 4-01 | .010 | .312 x 13/16 | 4.10 |
| | RQL 4-012 | .012 | .312 x 13/16 | 4.10 |
| | RQL 4-015 | .015 | .312 x 13/16 | 4.10 |
| | RQL 4-018 | .018 | .312 x 13/16 | 4.25 |
| | RQL 4-022 | .022 | .312 x 13/16 | 4.25 |
| | RQL 4-027 | .027 | .312 x 11/16 | 4.25 |
| | RQL 4-033 | .033 | .312 x 11/16 | 4.25 |
| | RQL 4-039 | .039 | .400 x 11/16 | 4.25 |
| | RQL 4-047 | .047 | .400 x 11/16 | 4.30 |
| | RQL 4-056 | .056 | .400 x 11/16 | 4.30 |
| | RQL 4-068 | .068 | .400 x 11/16 | 4.35 |

| WVDC | Catalog Number | Cap. Mfd. | Dia. x Lgth. in inches | List Price |
|---|---|---|---|---|
| 400 (cont'd) | RQL 4-082 | .082 | .500 x 11/16 | 4.35 |
| | RQL 4-1 | .1 | .500 x 11/16 | 4.40 |
| | RQL 4-12 | .12 | .500 x 11/16 | 4.40 |
| | RQL 4-15 | .15 | .500 x 11/16 | 4.55 |
| | RQL 4-18 | .18 | .562 x 15/16 | 4.55 |
| | RQL 4-22 | .22 | .562 x 15/16 | 4.65 |
| | RQL 4-27 | .27 | .562 x 19/16 | 4.80 |
| | RQL 4-33 | .33 | .562 x 19/16 | 5.00 |
| | RQL 4-39 | .39 | .670 x 19/16 | 5.00 |
| | RQL 4-47 | .47 | .670 x 19/16 | 5.35 |
| | RQL 4-56 | .56 | .670 x 1 13/16 | 5.35 |
| | RQL 4-68 | .68 | .670 x 1 13/16 | 5.80 |
| | RQL 4-82 | .82 | .750 x 1 13/16 | 5.80 |
| | RQL 4-1. M | 1.0 | .750 x 1 13/16 | 6.00 |
| | RQL 4-1.5 M | 1.5 | 1.00 x 1 13/16 | 7.50 |
| | RQL 4-2. M | 2.0 | 1.00 x 1 13/16 | 9.10 |
| | RQL 4-3. M | 3.0 | 1.00 x 2 9/16 | 12.70 |
| 600 | RQL 6-01 | .010 | .312 x 13/16 | 4.25 |
| | RQL 6-012 | .012 | .312 x 13/16 | 4.25 |
| | RQL 6-015 | .015 | .312 x 13/16 | 4.25 |
| | RQL 6-018 | .018 | .312 x 11/16 | 4.30 |
| | RQL 6-022 | .022 | .312 x 11/16 | 4.30 |
| | RQL 6-027 | .027 | .312 x 11/16 | 4.30 |
| | RQL 6-033 | .033 | .312 x 11/16 | 4.35 |
| | RQL 6-039 | .039 | .400 x 11/16 | 4.35 |
| | RQL 6-047 | .047 | .400 x 11/16 | 4.40 |
| | RQL 6-056 | .056 | .400 x 11/16 | 4.40 |
| | RQL 6-068 | .068 | .400 x 11/16 | 4.40 |
| | RQL 6-082 | .082 | .500 x 11/16 | 4.45 |
| | RQL 6-1 | .1 | .500 x 11/16 | 4.45 |
| | RQL 6-12 | .12 | .562 x 11/16 | 4.45 |
| | RQL 6-15 | .15 | .562 x 11/16 | 4.75 |
| | RQL 6-18 | .18 | .562 x 15/16 | 4.75 |
| | RQL 6-22 | .22 | .562 x 15/16 | 4.95 |
| | RQL 6-27 | .27 | .562 x 19/16 | 4.95 |
| | RQL 6-33 | .33 | .562 x 19/16 | 5.65 |
| | RQL 6-39 | .39 | .670 x 19/16 | 5.65 |
| | RQL 6-47 | .47 | .670 x 19/16 | 5.85 |
| | RQL 6-56 | .56 | .670 x 1 13/16 | 5.85 |
| | RQL 6-68 | .68 | .670 x 1 13/16 | 6.50 |
| | RQL 6-82 | .82 | 1.00 x 1 13/16 | 6.50 |
| | RQL 6-1. M | 1.0 | 1.00 x 1 13/16 | 7.10 |
| | RQL 6-1.5 M | 1.5 | 1.00 x 2 1/16 | 8.45 |
| | RQL 6-2. M | 2.0 | 1.00 x 2 1/16 | 10.10 |
| | RQL 6-2.5 M | 2.5 | 1.00 x 2 9/16 | 13.70 |

* Reg. Dupont Trade Mark


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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

* CP08-9

## MILITARY TYPES TO MIL-C-25A

***TYPE CP08** Commercial Equivalent **AQF**

### TEMPERATURE CHARACTERISTICS E AND K
### CIRCUIT 1
### (Capacitor Section Insulated From Case)

| | Commercial Equivalent | Cap. Mfd. | Dia. x Length | List Price |
|---|---|---|---|---|
| **100 VOLTS** | | | | |
| AS-CP08A1-B103M | AQF-1-01 | .01 | .235 x 3/4 | $3.40 |
| AS-CP08A1-B153M | AQF-1-015 | .015 | .235 x 3/4 | 3.45 |
| AS-CP08A1-B473M | AQF-1-047 | .047 | .312 x 7/8 | 3.60 |
| AS-CP08A1-B104M | AQF-1-1 | .1 | .400 x 7/8 | 3.70 |
| AS-CP08A1-B154M | AQF-1-15 | .15 | .400 x 1 1/8 | 3.80 |
| AS-CP08A1-B224M | AQF-1-22 | .22 | .400 x 1 3/8 | 3.95 |
| AS-CP08A1-B334M | AQF-1-33 | .33 | .562 x 1 1/8 | 4.30 |
| AS-CP08A1-B474M | AQF-1-47 | .47 | .562 x 1 3/8 | 4.55 |
| AS-CP08A1-B684M | AQF-1-68 | .68 | .562 x 1 5/8 | 4.80 |
| AS-CP08A1-B105M | AQF-1-1M | 1.0 | .670 x 1 5/8 | 5.35 |
| **200 VOLTS** | | | | |
| AS-CP08A1-C472M | AQF-2-0047 | .0047 | .235 x 3/4 | $3.45 |
| AS-CP08A1-C682M | AQF-2-0068 | .0068 | .235 x 3/4 | 3.45 |
| AS-CP08A1-C223M | AQF-2-022 | .022 | .235 x 3/4 | 3.70 |
| AS-CP08A1-C333M | AQF-2-033 | .033 | .312 x 7/8 | 3.70 |
| AS-CP08A1-C473M | AQF-2-047 | .047 | .400 x 7/8 | 3.80 |
| AS-CP08A1-C683M | AQF-2-068 | .068 | .400 x 7/8 | 3.85 |
| AS-CP08A1-C104M | AQF-2-1 | .1 | .400 x 7/8 | 3.85 |
| AS-CP08A1-C154M | AQF-2-15 | .15 | .400 x 1 3/8 | 4.10 |
| AS-CP08A1-C224M | AQF-2-22 | .22 | .400 x 1 7/8 | 4.35 |
| AS-CP08A1-C334M | AQF-2-33 | .33 | .562 x 1 3/8 | 4.60 |
| AS-CP08A1-C474M | AQF-2-47 | .47 | .562 x 1 5/8 | 4.90 |
| AS-CP08A1-C684M | AQF-2-68 | .68 | .670 x 1 5/8 | 5.35 |
| AS-CP08A1-C105M | AQF-2-1M | 1.0 | .750 x 2 1/8 | 5.65 |
| **400 VOLTS** | | | | |
| AS-CP08A1-E332M | AQF-4-0033 | .0033 | .235 x 3/4 | $3.55 |
| AS-CP08A1-E153M | AQF-4-015 | .015 | .312 x 7/8 | 3.80 |
| AS-CP08A1-E333M | AQF-4-033 | .033 | .400 x 7/8 | 3.90 |
| AS-CP08A1-E473M | AQF-4-047 | .047 | .400 x 1 1/8 | 4.00 |
| AS-CP08A1-E683M | AQF-4-068 | .068 | .400 x 1 3/8 | 4.10 |
| AS-CP08A1-E104M | AQF-4-1 | .1 | .562 x 1 1/8 | 4.35 |
| AS-CP08A1-E154M | AQF-4-15 | .15 | .562 x 1 3/8 | 4.60 |
| AS-CP08A1-E224M | AQF-4-22 | .22 | .562 x 1 5/8 | 4.85 |
| AS-CP08A1-E334M | AQF-4-33 | .33 | .670 x 1 5/8 | 5.35 |
| AS-CP08A1-E474M | AQF-4-47 | .47 | .750 x 2 1/8 | 5.65 |
| **600 VOLTS** | | | | |
| AS-CP08A1-F102M | AQF-6-001 | .001 | .235 x 3/4 | $3.55 |
| AS-CP08A1-F152M | AQF-6-0015 | .0015 | .235 x 3/4 | 3.55 |
| AS-CP08A1-F222M | AQF-6-0022 | .0022 | .235 x 3/4 | 3.55 |
| AS-CP08A1-F332M | AQF-6-0033 | .0033 | .312 x 7/8 | 3.75 |
| AS-CP08A1-F472M | AQF-6-0047 | .0047 | .312 x 7/8 | 3.75 |
| AS-CP08A1-F682M | AQF-6-0068 | .0068 | .312 x 7/8 | 3.80 |
| AS-CP08A1-F103M | AQF-6-01 | .01 | .312 x 7/8 | 3.80 |
| AS-CP08A1-F153M | AQF-6-015 | .015 | .400 x 7/8 | 3.95 |
| AS-CP08A1-F223M | AQF-6-022 | .022 | .400 x 7/8 | 4.00 |
| AS-CP08A1-F333M | AQF-6-033 | .033 | .400 x 1 1/8 | 4.00 |
| AS-CP08A1-F473M | AQF-6-047 | .047 | .400 x 1 3/8 | 4.20 |
| AS-CP08A1-F683M | AQF-6-068 | .068 | .562 x 1 1/8 | 4.45 |
| AS-CP08A1-F104M | AQF-6-1 | .1 | .562 x 1 3/8 | 4.60 |
| AS-CP08A1-F154M | AQF-6-15 | .15 | .562 x 1 5/8 | 4.95 |
| AS-CP08A1-F224M | AQF-6-22 | .22 | .670 x 1 5/8 | 5.50 |
| AS-CP08A1-F334M | AQF-6-33 | .33 | .750 x 2 1/8 | 5.75 |
| AS-CP08A1-F474M | AQF-6-47 | .47 | .750 x 2 1/8 | 6.10 |

** CP04, 05, 10, 11

## MILITARY TYPES TO MIL-C-25A

***TYPE CP04** Commercial Equivalent **TQF**

### TEMPERATURE CHARACTERISTICS E AND K
### CIRCUIT 1
### (Capacitor Section Insulated From Case)

| | Commercial Equivalent | Cap. Mfd. | Dia. x Length | List Price |
|---|---|---|---|---|
| **100 VOLTS** | | | | |
| AS-CP04A1-B333M | TQF-1-033 | .033 | .235 x 3/4 | $3.45 |
| AS-CP04A1-B104M | TQF-1-1 | .1 | .312 x 7/8 | 3.70 |
| AS-CP04A1-B154M | TQF-1-15 | .15 | .400 x 7/8 | 3.75 |
| AS-CP04A1-B224M | TQF-1-22 | .22 | .400 x 1 1/8 | 3.85 |
| AS-CP04A1-B334M | TQF-1-33 | .33 | .400 x 1 3/8 | 4.00 |
| AS-CP04A1-B474M | TQF-1-47 | .47 | .562 x 1 1/8 | 4.35 |
| AS-CP04A1-B684M | TQF-1-68 | .68 | .562 x 1 3/8 | 4.60 |
| AS-CP04A1-B105M | TQF-1-1M | 1.0 | .562 x 1 7/8 | 4.90 |
| **200 VOLTS** | | | | |
| AS-CP04A1-C153M | TQF-2-015 | .045 | .235 x 3/4 | $3.55 |
| AS-CP04A1-C223M | TQF-2-022 | .022 | .235 x 3/4 | 3.55 |
| AS-CP04A1-C473M | TQF-2-047 | .047 | .312 x 7/8 | 3.75 |
| AS-CP04A1-C683M | TQF-2-068 | .068 | .312 x 7/8 | 3.80 |
| AS-CP04A1-C104M | TQF-2-1 | .1 | .400 x 7/8 | 3.85 |
| AS-CP04A1-C154M | TQF-2-15 | .15 | .400 x 1 1/8 | 3.90 |
| AS-CP04A1-C224M | TQF-2-22 | .22 | .400 x 1 3/8 | 4.10 |
| AS-CP04A1-C334M | TQF-2-33 | .33 | .562 x 1 1/8 | 4.40 |
| AS-CP04A1-C474M | TQF-2-47 | .47 | .562 x 1 3/8 | 4.65 |
| AS-CP04A1-C684M | TQF-2-68 | .68 | .562 x 1 7/8 | 4.95 |
| AS-CP04A1-C105M | TQF-2-1M | 1.0 | .670 x 1 7/8 | 5.45 |
| **400 VOLTS** | | | | |
| AS-CP04A1-E103M | TQF-4-01 | .01 | .235 x 3/4 | $3.65 |
| AS-CP04A1-E333M | TQF-4-033 | .033 | .312 x 7/8 | 3.85 |
| AS-CP04A1-E473M | TQF-4-047 | .047 | .400 x 7/8 | 3.95 |
| AS-CP04A1-E683M | TQF-4-068 | .068 | .400 x 1 1/8 | 4.05 |
| AS-CP04A1-E104M | TQF-4-1 | .1 | .400 x 1 3/8 | 4.15 |
| AS-CP04A1-E154M | TQF-4-15 | .15 | .562 x 1 1/8 | 4.40 |
| AS-CP04A1-E224M | TQF-4-22 | .22 | .562 x 1 3/8 | 4.65 |
| AS-CP04A1-E334M | TQF-4-33 | .33 | .562 x 1 7/8 | 4.90 |
| AS-CP04A1-E474M | TQF-4-47 | .47 | .670 x 1 7/8 | 5.40 |
| AS-CP04A1-E684M | TQF-4-68 | .68 | .750 x 2 1/8 | 5.75 |
| AS-CP04A1-E105M | TQF-4-1M | 1.0M | 1. x 1 7/8 | 6.50 |
| **600 VOLTS** | | | | |
| AS-CP04A1-F102M | TQF-6-001 | .001 | .235 x 3/4 | $3.75 |
| AS-CP04A1-F152M | TQF-6-0015 | .0015 | .235 x 3/4 | 3.75 |
| AS-CP04A1-F222M | TQF-6-0022 | .0022 | .235 x 3/4 | 3.75 |
| AS-CP04A1-F332M | TQF-6-0033 | .0033 | .235 x 3/4 | 3.85 |
| AS-CP04A1-F472M | TQF-6-0047 | .0047 | .235 x 3/4 | 3.85 |
| AS-CP04A1-F682M | TQF-6-0068 | .0068 | .235 x 3/4 | 3.85 |
| AS-CP04A1-F103M | TQF-6-01 | .01 | .312 x 7/8 | 3.95 |
| AS-CP04A1-F153M | TQF-6-015 | .015 | .312 x 7/8 | 4.00 |
| AS-CP04A1-F223M | TQF-6-022 | .022 | .312 x 7/8 | 4.00 |
| AS-CP04A1-F333M | TQF-6-033 | .033 | .400 x 7/8 | 4.15 |
| AS-CP04A1-F473M | TQF-6-047 | .047 | .400 x 1 1/8 | 4.20 |
| AS-CP04A1-F683M | TQF-6-068 | .068 | .400 x 1 3/8 | 4.40 |
| AS-CP04A1-F104M | TQF-6-1 | .1 | .562 x 1 1/8 | 4.65 |
| AS-CP04A1-F154M | TQF-6-15 | .15 | .562 x 1 3/8 | 4.80 |
| AS-CP04A1-F224M | TQF-6-22 | .22 | .562 x 1 7/8 | 5.15 |
| AS-CP04A1-F334M | TQF-6-33 | .33 | .670 x 1 7/8 | 5.70 |
| AS-CP04A1-F474M | TQF-6-47 | .47 | .750 x 2 1/8 | 6.00 |
| AS-CP04A1-F684M | TQF-6-68 | .68 | 1. x 1 7/8 | 6.30 |

**CAPACITOR SECTION INSULATED FROM CASE (Glass-to-Metal terminal both ends): CIRCUIT 1**

**MIL Style CP08 (AQF):** Basic unit in "floating" construction. Sizes and list prices as shown. Uninsulated body.

**MIL Style CP09 (AQFP):** Basic AQF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and length of AQF sizes listed. Add 15¢ to list price.

**AQF-A:** Basic AQF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for AQF. Add 40¢ to AQF list prices.

**AQF-B:** Basic AQF unit with soldered on L-type mounting bracket "B" on uninsulated body. Case sizes as listed for AQF. Add 40¢ to AQF list prices.

**AQFS:** Screwneck mounting type. Uninsulated body. Available in same ratings as AQF. Minimum case diameter is .300". Add 80¢ to AQF list prices.

**AQV:** Stud base mounting type. Uninsulated body. Available in same ratings and case sizes as AQ. Add 60¢ to AQ list prices.

**CAPACITOR SECTION GROUNDED TO CASE (Glass-to-Metal terminal at one end): CIRCUIT 3**

**MIL Style CP08 (AQ):** Basic grounded unit. Deduct 1/16" from length of AQF sizes listed. Uninsulated body. Deduct $1.00 from AQF list prices.

**MIL Style CP09 (AQP):** Basic AQ unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of AQF sizes listed. Deduct 85¢ from list prices.

**AQ-A:** Basic AQ unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of AQF sizes listed. Deduct 60¢ from AQF list prices.

**AQ-B:** Basic AQ unit with soldered-on L-type bracket "B" on uninsulated body. Deduct 1/16" from length of AQF sizes listed. Deduct 60¢ from AQF list prices.

**AQS:** Screwneck mounting type. Uninsulated body. Available in same ratings as AQF listed. Minimum case diameter .300". Deduct 1/16" from length of AQF sizes listed. Deduct 20¢ from AQF list prices.

**AQV:** Stud-base mounting type. Uninsulated body. Available in same ratings as AQF listed. Deduct 1/16" from AQF sizes. Deduct 40¢ from AQF list prices.

**CAPACITOR SECTION INSULATED FROM CASE CIRCUIT 1 (Glass-to-Metal terminal both ends).**

**MIL Style CP04 (TQF):** Basic unit in "floating" construction. Sizes and list prices as shown. Uninsulated body.

**MIL Style CP05 (TQFP):** Basic TQF unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter and length of TQF sizes listed. Add 15¢ to list price.

**MIL Style CP10 (TQF-A):** Basic TQF unit with soldered-on tangential mounting bracket "A" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

**TQF-B:** Basic TQF unit with soldered-on L-type mounting bracket "B" on uninsulated body. Case sizes as listed for TQF. Add 40¢ to TQF list prices.

**MIL Style CP11 (TQFS):** Screw neck mounting type. Uninsulated body. Available in same ratings as TQF. Minimum case diameter is .300". Add 80¢ to TQF list prices.

**CAPACITOR SECTION GROUNDED TO CASE CIRCUIT 3 (Glass-to-Metal terminal at one end):**

**MIL Style CP04 (TQ):** Basic grounded unit. Deduct 1/16" from length of TQF sizes listed. Uninsulated body. Deduct $1.00 from TQF list prices.

**MIL Style CP05 (TQP):** Basic TQ unit with plastic outer sleeve (P) for insulated body. Add 1/16" to diameter of TQF sizes listed. Deduct 85¢ from TQF list prices.

**MIL Style CP10 (TQ-A):** Basic TQ unit with soldered-on tangential mounting bracket "A" on uninsulated body. Deduct 1/16" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

**TQ-B:** Basic TQ unit with soldered-on L-type bracket "B" on uninsulated body. Deduct 1/16" from length of TQF sizes listed. Deduct 60¢ from TQF list prices.

**MIL Style CP11 (TQS):** Screw neck mounting type. Uninsulated body. Available in same ratings as TQF listed. Minimum case diameter .300". Deduct 1/16" from length of TQF sizes listed. Deduct 20¢ from TQF list prices.

**TQV:** Stud base mounting type. Uninsulated body. Available in same ratings as TQF listed. Deduct 1/16" from TQF sizes. Deduct 40¢ from TQF list prices.

Above units are standard tolerance to ±20%

Where last letter of military number is K (instead of M), tolerance is ±10%.

To price 10% tolerance add 10% to list price

*TRADE MARK

**For complete commercial listings see pages 6 and 7.

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World Radio History

# ERIE GENERAL PURPOSE CERAMICONS®

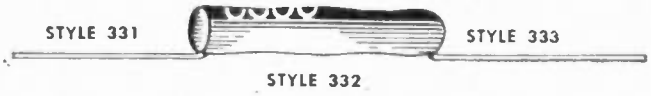
## TYPES GP1 — GP2 — GP3

ERIE CERAMICONS are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature Erie Ceramicons are outstanding because of their excellent high frequency characteristics small size rugged construction and availability in a wide range of capacity values

GP1 CERAMICONS — The performance specifications of Type GP1 Ceramicons are identical with those of temperature compensating types of Ceramicons A GP designation does allow the capacitor manufacturer added flexibility in selecting ceramic body These capacitors meet performance specifications of RETMA Standard No. REC-107-A, Class 1, Characteristic U2.

GP2 CERAMICONS — The capacitance of GP2 Ceramicons will not vary more than + 10% or − 35% from + 25°C. value, as the temperature is varied from − 40°C. to + 85°C. These capacitors meet the performance specifications of RETMA Standard No. REC-107-A, Class 2, Characteristic Y5Y.

GP3 CERAMICONS — The capacitance of GP3 Ceramicons will not vary more than + 25% or − 50% from the 25°C. value, as the temperature is varied from + 10°C. to + 75°C. These capacitors meet the performance specifications of RETMA Standard No. REC-107-A, Class 2, Characteristic Z5Z.




### "GP"® GENERAL PURPOSE CERAMICONS

are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important — in other words for all receiver applications except in frequency determining circuits. Working voltage — 600 volts D. C. Use Erie "GP" Ceramicons as replacements for molded mica and paper tubular capacitors.

**Available in both molded and phenolic insulated styles**

*Order by Catalog Number from Table Below*

**600 VDCW—STOCK ITEMS—1500 VDC TEST**

**STANDARD TOLERANCE ± 10% 5 MMF THROUGH 1500 MMF**
**± 20% 1800 MMF THROUGH 10,000 MMF**

| Catalog No. | Cap. MMF | Body Style |
|---|---|---|
| GP-5 | 5 | 315 |
| GP-10 | 10 | 315 |
| GP-12 | 12 | 315 |
| GP-15 | 15 | 315 |
| GP-18 | 18 | 315 |
| GP-20 | 20 | 315 |
| GP-22 | 22 | 315 |
| GP-24 | 24 | 315 |
| GP-25 | 25 | 315 |
| GP-27 | 27 | 315 |
| GP-30 | 30 | 315 |
| GP-33 | 33 | 315 |
| GP-39 | 39 | 315 |
| GP-47 | 47 | 315 |
| GP-50 | 50 | 315 |
| GP-51 | 51 | 315 |
| GP-56 | 56 | 315 |
| GP-68 | 68 | 315 |
| GP-75 | 75 | 315 |
| GP-82 | 82 | 315 |
| GP-100 | 100 | 315 |
| GP-110 | 110 | 315 |
| GP-120 | 120 | 315 |
| GP-150 | 150 | 315 |
| GP-180 | 180 | 315 |
| GP-200 | 200 | 315 |
| GP-220 | 220 | 315 |
| GP-240 | 240 | 315 |
| GP-250 | 250 | 315 |

| Catalog No. | Cap. MMF | Body Style |
|---|---|---|
| GP-270 | 270 | 315 |
| GP-300 | 300 | 315 |
| GP-330 | 330 | 315 |
| GP-360 | 360 | 315 |
| GP-390 | 390 | 315 |
| GP-470 | 470 | 315 |
| GP-500 | 500 | 315 |
| GP-510 | 510 | 315 |
| GP-560 | 560 | 315 |
| GP-680 | 680 | 315 |
| GP-750 | 750 | 316 |
| GP-820 | 820 | 316 |
| GP-1,000 | 1,000 | 316 |
| GP-1,200 | 1,200 | 316 |
| GP-1,500 | 1,500 | 316 |
| GP-1,800 | 1,800 | 333 |
| GP-2,000 | 2,000 | 333 |
| GP-2,200 | 2,200 | 333 |
| GP-2,500 | 2,500 | 333 |
| GP-2,700 | 2,700 | 333 |
| GP-3,000 | 3,000 | 333 |
| GP-3,300 | 3,300 | 333 |
| GP-4,000 | 4,000 | 333 |
| GP-4,700 | 4,700 | 333 |
| GP-5,000 | 5,000 | 333 |
| GP-5,600 | 5,600 | 333 |
| GP-6,000 | 6,000 | 333 |
| GP-6,800 | 6,800 | 333 |
| GP-7,500 | 7,500 | 333 |
| GP-10,000 | 10,000 | 333 |

Note: "Ceramicon" and "GP Ceramicon" are registered trade names and refer to ceramic dielectric capacitors manufactured only by Erie Resistor Corporation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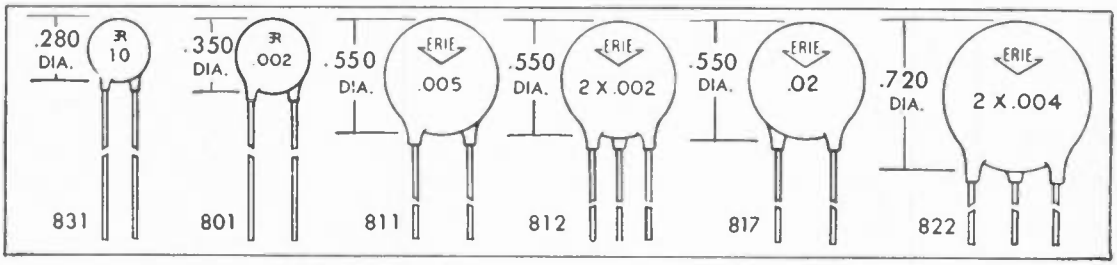
# ERIE DISC CERAMICONS®

Erie Disc Ceramicons consist of a flat ceramic dielectric with silver fired onto the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a protective coating of phenolic. Low series inductance assures efficient high frequency operation.




*Order by Catalog Number from Table Below*

**600 VDCW — STOCK ITEMS — 1500 VDC TEST**

## HIGH STABILITY GENERAL PURPOSE CERAMICONS ±10%

| Catalog No. | Capacity | Body Style |
|---|---|---|
| ED-5 | 5 mmf | 831 |
| ED-10 | 10 mmf | 831 |
| ED-12 | 12 mmf | 831 |
| ED-15 | 15 mmf | 831 |
| ED-18 | 18 mmf | 831 |
| ED-20 | 20 mmf | 831 |
| ED-22 | 22 mmf | 831 |
| ED-24 | 24 mmf | 831 |
| ED-25 | 25 mmf | 831 |
| ED-27 | 27 mmf | 831 |
| ED-30 | 30 mmf | 831 |
| ED-33 | 33 mmf | 831 |
| ED-39 | 39 mmf | 831 |
| ED-47 | 47 mmf | 831 |
| ED-50 | 50 mmf | 831 |
| ED-51 | 51 mmf | 831 |
| ED-56 | 56 mmf | 831 |
| ED-68 | 68 mmf | 801 |
| ED-75 | 75 mmf | 801 |
| ED-82 | 82 mmf | 801 |
| ED-91 | 91 mmf | 801 |
| ED-100 | 100 mmf | 801 |
| ED-120 | 120 mmf | 811 |

| Catalog No. | Capacity | Body Style |
|---|---|---|
| ED-150 | 150 mmf | 811 |
| ED-180 | 180 mmf | 811 |
| ED-200 | 200 mmf | 811 |
| ED-220 | 220 mmf | 811 |
| ED-240 | 240 mmf | 811 |
| ED-250 | 250 mmf | 811 |
| ED-270 | 270 mmf | 811 |
| ED-300 | 300 mmf | 811 |
| ED-330 | 330 mmf | 811 |
| ED-360 | 360 mmf | 811 |
| ED-390 | 390 mmf | 811 |
| ED-470 | 470 mmf | 811 |
| ED-500 | 500 mmf | 811 |
| ED-510 | 510 mmf | 811 |
| ED-560 | 560 mmf | 811 |
| ED-680 | 680 mmf | 811 |
| ED-750 | 750 mmf | 811 |
| ED-820 | 820 mmf | 811 |
| ED-910 | 910 mmf | 811 |
| ED-1000 | 1000 mmf | 811 |
| ED-1200 | 1200 mmf | 811 |
| ED-1500 | 1500 mmf | 811 |
| ED-1800 | 1800 mmf | 811 |

## HI-K BY-PASS AND COUPLING CERAMICONS GMV

| Catalog No. | Capacity | Body Style |
|---|---|---|
| ED-.00047 | .00047 mfd | 831 |
| ED-.0008 | .0008 mfd | 831 |
| ED-.001 | .001 mfd | 801 |
| ED-.0012 | .0012 mfd | 801 |
| ED-.0015 | .0015 mfd | 801 |
| ED-.002 | .002 mfd | 801 |
| ED-.0022 | .0022 mfd | 811 |
| ED-.0025 | .0025 mfd | 811 |
| ED-.0027 | .0027 mfd | 811 |
| ED-.003 | .003 mfd | 811 |
| ED-.0033 | .0033 mfd | 811 |
| ED-.004 | .004 mfd | 811 |
| ED-.0047 | .0047 mfd | 811 |
| ED-.005 | .005 mfd | 811 |
| ED-.0068 | .0068 mfd | 811 |
| ED-.01 | .01 mfd | 811 |
| ED-.015 | .015 mfd | 817 |
| ED-.02 | .02 mfd | 817 |

## MIL-C-11015A DISC CERAMICONS +100% −20% TOLERANCE

| MIL Designation | Body Style | Capacity |
|---|---|---|
| CK60Y471Z | 831 | 470 |
| CK60Y681Z | 831 | 680 |
| CK60Y821Z | 831 | 820 |
| CK61Y102Z | 801 | 1000 |
| CK61Y152Z | 801 | 1500 |
| CK62Y222Z | 811 | 2200 |
| CK62Y322Z | 811 | 3300 |
| CK62Y472Z | 811 | 4700 |
| CK63Y103Z | 841 | 10000 |

## HI-K DUAL CERAMICONS GMV

| Catalog No. | Capacity | Body Style |
|---|---|---|
| ED2-.001 | 2x.001 mfd | 812 |
| ED2-.0015 | 2x.0015 mfd | 812 |
| ED2-.002 | 2x.002 mfd | 812 |
| ED2-.003 | 2x.003 mfd | 822 |
| ED2-.004 | 2x.004 mfd | 822 |
| ED2-.005 | 2x.005 mfd | 822 |

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# TEMPERATURE COMPENSATING CERAMICONS®

Erie Ceramicons are capacity-sensitive to temperature in varying pre-determined degrees, and because of this characteristic have found wide-spread application as temperature-compensating elements in circuits which must be frequency-stabilized over wide temperature ranges. They are also manufactured with practically no thermal sensitivity for use in applications requiring a capacitor whose value is not affected by temperature.

# NPO TEMPERATURE COEFFICIENT CERAMICONS®

NPO Temperature Coefficient Ceramicons are highly recommended for frequency determining applications where no capacity change with change in temperature is desired. "Q" for NPO Ceramicons above 30 mmf is 1000 or higher. Below 30 mmf "Q" decreases slightly as capacity decreases. Working voltage — 600 volts D. C. **Recommended as replacements for silver-mica capacitors.**

*Order by Catalog Number from Table Below*

**STOCK ITEMS — 600 VDCW**

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TCO-.5 | 0.5 | 0.25 mmf | ±250 | 301 or A |
| TCO-.68 | 0.68 | 0.25 mmf | ±250 | 301 or A |
| TCO-1 | 1.0 | 0.25 mmf | ±250 | 301 or A |
| TCO-1.5 | 1.5 | 0.25 mmf | ±250 | 301 or A |
| TCO-2.2 | 2.2 | 0.25 mmf | ±120 | 301 or A |
| TCO-3 | 3.0 | 0.25 mmf | ±120 | 301 or A |
| TCO-3.3 | 3.3 | 0.50 mmf | ±120 | 301 or A |
| TCO-4.7 | 4.7 | 0.50 mmf | ± 60 | 301 or A |
| TCO-5 | 5.0 | 0.50 mmf | ± 60 | 301 or A |
| TCO-6.8 | 6.8 | 0.50 mmf | ± 60 | 301 or A |
| TCO-8.2 | 8.2 | 0.50 mmf | ± 60 | 301 or A |
| TCO-10 | 10 | 0.50 mmf | ± 30 | 301 or A |
| TCO-12 | 12 | 0.50 mmf | ± 30 | 315 or K |
| TCO-15 | 15 | 0.50 mmf | ± 30 | 315 or K |
| TCO-18 | 18 | 0.50 mmf | ± 30 | 315 or K |
| TCO-20 | 20 | 0.5 mmf | ± 30 | 315 or K |
| TCO-22 | 22 | 5% | ± 30 | 315 or K |
| TCO-24 | 24 | 5% | ± 30 | 316 or L |
| TCO-25 | 25 | 5% | ± 30 | 316 or L |
| TCO-27 | 27 | 5% | ± 30 | 316 or L |
| TCO-30 | 30 | 5% | ± 30 | 316 or L |
| TCO-33 | 33 | 5% | ± 30 | 316 or L |
| TCO-36 | 36 | 5% | ± 30 | 316 or L |
| TCO-39 | 39 | 5% | ± 30 | 316 or L |

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TCO-43 | 43 | 5% | ± 30 | 316 or L |
| TCO-47 | 47 | 5% | ± 30 | 338 |
| TCO-50 | 50 | 5% | ± 30 | 338 |
| TCO-51 | 51 | 5% | ± 30 | 338 |
| TCO-56 | 56 | 5% | ± 30 | 337 |
| TCO-62 | 62 | 5% | ± 30 | 337 |
| TCO-68 | 68 | 5% | ± 30 | 337 |
| TCO-75 | 75 | 5% | ± 30 | 337 |
| TCO-82 | 82 | 5% | ± 30 | 337 |
| TCO-91 | 91 | 5% | ± 30 | 337 |
| TCO-100 | 100 | 5% | ± 30 | 337 |
| TCO-110 | 110 | 5% | ± 30 | 333 |
| TCO-120 | 120 | 5% | ± 30 | 333 |
| TCO-130 | 130 | 5% | ± 30 | 333 |
| TCO-150 | 150 | 5% | ± 30 | 334 |
| TCO-160 | 160 | 5% | ± 30 | 334 |
| TCO-175 | 175 | 5% | ± 30 | 334 |
| TCO-180 | 180 | 5% | ± 30 | 334 |
| TCO-200 | 200 | 5% | ± 30 | 334 |
| TCO-220 | 220 | 5% | ± 30 | 335 |
| TCO-240 | 240 | 5% | ± 30 | 335 |
| TCO-270 | 270 | 5% | ± 30 | 335 |
| TCO-300 | 300 | 5% | ± 30 | 335 |

## PARALLELING TC AND CAPACITIES

A wide range of capacitance values and temperature coefficients can be obtained by using Erie NPO capacitors in parallel with either N330 or N750 units. The following formulae are used in determining the capacitance of the various temperature compensating units that are required to obtain any desired temperature coefficient and capacitance:

1. $\frac{\text{(Capacitance in MMF) (Temp. Coef. Required)}}{750} =$

   Capacitance in MMF of the N750 unit to be used (use nearest standard capacitance value)

2. (Total Capacitance Required) minus the value found in step 1 = capacitance in MMF of the NPO unit to be used.
3. The total desired capacitance and temperature coefficient are obtained by connecting the units found in steps 1 and 2 in parallel.

*If an N330 unit is to be used in parallel with an NPO unit, substitute 330 for 750 in this equation.



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# NEGATIVE TEMPERATURE COEFFICIENT CERAMICONS®

N330 and N750 units provide temperature compensation to eliminate drift. Positive and Negative Temperature Coefficient Ceramicons P100 through N1500 are available on special order through your distributor.

## ERIE TUBULAR TYPE N330 CERAMICONS®

*Order by Catalog Number from Table Below*

STOCK ITEMS — 600 VDCW

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TC3-1 | 1.0 | 0.5 mmf | ±250 | 301 or A |
| TC3-1.5 | 1.5 | 0.5 mmf | ±250 | 301 or A |
| TC3-2.2 | 2.2 | 0.5 mmf | ±120 | 301 or A |
| TC3-3.3 | 3.3 | 0.5 mmf | ±120 | 301 or A |
| TC3-3.9 | 3.9 | 0.5 mmf | ±120 | 301 or A |
| TC3-4.7 | 4.7 | 5% | ± 60 | 301 or A |
| TC3-5.6 | 5.6 | 5% | ± 60 | 301 or A |
| TC3-6.8 | 6.8 | 5% | ± 60 | 301 or A |
| TC3-8.2 | 8.2 | 5% | ± 60 | 301 or A |
| TC3-10 | 10 | 5% | ± 60 | 301 or A |
| TC3-12 | 12 | 5% | ± 60 | 315 or K |
| TC3-15 | 15 | 5% | ± 60 | 315 or K |
| TC3-18 | 18 | 5% | ± 60 | 315 or K |
| TC3-22 | 22 | 5% | ± 60 | 315 or K |
| TC3-27 | 27 | 5% | ± 60 | 315 or K |

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TC3-33 | 33 | 5% | ±60 | 315 or K |
| TC3-39 | 39 | 5% | ±60 | 316 or L |
| TC3-47 | 47 | 5% | ±60 | 316 or L |
| TC3-56 | 56 | 5% | ±60 | 316 or L |
| TC3-68 | 68 | 5% | ±60 | 316 or L |
| TC3-82 | 82 | 5% | ±60 | 338 |
| TC3-100 | 100 | 5% | ±60 | 337 |
| TC3-120 | 120 | 5% | ±60 | 337 |
| TC3-150 | 150 | 5% | ±60 | 337 |
| TC3-180 | 180 | 5% | ±60 | 333 |
| TC3-220 | 220 | 5% | ±60 | 334 |
| TC3-270 | 270 | 5% | ±60 | 334 |
| TC3-330 | 330 | 5% | ±60 | 334 |
| TC3-390 | 390 | 5% | ±60 | 335 |
| TC3-470 | 470 | 5% | ±60 | 335 |

## ERIE TUBULAR TYPE N750 CERAMICONS®

*Order by Catalog Number from Table Below*

STOCK ITEMS — 600 VDCW

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TC7-2.2 | 2.2 | 0.5 mmf | ±120 | 301 or A |
| TC7-3.3 | 3.3 | 0.5 mmf | ±120 | 301 or A |
| TC7-5 | 5 | 0.5 mmf | ±120 | 301 or A |
| TC7-6.8 | 6.8 | 0.5 mmf | ±120 | 301 or A |
| TC7-10 | 10 | 0.5 mmf | ±120 | 301 or A |
| TC7-12 | 12 | 0.5 mmf | ±120 | 315 or K |
| TC7-15 | 15 | 0.5 mmf | ±120 | 315 or K |
| TC7-18 | 18 | 0.5 mmf | ±120 | 315 or K |
| TC7-20 | 20 | 0.5 mmf | ±120 | 315 or K |
| TC7-22 | 22 | 5% | ±120 | 315 or K |
| TC7-24 | 24 | 5% | ±120 | 315 or K |
| TC7-25 | 25 | 5% | ±120 | 315 or K |
| TC7-27 | 27 | 5% | ±120 | 315 or K |
| TC7-30 | 30 | 5% | ±120 | 315 or K |
| TC7-33 | 33 | 5% | ±120 | 315 or K |
| TC7-36 | 36 | 5% | ±120 | 315 or K |
| TC7-39 | 39 | 5% | ±120 | 315 or K |
| TC7-43 | 43 | 5% | ±120 | 315 or K |
| TC7-47 | 47 | 5% | ±120 | 315 or K |
| TC7-50 | 50 | 5% | ±120 | 315 or K |
| TC7-51 | 51 | 5% | ±120 | 315 or K |
| TC7-56 | 56 | 5% | ±120 | 315 or K |
| TC7-62 | 62 | 5% | ±120 | 315 or K |
| TC7-68 | 68 | 5% | ±120 | 316 or L |
| TC7-75 | 75 | 5% | ±120 | 316 or L |

| Catalog No. | Cap. MMF | Cap. Tol. | TC Tol. | Body Size |
|---|---|---|---|---|
| TC7-82 | 82 | 5% | ±120 | 316 or L |
| TC7-91 | 91 | 5% | ±120 | 316 or L |
| TC7-100 | 100 | 5% | ±120 | 316 or L |
| TC7-110 | 110 | 5% | ±120 | 316 or L |
| TC7-120 | 120 | 5% | ±120 | 316 or L |
| TC7-130 | 130 | 5% | ±120 | 337 |
| TC7-150 | 150 | 5% | ±120 | 337 |
| TC7-160 | 160 | 5% | ±120 | 337 |
| TC7-180 | 180 | 5% | ±120 | 337 |
| TC7-200 | 200 | 5% | ±120 | 337 |
| TC7-220 | 220 | 5% | ±120 | 337 |
| TC7-240 | 240 | 5% | ±120 | 337 |
| TC7-270 | 270 | 5% | ±120 | 337 |
| TC7-300 | 300 | 5% | ±120 | 333 |
| TC7-330 | 330 | 5% | ±120 | 333 |
| TC7-360 | 360 | 5% | ±120 | 333 |
| TC7-390 | 390 | 5% | ±120 | 334 |
| TC7-430 | 430 | 5% | ±120 | 334 |
| TC7-470 | 470 | 5% | ±120 | 334 |
| TC7-510 | 510 | 5% | ±120 | 334 |
| TC7-560 | 560 | 5% | ±120 | 334 |
| TC7-620 | 620 | 5% | ±120 | 335 |
| TC7-680 | 680 | 5% | ±120 | 335 |
| TC7-750 | 750 | 5% | ±120 | 335 |

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# ERIE HIGH VOLTAGE DISC CERAMICONS®

Designed to employ the same basic diameters that have been standardized in 600 volt capacitors. Careful and detailed life testing has been accomplished over a long period of time to establish required dielectric thicknesses to assure conservative ratings in the high voltage line. They differ in appearance from lower voltage units in having greater thickness, the degree of difference depending on voltage rating.

HD15-1000

## 1500 VDCW — STOCK ITEMS — ± 20% TOLERANCE

| Catalog No. | Capacity MMF |
|---|---|
| HD15-4R7 | 4.7 |
| HD15-6R8 | 6.8 |
| HD15-10 | 10 |
| HD15-15 | 15 |
| HD15-22 | 22 |
| HD15-33 | 33 |
| HD15-47 | 47 |
| HD15-68 | 68 |
| HD15-100 | 100 |
| HD15-150 | 150 |
| HD15-180 | 180 |

| Catalog No. | Capacity MMF |
|---|---|
| HD15-220 | 220 |
| HD15-330 | 330 |
| HD15-470 | 470 |
| HD15-680 | 680 |
| HD15-1000 | 1000 |
| HD15-1500 | 1500 |
| HD15-2200 | 2200 |
| HD15-3300 | 3300 |
| HD15-4700 | 4700 |
| HD15-5600 | 5600 |
| HD15-6200 | 6200 |

HD3-47

## 3000 VDCW — STOCK ITEMS — ± 20% TOLERANCE

| Catalog No. | Capacity MMF |
|---|---|
| HD3-4R7 | 4.7 |
| HD3-6R8 | 6.8 |
| HD3-10 | 10 |
| HD3-15 | 15 |
| HD3-22 | 22 |
| HD3-33 | 33 |
| HD3-47 | 47 |
| HD3-56 | 56 |
| HD3-68 | 68 |
| HD3-100 | 100 |

| Catalog No. | Capacity MMF |
|---|---|
| HD3-150 | 150 |
| HD3-220 | 220 |
| HD3-330 | 330 |
| HD3-470 | 470 |
| HD3-680 | 680 |
| HD3-1000 | 1000 |
| HD3-1500 | 1500 |
| HD3-2200 | 2200 |
| HD3-3300 | 3300 |

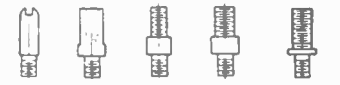
HD6-33

## 6000 VDCW — STOCK ITEMS — ± 20% TOLERANCE

| Catalog No. | Capacity MMF |
|---|---|
| HD6-4R7 | 4.7 |
| HD6-6R8 | 6.8 |
| HD6-10 | 10 |
| HD6-15 | 15 |
| HD6-22 | 22 |
| HD6-33 | 33 |

| Catalog No. | Capacity MMF |
|---|---|
| HD6-150 | 150 |
| HD6-180 | 180 |
| HD6-220 | 220 |
| HD6-330 | 330 |
| HD6-470 | 470 |

# ERIE UNIVERSAL 20 KV CERAMICONS®



413-203 413-204 413-205 413-206-1 413-206-2

STYLE 413

A highly universal 20 KV television power supply filter Ceramicon. Five types of terminals are available. By selecting the correct combinations of these, the correct replacement is provided for practically any existing receiver. Approved by leading TV manufacturers for replacement units.

Capacity of Style 413 is 500 MMF. Tolerance $^{+50\%}_{-20\%}$

***Order by Part Number from Table Below***

### TERMINALS

| Erie Part No. | Description |
|---|---|
| 413-203 | Slotted |
| 413-204 | Female — 6/32 Tap |
| 413-205 | Male — 6/32 Thread |
| 413-206-1 | Male — 8/32 Thread — ¼"—Long |
| 413-206-2 | Male — 8/32 Thread — ⅜"—Long |

Terminals are packaged 5 of a type per bag.

### CERAMICONS

| Erie Part No. | Description |
|---|---|
| *413 | Bulk — No Terminals |
| 413-1 | Single Box — 7 Terminals |
| 413-6 | Kit — 6 Bodies, 14 Terminals |

*Does not include terminals, order them from terminal chart at left.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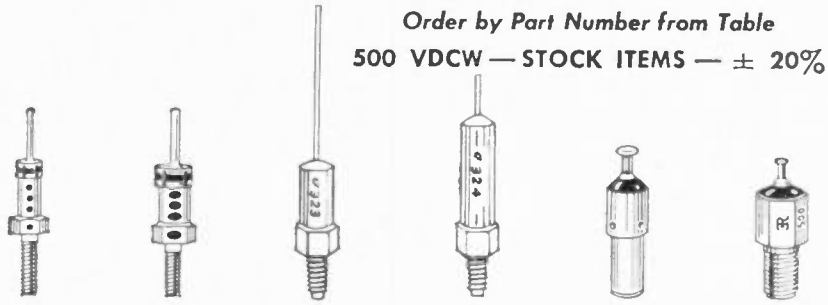
World Radio History

# ERIE STAND-OFF CERAMICONS®

Stand-off Ceramicons, an original Erie development, are now widely used for the dual purposes of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for V.H.F. and U.H.F. applications, due to their low-inductance electrical paths and resultant high resonant frequency.

*Order by Part Number from Table*

**500 VDCW — STOCK ITEMS — ± 20%**



STYLE 318 STYLE 319 STYLE 323 STYLE 324 STYLE 325 STYLE 326

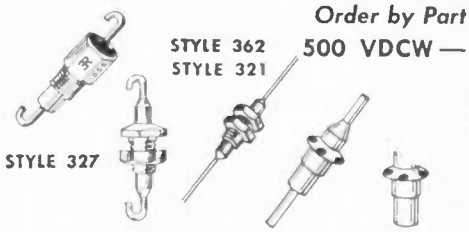
| Erie Part No. | Capacity MMF |
|---|---|
| 318-471 | 470 |
| 318-501 | 500 |
| 319-470 | 47 |
| 319-471 | 470 |
| 319-501 | 500 |
| 319-102 | 1000 |
| 323-500 | 50 |
| 323-101 | 100 |
| 323-501 | 500 |
| 324-102 | 1000 |
| 324-152 | 1500 |
| 325-102 | 1000 |
| 325-152 | 1500 |
| 326-102 | 1000 |
| 326-152 | 1500 |

# ERIE FEED-THRU CERAMICONS®

These very practical feed-thru capacitors are highly recommended for by-passing R.F. to ground in feed-thru applications. Wire terminals of Style 362 and hook type terminals of Style 327 are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point wiring. Style 327 is hermetically sealed and ruggedized, and is primarily for military and similar commercial usage. Nut supplied.

*Order by Part Number from Table Below*

**500 VDCW — STOCK ITEMS — ± 20%**



STYLE 362 STYLE 321 STYLE 327 STYLE 357 STYLE 2404 STYLE 2405

| Erie Part No. | Capacity MMF |
|---|---|
| 321-102 | 1000 |
| 327-102 | 1000 |
| 357-102 | 1000 |
| 357-152 | 1500 |
| 362-102 | 1000 |
| 362-152 | 1500 |
| 2404-500 | 50 |
| 2404-101 | 100 |
| 2404-102 | 1000 |
| 2405-501 | 500 |
| 2405-102 | 1000 |

# ERIE SERVICE KITS

## ERIE DISC & GP CERAMICON® KITS

Here's what you get in this ERIE Service Kit, designed for the convenience, automatic inventory, and efficiency of the service man:

- 100 High Stability ERIE Disc or Tubular Ceramicons
- 18 Popular Values
- Handy, Convenient 18 Section Plastic Storage Case

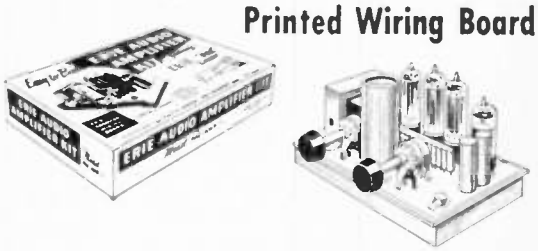
## ERIE CERAMICON® TV SERVICE KITS

Here's what you get:

- 63 High Stability ERIE Tubular and Disc Ceramicons, High Voltage Discs, High Voltage Filters, and Printed Circuits — determined to be the most commonly used ceramic components in servicing TV sets
- 18 Popular Values
- Handy, Convenient 18 Section Plastic Storage Case

# ERIE AUDIO-AMPLIFIER KIT

## *featuring* "PAC" and an ERIE Printed Wiring Board



### *With these Plug-in Components:*

- ERIE "PAC" (Pre-Assembled Components)
- ERIE PRINTED BOARD
- OUTPUT TRANSFORMER
- FILTER CAPACITOR
- VOLUME CONTROL and SWITCH
- TUBE SOCKETS
- CAPACITORS
- TONE CONTROL
- TUBES

**SPECIFICATIONS FOR ERIE STANDARD AUDIO-AMPLIFIER**

- *Frequency Response:* 30 cycles to 12,000 cycles +0, —3.5 db.
- *Sensitivity:* 0.56 volt RMS (input at 1 KC) for 2 watt output.
- *Power Output:* 2 watts. • *Input Impedance:* 2 megohms.
- *Output Impedance:* 4 ohms. • *AC Power Consumption:* 17 watts.
- *Overall Dimensions:* 6⅝" L x 4 5/16" W x 3⅞" H.
- *Shipping Weight:* 2 lbs.

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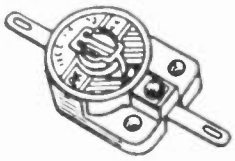
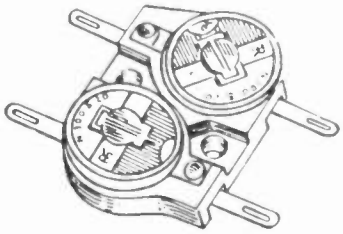
# ERIE CERAMICON® TRIMMERS

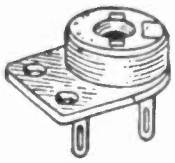
These trimmers have been well known for years for their stability under the most exacting conditions. The top of the base and underside of the titanium dioxide rotor are lapped optically flat, thus eliminating air space variations with temperature. Fired silver electrodes are applied to top of base and rotor, so that capacity is changed by varying the amount of overlap. Capacity change per degree of rotation is approximately constant, resulting in a smoothness of adjustment not possible with compression type trimmers, where the greater part of capacity change is concentrated close to one end of adjustment.



STYLE TS2A



STYLE TD2A



STYLE 557
Patented

*Order by Catalog Number from Table Below*

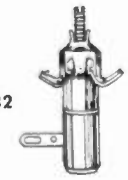
**STOCK ITEMS — 500 VDCW**

| Catalog No | Capacity Range (MMF) | Temperature Coefficient |
|---|---|---|
| TS-A | 1.5-7 | NPO |
| TS-B | 3-12 | NPO |
| TS-C | 4-30 | N500 |
| TS-D | 5-20 | N300 |
| TS-E | 7-45 | N500 |
| TD-A | 1.5-7 | NPO |
| TD-B | 3-12 | NPO |
| TD-C | 4-30 | N500 |
| TD-D | 5-20 | N300 |
| TD-E | 7-45 | N500 |
| 557-A | 1.5-7 | NPO |
| 557-B | 3-12 | NPO |
| 557-F | 5-25 | NPO |
| 557-G | 5-30 | N750 |
| 557-H | 8-50 | N750 |

| MIL-C-81A Trimmers | | |
|---|---|---|
| CV11A070 | 1.5-7 | NPO |
| CV11A120 | 3-12 | NPO |
| CV11A250 | 4.5-25 | NPO |
| CV11B130 | 3-13 | N300 |
| CV11B200 | 5-20 | N300 |
| CV11C300 | 4-30 | N500 |
| CV11C450 | 7-45 | N500 |
| CV11D300 | 4-30 | N650 |
| CV11D450 | 7-45 | N650 |
| CV11D500 | 8-50 | N650 |

# ERIE TUBULAR TRIMMERS

These are compact, economical Tubular Trimmers that are ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Styles 532 and 535 have molded plastic dielectric. Styles 3115-01 and 3139-01 have ceramic dielectric.



STYLE 532

STYLE 535

STYLE 3139-01
STYLE 3115-01

*Order by Catalog Number from Table Below*

**STOCK ITEMS — 500 VDCW**

| Catalog No. | Capacity Range (MMF) | Panel Thickness |
|---|---|---|
| 532-A | 0.5-5 | .040" to .065" |
| 532-B | 1-8 | .040" to .065" |
| 535-C | 0.7-3 | up to .050" |
| 3115-D | 0.5-3 | .025" to .065" |
| 3115-E | 1-4 | .025" to .065" |
| 3139-D | 0.5-3 | .025" to .065" |
| 3139-E | 1-4 | .025" to .065" |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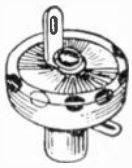
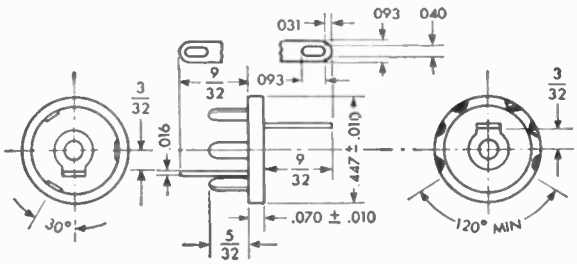
# ERIE BUTTON®
# SILVER-MICA CAPACITORS

STYLE CB

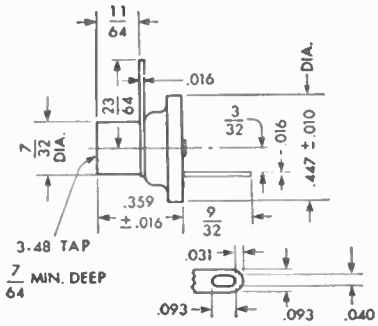
These are midget silver-mica capacitors, for use where compact size, minimum series inductance, and high leakage resistance are essential. They offer high stability of capacitance over the full temperature range − 55°C. to + 85°C. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at 1 MC is not less than 1000 above 100 MMF; not less than 700 between 50 and 100 MMF; not less than 500 below 50 MMF. Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with 3-48 screw. Meet MIL-C-10950-A characteristics "W" or "X" specification.

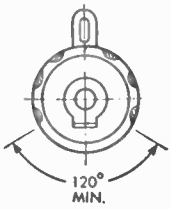


STYLE FA




370-CB




370-FA

***Order by Part Number from Table Below***

**STOCK ITEMS — 500 VDCW**

| Part No. FA Styles | Part No. CB Styles | Cap. MMF | Tol. |
|---|---|---|---|
| 370-FA-150K<br>370-FA-150J | 370-CB-150K<br>370-CB-150J | 15<br>15 | 10%<br>5% |
| 370-FA-250K<br>370-FA-250J | 370-CB-250K<br>370-CB-250J | 25<br>25 | 10%<br>5% |
| 370-FA-500K<br>370-FA-500J | 370-CB-500K<br>370-CB-500J | 50<br>50 | 10%<br>5% |
| 370-FA-101K<br>370-FA-101J | 370-CB-101K<br>370-CB-101J | 100<br>100 | 10%<br>5% |
| 370-FA-151K<br>370-FA-151J | 370-CB-151K<br>370-CB-151J | 150<br>150 | 10%<br>5% |
| 370-FA-201K<br>370-FA-201J | 370-CB-201K<br>370-CB-201J | 200<br>200 | 10%<br>5% |

| Part No. FA Styles | Part No. CB Styles | Cap. MMF | Tol. |
|---|---|---|---|
| 370-FA-251K<br>370-FA-251J | 370-CB-251K<br>370-CB-251J | 250<br>250 | 10%<br>5% |
| 370-FA-301K<br>370-FA-301J | 370-CB-301K<br>370-CB-301J | 300<br>300 | 10%<br>5% |
| 370-FA-401K<br>370-FA-401J | 370-CB-401K<br>370-CB-401J | 400<br>400 | 10%<br>5% |
| 370-FA-501K<br>370-FA-501J | 370-CB-501K<br>370-CB-501J | 500<br>500 | 10%<br>5% |
| 370-FA-751K<br>370-FA-751J | 370-CB-751K<br>370-CB-751J | 750<br>750 | 10%<br>5% |
| 370-FA-102K<br>370-FA-102J | 370-CB-102K<br>370-CB-102J | 1000<br>1000 | 10%<br>5% |

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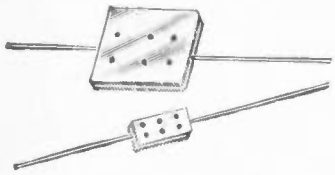
ELECTRONICS DISTRIBUTOR DIVISION

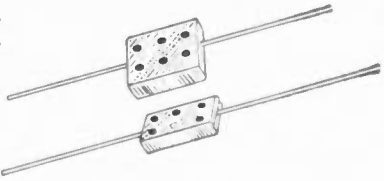
**ERIE RESISTOR CORPORATION — ERIE, PA.**

**National Distributors for Corning Glass Works Electronic Components**

# CORNING MINIATURE FIXED CAPACITORS



Developed through Corning research, these truly miniature fixed glass capacitors possess outstanding behavior characteristics that suggest use in critical applications and under high temperatures. If you're concerned with guided missile development, nuclear equipment, and other high reliability systems, these glass capacitors offer you much.



### THE DIELECTRIC
A homogeneous, low-loss, uniformly produced continuous ribbon of glass; no foreign inclusions, no cracks, no imperfections to degrade the performance of the capacitor.

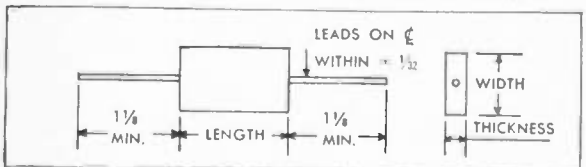
### THE CASE
The glass case, used only to anchor the wire leads, is of the same glass composition as the dielectric; thus, the capacitor performance is a function only of the superior dielectric properties of the glass and not of any enclosing or potting material or impregnant.

### CONSTRUCTION
Only three simple elements: The glass dielectric and case of identical glass composition; the metal foil plates; the wire terminal leads. After assembly, the many layers of dielectric glass, the metal foil plates, the glass case, and the wire leads are sealed together at a high temperature and pressure as an integral, rugged, monolithic unit. Thus, the properties of the capacitor are those of the closely controlled dielectric, and are not determined by assembly method or affected by any subsequent treatment.

### CHARACTERISTICS
Corning Fixed Glass Dielectric Capacitors, Types CY10, CY15, CY20, and CY30, are designed and manufactured to conform to the requirements of Military Specification MIL-C-11272A.

### STABILITY
Capacitance Drift — As defined by MIL-C-11272A is less than 0.1% or 0.1 uuf whichever is greater; it is very nearly zero and is generally within the accuracy of measurements.

Temperature Coefficient — Is fixed and therefore predictable and retraceable. It is within the limits of +140 ± 25 ppm/°C. as defined by MIL-C-11272A from −55°C. to +85°C. and referred to +25°C. (See figures 1 and 2.) The difference in temperature coefficient between any units at any given temperature is less than 15 ppm/°C.




| TYPE | LENGTH (in inches) | WIDTH (in inches) | THICKNESS (in inches) | WIRE SIZE (in inches) | WEIGHT (Grams) |
|---|---|---|---|---|---|
| CY10 | 11/32 ± 3/64 | 11/64 ± 1/32 | 5/64 ± 1/32 | 0.020 - 24 AWG | 0.25-0.50 |
| CY15 | 15/32 ± 3/64 | 17/64 ± 1/32 | 7/64 ± 3/64 | 0.025 - 22 AWG | 0.75-1.25 |
| CY20 | 47/64 ± 1/16 | 27/64 ± 3/64 | 9/64 ± 3/64 | 0.032 - 20 AWG | 2.50-4.00 |
| CY30 | 49/64 ± 1/16 | 3/4 ± 3/64 | 9/64 ± 3/64 | 0.032 - 20 AWG | 5.00-7.00 |

FIGURE 1

### MINIATURIZATION
The glass capacitor offers a higher degree of miniaturization than any other high quality capacitor. The volume of Type CY10 is only about 0.005 cubic inches; further reductions to as little as one-tenth of the volume of the standard wire lead types can be realized where wire lead terminals are not required. For physical dimensions see figure 1.

### INSULATION RESISTANCE
When measured under the conditions specified in MIL-C-11272A, the insulation resistance will be found to be greater than $10^{11}$ ohms; that is, above the range of most standard measuring equipment.

### INDUCTANCE
Because of the direct connection of the wire leads to the foil plates, the inductance is less and therefore the self-resonant frequency is higher than for other similar capacitors.

### DIELECTRIC ABSORPTION
The dielectric absorption is extremely low; the percentage of charge reappearing after discharge is less than 0.1%.

### MOISTURE RESISTANCE
The glass capacitor meets the temperature cycling, immersion, and 10-day moisture resistance tests which are prescribed in the military standards MIL-C-11272A for capacitors which must meet stringent environmental requirements.

### VOLTAGE RATINGS
Standard ratings based on continuous operation in ambient temperatures from −55°C. to +85°C. and from −55°C. to +125°C. are shown in figure 2. Higher voltage ratings may be made available upon request.

### CAPACITANCE
From 1 to 10,000 uuf in standard sizes as shown in figure 2. Higher capacitances in special forms available upon request.

| CAPACITANCE RANGE (UUF) | | |
|---|---|---|
| TYPE | DC WORKING VOLTAGE | |
| | 300 V. — 85°C.<br>180 V. — 125°C. | 500 V. — 85°C.<br>350 V. — 125°C. |
| CY10 | 160 — 240 | 1 — 150 |
| CY15 | 560 — 1200 | 5 — 510 |
| CY20 | 3600 — 5100 | 560 — 3300 |
| CY30 | 6800 — 10,000 | 3600 — 6200 |

FIGURE 2

### CAPACITANCE TOLERANCE
Standard tolerance is ±5% or ±0.25 uuf whichever is greater. Also available as ±10%, ±2%, ±1%, but in no case less than ±0.25 uuf.

### DIELECTRIC LOSS
Losses are extremely low. The dissipation factor at 1 kc. and 25°C. is in the order of 0.055% and is not dependent on capacitance. Losses remain relatively low at elevated temperatures.

### LIFE
The shelf life change in capacitance is very small, and even at the elevated temperature of the 125°C. life test of MIL-C-11272A the recorded change in capacitance is less than 1% in 2,000 hours.

### EXPOSURE TO RADIATION
These capacitors have been found to withstand high levels of X-radiation without permanent damage or degradation of electrical properties.



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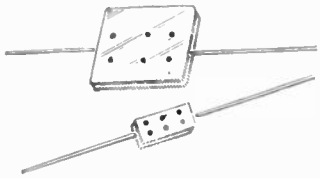
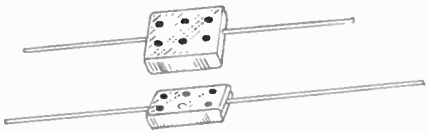
# CORNING GLASS WORKS ELECTRONIC COMPONENTS

## CORNING FIXED GLASS CAPACITORS

### CONFORMS TO MIL-C-11272A





### CY10 SERIES

| Type Designation | Cap | To |
|---|---|---|
| CY10C050J 500V | 5 | ± 5% |
| CY10C050K 500V | 5 | ± 10% |
| CY10C8R2D 500V | 8.2 | ±.5 mmf |
| CY10C100J 500V | 10 | ± 5% |
| CY10C100K 500V | 10 | ± 10% |
| CY10C120J 500V | 12 | ± 5% |
| CY10C120K 500V | 12 | ± 10% |
| CY10C150G 500V | 15 | ± 2% |
| CY10C150J 500V | 15 | ± 5% |
| CY10C150K 500V | 15 | ± 10% |
| CY10C180J 500V | 18 | ± 5% |
| CY10C180K 500V | 18 | ± 10% |
| CY10C200G 500V | 20 | ± 2% |
| CY10C200J 500V | 20 | ± 5% |
| CY10C200K 500V | 20 | ± 10% |
| CY10C220G 500V | 22 | ± 2% |
| CY10C220J 500V | 22 | ± 5% |

| Type Designation | Cap. | Tol. |
|---|---|---|
| CY10C220K 500V | 22 | ± 10% |
| CY10C240G 500V | 24 | ± 2% |
| CY10C240J 500V | 24 | ± 5% |
| CY10C270J 500V | 27 | ± 5% |
| CY10C270K 500V | 27 | ± 10% |
| CY10C300G 500V | 30 | ± 2% |
| CY10C300J 500V | 30 | ± 5% |
| CY10C330J 500V | 33 | ± 5% |
| CY10C330K 500V | 33 | ± 10% |
| CY10C360G 500V | 36 | ± 2% |
| CY10C360J 500V | 36 | ± 5% |
| CY10C390J 500V | 39 | ± 5% |
| CY10C390K 500V | 39 | ± 10% |
| CY10C430G 500V | 43 | ± 2% |
| CY10C430J 500V | 43 | ± 5% |
| CY10C470J 500V | 47 | ± 5% |
| CY10C470K 500V | 47 | ± 10% |

| Type Designation | Cap. | Tol. |
|---|---|---|
| CY10C500J 500V | 50 | ± 5% |
| CY10C510G 500V | 51 | ± 2% |
| CY10C510J 500V | 51 | ± 5% |
| CY10C510K 500V | 51 | ± 10% |
| CY10C560J 500V | 56 | ± 5% |
| CY10C560K 500V | 56 | ± 10% |
| CY10C620J 500V | 62 | ± 5% |
| CY10C680G 500V | 68 | ± 2% |
| CY10C680J 500V | 68 | ± 5% |
| CY10C680K 500V | 68 | ± 10% |
| CY10C750J 500V | 75 | ± 5% |
| CY10C820J 500V | 82 | ± 5% |
| CY10C820K 500V | 82 | ± 10% |
| CY10C910G 500V | 91 | ± 2% |
| CY10C910J 500V | 91 | ± 5% |
| CY10C101F 500V | 100 | ± 1% |
| CY10C101G 500V | 100 | ± 2% |

| Type Designation | Cap. | Tol. |
|---|---|---|
| CY10C101J 500V | 100 | ± 5% |
| CY10C101K 500V | 100 | ± 10% |
| CY10C111J 500V | 110 | ± 5% |
| CY10C121J 500V | 120 | ± 5% |
| CY10C121K 500V | 120 | ± 10% |
| CY10C131J 500V | 130 | ± 5% |
| CY10C151J 500V | 150 | ± 5% |
| CY10C151K 500V | 150 | ± 10% |
| CY10C161J 300V | 160 | ± 5% |
| CY10C181J 300V | 180 | ± 5% |
| CY10C181K 300V | 180 | ± 10% |
| CY10C201J 300V | 200 | ± 5% |
| CY10C201K 300V | 200 | ± 10% |
| CY10C221J 300V | 220 | ± 5% |
| CY10C221K 300V | 220 | ± 10% |
| CY10C241J 300V | 240 | ± 5% |
| CY10C241K 300V | 240 | ± 10% |

### CY15 SERIES

| | | |
|---|---|---|
| CY15C101J 500V | 100 | ± 5% |
| CY15C101K 500V | 100 | ± 10% |
| CY15C111J 500V | 110 | ± 5% |
| CY15C121J 500V | 120 | ± 5% |
| CY15C121K 500V | 120 | ± 10% |
| CY15C131J 500V | 130 | ± 5% |
| CY15C151J 500V | 150 | ± 5% |
| CY15C151K 500V | 150 | ± 10% |
| CY15C161J 500V | 160 | ± 5% |
| CY15C181J 500V | 180 | ± 5% |
| CY15C181K 500V | 180 | ± 10% |
| CY15C201J 500V | 200 | ± 5% |

| | | |
|---|---|---|
| CY15C221J 500V | 220 | ± 5% |
| CY15C221K 500V | 220 | ± 10% |
| CY15C241J 500V | 240 | ± 5% |
| CY15C271J 500V | 270 | ± 5% |
| CY15C271K 500V | 270 | ± 10% |
| CY15C301J 500V | 300 | ± 5% |
| CY15C331J 500V | 330 | ± 5% |
| CY15C331K 500V | 330 | ± 10% |
| CY15C361J 500V | 360 | ± 5% |
| CY15C361K 500V | 360 | ± 10% |
| CY15C391J 500V | 390 | ± 5% |
| CY15C391K 500V | 390 | ± 10% |

| | | |
|---|---|---|
| CY15C431J 500V | 430 | ± 5% |
| CY15C471G 500V | 470 | ± 2% |
| CY15C471J 500V | 470 | ± 5% |
| CY15C471K 500V | 470 | ± 10% |
| CY15C511G 500V | 510 | ± 2% |
| CY15C511J 500V | 510 | ± 5% |
| CY15C511K 500V | 510 | ± 10% |
| CY15C561J 300V | 560 | ± 5% |
| CY15C561K 300V | 560 | ± 10% |
| CY15C621J 300V | 620 | ± 5% |
| CY15C681J 300V | 680 | ± 5% |
| CY15C681K 300V | 680 | ± 10% |

| | | |
|---|---|---|
| CY15C751J 300V | 750 | ± 5% |
| CY15C821J 300V | 820 | ± 5% |
| CY15C821K 300V | 820 | ± 10% |
| CY15C911J 300V | 910 | ± 5% |
| CY15C102F 300V | 1000 | ± 1% |
| CY15C102G 300V | 1000 | ± 2% |
| CY15C102J 300V | 1000 | ± 5% |
| CY15C102K 300V | 1000 | ± 10% |
| CY15C112J 300V | 1100 | ± 5% |
| CY15C122G 300V | 1200 | ± 2% |
| CY15C122J 300V | 1200 | ± 5% |
| CY15C122K 300V | 1200 | ± 10% |

### CY20 SERIES

| | | |
|---|---|---|
| CY20C561J 500V | 560 | ± 5% |
| CY20C561K 500V | 560 | ± 10% |
| CY20C621J 500V | 620 | ± 5% |
| CY20C681J 500V | 680 | ± 5% |
| CY20C681K 500V | 680 | ± 10% |
| CY20C751J 500V | 750 | ± 5% |
| CY20C821J 500V | 820 | ± 5% |
| CY20C821K 500V | 820 | ± 10% |
| CY20C911J 500V | 910 | ± 5% |
| CY20C102J 500V | 1000 | ± 5% |
| CY20C102K 500V | 1000 | ± 10% |

| | | |
|---|---|---|
| CY20C112J 500V | 1100 | ± 5% |
| CY20C122J 500V | 1200 | ± 5% |
| CY20C122K 500V | 1200 | ± 10% |
| CY20C132J 500V | 1300 | ± 5% |
| CY20C152G 500V | 1500 | ± 2% |
| CY20C152J 500V | 1500 | ± 5% |
| CY20C152K 500V | 1500 | ± 10% |
| CY20C162J 500V | 1600 | ± 5% |
| CY20C182J 500V | 1800 | ± 5% |
| CY20C182K 500V | 1800 | ± 10% |
| CY20C202G 500V | 2000 | ± 2% |

| | | |
|---|---|---|
| CY20C202J 500V | 2000 | ± 5% |
| CY20C202K 500V | 2000 | ± 10% |
| CY20C222J 500V | 2200 | ± 5% |
| CY20C222K 500V | 2200 | ± 10% |
| CY20C242J 500V | 2400 | ± 5% |
| CY20C272G 500V | 2700 | ± 2% |
| CY20C272J 500V | 2700 | ± 5% |
| CY20C272K 500V | 2700 | ± 10% |
| CY20C302J 500V | 3000 | ± 5% |
| CY20C332G 500V | 3300 | ± 2% |

| | | |
|---|---|---|
| CY20C332J 500V | 3300 | ± 5% |
| CY20C332K 500V | 3300 | ± 10% |
| CY20C362J 300V | 3600 | ± 5% |
| CY20C392J 300V | 3900 | ± 5% |
| CY20C392K 300V | 3900 | ± 10% |
| CY20C432J 300V | 4300 | ± 5% |
| CY20C472J 300V | 4700 | ± 5% |
| CY20C472K 300V | 4700 | ± 10% |
| CY20C512G 300V | 5100 | ± 2% |
| CY20C512J 300V | 5100 | ± 5% |

### CY30 SERIES

| | | |
|---|---|---|
| CY30C302J 500V | 3000 | ± 5% |
| CY30C302K 500V | 3000 | ± 10% |
| CY30C332J 500V | 3300 | ± 5% |
| CY30C332K 500V | 3300 | ± 10% |
| CY30C362J 500V | 3600 | ± 5% |
| CY30C362K 500V | 3600 | ± 10% |
| CY30C392J 500V | 3900 | ± 5% |
| CY30C392K 500V | 3900 | ± 10% |

| | | |
|---|---|---|
| CY30C432J 500V | 4300 | ± 5% |
| CY30C432K 500V | 4300 | ± 10% |
| CY30C472J 500V | 4700 | ± 5% |
| CY30C472K 500V | 4700 | ± 10% |
| CY30C502J 500V | 5000 | ± 5% |
| CY30C502K 500V | 5000 | ± 10% |
| CY30C512J 500V | 5100 | ± 5% |
| CY30C512K 500V | 5100 | ± 10% |

| | | |
|---|---|---|
| CY30C562J 500V | 5600 | ± 5% |
| CY30C562K 500V | 5600 | ± 10% |
| CY30C622J 500V | 6200 | ± 5% |
| CY30C622K 500V | 6200 | ± 10% |
| CY30C682J 300V | 6800 | ± 5% |
| CY30C682K 300V | 6800 | ± 10% |
| CY30C752J 300V | 7500 | ± 5% |
| CY30C752K 300V | 7500 | ± 10% |

| | | |
|---|---|---|
| CY30C822J 300V | 8200 | ± 5% |
| CY30C822K 300V | 8200 | ± 10% |
| CY30C912J 300V | 9100 | ± 5% |
| CY30C912K 300V | 9100 | ± 10% |
| CY30C103F 300V | 10000 | ± 1% |
| CY30C103G 300V | 10000 | ± 2% |
| CY30C103J 300V | 10000 | ± 5% |
| CY30C103K 300V | 10000 | ± 10% |

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World Radio History

# CORNING GLASS TRIMMER CAPACITORS

## MIDGET ROTARY TYPE

Corning Midget Rotary Trimmer Capacitors offer outstanding performance coupled with economy. Midget trimmers are available in a variety of mounting types to cover the ranges of 0.3 to 3.0 mmfd., 1 to 8.0 mmfd., and 1 to 12.0 mmfd. respectively.

| Dimensions — O.D. — .252"-.270" | | |
|---|---|---|
| Height (Chassis to Top of Glass) | Push-On | Split-Bushing |
| 1 — 12 mmf | 1 19/64" ± 1/32" | 1 15/32" ± 1/32" |
| 1 — 8 mmf | 15/16" ± 1/32" | 1 1/32" ± 1/32" |
| .5 — 3 mmf | 25/32" ± 1/32" | 13/16" ± 1/32" |

### ELECTRICAL CHARACTERISTICS CORNING MIDGET ROTARY TRIMMER CAPACITORS

Temperature Coefficient of Capacitance
(Solid or Split Bushing Types Only)
Brass core units — Approx. 200 ±50 ppm/°C.
Invar core units — Approx. 50 ±50 ppm/°C.

Power Factor of the Dielectric — 0.16%

Direct Current Breakdown Voltage
500 volts for all types with core at the maximum capacity position.

### MIDGET TRIMMER CAPACITOR WITH ROTARY TUNING MOTION

I. Push-On Mount with Saddle Clip, Brass Core

| Part No. | Range mmf. |
|---|---|
| 680000 | .5 — 3 |
| 680001 | 1 — 8 |
| 680002 | 1 — 12 |

II. Push-On Mount with Wire Lead, Brass Core

| Part No. | Range mmf. |
|---|---|
| 680003 | .5 — 3 |
| 680004 | 1 — 8 |
| 680005 | 1 — 12 |

III. Push-On Mount with Solder Spots, Brass Core

| Part No. | Range mmf. |
|---|---|
| 680006 | .5 — 3 |
| 680007 | 1 — 8 |
| 680008 | 1 — 12 |

IV. Split-Bushing Mount with Pan Terminal, Invar Core

| Part No. | Range mmf. |
|---|---|
| 683038 | .5 — 3 |
| 683039 | 1 — 8 |
| 683040 | 1 — 12 |

## MIDGET DIRECT TRAVERSE TYPE

For those applications where sheer ruggedness is desired in addition to thermal stability and a smooth tuning characteristic, a direct traverse type of trimmer capacitor is recommended. Standard units are supplied with either a pan type terminal or a wire wrap-around terminal.

This basic direct traverse trimmer motion is used in single-ended trimmers having the following ratings:

| | |
|---|---|
| 0.5 to 3.0 mmfd. | 1.0 to 8.0 mmfd. |
| 1.0 to 7.5 mmfd. | 1.0 to 12.0 mmfd. |

### TEMPERATURE COEFFICIENT OF CAPACITANCE

With Invar Core — Plus 50 ± 50 ppm/°C.
With Brass Core — Plus 50-200 ± 50 ppm/°C.
Minimum Q at Max. C. (1½ turns from end cap) — 500 checked on a Boonton 160-A Q-Meter at 50 Mcs.
Dielectric Strength (glass only) 1000 volts D.C. with core set at mid-capacity position.
Safe Operating Temperature Range — From −55° C. to 125°C.
Rated D.C. Breakdown Voltage (Core set at Max. C. position) 500 volts.

| CODE NO. | Capacity Range mmfds. | Core Material | Terminal | Max. C Stop | Electrical Selection |
|---|---|---|---|---|---|
| 682023 | 0.5-3.0 | I | Pan | Yes | Special |
| 682024 | 0.5-3.0 | I | Pan | Yes | None |
| 682025 | 0.5-3.0 | I | Pan | Yes | None |
| 682026 | 0.5-3.0 | I | Pan | No | None |
| 682053 | 1.0-7.5 | I | Pan | Yes | Special |
| 682054 | 1.0-7.5 | I | Pan | Yes | None |
| 682055 | 1.0-7.0 | I | Pan | Yes | None |
| 682056 | 1.0-8.0 | I | Pan | No | None |
| 682060 | 1.0-8.0 | I | Wire | No | None |
| 682061 | 1.0-8.0 | I | Wire | No | Special |
| 682062 | 1.0-8.0 | Br | Wire | No | None |
| 682063 | 1.0-8.0 | I | Pan | No | None |
| 682064 | 1.0-8.0 | I | Pan | No | Special |
| 682065 | 1.0-8.0 | Br | Pan | No | None |
| 681024 | 1.0-12.0 | I | Pan | No | Special |
| 681029 | 1.0-12.0 | I | Pan | Yes | Special |



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World Radio History

# *Barco, Inc.* MILWAUKEE 1, WISCONSIN

| | CATALOG NO. | CAPACITY -20% + 60% | WORKING VOLTAGE | LIST PRICE | BODY SIZE (actual) Tolerances: Dia. ± 1/64, length ± 1/32 Leads: 1-1/8 in. minimum. |
|---|---|---|---|---|---|
| **TYPE 0** | *P3-1.25 | 1.25 mfd. | 3 v dc | $0.85 | 1/8 dia. x 15/32 length |
| | P3-2I | 2 mfd. | 3 v dc | 1.00 | |
| | *P6-1 | 1 mfd. | 6 v dc | 0.85 | |
| | *P12-1 | 1 mfd. | 12 v dc | 1.00 | |
| | P25-.6 | 0.6 mfd. | 25 v dc | 1.00 | |
| | P70-.25 | 0.25 mfd. | 70 v dc | 1.00 | |
| **TYPE ½** | PT1.5-6 | 6 mfd. | 1½ v dc | $0.85 | 1/8 dia. x 5/8 length |
| | *PT4-4 | 4 mfd. | 4 v dc | 0.85 | |
| | *PT8-2 | 2 mfd. | 8 v dc | 1.00 | |
| | PT12-1 | 1 mfd. | 12 v dc | 1.00 | |
| | PT50-.25 | 0.25 mfd. | 50 v dc | 1.00 | |
| | PT70-.1 | 0.1 mfd. | 70 v dc | 1.00 | |
| **TYPE ¾** | *PX3-10I | 10 mfd. | 3 v dc | $0.85 | 11/64 dia. x 15/32 length |
| | *PX6-8I | 8 mfd. | 6 v dc | 0.85 | |
| | *P12-5I | 5 mfd. | 12 v dc | 0.85 | |
| | *PX25-2.5I | 2.5 mfd. | 25 v dc | 0.85 | |
| | P70-1 | 1 mfd. | 70 v dc | 0.85 | |
| **TYPE I-IA** | *PT6-2 | 2 mfd. | 6 v dc | $0.70 | (1) 11/64 dia. x 9/16 length |
| | PT6-4 | 4 mfd. | 6 v dc | 0.70 | |
| | PT6-8 | 8 mfd. | 6 v dc | 0.70 | |
| | PT12-2 | 2 mfd. | 12 v dc | 0.70 | |
| | *PS12-3I | 3 mfd. | 12 v dc | 0.70 | (1) Body size is 13/64 x 11/16 in. |
| | *P25-2.5I | 2.5 mfd. | 25 v dc | 0.70 | (2) (2) Body size is 11/64 x 3/4 in. |
| **TYPE II** | PT3-32I | 32 mfd. | 3 v dc | $0.75 | (3) 1/4 dia. x 3/4 length |
| | *P3-40I | 40 mfd. | 3 v dc | 0.75 | |
| | *P6-25 | 25 mfd. | 6 v dc | 0.75 | |
| | P9-20I | 20 mfd. | 9 v dc | 0.75 | |
| | *P12-16 | 16 mfd. | 12 v dc | 0.75 | |
| | *P25-8I | 8 mfd. | 25 v dc | 0.75 | |
| | *P40-5 | 5 mfd. | 40 v dc | 0.75 | |
| | *P70-3 | 3 mfd. | 70 v dc | 0.75 | (3) Body size is 1/4 x 11/16 in. |
| **TYPE III** | *P3-100 | 100 mfd | 3 v dc | $1.00 | 23/64 dia. x 3/4 length |
| | *P6-80I | 80 mfd. | 6 v dc | 1.00 | |
| | *P12-50I | 50 mfd. | 12 v dc | 1.00 | |
| | *P25-25I | 25 mfd. | 25 v dc | 1.00 | |
| | P40-16 | 16 mfd. | 40 v dc | 1.00 | |
| | *P70-10I | 10 mfd. | 70 v dc | 1.00 | |
| **TYPE IV** | P3-200 | 200 mfd. | 3 v dc | $1.25 | 23/64 dia. x 1-9/32 length |
| | P6-160 | 160 mfd. | 6 v dc | 1.25 | |
| | P12-100I | 100 mfd. | 12 v dc | 1.25 | |
| | *P25-50I | 50 mfd. | 25 v dc | 1.25 | |
| | P40-30 | 30 mfd. | 40 v dc | 1.25 | |
| | P70-20 | 20 mfd. | 70 v dc | 1.25 | |
| **TYPE V** | PT3-500 | 500 mfd. | 3 v dc | $1.25 | (4) (5) 7/16 dia. x 1-1/8 length |
| | PT50-25I | 25 mfd. | 50 v dc | 1.25 | |
| | PT150-8I | 8 mfd. | 150 v dc | 1.25 | |
| | PT150-20I | 20 mfd. | 150 v dc | 1.25 | (4) Body size is 7/16 x 1-3/8 in. |
| | | | | | (5) Body size is 7/16 x 1-5/8 in. |

* Indicates fastest selling items which should be stocked heavily.
I Designates insulated covering available; add I to catalog number if desired (*I* insulated only).

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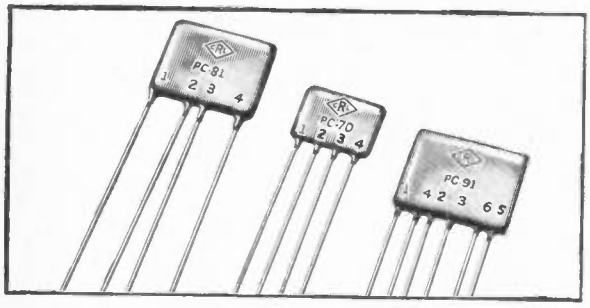
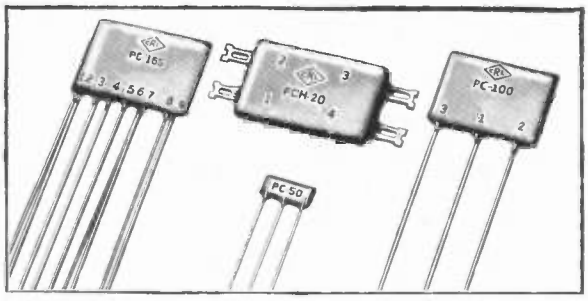
World Radio History

# PACKAGED ELECTRONIC CIRCUITS




Packaged Electronic Circuits are electronic sub-assemblies of component parts including capacitors, resistors, and wiring printed and bonded to a rugged ceramic base plate.




Miniaturization, lower costs, circuit stability, and assured dependability, have resulted in over 85,000,000 Centralab PEC's units incorporated in present original equipment.

### DIODE LOAD FILTERS

| Cat. No. | R1 | C1 | C2 | List |
|---|---|---|---|---|
| PC-50 | 47K | 100 mmf | 100 mmf | $.60 |
| PC-51 | 47K | 150 mmf | 150 mmf | .60 |
| PC-52 | 47K | 50 mmf | 50 mmf | .60 |
| PC-326 | 100K | 100 mmf | 100 mmf | 1.00 |

### COUPLATES®

| Cat. No. | R1 | R2 | C1 | C2 & C3 | List |
|---|---|---|---|---|---|
| PC-70 | 500K | 500K | 5000 mmf | 250 mmf | $.70 |
| PC-71 | 250K | 500K | 5000 mmf | 250 mmf | .70 |
| PC-80 | 500K | 500K | .01 mfd | 250 mmf | .75 |
| PC-81 | 250K | 500K | .01 mfd | 250 mmf | .75 |
| PC-84 | 500K | 500K | .01 mfd | 500 mmf | .75 |

### SPECIAL

| Cat. No. | R1 | R2 | C1 | List |
|---|---|---|---|---|
| PC-82 | 470K | 1 Meg | .01 mfd | $.75 |

### PENTODE COUPLATES®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-90 | 4.7 Meg | 1 Meg | 2.2 Meg | 5000 mmf | 50 mmf | 2000 mmf | $.90 |
| PC-91 | 4.7 Meg | 1 Meg | 2.2 Meg | 5000 mmf | 100 mmf | 5000 mmf | .90 |
| PC-92 | 4.7 Meg | 1 Meg | 2.2 Meg | 5000 mmf | 100 mmf | 2000 mmf | 1.00 |

### VERTICAL INTEGRATORS

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-100 | 22K | 8.2K | 8.2K | 2000 mmf | 5000 mmf | 5000 mmf | $1.10 |
| PC-104 | 22K | 8.2K | 8.2K | 2000 mmf | 5000 mmf | 5000 mmf | 1.10 |

*(Special construction to reduce stray capacities.)*

### VERTICAL INTEGRATOR

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | List |
|---|---|---|---|---|---|---|---|---|---|
| PC-101 | 22K | 8.2K | 8.2K | 22K | .01 mfd | 2000 mmf | 5000 mmf | 5000 mmf | $1.25 |

### VERTICAL INTEGRATOR

| Cat. No. | R1 | R2 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|
| PC-105 | 8.2K | 8.2K | 2000 mmf | 5000 mmf | 5000 mmf | $1.10 |

### VERTICAL INTEGRATOR

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-106 | 22K | 10K | 4700 mmf | 4700 mmf | $1.00 |

### TELEVISION I.F. FILTER

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-110 | 1000 | 820 | 5000 mmf | 5000 mmf | $.75 |
| PC-111 | 220 | 1000 | 5000 mmf | 5000 mmf | .75 |

### AUDIO DETECTOR COUPLATES®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 & C5 | C4 | List |
|---|---|---|---|---|---|---|---|---|
| PC-150 | 6.8 Meg | 470K | 470K | 2000 mmf | 220 mmf | 250 mmf | 5000 mmf | $1.00 |
| PC-151 | 6.8 Meg | 470K | 470K | 5000 mmf | 220 mmf | 250 mmf | 5000 mmf | 1.15 |
| PC-154 | 6.8 Meg | 470K | 470K | 2000 mmf | 220 mmf | 500 mmf | 5000 mmf | 1.00 |
| PC-159 | 10 Meg | 470K | 470K | 5000 mmf | 220 mmf | 250 mmf | 5000 mmf | 1.15 |
| PC-157 | 6.8 Meg | 470K | 470K | 2000 mmf | 220 mmf | 250 mmf | 5000 mmf | 1.00 |
| PC-158 | 6.8 Meg | 470K | 470K | 5000 mmf | 220 mmf | 250 mmf | 5000 mmf | 1.15 |

### PENTODE DETECTOR COUPLATE®

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | C5 | List |
|---|---|---|---|---|---|---|---|---|---|---|
| PC-160 | 4.7 Meg | 1 Meg | 3.3 Meg | 10 Meg | 2000 mmf | 150 mmf | .01 mfd | 150 mmf | 5000 mmf | $1.25 |
| PC-165 | 4.7 Meg | 1 Meg | 3.3 Meg | 10 Meg | 2000 mmf | 150 mmf | .01 mfd | 150 mmf | 5000 mmf | 1.35 |

*(Special construction to reduce stray capacities.)*

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | C5 | List |
|---|---|---|---|---|---|---|---|---|---|---|
| PC-166 | 4.7 Meg | 1 Meg | 2.2 Meg | 4.7 Meg | 2000 mmf | 150 mmf | .01 mfd | 150 mmf | 5000 mmf | $1.00 |
| PC-327 | 4.7 Meg | 1 Meg | 3.3 Meg | 10 Meg | 1000 mmf | 68 mmf | 5000 mmf | 68 mmf | 2500 mmf | 1.25 |
| PC-328 | 4.7 Meg | 1 Meg | 3.3 Meg | 10 Meg | 2000 mmf | 150 mmf | .01 mfd | 150 mmf | 5000 mmf | 1.50 |

### SPECIALS

| Cat. No. | R1 | C1 | C2 | List |
|---|---|---|---|---|
| PC-175 | 4.7 Meg | 250 mmf | .01 mfd | $1.00 |

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-176 | 82K | 39K | 1000 mmf | 2000 mmf | $.75 |

| Cat. No. | R1 | R2 | R3 | C1 | List |
|---|---|---|---|---|---|
| PC-177 | 150K | 47K | 1 Meg | .01 mfd | $1.00 |

| Cat. No. | R1 | R2 | C1 | List |
|---|---|---|---|---|
| PC-178 | 15K | 270K | 150 mmf | $.75 |

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-179 | 150 | 220 | 5000 mmf | 5000 mmf | $.90 |
| PC-329 | 330 | 27K | 5000 mmf | 2000 mmf | 1.25 |

| Cat. No. | R1 | C1 | C2 | List |
|---|---|---|---|---|
| PC-184 | 270K | .01 mfd | 150 mmf | $.75 |

| Cat. No. | R1 | C1 | C2 | List |
|---|---|---|---|---|
| PC-185 | 4.7 Meg | .01 mfd | 50 mmf | $.75 |

| Cat. No. | R1 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|
| PC-186 | 22K | 1000 mmf | 4000 mmf | .01 mfd | $.75 |

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|---|
| PC-190 | 100K | 470K | 1000 | 100K | 4700 mmf | 4700 mmf | 100 mmf | $1.25 |

*(See Senior Compentrol C3-300.)*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World Radio History

# PACKAGED ELECTRONIC CIRCUITS *(Cont'd)*

### SYNC. TAKE-OFF COUPLATE®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-260 | 10K | 330K | 2.2 Meg | 270 mmf | .01 mfd | 25 mmf | $1.25 |
| PC-262 | 10K | 220K | 2.2 Meg | 270 mmf | .01 mfd | 25 mmf | 1.25 |
| PC-263 | Omit | 220K | 2.2 Meg | 270 mmf | .01 mfd | 25 mmf | 1.25 |
| PC-264 | 10K | 330K | 2.2 Meg | 270 mmf | .01 mfd | 9.5 mmf | 1.00 |
| PC-330 | Omit | 470K | 2.2 Meg | 150 mmf | .01 mfd | 25 mmf | 1.25 |

### SPECIALS

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-304 | 47K | 10K | 10K | 390 mmf | 2200 mmf | 5000 mmf | $1.25 |

| Cat. No. | R1 | R2 | R3 | R4 | R5 | R6 | R7 | C1 | C2 | List |
|---|---|---|---|---|---|---|---|---|---|---|
| PC-305 | 470K | 470K | 470K | 470K | 100K | 47K | 100K | 500 mmf | 500 mmf | $1.25 |

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|---|
| PC-306 | 10K | 10K | 10K | 1 Meg | 4000 mmf | .01 mfd | .01 mfd | $1.25 |

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-307 | 4.7 Meg | 220K | 1000 mmf | .014 mfd | $1.00 |

### HORIZONTAL OSCILLATOR

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | C4 | List |
|---|---|---|---|---|---|---|---|---|
| PC-308 | 10K | 39K | 5.6K | 1000 mmf | 1500 mmf | 390 mmf | 3000 mmf | $1.00 |

### RETRACE-SUPPRESSION COUPLATE®

| Cat. No. | R1 | R2 | C1 | C2 | List |
|---|---|---|---|---|---|
| PC-309 | 10K | 1 Meg | 5000 mmf | .01 mfd | $1.00 |
| PC-314 | 2.7K | 56K | .01 mfd | .01 mfd | 1.00 |

### AUDIO COUPLATE®

| Cat. No. | R1 | R2 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|
| PC-310 | 1.5 Meg | 10 Meg | 5000 mmf | 410 mmf | 3000 mmf | $1.00 |

### VERTICAL FEED-BACK

| Cat. No. | R1 | R2 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|
| PC-311 | 100K | 100K | 1000 mmf | 1000 mmf | 2000 mmf | $1.00 |

### VERTICAL INTEGRATOR

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | List |
|---|---|---|---|---|---|---|---|---|---|
| PC-312 | 47K | 47K | 68K | 100K | 180 mmf | 800 mmf | 800 mmf | 130 mmf | $1.00 |

### AUDIO DETECTOR COUPLATE®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 & C5 | C4 | List |
|---|---|---|---|---|---|---|---|---|
| PC-313 | 6.8 Meg | 470K | 470K | 5000 mmf | 220 mmf | 375 mmf | 5000 mmf | $1.00 |
| PC-331 | 6.8 Meg | 470K | 470K | 2000 mmf | 400 mmf | 220 mmf | 5000 mmf | 1.00 |

### AUDIO DETECTOR COUPLATE®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 & C5 | C4 | List |
|---|---|---|---|---|---|---|---|---|
| PC-315 | 6.8 Meg | 470K | 470K | 2000 mmf | 400 mmf | 220 mmf | 5000 mmf | $1.00 |

### SYNC. TAKE-OFF COUPLATE®

| Cat. No. | R1 | R2 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|
| PC-316 | 2.2 Meg | 470K | 800 mmf | .01 mfd | 470 mmf | $1.00 |

### AUDIO COUPLATE®

| Cat. No. | R1 | R2 | R3 | C1 | C2 | List |
|---|---|---|---|---|---|---|
| PC-317 | 6.8 Meg | 470K | 1 Meg | 6800 mmf | .01 mfd | $1.00 |

### PENTODE DETECTOR COUPLATE®

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | C4 | C5 | List |
|---|---|---|---|---|---|---|---|---|---|---|
| PC-318 | 4.7 Meg | 1 Meg | 3.3 Meg | 10 Meg | 5000 mmf | 150 mmf | .01 mfd | 150 mmf | 500 mmf | $1.50 |

### PHASE COMPARATOR

| Cat. No. | R1 | R2 | R3 | R4 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|---|
| PC-319 | 680K | 680K | 4.7 Meg | 220K | 82 mmf | 100 mmf | 1000 mmf | $1.25 |

### SPECIALS

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-320 | 100K | 100K | 100K | 1000 mmf | 190 mmf | 150 mmf | $1.00 |

| Cat. No. | R1 | R2 | C1 & C2 | C3 | List |
|---|---|---|---|---|---|
| PC-321 | 10K | 220K | 680 mmf | 5000 mmf | $1.00 |

| Cat. No. | R1 | R2 | R3 | C1 | C2 | List |
|---|---|---|---|---|---|---|
| PC-322 | 4.7 Meg | 4.7 Meg | 4.7 Meg | 1500 mmf | 1500 mmf | $1.00 |

| Cat. No. | R1 | R2 | R3 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|---|
| PC-323 | 4.7 Meg | 4.7 Meg | 4.7 Meg | 3000 mmf | 250 mmf | 400 mmf | $1.00 |

| Cat. No. | R1 | R2 | C1 | C2 | C3 | C4 | List |
|---|---|---|---|---|---|---|---|
| PC-324 | 50K | 50K | 4500 mmf | 4500 mmf | 100 mmf | 200 mmf | $1.00 |

*(Replacement plate for C1-60, C1-60-S Compentrols)*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PC-325 | 100K | 100K | 2500 mmf | 2500 mmf | 50 mmf | 100 mmf | 1.00 |

*(Replacement plate for C1-70, C1-70-S, C2-100 and C2-200 Compentrols)*

| | | |
|---|---|---|
| PC-326 | *See Listing under FILPECS PC-50.* | 1.00 |
| PC-327 | *See Listing under PENDETS PC-160.* | 1.25 |
| PC-328 | *See Listing under PENDETS PC-160.* | 1.50 |
| PC-329 | *See Listing under SPECIAL PC-179.* | 1.25 |
| PC-330 | *See Listing under SYNC. TAKE-OFF PC-260.* | 1.25 |

### AUDIO DETECTOR COUPLATE®

| Cat. No. | R1 | R2 & R3 | C1 | C2 | C3 & C5 | C4 | List |
|---|---|---|---|---|---|---|---|
| PC-331 | 6.8 Meg | 470K | 2000 mmf | 400 mmf | 220 mmf | 5000 mmf | $1.00 |

### SPECIALS

| Cat No. | R1 | R2 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|---|
| PC-332 | 4.7 Meg | 220K | 1000 mmf | 1000 mmf | 3300 mmf | $1.25 |

| Cat. No. | R1 | C1 | C2 | List |
|---|---|---|---|---|
| PC-333 | 38.4K | .01 mfd | .012 mfd | $1.25 |

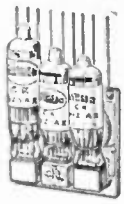
| Cat. No. | R1 | C1 | C2 | C3 | List |
|---|---|---|---|---|---|
| PC-334 | 22K | 1000 mmf | 4000 mmf | .01 mfd | $1.25 |

### AMPEC® THREE-STAGE PEC AUDIO AMPLIFIER

**Model 2 AMPEC®**

The wonder of the electronic age — a PEC exclusive. Complete 3-stage audio amplifier smaller than a book of matches. For hearing aids, miniature radios, model control, etc.

| | List Price |
|---|---|
| PC-200 less tubes | $15.00 |
| PC-201 with 3 subminiature tubes | 25.00 |



**Model 3 AMPEC®**

Even smaller than the original Model 2 — about the size of a postage stamp with added tone circuit.

| | List Price |
|---|---|
| PC-202 Zero Bias Output, no tubes | $17.50 |
| PC-203 Zero Bias Output, with tubes | 32.00 |
| PC-204 Grid Bias Output, no tubes | 17.50 |
| PC-205 Grid Bias Output, with tubes | 33.50 |

Write for complete details.

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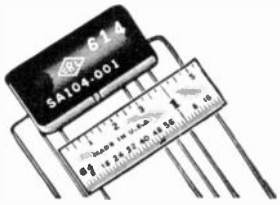
World Radio History

# PACKAGED ELECTRONIC CIRCUITS *(Cont'd)*

### FOUR STAGE TRANSISTOR AMPLIFIERS
### TYPE TA-11 — List Price $50.00

Small as an air mail stamp . . . approx. 73 to 75 db gain . . . a complete four stage amplifier containing four transistors, five capacitors, twelve resistors. Usable frequency range (6-10 db down) approx 250 cycles to 40 KC. Write for circuit schematic and technical details.




**CAT. NO. TA-11.**

**GAIN:** 73 db. min. at 1-KC.

**INPUT IMPEDANCE:** 1000 Ohms nominal.

**SIGNAL TO NOISE RATIO:** with 30 u volt input, noise shall be 20 db. min. below signal.

**SUPPLY VOLTAGE:** 1.3 V. Mercury cell.

**POWER OUTPUT:** 1 milliwatt max. at 15% distortion .36mw at 2% (measured across 1000 Ohm receiver).

**CURRENT DRAIN:** 3.6 — 4.4 milliamperes.

**FREQUENCY CHARACTERISTICS:** 250 to 40,000 c.p.s. ±5 db. (May be adjusted to special requirements).

**BASE PLATE:** Grade L-5A low loss steatite as per JAN-1-10.

**RESISTORS:** Screened and fired to the base plate. Meets all applicable specifications of MIL-R-11.

**CAPACITORS:** ¼" discs supply capacity values of 1 MFD.

**TRANSISTORS:** High gain, low noise transistors are hermetically sealed directly into the steatite base with a metal-to-ceramic seal.

**COATING:** Sealed in epoxy resin to provide protection against mechanical abrasion and humidity.

**LEADS:** AWG No. 26 tinned copper wire, minimum length 1½", in logical position input at left, output at right, also eliminating feedback.

### SINGLE STAGE TRANSISTOR AMPLIFIERS
### TYPES TA-6 & TA-7 — List Price $16.65

Small as the eraser on a pencil . . . approx. 21 to 26 db gain . . . a complete single stage amplifier including transistor, capacitor and resistors. Two types available:

TA-6 interstage type (approx. 21 db gain) and TA-7 output stage (approx. 26 db gain).

Usable frequency range (6-10 db down) approx. 250 cycles to more than 40KC. Write for circuit schematic and technical details.

**BASE PLATE:** Grade L-5A low loss steatite as per JAN-1-10.

**RESISTORS:** Screened and fired to the base plate. Meets all applicable specifications of MIL-R-11.

**CAPACITORS:** ¼" discs supply capacity values of 1 MFD.

**TRANSISTORS:** High gain, low noise transistors are hermetically sealed directly into the steatite base with a metal-to-ceramic seal.

**COATING:** Sealed in epoxy resin to provide protection against mechanical abrasion and humidity.

**LEADS:** Tinned ribbon .055" thick x .020" wide, ¼" long.

| | Cat. No. TA-6** | Cat. No. TA-7** |
|---|---|---|
| *GAIN: ..... | 21 Db Min. at 1 K.C. | 26 Db Min. at 1 K.C. |
| *INPUT IMP: ..... | 1000 ohms nominal | 500 ohms nominal |
| *NOISE LEVEL:..... | Less than ½ Millivolt | Less than ½ Millivolt |
| *SUPPLY VOL.:..... | 1.3 V. Mercury Cell.... | 1.3 V. Mercury Cell |
| *CURRENT DRAIN: | 0.4 to 0.6 Ma. | 1.8 to 2.2 Ma. |
| *FREQ. CHAR:..... | ± 2 Db 250 to 40,000 C.P.S. | ± 5 Db 250 to 40,000 C.P.S. |
| *DESIGN LOAD IMPEDANCE..... | 500-1500 ohms | 1000 ohms inductive load, with 250 ohms Max. D.C. Resistance |
| *POWER OUTPUT.... | Drives TA-7 | 1 mw. Max. at 15% distortion .36 mw. at 2% (across 1000 ohm receiver) |

**NOTE:** One to three TA-6's may be used to drive the TA-7 output stage. Three TA6's & a TA-7 are substantially equivalent to a TA-11.

**Special Designs: The standard performance limits given above may be modified for special applications.*

**KIT NO. PCK-40**..... List Price $44.05

Centralab's PEC Kit consists of an all new one-drawer sturdy steel cabinet painted in attractive blue baked enamel finish, containing 40 Packaged Electronic Circuits of 13 different types which have been carefully selected on the basis of usage from original manufacturers and popularity as replacement parts. Size: 11⅛" x 6⁹⁄₁₆" x 4¼". All units packaged in transparent plastic package with identification clearly visible.

| Qty. | Cat. No. | Qty. | Cat. No. | Qty. | Cat. No. |
|---|---|---|---|---|---|
| 2 | PC-81 | 2 | PC-104 | 2 | PC-151 |
| 2 | PC-91 | 2 | PC-105 | 2 | PC-158 |
| 10 | PC-100 | 2 | PC-106 | 2 | PC-159 |
| 5 | PC-101 | 5 | PC-150 | 2 | PC-160 |
| | | | | 2 | PC-165 |

### TUBE-R-CAP
### List Price $0.30

| Cat. No. | R1 | C1 | Cat. No. | R1 | C1 |
|---|---|---|---|---|---|
| RC-421 | 47K | 56 mmf | RC-471 | .3–1 Meg | 470 mmf |
| RC-428 | 3.3 Meg | 150 mmf | RC-476 | 22K | 800 mmf |
| RC-431 | 220K | 330 mmf | RC-485 | 180 | 4700 mmf |
| RC-465 | 470K | 470 mmf | RC-490 | .75–1.5 Meg | 4700 mmf |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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# CERAMIC CAPACITORS

## CERAMIC TRIMMER CAPACITORS

### TYPE 827 MINIATURE MOLDED CERAMIC TRIMMER

Base, high grade phenolic. Two .120" diam. mounting holes spaced 5/16". Can be mounted on chassis through 9/16" diam. hole. Initial Insulation Resistance — 10,000 megohms minimum. Body size 17/32" x 3/4".

| Cap. Range Mmf. | CRL Cat. No. | Cap. Range Mmf. | CRL Cat. No. |
|---|---|---|---|
| 2.5 to 7 | 827A | 6.0 to 30 | 827C |
| 3.5 to 12 | 827B | 7.0 to 35 | 827D |

**List Price $1.25 each**

### TYPE 820 TRIMMER

Lightweight ceramic body. Stator plate metallic silver fired to ceramic body. Mounting bracket with 1/8" hole and locating lug. Body size, approx. 27/32" x 5/8".

| Cap. Mmf. | Cat. No. | Cap. Mmf. | Cat. No. |
|---|---|---|---|
| 1.0 to 3.5 | 820D | 35 to 55 | 820E* |
| 2.5 to 6.0 | 820A | 55 to 75 | 820F* |
| 5.0 to 20.0 | 820B | 70 to 90 | 820G* |
| 7.0 to 35.0 | 820C | | |

*Less bracket

**List Price $1.20**

### TYPE 822 CERAMIC TRIMMER

Medium weight Steatite body. Numbers ending in Z are of zero temperature coefficient (NPO); those ending in N are N650 temperature coefficient. Both rotor and stator plates are of metallic silver fired to ceramic rotor and stator. Mounting holes are clearance for No. 4 machine screws. Body size, approx. 27/32" x 21/32".

| Cap. Range Mmf. | CRL Cat. No. | To JAN Number | Cap. Range Mmf. | CRL Cat. No. | To JAN Number |
|---|---|---|---|---|---|
| 1.5 to 3 | 822-DZ | — | 4.5 to 25.0 | 822-AZ | CV11A250 |
| 1.5 to 7 | 822-EZ | CV11A070 | 2.0 to 6.0 | 822-DN | CV11D060 |
| 2.0 to 7.5 | 822-CZ | — | 4.0 to 30.0 | 822-EN | CV11D300 |
| 2.5 to 13.0 | 822-BZ | — | 4.5 to 25.0 | 822-CN | CV11D250 |
| 3.0 to 12.0 | 822-FZ | CV11A120 | 7.0 to 45.0 | 822-BN | CV11D450 |
| | | | 8.0 to 50.0 | 822-AN | CV11D500 |

**List Price $1.50 each**

### TYPE 823 CERAMIC TRIMMER

A trimmer of highest quality. Medium heavy Steatite base. Numbers ending in Z are of zero temperature coefficient (NPO); those ending in N are of N650 temperature coefficient. Both rotor and stator plates are of metallic silver fired to ceramic rotor and stator. Mounting studs are set in the base, tapped 3/16" deep for 4-40 machine screws. Body size, approx. 1 9/32" long x 15/16" wide.

| Cap. Range Mmf. | CRL Cat. No. | To JAN Number | Cap. Range Mmf. | CRL Cat. No. | To JAN Number |
|---|---|---|---|---|---|
| 5.0 to 12.0 | 823-EZ | CV12A120 | 5.0 to 15.0 | 823-FN | CV12D150 |
| 6.0 to 25.0 | 823-DZ | CV12A250 | 8.0 to 25.0 | 823-EN | — |
| 10.0 to 50.0 | 823-BZ | — | 8.0 to 50.0 | 823-DN | CV12D500 |
| 12.0 to 60.0 | 823-AZ | CV12A620 | 10.0 to 100 | 823-BN | — |
| | | | 20.0 to 125 | 823-AN | CV12D121 |

**List Price $3.50 each**

### TYPE 829 TUBULAR CERAMIC TRIMMER

Special tiny, tubular trimmer, widely used in TV and FM applications. Ceramic body, .225" diameter.

| Capacity Range Mmf. | Body Length(B) | Cat. No. | List Price | Capacity Range Mmf. | Body Length(B) | Cat. No. | List Price |
|---|---|---|---|---|---|---|---|
| .5 to 3 | 1/2" | 829-3 | $0.50 | 1 to 7.5 | 3/4" | 829-7 | $0.60 |
| 1 to 4 | 1/2" | 829-4 | .50 | 1.5 to 10 | 3/4" | 829-10 | .60 |
| 1 to 6 | 5/8" | 829-6 | .50 | | | | |

### TRANSMITTING CAPACITORS
### TYPES 850-858 5KV AND 7.5KV

TOLERANCE: 850 type ±10%, 858 type ±20%.

DIMENSIONS: 13/16" diameter, 5/8" long.

MOUNTING: S Series: 1/8" hex studs tapped 6-32 thd. SL Series: 17/32" solder lugs with 6-32 tapped hole.

| Cap. Mmf. | Volts D.C.W. | Temp. Coeff. | R. F. Load at 30 MC. | Cat. No. Stud Type | Cat. No. Lug Type |
|---|---|---|---|---|---|
| 25 | 7,500 | NPO | 7 amps. | 850S-25Z | 850SL-25Z |
| 50 | 7,500 | NPO | 10 amps. | 850S-50Z | 850SL-50Z |
| 50 | 7,500 | N750 | 8.8 amps. | 850S-50N | 850SL-50N |
| 75 | 7,500 | N750 | 10 amps. | 850S-75N | 850SL-75N |
| 100 | 5,000 | N750 | 9.8 amps. | 850S-100N | 850SL-100N |
| 500 | 5,000 | HI-K | ..... | 858S-500 | ..... |
| 1,000 | 5,000 | HI-K | ..... | 858S-1000 | ..... |

**List Price $4.50 each**

### TYPE 853, 854, 855 — 5 KV

TOLERANCE: ±10%.

DIMENSIONS: 853 — 9/16" dia. x 1 1/2" long.
854 — 7/16" dia. x 7/16" long.
855 — 5/16" dia. x 3/8" long.

MOUNTING: 853, 854, 855; 1 1/2" axial wire leads. 853A, 854A, 855A: axial screw terminals tapped 2-56.

| Cap. Mmf. | Volts D.C.W. | Temp. Coeff. | R. F. Load at 30 MC. | Cat. No. Lead Type | Cat. No. Tap Type |
|---|---|---|---|---|---|
| 3 | 5000 | NPO | 1.8 amps. | 855-3Z | 855A-3Z |
| 5 | 5000 | NPO | 1.8 amps. | 855-5Z | 855A-5Z |
| 10 | 5000 | NPO | 1.8 amps. | 854-10Z | 854A-10Z |
| 10 | 5000 | N750 | 3.2 amps. | 855-10N | 855A-10N |
| 20 | 5000 | NPO | 2.8 amps. | 853-20Z | 853A-20Z |
| 20 | 5000 | N750 | 3.2 amps. | 854-20N | 854A-20N |
| 40 | 5000 | N750 | 5.6 amps. | 853-40N | 853A-40N |

**List Price $3.00 each**

### TYPE 857 — 7.5 KV AND 15 KV

TOLERANCE: ±10%. Diameter 1 9/32", 1 5/16" long. Axial screw terminals, 10-32 NF-2 thread. 1/4" deep full thread. Both ends.

| Cap. Mmf. | Volts D.C.W. | Temp. Coeff. | R. F. Load at 30 MC. | Catalog Number | List Price |
|---|---|---|---|---|---|
| 25 | 15,000 | NPO | 12 amps. | 857-25Z | $14.00 |
| 50 | 15,000 | NPO | 12 amps. | 857-50Z | 14.00 |
| 100 | 15,000 | N750 | 14.4 amps. | 857-100N | 12.00 |
| 200 | 7,500 | N750 | 18.2 amps. | 857-200N | 12.00 |

### TYPE 859 — 20 KV

TOLERANCE: ±10%.

DIMENSIONS: Overall length 2 7/8", diam. 2".

MOUNTING: Terminal ends tapped 10-32.

| Cap. Mmf. | Volts D.C.W. | Tolerance | Temp. Coeff. | R. F. Load at 30 MC. | Catalog Number |
|---|---|---|---|---|---|
| 50 | 20,000 | ±10% | NPO | 30 amps. | 859S-50Z |
| 100 | 20,000 | ±10% | NPO | 30 amps. | 859S-100Z |
| 250 | 20,000 | ±10% | N750 | 30 amps. | 859S-250N |
| 500 | 20,000 | ±10% | N2400 | 30 amps. | 859S-500N |

**List Price $90.00 each**

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World Radio History

# CERAMIC CAPACITORS *(Cont'd)*

Centralab's ceramic capacitor kits consist of an all new one-drawer sturdy steel cabinet painted in attractive blue baked enamel finish containing an assortment of capacitors, quantity of which is dependent upon frequency of use. All capacitors are packaged in transparent plastic packages, with part number, capacity, tolerance and voltage clearly marked.

**KIT NO. D6K-200** ..... List Price $50.00

Contains 200 Type D6 Tubular Hi-Kaps of 27 different values.

| Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. |
|---|---|---|---|---|---|---|---|---|
| 5 | 5 | D6-050 | 100 | 15 | D6-101 | 470 | 5 | D6-471 |
| 10 | 10 | D6-100 | 150 | 5 | D6-151 | 500 | 15 | D6-501 |
| 15 | 5 | D6-150 | 180 | 5 | D6-181 | 680 | 5 | D6-681 |
| 22 | 5 | D6-220 | 200 | 5 | D6-201 | *.001 | 15 | D6-102 |
| 25 | 5 | D6-250 | 220 | 5 | D6-221 | *.0015 | 5 | D6-152 |
| 33 | 5 | D6-330 | 250 | 5 | D6-251 | *.002 | 10 | D6-202 |
| 47 | 5 | D6-470 | 270 | 5 | D6-271 | *.0047 | 5 | D6-472 |
| 50 | 10 | D6-500 | 330 | 5 | D6-331 | *.005 | 15 | D6-502 |
| 82 | 5 | D6-820 | 390 | 5 | D6-391 | *.01 | 15 | D6-103 |

**KIT NO. DDK-200** ..... List Price $51.25

Contains 200 Type DD Disc Hi-Kaps of 31 different values.

| Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. |
|---|---|---|---|---|---|---|---|---|
| 5 | 5 | DD-050 | 180 | 5 | DD-181 | 680 | 5 | DD-681 |
| 10 | 5 | DD-100 | 200 | 10 | DD-201 | *.001 | 15 | DD-102 |
| 25 | 5 | DD-250 | 220 | 5 | DD-221 | *.0015 | 5 | DD-152 |
| 33 | 5 | DD-330 | 250 | 5 | DD-251 | *.003 | 5 | DD-302 |
| 47 | 5 | DD-470 | 270 | 5 | DD-271 | *.0047 | 5 | DD-472 |
| 50 | 5 | DD-500 | 300 | 5 | DD-301 | *.005 | 5 | DD-5022 |
| 68 | 5 | DD-680 | 330 | 5 | DD-331 | *.005 | 10 | DD-502 |
| 100 | 10 | DD-101 | 390 | 5 | DD-391 | *.01 | 5 | DD6-103 |
| 120 | 5 | DD-121 | 470 | 5 | DD-471 | *.01 | 15 | DD-103 |
| 150 | 5 | DD-151 | 500 | 5 | DD-501 | *.01 | 5 | DD-1032 |
| | | | | | | *.02 | 15 | DD-203 |

**KIT NO. HVK-150** ..... List Price $57.50

Contains 150 Hi-Voltage Disc Capacitors of 3 different voltage ratings.

| Cap. Mfd. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. |
|---|---|---|---|---|---|---|---|---|
| .003 | 10 | DD16-302 | *.008 | 10 | DD16-802 | *.001 | 5 | DD30-102 |
| .004 | 10 | DD16-402 | *.01 | 20 | DD16-103 | *.002 | 5 | DD30-202 |
| .005 | 10 | DD16-502 | *.015 | 10 | DD16-153 | 82 | 5 | DD60-820 |
| .006 | 10 | DD16-602 | 47 | 5 | DD30-470 | 100 | 5 | DD60-101 |
| .007 | 10 | DD16-702 | 100 | 5 | DD30-101 | 500 | 5 | DD60-501 |
| .0075 | 10 | DD16-752 | 470 | 5 | DD30-471 | *.001 | 5 | DD60-102 |
| | | | | | | *.0015 | 5 | DD60-152 |

**KIT NO. TCK-80** ..... List Price $40.00

Contains TCN and TCZ Temperature Compensating Tubular Hi-Kaps

| Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. | Cap. Mmf. | Qty. | Cat. No. |
|---|---|---|---|---|---|---|---|---|
| 3.3 | 2 | TCN-3R3 | 100 | 2 | TCN-100 | 6.8 | 2 | TCZ-6R8 |
| 5 | 2 | TCN-5 | 150 | 2 | TCN-150 | 10 | 2 | TCZ-10 |
| 10 | 2 | TCN-10 | 180 | 2 | TCN-180 | 12 | 2 | TCZ-12 |
| 15 | 2 | TCN-15 | 330 | 2 | TCN-330 | 15 | 2 | TCZ-15 |
| 20 | 2 | TCN-20 | 390 | 2 | TCN-390 | 18 | 2 | TCZ-18 |
| 22 | 2 | TCN-22 | 470 | 2 | TCN-470 | 20 | 2 | TCZ-20 |
| 33 | 2 | TCN-33 | 750 | 2 | TCN-750 | 22 | 2 | TCZ-22 |
| 39 | 2 | TCN-39 | .68 | 2 | TCZ-R68 | 33 | 2 | TCZ-33 |
| 47 | 2 | TCN-47 | 1 | 2 | TCZ-1 | 47 | 2 | TCZ-47 |
| 50 | 2 | TCN-50 | 1.5 | 2 | TCZ-1R5 | 50 | 2 | TCZ-50 |
| 51 | 2 | TCN-51 | 2.2 | 2 | TCZ-2R2 | 51 | 2 | TCZ-51 |
| 56 | 2 | TCN-56 | 3.3 | 2 | TCZ-3R3 | 82 | 2 | TCZ-82 |
| 82 | 2 | TCN-82 | 4.7 | 2 | TCZ-4R7 | 100 | 2 | TCZ-100 |
| | | | | | | 180 | 2 | TCZ-180 |

* MFD.

## 1000 V.D.C.W. STANDARD DISC HI-KAPS®

- The most complete line of standard disc capacitors available.
- All units 1000 VDCW—100% tested at 2000 V.D.C. except DD-6-103 and DD-203, which are 600 V.D.-C.W. 100% flash tested at 1200 V.D.C.
- All units thru .005 mmf. built to Underwriters' Labs test specifications for use in A.C. lines.
- Close tolerances — smallest available sizes.
- Triple coating of Durez phenolic insulation to give maximum breakdown strength.

| Cap. Mmf. | Cat. No. | Tol. | Diam. | Cap. Mmf. | Cat. No. | Tol. | Diam. |
|---|---|---|---|---|---|---|---|
| 3.3 | DD-3R3 | ± .5 mmf | ¼" | 350 | DD-351 | ± 20% | ¼" |
| 5 | DD-050 | ± .5 mmf | ¼" | 360 | DD-361 | ± 20% | ¼" |
| 6 | DD-060 | ± .5 mmf | ¼" | 390 | DD-391 | ± 20% | ¼" |
| 6.8 | DD-6R8 | ± .5 mmf | ¼" | 400 | DD-401 | ± 20% | ¼" |
| 7.5 | DD-7R5 | ± .5 mmf | ¼" | 470 | DD-471 | ± 20% | ¼" |
| 8 | DD-080 | ± .5 mmf | ¼" | 500 | DD-501 | ± 20% | ¼" |
| 10 | DD-100 | ± 10% | ¼" | 560 | DD-561 | ± 20% | ¼" |
| 12 | DD-120 | ± 10% | ¼" | 600 | DD-601 | ± 20% | ¼" |
| 15 | DD-150 | ± 10% | ¼" | 680 | DD-681 | ± 20% | ¼" |
| 18 | DD-180 | ± 10% | ¼" | 750 | DD-751 | ± 20% | ¼" |
| 20 | DD-200 | ± 10% | ¼" | 800 | DD-801 | ± 20% | ¼" |
| 22 | DD-220 | ± 10% | ¼" | 820 | DD-821 | ± 20% | ¼" |
| 24 | DD-240 | ± 10% | ¼" | *.0010 | DD-102 | ± 20% | ⅜" |
| 25 | DD-250 | ± 10% | ¼" | *.0012 | DD-122 | ± 20% | ⅜" |
| 27 | DD-270 | ± 10% | ¼" | *.0013 | DD-132 | ± 20% | ⅜" |
| 30 | DD-300 | ± 10% | ¼" | *.0015 | DD-152 | ± 20% | ⅜" |
| 33 | DD-330 | ± 10% | ¼" | *.0016 | DD-162 | ± 20% | ⅜" |
| 39 | DD-390 | ± 10% | ¼" | *.0018 | DD-182 | ± 20% | ⅜" |
| 47 | DD-470 | ± 10% | ¼" | *.0020 | DD-202 | ± 20% | ⅜" |
| 50 | DD-500 | ± 10% | ¼" | *.0022 | DD-222 | ± 20% | 9/16" |
| 56 | DD-560 | ± 10% | ¼" | *.0025 | DD-252 | ± 20% | 9/16" |
| 68 | DD-680 | ± 10% | ¼" | *.0027 | DD-272 | ± 20% | 9/16" |
| 75 | DD-750 | ± 10% | ¼" | *.0030 | DD-302 | ± 20% | 9/16" |
| 82 | DD-820 | ± 10% | ¼" | *.0033 | DD-332 | ± 20% | 9/16" |
| 91 | DD-910 | ± 10% | ¼" | *.0039 | DD-392 | ± 20% | 9/16" |
| 100 | DD-101 | ± 10% | ¼" | *.0040 | DD-402 | ± 20% | 9/16" |
| 120 | DD-121 | ± 10% | ¼" | *.0043 | DD-432 | ± 20% | ⅝" |
| 130 | DD-131 | ± 10% | ¼" | *.0047 | DD-472 | ± 20% | 9/16" |
| 150 | DD-151 | ± 10% | ¼" | *.0050 | DD-5022 | ± 20% | 9/16" |
| 180 | DD-181 | ± 10% | ¼" | *.0050 | DD-502 | GMV | ⅝" |
| 200 | DD-201 | ± 10% | ¼" | *.0056 | DD-562 | GMV | 9/16" |
| 220 | DD-221 | ± 20% | ¼" | *.0068 | DD-682 | GMV | ⅝" |
| 240 | DD-241 | ± 20% | ¼" | *.0075 | DD-752 | GMV | ⅝" |
| 250 | DD-251 | ± 20% | ¼" | *.01 | DD6-103 | GMV | ⅝" |
| 270 | DD-271 | ± 20% | ¼" | *.01 | DD-103 | GMV | ¾" |
| 300 | DD-301 | ± 20% | ¼" | *.01 | DD-1032 | ± 20% | ¾" |
| 330 | DD-331 | ± 20% | ¼" | *.02 | DD-203 | GMV | ⅝" |

* MFD.

**List Price All Above — $1.25 package of 5. Except ●, $1.50 per 5**

### TYPE DD2 — DUAL DISCS

| Cap. Mfd. | Tol. | Diam. | VDCW | Cat. No. | List Price Pkg. of 5 |
|---|---|---|---|---|---|
| 2 x .001 | GMV | ⅜" | 600 | DD2-102 | $2.00 |
| 2 x .0015 | GMV | 9/16" | 600 | DD2-152 | 2.00 |
| 2 x .005 | — 20% + 80% | ⅝" | 600 | DD2-502 | 2.25 |

### TYPE DD3 — PATENTED SHIELDED DUAL DISC HI-KAPS®

| Cap. Mfd. | Tol. | Diam. | VDCW | Cat. No. | List Price Each |
|---|---|---|---|---|---|
| 2 x .001 | GMV | ⅜" | 600 | DD3-102 | $0.45 |
| 2 x .0015 | GMV | ⅜" | 600 | DD3-152 | .45 |
| 2 x .002 | GMV | 9/16" | 600 | DD3-202 | .45 |
| 2 x .005 | GMV | 9/16" | 600 | DD3-502 | .50 |
| 2 x .01 | GMV | ⅝" | 600 | DD3-103 | .50 |


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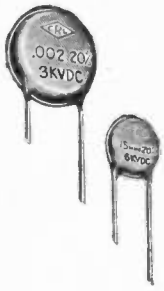
**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# CERAMIC CAPACITORS *(Cont'd)*

## 3000-6000 V. HI-VO-DISC† CAPACITORS




These new units are highly efficient for bypass-coupling in high frequency circuits under conditions of extreme humidity or temperature.

- TEMPERATURE — Maintain high capacity and performance at 85° C.
- TOLERANCES — All units, ±20%.
- VOLTAGES—DD30 Series, 3000 VDCW, 6000 VDC Test.

  DD60 Series, 6000 VDCW, 12,000 VDC Test.
- SIZES: Shown below. DD30 Series 3/16" Thick. DD60 Series 9/32" thick.

| Cap. Mmf. | Cat. No. 3000 V.D.C.W. | Size | Cat. No. 6000 V.D.C.W. | Size |
|---|---|---|---|---|
| 4.7 | DD30-4R7 | ¼" | DD60-4R7 | 9/16" |
| 6.8 | DD30-6R8 | ¼" | DD60-6R8 | 9/16" |
| 8.2 | DD30-8R2 | ¼" | DD60-8R2 | 9/16" |
| 10 | DD30-100 | ¼" | DD60-100 | 9/16" |
| 12 | DD30-120 | ¼" | DD60-120 | 9/16" |
| 15 | DD30-150 | ¼" | DD60-150 | 9/16" |
| 22 | DD30-220 | ¼" | DD60-220 | 9/16" |
| 25 | DD30-250 | ¼" | DD60-250 | 9/16" |
| 27 | DD30-270 | ¼" | DD60-270 | 9/16" |
| 30 | DD30-300 | ¼" | DD60-300 | 9/16" |
| 33 | DD30-330 | ¼" | DD60-330 | 9/16" |
| 39 | DD30-390 | ¼" | DD60-390 | 9/16" |
| 47 | DD30-470 | ¼" | DD60-470 | 9/16" |
| 50 | DD30-500 | ¼" | DD60-500 | 9/16" |
| 56 | DD30-560 | ¼" | DD60-560 | 9/16" |
| 68 | DD30-680 | ¼" | DD60-680 | 9/16" |
| 75 | DD30-750 | ¼" | DD60-750 | 9/16" |
| 82 | DD30-820 | ¼" | DD60-820 | 9/16" |
| 100 | DD30-101 | ¼" | DD60-101 | 9/16" |
| 120 | DD30-121 | ¼" | DD60-121 | 9/16" |
| 150 | DD30-151 | ¼" | DD60-151 | 9/16" |
| 180 | DD30-181 | ¼" | DD60-181 | 9/16" |
| 200 | DD30-201 | ¼" | DD60-201 | 9/16" |
| 220 | DD30-221 | ¼" | DD60-221 | 9/16" |
| 250 | DD30-251 | ¼" | DD60-251 | 9/16" |
| 270 | DD30-271 | ¼" | DD60-271 | 9/16" |
| 300 | DD30-301 | ¼" | DD60-301 | 9/16" |
| 330 | DD30-331 | ¼" | DD60-331 | 9/16" |
| 390 | DD30-391 | ¼" | DD60-391 | 9/16" |
| 400 | DD30-401 | ¼" | DD60-401 | 9/16" |
| 470 | DD30-471 | ⅜" | DD60-471 | 9/16" |
| 500 | DD30-501 | ⅜" | DD60-501 | 9/16" |
| 560 | DD30-561 | ⅜" | DD60-561 | 9/16" |
| 680 | DD30-681 | ⅜" | DD60-681 | 9/16" |
| 750 | DD30-751 | ⅜" | DD60-751 | 9/16" |
| 820 | DD30-821 | 9/16" | DD60-821 | 9/16" |
| 1000 | DD30-102 | 9/16" | DD60-102 | ¾" |
| 1200 | DD30-122 | 9/16" | DD60-122 | ¾" |
| 1500 | DD30-152 | ⅝" | DD60-152 | ¾" |
| 2000 | DD30-202 | ⅝" | DD60-202 | ⅞" |
| 2200 | DD30-222 | ⅝" | DD60-222 | ⅞" |
| 2500 | DD30-252 | ⅝" | ..... | ... |
| 2700 | DD30-272 | ¾" | ..... | ... |
| 3000 | DD30-302 | ⅞" | ..... | ... |
| 3300 | DD30-332 | ⅞" | ..... | ... |
| 3900 | DD30-392 | ⅞" | ..... | ... |
| 4700 | DD30-472 | ⅞" | ..... | ... |
| 5000 | DD30-502 | ⅞" | ..... | ... |

**List Prices — DD30 Series, $2.00 per package of 5**
**DD60 Series, $2.50 per package of 5**

## TRANSISTOR CIRCUIT CAPACITORS

Designed to meet increasing market for high capacity-low voltage ceramic capacitors in transistor circuit applications. Proven by use in transistor radio receivers. Double durez resin insulated. Stamped with capacity and voltage. Packaged 5 capacitors per package with full identifications.

### TYPE DM MIN-KAPS
### 150 V.D.C.W. — 300 V.D.C. TEST

Miniature plate capacitors 17/32" long, 7/32" wide, 7/64" thick. Triple durez insulated. Stamped with capacity. Packaged 5 units per package except DM-103, and DM2-502 which are packaged singly.

| Capacity Mfd. | Cat. No. | V.D.C.W. | Tolerance | List Price |
|---|---|---|---|---|
| .0001 | DM-101 | 150 | − 20% + 50% | $.35 |
| .0002 | DM-201 | 150 | − 20% + 50% | .35 |
| .0003 | DM-301 | 150 | − 20% + 50% | .35 |
| .0005 | DM-501 | 150 | − 20% + 50% | .35 |
| .001 | DM-102 | 150 | − 20% + 50% | .35 |
| .002 | DM-202 | 150 | − 20% + 50% | .45 |
| .003 | DM-302 | 150 | − 20% + 80% | .45 |
| .005 | DM-502 | 150 | − 20% + 80% | .45 |
| .01 | DM-103 | 150 | − 20% + 80% | .65 |
| 2 x .005 | DM2-502 | 150 | − 20% + 80% | .65 |

### MINIATURE HIGH CAPACITANCE PLATE CAPACITORS
### 30 V.D.C.W. — 50 V.D.C. TEST

| Capacity Mfd. | Cat. No. | Size Square | Size Thick | Tolerance | List Price |
|---|---|---|---|---|---|
| .02 | DA-203 | ½" | .140" | − 20% + 100% | $.40 |
| .05 | DA-503 | ½" | .160" | − 20% + 100% | .65 |
| .1 | DA-104 | ½" | .180" | − 20% + 100% | .95 |

### HIGH CAPACITANCE LOW VOLTAGE DISC CAPACITORS
### 75 V.D.C.W. — 150 V.D.C TEST

| Capacity Mfd. | Cat. No. | Diam. | Thick | Tolerance | List Price |
|---|---|---|---|---|---|
| .05 | DDA-503 | ⅝" | 5/32" | − 30% + 80% | $.50 |
| .1 | DDA-104 | ⅝" | 5/32" | − 30% + 80% | .90 |

### TYPE DDM MIN-KAP DISCS
### 150 V.D.C.W. — 300 V.D.C. TEST

Designed for applications where voltages are higher and proper safety factors will not permit the use of above lower voltage units. Durez insulated — stamped with capacity. Packaged 5 units per package.

| Capacity Mfd. | Cat. No. | Diam. | Thickness | Tolerance | List Price |
|---|---|---|---|---|---|
| .005 | DDM-502 | ⅜" | .146" | − 40% + 60% | $.50 |
| .01 | DDM-103 | ⅜" | .146" | − 40% + 60% | .50 |
| .02 | DDM-203 | ⅜" | .166" | − 40% + 60% | .90 |
| 2 x .01 | DDM2-103 | ⅜" | .166" | − 40% + 60% | .90 |

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World Radio History

# CERAMIC CAPACITORS *(Cont'd)*

## TC TEMPERATURE COMPENSATING TUBULARS

Designed especially to limit frequency drift in r.f. circuits where temperature variations are prevalent. These capacitors are constructed with a ceramic body which changes capacity as the temperature varies. 1,200 volts D.C. test; 600 volts D.C. working. Comply to JAN-C-20A specifications.

### TCZ TUBULAR HI-KAP®

All TC Hi-Kaps conform to JAN-C-20A specifications. NPO Units (JAN-CH-CJ-CK) which show zero capacitance change over temperature range—20° C. to +85° C.

| Cap. Mmf. | Tolerance | CRL Cat. No. | Size Type |
|---|---|---|---|
| .5 | ± .25 mmf. | TCZ-R5 | CC20 |
| .68 | ± .25 mmf. | TCZ-R68 | CC20 |
| 1.0 | ± .25 mmf. | TCZ-1 | CC20 |
| 1.5 | ± .25 mmf. | TCZ-1R5 | CC20 |
| 2.2 | ± .25 mmf. | TCZ-2R2 | CC20 |
| 3.3 | ± .25 mmf. | TCZ-3R3 | CC20 |
| 4.7 | ± .5 mmf. | TCZ-4R7 | CC20 |
| 6.8 | ± .5 mmf. | TCZ-6R8 | CC20 |
| 10 | ± .5 mmf. | TCZ-10 | CC20 |
| 12 | ± 2% | TCZ-12 | CC20 |
| 15 | ± 2% | TCZ-15 | CC20 |
| 18 | ± 2% | TCZ-18 | CC20 |
| 20 | ± 2% | TCZ-20 | CC20 |
| 22 | ± 2% | TCZ-22 | CC20 |
| 24 | ± 2% | TCZ-24 | CC20 |
| 25 | ± 2% | TCZ-25 | CC25 |
| 27 | ± 2% | TCZ-27 | CC25 |
| 30 | ± 2% | TCZ-30 | CC25 |
| 33 | ± 2% | TCZ-33 | CC25 |
| 36 | ± 2% | TCZ-36 | CC25 |
| 39 | ± 2% | TCZ-39 | CC25 |
| 43 | ± 2% | TCZ-43 | CC25 |
| 47 | ± 2% | TCZ-47 | CC25 |
| 50 | ± 2% | TCZ-50 | CC25 |
| 51 | ± 2% | TCZ-51 | CC25 |
| 56 | ± 2% | TCZ-56 | CC25 |
| 62 | ± 2% | TCZ-62 | CC32 |
| 68 | ± 2% | TCZ-68 | CC32 |
| 75 | ± 2% | TCZ-75 | CC32 |
| 82 | ± 2% | TCZ-82 | CC32 |
| 91 | ± 2% | TCZ-91 | CC32 |
| 100 | ± 2% | TCZ-100 | CC32 |
| 110 | ± 5% | TCZ-110 | CC35 |
| 120 | ± 5% | TCZ-120 | CC35 |
| 130 | ± 5% | TCZ-130 | CC35 |
| 150 | ± 5% | TCZ-150 | CC35 |
| 160 | ± 5% | TCZ-160 | CC45 |
| 180 | ± 5% | TCZ-180 | CC45 |
| 200 | ± 5% | TCZ-200 | CC45 |
| 220 | ± 5% | TCZ-220 | CC45 |
| 240 | ± 5% | TCZ-240 | CC45 |
| 270 | ± 5% | TCZ-270 | CC45 |
| 300 | ± 5% | TCZ-300 | CC45 |

**List Price $0.50 each**

### TCN TUBULAR HI-KAP®

N750 Units (JAN-UJ, UK) which show capacity change of minus 750 parts per million[-1a] per each degree C rise in temperature.

| Cap. Mmf. | Tolerance | CRL Cat. No. | Size Type |
|---|---|---|---|
| 3.3 | ± .5 mmf. | TCN-3R3 | CC20 |
| 5 | ± .5 mmf. | TCN-5 | CC20 |
| 10 | ± .5 mmf. | TCN-10 | CC20 |
| 12 | ± 2% | TCN-12 | CC20 |
| 15 | ± 2% | TCN-15 | CC20 |
| 18 | ± 2% | TCN-18 | CC20 |
| 20 | ± 2% | TCN-20 | CC20 |
| 22 | ± 2% | TCN-22 | CC20 |
| 24 | ± 2% | TCN-24 | CC20 |
| 25 | ± 2% | TCN-25 | CC20 |
| 27 | ± 2% | TCN-27 | CC20 |
| 30 | ± 2% | TCN-30 | CC20 |
| 33 | ± 2% | TCN-33 | CC20 |
| 36 | ± 2% | TCN-36 | CC20 |
| 39 | ± 2% | TCN-39 | CC20 |
| 43 | ± 2% | TCN-43 | CC20 |
| 47 | ± 2% | TCN-47 | CC20 |
| 50 | ± 2% | TCN-50 | CC20 |
| 51 | ± 2% | TCN-51 | CC20 |
| 56 | ± 2% | TCN-56 | CC20 |
| 62 | ± 2% | TCN-62 | CC20 |
| 68 | ± 2% | TCN-68 | CC25 |
| 75 | ± 2% | TCN-75 | CC25 |
| 82 | ± 2% | TCN-82 | CC25 |
| 91 | ± 2% | TCN-91 | CC25 |
| 100 | ± 2% | TCN-100 | CC25 |
| 110 | ± 5% | TCN-110 | CC25 |
| 120 | ± 5% | TCN-120 | CC25 |
| 130 | ± 5% | TCN-130 | CC25 |
| 150 | ± 5% | TCN-150 | CC25 |
| 160 | ± 5% | TCN-160 | CC25 |
| 180 | ± 5% | TCN-180 | CC32 |
| 200 | ± 5% | TCN-200 | CC32 |
| 220 | ± 5% | TCN-220 | CC32 |
| 240 | ± 5% | TCN-240 | CC32 |
| 270 | ± 5% | TCN-270 | CC35 |
| 300 | ± 5% | TCN-300 | CC35 |
| 330 | ± 5% | TCN-330 | CC35 |
| 360 | ± 5% | TCN-360 | CC35 |
| 390 | ± 5% | TCN-390 | CC35 |
| 430 | ± 5% | TCN-430 | CC35 |
| 470 | ± 5% | TCN-470 | CC35 |
| 510 | ± 5% | TCN-510 | CC35 |
| 560 | ± 5% | TCN-560 | CC45 |
| 620 | ± 5% | TCN-620 | CC45 |
| 680 | ± 5% | TCN-680 | CC45 |
| 750 | ± 5% | TCN-750 | CC45 |

**List Price $0.50 each**

### TCA — N330 TC UNITS

| Cap. Mmf. | Tolerance | CRL Cat. No. | Size Type |
|---|---|---|---|
| 10 | ± .5 mmf. | TCA-10 | CC20 |
| 15 | ± 2% | TCA-15 | CC20 |
| 22 | ± 2% | TCA-22 | CC20 |
| 33 | ± 2% | TCA-33 | CC20 |
| 47 | ± 2% | TCA-47 | CC25 |
| 68 | ± 2% | TCA-68 | CC25 |
| 100 | ± 2% | TCA-100 | CC32 |

**List Price Type TCA $0.50 ea.**

### TCL — N1500 TC UNITS

| Cap. Mmf. | Tolerance | CRL Cat. No. | Size Type |
|---|---|---|---|
| 10 | ± .5 mmf. | TCL-10 | CC20 |
| 15 | ± 2% | TCL-15 | CC20 |
| 22 | ± 2% | TCL-22 | CC20 |
| 33 | ± 2% | TCL-33 | CC20 |
| 47 | ± 2% | TCL-47 | CC20 |
| 68 | ± 2% | TCL-68 | CC20 |
| 100 | ± 2% | TCL-100 | CC25 |

**List Price Type TCL $0.50 ea.**

### MAXIMUM BODY DIMENSIONS

| Size | Diameter | Length | Size | Diameter | Length |
|---|---|---|---|---|---|
| CC20 | .200" | .400" | CC35 | .285" | 1.165" |
| CC25 | .200" | .690" | CC45 | .285" | 1.625" |
| CC32 | .225" | .860" | | | |

## BC HI-KAP® TUBULARS

For by-pass, coupling and general use in AM, FM, TV, Audio, or other r.f. circuits. Double coating of durez phenolic for extra protection. 85° C. plus operation. Tropicalized. 1200 volts D.C. test; 600 volts D.C. working. 5 per package.

| Cap. Mmf. | Cat. No. | Tolerance | Size | Cap. Mmf. | Cat. No. | Tolerance | Size |
|---|---|---|---|---|---|---|---|
| 3 | D6-030 | ± .5 mmf. | A | 300 | D6-301 | ± 10% | A |
| 5 | D6-050 | ± 10% | A | 330 | D6-331 | ± 10% | A |
| 10 | D6-100 | ± 10% | A | 390 | D6-391 | ± 10% | B |
| 12 | D6-120 | ± 10% | A | 400 | D6-401 | ± 10% | B |
| 15 | D6-150 | ± 10% | A | 470 | D6-471 | ± 10% | B |
| 18 | D6-180 | ± 10% | A | 500 | D6-501 | ± 10% | B |
| 20 | D6-200 | ± 10% | A | 560 | D6-561 | ± 10% | B |
| 22 | D6-220 | ± 10% | A | 600 | D6-601 | ± 10% | B |
| 25 | D6-250 | ± 10% | A | 680 | D6-681 | ± 10% | B |
| 27 | D6-270 | ± 10% | A | 750 | D6-751 | ± 20% | A |
| 33 | D6-330 | ± 10% | A | 820 | D6-821 | ± 20% | A |
| 39 | D6-390 | ± 10% | A | 1,000 | D6-102 | ± 20% | A |
| 40 | D6-400 | ± 10% | A | 1,200 | D6-122 | ± 20% | B |
| 47 | D6-470 | ± 10% | A | 1,500 | D6-152 | ± 20% | B |
| 50 | D6-500 | ± 10% | A | 1,800 | D6-182 | ± 20% | B |
| 56 | D6-560 | ± 10% | A | 2,000 | D6-202 | ± 20% | B |
| 68 | D6-680 | ± 10% | A | 2,200 | D6-222 | ± 20% | B |
| 75 | D6-750 | ± 10% | A | 2,500 | D6-252 | GMV | B |
| 82 | D6-820 | ± 10% | A | 2,700 | D6 272 | GMV | B |
| 91 | D6-910 | ± 10% | A | 3,000 | D6-302 | GMV | B |
| 100 | D6-101 | ± 10% | A | 3,300 | D6-332 | GMV | C |
| 120 | D6-121 | ± 10% | A | 4,000 | D6-402 | GMV | C |
| 150 | D6-151 | ± 10% | A | 4,700 | D6-472 | GMV | C |
| 180 | D6-181 | ± 10% | A | 5,000 | D6-502 | GMV | C |
| 200 | D6-201 | ± 10% | A | 5,600 | D6-562 | GMV | D |
| 220 | D6-221 | ± 10% | A | 6,800 | D6-682 | GMV | D |
| 250 | D6-251 | ± 10% | A | 7,500 | D6-752 | GMV | D |
| 270 | D6-271 | ± 10% | A | 10,000 | D6-103 | GMV | D |

**List Price $1.25 per package of 5**

### BODY DIMENSIONS

A = .260" diam., .500" length
B = .260" diam., .790" length
C = .250" diam., .900" length
D = .330" diam., 1.210" length


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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# CERAMIC CAPACITORS *(Cont'd)*

### TEMPERATURE COMPENSATING DISC CAPACITORS

Disc type temperature compensating ceramic capacitors widely used in temperature sensitive circuits. Type DTZ zero T.C. capacitors are recommended for applications formerly requiring micas. Type DTN negative T.C. Capacitors designed to compensate for thermal variations in industrial components in tuned circuits. Packaged 2 per package.

### TYPE DTZ — NPO OR ZERO TC DISC KI-CAPS®

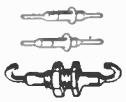
| Cap. Mmf. | Cat. No. | Tolerance | Diameter | Thickness | List Price |
|---|---|---|---|---|---|
| 1.5 | DTZ-1R5 | ± .5 mmf. | 1/4" | 5/32" | $.50 |
| 2.2 | DTZ-2R2 | ± .5 mmf. | 1/4" | 5/32" | .50 |
| 3.3 | DTZ-3R3 | ± .5 mmf. | 1/4" | 5/32" | .50 |
| 4.7 | DTZ-4R7 | ± .5 mmf. | 1/4" | 5/32" | .50 |
| 6.8 | DTZ-6R8 | ± .5 mmf. | 1/4" | 5/32" | .50 |
| 10 | DTZ-10 | ± 5% | 1/4" | 5/32" | .50 |
| 15 | DTZ-15 | ± 5% | 1/4" | 5/32" | .50 |
| 20 | DTZ-20 | ± 5% | 3/8" | 5/32" | .50 |
| 22 | DTZ-22 | ± 5% | 3/8" | 5/32" | .50 |
| 25 | DTZ-25 | ± 5% | 9/16" | 5/32" | .55 |
| 33 | DTZ-33 | ± 5% | 9/16" | 5/32" | .55 |
| 47 | DTZ-47 | ± 5% | 9/16" | 5/32" | .55 |
| 50 | DTZ-50 | ± 5% | 9/16" | 5/32" | .55 |
| 68 | DTZ-68 | ± 5% | 9/16" | 5/32" | .55 |
| 75 | DTZ-75 | ± 5% | 5/8" | 5/32" | .55 |
| 82 | DTZ-82 | ± 5% | 5/8" | 5/32" | .55 |
| 100 | DTZ-100 | ± 5% | 5/8" | 5/32" | .55 |
| 120 | DTZ-120 | ± 5% | 3/4" | 5/32" | .60 |
| 150 | DTZ-150 | ± 5% | 7/8" | 5/32" | .60 |
| 180 | DTZ-180 | ± 5% | 5/8" | 5/32" | .70 |
| 200 | DTZ-200 | ± 5% | 5/8" | 5/32" | .70 |
| 220 | DTZ-220 | ± 5% | 5/8" | 5/32" | .70 |
| 270 | DTZ-270 | ± 5% | 7/8" | 5/32" | .80 |

### TYPE DTN — N750 TC DISC HI-KAPS®

| Cap. Mmf. | Cat. No. | Tolerance | Diameter | Thickness |
|---|---|---|---|---|
| 5 | DTN-5 | ± .5 mmf. | 1/4" | 5/32" |
| 10 | DTN-10 | ± .5 mmf. | 1/4" | 5/32" |
| 15 | DTN-15 | ± 5% | 1/4" | 5/32" |
| 20 | DTN-20 | ± 5% | 1/4" | 5/32" |
| 22 | DTN-22 | ± 5% | 1/4" | 5/32" |
| 25 | DTN-25 | ± 5% | 1/4" | 5/32" |
| 33 | DTN-33 | ± 5% | 1/4" | 5/32" |
| 47 | DTN-47 | ± 5% | 3/8" | 5/32" |
| 68 | DTN-68 | ± 5% | 3/8" | 5/32" |
| 75 | DTN-75 | ± 5% | 9/16" | 5/32" |
| 100 | DTN-100 | ± 5% | 9/16" | 5/32" |
| 150 | DTN-150 | ± 5% | 9/16" | 5/32" |
| 200 | DTN-200 | ± 5% | 5/8" | 5/32" |
| 220 | DTN-220 | ± 5% | 5/8" | 5/32" |
| 330 | DTN-330 | ± 5% | 3/4" | 5/32" |

**List Price $0.50 each**

### CERAMIC FEED THRU HI-CAPS® TYPES FT AND MFT



Type FT bushing-mounted capacitors for high-frequency circuits needing both feed-thru and ground to either chassis or shield. Lead inductance virtually eliminated. Type MFT Miniature Eyelet Feed-Thru is condensed for ultra-high-frequency applications where space is at a premium. Both styles, 500 V.D.C.W., 1,000 V.D.C. test.

| Cap. Mmf. | CRL Cat. No. | Tolerance |
|---|---|---|
| 500 | FT-500 | ± 20% |
| 1,000 | FT-1000 | ± 20% |
| 1,500 | FT-1500 | − 20% + 50% |
| 1,800 | FT-1800 | − 20% + 50% |
| 2,300 | FT-2300 | − 20% + 50% |

**List Price $1.00 each**

| Cap. Mmf. | CRL Cat. No. | Tolerance |
|---|---|---|
| 50 | MFT-50 | ± 10% |
| 100 | MFT-100 | ± 10% |
| 500 | MFT-500 | ± 20% |
| 1,000 | MFT-1,000 | GMV |

**List Price $0.50 each**

### HI-VO-KAPS†

Combine high voltage, small size and a variety of terminal connections to fit virtually any high voltage or television application. Fixed and attachable terminal units available in capacity tolerance of −20 to +50%. Units are rated in D.C. volts.

| Cat. No. | TERMINATION | Working Voltage | Test Voltage | Cap. mmf. | List Price |
|---|---|---|---|---|---|
| TV1-503 | Fixed—2 Rod | 30K | 48K | 500 | $3.30 |
| TV8-503 | Fixed—Male thread | 30K | 48K | 500 | 3.30 |
| TV-20 | None—threaded for attachable terminals | 20K | 40K | 500 | 1.50 |

### ATTACHABLE TERMINALS AVAILABLE

**Packaged in quantities of five (5) $0.50**

TX-1—Plain Slotted Rod
TX-2—6-32 Female Tap
TX-3—6-32 Male Thread
TX-4—Short 8-32 Male Thread
TX-5—Long 8-32 Male Thread

### HI-VO-KAP† KITS

KIT TV-207—1 TV-20, 7 asst. terminals .....LIST $1.85
KIT TVK-5-50—5 TV-20's, 50 asst. terminals of all 5 types....LIST 9.17
†Ceramic Capacitors

The Centralab Ultra-Kap* is a ceramic disc capacitor engineered specifically for by-pass and coupling applications in transitor circuitry or other low voltage uses. All units are rated at 3 volts D.C. working. The capacitors are durez insulated and have tinned copper #22 wire leads.

PACKAGED 2 capacitors per package with full identification.

| Cat. No. | Cap. MFD. | Tol. | Dia. | Thick. | List Price |
|---|---|---|---|---|---|
| UK-224 | .22 | GMV | 1/4" | .156 | $.55 |
| UK-474 | .47 | GMV | 3/8" | .156 | .55 |
| UK-105 | 1.0 | GMV | 9/16" | .156 | .75 |
| UK-225 | 2.2 | GMV | 3/4" | .156 | .90 |

*Trademark

### TYPE DF FLAT HI-KAPS®
### 600 V.D.C.W. — 1200 V.D.C. TEST

High capacity, low mass weight, unusual thinness, plus inherent Centralab ceramic capacitor stability make these units extremely popular both as bypass and filter capacitors. Compare the size — compare the guarantee of performance. No. 20 tinned wire leads.

Packed 1 per package.

| Cap Mfd. | Cat. No. | Tolerance | Max. Dimensions | List Price |
|---|---|---|---|---|
| .1 | DF-104 | + 80 − 20% | 1 7/16" x 15/16" x 19/64" | $0.80 |
| .075 | DF-753 | GMV | 1 7/16" x 15/16" x 19/64" | .80 |
| .05 | DF-503 | GMV | 1 7/16" x 15/16" x 7/32" | .70 |
| .04 | DF-403 | GMV | 1 7/16" x 15/16" x 7/32" | .70 |
| .03 | DF-303 | GMV | 1 7/16" x 15/16" x 7/32" | .70 |

### TYPE DD16 BUFFERS

1600 V.D.C.W., 3000 V.D.C. Test — Originally designed for use in electric shavers, these units have wide acceptance for use as buffers in auto radio sets, as they are totally unaffected by heat, humidity or vibration. Meet U.L.-A.C. requirements.

| Cap. Mf. | Cat. No. | Tolerance | Diam. | Thick. | List Price Pkg. of 5 |
|---|---|---|---|---|---|
| .003 | DD16-302 | GMV | 7/8" | 5/32" | $1.75 |
| .004 | DD16-402 | GMV | 7/8" | 5/32" | 1.75 |
| .005 | DD16-502 | GMV | 7/8" | 5/32" | 1.75 |
| .006 | DD16-602 | GMV | 7/8" | 5/32" | 1.75 |
| .007 | DD16-702 | GMV | 7/8" | 5/32" | 1.75 |
| .0075 | DD16-752 | GMV | 7/8" | 5/32" | 1.75 |
| .008 | DD16-802 | GMV | 7/8" | 5/32" | 1.75 |
| .01 | DD16-103 | GMV | 7/8" | 5/32" | 1.75 |
| .015 | DD16-153 | − 20% + 80% | 7/8" | 1/4" | 3.00 |

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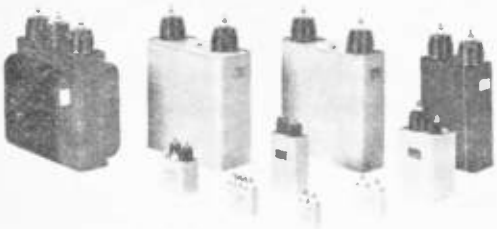
World Radio History

# CAPACITORS
## for
## Radio-Electronic Applications



### Pulse-forming Networks, Type E, and Pulse Capacitors

For radar and industrial equipment where the normal (exponential) discharge shape is not suitable and where an impulse having a definite energy content and duration is required.

The Type E network consists of one or more capacitor sections and the same number of inductance-coil sections. General Electric pioneered in the development of mineral-oil-treated paper-dielectric capacitor networks for air, sea, and land radar, and is a prime supplier for the government services. Products supplied vary from the miniature types used with aircraft and guided missiles to the large designs for land-based radar.

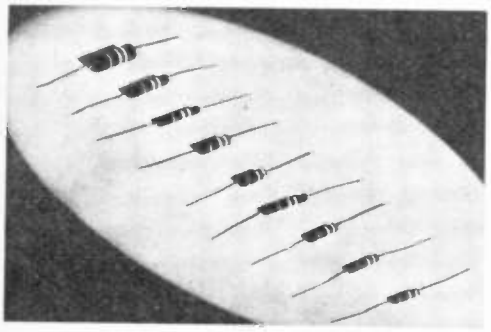
**Write for Bulletin GEA-4996**

### Oscillator-tank-circuit Capacitor

Class HFP, series 300, high-frequency, liquid-filled, parallel-plate capacitors have been specifically designed for use in the resonant circuit, or "tank-circuit" of high-frequency electronic oscillators, such as those used in electronic-heater equipments. The unique synthetic liquid dielectric, Lectronol, coupled with an improved water-cooled design, permits an unusually compact assembly whose case measures 9 by 9 by 9 inches. This results in high current rating per unit volume. Designers find these smaller, low-loss units contribute materially to more compact, powerful, and efficient heaters. The capacitor, when connected in parallel with an inductance coil, constitutes the resonant circuit which determines the frequency of the oscillator.

These units are built in a standard size which is convenient to handle and install. They are available in ratings which will meet most requirements.

**Write for Bulletin GEC-1482**



### Molded PVZ* Tubular Capacitors

General Electric molded PVZ tubular capacitors have applications in computers, missiles, telephone equipment, and other high-grade military and commercial electronic equipment. Ratings: 100 to 400 volts d-c. Can be supplied from 0.00047 to 0.022 $\mu$f in the 400-volt range and from 0.00047 to 0.15 $\mu$f in the 100-volt range. Tolerances: $\pm 5\%$, $\pm 10\%$, $\pm 20\%$. Temperature range is from —55C to +125C.

**Write for Bulletin GEC-1452**

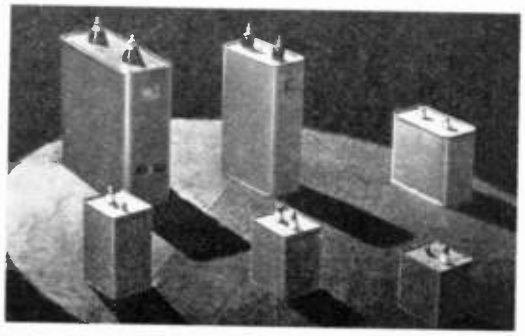
* Registered trade-mark of General Electric Co.

### Energy-storage Discharge Capacitors

G-E light-duty energy-storage capacitors are made in a wide range of ratings to fit practically every requirement of high-speed flash photography, as well as home and industrial welders for light metals. Careful construction, high-quality materials, and skillful design contribute to long life and efficient operation.

Large banks of capacitors can be furnished for energy storage and discharge service. Each application requires study for most economical design

**Write for Bulletin GEC-1357**





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World Radio History

# CAPACITORS
## for
## Radio-Electronic Applications

### Tantalytic* Capacitors for 125 C Operation

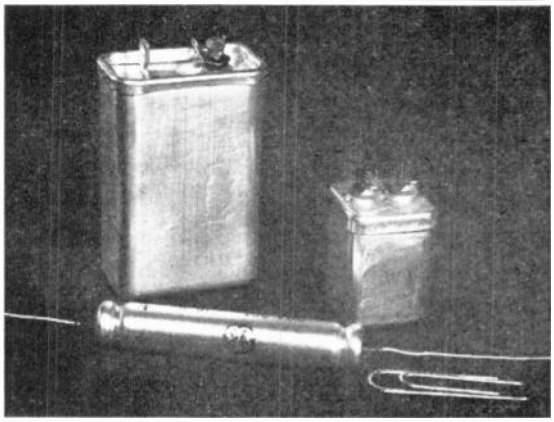
For high-temperature service, General Electric offers three types of Tantalytic capacitors: the cylindrical double-case design, the standard rectangular design, and the KSR† Tantalytic unit for maximum microfarad values in minimum size and weight. These units (polar or nonpolar, with plain or etched foil) can operate from −55 C to +125 C without derating.

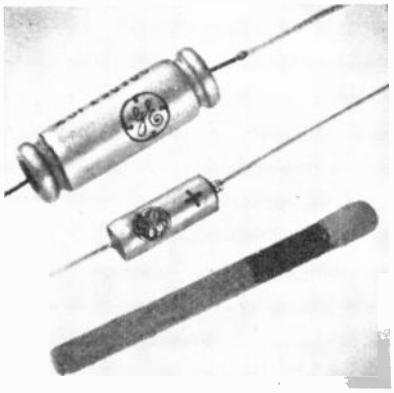
This combination provides unequalled choice of ratings with up to 100 volts d-c, and microfarad values from 0.25 to 3500 (depending on type and voltage) in a single case. Capacitors are foil type with liquid-electrolyte.

Write for Bulletins GEA-6258, GEA-6766.

* Registered trade-mark of the General Electric Co.

† Trade-mark of the General Electric Co.





### Tantalytic Capacitors for 85 C Operation

These capacitors have lower leakage current, longer shelf life, and a wider range of temperature operation (−55 C to +85 C), without derating, than the conventional aluminum electrolytic capacitor.

The liquid-electrolyte type (larger unit) is available in polar or nonpolar form with plain or etched foil. They are available up to 150 volts d-c with microfarad values from 0.5 to 580 microfarads.

The solid Tantalytic capacitor is a miniature unit with voltage rating up to 50 volts d-c. Its small size makes it ideal for low-voltage polar applications. In addition, the solid Tantalytic unit has stability of characteristics and improved low-temperature performance previously unobtainable.

Write for Bulletin GEC-808.

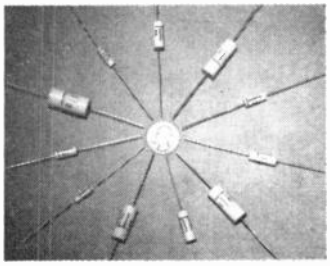
Write for solid Tantalytic bulletin by name.

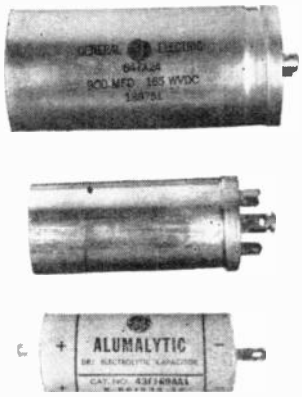
### Lectrofilm†—B Tubular Capacitors

A new line of low-cost, high-reliability capacitors for military and commercial use, these nonmetallic-cased, polyester-film dielectric units are designed for a minimum 5-year life in a variety of electronic applications where size, weight, cost, and reliability give them an advantage over metal-clad tubulars or molded-case units. Minimum insulation resistance at 85 C is 10,000 megohms. They are rated at 100 to 600 volts d-c from −55 C to +85 C, and 50 to 400 volts d-c up to 125 C. Capacitance ranges from 0.001 to 0.68 microfarads.

Write for Bulletin GEC-1518.

† Trade-mark of the General Electric Co.






### D-C Alumalytic† Capacitors

For radio, television, and other communciations equipment, General Electric offers quality aluminum electrolytic capacitors in a variety of ratings and sizes to meet most industry needs.

The "twist-tab" and "bayonet-pin" styles have voltage ratings from 10 to 450 volts d-c at 5 to 500 microfarads. The tubular units, single or dual section, with a choice of leads and terminals, are available at 3 to 450 volts d-c and 5 to 300 microfarads.

Computer grade Alumalytic capacitors offer extremely high capacitance per unit volume. Ratings are from 5 to 450 volts d-c and 10 to 60,000 microfarads. These high quality filter capacitors are designed for computer circuits where reliability and long operating life are essential at temperatures from −20 C to +65 C.

Write for Bulletins GEZ-1912, GEA-6819.

† Trade-mark of the General Electric Co.

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World Radio History

## TYPE TM TWIST-MOUNT ELECTROLYTIC CAPACITORS

Designed for 85° C. operation. Type TM available in single-, dual-, triple-, and quadruple-capacitor units. Assembled in aluminum containers providing maximum protection against moisture. Easy to mount: supplied complete with metal and Bakelite mounting plates. Low leakage. Long shelf life. Extremely compact. Highly dependable. For use in applications where high temperatures, voltage surges, and ripple currents are encountered; as in radio and television receivers, amplifiers, and similar equipment.

### TM SINGLE-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches D x L |
|---|---|---|
| **6 VOLTS DC WORKING** | | |
| TMS-1 | 1,000. | 1⅜ x 2 |
| TMS-2 | 2,000. | 1⅜ x 2 |
| **10 VOLTS DC WORKING** | | |
| TMS-3 | 3,000. | 1⅜ x 2½ |
| **15 VOLTS DC WORKING** | | |
| TMS-4 | 1,000. | 1 x 2½ |
| TMS-5 | 2,000. | 1⅜ x 2½ |
| TMS-6 | 3,000. | 1⅜ x 3 |
| TMS-7 | 4,000. | 1⅜ x 3½ |
| **25 VOLTS DC WORKING** | | |
| TMS-8 | 50. | 1 x 2 |
| TMS-9 | 100. | 1 x 2 |
| TMS-73 | 250. | 1 x 2 |
| TMS-10 | 500. | 1 x 2½ |
| TMS-11 | 1,000. | 1⅜ x 2 |
| **50 VOLTS DC WORKING** | | |
| TMS-12 | 100. | 1 x 2 |
| TMS-13 | 150. | 1 x 2 |
| TMS-14 | 250. | 1 x 2½ |
| TMS-15 | 500. | 1⅜ x 2 |
| TMS-16 | 1,000. | 1⅜ x 3½ |
| **150 VOLTS DC WORKING** | | |
| TMS-17 | 20. | 1 x 2 |
| TMS-18 | 30. | 1 x 2 |
| TMS-19 | 40. | 1 x 2 |
| TMS-20 | 50. | 1 x 2 |
| TMS-21 | 80. | 1 x 2 |
| TMS-22 | 100. | 1 x 2 |
| TMS-23 | 120. | 1 x 2½ |
| TMS-24 | 140. | 1 x 3 |
| TMS-25 | 150. | 1 x 3 |
| TMS-26 | 200. | 1⅜ x 2½ |
| TMS-27 | 300. | 1⅜ x 3 |
| **250 VOLTS DC WORKING** | | |
| TMS-74 | 5. | 1 x 2 |
| TMS-28 | 15. | 1 x 2 |
| TMS-29 | 20. | 1 x 2 |
| TMS-30 | 30. | 1 x 2 |
| TMS-31 | 40. | 1 x 2 |
| TMS-32 | 60. | 1 x 2½ |
| TMS-33 | 80. | 1 x 3 |
| TMS-34 | 150. | 1⅜ x 2½ |
| TMS-75 | 200. | 1⅜ x 3½ |
| **300 VOLTS DC WORKING** | | |
| TMS-35 | 15. | 1 x 2 |
| TMS-36 | 30. | 1 x 2 |
| TMS-37 | 40. | 1 x 2½ |
| TMS-38 | 50. | 1 x 2½ |
| TMS-39 | 80. | 1 x 3 |
| TMS-40 | 100. | 1 x 3 |
| TMS-41 | 125. | 1⅜ x 3 |
| TMS-42 | 150. | 1⅜ x 3 |
| **350 VOLTS DC WORKING** | | |
| TMS-43 | 15. | 1 x 2 |
| TMS-44 | 30. | 1 x 2½ |
| TMS-45 | 40. | 1 x 2½ |
| TMS-46 | 50. | 1 x 3 |
| TMS-47 | 80. | 1⅜ x 3½ |
| TMS-48 | 125. | 1⅜ x 3 |
| **400 VOLTS DC WORKING** | | |
| TMS-49 | 10. | 1 x 2 |
| TMS-50 | 20. | 1 x 2 |
| TMS-51 | 40. | 1 x 3 |
| TMS-52 | 80. | 1⅜ x 2½ |
| **450 VOLTS DC WORKING** | | |
| TMS-53 | 10. | 1 x 2 |
| TMS-54 | 15. | 1 x 2 |
| TMS-55 | 20. | 1 x 2 |
| TMS-56 | 30. | 1 x 2½ |
| TMS-57 | 40. | 1 x 3 |
| TMS-58 | 50. | 1 x 3 |
| TMS-59 | 60. | 1⅜ x 2½ |
| TMS-60 | 80. | 1⅜ x 3 |
| TMS-61 | 100. | 1⅜ x 3 |
| TMS-62 | 150. | 1⅜ x 4 |
| **500 VOLTS DC WORKING** | | |
| TMS-66 | 10. | 1 x 2 |
| TMS-67 | 20. | 1 x 2½ |
| TMS-68 | 30. | 1 x 3 |
| TMS-69 | 40. | 1 x 3½ |
| TMS-70 | 80. | 1⅜ x 3½ |
| TMS-71 | 90. | 1⅜ x 3½ |
| **525 VOLTS DC WORKING** | | |
| TMS-72 | 10. | 1 x 2 |

### TM DUAL-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches D x L |
|---|---|---|
| **10 VOLTS DC WORKING** | | |
| TMD-1 | 1,000-500 | 1⅜x2 |
| **15 VOLTS DC WORKING** | | |
| TMD-1 | 1,000-1,000 | 1 x3 |
| **25 VOLTS DC WORKING** | | |
| TMD-3 | 40-40 | 1 x2 |
| TMD-4 | 150-50 | 1 x2 |
| **50 VOLTS DC WORKING** | | |
| TMD-5 | 50-50 | 1 x2 |
| **150 VOLTS DC WORKING** | | |
| TMD-6 | 20-20 | 1 x2 |
| TMD-7 | 30-15 | 1 x2 |
| TMD-8 | 30-30 | 1 x2 |
| TMD-9 | 40-20 | 1 x2 |
| TMD-10 | 40-30 | 1 x2 |
| TMD-11 | 40-40 | 1 x2 |
| TMD-12 | 50-30 | 1 x2 |
| TMD-13 | 50-50 | 1 x2 |
| TMD-14 | 60-20 | 1 x2 |
| TMD-15 | 60-60 | 1 x2½ |
| TMD-16 | 80-40 | 1 x2½ |
| TMD-18 | 80-80 | 1 x3 |
| TMD-17 | 80-50 | 1 x2½ |
| TMD-87 | 100-30 | 1⅜x2½ |
| TMD-19 | 100-100 | 1⅜x2½ |
| TMD-20 | 200-125 | 1⅜x3 |
| TMD-21 | 200-200 | 1⅜x3 |
| **200 VOLTS DC WORKING** | | |
| TMD-22 | 60-60 | 1⅜x2 |
| **250 VOLTS DC WORKING** | | |
| TMD-23 | 10-10 | 1 x2 |
| TMD-24 | 20-20 | 1 x2 |
| TMD-25 | 30-30 | 1 x2 |
| TMD-26 | 40-20 | 1 x2½ |
| TMD-27 | 40-40 | 1 x3 |
| TMD-28 | 150-150 | 1⅜x4 |
| TMD-88 | 200-200 | 1⅜x4 |
| **300 VOLTS DC WORKING** | | |
| TMD-29 | 20-20 | 1 x2 |
| TMD-30 | 30-30 | 1⅜x2½ |
| TMD-31 | 40-40 | 1⅜x2½ |
| TMD-32 | 60-60 | 1⅜x2½ |
| TMD-104 | 80-40 | 1⅜x3 |
| TMD-33 | 80-80 | 1⅜x3 |
| TMD-34 | 120-20 | 1⅜x3 |
| **350 VOLTS DC WORKING** | | |
| TMD-35 | 20-20 | 1 x2½ |
| TMD-36 | 30-20 | 1 x3 |
| TMD-37 | 30-30 | 1 x3 |
| TMD-38 | 40-40 | 1⅜x2½ |
| TMD-39 | 50-30 | 1⅜x2½ |
| TMD-40 | 80-80 | 1⅜x3 |
| TMD-89 | 100-80 | 1⅜x3½ |
| TMD-90 | 160-10 | 1⅜x3½ |
| **400 VOLTS DC WORKING** | | |
| TMD-41 | 15-15 | 1 x2 |
| TMD-42 | 30-10 | 1 x2 |
| TMD-43 | 40-40 | 1⅜x3 |
| TMD-44 | 60-60 | 1⅜x3 |
| TMD-45 | 80-10 | 1⅜x3 |
| TMD-91 | 120-40 | 1⅜x4 |
| **450 VOLTS DC WORKING** | | |
| TMD-46 | 4-4 | 1 x2 |
| TMD-47 | 10-10 | 1 x2 |
| TMD-48 | 15-15 | 1 x2½ |
| TMD-49 | 20-10 | 1 x2½ |
| TMD-50 | 20-20 | 1 x3 |
| TMD-51 | 30-10 | 1 x3 |
| TMD-52 | 30-30 | 1⅜x2½ |
| TMD-53 | 40-20 | 1⅜x2½ |
| TMD-54 | 40-40 | 1⅜x3 |
| TMD-55 | 60-20 | 1⅜x3 |
| TMD-56 | 60-40 | 1⅜x3 |
| TMD-57 | 80-10 | 1⅜x3 |
| TMD-58 | 80-40 | 1⅜x3½ |
| TMD-59 | 80-80 | 1⅜x4 |
| **500 VOLTS DC WORKING** | | |
| TMD-60 | 10-10 | 1 x2½ |
| TMD-61 | 20-20 | 1⅜x2½ |
| TMD-92 | 40-10 | 1⅜x3 |
| TMD-62 | 40-40 | 1⅜x3½ |
| TMD-63 | 60-40 | 1⅜x3½ |
| TMD-93 | 80-50 | 1⅜x3½ |

### TM DUAL MIXED SECTIONS

| Stock Number | Cap. in UF | Volts DC Working | Inches D x L |
|---|---|---|---|
| TMD-64 | 250-1,000 | 10-6 | 1⅜x2 |
| TMD-94 | 50-500 | 150-5 | 1 x3 |
| TMD-65 | 50-150 | 150-25 | 1 x2 |
| TMD-66 | 40-20 | 150-50 | 1 x2 |
| TMD-67 | 40-20 | 250-25 | 1 x2 |
| TMD-68 | 40-25 | 250-50 | 1 x2 |
| TMD-69 | 100-150 | 250-50 | 1⅜x3 |
| TMD-96 | 200-5 | 300-150 | 1⅜x3 |
| TMD-97 | 60-10 | 300-200 | 1 x3 |
| TMD-98 | 20-60 | 300-250 | 1 x3 |
| TMD-70 | 20-20 | 350-25 | 1 x2 |
| TMD-71 | 40-20 | 350-25 | 1 x2½ |
| TMD-99 | 40-100 | 400-50 | 1 x3½ |
| TMD-100 | 60-80 | 400-250 | 1⅜x3½ |
| TMD-72 | 10-20 | 450-25 | 1 x2 |
| TMD-73 | 20-20 | 450-25 | 1 x2 |
| TMD-74 | 40-20 | 450-25 | 1 x3 |
| TMD-75 | 80-20 | 450-25 | 1⅜x3 |
| TMD-101 | 20-25 | 450-50 | 1 x2½ |
| TMD-76 | 80-50 | 450-50 | 1⅜x3 |
| TMD-102 | 100-50 | 450-50 | 1⅜x3 |
| TMD-77 | 20-100 | 450-100 | 1⅜x2½ |
| TMD-78 | 30-40 | 450-150 | 1⅜x2 |
| TMD-103 | 20-200 | 450-250 | 1⅜x3 |
| TMD-79 | 20-80 | 450-350 | 1⅜x3 |
| TMD-80 | 40-10 | 450-350 | 1⅜x2 |
| TMD-81 | 80-50 | 500-50 | 1⅜x3½ |
| TMD-82 | 60-80 | 500-150 | 1⅜x3½ |
| TMD-83 | 40-50 | 500-200 | 1⅜x2½ |
| TMD-84 | 15-20 | 500-300 | 1 x2½ |
| TMD-85 | 20-100 | 500-300 | 1⅜x3 |

### TM TRIPLE-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches D x L |
|---|---|---|
| **25 VOLTS DC WORKING** | | |
| TMT-1 | 20-20-20 | 1 x2 |
| TMT-2 | 40-40-40 | 1 x2 |
| **50 VOLTS DC WORKING** | | |
| TMT-3 | 30-30-30 | 1 x2 |
| **150 VOLTS DC WORKING** | | |
| TMT-4 | 20-20-20 | 1 x2 |
| TMT-5 | 30-30-10 | 1 x2 |
| TMT-6 | 40-20-10 | 1 x2 |
| TMT-7 | 40-20-20 | 1 x2 |
| TMT-8 | 40-30-20 | 1 x2 |
| TMT-9 | 40-40-40 | 1 x2½ |
| TMT-162 | 50-40-10 | 1 x2⅛ |
| TMT-10 | 50-50-50 | 1 x3 |
| TMT-11 | 60-40-20 | 1 x2½ |
| TMT-12 | 70-40-40 | 1 x3 |
| TMT-13 | 80-40-20 | 1 x2½ |
| TMT-14 | 80-80-80 | 1⅜x3 |
| TMT-15 | 120-80-40 | 1⅜x3 |
| TMT-163 | 120-120-40 | 1⅜x3½ |
| **250 VOLTS DC WORKING** | | |
| TMT-16 | 15-15-10 | 1 x2 |
| TMT-17 | 20-20-10 | 1 x2 |
| TMT-18 | 30-20-10 | 1 x2½ |
| TMT-19 | 40-20-10 | 1⅜x2 |
| TMT-20 | 40-20-20 | 1 x3 |
| TMT-21 | 80-80-60 | 1⅜x3½ |
| **300 VOLTS DC WORKING** | | |
| TMT-22 | 10-10-10 | 1 x2 |
| TMT-23 | 40-40-40 | 1⅜x3 |
| TMT-24 | 60-20-10 | 1⅜x2½ |
| TMT-25 | 80-20-10 | 1⅜x2½ |
| TMT-26 | 120-60-40 | 1⅜x4 |
| **350 VOLTS DC WORKING** | | |
| TMT-27 | 10-10-10 | 1 x2 |
| TMT-28 | 20-20-10 | 1 x3 |
| TMT-29 | 60-40-20 | 1⅜x3 |
| TMT-30 | 80-60-60 | 1⅜x4 |
| TMT-164 | 90-40-20 | 1⅜x4 |
| TMT-165 | 100-100-10 | 1⅜x4 |
| **400 VOLTS DC WORKING** | | |
| TMT-31 | 10-10-10 | 1 x2½ |
| **450 VOLTS DC WORKING** | | |
| TMT-32 | 10-10-10 | 1 x2½ |
| TMT-33 | 15-15-10 | 1 x3 |
| TMT-34 | 20-20-20 | 1⅜x2½ |
| TMT-35 | 30-30-30 | 1⅜x3½ |
| TMT-36 | 40-10-10 | 1⅜x3 |
| TMT-37 | 40-30-20 | 1⅜x3 |
| TMT-38 | 40-40-10 | 1⅜x3 |
| TMT-39 | 40-40-20 | 1⅜x3 |
| TMT-40 | 40-40-40 | 1⅜x3½ |
| TMT-41 | 60-20-20 | 1⅜x3½ |
| TMT-42 | 60-30-10 | 1⅜x3 |
| TMT-43 | 80-40-20 | 1⅜x4 |
| **500 VOLTS DC WORKING** | | |
| TMT-45 | 10-10-10 | 1 x3 |
| TMT-46 | 30-30-30 | 1⅜x3 |
| TMT-47 | 40-10-10 | 1⅜x3 |
| TMT-48 | 40-40-10 | 1⅜x4 |



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## TM TRIPLE MIXED SECTIONS

| Stock Number | Cap. in UF | Volts Dc Working | Inches D x L |
|---|---|---|---|
| TMT-49 | 100-50-25 | 100-25-25 | 1 x3 |
| TMT-50 | 20-250-100 | 150-15-15 | 1⅜x2 |
| TMT-51 | 40-25-130 | 150-25-15 | 1 x3 |
| TMT-166 | 15-15-1200 | 150-150-2 | 1 x2 |
| TMT-52 | 30-20-100 | 150-150-10 | 1 x2 |
| TMT-53 | 30-30-200 | 150-150-10 | 1 x2 |
| TMT-54 | 40-20-250 | 150-150-10 | 1 x2 |
| TMT-168 | 90-40-400 | 150-150-10 | 1 x3 |
| TMT-55 | 20-20-20 | 150-150-25 | 1 x2 |
| TMT-56 | 30-30-20 | 150-150-25 | 1 x2 |
| TMT-57 | 40-20-20 | 150-150-25 | 1 x2 |
| TMT-58 | 40-20-100 | 150-150-25 | 1 x2 |
| TMT-59 | 40-200-200 | 150-150-25 | 1 x2½ |
| TMT-60 | 40-30-20 | 150-150-25 | 1 x2 |
| TMT-61 | 40-40-20 | 150-150-25 | 1 x2 |
| TMT-169 | 40-40-200 | 150-150-25 | 1 x3 |
| TMT-62 | 50-30-20 | 150-150-25 | 1 x2 |
| TMT-63 | 50-30-100 | 150-150-25 | 1 x2½ |
| TMT-64 | 50-50-20 | 150-150-25 | 1 x2½ |
| TMT-65 | 60-20-20 | 150-150-25 | 1 x2 |
| TMT-66 | 60-40-20 | 150-150-25 | 1 x2½ |
| TMT-67 | 80-40-20 | 150-150-25 | 1 x2½ |
| TMT-170 | 100-40-300 | 150-150-25 | 1⅜x2½ |
| TMT-68 | 120-60-20 | 150-150-25 | 1⅜x2½ |
| TMT-171 | 60-140-200 | 200-150-150 | 1⅜x4 |
| TMT-69 | 30-20-20 | 200-200-25 | 1 x2 |
| TMT-172 | 60-5-20 | 200-200-50 | 1 x3 |
| TMT-70 | 100-10-40 | 200-200-50 | 1⅜x2 |
| TMT-71 | 80-40-50 | 250-150-50 | 1⅜x2½ |
| TMT-72 | 15-15-20 | 250-250-25 | 1 x2 |
| TMT-73 | 20-15-20 | 250-250-25 | 1 x2 |
| TMT-74 | 30-30-20 | 250-250-20 | 1 x3 |
| TMT-75 | 70-70-20 | 250-250-50 | 1⅜x3 |
| TMT-173 | 90-90-20 | 250-250-50 | 1⅜x3 |
| TMT-76 | 40-20-10 | 250-250-150 | 1⅜x2 |
| TMT-77 | 100-60-20 | 300-150-25 | 1⅜x3 |
| TMT-174 | 100-200-60 | 300-150-150 | 1⅜x4 |
| TMT-78 | 30-30-20 | 300-250-25 | 1 x3 |
| TMT-175 | 200-60-20 | 300-250-250 | 1⅜x4 |
| TMT-79 | 20-20-20 | 300-300-25 | 1 x2½ |
| TMT-80 | 40-15-20 | 300-300-25 | 1 x2½ |
| TMT-81 | 30-30-25 | 300-300-50 | 1 x3 |
| TMT-176 | 100-10-60 | 300-300-50 | 1⅜x2½ |
| TMT-177 | 140-10-200 | 300-300-150 | 1⅜x4½ |
| TMT-82 | 10-10-15 | 300-300-250 | 1 x2 |
| TMT-178 | 4-100-40 | 350-25-25 | 1 x2 |
| TMT-83 | 20-50-100 | 350-100-75 | 1 x3 |
| TMT-179 | 125-5-100 | 350-200-75 | 1⅜x3½ |
| TMT-84 | 10-50-100 | 350-150-50 | 1 x3 |
| TMT-85 | 50-10-500 | 350-250-5 | 1⅜x2½ |
| TMT-86 | 30-20-10 | 350-350-250 | 1 x3 |
| TMT-180 | 10-80-25 | 350-300-25 | 1 x3½ |
| TMT-87 | 30-30-20 | 350-300-25 | 1 x3 |
| TMT-181 | 40-40-30 | 350-300-250 | 1⅜x2½ |
| TMT-88 | 10-10-20 | 350-350-25 | 1 x2 |
| TMT-89 | 15-10-20 | 350-350-25 | 1 x2 |
| TMT-90 | 15-15-20 | 350-350-25 | 1 x2 |
| TMT-91 | 20-10-20 | 350-350-25 | 1 x2 |
| TMT-92 | 20-20-20 | 350-350-25 | 1 x2½ |
| TMT-93 | 30-10-20 | 350-350-25 | 1 x2½ |
| TMT-94 | 30-20-20 | 350-350-25 | 1 x3 |
| TMT-95 | 30-30-20 | 350-350-25 | 1⅜x2 |
| TMT-96 | 40-40-25 | 350-350-25 | 1⅜x2½ |
| TMT-97 | 40-40-50 | 350-350-25 | 1⅜x2½ |
| TMT-182 | 90-40-50 | 350-350-25 | 1⅜x3½ |
| TMT-98 | 10-5-150 | 350-350-50 | 1 x3 |
| TMT-183 | 20-5-30 | 350-350-50 | 1 x2 |
| TMT-184 | 150-4-30 | 350-350-50 | 1⅜x3½ |
| TMT-99 | 40-20-10 | 350-350-150 | 1 x3 |
| TMT-100 | 30-10-20 | 350-350-250 | 1 x3 |
| TMT-101 | 60-40-20 | 400-300-25 | 1⅜x3½ |
| TMT-102 | 10-40-10 | 400-300-150 | 1⅜x2 |
| TMT-103 | 80-20-10 | 400-300-300 | 1⅜x3½ |
| TMT-104 | 10-50-30 | 400-350-25 | 1 x3 |
| TMT-105 | 15-15-40 | 400-400-25 | 1 x2½ |
| TMT-106 | 20-20-20 | 400-400-25 | 1 x3 |
| TMT-107 | 20-20-20 | 400-400-50 | 1 x3 |
| TMT-108 | 30-10-150 | 400-400-50 | 1⅜x2½ |
| TMT-185 | 40-10-200 | 400-400-50 | 1⅜x3½ |
| TMT-109 | 80-40-150 | 400-400-50 | 1⅜x4 |
| TMT-186 | 100-10-20 | 400-400-50 | 1⅜x3½ |
| TMT-187 | 100-10-80 | 400-400-350 | 1⅜x4½ |
| TMT-188 | 20-500-500 | 450-25-25 | 1⅜x3½ |
| TMT-110 | 30-100-25 | 450-25-25 | 1⅜x2 |
| TMT-189 | 80-100-20 | 450-50-50 | 1⅜x3 |
| TMT-111 | 10-50-100 | 450-150-25 | 1 x3 |
| TMT-112 | 40-40-130 | 450-150-50 | 1⅜x3 |
| TMT-113 | 40-100-50 | 450-150-50 | 1⅜x2½ |
| TMT-114 | 40-90-50 | 450-150-150 | 1⅜x3 |
| TMT-115 | 20-60-100 | 450-250-25 | 1⅜x2½ |
| TMT-116 | 20-40-10 | 450-250-250 | 1⅜x2 |
| TMT-117 | 10-40-20 | 450-300-150 | 1⅜x2 |
| TMT-118 | 20-15-10 | 450-300-300 | 1 x3½ |
| TMT-119 | 10-10-20 | 450-350-25 | 1 x2 |
| TMT-190 | 10-100-25 | 450-350-25 | 1⅜x3 |
| TMT-120 | 30-40-50 | 450-350-25 | 1 x4⅛ |
| TMT-121 | 20-80-100 | 450-350-50 | 1⅜x3½ |
| TMT-191 | 20-80-50 | 450-350-300 | 1⅜x3 |
| TMT-122 | 40-50-50 | 450-350-300 | 1⅜x3½ |
| TMT-192 | 50-80-10 | 450-350-350 | 1⅜x3½ |
| TMT-123 | 30-50-40 | 450-400-25 | 1⅜x3 |
| TMT-124 | 10-30-30 | 450-400-300 | 1⅜x2½ |
| TMT-125 | 10-10-20 | 450-450-25 | 1 x2 |
| TMT-126 | 15-15-20 | 450-450-25 | 1 x2½ |
| TMT-127 | 20-10-20 | 450-450-25 | 1 x2½ |
| TMT-128 | 20-15-20 | 450-450-25 | 1 x3 |
| TMT-129 | 20-20-20 | 450-450-25 | 1 x3 |
| TMT-130 | 30-30-20 | 450-450-25 | 1⅜x2½ |
| TMT-131 | 30-30-150 | 450-450-25 | 1⅜x3 |
| TMT-132 | 40-20-20 | 450-450-25 | 1⅜x2½ |
| TMT-133 | 40-40-20 | 450-450-25 | 1⅜x3 |
| TMT-134 | 40-40-40 | 450-450-25 | 1⅜x3 |
| TMT-135 | 80-10-125 | 450-450-25 | 1⅜x2½ |
| TMT-136 | 80-40-100 | 450-450-25 | 1⅜x4 |
| TMT-137 | 10-10-40 | 450-450-50 | 1 x2½ |
| TMT-138 | 20-10-50 | 450-450-50 | 1 x3 |
| TMT-139 | 30-30-40 | 450-450-50 | 1⅜x3 |
| TMT-140 | 40-10-100 | 450-450-50 | 1⅜x3 |
| TMT-141 | 40-40-100 | 450-450-50 | 1⅜x3½ |
| TMT-142 | 10-10-50 | 450-450-100 | 1⅜x2 |
| TMT-143 | 30-20-30 | 450-450-150 | 1⅜x2½ |
| TMT-144 | 40-40-40 | 450-450-150 | 1⅜x3½ |
| TMT-145 | 40-10-80 | 450-450-200 | 1⅜x3 |
| TMT-146 | 15-10-120 | 450-450-300 | 1⅜x3½ |
| TMT-147 | 15-15-10 | 450-450-300 | 1 x3 |
| TMT-148 | 15-5-15 | 450-450-350 | 1 x3 |
| TMT-149 | 20-20-60 | 450-450-350 | 1⅜x3 |
| TMT-150 | 40-40-10 | 450-450-350 | 1⅜x2 |
| TMT-193 | 60-40-20 | 450-450-400 | 1⅜x3½ |
| TMT-194 | 20-50-20 | 475-50-25 | 1 x3 |
| TMT-195 | 10-100-40 | 475-200-50 | 1⅜x2½ |
| TMT-196 | 40-40-100 | 475-250-100 | 1⅜x3 |
| TMT-197 | 10-100-25 | 475-350-25 | 1⅜x3 |
| TMT-198 | 20-10-5 | 475-350-150 | 1 x2½ |
| TMT-199 | 10-4-40 | 475-350-250 | 1⅜x2 |
| TMT-200 | 10-45-100 | 475-450-200 | 1⅜x3 |
| TMT-151 | 10-100-40 | 500-200-50 | 1⅜x2½ |
| TMT-152 | 40-40-100 | 500-250-50 | 1⅜x3 |
| TMT-153 | 20-20-40 | 500-300-25 | 1⅜x2 |
| TMT-201 | 20-40-100 | 500-300-25 | 1⅜x2½ |
| TMT-202 | 10-80-10 | 500-350-350 | 1⅜x3 |
| TMT-154 | 40-40-25 | 500-400-50 | 1⅜x3 |
| TMT-155 | 10-10-100 | 500-500-50 | 1 x3 |
| TMT-156 | 20-10-100 | 500-500-50 | 1⅜x3 |
| TMT-157 | 30-10-210 | 500-500-50 | 1⅜x2½ |
| TMT-158 | 40-40-100 | 500-500-200 | 1⅜x4 |
| TMT-159 | 10-10-5 | 500-500-350 | 1 x2½ |
| TMT-160 | 20-20-60 | 500-500-400 | 1⅜x3½ |

## TM QUADRUPLE-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches D x L |
|---|---|---|
| **150 VOLTS DC WORKING** | | |
| TMQ-1 | 40-40-40-30 | 1⅜x2 |
| TMQ-115 | 100-80-60-40 | 1⅜x3 |
| **250 VOLTS DC WORKING** | | |
| TMQ-116 | 40-40-40-40 | 1⅜x2½ |
| **300 VOLTS DC WORKING** | | |
| TMQ-2 | 40-20-10-10 | 1⅜x2 |
| TMQ-3 | 40-40-20-10 | 1⅜x2½ |
| TMQ-4 | 60-40-10-10 | 1⅜x3½ |
| TMQ-117 | 120-40-40-10 | 1⅜x4 |
| TMQ-118 | 200-20-20-20 | 1⅜x4 |
| **350 VOLTS DC WORKING** | | |
| TMQ-5 | 10-10-10-10 | 1⅜x2 |
| TMQ-6 | 80-10-10-10 | 1⅜x3 |
| **400 VOLTS DC WORKING** | | |
| TMQ-7 | 30-30-20-20 | 1⅜x3 |
| TMQ-119 | 40-40-30-30 | 1⅜x4 |
| TMQ-8 | 80-25-10-10 | 1⅜x3½ |
| **450 VOLTS DC WORKING** | | |
| TMQ-9 | 5-5-5-5 | 1⅜x2 |
| TMQ-10 | 10-10-10-10 | 1⅜x2 |
| TMQ-11 | 20-10-10-10 | 1⅜x2½ |
| TMQ-12 | 20-20-20-20 | 1⅜x2½ |
| TMQ-13 | 30-15-15-15 | 1⅜x3 |
| TMQ-14 | 30-30-15-10 | 1⅜x3 |
| TMQ-15 | 30-30-30-15 | 1⅜x3½ |
| TMQ-16 | 35-35-10-5 | 1⅜x3½ |
| TMQ-17 | 40-10-10-10 | 1⅜x3 |
| TMQ-18 | 40-20-10-10 | 1⅜x3 |
| TMQ-120 | 40-40-40-40 | 1⅜x4 |
| TMQ-121 | 60-20-20-20 | 1⅜x3½ |
| TMQ-122 | 80-10-10-10 | 1⅜x3½ |
| **500 VOLTS DC WORKING** | | |
| TMQ-19 | 10-10-10-10 | 1⅜x2 |
| TMQ-123 | 40-20-20-20 | 1⅜x4 |

## TM QUADRUPLE MIXED SECTIONS

| Stock Number | Cap. in UF | Volts DC Working | Inches D x L |
|---|---|---|---|
| TMQ-20 | 40-40-40-40 | 150-150-25-25 | 1⅜x2 |
| TMQ-21 | 40-40-100-100 | 150-150-25-25 | 1⅜x2 |
| TMQ-22 | 30-20-20-200 | 150-150-150-10 | 1⅜x2 |
| TMQ-23 | 40-40-20-200 | 150-150-150-10 | 1⅜x2 |
| TMQ-24 | 60-40-20-200 | 150-150-150-10 | 1⅜x2 |
| TMQ-25 | 20-20-20-20 | 150-150-150-25 | 1⅜x2 |
| TMQ-26 | 30-30-30-50 | 150-150-150-25 | 1⅜x2 |
| TMQ-27 | 40-20-20-20 | 150-150-150-25 | 1⅜x2 |
| TMQ-28 | 40-40-30-20 | 150-150-150-25 | 1⅜x2 |
| TMQ-29 | 40-40-40-20 | 150-150-150-25 | 1⅜x2 |
| TMQ-30 | 40-40-40-100 | 150-150-150-25 | 1⅜x2 |
| TMQ-31 | 40-40-40-160 | 150-150-150-25 | 1⅜x2 |
| TMQ-32 | 50-30-30-100 | 150-150-150-25 | 1⅜x2 |
| TMQ-124 | 50-10-40-50 | 150-150-150-25 | 1⅜x2 |
| TMQ-33 | 50-50-50-20 | 150-150-150-25 | 1⅜x2 |
| TMQ-125 | 60-60-10-60 | 150-150-150-25 | 1⅜x2 |
| TMQ-34 | 75-75-75-30 | 150-150-150-25 | 1⅜x3 |
| TMQ-35 | 80-40-30-100 | 150-150-150-25 | 1⅜x2½ |
| TMQ-36 | 80-40-40-40 | 150-150-150-25 | 1⅜x2 |
| TMQ-37 | 80-40-40-100 | 150-150-150-25 | 1⅜x2½ |
| TMQ-126 | 200-250-10-25 | 150-150-150-25 | 1⅜x3½ |
| TMQ-38 | 40-20-10-20 | 250-250-250-25 | 1⅜x2 |
| TMQ-39 | 100-40-10-100 | 250-250-250-50 | 1⅜x3½ |
| TMQ-40 | 80-60-40-20 | 250-250-250-150 | 1⅜x3½ |
| TMQ-41 | 100-40-80-20 | 300-50-25-25 | 1⅜x2½ |
| TMQ-42 | 20-150-150-100 | 300-150-150-30 | 1⅜x4 |
| TMQ-43 | 10-200-140-30 | 300-150-150-150 | 1⅜x4 |
| TMQ-127 | 100-60-10-20 | 300-200-150-50 | 1⅜x3 |
| TMQ44 | 120-20-100-20 | 300-250-50-25 | 1⅜x4 |
| TMQ-45 | 200-20-100-20 | 300-250-50-25 | 1⅜x5 |
| TMQ-46 | 100-10-200-30 | 300-300-150-150 | 1⅜x4 |
| TMQ-47 | 60-40-20-50 | 300-300-300-25 | 1⅜x3½ |
| TMQ-129 | 150-20-10-250 | 300-300-300-50 | 1⅜x4 |
| TMQ-48 | 40-40-40-20 | 300-300-300-150 | 1⅜x3 |
| TMQ-49 | 20-150-80-20 | 350-150-150-25 | 1⅜x3 |
| TMQ-50 | 40-50-20-80 | 350 150-150-50 | 1⅜x3 |
| TMQ-51 | 15-80-40-200 | 350-200-200-25 | 1⅜x3 |
| TMQ-130 | 20-100-100-10 | 350-200-200-100 | 1⅜x4 |
| TMQ-52 | 20-40-10-250 | 350-300-150-150 | 1⅜x3 |
| TMQ-131 | 40-10-100-25 | 350-350-25-25 | 1⅜x2½ |
| TMQ-133 | 140-40-50-30 | 350-350-50-50 | 1⅜x4 |
| TMQ-134 | 40-10-100-100 | 350-350-200-50 | 1⅜x3½ |
| TMQ-135 | 100-60-60-40 | 350-350-200-75 | 1⅜x4⅛ |
| TMQ-136 | 60-40-60-20 | 350-350-200-150 | 1⅜x3½ |
| TMQ-137 | 60-25-25-100 | 350-350-350-50 | 1⅜x3½ |
| TMQ-53 | 20-10-10-20 | 350-350-350-25 | 1⅜x2 |
| TMQ-54 | 20-10-5-20 | 350-350-350-25 | 1⅜x2 |
| TMQ-55 | 30-20-20-20 | 350-350-350-25 | 1⅜x2½ |
| TMQ-56 | 40-20-20-25 | 350-350-350-25 | 1⅜x2½ |
| TMQ-57 | 40-40-20-20 | 350-350-350-25 | 1⅜x3 |
| TMQ-58 | 40-40-40-40 | 350-350-350-25 | 1⅜x3 |
| TMQ-59 | 15-15-15-50 | 350-350-350-50 | 1⅜x2 |
| TMQ-60 | 40-30-10-50 | 350-350-350-50 | 1⅜x3 |
| TMQ-61 | 40-40-40-150 | 350-350-350-50 | 1⅜x3½ |
| TMQ-132 | 60-4-100-40 | 350-350-25-25 | 1⅜x2½ |
| TMQ-138 | 100-40-30-50 | 350-350-350-50 | 1⅜x4 |
| TMQ-139 | 60-30-30-150 | 350-350-350-75 | 1⅜x4 |
| TMQ-140 | 90-30-5-100 | 350-350-350-75 | 1⅜x3½ |
| TMQ-141 | 10-100-10-100 | 400-300-75-25 | 1⅜x3 |
| TMQ-142 | 30-40-50-200 | 400-300-250-150 | 1⅜x4 |
| TMQ-143 | 80-40-20-10 | 400-300-300-300 | 1⅜x4 |
| TMQ-144 | 20-10-10-20 | 400-350-200-25 | 1⅜x2 |
| TMQ-145 | 40-80-100-20 | 400-350-200-50 | 1⅜x4 |
| TMQ-146 | 40-10-80-10 | 400-350-250-250 | 1⅜x3 |
| TMQ-62 | 10-50-30-30 | 400-350-350-25 | 1⅜x3 |
| TMQ-147 | 50-25-100-20 | 400-400-50-25 | 1⅜x3 |
| TMQ-148 | 10-10-40-10 | 400-400-200-50 | 1⅜x2 |
| TMQ-63 | 40-10-80-10 | 400-400-250-250 | 1⅜x3½ |
| TMQ-64 | 5-5-50-80 | 400-400-300-250 | 1⅜x3 |

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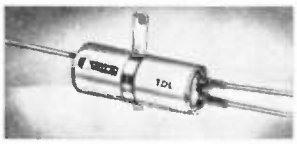
World Radio History

### TM QUADRUPLE MIXED SECTIONS (Continued)

| Stock Number | Cap. in UF | Volts DC Working | Inches D x L |
|---|---|---|---|
| TMQ-65 | 60-40-40-10 | 400-400-350-50 | 1⅜x3½ |
| TMQ-149 | 80-40-30-40 | 400-400-400-25 | 1⅜x4 |
| TMQ-150 | 80-40-30-4 | 400-400-400-350 | 1⅜x4 |
| TMQ-151 | 10-80-40-100 | 450-200-200-50 | 1⅛x3 |
| TMQ-66 | 20-80-20-50 | 450-200-200-50 | 1⅜x3 |
| TMQ-152 | 40-40-40-20 | 450-250-250-25 | 1⅜x3 |
| TMQ-153 | 60-30-100-25 | 450-300-50-50 | 1⅜x3½ |
| TMQ-154 | 10-100-10-100 | 450-300-150-25 | 1⅜x3 |
| TMQ-158 | 10-40-60-100 | 450-300-250-50 | 1⅜x3½ |
| TMQ-67 | 10-100-20-20 | 450-300-300-25 | 1⅜x3½ |
| TMQ-155 | 30-100-10-60 | 450-300-300-50 | 1⅜x3½ |
| TMQ-156 | 40-40-40-20 | 450-300-300-150 | 1⅜x3 |
| TMQ-157 | 10-100-20-20 | 450-300-300-300 | 1⅜x3 |
| TMQ-68 | 10-60-40-25 | 450-350-350-25 | 1⅜x3½ |
| TMQ-69 | 10-100-10-20 | 450-350-350-25 | 1⅜x3 |
| TMQ-159 | 20-80-50-100 | 450-350-350-50 | 1⅜x4 |
| TMQ-70 | 30-40-40-10 | 450-350-350-200 | 1⅜x3½ |
| TMQ-160 | 40-30-10-10 | 450-350-350-300 | 1⅜x3 |
| TMQ-71 | 80-10-30-40 | 450-400-300-150 | 1⅜x4 |
| TMQ-161 | 5-60-50-20 | 450-400-350-25 | 1⅜x3½ |
| TMQ-72 | 10-10-20-20 | 450-450-25-25 | 1⅜x2 |
| TMQ-73 | 20-20-20-20 | 450-450-25-25 | 1⅜x2 |
| TMQ-74 | 30-30-125-125 | 450-450-25-25 | 1⅜x3 |
| TMQ-75 | 10-10-60-100 | 450-450-200-50 | 1⅜x3 |
| TMQ-76 | 35-25-20-100 | 450-450-200-50 | 1⅜x3 |
| TMQ-77 | 20-20-30-30 | 450-450-350-350 | 1⅜x3½ |
| TMQ-78 | 40-10-35-10 | 450-450-350-350 | 1⅜x3½ |
| TMQ-79 | 40-40-30-30 | 450-450-350-350 | 1⅜x4 |
| TMQ-80 | 10-10-10-20 | 450-450-450-25 | 1⅜x2 |
| TMQ-81 | 10-10-10-100 | 450-450-450-25 | 1⅜x2 |
| TMQ-82 | 20-10-10-100 | 450-450-450-25 | 1⅜x2 |
| TMQ-83 | 20-20-20-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-84 | 30-15-15-40 | 450-450-450-25 | 1⅜x2½ |
| TMQ-85 | 30-20-20-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-86 | 30-30-10-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-163 | 30-30-10-125 | 450-450-450-25 | 1⅜x3 |
| TMQ-87 | 30-30-20-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-88 | 40-10-10-250 | 450-450-450-25 | 1⅜x3 |
| TMQ-89 | 40-20-10-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-90 | 40-20-20-20 | 450-450-450-25 | 1⅜x3 |
| TMQ-91 | 40-20-20-40 | 450-450-450-25 | 1⅜x3 |
| TMQ-92 | 40-30-10-20 | 450-450-450-25 | 1⅜x3½ |
| TMQ-93 | 60-40-10-25 | 450-450-450-25 | 1⅜x3½ |
| TMQ-164 | 40-40-40-40 | 450-450-450-25 | 1⅜x3½ |
| TMQ-94 | 10-10-10-150 | 450-450-450-50 | 1⅜x2½ |
| TMQ-95 | 20-20-20-100 | 450-450-450-50 | 1⅜x3 |
| TMQ-96 | 30-30-15-30 | 450-450-450-50 | 1⅜x3 |
| TMQ-97 | 30-30-15-100 | 450-450-450-50 | 1⅜x3½ |
| TMQ-98 | 40-20-10-100 | 450-450-450-50 | 1⅜x3½ |
| TMQ-99 | 40-40-10-25 | 450-450-450-50 | 1⅜x3½ |
| TMQ-100 | 40-40-10-100 | 450-450-450-100 | 1⅜x3½ |
| TMQ-101 | 60-10-10-20 | 450-450-450-150 | 1⅜x3 |
| TMQ-102 | 35-35-10-10 | 450-450-450-200 | 1⅜x3 |
| TMQ-165 | 40-40-50-80 | 475-250-150-50 | 1⅜x3½ |
| TMQ-103 | 20-40-100-80 | 475-300-50-25 | 1⅜x3 |
| TMQ-166 | 10-100-10-100 | 475-300-300-25 | 1⅜x3½ |
| TMQ-167 | 20-80-20-10 | 475-300-300-300 | 1⅜x3½ |
| TMQ-104 | 10-40-80-100 | 475-350-200-50 | 1⅜x3½ |
| TMQ-168 | 20-40-80-100 | 475-350-300-100 | 1⅜x4 |
| TMQ-169 | 10-30-5-80 | 475-350-350-50 | 1⅜x2½ |
| TMQ-170 | 30-130-10-20 | 475-350-350-350 | 1⅜x5 |
| TMQ-171 | 10-40-100-10 | 475-400-50-30 | 1⅜x2½ |
| TMQ-172 | 10-40-4-100 | 475-400-350-50 | 1⅜x2½ |
| TMQ-173 | 10-40-100-10 | 475-400-350-50 | 1⅜x2½ |
| TMQ-105 | 10-10-80-50 | 474-450-200-60 | 1⅜x3 |
| TMQ-174 | 25-20-20-100 | 475-450-300-50 | 1½x3 |
| TMQ-106 | 25-20-40-100 | 475-450-300-50 | 1⅜x3 |
| TMQ-107 | 10-60-30-125 | 475-450-400-50 | 1⅜x4 |
| TMQ-108 | 15-15-80-40 | 475-475-300-50 | 1⅜x3 |
| TMQ-109 | 40-10-4-40 | 475-475-350-300 | 1⅜x3 |
| TMQ-175 | 50-10-30-30 | 475-475-450-25 | 1⅜x3 |
| TMQ-110 | 10-5-80-40 | 475-475-450-50 | 1⅜x3 |
| TMQ-111 | 40-20-10-10 | 475-475-475-25 | 1⅜x3 |
| TMQ-176 | 5-100-10-200 | 500-300-300-150 | 1⅜x4 |
| TMQ-177 | 30-10-150-30 | 500-450-50-50 | 1⅜x3 |
| TMQ-112 | 30-30-10-20 | 500-500-450-25 | 1⅜x3½ |
| TMQ-113 | 20-20-10-10 | 500-500-500-300 | 1⅜x2½ |
| TMQ-114 | 50-30-10-20 | 500-500-500-300 | 1⅜x4 |

## TYPES **TD AND TDL** TYNEE-DRY ELECTROLYTIC CAPACITORS



Tynee-Dry single-capacitor units, with 3-inch bare-wire leads. Designed for 85° C. operation. Each unit sealed in metal tubular case. Supplied with insulating cardboard sleeve. Low leakage. Long shelf life. Top quality in minimum space. Tynee-Dry dual- and triple-capacitor units with 8-inch flexible-wire insulated leads. Supplied with riveted radial mounting bracket over insulating cardboard sleeve.

### TD SINGLE-CAPACITOR UNITS

| Catalog Number | Cap. in UF | Inches* D x L |
|---|---|---|
| **6 VOLTS DC WORKING** | | |
| TD-50-6 | 50. | ½x1⅛ |
| TD-100-6 | 100. | ½x1⅝ |
| TD-250-6 | 250. | ⅝x1⅝ |
| TD-500-6 | 500. | ⅝x1⅝ |
| TD-1000-6 | 1,000. | ¾x2 |
| TD-1500-6 | 1,500. | ¾x2 |
| TD-2000-6 | 2,000. | 1 x2 |
| **15 VOLTS DC WORKING** | | |
| TD-100-15 | 100. | ⅝x1¼ |
| TD-250-15 | 250. | ⅝x1⅝ |
| TD-500-15 | 500. | ¾x2 |
| TD-1000-15 | 1,000. | ⅞x2 |
| **25 VOLTS DC WORKING** | | |
| TD-2-25 | 2. | 7/16x1⅛ |
| TD-4-25 | 4. | 7/16x1⅛ |
| TD-5-25 | 5. | 7/16x1⅛ |
| TD-10-25 | 10. | 7/16x1⅛ |
| TD-25-25 | 25. | ½x1⅛ |
| TD-50-25 | 50. | ⅝x1¼ |
| TD-100-25 | 100. | ⅝x1⅝ |
| TD-250-25 | 250. | ⅞x2 |
| TD-500-25 | 500. | ⅞x2 |
| **50 VOLTS DC WORKING** | | |
| TD-1-50 | 1. | 7/16x1⅛ |
| TD-2-50 | 2. | 7/16x1⅛ |
| TD-4-50 | 4. | 7/16x1⅛ |
| TD-5-50 | 5. | 7/16x1⅛ |
| TD-10-50 | 10. | 7/16x1⅛ |
| TD-25-50 | 25. | ⅝x1¼ |
| TD-50-50 | 50. | ⅝x1¼ |
| TD-100-50 | 100. | ¾x1⅝ |
| TD-150-50 | 150. | ¾x1⅝ |
| TD-250-50 | 250. | ⅞x1⅝ |
| **150 VOLTS DC WORKING** | | |
| TD-4-150 | 4. | 7/16x1⅛ |
| TD-8-150 | 8. | ⅝x1¼ |
| TD-10-150 | 10. | ⅝x1¼ |
| TD-12-150 | 12. | ⅝x1¼ |
| TD-16-150 | 16. | ⅝x1¼ |
| TD-20-150 | 20. | ⅝x1¼ |
| TD-30-150 | 30. | ⅝x1⅝ |
| TD-40-150 | 40. | ¾x1⅝ |
| TD-50-150 | 50. | ¾x1⅝ |
| TD-80-150 | 80. | ⅞x1⅝ |
| TD-100-150 | 100. | ⅞x2 |
| TD-150-150 | 150. | 1 x2½ |
| TD-200-150 | 200. | 1 x3 |
| TD-250-150 | 250. | 1 x3 |
| TD-300-150 | 300. | 1 x3¾ |
| **200 VOLTS DC WORKING** | | |
| TD-100-200 | 100. | 1 x3 |
| TD-200-200 | 200. | 1 x4 |
| **250 VOLTS DC WORKING** | | |
| TD-4-250 | 4. | ½x1⅛ |
| TD-8-250 | 8. | ⅝x1¼ |
| TD-10-250 | 10. | ⅝x1¼ |
| TD-12-250 | 12. | ⅝x1¼ |
| TD-16-250 | 16. | ⅝x1⅝ |
| TD-20-250 | 20. | ⅝x1⅝ |
| TD-30-250 | 30. | ¾x1⅝ |
| TD-40-250 | 40. | ⅞x1⅝ |
| TD-60-250 | 60. | ⅞x2 |
| **300 VOLTS DC WORKING** | | |
| TD-150-300 | 150. | 1 x4¼ |
| **350 VOLTS DC WORKING** | | |
| TD-8-350 | 8. | ⅝x1⅝ |
| TD-12-350 | 12. | ⅝x1⅝ |
| TD-16-350 | 16. | ¾x1⅝ |
| TD-20-350 | 20. | ¾x1⅝ |
| TD-30-350 | 30. | ⅞x2 |
| TD-40-350 | 40. | 1 x2 |
| TD-60-350 | 60. | 1 x2½ |
| TD-80-350 | 80. | 1 x2½ |
| **450 VOLTS DC WORKING** | | |
| TD-2-450 | 2. | ⅝x1¼ |
| TD-8-450 | 8. | ⅝x1⅝ |
| TD-4-450 | 4. | ⅝x1¼ |
| TD-12-450 | 12. | ¾x1⅝ |
| TD-10-450 | 10. | ¾x1⅝ |
| TD-16-450 | 16. | ¾x2 |
| TD-20-450 | 20. | ⅞x2 |
| TD-30-450 | 30. | 1 x2 |
| TD-40-450 | 40. | 1 x2½ |
| TD-50-450 | 50. | 1 x3 |
| TD-80-450 | 80. | 1 x4 |
| TD-100-450 | 100. | 1 x3¾ |
| **500 VOLTS DC WORKING** | | |
| TD-8-500 | 8. | ⅞x1⅝ |
| TD-10-500 | 10. | ⅞x1⅝ |
| TD-12-500 | 12. | ⅞x1⅝ |
| TD-20-500 | 20. | 1 x2 |
| TD-30-500 | 30. | 1 x2½ |
| **600 VOLTS DC WORKING** | | |
| TD-8-600 | 8. | ⅞x2¾ |
| TD-10-600 | 10. | ⅞x2¾ |
| TD-12-600 | 12. | ⅞x2¾ |
| TD-16-600 | 16. | 1 x3 1/16 |
| TD-20-600 | 20. | 1 x3 1/16 |
| **700 VOLTS DC WORKING** | | |
| TD-8-700 | 8. | ⅞x2¾ |
| TD-10-700 | 10. | ⅞x2¾ |
| TD-12-700 | 12. | 1 x3 1/16 |
| TD-16-700 | 16. | 1 x3 1/16 |

### TDL DUAL-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches* D x L |
|---|---|---|
| **25 VOLTS DC WORKING** | | |
| TDLD-1 | 10-10 | ¾x1⅝ |
| **50 VOLTS DC WORKING** | | |
| TDLD-2 | 10-10 | ¾x1⅝ |
| **150 VOLTS DC WORKING** | | |
| TDLD-3 | 20-20 | ¾x1⅝ |
| TDLD-4 | 30-30 | ¾x2 |
| TDLD-5 | 40-20 | ¾x2 |
| TDLD-6 | 40-30 | ¾x2 |
| TDLD-7 | 40-40 | ¾x2 |
| TDLD-8 | 50-30 | ¾x2 |
| TDLD-9 | 50-50 | ⅞x2 |
| TDLD-10 | 80-30 | ⅞x2 |
| TDLD-11 | 80-40 | 1 x2 |
| TDLD-12 | 80-50 | 1 x2 |
| TDLD-13 | 80-80 | 1 x2½ |
| TDLD-14 | 100-50 | 1 x3 |
| TDLD-15 | 100-100 | 1 x3 |
| TDLD-16 | 200-5 | 1 x3½ |
| **250 VOLTS DC WORKING** | | |
| TDLD-17 | 8-8 | ¾x1⅝ |
| TDLD-18 | 16-16 | ¾x1⅝ |
| TDLD-19 | 20-20 | ¾x2 |
| TDLD-20 | 30-30 | ⅞x2 |
| TDLD-21 | 40-20 | ⅞x2 |
| TDLD-22 | 40-40 | 1 x2 |
| TDLD-23 | 80-10 | 1 x2 |
| **450 VOLTS DC WORKING** | | |
| TDLD-24 | 8-8 | ⅞x1⅝ |
| TDLD-25 | 8-16 | ⅞x2 |
| TDLD-26 | 10-10 | ⅞x2 |
| TDLD-27 | 16-16 | 1 x2 |
| TDLD-28 | 20-20 | 1 x2½ |
| TDLD-29 | 30-30 | 1 x3 |
| TDLD-30 | 40-20 | 1 x3½ |
| TDLD-31 | 40-40 | 1 x3¾ |
| TDLD-32 | 50-30 | 1 x4 |

* For overall size add 1/16" to diameter and 1/16" to length.

### TDL TRIPLE-CAPACITOR UNITS

| Stock Number | Cap. in UF | Inches* D x L |
|---|---|---|
| **150 VOLTS DC WORKING** | | |
| TDLT-1 | 20-20-20 | 1 x2 |
| TDLT-2 | 30-30-30 | 1 x2 |
| TDLT-3 | 40-30-20 | 1 x2 |
| TDLT-4 | 40-40-20 | 1 x2 |
| TDLT-5 | 40-40-40 | 1 x2 |
| TDLT-6 | 50-30-20 | 1 x2 |
| TDLT-7 | 80-40-20 | 1 x2 |
| **250 VOLTS DC WORKING** | | |
| TDLT-8 | 75-40-10 | 1 x3 |
| **450 VOLTS DC WORKING** | | |
| TDLT-9 | 16-16-16 | 1 x3 |

### TDL TRIPLE-MIXED SECTIONS

| Stock Number | Cap. in UF | Volts DC Working | Lgth* |
|---|---|---|---|
| **DIAMETER: 1"** | | | |
| TDLT-10 | 80-30-300 | 150-150-10 | 3 |
| TDLT-11 | 20-20-20 | 150-150-20 | 2 |
| TDLT-12 | 40-30-20 | 150-150-25 | 2 |
| TDLT-13 | 40-40-20 | 150-150-25 | 2 |
| TDLT-14 | 40-40-100 | 150-150-25 | 2½ |
| TDLT-15 | 50-30-20 | 150-150-25 | 2 |
| TDLT-16 | 50-30-100 | 150-150-25 | 2½ |
| TDLT-17 | 50-30-200 | 150-150-25 | 2½ |
| TDLT-18 | 50-50-20 | 150-150-25 | 2½ |
| TDLT-19 | 80-20-100 | 150-150-25 | 2½ |
| TDLT-20 | 40-40-20 | 250-250-25 | 2½ |
| TDLT-21 | 20-20-20 | 450-450-25 | 2½ |



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World Radio History

**PYRAMID**

# PYRAMID ELECTRIC COMPANY • NORTH BERGEN, NEW JERSEY

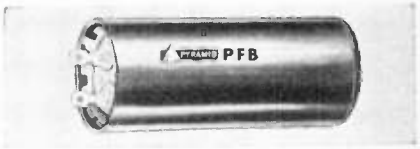
THE BIG NAME IN CAPACITORS AND SELENIUM RECTIFIERS TODAY

## TYPE ML MINIATURE ELECTROLYTIC CAPACITORS

Designed for 65° C. operation. Hermetically sealed in aluminum cases. Low leakage and long shelf life. Ideally suited for transistorized radio receivers, hearing aids, portable TV sets, and miniaturized circuit requirements.

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **3 VOLTS DC WORKING** | | |
| ML20-3 | 20. | 1/4 x 5/8 |
| ML50-3 | 50. | 5/16 x 3/4 |
| ML75-3 | 75. | 3/8 x 3/4 |
| ML100-3 | 100. | 3/8 x 3/4 |
| **6 VOLTS DC WORKING** | | |
| ML1-6 | 1. | 5/16 x 1/2 |
| ML2-6 | 2. | 5/16 x 1/2 |
| ML4-6 | 4. | 5/16 x 5/8 |
| ML5-6 | 5. | 5/16 x 5/8 |
| ML6-6 | 6. | 1/4 x 5/8 |
| ML8-6 | 8. | 1/4 x 5/8 |
| ML10-6 | 10. | 1/4 x 5/8 |
| ML20-6 | 20. | 1/4 x 5/8 |
| ML30-6 | 30. | 3/8 x 5/8 |
| ML40-6 | 40. | 3/8 x 5/8 |
| ML50-6 | 50. | 3/8 x 3/4 |
| ML75-6 | 75. | 3/8 x 3/4 |
| **15 VOLTS DC WORKING** | | |
| ML1-15 | 1. | 5/16 x 1/2 |
| ML2-15 | 2. | 5/16 x 5/8 |
| ML4-15 | 4. | 1/4 x 5/8 |
| ML5-15 | 5. | 1/4 x 5/8 |
| ML6-15 | 6. | 1/4 x 5/8 |
| ML8-15 | 8. | 1/4 x 5/8 |
| ML10-15 | 10. | 1/4 x 5/8 |
| ML20-15 | 20. | 5/16 x 3/4 |
| ML30-15 | 30. | 3/8 x 3/4 |
| ML40-15 | 40. | 3/8 x 7/8 |
| **25 VOLTS DC WORKING** | | |
| ML1-25 | 1. | 5/16 x 5/8 |
| ML2-25 | 2. | 5/16 x 5/8 |
| ML4-25 | 4. | 1/4 x 5/8 |
| ML5-25 | 5. | 1/4 x 5/8 |
| ML6-25 | 6. | 5/16 x 3/4 |
| ML8-25 | 8. | 5/16 x 3/4 |
| ML10-25 | 10. | 3/8 x 5/8 |
| ML20-25 | 20. | 3/8 x 3/4 |
| ML30-25 | 30. | 3/8 x 1 |
| **50 VOLTS DC WORKING** | | |
| ML1-50 | 1. | 5/16 x 5/8 |
| ML2-50 | 2. | 1/4 x 5/8 |
| ML4-50 | 4. | 1/4 x 3/4 |
| ML5-50 | 5. | 1/4 x 3/4 |
| ML6-50 | 6. | 1/4 x 3/4 |
| ML8-50 | 8. | 3/8 x 3/4 |
| ML10-50 | 10. | 3/8 x 3/4 |
| ML20-50 | 20. | 3/8 x 1 |

## TYPE PFB HIGH CAPACITANCE LOW-VOLTAGE ELECTROLYTIC CAPACITORS



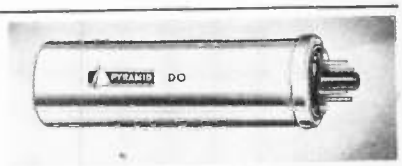

Pyramid's PFB is the ideal electrolytic capacitor for use in applications where high-capacitance at low-voltage is required.

Designed for 85° C. operation. Assembled in hermetically sealed round plastic cases. For use in applications requiring high capacitance at low working voltages, as in motion-picture sound equipment.

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **10 VOLTS DC WORKING** | | |
| PFB-500-10 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-10 | 1000 | 1 7/16 x 2 3/4 |
| PFB-1500-10 | 1500 | 1 7/16 x 2 3/4 |
| PFB-2000-10 | 2000 | 1 7/16 x 2 3/4 |
| PFB-3000-10 | 3000 | 1 7/16 x 3 3/8 |
| PFB-4000-10 | 4000 | 1 7/16 x 4 3/8 |
| PFB-5000-10 | 5000 | 1 7/16 x 4 3/8 |
| PFB-6000-10 | 6000 | 1 7/16 x 4 3/8 |
| **12 VOLTS DC WORKING** | | |
| PFB-500-12 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-12 | 1000 | 1 7/16 x 2 3/4 |
| PFB-1500-12 | 1500 | 1 7/16 x 2 3/4 |
| PFB-2000-12 | 2000 | 1 7/16 x 3 3/8 |
| PFB-2500-12 | 2500 | 1 7/16 x 3 3/8 |
| PFB-3000-12 | 3000 | 1 7/16 x 4 3/8 |
| PFB-4000-12 | 4000 | 1 7/16 x 4 3/8 |
| PFB-6000-12 | 6000 | 2 1/16 x 4 1/16 |
| **15 VOLTS DC WORKING** | | |
| PFB-500-15 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-15 | 1000 | 1 7/16 x 2 3/4 |
| PFB-1500-15 | 1500 | 1 7/16 x 2 3/4 |
| PFB-2000-15 | 2000 | 1 7/16 x 3 3/8 |
| PFB-3000-15 | 3000 | 1 7/16 x 4 3/8 |
| PFB-4000-15 | 4000 | 1 7/16 x 4 3/8 |
| PFB-6000-15 | 6000 | 2 1/16 x 4 1/16 |
| **18 VOLTS DC WORKING** | | |
| PFB-500-18 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-18 | 1000 | 1 7/16 x 2 3/4 |
| PFB-2000-18 | 2000 | 1 7/16 x 3 3/8 |
| PFB-4000-18 | 4000 | 1 7/16 x 4 3/8 |
| **20 VOLTS DC WORKING** | | |
| PFB-500-20 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-20 | 1000 | 1 7/16 x 3 3/8 |
| PFB-2000-20 | 2000 | 1 7/16 x 4 3/8 |
| PFB-4000-20 | 4000 | 2 1/16 x 4 1/16 |
| **25 VOLTS DC WORKING** | | |
| PFB-500-25 | 500 | 1 7/16 x 2 3/4 |
| PFB-1000-25 | 1000 | 1 7/16 x 3 3/8 |
| PFB-2000-25 | 2000 | 1 7/16 x 4 3/8 |
| PFB-3000-25 | 3000 | 1 7/16 x 4 3/8 |
| PFB-4000-25 | 4000 | 2 1/16 x 4 1/16 |
| PFB-5000-25 | 5000 | 2 1/16 x 4 1/16 |
| **30 VOLTS DC WORKING** | | |
| PFB-500-30 | 500 | 1 7/16 x 3 3/8 |
| PFB-1000-30 | 1000 | 1 7/16 x 4 3/8 |
| PFB-2000-30 | 2000 | 1 7/16 x 4 3/8 |
| PFB-3000-30 | 3000 | 2 1/16 x 4 1/16 |
| PFB-4000-30 | 4000 | 2 1/16 x 4 1/16 |
| **35 VOLTS DC WORKING** | | |
| PFB-500-35 | 500 | 1 7/16 x 3 3/8 |
| PFB-1000-35 | 1000 | 1 7/16 x 4 3/8 |
| PFB-2000-35 | 2000 | 1 7/16 x 4 3/8 |
| PFB-3000-35 | 3000 | 2 1/16 x 4 1/16 |
| **40 VOLTS DC WORKING** | | |
| PFB-500-40 | 500 | 1 7/16 x 3 3/8 |
| PFB-1000-40 | 1000 | 1 7/16 x 4 3/8 |
| PFB-2000-40 | 2000 | 1 7/16 x 4 3/8 |
| PFB-3000-40 | 3000 | 2 1/16 x 4 1/16 |
| **50 VOLTS DC WORKING** | | |
| PFB-500-50 | 500 | 1 7/16 x 3 3/8 |
| PFB-1000-50 | 1000 | 1 7/16 x 4 3/8 |
| PFB-2000-50 | 2000 | 1 7/16 x 4 3/8 |
| PFB-3000-50 | 3000 | 2 1/16 x 4 1/16 |

## TYPE DO PLUG-IN ELECTROLYTIC CAPACITORS

Designed for 85° C. operation. Hermetically sealed in round aluminum containers. Provided with four pins (Nos. 1, 3, 5, 7) on standard octal base. Plugs into standard 8-pin octal socket. Ideally suited for any application where quick capacitor changes are required. Grounding lug supplied for grounding case to chassis. (In accordance with military standards, a low variable resistance exists between pin 1 (negative) and the case to ground pin 1, a direct ground connection must be made from the corresponding lug on the socket.)




| Catalog Number | Cap. in UF | Volts DC Working | Inches D x L |
|---|---|---|---|
| **SINGLE-CAPACITOR UNITS** | | | |
| DO-100-350 | 100. | 350 | 1 3/8 x 3 |
| DO-10-450 | 10. | 450 | 1 1/16 x 2 1/2 |
| DO-20-450 | 20. | 450 | 1 1/16 x 2 1/2 |
| DO-40-450 | 40. | 450 | 1 3/8 x 2 1/2 |
| DO-80-450 | 80. | 450 | 1 3/8 x 3 1/2 |
| DO-40-500 | 40. | 500 | 1 3/8 x 2 1/2 |
| **DUAL-CAPACITOR UNITS** | | | |
| DO-D20-150 | 20-20 | 150 | 1 1/16 x 2 1/2 |
| DO-D40-150 | 40-40 | 150 | 1 1/16 x 2 1/2 |
| DO-D50-150 | 50-50 | 150 | 1 1/16 x 2 1/2 |
| DO-D80-150 | 80-80 | 150 | 1 3/8 x 2 1/2 |
| DO-D10-450 | 10-10 | 450 | 1 1/16 x 2 1/2 |
| DO-D20-450 | 20-20 | 450 | 1 3/8 x 2 1/2 |
| DO-D30-450 | 30-30 | 450 | 1 3/8 x 3 |
| DO-D40-450 | 40-40 | 450 | 1 3/8 x 3 1/2 |
| DO-D20-500 | 20-20 | 500 | 1 3/8 x 2 1/2 |
| **TRIPLE-CAPACITOR UNITS** | | | |
| DO-T20-150 | 20-20-20 | 150 | 1 1/16 x 2 1/2 |
| DO-T40-150 | 40-40-40 | 150 | 1 1/16 x 2 1/2 |
| DO-T10-450 | 10-10-10 | 450 | 1 1/16 x 2 1/2 |
| DO-T20-450 | 20-20-20 | 450 | 1 3/8 x 3 |
| DO-3001 | 40-20-20 | 450-25 | 1 3/8 x 3 |
| DO-T10-500 | 10-10-10 | 500 | 1 3/8 x 2 1/2 |
| **QUADRUPLE-CAPACITOR UNITS** | | | |
| DO-4001 | 10-10-10-20 | 450-25 | 1 3/8 x 2 1/2 |
| DO-4002 | 30-30-10-20 | 450-50 | 1 3/8 x 4 1/4 |

## TYPE TQ TELEPHONE-QUALITY ELECTROLYTIC CAPACITORS

| Capacitance in MFD. | WV DC | Inches D x L |
|---|---|---|
| **SINGLE SECTION** | | |
| 2000 | 6 | 1 3/8 x 2 1/2 |
| 1000 | 15 | 1 x 4 |
| 500 | 25 | 1 x 4 |
| 200 | 50 | 1 x 3 1/2 |
| 100 | 150 | 1 x 4 |
| 50 | 250 | 1 x 3 |
| 20 | 350 | 1 x 2 1/2 |
| 50 | 350 | 1 x 4 |
| 20 | 450 | 1 x 3 |
| 50 | 450 | 1 3/8 x 3 |
| **DUAL SECTION** | | |
| 50+50 | 150 | 1 x 4 |
| 20+20 | 250 | 1 x 3 1/2 |
| 10+10 | 450 | 1 x 4 |
| 20+20 | 450 | 1 3/8 x 3 1/2 |
| 40+40 | 450 | 1 3/8 x 4 |
| **TRIPLE SECTION** | | |
| 50+50+50 | 150 | 1 3/8 x 4 |
| 40+40+40 | 250 | 1 3/8 x 4 |
| 20+20+20 | 350 | 1 3/8 x 4 |
| 20+20+20 | 450 | 1 3/8 x 4 |

### FEATURES

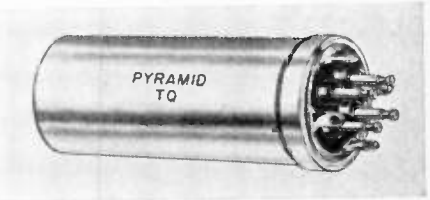
1. Designed for high reliability electronic equipment, telephone networks, and industrial control systems.
2. Wide temperature range: —20°C. to +85°C.
3. Hermetically sealed aluminum can.
4. Low leakage current.
5. Long life, trouble free operation.
6. Manufactured under quality controlled conditions.

Present day electronic equipment, telephone network systems, and industrial control systems, where a high degree of reliability is essential, require capacitors having a long life.

Pyramid Electric Company introduces type TQ, a high quality electrolytic capacitor which will meet the requirements of design engineers today and for some time to come.

From raw material to finished product, the Pyramid type TQ is manufactured under controlled conditions and constant supervision.

Capacitance, voltage and terminal identification are stamped on the aluminum cans. The capacitor is closed by a molded piece with special silver-plated terminals which are permanently identified by molded numerals.

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## TYPE **TAK** TANTALUM CAPACITORS

Pyramid TAK Tantalum slug capacitors are miniaturized to provide maximum space economy. Pyramid Tantalum capacitors have cylindrical cases and contain a non-corrosive electrolyte. Due to the special construction and materials used in the manufacture of Pyramid Tantalum capacitors, these units are both seep and vibration proof. In addition this type of capacitor assures long service life and corrosion resistance; made to meet MIL-C-3965 specifications, Style CL 44.

Working and Surge Voltages

a) From 3 WVDC to 100 WVDC the surge voltage will be 20% above rated voltage
b) From 105 WVDC to 125 WVDC the surge voltage will be 15% above rated voltage

Sizes and Ratings

TAK capacitors are supplied in can sizes as follows:

a) 15/32" x 7/32" ± .03 dia. This unit contains 1200 Microfarad-Volts and is utilized for capacities between 1.75 MFD and 140 MFD. A ripple current of 50 MA is allowable.
b) 11/16" x 9/32" ± .03 dia. This unit contains 3200 Microfarad-Volts and is utilized for capacities between 25 MFD and 320 MFD. A ripple current of 250 MA is allowable.
c) 49/64" x 3 8" ± .03 dia. This unit contains 6500 Microfarad-Volts and is utilized for capacities between 45 MFD and 650 MFD. A ripple current of 400 MA is allowable.

NOTE: In case ripple currents of more than specified values are encountered, contact Pyramid Engineering Department, for circuit application information.

Operating temperatures and voltages

| Voltage Range | Temperature | Type No. |
|---|---|---|
| 3V to 100V | -55°C to + 100°C (without de-rating) | TAK |
| 101V to 125V | -55°C to + 85°C (without de-rating) | TAK |
| 3V to 85V | -55°C to + 125°C (without de-rating) | TAK-H |

Pyramid TAK capacitors are available in the following tolerances:

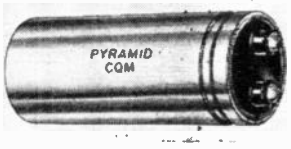
From + 50% to — 15%
From + 20% to — 15%

Tolerances as low as from + 5% to —5% are available upon request.

## TYPE **CQM**
## COMPUTER QUALITY ELETROLYTIC CAPACITORS

**FEATURES**

1. High reliability, ideally suited for computer requirements.
2. Highest purity aluminum used.
3. Molded terminals for tight permanent seal.
4. Low leakage current.
5. Long shelf life.
6. Low equivalent series resistance.




Computer circuits require electrolytic capacitors of the highest reliability. Pyramid type CQM capacitors, designed to operate at—20°C. to +65°C., fill this requirement. They are made with electrodes of the highest purity aluminum obtainable (99.99%) and specially formulated electrolytes.

Carefully inspected materials, coupled with controlled manufacturing methods, produce a capacitor capable of meeting the most exacting computer specification.

The capacitors are made in high purity aluminum containers hermetically sealed with molded tops held in place by rolling the can rim securely over a buna rubber gasket. The terminals are molded into the top. These terminals and the buna rubber gasketing insure a tight, permanent seal.

Two types of terminals are available: (1) a screw type terminal with tapped inserts, (CQM); (2) a lug type terminal, with anti-rotational locks, swaged to solid aluminum inserts, (CQML). Internal connections to the aluminum inserts are made with straps of the same high purity aluminum as the electrodes. This feature contributes to low leakage and long shelf life.

| Capacitance in Mfd. | Inches D x L | Capacitance in Mfd. | Inches D x L |
|---|---|---|---|
| **100 WVDC** | | **5 WVDC** | |
| 700 | 1⅜x4⅛ | 8,000 | 1⅜x4⅛ |
| 1,700 | 2 x4⅛ | 20,000 | 2 x4⅛ |
| 3,000 | 2½x4⅛ | 31,000 | 2½x4⅛ |
| 4,200 | 3 x4⅛ | 45,000 | 3 x4⅛ |
| **150 WVDC** | | **10 WVDC** | |
| 450 | 1⅜x4⅛ | 6,500 | 1⅜x4⅛ |
| 1,000 | 2 x4⅛ | 16,000 | 2 x4⅛ |
| 1,800 | 2½x4⅛ | 25,000 | 2½x4⅛ |
| 3,000 | 3 x4⅛ | 40,000 | 3 x4⅛ |
| **250 WVDC** | | **15 WVDC** | |
| 250 | 1⅜x4⅛ | 5,500 | 1⅜x4⅛ |
| 600 | 2 x4⅛ | 13,500 | 2 x4⅛ |
| 1,000 | 2½x4⅛ | 21,000 | 2½x4⅛ |
| 1,600 | 3 x4⅛ | 33,000 | 3 x4⅛ |
| **300 WVDC** | | **25 WVDC** | |
| 200 | 1⅜x4⅛ | 3,200 | 1⅜x4⅛ |
| 400 | 2 x4⅛ | 8,000 | 2 x4⅛ |
| 750 | 2½x4⅛ | 12,500 | 2½x4⅛ |
| 1,100 | 3 x4⅛ | 17,000 | 3 x4⅛ |
| **350 WVDC** | | **35 WVDC** | |
| 170 | 1⅜x4⅛ | 2,000 | 1⅜x4⅛ |
| 375 | 2 x4⅛ | 5,000 | 2 x4⅛ |
| 700 | 2½x4⅛ | 8,000 | 2½x4⅛ |
| 1,000 | 3 x4⅛ | 12,000 | 3 x4⅛ |
| **400 WVDC** | | **50 WVDC** | |
| 140 | 1⅜x4⅛ | 1,600 | 1⅜x4⅛ |
| 325 | 2 x4⅛ | 4,000 | 2 x4⅛ |
| 575 | 2½x4⅛ | 6,500 | 2½x4⅛ |
| 850 | 3 x4⅛ | 10,000 | 3 x4⅛ |

Types CQMS & CQMLS are units with insulating paper tubes, add 1/16" to diameter and 3/8" to length.
Types CQMV & CQMLV are units with insulating plastic tubes, add 1/16" to diameter and 1/4" to length.

## PYRAMID MODEL **CRA-2** CAPACITOR-RESISTOR-ANALYZER

**FEATURES**

1. "Quick Check" in circuit test for the following: Open circuits, Short Circuits, Intermittents, High RF Impedance, High Power Factor.
2. Check the following speedily and accurately: Capacitance, Power Factor, Resistance, Insulation-Resistance, Leakage Current, Continuity.
3. Precision meter for accurate readings of leakage current, applied voltage and insulation resistance.
4. Combination Wien and Wheatstone bridge.
5. Accurate vacuum-tube ohmmeter circuit.
6. Parts of the highest quality are used. Wire and wiring meet military specifications.

DEALER NET

Pyramid Electric Company introduces the CRA-2, Capacitor-Resistor Analyzer, a versatile, up to date, moderately priced test instrument. The CRA-2 is the perfect multi-purpose analyzer for the technician, serviceman and engineer, in industrial and military electronics, black and white, and color-television, and all related fields.

The guesswork has been removed from circuit trouble shooting. When making leakage-current measurements, the values are read directly from the meter while the rated operating voltage is applied to the capacitor. A vacuum-tube ohmmeter circuit displays accurate insulation-resistance values on the meter for many types of capacitors. The extended range calibrated power factor control permits power factor measurements of electrolytic capacitors rated as low as 6 volts DC working and as high as 600 volts DC working. The special "QUICK CHECK" circuits perform rapid "IN CIRCUIT" test for short, open, intermittent high RF impedance and high power factor without removing or disconnecting the component from its operating circuit.

Write to the Pyramid Electric Company, North Bergen, N. J., for further technical and distributor information.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**PYRAMID**

**PYRAMID ELECTRIC COMPANY • NORTH BERGEN, NEW JERSEY**

**THE BIG NAME IN CAPACITORS AND SELENIUM RECTIFIERS TODAY**

## TYPE IMP MOLDED TABULAR PAPER CAPACITORS

Noninductive extended-foil section molded in noninflammable thermosetting plastic. High insulation resistance. Excellent power factor. Withstands standard RETMA Humidity-resistance Test. Extremely rugged. Very long life.

**Temperature Rating:**
—40° C. to +100° C.

**Standard Tolerance:**

| | | | |
|---|---|---|---|
| .0001- .001 | UF: | —25% | to +60% |
| .0011- .009 | UF: | —20% | to +40% |
| .01 -1.0 | UF: | —20% | to +20% |

| Catalog Number | Cap in UF | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| IMP2-S2 | .02 | 3/8x1 1/4 |
| IMP2-S47 | .047 | 3/8x1 1/4 |
| IMP2-S5 | .05 | 3/8x1 1/4 |
| IMP2-P1 | .1 | 1/2x1 1/4 |
| IMP2-P15 | .15 | 1/2x1 1/2 |
| IMP2-P25 | .25 | 5/8x1 7/8 |
| IMP2-P47 | .47 | 5/8x1 7/8 |
| IMP2-P5 | .5 | 5/8x1 7/8 |
| IMP2-1 | 1. | 3/4x2 1/4 |
| **400 VOLTS DC WORKING** | | |
| IMP4-S1 | .01 | 1/2x1 |
| IMP4-S2 | .02 | 3/8x1 1/4 |
| IMP4-S22 | .022 | 3/8x1 1/4 |
| IMP4-S25 | .025 | 3/8x1 1/4 |
| IMP4-S3 | .03 | 3/8x1 1/4 |
| IMP4-S4 | .04 | 1/2x1 1/4 |
| IMP4-S47 | .047 | 1/2x1 1/4 |
| IMP4-S5 | .05 | 1/2x1 1/4 |
| IMP4-S68 | .068 | 1/2x1 1/2 |
| IMP4-P1 | .1 | 1/2x1 1/2 |
| IMP4-P15 | .15 | 5/8x1 7/8 |
| IMP4-P22 | .22 | 5/8x1 7/8 |
| IMP4-P25 | .25 | 5/8x1 7/8 |
| IMP4-P47 | .47 | 3/4x2 1/4 |
| IMP4-P5 | .5 | 3/4x2 1/4 |
| **600 VOLTS DC WORKING** | | |
| IMP6-T1 | .0001 | 1/2x1 |
| IMP6-T25 | .00025 | 1/2x1 |
| IMP6-T4 | .0004 | 1/2x1 |
| IMP6-T5 | .0005 | 1/2x1 |
| IMP6-D1 | .001 | 1/2x1 |
| IMP6-D15 | .0015 | 1/2x1 |
| IMP6-D2 | .002 | 1/2x1 |
| IMP6-D22 | .0022 | 1/2x1 |
| IMP6-D3 | .003 | 1/2x1 |
| IMP6-D33 | .0033 | 1/2x1 |
| IMP6-D4 | .004 | 1/2x1 |
| IMP6-D47 | .0047 | 1/2x1 |
| IMP6-D5 | .005 | 1/2x1 |
| IMP6-D6 | .006 | 3/8x1 1/4 |
| IMP6-D68 | .0068 | 3/8x1 1/4 |
| IMP6-D8 | .008 | 3/8x1 1/4 |
| IMP6-S1 | .01 | 3/8x1 1/4 |
| IMP6-S15 | .015 | 3/8x1 1/4 |
| IMP6-S2 | .02 | 1/2x1 1/4 |
| IMP6-S22 | .022 | 1/2x1 1/4 |
| IMP6-S3 | .03 | 1/2x1 1/4 |
| IMP6-S33 | .033 | 1/2x1 1/2 |
| IMP6-S4 | .04 | 1/2x1 1/2 |
| IMP6-S47 | .047 | 1/2x1 1/2 |
| IMP6-S5 | .05 | 1/2x1 1/2 |
| IMP6-S6 | .06 | 5/8x1 7/8 |
| IMP6-S68 | .068 | 5/8x1 7/8 |
| IMP6-P1 | .1 | 5/8x1 7/8 |
| IMP6-P2 | .2 | 3/4x2 1/4 |
| IMP6-P22 | .22 | 3/4x2 1/4 |
| IMP6-P25 | .25 | 3/4x2 1/4 |
| CT6-P5* | .5 | 1/2x2 3/4 |

*Supplied in mineral-oil impregnated ceramic-case units.

## TYPE CT CERAMIC-CASED TUBULAR PAPER CAPACITORS

**Temperature Rating:**
—40° C. to +85° C.

**Standard Tolerance:**

| | | | |
|---|---|---|---|
| .0001- .009 | UF: | —25% | to +60% |
| .0011- .009 | UF: | —20% | to +40% |
| .01 -1.0 | UF: | —20% | to +20% |

Noninductive extended-foil section assembled in finest grade ceramic (steatite) tube. Tinned leads firmly imbedded. Permanently sealed against moisture and humidity. End-seals cannot soften or melt even at more than 85° C. temperatures.

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| CT2-S5 | .05 | 3/8x1 3/8 |
| CT2-P15 | .15 | 5/8x2 |
| CT2-P2 | .2 | 5/8x2 |
| CT2-P22 | .22 | 5/8x2 |
| CT2-P25 | .25 | 3/4x2 |
| CT2-P5 | .5 | 1x2 |
| CT2-1 | 1.0 | 1x2 7/8 |
| **400 VOLTS DC WORKING** | | |
| CT4-S1 | .01 | 1/2x1 1/8 |
| CT4-S15 | .015 | 3/8x1 3/8 |
| CT4-S2 | .02 | 3/8x1 3/8 |
| CT4-S22 | .022 | 3/8x1 3/8 |
| CT4-S25 | .025 | 1/2x1 3/8 |
| CT4-S3 | .03 | 1/2x1 3/8 |
| CT4-S33 | .033 | 1/2x1 3/8 |
| CT4-S4 | .04 | 1/2x1 5/8 |
| CT4-S47 | .047 | 1/2x1 5/8 |
| CT4-S5 | .05 | 1/2x1 5/8 |
| CT4-S68 | .068 | 1/2x1 5/8 |
| CT4-P1 | .1 | 1/2x1 5/8 |
| CT4-P15 | .15 | 3/4x2 |
| CT4-P2 | .2 | 1x2 |
| CT4-P22 | .22 | 1x2 |
| CT4-P25 | .25 | 1x2 |
| CT4-P5 | .5 | 1x2 7/8 |
| **600 VOLTS DC WORKING** | | |
| CT6-T5 | .0005 | 1/2x1 1/8 |
| CT6-D1 | .001 | 1/2x1 1/8 |
| CT6-D15 | .0015 | 1/2x1 1/8 |
| CT6-D2 | .002 | 1/2x1 1/8 |
| CT6-D22 | .0022 | 1/2x1 1/8 |
| CT6-D3 | .003 | 1/2x1 1/8 |
| CT6-D33 | .0033 | 1/2x1 1/8 |
| CT6-D4 | .004 | 1/2x1 1/8 |
| CT6-D47 | .0047 | 1/2x1 1/8 |
| CT6-D5 | .005 | 1/2x1 1/8 |
| CT6-D6 | .006 | 3/8x1 3/8 |
| CT6-D68 | .0068 | 3/8x1 3/8 |
| CT6-S1 | .01 | 3/8x1 3/8 |
| CT6-S15 | .015 | 3/8x1 3/8 |
| CT6-S2 | .02 | 1/2x1 3/8 |
| CTS-S22 | .022 | 1/2x1 3/8 |
| CT6-S25 | .025 | 1/2x1 5/8 |
| CT6-S3 | .03 | 1/2x1 5/8 |
| CT6-S33 | .03 | 1/2x1 5/8 |
| CT6-S4 | .04 | 1/2x1 5/8 |
| CT6-S47 | .047 | 1/2x1 5/8 |
| CT6-S5 | .05 | 1/2x1 5/8 |
| CT6-S68 | .068 | 5/8x2 |
| CT6-P1 | .1 | 5/8x2 |
| CT6-P15 | .15 | 3/4x2 |
| CT6-P2 | .2 | 3/4x2 |
| CT6-P22 | .22 | 1x2 |
| CT6-P25 | .25 | 1x2 |
| CT6-P5 | .5 | 1x2 7/8 |
| **1,000 VOLTS DC WORKING** | | |
| CT10-D1 | .001 | 1/2x1 1/8 |
| CT10-D15 | .0015 | 1/2x1 1/8 |
| CT10-D2 | .002 | 1/2x1 1/8 |
| CT10-D22 | .0022 | 1/2x1 1/8 |
| CT10-D3 | .003 | 3/8x1 3/8 |
| CT10-D33 | .0033 | 3/8x1 3/8 |
| CT10-D4 | .004 | 3/8x1 3/8 |
| CT10-D47 | .0047 | 3/8x1 3/8 |
| CT10-D5 | .005 | 3/8x1 3/8 |
| CT10-D56 | .0056 | 3/8x1 3/8 |
| CT10-D6 | .006 | 3/8x1 3/8 |
| CT10-D68 | .0068 | 3/8x1 3/8 |
| CT10-D7 | .007 | 3/8x1 3/8 |
| CT10-D75 | .0075 | 3/8x1 3/8 |
| CT10-D8 | .008 | 3/8x1 3/8 |
| CT10-D82 | .0082 | 3/8x1 3/8 |
| CT10-S1 | .01 | 3/8x1 3/8 |
| CT10-S15 | .015 | 1/2x1 3/8 |
| CT10-S2 | .02 | 1/2x1 5/8 |
| CT10-22 | .022 | 1/2x1 5/8 |
| CT10-S25 | .025 | 1/2x1 5/8 |
| CT10-S3 | .03 | 1/2x1 5/8 |
| CT10-S33 | .033 | 5/8x2 |
| CT10-S4 | .04 | 5/8x2 |
| CT10-S47 | .047 | 5/8x2 |
| CT10-S5 | .05 | 5/8x2 |
| CT10-S68 | .068 | 3/4x2 |
| CT10-P1 | .1 | 1x2 |
| CT10-P15 | .15 | 1x2 1/4 |
| CT10-P2 | .2 | 1x2 7/8 |
| **1,600 VOLTS DC WORKING (Buffer Capacitors)** | | |
| CT16-D1 | .001 | 3/8x1 3/8 |
| CT16-D15 | .0015 | 3/8x1 3/8 |
| CT16-D2 | .002 | 3/8x1 3/8 |
| CT16-P22 | .0022 | 3/8x1 3/8 |
| CT16-DA | .003 | 1/2x1 3/8 |
| CT16-D33 | .0033 | 1/2x1 3/8 |
| CT16-D4 | .004 | 1/2x1 3/8 |
| CT16-D47 | .0047 | 1/2x1 3/8 |
| CT16-D5 | .005 | 1/2x1 3/8 |
| CT16-D56 | .0056 | 1/2x1 3/8 |
| CT16-D6 | .006 | 1/2x1 5/8 |
| CT16-D68 | .0068 | 1/2x1 5/8 |
| CT16-D7 | .007 | 1/2x1 5/8 |
| CT16-D75 | .0075 | 1/2x1 5/8 |
| CT16-D8 | .008 | 1/2x1 5/8 |
| CT16-D82 | .0082 | 1/2x1 5/8 |
| CT16-S1 | .01 | 1/2x1 5/8 |
| CT16-S15 | .015 | 5/8x2 |
| CT16-S2 | .02 | 5/8x2 |
| CT16-S22 | .022 | 3/4x2 |
| CT16-S25 | .025 | 3/4x2 |
| CT16-S3 | .03 | 3/4x2 |
| CT16-S33 | .033 | 3/4x2 |
| CT16-S4 | .04 | 1x2 1/4 |
| CT16-S47 | .047 | 1x2 1/4 |
| CT16-S5 | .05 | 1x2 1/4 |
| CT16-S68 | .068 | 1x2 7/8 |
| CT16-P1 | .1 | 1x2 7/8 |
| **6,000 VOLTS DC WORKING** | | |
| CT60-T5 | .0005 | 5/8x2 |
| CT60-D1 | .001 | 5/8x2 |
| CT60-D5 | .005 | 1x2 1/4 |
| **10,000 VOLTS DC WORKING** | | |
| CT100-T5 | .0005 | 5/8x2 |
| CT100-D1 | .001 | 3/4x2 5/8 |
| **12,500 VOLTS DC WORKING** | | |
| CT125-T25 | .00025 | 3/4x2 5/8 |
| CT125-T5 | .0005 | 3/4x2 5/8 |

## TYPE 85 LPT MINIATURE TUBULAR PAPER CAPACITORS

Noninductive extended-foil section assembled in phenolic-impregnated tube. Plastic end-seals. With stands standard RETMA Humidity-resistance Test. Sturdy construction permits continuous operation at rated DC voltage, yet retains all the advantages of extremely small size.

**Temperature Rating:**
—40° C. to +85° C.

**Standard Tolerance:**

| | | | |
|---|---|---|---|
| .0001- .001 | UF: | —25% | to +60% |
| .0011- .009 | UF: | —20% | to +40% |
| .01 -1.0 | UF: | —25% | to +20% |

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| 85LPT2-D5 | .005 | 1/4x 5/8 |
| 85LPT2-D6 | .006 | 1/4x 5/8 |
| 85LPT2-S1 | .01 | 1/4x 5/8 |
| 85LPT2-S2 | .02 | 1/2x 1 |
| 85LPT2-S5 | .05 | 1/2x1 |
| 85LPT2-P1 | .1 | 1/2x1 |
| 85LPT2-P15 | .15 | 1/2x1 1/8 |
| 85LPT2-P2 | .2 | 1/2x1 1/8 |
| 85LPT2-P25 | .25 | 1/2x1 1/8 |
| 85LPT2-P5 | .5 | 5/8x1 1/2 |
| **400 VOLTS DC WORKING** | | |
| 85LPT4-D3 | .003 | 1/4x 5/8 |
| 85LPT4-D4 | .004 | 1/4x 5/8 |
| 85LPT4-D5 | .005 | 1/4x 1 |
| 85LPT4-D6 | .006 | 1/4x 1 |
| 85LPT4-S1 | .01 | |
| 85LPT4-S2 | .02 | 1/2x1 |
| 85LPT4-S5 | .05 | 1/2x1 |
| 85LPT4-P1 | .1 | 1/2x1 1/8 |
| 85LPT4-P15 | .15 | 5/8x1 1/8 |
| 85LPT4-P2 | .2 | 5/8x1 1/8 |
| 85LPT4-P25 | .25 | 5/8x1 1/2 |
| 85LPT4-P5 | .5 | 5/8x2 |
| **600 VOLTS DC WORKING** | | |
| 85LPT6-11 | .0001 | 1/4x 5/8 |
| 85LPT6-T5 | .0005 | 1/4x 5/8 |
| 85LPT6-D1 | .001 | 1/4x 5/8 |
| 85LPT6-D2 | .002 | 1/4x 5/8 |
| 85LPT6-D3 | .003 | 1/2x 1 |
| 85LPT6-D4 | .004 | 1/2x 1 |
| 85LPT6-D5 | .005 | 1/2x 1 |
| 85LPT6-D6 | .006 | |
| 85LPT6-S1 | .01 | 1/2x1 |
| 85LPT6-S2 | .02 | 1/2x1 |
| 85LPT6-S5 | .05 | 1/2x1 1/8 |
| 85LPT6-P1 | .1 | 5/8x1 1/8 |
| 85LPT6-P15 | .15 | 5/8x1 1/8 |
| 85LPT6-P2 | .2 | 5/8x1 3/4 |
| 85LPT6-P25 | .25 | 5/8x2 |

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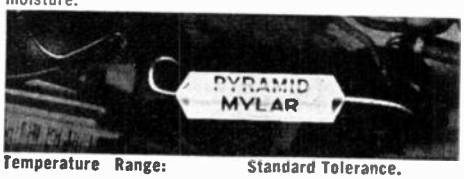
## TYPE 109 CERAMIC CASED "MYLAR" CAPACITORS

Noninductive polyester film extended foil section, assembled in a rugged non-porus Steatite case. The ends are filled with thermosetting Pyroset resin. Heavily tinned leads are firmly embedded in the resin and will not pull out. Sizes are greatly reduced. Very high insulation resistance, dielectric impervious to moisture.



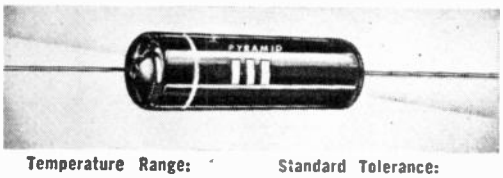

**Temperature Range:** —30°C. to +85°C.

**Standard Tolerance.**
.001 to .0047 Mfd. ±30%
.005 to 1.0 Mfd. ±20%
(Closer tolerances available.)

| Catalog Number | Cap. in Mfd. | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| 109-2S2 | .02 | 5/16 x 15/16 |
| 109-2S47 | .047 | 3/8x1 3/16 |
| 109-2S5 | .05 | 3/8x1 3/16 |
| 109-2P1 | .1 | 3/8x1 3/16 |
| 109-2P15 | .15 | 7/16x1¼ |
| 109-2P22 | .22 | 7/16x1 7/16 |
| 109-2P25 | .25 | 15/16x1 7/16 |
| 109-2P47 | .47 | 5/8x1⅞ |
| 109-2P5 | .5 | 5/8x1⅞ |
| 109-2-1 | 1.0 | ¾x1⅞ |
| **400 VOLTS DC WORKING** | | |
| 109-4S1 | .01 | 5/16 x 15/16 |
| 109-4S15 | .015 | 5/16 x 15/16 |
| 109-4S2 | .02 | 5/16 x 15/16 |
| 109-4S22 | .022 | 3/8x1 3/16 |
| 109-4S33 | .033 | 3/8x1 3/16 |
| 109-4S47 | .047 | 3/8x1 3/16 |
| 109-4S5 | .05 | 3/8x1 3/16 |
| 109-4S68 | .068 | 7/16x1¼ |
| 109-4P1 | .1 | 7/16x1 7/16 |
| 109-4P15 | .15 | 15/16x1 7/16 |
| 109-4P22 | .22 | 5/8x1⅞ |
| 109-4P25 | .25 | 5/8x1⅞ |
| 109-4P33 | .33 | 5/8x1⅞ |
| 109-4P47 | .47 | ¾x1⅞ |
| 109-4P5 | .5 | ¾x1⅞ |
| 109-4P68 | .68 | 13/16x2⅛ |
| 109-4-1 | 1.0 | 1 x2¼ |
| **600 VOLTS DC WORKING** | | |
| 109-6T1 | .0001 | 5/16 x 15/16 |
| 109-6T25 | .00025 | 5/16 x 15/16 |
| 109-6T4 | .0004 | 5/16 x 15/16 |
| 109-6T5 | .0005 | 5/16 x 15/16 |
| 109-6D1 | .001 | 5/16 x 15/16 |
| 109-6D15 | .0015 | 5/16 x 15/16 |
| 109-6D2 | .002 | 5/16 x 15/16 |
| 109-6D22 | .0022 | 5/16 x 15/16 |
| 109-6D3 | .003 | 5/16 x 15/16 |
| 109-6D33 | .0033 | 5/16 x 15/16 |
| 109-6D4 | .004 | 5/16 x 15/16 |
| 109-6D47 | .0047 | 5/16 x 15/16 |
| 109-6D5 | .005 | 5/16 x 15/16 |
| 109-6D6 | .006 | 5/16 x 15/16 |
| 109-6D68 | .0068 | 5/16 x 15/16 |
| 109-6S1 | .01 | 7/16 x 15/16 |
| 109-6S15 | .015 | 3/8x1 3/16 |
| 109-6S2 | .02 | 3/8x1 3/16 |
| 109-6S22 | .022 | 3/8x1 3/16 |
| 109-6S3 | .03 | 7/16 x1¼ |
| 109-6S33 | .033 | 7/16 x1¼ |
| 109-6S4 | .04 | 7/16 x1 7/16 |
| 109-6S47 | .047 | 7/16 x1 7/16 |
| 109-6S5 | .05 | 7/16 x1 7/16 |
| 109-6S6 | .06 | 15/16 x1 7/16 |
| 109-6S68 | .068 | 15/16 x1 7/16 |
| 109-6P1 | .1 | 5/8x1⅞ |
| 109-6P15 | .15 | 5/8x1⅞ |
| 109-6P2 | .2 | ¾x1⅞ |
| 109-6P22 | .22 | ¾x1⅞ |
| 109-6P25 | .25 | ¾x1⅞ |
| 109-6P33 | .33 | 13/16x2⅛ |
| 109-6P47 | .47 | 1 x2¼ |
| 109-6P5 | .5 | 1 x2¼ |

## TYPE 111 MOLDED "MYLAR CAPACITORS

Noninductive polyester film extended foil section, molded in an non-inflammable thermosetting plastic case. Very high insulation resistance. Excellent power factor. Greatly reduced sizes. Dielectric impervious to moisture. Extremely rugged with a very long life.




**Temperature Range:** —30°C. to +85°C.

**Standard Tolerance:**
.001 to .0047 Mfd. ±30%
.005 to 1.0 Mfd. ±20%
(Closer tolerances available.)

| Catalog Number | Cap. in Mfd. | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| 111-2S2 | .02 | 5/16 x1 |
| 111-2S47 | .047 | 3/8x1¼ |
| 111-2S5 | .05 | 3/8x1¼ |
| 111-2P1 | .1 | 3/8x1¼ |
| 111-2P15 | .15 | 7/16x1¼ |
| 111-2P22 | .22 | ½x1½ |
| 111-2P25 | .25 | ½x1½ |
| 111-2P47 | .47 | 5/8x1⅞ |
| 111-2P5 | .5 | 5/8x1⅞ |
| 111-2-1 | 1.0 | ¾x2¼ |
| **400 VOLTS DC WORKKING** | | |
| 111-4S1 | .01 | 5/16 x1 |
| 111-4S15 | .015 | 5/16 x1 |
| 111-4S2 | .02 | 3/8x1¼ |
| 111-4S22 | .022 | 3/8x1¼ |
| 111-4S33 | .033 | 3/8x1¼ |
| 111-4S47 | .047 | 3/8x1¼ |
| 111-4S5 | .05 | 3/8x1¼ |
| 111-4S68 | .068 | 7/16x1¼ |
| 111-4P1 | .1 | ½x1½ |
| 111-4P15 | .15 | ½x1½ |
| 111-4P22 | .22 | 5/8x1⅞ |
| 111-4P25 | .25 | 5/8x1⅞ |
| 111-4P33 | .33 | 5/8x1⅞ |
| 111-4P47 | .47 | ¾x2¼ |
| 111-4P5 | .5 | ¾x2¼ |
| 111-4P68 | .68 | ¾x2¼ |
| **600 VOLTS DC WORKING** | | |
| 111-6T1 | .0001 | 5/16 x1 |
| 111-6T25 | .00025 | 5/16 x1 |
| 111-6T4 | .0004 | 5/16 x1 |
| 111-6T5 | .0005 | 5/16 x1 |
| 111-6T5 | .0005 | 5/16 x1 |
| 111-6D1 | .001 | 5/16 x1 |
| 111-6D15 | .0015 | 5/16 x1 |
| 111-6D2 | .002 | 5/16 x1 |
| 111-6D22 | .0022 | 5/16 x1 |
| 111-6D3 | .003 | 5/16 x1 |
| 111-6D33 | .0033 | 5/16 x1 |
| 111-6D4 | .004 | 5/16 x1 |
| 111-6D47 | .0047 | 5/16 x1 |
| 111-6D5 | .005 | 5/16 x1 |
| 111-6D6 | .006 | 5/16 x1 |
| 111-6D68 | .0068 | 5/16 x1 |
| 111-6S1 | .01 | 5/16 x1 |
| 111-6S15 | .015 | 3/8x1¼ |
| 111-6S2 | .02 | 3/8x1¼ |
| 111-6S22 | .022 | 3/8x1 3/16 |
| 111-6S3 | .03 | 7/16x1¼ |
| 111-6S33 | .033 | 7/16 x1¼ |
| 111-6S4 | .04 | 7/16 x1¼ |
| 111-6S47 | .047 | 7/16 x1¼ |
| 111-6S5 | .05 | 7/16 x1¼ |
| 111-6S6 | .06 | 7/16 x1¼ |
| 111-6S68 | .068 | 7/16 x1¼ |
| 111-6P1 | .1 | 5/8x1⅞ |
| 111-6P15 | .15 | 5/8x1⅞ |
| 111-6P2 | .2 | ¾x1⅞ |
| 111-6P22 | .22 | ¾x2¼ |
| 111-6P25 | .25 | ¾x2¼ |
| 111-6P33 | .33 | ¾x2¼ |

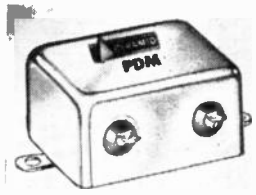
## TYPE PDM BATHTUB-TYPE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated drawn-shell container. Mineral-oil impregnated and filled. Lug-type terminal seals. Meets electrical requirements of MIL-C-25A.

**Temperature Rating:** —55°C. to +85°C.
**Standard Tolerance:** —10% to +20%

| | |
|---|---|
| 1 13/16x1 | 2⅛ |
| 2x1¾ | 2⅜ |
| 2x2 | 2⅜ |

**Distance between Mounting Hole Centers**
**Length x width Dist.**




**PDM VARIATIONS**
**PDM** Similar to MIL Type CP53, with terminals on side.
**PDMT** (CP54) With terminals on top.
**PDMB** (CP55) With terminals on the bottom.

| Catalog Number | Cap. in UF | Inches L x W x H |
|---|---|---|
| **400 VOLTS DC WORKING** | | |
| PDM4-S5 | .05 | 1 13/16x1 x ¾ |
| PDM4-P1 | .1 | 1 13/16x1 x ¾ |
| PDM4-P25 | .25 | 1 13/16x1 x ¾ |
| PDM4-P5 | .5 | 1 13/16x1 x 13/16 |
| PDM4-1 | 1.0 | 2 x1¾x ⅞ |
| PDM4-2 | 2.0 | 2 x2 x1 3/16* |
| **600 VOLTS DC WORKING** | | |
| PDM6-S5 | .05 | 1 13/16x1 x ¾ |
| PDM6-P1 | .1 | 1 13/16x1 x ¾ |
| PDM6-P25 | .25 | 1 13/16x1 x ¾ |
| PDM6-1 | 1.0 | 1 13/16x1 x1 |
| PDM6-P5 | .5 | 2 x1¾x ⅞ |
| PDM6-2 | 2.0 | 2 x2 x1 3/16* |
| **1,000 VOLTS DC WORKING** | | |
| PDM10-S5 | .05 | 1 13/16x1 x ¾ |
| PDM10-P1 | .1 | 1 13/16x1 x ¾ |
| PDM10-P25 | .25 | 1 13/16x1 x 13/16 |
| PDM10-P5 | .5 | 2 x1¾x ⅞ |
| PDM10-1 | 1.0 | 2 x2 x1⅛* |
| **400 VOLTS DC WORKING** | | |
| 2PDM4-S5 | .05- .05 | 1 13/16x1 x ¾ |
| 2PDM4-P1 | .1 - .1 | 1 13/16x1 x ¾ |
| 2PDM4-P25 | .25- .25 | 1 13/16x1 x 13/16 |
| 2PDM4-P5 | .5 - .5 | 2 x1¾x ⅞ |
| 2PDM4-1 | 1.0 -1.0 | 2 x2 x1 3/16* |
| **600 VOLTS DC WORKING** | | |
| 2PDM6-S5 | .05- .05 | 1 13/16x1 x ¾ |
| 2PDM6-P1 | .1 - .1 | 1 13/16x1 x ¾ |
| 2PDM6-P25 | .25- .25 | 1 13/16x1 x1 |
| 2PDM6-P5 | .5 - .5 | 2 x1¾x ⅞ |
| 2PDM6-P1 | 1.0 -1.0 | 2 x2 x1 3/16* |
| **1,000 VOLTS DC WORKING** | | |
| 2PDM10-S5 | .05- .05 | 1 13/16x1 x ¾ |
| 2PDM10-P1 | .1 - .1 | 1 13/16x1 x ¾ |
| 2PDM10-P25 | .25- .25 | 2 x1¾x ⅞ |
| 2PDM10-P5 | .5 - .5 | 2 x2 x1⅛ |
| **PDM TRIPLE-CAPACITOR UNITS** | | |
| **400 VOLTS DC WORKING** | | |
| SPDM4-P1 | .1 -.1 -.1 | 1 13/16x1 x ¾ |
| 3PDM4-P25 | .25-.25-.25 | 2 x1¾x ⅞ |
| 3PDM4-P5 | .5 -.5 -.5 | 2 x2 x1 |
| **600 VOLTS DC WORKING** | | |
| 3PDM6-P1 | .1 -.1 -.1 | 1 13/16x1 x ¾ |
| 3PDM6-P25 | .25-.25-.25 | 2 x1¾x ⅞ |
| 3PDM6-P5 | .5 -.5 -.5 | 2 x2 x1 |
| **1,000 VOLTS DC WORKING** | | |
| 3PDM10-P1 | .1 -.1 -.1 | 2 x1¾x ⅞ |
| 3PDM10-P25 | .25-.25-.25 | 2 x2 x1⅛ |

## TYPE PEM SMALL-BASE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated container. Mineral-oil impregnated and filled. Lug-type terminal seals. Suitable for use in compact equipment. Meets electrical requirements of MIL-C-25A.

**PEM** Basic type.
**PEMT** Similar to MIL Type CP67, with channel bracket on end opposite terminals.
**PEMB** Similar to CP69, with channel bracket on same end as terminals.
**PEMT, PEMB Channel Bracket Dimensions:**
**Overall Length:** 2 7/16".
**Overall Width:** 41/64" (max.).
**Length between Mounting Slot Centers:** 2⅛".
**Mounting Slot Width:** 5/32".

**Temperature Rating:** —55°C. to +85°C.
**Standard Tolerance:** —10% to +20%

| Catalog Number | Cap. in UF | Inches L x W x H |
|---|---|---|
| **Pem Single-Capacitor Units** | | |
| **600 VOLTS DC WORKING** | | |
| PEM6-S5 | .05 | 1 13/16x⅝x1 1/16 |
| PEM6-P1 | .1 | 1 13/16x⅝x1 1/16 |
| PEM6-P25 | .25 | 1 13/16x⅝x1½ |
| PEM6-P5 | .5 | 1 13/16x⅝x2 |
| PEM6-1 | 1.0 | 1 13/16x⅝x2½ |
| **1,000 VOLTS DC WORKING** | | |
| PEM10-S5 | .05 | 1 13/16x⅝x1 1/16 |
| PEM10-P1 | .1 | 1 13/16x⅝x1 1/16 |
| PEM10-P5 | .5 | 1 13/16x⅝x2½ |
| PEM10-P5 | .5 | 1 13/16x⅝x1 1/16 |
| **Pem Dual-Capacitor Units** | | |
| **600 VOLTS DC WORKING** | | |
| 2PEM6-S5 | .05—.05 | 1 13/16x⅝x1 1/16 |
| 2PEM6-P1 | .1 —.1 | 1 13/16x⅝x1½ |
| 2PEM6-P25 | .25—.25 | 1 13/16x⅝x2 |
| 8PEM6-P5 | .5 —.5 | 1 13/16x⅝x2½ |
| **1,000 VOLTS DC WORKING** | | |
| 2PEM10-S5 | .05—.05 | 1 13/16x⅝x1 1/16 |
| 2PEM10-P1 | .1 —.1 | 1 13/16x⅝x1½ |
| 2PEM10-P25 | .25—.25 | 1 13/16x⅝x2½ |
| **Pem Triple-Capacitor Units** | | |
| **600 VOLTS DC WORKING** | | |
| 3PEM6-S5 | .05-.05-.05 | 1 13/16x⅝x1 1/16 |
| 3PEM6-P1 | .1 -.1 -.1 | 1 13/16x⅝x1½ |
| 3PEM6-P25 | .25-.25-.25 | 1 13/16x⅝x2½ |
| **1,000 VOLTS DC WORKING** | | |
| 3PEM10-S5 | .05-.05-.05 | 1 13/16x⅝x1½ |
| 3PEM10-P1 | .1 -.1 -.1 | 1 13/16x⅝x2 |



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World Radio History

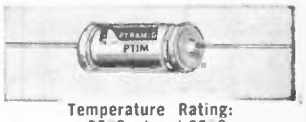
## TYPE **PTIM** METAL TUBULAR OIL PAPER CAPACITORS

Noninductively wound section assembled in hermetically sealed metal tubular case. Mineral-oil impregnated and filled. Neoprene-Bakelite enddiscs. Meets electrical requirements of MIL-C-25A.

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **600 VOLTS DC WORKING** | | |
| PTIM6-D3 | .003 | 5/16 x1 1/8 |
| PTIM6-D5 | .005 | 7/16 x1 1/8 |
| PTIM6-D6 | .006 | 7/16 x1 1/8 |
| PTIM6-S1 | .01 | 7/16 x1 1/8 |
| PTIM6-S2 | .02 | 7/16 x1 1/8 |
| PTIM6-S5 | .05 | 5/8 x1 1/8 |
| PTIM6-P1 | .1 | 5/8 x1 5/8 |
| PTIM6-P25 | .25 | 3/4 x2 1/16 |
| PTIM6-P5 | .5 | 1 x2 1/16 |
| **1,000 VOLTS DC WORKING** | | |
| PTIM10-D3 | .003 | 7/16 x1 1/8 |
| PTIM10-D5 | .005 | 7/16 x1 1/8 |
| PTIM10-D6 | .006 | 7/16 x1 1/8 |
| PTIM10-S1 | .01 | 7/16 x1 1/8 |
| PTIM10-S2 | .02 | 5/8 x1 1/8 |
| PTIM10-S5 | .05 | 5/8 x1 5/8 |
| PTIM10-P1 | .1 | 3/4 x1 7/8 |
| PTIM10-P25 | .25 | 1 x2 1/16 |
| PTIM10-P5 | .5 | 1 x3 1/8 |
| **1,600 VOLTS DC WORKING** | | |
| PTIM16-D3 | .003 | 43/64 x1 1/8 |
| PTIM16-D5 | .005 | 43/64 x1 1/8 |
| PTIM16-D6 | .006 | 43/64 x1 1/8 |
| PTIM16-S1 | .01 | 43/64 x1 7/16 |
| PTIM16-S2 | .02 | 43/64 x1 7/16 |
| PTIM16-S5 | .05 | 43/64 x2 1/16 |
| PTIM16-P1 | .1 | 1 x2 1/16 |

**PTIM VARIATIONS**

**PTIM** Basic type similar to MIL Type CP25.
**PTIMV** (CP26) With insulating plastic sleeve.
**4PTIM** (CP27) With riveted radial bracket.
**4PTIMV** (CP28) With insulating plastic sleeve and riveted radial bracket.
**7PTIM** (CP29) With soldered tangential bracket.

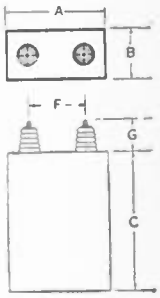



**Temperature Rating:** —55° C. to +85° C.
**Standard Tolerance:** —10% to +20%

## TYPE **PJ** HIGH-VOLTAGE OIL-PAPER CAPACITORS

Section assembled in container of heavy gage steel, welded oil tight and hot tinned. Mineral oil impregnated and mineral oil filled. Case and terminals are bonded together. Low leakage current and negligible capacity change over wide range of operating temperature. For higher voltage and other information write to Pyramid Sales Engineering Department.

| Catalog Number | Cap in UF | Size in In. A | B | C | F | G |
|---|---|---|---|---|---|---|
| **6,000 VOLTS DC WORKING** | | | | | | |
| PJ60-2 | 2 | 8 | 4 | 11 | 4½ | 2⅝ |
| PJ60-4 | 4 | 12 | 4 | 11 | 6 | 2⅝ |
| PJ-60-5 | 5 | 12 | 6 | 11 | 6 | 2⅝ |
| PJ-60-6 | 6 | 12 | 6 | 11 | 6 | 2⅝ |
| PJ-60-10 | 10 | 12 | 6 | 16 | 6 | 2⅝ |
| **7,500 VOLTS DC WORKING** | | | | | | |
| PJ75-P5 | .5 | 8 | 4 | 11 | 4½ | 2⅝ |
| PJ75-1 | 1 | 8 | 4 | 11 | 4½ | 2⅝ |
| PJ75-2 | 2 | 12 | 4 | 11 | 6 | 2⅝ |
| PJ75-4 | 4 | 12 | 6 | 13 | 6 | 2⅝ |
| PJ75-6 | 6 | 12 | 7½ | 15 | 6 | 2⅝ |
| **10,000 VOLTS DC WORKING** | | | | | | |
| PJ100-P5 | .5 | 8 | 4 | 11 | 4½ | 2⅝ |
| PJ100-1 | 1 | 12 | 4 | 11 | 6 | 2⅝ |
| PJ100-2 | 2 | 12 | 6 | 11 | 6 | 2⅝ |
| PJ100-4 | 4 | 12 | 7½ | 16 | 6 | 2⅝ |
| PJ100-5 | 5 | 12 | 8 | 18 | 6 | 2⅝ |
| **12,500 VOLTS DC WORKING** | | | | | | |
| PJ125-P5 | .5 | 12 | 4 | 11 | 6 | 2⅝ |
| PJ125-1 | 1 | 12 | 6 | 11 | 6 | 2⅝ |
| PJ125-2 | 2 | 12 | 6 | 16 | 6 | 2⅝ |
| PJ125-5 | 5 | 12 | 12 | 18 | 6 | 2⅝ |
| **15,000 VOLTS DC WORKING** | | | | | | |
| PJ150-P25 | .25 | 8 | 4 | 11 | 4½ | 4¾ |
| PJ150-P5 | .5 | 12 | 4 | 11 | 6 | 4¾ |
| PJ150-1 | 1 | 12 | 6 | 13 | 6 | 4¾ |
| PJ150-2 | 2 | 12 | 8 | 18 | 6 | 4¾ |
| PJ150-3 | 3 | 12 | 11 | 18 | 6 | 4¾ |
| **20,000 VOLTS DC WORKING** | | | | | | |
| PJ200-P25 | .25 | 12 | 4 | 11 | 4½ | 4¾ |
| PJ200-P5 | .5 | 12 | 6 | 13 | 6 | 4¾ |
| PJ200-1 | 1 | 12 | 8 | 18 | 6 | 4¾ |
| PJ200-1.5 | 1.5 | 12 | 12 | 18 | 6 | 4¾ |
| **25,000 VOLTS DC WORKING** | | | | | | |
| PJ250-P25 | .25 | 12 | 6 | 11 | 6 | 4¾ |
| PJ250-P5 | .5 | 12 | 7½ | 16 | 6 | 4¾ |
| PJ250-P75 | .75 | 12 | 11 | 16 | 6 | 4¾ |
| PJ250-1 | 1 | 12 | 12 | 18 | 6 | 4¾ |




**Temperature Range:** — 55° C. to + 85° C.
**Capacity Tolerance:** — 5% to + 15%.

## TYPE **PKM** SMALL-BASE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated container. Mineral-oil impregnated and filled. Lug-type terminal seals. Suitable for use in compact equipment. Meets electrical requirements of MIL-C-25A.

**Temperature Rating:** —55° C. to +85° C.
**Standard Tolerance:** —10% to +20%

| Catalog Number | Cap. in UF | Inches L x W x H |
|---|---|---|
| **400 VOLTS DC WORKING** | | |
| PKM4-S5 | .05 | 1 1/16 x47/64 x1 1/16 |
| PKM4-P1 | .1 | 1 1/16 x47/64 x1 1/16 |
| PKM-P25 | .25 | 1 1/16 x47/64 x1 3/8 |
| PKM4-P5 | .5 | 1 1/16 x47/64 x1 5/8 |
| PKM4-1 | 1.0 | 1 1/16 x47/64 x2½ |
| **600 VOLTS DC WORKING** | | |
| PKM6-S5 | .05 | 1 1/16 x47/64 x1 1/16 |
| PKM6-P1 | .1 | 1 1/16 x47/64 x1 1/16 |
| PKM6-P25 | .25 | 1 1/16 x47/64 x1 5/8 |
| PKM6-P5 | .5 | 1 1/16 x47/64 x2 |
| PKM6-1 | 1.0 | 1 1/16 x47/64 x2½ |
| **1,000 VOLTS DC WORKING** | | |
| PKM10-S5 | .05 | 1 1/16 x47/64 x1 1/16 |
| PKM10-P1 | .1 | 1 1/16 x47/64 x1 3/8 |
| PKM10-P25 | .25 | 1 1/16 x47/64 x2 |
| PKM10-P5 | .5 | 1 1/16 x47/64 x2½ |

**PKM VARIATIONS**

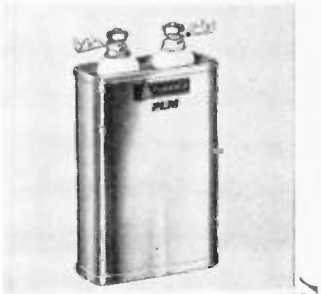
**PKM** Basic type similar to MIL Type CP61.
**PKMF** with CP06F footed bracket.
**PKMS** with CP06S spade bracket.
**PKMT** Similar to CP63 with channel bracket on end opposite terminals.
**PKMB** Similar to CP65 with channel bracket on same end as terminals.

**PKMT, PKMB Channel Bracket Dimensions:**
**Overall Length:** 2 1/16".
**Overall Width:** 49/64".
**Length bet. Mounting Slot Centers:** 1—13/16".
**Mounting Slot Width:** 9/32".

## TYPE **PLM** HIGH-VOLTAGE OIL-PAPER CAPACITORS

Section assembled in lacquer-finished terneplate case. Mineral-oil impregnated and filled. Ceramic terminal insulators with screw studs. Designed for heavy-duty continuous service. Fulfills the exacting requirements of power-supply and filter applications. Meets electrical requirements of characteristic "E" under MIL-C-25A. For higher voltage ratings and other information, write to Pyramid Sales Engineering Dept.

| Catalog Number | Cap. in UF | Inches L x W x H |
|---|---|---|
| **600 VOLTS DC WORKING** | | |
| PLM6-P5 | .5 | 1 11/16 x1 1/16 x1 5/8 |
| PLM6-1 | 1.0 | 1 11/16 x1 1/16 x2¼ |
| PLM6-2 | 2.0 | 1 11/16 x1 1/16 x3¼ |
| PLM6-3 | 3.0 | 1 11/16 x1 1/16 x4¾ |
| PLM6-4 | 4.0 | 2½x1 3/16 x3½ |
| PLM6-5 | 5.0 | 2½x1 1/16 x4¼ |
| PLM6-6 | 6.0 | 2½x1 3/16 x4¾ |
| PLM6-8 | 8.0 | 3¾x1¼x4¼ |
| PLM6-10 | 10.0 | 3¾x1¾x4 |
| **1,000 VOLTS DC WORKING** | | |
| PLM10-P1 | .1 | 1 11/16 x1 1/16 x1 5/8 |
| PLM10-P25 | .25 | 1 11/16 x1 1/16 x1 5/8 |
| PLM10-P5 | .5 | 1 11/16 x1 1/16 x2¼ |
| PLM10-1 | 1.0 | 1 11/16 x1 1/16 x2⅞ |
| PLM10-2 | 2.0 | 1 11/16 x1 1/16 x4¾ |
| PLM10-3 | 3.0 | 2½x1 3/16 x4¼ |
| PLM10-4 | 4.0 | 2½x1 3/16 x4¾ |
| PLM10-5 | 5.0 | 3¾x1¼x4¾ |
| PLM10-6 | 6.0 | 3¾x1¾x4 |
| PLM10-8 | 8.0 | 3¾x1¾x4¾ |
| PLM10-10 | 10.0 | 3¾x2¼x4¾ |
| PLM10-12 | 12.0 | 3¾x2¼x5⅛ |
| PLM10-15 | 15.0 | 3¾x3 1/16 x4¾ |
| **1,500 VOLTS DC WORKING** | | |
| PLM15-P5 | .5 | 1 11/16 x1 1/16 x2⅞ |
| PLM15-1 | 1.0 | 1 11/16 x1 1/16 x4¾ |
| PLM15-2 | 2.0 | 2½x1 3/16 x4¾ |
| PLM15-3 | 3.0 | 3¾x1¼x4¾ |
| PLM15-4 | 4.0 | 3¾x1½x4¾ |
| PLM15-5 | 5.0 | 3¾x2¼x4½ |
| PLM15-6 | 6.0 | 3¾x2¼x4¾ |
| PLM15-8 | 8.0 | 3¾x2½x4¾ |
| PLM15-10 | 10.0 | 3¾x3 1/16 x5⅛ |
| PLM15-12 | 12.0 | 3¾x3 1/16 x5½ |
| PLM15-15 | 15.0 | 4 3/16 x3¾x5⅛ |
| **2,000 VOLTS DC WORKING** | | |
| PLM20-P1 | .1 | 1 11/16 x1 1/16 x2¼ |
| PLM20-P25 | .25 | 1 11/16 x1 1/16 x2⅞ |
| PLM20-P5 | .5 | 1 11/16 x1 1/16 x3⅞ |
| PLM20-1 | 1.0 | 2½x1 3/16 x4¼ |
| PLM20-2 | 2.0 | 3¾x1¼x4¾ |
| PLM20-3 | 3.0 | 3¾x1¾x4¾ |
| PLM20-4 | 4.0 | 3¾x2¼x5⅛ |
| PLM20-5 | 5.0 | 3¾x3 3/16 x4¾ |
| PLM20-6 | 6.0 | 3¾x3 1/16 x5½ |
| PLM20-8 | 8.0 | 4 3/16 x3¾x5⅛ |
| PLM20-10 | 10.0 | 4 3/16 x3¾x6 |
| PLM20-12 | 12.0 | 4 3/16 x3¾x7½ |
| **2,500 VOLTS DC WORKING** | | |
| PLM25-P5 | .5 | 2½x1 3/16 x3⅞ |
| PLM25-1 | 1.0 | 3¾x1¾x3¼ |
| PLM25-2 | 2.0 | 3¾x2¼x4¾ |
| PLM25-4 | 4.0 | 4 3/16 x3¾x4⅜ |
| PLM25-10 | 10.0 | 4 3/16 x3¾x8½ |
| **3,000 VOLTS DC WORKING** | | |
| PLM30-P1 | .1 | 1 11/16 x1 1/16 x2⅞ |
| PLM30-P25 | .25 | 2½x1 3/16 x3½ |
| PLM30-P5 | .5 | 2½x1 3/16 x4¾ |
| PLM30-1 | 1.0 | 3¾x2¼x4½ |
| PLM30-2 | 2.0 | 3¾x3 1/16 x4¾ |
| PLM30-4 | 4.0 | 4 3/16 x3¾x5½ |
| **4,000 VOLTS DC WORKING** | | |
| PLM40-P1 | .1 | 3¾x2¼x2¾ |
| PLM40-P25 | .25 | 3¾x2¼x2¾ |
| PLM40-P5 | .5 | 3¾x2¼x4¾ |
| PLM40-1 | 1.0 | 3¾x3 1/16 x4¾ |
| PLM40-2 | 2.0 | 4 3/16 x3¾x6 |
| PLM40-4 | 4.0 | 4 3/16 x3¾x9⅝ |
| **5,000 VOLTS DC WORKING** | | |
| PLM50-P5 | .5 | 3¾x2¼x5⅛ |
| PLM50-1 | 1.0 | 4 3/16 x3¾x5⅛ |
| PLM50-2 | 2.0 | 4 3/16 x3¾x8½ |




**Temperature Rating:** —55°C. to +85°C.
**Standard Tolerance:** +10%.

**PLM VARIATIONS**

**PLM** Similar to MIL Type CP70.
**PLMF** With CP075 footed bracket.
**PLMS** With CP07S spade bracket.
**PLMU** With universal mounting bracket.
**PLMR** With riveted solder-lub MIL Type B terminals (furnished only through 2,000 VDCW rating).

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World Radio History

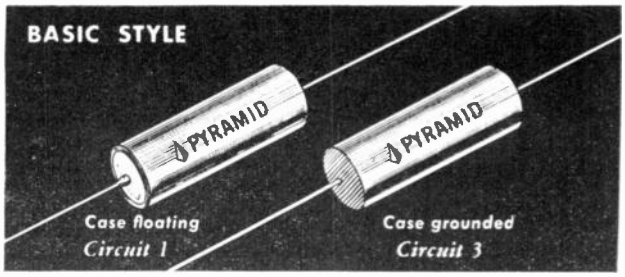
# GLASSEAL

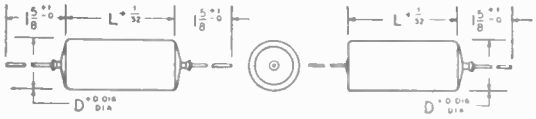
Trade Mark

## HERMETICALLY SEALED
*subminiature*
## TUBULAR PAPER CAPACITORS
## for 125° C operation at full rating

Pyramid "GLASSEAL" capacitors are subminiature metal cased tubular units which have been designed to meet severe and rigid operating requirements, especially where an important design consideration is limited space.

"GLASSEALS" have proven themselves to be unsurpassed in reliability over the entire operating temperature range from —55 C to + 125 C. Rigid inspection throughout the manufacturing processes assure their continued excellence.




Pyramid "GLASSEALS" are available in a variety of impregnants, and internal constructions hermetically sealed with glass-to-metal end seals in non-magnetic metal tubular cases. They are available in many mounting styles. See Engineering Catalog PG-3 for full details. Pyramid "GLASSEALS" are manufactured in accordance with MIL-C-25 1B and may be secured with MIL designations CP04, 05, 08, 09 10 and 11 whenever required.

STANDARD TOLERANCE: - 20%

CASE FLOATING Add 1/16 inch to length.

INSERTED TAB CONSTRUCTION — **PGIH** / **PGH** | **EPGIH** / **EPGH** — EXTENDED FOIL CONSTRUCTION

CASE GROUNDED

**H** HALOWAX IMPREGNANT
TEMPERATURE RANGE —40 C. to +85 C.

DIMENSIONS IN INCHES

| V D C | Cap. in Mfd. | PGIH* PGH D x L | EPGIH* EPGH D x L | Cap. in Mfd. | PGIH* PGH D x L | EPGIH* EPGH D x L | Cap. in Mfd. | PGIH* PGH D x L | EPGIH* EPGH D x L | Cap. in Mfd. | PGIH* PGH D x L | EPGIH* EPGH D x L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | .001 | .175x 1/4 | .175x 1/4 | .0068 | .175x 1/4 | .175x 1/4 | .047 | .235x 1/4 | .312x 1/4 | .25 | .400x 1/4 | .400x1 1/4 |
| 200 | .001 | .235x 1/4 | .235x 1/4 | .0068 | .235x 1/4 | .235x 1/4 | .047 | .312x 1/4 | .312x 1/4 | .25 | .400x1 1/4 | .400x1 1/4 |
| 300 | .001 | .235x 1/4 | .235x 1/4 | .0068 | .235x 1/4 | .235x 1/4 | .047 | .312x 1/4 | .400x 1/4 | .25 | .400x1 1/4 | .562x1 1/4 |
| 400 | .001 | .235x 1/4 | .235x 1/4 | .0068 | .235x 1/4 | .312x 1/4 | .047 | .312x 1/4 | .400x 1/4 | .25 | .562x1 1/4 | .562x1 1/4 |
| 100 | .0012 | .175x 1/4 | .175x 1/4 | .0082 | .175x 1/4 | .195x 1/4 | .05 | .235x 1/4 | .312x 1/4 | .27 | .400x1 1/4 | .400x1 1/4 |
| 200 | .0012 | .235x 1/4 | .235x 1/4 | .0082 | .235x 1/4 | .235x 1/4 | .05 | .312x 1/4 | .312x 1/4 | .27 | .400x1 1/4 | .562x1 1/4 |
| 300 | .0012 | .235x 1/4 | .235x 1/4 | .0082 | .235x 1/4 | .312x 1/4 | .05 | .312x 1/4 | .400x 1/4 | .27 | .562x1 1/4 | .562x1 1/4 |
| 400 | .0012 | .235x 1/4 | .235x 1/4 | .0082 | .235x 1/4 | .312x 1/4 | .05 | .312x 1/4 | .400x 1/4 | .27 | .562x1 1/4 | .562x1 1/4 |
| 100 | .0015 | .175x 1/4 | .175x 1/4 | .01 | .175x 1/4 | .195x 1/4 | .056 | .312x 1/4 | .312x 1/4 | .33 | .400x1 1/4 | .400x1 1/4 |
| 200 | .0015 | .235x 1/4 | .235x 1/4 | .01 | .235x 1/4 | .235x 1/4 | .056 | .312x 1/4 | .400x 1/4 | .33 | .400x1 1/4 | .562x1 1/4 |
| 300 | .0015 | .235x 1/4 | .235x 1/4 | .01 | .235x 1/4 | .312x 1/4 | .056 | .312x 1/4 | .400x 1/4 | .33 | .562x1 1/4 | .562x1 1/4 |
| 400 | .0015 | .235x 1/4 | .235x 1/4 | .01 | .235x 1/4 | .312x 1/4 | .056 | .400x 1/4 | .400x1 1/4 | .33 | .562x1 1/4 | .562x1 1/4 |
| 100 | .0018 | .175x 1/4 | .175x 1/4 | .012 | .175x 1/4 | .235x 1/4 | .068 | .312x 1/4 | .312x 1/4 | .39 | .400x1 1/4 | .562x1 1/4 |
| 200 | .0018 | .235x 1/4 | .235x 1/4 | .012 | .235x 1/4 | .312x 1/4 | .068 | .312x 1/4 | .400x 1/4 | .39 | .562x1 1/4 | .562x1 1/4 |
| 300 | .0018 | .235x 1/4 | .235x 1/4 | .012 | .235x 1/4 | .312x 1/4 | .068 | .312x 1/4 | .400x 1/4 | .39 | .562x1 1/4 | .562x1 1/4 |
| 400 | .0018 | .235x 1/4 | .235x 1/4 | .012 | .235x 1/4 | .312x 1/4 | .068 | .400x 1/4 | .400x1 1/4 | .39 | .562x1 1/4 | .670x1 1/4 |
| 100 | .0022 | .175x 1/4 | .175x 1/4 | .015 | .175x 1/4 | .235x 1/4 | .082 | .312x 1/4 | .400x 1/4 | .47 | .400x1 1/4 | .562x1 1/4 |
| 200 | .0022 | .235x 1/4 | .235x 1/4 | .015 | .235x 1/4 | .312x 1/4 | .082 | .312x 1/4 | .400x 1/4 | .47 | .562x1 1/4 | .562x1 1/4 |
| 300 | .0022 | .235x 1/4 | .235x 1/4 | .015 | .235x 1/4 | .312x 1/4 | .082 | .400x 1/4 | .400x1 1/4 | .47 | .562x1 1/4 | .562x1 1/4 |
| 400 | .0022 | .235x 1/4 | .235x 1/4 | .015 | .235x 1/4 | .312x 1/4 | .082 | .400x1 1/4 | .400x1 1/4 | .47 | .562x1 1/4 | .670x1 1/4 |
| 100 | .0027 | .175x 1/4 | .175x 1/4 | .018 | .175x 1/4 | .235x 1/4 | .1 | .312x 1/4 | .400x 1/4 | .5 | .400x1 1/4 | .562x1 1/4 |
| 200 | .0027 | .235x 1/4 | .235x 1/4 | .018 | .235x 1/4 | .312x 1/4 | .1 | .312x 1/4 | .400x 1/4 | .5 | .562x1 1/4 | .562x1 1/4 |
| 300 | .0027 | .235x 1/4 | .235x 1/4 | .018 | .235x 1/4 | .312x 1/4 | .1 | .400x 1/4 | .400x1 1/4 | .5 | .562x1 1/4 | .562x1 1/4 |
| 400 | .0027 | .235x 1/4 | .235x 1/4 | .018 | .312x 1/4 | .312x 1/4 | .1 | .400x1 1/4 | .400x1 1/4 | .5 | .562x1 1/4 | 670x1 1/4 |
| 100 | .0033 | .175x 1/4 | .175x 1/4 | .022 | .175x 1/4 | .235x 1/4 | .12 | .312x 1/4 | .400x 1/4 | .56 | .562x1 1/4 | .562x1 1/4 |
| 200 | .0033 | .235x 1/4 | .235x 1/4 | .022 | .235x 1/4 | .312x 1/4 | .12 | .400x 1/4 | .400x1 1/4 | .56 | .562x1 1/4 | .562x1 1/4 |
| 300 | .0033 | .235x 1/4 | .235x 1/4 | .022 | .235x 1/4 | .312x 1/4 | .12 | .400x1 1/4 | .400x1 1/4 | .56 | .562x1 1/4 | .670x1 1/4 |
| 400 | .0033 | .235x 1/4 | .235x 1/4 | .022 | .312x 1/4 | .312x 1/4 | .12 | .400x1 1/4 | .562x1 1/4 | .56 | .670x1 1/4 | .750x2 1/4 |
| 100 | .0039 | .175x 1/4 | .175x 1/4 | .027 | .195x 1/4 | .312x 1/4 | .15 | .312x 1/4 | .400x 1/4 | .68 | .562x1 1/4 | .562x1 1/4 |
| 200 | .0039 | .235x 1/4 | .235x 1/4 | .027 | .235x 1/4 | .312x 1/4 | .15 | .400x 1/4 | .400x1 1/4 | .68 | .562x1 1/4 | .562x1 1/4 |
| 300 | .0039 | .235x 1/4 | .235x 1/4 | .027 | .312x 1/4 | .312x 1/4 | .15 | .400x1 1/4 | .400x1 1/4 | .68 | .562x1 1/4 | .670x1 1/4 |
| 400 | .0039 | .235x 1/4 | .235x 1/4 | .027 | .312x 1/4 | .400x1 1/4 | .15 | .400x1 1/4 | .562x1 1/4 | .68 | .670x1 1/4 | .750x2 1/4 |
| 100 | .0047 | .175x 1/4 | .175x 1/4 | .033 | .195x 1/4 | .312x 1/4 | .18 | .400x 1/4 | .400x1 1/4 | .82 | .562x1 1/4 | .562x1 1/4 |
| 200 | .0047 | .235x 1/4 | .235x 1/4 | .033 | .235x 1/4 | .312x 1/4 | .18 | .400x1 1/4 | .400x1 1/4 | .82 | .562x1 1/4 | .670x1 1/4 |
| 300 | .0047 | .235x 1/4 | .235x 1/4 | .033 | .312x 1/4 | .312x 1/4 | .18 | .400x1 1/4 | .562x1 1/4 | .82 | .670x1 1/4 | .750x2 1/4 |
| 400 | .0047 | .235x 1/4 | .235x 1/4 | .033 | .312x 1/4 | .400x1 1/4 | .18 | .562x1 1/4 | .562x1 1/4 | .82 | .750x2 1/4 | |
| 100 | .0056 | .175x 1/4 | .175x 1/4 | .039 | .235x 1/4 | .312x 1/4 | .22 | .400x 1/4 | .400x1 1/4 | 1.0 | .562x1 1/4 | .562x1 1/4 |
| 200 | .0056 | .235x 1/4 | .235x 1/4 | .039 | .312x 1/4 | .312x 1/4 | .22 | .400x1 1/4 | .400x1 1/4 | 1.0 | .562x1 1/4 | .670x1 1/4 |
| 300 | .0056 | .235x 1/4 | .235x 1/4 | .039 | .312x 1/4 | .400x1 1/4 | .22 | .400x1 1/4 | .562x1 1/4 | 1.0 | .670x1 1/4 | .750x2 1/4 |
| 400 | .0056 | .235x 1/4 | .312x 1/4 | .039 | .312x 1/4 | .400x 1/4 | .22 | .562x1 1/4 | .562x1 1/4 | 1.0 | .750x2 1/4 | |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World Radio History

## "GLASSEAL" CATALOG NUMBERING SYSTEM

BASIC TYPE

| 5‡ | E | PG | I | X | L | V | 6* - | D15† |
|---|---|---|---|---|---|---|---|---|
| Mounting Style | Section Construction | Pyramid "Glasseal" | Section Insulated from Case | Impregnant | Solder-lug Terminals | Insulating Sleeve | Voltage | Capacitance |

*VOLTAGE Expressed in hundreds, as 6—600 Volts D.C.

†CAPACITANCE Expressed in Microfarads, as D15—.0015
D15—.0015
S15—.015
P15—.15
I—1.0

CASE FLOATING Add 1/16 inch to length.

INSERTED TAB CONSTRUCTION: PGIM* PGIX* PGM PGX

EXTENDED FOIL CONSTRUCTION: EPGIM* EPGIX* EPGM EPGX

CASE GROUNDED

M MINERAL OIL IMPREGNANT TEMPERATURE RANGE —55° C. to +85° C.

X SYNTHETIC OIL IMPREGNANT TEMPERATURE RANGE —55 C. to +125 C.

DIMENSIONS IN INCHES

| V D C | Cap. in Mfd. | PGIM* PGIX* PGM PGX D x L | EPGIM* EPGIX* EPGM EPGX D x L | Cap. in Mfd. | PGIM* PGIX* PGM PGX D x L | EPGIM* EPGIX* EPGM EPGX D x L | Cap. in Mfd. | PGIM* PGIX* PGM PGX D x L | EPGIM* EPGIX* EPGM EPGX D x L | Cap. in Mfd. | PGIM* PGIX* PGM PGX D x L | EPGIM* EPGIX* EPGM EPGX D x L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | .001 | .175x1 1/16 | .175x1 1/16 | .0068 | .175x 1 1/16 | .195x 1 1/16 | .047 | .312x | .312x 1 | .25 | .400x1 | .400x1 |
| 200 | .001 | .235x | .235x 1 | .0068 | .235x | .235x | .047 | .312x 1 | .400x 1 1/16 | .25 | .400x1 1/16 | .562x1 1/16 |
| 300 | .001 | .235x 1 | .235x | .0068 | .235x 1 | .312x 1 | .047 | .312x | .400x 1 | .25 | .562x1 | .562x1 |
| 400 | .001 | .235x | .235x 1 | .0068 | .235x 1 1/16 | .312x 1 | .047 | .400x 1 | .400x1 1 | .25 | .562x1 1 | .562x1 1 |
| 600 | .001 | .235x 1 | .235x 1 | .0068 | .235x 1 1/16 | .312x | .047 | .400x1 1 | .400x1 1 | .25 | .562x1 | .670x1 |
| 1000 | .001 | .400x | .400x | .0068 | .400x 1 | .400x 1 | .047 | .562x1 | .562x1 | .25 | .750x2 | .750x2 1 |
| 100 | .0012 | .175x1 1/16 | .175x 1 | .0082 | .175x 1 | .235x 1 | .05 | .312x | .312x 1 | .27 | .400x1 1 | .562x1 1 |
| 200 | .0012 | .235x1 | .235x 1 | .0082 | .235x 1 1/16 | .312x 1 | .05 | .312x | .400x 1 | .27 | .562x1 | .562x1 |
| 300 | .0012 | .235x 1 | .235x | .0082 | .235x 1 1/16 | .312x 1 | .05 | .312x | .400x | .27 | .562x1 | .562x1 |
| 400 | .0012 | .235x1 1/16 | .235x 1 | .0082 | .235x 1 1/16 | .312x 1 1/16 | .05 | .400x 1 1/16 | .400x1 1 | .27 | .562x1 1 | .670x1 1 |
| 600 | .0012 | .235x1 | .235x 1 | .0082 | .312x | .312x 1 | .05 | .400x1 1 | .400x1 | .27 | .670x1 1 | .750x2 1 |
| 1000 | .0012 | .400x1 | .400x | .0082 | .400x 1 | .400x 1 | .05 | .562x1 1 | .562x1 | .27 | .750x2 | 1.000x2 |
| 100 | .0015 | .175x1 1/16 | .175x 1 | .01 | .175x | .235x 1 | .056 | .312x 1 | .400x 1 | .33 | .400x1 1 | .562x1 1 |
| 200 | .0015 | .235x1 1/16 | .235x 1 1/16 | .01 | .235x 1 1/16 | .312x 1 1/16 | .056 | .312x | .400x 1 | .33 | .562x1 1 | .562x1 1 |
| 300 | .0015 | .235x | .235x 1 | .01 | .235x 1 | .312x 1 | .056 | .400x 1 | .400x1 1 | .33 | .562x1 | .562x1 1 |
| 400 | .0015 | .235x1 1/16 | .235x 1 | .01 | .235x 1 1/16 | .312x 1 | .056 | .400x1 1 | .400x1 1 | .33 | .562x1 | .670x1 1 |
| 600 | .0015 | .235x1 1/16 | .235x 1 1/16 | .01 | .312x 1 | .312x 1 | .056 | .400x1 | .562x1 1 1/16 | .33 | .670x1 1 | .750x2 1 |
| 1000 | .0015 | .400x1 | .400x 1 | .01 | .400x 1 | .400x | .056 | .562x1 | .562x1 1 | .33 | .750x2 | 1.000x2 1 |
| 100 | .0018 | .175x1 1/16 | .175x1 1/16 | .012 | .175x 1 | .235x 1 | .068 | .312x | .400x 1 | .39 | .562x1 1 1/16 | .562x1 1 1/16 |
| 200 | .0018 | .235x1 1/16 | .235x1 1/16 | .012 | .235x 1 1/16 | .312x 1 | .068 | .312x 1 | .400x 1 | .39 | .562x1 | .562x1 1 |
| 300 | .0018 | .235x1 1/16 | .235x1 1/16 | .012 | .235x 1 | .312x 1 | .068 | .400x 1 | .400x1 1 | .39 | .562x1 1 | .670x1 1 1/16 |
| 400 | .0018 | .235x1 1/16 | .235x1 1 | .012 | .312x 1 | .312x 1 | .068 | .400x1 | .400x1 1 | .39 | .670x1 1 | .750x2 1 |
| 600 | .0018 | .235x1 1 | .235x1 1/16 | .012 | .312x 1 | .400x 1 1/16 | .068 | .400x1 | .562x1 1 1/16 | .39 | .750x2 1 1/16 | .750x2 1 |
| 1000 | .0018 | .400x1 | .400x1 | .012 | .400x 1 | .400x1 1 | .068 | .562x1 1 | .562x1 1 | .39 | 1.000x2 1 | 1.000x2 1 1/16 |
| 100 | .0022 | .175x1 1/16 | .175x1 1/16 | .015 | .175x 1 1/16 | .235x 1 1/16 | .082 | .312x | .400x 1 | .47 | .562x1 1 1 | .562x1 1 1 |
| 200 | .0022 | .235x1 1 | .235x1 1/16 | .015 | .235x 1 1/16 | .312x 1 1/16 | .082 | .400x 1 1/16 | .400x1 1 1/16 | .47 | .562x1 1 1/16 | .562x1 1 1/16 |
| 300 | .0022 | .235x1 1/16 | .235x1 1/16 | .015 | .235x 1 | .312x 1 | .082 | .400x1 1 | .400x1 1 | .47 | .562x1 1 | .670x1 1 |
| 400 | .0022 | .235x1 1/16 | .235x1 1/16 | .015 | .312x 1 1/16 | .312x 1 | .082 | .400x1 1 | .562x1 1 1/16 | .47 | .670x1 1 1/16 | .750x2 1 1/16 |
| 600 | .0022 | .235x 1 | .235x1 1 | .015 | .312x 1 1/16 | .400x 1 | .082 | .562x1 1 1/16 | .562x1 1 1/16 | .47 | .750x2 1 1/16 | .750x2 1 |
| 1000 | .0022 | .400x 1 | .400x1 | .015 | .400x 1 1/16 | .400x1 1 | .082 | .562x1 1 | .670x1 1 1/16 | .47 | 1.000x2 1 1/16 | 1.000x2 1 1/16 |
| 100 | .0027 | .175x1 1/16 | .175x1 1/16 | .018 | .195x 1 1/16 | .312x 1 1/16 | .1 | .312x 1 | .400x 1 | .5 | .562x1 1 1/16 | .562x1 1 1/16 |
| 200 | .0027 | .235x 1 1/16 | .235x1 1/16 | .018 | .235x 1 1/16 | .312x 1 1/16 | .1 | .400x 1 1/16 | .400x1 1 1/16 | .5 | .562x1 1 1/16 | .562x1 1 1/16 |
| 300 | .0027 | .235x1 1/16 | .235x1 1/16 | .018 | .312x 1 1/16 | .312x 1 1/16 | .1 | .400x1 1 1/16 | .400x1 1 1/16 | .5 | .562x1 1 1/16 | .670x1 1 1/16 |
| 400 | .0027 | .235x1 1/16 | .235x1 1/16 | .018 | .312x 1 1/16 | .400x 1 1/16 | .1 | .400x1 1 1/16 | .562x1 1 1/16 | .5 | .670x1 1 1/16 | .750x2 1 1/16 |
| 600 | .0027 | .235x1 1/16 | .312x1 1/16 | .018 | .312x 1 1/16 | .400x 1 1/16 | .1 | .562x1 1 1/16 | .562x1 1 1/16 | .5 | .750x2 1 1/16 | .750x2 1 1/16 |
| 1000 | .0027 | .400x1 | .400x1 | .018 | .400x1 1 1/16 | .400x1 1 1/16 | .1 | .562x1 1 1/16 | .670x1 1 1/16 | | | |
| 100 | .0033 | .175x1 1/16 | .175x1 1/16 | .022 | .195x 1 1/16 | .312x 1 1/16 | .12 | .400x 1 1/16 | .400x1 1 1/16 | .56 | .562x1 | .562x1 1 1/16 |
| 200 | .0033 | .235x1 1/16 | .235x1 1/16 | .022 | .235x 1 1/16 | .312x 1 1/16 | .12 | .400x1 1 1/16 | .400x1 1 1/16 | .56 | .562x1 1 1/16 | .670x1 1 1/16 |
| 300 | .0033 | .235x1 1/16 | .235x1 1/16 | .022 | .312x 1 1/16 | .312x 1 1/16 | .12 | .400x1 1 1/16 | .562x1 1 1/16 | .56 | .670x1 1 1/16 | .750x2 1 1/16 |
| 400 | .0033 | .235x1 1/16 | .235x1 1/16 | .022 | .312x 1 1/16 | .400x 1 1/16 | .12 | .562x1 1 1/16 | .562x1 | .56 | .750x2 1 1/16 | .750x2 1 1/16 |
| 600 | .0033 | .235x1 1/16 | .312x1 1/16 | .022 | .312x 1 1/16 | .400x 1 1/16 | .12 | .562x1 1 1/16 | .562x1 1 | .56 | 1.000x1 1 1/16 | 1.000x2 1 1/16 |
| 1000 | .0033 | .400x 1 | .400x 1 | .022 | .400x1 1 1/16 | .400x1 1 | .12 | .670x1 1 1/16 | .670x1 1 1/16 | | | |
| 100 | .0039 | .175x1 1/16 | .175x1 1/16 | .027 | .235x 1 1/16 | .312x 1 1/16 | .15 | .400x 1 1/16 | .400x1 1 | .68 | .562x1 1 1/16 | .562x1 1 1/16 |
| 200 | .0039 | .235x1 1/16 | .235x1 1/16 | .027 | .312x 1 1/16 | .312x 1 1/16 | .15 | .400x1 1 1/16 | .400x1 1 1/16 | .68 | .562x1 1 1/16 | .670x1 1 1/16 |
| 300 | .0039 | .235x 1 | .235x 1 | .027 | .312x 1 1/16 | .400x 1 1/16 | .15 | .400x1 1 1/16 | .562x1 1 1/16 | .68 | .670x1 1 1/16 | .750x2 1 1/16 |
| 400 | .0039 | .235x1 1/16 | .312x1 1/16 | .027 | .312x 1 1/16 | .400x 1 1/16 | .15 | .562x1 1 1/16 | .562x1 1 1/16 | .68 | .750x2 1 1/16 | .750x2 1 1/16 |
| 600 | .0039 | .235x1 1/16 | .312x1 1/16 | .027 | .400x 1 1/16 | .400x1 1 1/16 | .15 | .562x1 1 1/16 | .562x1 1 1/16 | .68 | 1.000x1 1 1/16 | 1.000x2 1 1/16 |
| 1000 | .0039 | .400x1 1 | .400x1 1 | .027 | .400x1 1 | .562x1 1 1/16 | .15 | .670x1 1 1/16 | .670x1 1 1/16 | | | |
| 100 | .0047 | .175x1 1/16 | .175x1 1/16 | .033 | .235x 1 1/16 | .312x 1 1/16 | .18 | .400x1 1 1/16 | .400x1 1 1/16 | .82 | .562x1 1 1/16 | .670x1 1 1/16 |
| 200 | .0047 | .235x1 1/16 | .235x1 1/16 | .033 | .312x 1 1/16 | .312x 1 1/16 | .18 | .400x1 1 1/16 | .562x1 1 1/16 | .82 | .670x1 1 1/16 | .750x2 1 1/16 |
| 300 | .0047 | .235x1 1/16 | .235x1 1/16 | .033 | .312x 1 1/16 | .400x 1 1/16 | .18 | .562x1 1 1/16 | .562x1 1 1/16 | .82 | .750x2 1 1/16 | .750x2 1 1/16 |
| 400 | .0047 | .235x1 1/16 | .312x1 1/16 | .033 | .312x 1 1/16 | .400x 1 1/16 | .18 | .562x1 1 1/16 | .562x1 1 1/16 | .82 | 1.000x1 1 1/16 | 1.000x2 1 1/16 |
| 600 | .0047 | .235x1 1/16 | .312x1 1/16 | .033 | .400x 1 1/16 | .400x1 1 1/16 | .18 | .562x1 1 1/16 | .670x1 1 1/16 | | | |
| 1000 | .0047 | .400x1 1 | .400x1 1 | .033 | .400x1 1 | .562x1 1 1/16 | .18 | .750x2 1 1/16 | .750x2 1 1/16 | | | |
| 100 | .0056 | .175x1 1/16 | .195x1 1/16 | .039 | .312x 1 1/16 | .312x 1 1/16 | .22 | .400x1 1 1/16 | .400x1 1 | 1.0 | .562x1 1 1/16 | .670x1 1 1/16 |
| 200 | .0056 | .235x1 1/16 | .235x1 1/16 | .039 | .312x 1 1/16 | .400x 1 1/16 | .22 | .400x1 1 1/16 | .562x1 1 1/16 | 1.0 | .670x1 1 1/16 | .750x2 1 1/16 |
| 300 | .0056 | .235x1 1/16 | .312x1 1/16 | .039 | .312x 1 1/16 | .400x 1 1/16 | .22 | .562x1 1 1/16 | .562x1 1 1/16 | 1.0 | .750x2 1 1/16 | .750x2 1 1/16 |
| 400 | .0056 | .235x1 1/16 | .312x1 1/16 | .039 | .400x 1 1/16 | .400x1 1 1/16 | .22 | .562x1 1 1/16 | .562x1 1 1/16 | 1.0 | 1.000x1 1 1/16 | |
| 600 | .0056 | .235x1 1/16 | .312x1 1/16 | .039 | .400x1 1 1/16 | .400x1 1 1/16 | .22 | .562x1 1 1/16 | .670x1 1 1/16 | | | |
| 1000 | .0056 | .400x1 1/16 | .400x1 1/16 | .039 | .562x1 1 1/16 | .562x1 1 1/16 | .22 | .750x2 1 1/16 | .750x2 1 1/16 | | | |

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World Radio History

CASE FLOATING Add 1/16 inch to length.

EXTENDED FOIL CONSTRUCTION **EPGIR*** **EPGR** CASE GROUNDED

**R** RESIN (SOLID) IMPREGNANT
TEMPERATURE RANGE —55° C. to +125° C.

DIMENSIONS IN INCHES

| V D C | Cap. in Mfd. | EPGIR* EPGR D x L | Cap. in Mfd. | EPGIR* EPGR D x L | Cap. in Mfd. | EPGIR* EPGR D x L | Cap. in Mfd. | EPGIR* EPGR D x L |
|---|---|---|---|---|---|---|---|---|
| 100 | .001 | .175x 1/16 | .0068 | .195x 1/16 | .047 | .312x 1/16 | .25 | .400x1 1/16 |
| 200 | .001 | .235x 1/16 | .0068 | .235x 1/16 | .047 | .400x 1/16 | .25 | .562x1 1/16 |
| 300 | .001 | .235x 1/16 | .0068 | .312x 1/16 | .047 | .400x 1/16 | .25 | .562x1 1/16 |
| 400 | .001 | .235x 1/16 | .0068 | .312x 1/16 | .047 | .400x1 1/16 | .25 | .562x1 1/16 |
| 600 | .001 | .235x 1/16 | .0068 | .312x 1/16 | .407 | .400x1 1/16 | .25 | .610x1 1/16 |
| 100 | .0012 | .175x 1/16 | .0082 | .235x 1/16 | .05 | .312x 1/16 | .27 | .562x1 1/16 |
| 200 | .0012 | .235x 1/16 | .0082 | .312x 1/16 | .05 | .400x 1/16 | .27 | .562x1 1/16 |
| 300 | .0012 | .235x 1/16 | .0082 | .312x 1/16 | .05 | .400x 1/16 | .27 | .562x1 1/16 |
| 400 | .0012 | .235x 1/16 | .0082 | .312x 1/16 | .05 | .400x1 1/16 | .27 | .670x1 1/16 |
| 600 | .0012 | .235x 1/16 | .0082 | .312x 1/16 | .05 | .400x1 1/16 | .27 | .750x2 1/16 |
| 100 | .0015 | .175x 1/16 | .01 | .235x 1/16 | .056 | .400x 1/16 | .33 | .562x1 1/16 |
| 200 | .0015 | .235x 1/16 | .01 | .312x 1/16 | .056 | .400x 1/16 | .33 | .562x1 1/16 |
| 300 | .0015 | .235x 1/16 | .01 | .312x 1/16 | .056 | .400x1 1/16 | .33 | .562x1 1/16 |
| 400 | .0015 | .235x 1/16 | .01 | .312x 1/16 | .056 | .400x1 1/16 | .33 | .670x1 1/16 |
| 600 | .0015 | .235x 1/16 | .01 | .312x 1/16 | .056 | .562x1 1/16 | .33 | .750x2 1/16 |
| 100 | .0018 | .175x 1/16 | .012 | .235x 1/16 | .068 | .400x 1/16 | .25 | .670x1 1/16 |
| 200 | .0018 | .235x 1/16 | .012 | .312x 1/16 | .068 | .400x 1/16 | .39 | .562x1 1/16 |
| 300 | .0018 | .235x 1/16 | .012 | .312x 1/16 | .068 | .400x1 1/16 | .39 | .562x1 1/16 |
| 400 | .0018 | .235x 1/16 | .012 | .312x 1/16 | .068 | .400x1 1/16 | .39 | .670x1 1/16 |
| 600 | .0018 | .235x 1/16 | .012 | .400x 1/16 | .068 | .562x1 1/16 | .39 | .750x2 1/16 |
| 100 | .0022 | .175x 1/16 | .015 | .235x 1/16 | .082 | .400x 1/16 | .39 | .750x2 1/16 |
| 200 | .0022 | .235x 1/16 | .015 | .312x 1/16 | .082 | .400x1 1/16 | .47 | .562x1 1/16 |
| 300 | .0022 | .235x 1/16 | .015 | .312x 1/16 | .082 | .400x1 1/16 | .47 | .562x1 1/16 |
| 400 | .0022 | .235x 1/16 | .015 | .312x 1/16 | .082 | .562x1 1/16 | .47 | .670x1 1/16 |
| 600 | .0022 | .235x 1/16 | .015 | .400x 1/16 | .082 | .562x1 1/16 | .47 | .750x2 1/16 |
| 100 | .0027 | .175x 1/16 | .018 | .312x 1/16 | .1 | .400x 1/16 | .47 | .750x2 1/16 |
| 200 | .0027 | .235x 1/16 | .018 | .312x 1/16 | .1 | .400x1 1/16 | .5 | .562x1 1/16 |
| 300 | .0027 | .235x 1/16 | .018 | .312x 1/16 | .1 | .400x1 1/16 | .5 | .562x1 1/16 |
| 400 | .0027 | .235x 1/16 | .018 | .400x 1/16 | .1 | .562x1 1/16 | .5 | .670x1 1/16 |
| 600 | .0027 | .312x 1/16 | .018 | .400x 1/16 | .1 | .562x1 1/16 | .5 | .750x2 1/16 |
| 100 | .0033 | .175x 1/16 | .022 | .312x 1/16 | .12 | .400x1 1/16 | .5 | .750x2 1/16 |
| 200 | .0033 | .235x 1/16 | .022 | .312x 1/16 | .12 | .400x1 1/16 | .56 | .562x1 1/16 |
| 300 | .0033 | .235x 1/16 | .022 | .312x 1/16 | .12 | .562x1 1/16 | .56 | .670x1 1/16 |
| 400 | .0033 | .235x 1/16 | .022 | .400x 1/16 | .12 | .562x1 1/16 | .56 | .750x2 1/16 |
| 600 | .0033 | .312x 1/16 | .022 | .400x 1/16 | .12 | .562x1 1/16 | .56 | .750x2 1/16 |
| 100 | .0039 | .175x 1/16 | .027 | .312x 1/16 | .15 | .400x1 1/16 | | |
| 200 | .0039 | .235x 1/16 | .027 | .312x 1/16 | .15 | .400x1 1/16 | .68 | .562x1 1/16 |
| 300 | .0039 | .235x 1/16 | .027 | .400x 1/16 | .15 | .562x1 1/16 | .68 | .670x1 1/16 |
| 400 | .0039 | .312x 1/16 | .027 | .400x 1/16 | .15 | .562x1 1/16 | .68 | .750x2 1/16 |
| 600 | .0039 | .312x 1/16 | .027 | .400x1 1/16 | .15 | .562x1 1/16 | .68 | .750x2 1/16 |
| 100 | .0047 | .175x 1/16 | .033 | .312x 1/16 | .18 | .400x1 1/16 | | |
| 200 | .0047 | .235x 1/16 | .033 | .312x 1/16 | .18 | .562x1 1/16 | .82 | .670x1 1/16 |
| 300 | .0047 | .235x 1/16 | .033 | .400x 1/16 | .18 | .562x1 1/16 | .82 | .750x2 1/16 |
| 400 | .0047 | .312x 1/16 | .033 | .400x 1/16 | .18 | .562x1 1/16 | .82 | .750x2 1/16 |
| 600 | .0047 | .312x 1/16 | .033 | .400x1 1/16 | .18 | .670x1 1/16 | | |
| 100 | .0056 | .195x 1/16 | .039 | .312x 1/16 | .22 | .400x1 1/16 | | |
| 200 | .0056 | .235x 1/16 | .039 | .400x 1/16 | .22 | .562x1 1/16 | 1.0 | .670x1 1/16 |
| 300 | .0056 | .312x 1/16 | .039 | .400x 1/16 | .22 | .562x1 1/16 | 1.0 | .750x2 1/16 |
| 400 | .0056 | .312x 1/16 | .039 | .400x1 1/16 | .22 | .562x1 1/16 | | |
| 600 | .0056 | .312x 1/16 | .039 | .400x1 1/16 | .22 | .670x1 1/16 | | |

**MILITARY DESIGNATION BREAKDOWN**

| CP | 04 | A | 1 | E | B | 333 | K |
|---|---|---|---|---|---|---|---|
| Style | Case | Terminal | Circuit | Characteristic | Voltage | Capacitance | Tolerance |

1 — E — B = 100 V. E = 400 V. K = ± 10%
3 — K — C = 200 V. F = 600 V. M = ± 20%
G = 1000 V.

## MILITARY TYPES

CP04A1K — PGIX
CP04A3K — PGX
CP05A1K — PGIXV
CP05A3K — PGXV

CP10A1K — 7PGIX
CP10A3K — 7PGXA
CP04A1E — PGIM
CP04A3E — PGM

CP05A1E — PGIMV
CP05A3E — PGMV
CP10A1E — 7PGIM
CP10A3E — 7PGMA

CP08A1K — EPGIX
CP08A3K — EPGX
CP09A1K — EPGIXV
CP09A3K — EPGXV

CP08A1E — EPGIM
CP08A3E — EPGM
CP09A1E — EPGIMV
CP09A3E — EPGMV

CP11A1K — 3PGIX
CP11A3K — 3PGXA
CP11A1E — 3PGIM
CP11A3E — 3PGMA

| MIL-C-25A Designation | 100 V. | 200 V. | 400 V. | 600 V. | 1000 V. | 100 V. | 200 V. | 400 V. | 600 V. | 1000 V. | 100 V. | 200 V. | 400 V. | 600 V. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102 | — — | — — | .001 | .001 | — — | — — | — — | .001 | .001 | .001 | — — | — — | .001 | .001 |
| 152 | — — | — — | .0015 | .0015 | — — | — — | — — | .0015 | .0015 | .0015 | — — | — — | .0015 | .0015 |
| 222 | — — | — — | .0022 | .0022 | — — | — — | — — | .0022 | .0022 | .0022 | — — | — — | .0022 | .0022 |
| 332 | — — | — — | .0033 | .0033 | — — | — — | — — | .0033 | .0033 | .0033 | — — | — — | .0033 | .0033 |
| 472 | — — | — — | .0047 | .0047 | — — | — — | .0047 | .0047 | .0047 | .0047 | — — | — — | .0047 | .0047 |
| 682 | — — | — — | .0068 | .0068 | — — | — — | .0068 | .0068 | .0068 | .0068 | — — | — — | .0068 | .0068 |
| 103 | — — | — — | .01 | .01 | — — | .01 | — — | .01 | .01 | .01 | — — | — — | .01 | .01 |
| 153 | — — | .015 | .015 | .015 | .015 | .015 | — — | .015 | .015 | .015 | — — | .015 | .015 | .015 |
| 223 | — — | .022 | .022 | .022 | .022 | — — | .022 | .022 | .022 | .022 | — — | .022 | .022 | .022 |
| 333 | .033 | — — | .033 | .033 | .033 | — — | .033 | .033 | .033 | .033 | .033 | — — | .033 | .033 |
| 473 | — — | .047 | .047 | .047 | .047 | .047 | .047 | .047 | .047 | .047 | — — | — — | .047 | .047 |
| 683 | — — | .068 | .068 | .068 | .068 | — — | .068 | .068 | .068 | .068 | — — | .068 | .068 | .068 |
| 104 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | .1 | — — | .1 | .1 | .1 |
| 154 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 |
| 224 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 | .22 |
| 334 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 | .33 |
| 474 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 | .47 |
| 684 | .68 | .68 | .68 | .68 | — — | .68 | .68 | — — | — — | — — | .68 | .68 | .68 | .68 |
| 105 | 1. | 1. | 1. | — — | — — | 1. | 1. | — — | — — | — — | 1. | 1. | 1. | — — |

Capacitance in Mfd.



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| Catalog Number | Cap. in UF | Inches L x W x H |
|---|---|---|
| **MPDK-MPDM SINGLE-CAPACITOR UNITS** | | |
| **150 VOLTS DC WORKING** | | |
| MPDK1.5-3 | 3.0 | 1 13/16 x 1 x ¾ |
| MPDK1.5-4 | 4.0 | 1 13/16 x 1 x ⅞ |
| MPDK1.5-6 | 6.0 | 1 13/16 x 1¼ x ⅞ |
| MPDK1.5-8 | 8.0 | 2 x 1¾ x ⅞ |
| MPDK1.5-10 | 10.0 | 2 x 1¾ x ⅞ |
| MPDK1.5-12 | 12.0 | 2 x 2 x 1 |
| **200 VOLTS DC WORKING** | | |
| MPDK2-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPDK2-1 | 1.0 | 1 13/16 x 1 x ¾ |
| MPDK2-2 | 2.0 | 1 13/16 x 1 x ¾ |
| **400 VOLTS DC WORKING** | | |
| MPDM4-P25 | .25 | 1 13/16 x 1 x ¾ |
| MPDM4-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPDM4-1 | 1.0 | 1 13/16 x 1 x ⅞ |
| MPDM4-2 | 2.0 | 2 x 1¾ x ⅞ |
| MPDM4-4 | 4.0 | 2 x 2 x 1⅛ |
| **600 VOLTS DC WORKING** | | |
| MPDM6-P1 | .1 | 1 13/16 x 1 x ¾ |
| MPDM6-P25 | .25 | 1 13/16 x 1 x ¾ |
| MPDM6-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPDM6-1 | 1.0 | 1 13/16 x 1¼ x ⅞ |
| MPDM6-2 | 2.0 | 2 x 2 x 1 |
| **MPDK-MPDM DUAL-CAPACITOR UNITS** | | |
| **150 VOLTS DC WORKING** | | |
| 2MPDK1.5-4 | 4.0 -4.0 | 2 x 2 x ⅞ |
| 2MPDK1.5-6 | 6.0 -6.0 | 2 x 2 x 1 |
| **200 VOLTS DC WORKING** | | |
| 2MPDK2-1 | 1.0 -1.0 | 1 13/16 x 1 x ¾ |
| 2MPDK2-2 | 2.0 -2.0 | 1 13/16 x 1 x ⅞ |
| **400 VOLTS DC WORKING** | | |
| 2MPDM4-P25 | .25- .25 | 1 13/16 x 1 x ¾ |
| 2MPDM4-P5 | .5 - .5 | 1 13/16 x 1 x ⅞ |
| 2MPDM4-1 | 1.0 -1.0 | 2 x 1¾ x ⅞ |
| 2MPDM4-2 | 2.0 -2.0 | 2 x 2 x 1⅛ |
| **600 VOLTS DC WORKING** | | |
| 2MPDM6-P1 | .1 - .1 | 1 13/16 x 1 x ¾ |
| 2MPDM6-P25 | .25- .25 | 1 13/16 x 1 x ¾ |
| 2MPDM6-P5 | .5 - .5 | 1 13/16 x 1¼ x ⅞ |
| 2MPDM6-1 | 1.0 -1.0 | 2 x 2 x 1 |

## TYPE MPDK-MPDM BATHTUB-TYPE METALLIZED PAPER CAPACITORS

Extended-foil section assembled in hermetically sealed tinned bath-type case. Lug-type terminal seals. Basic Type MPDK impregnated in microcrystalline mineral wax. Basic Type MPDM impregnated in mineral oil. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

**MPDK, MPDM VARIATIONS**
**MPDK-MPDM** With terminals on side.
**MPDKT-MPDMT** With terminals on top.
**MPDKB-MPDMB** With terminals on bottom.

**Distance between Mounting Hole Centers:**

| Length x Width | Distance |
|---|---|
| 1 13/16 x 1 | 2⅛ |
| 1 13/16 x 1¼ | 2⅛ |
| 2x1¾ | 2⅜ |
| 2x2 | 2⅜ |

**Temperature Rating.**
—55° C. to +85° C.
**Derating:**
0% at +55° C. 30% at +85° C.
**Standard Tolerance:** ±20%

## TYPE MPDR BATH-TUB HI-TEMP METALLIZED PAPER CAPACITORS

**Temperature Rating.** —55° C. to +125° C.
**Derating** 0% at +100° C. 25% at +125° C.
**Standard Tolerance.** ±20%

**MPDR VARIATIONS**
**MPDR** With terminals on side. **MPDRT** With terminals on top. **MPDRB** With terminals on bottom. Impregnated in solid thermosetting resin. Vitrified ceramic (or glass) lug-type terminal seals.

| Catalog Number | Cap. in UF | Inches L. x W. x H. |
|---|---|---|
| **150 VOLTS DC WORKING** | | |
| MPDR1.5-3 | 3.0 | 1 13/16 x 1 x ¾ |
| MPDR1.5-4 | 4.0 | 1 13/16 x 1 x ⅞ |
| MPDR1.5-5 | 5.0 | 1 13/16 x 1 x ⅞ |
| MPRD1.5-6 | 6.0 | 1 13/16 x 1¼ x ⅞ |
| MPRD1.5-8 | 8.0 | 2 x 1¾ x ⅞ |
| MPRD1.5-10 | 10.0 | 2 x 1¾ x ⅞ |
| MPDR1.5-12 | 12.0 | 2 x 1¾ x ⅞ |
| **200 VOLTS DC WORKING** | | |
| MPRD2-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPRD2-1 | 1.0 | 1 13/16 x 1 x ¾ |
| MPRD2-2 | 2.0 | 1 13/16 x 1 x ¾ |
| **400 VOLTS DC WORKING** | | |
| MPDR4-P25 | .25 | 1 13/16 x 1 x ¾ |
| MPDR4-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPDR4-1 | 1.0 | 1 13/16 x 1 x ⅞ |
| MPDR4-2 | 2.0 | 2 x 1¾ x ⅞ |
| MPDR4-3 | 3.0 | 2 x 1¾ x 1 |
| MPDR4-4 | 4.0 | 2 x 2 x 1⅛ |
| **600 VOLTS DC WORKING** | | |
| MPDR6-P1 | .1 | 1 13/16 x 1 x ¾ |
| MPDR6-P25 | .25 | 1 13/16 x 1 x ¾ |
| MPDR6-P5 | .5 | 1 13/16 x 1 x ¾ |
| MPDR6-1 | 1.0 | 1 13/16 x 1¼ x ⅞ |
| MPDR6-2 | 2.0 | 2 x 2 x ⅞ |

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **150 VOLTS DC WORKING** | | |
| MPGK1.5-3 | 3.0 | .750x1¾ |
| MPGK1.5-4 | 4.0 | 1.000x1¾ |
| MPGK1.5-6 | 6.0 | 1.000x1¾ |
| MPKG1.5-8 | 8.0 | 1.000x2¼ |
| **200 VOLTS DC WORKING** | | |
| MPGK2-S1 | .01 | .235x ¾ |
| MPGK2-S2 | .02 | .235x ¾ |
| MPGK2-S3 | .03 | .235x ¾ |
| MPKG2-S4 | .04 | .235x ¾ |
| MPGK2-S47 | .047 | .235x ¾ |
| MPGK2-S5 | .05 | .235x ¾ |
| MPGK2-S68 | .068 | .312x ¾ |
| MPGK2-P1 | .1 | .312x ¾ |
| MPGK2-P15 | .15 | .312x1 1/16 |
| MPGK2-P2 | .2 | .312x1 1/16 |
| MPGK2-P22 | .22 | .312x1 1/16 |
| MPGK2-P25 | .25 | .312x1 1/16 |
| MPGK2-P33 | .33 | .400x1 1/16 |
| MPGK2-P47 | .47 | .400x1 1/16 |
| MPGK2-P5 | .5 | .400x1 1/16 |
| MPGK2-P68 | .68 | .562x1 1/16 |
| MPGK2-1 | 1.0 | .562x1¼ |
| MPGK2-1.5 | 1.5 | .562x1¾ |
| MPGK2-2 | 2.0 | .562x1¾ |
| **400 VOLTS DC WORKING** | | |
| MPGM4-S1 | .01 | .235x ¾ |
| MPGM4-S2 | .02 | .235x ¾ |
| MPGM4-S22 | .022 | .235x ¾ |
| MPGM4-S3 | .03 | .312x ¾ |
| MPGM4-S33 | .033 | .312x ¾ |
| MPGM4-S4 | .04 | .312x ¾ |
| MPGM4-S47 | .047 | .400x ¾ |
| MPGM4-S5 | .05 | .400x ¾ |
| MPGM4-S68 | .068 | .400x1 1/16 |
| MPGM4-P1 | .1 | .400x1 1/16 |
| MPGM4-P15 | .15 | .500x1 1/16 |
| MPGM4-P2 | .2 | .500x1 1/16 |
| MPGM4-P22 | .22 | .562x1 1/16 |
| MPGM4-P25 | .25 | .562x1 1/16 |
| MPGM4-P33 | .33 | .562x1¼ |
| MPGM4-P47 | .47 | .562x1¾ |
| MPGM4-P5 | .5 | .562x1¾ |
| MPGM4-P68 | .68 | .670x1¾ |
| MPGM4-1 | 1.0 | .670x2¼ |
| MPGM4-2 | 2.0 | 1.000x2¼ |
| **600 VOLTS DC WORKING** | | |
| MPGM6-S1 | .01 | .235x ¾ |
| MPGM6-S15 | .015 | .312x ¾ |
| MPGM6-S2 | .02 | .312x ¾ |
| MPGM6-S22 | .022 | .312x ¾ |
| MPGM6-S3 | .03 | .312x ¾ |
| MPGM6-S33 | .033 | .400x ¾ |
| MPGM6-S4 | .04 | .400x ¾ |
| MPGM6-S47 | .047 | .400x ¾ |
| MPGM6-S5 | .05 | .400x ¾ |
| MPGM6-S68 | .068 | .400x1 1/16 |
| MPGM6-P1 | .1 | .500x1 1/16 |
| MPGM6-P15 | .15 | .500x1 1/16 |
| MPGM6-P2 | .2 | .562x1¼ |
| MPGM6-P22 | .22 | .562x1¼ |
| MPGM6-P25 | .25 | .562x1¼ |
| MPGM6-P33 | .33 | .562x1¾ |
| MPGM6-P47 | .47 | .670x1¾ |
| MPGM6-P5 | .5 | .670x1¾ |
| MPGM6-P68 | .68 | .670x2¼ |
| MPGM6-1 | 1.0 | .750x2¼ |
| MPGM6-1.5 | 1.5 | 1.000x2¼ |

## TYPE MPGK-MPGM METAL-CAN METALLIZED PAPER CAPACITORS

Extended-foil section assembled in hermetically sealed metal tubular case. Glass-to-metal end-seals. Basic Type MPGK impregnated in microcrystalline mineral wax. Basic Type MPGM impregnated in mineral oil. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

**MPGK, MPGM VARIATIONS**
**MPGK-MPGM** With grounded case.
**MPGIK-MPGIM** With floating case.
**MPGKV-MPGMV** With insulating plastic sleeve.
**3MPGK-3MPGM** With threaded end bushing.
**6MPGK-6MPGM** With soldered transverse bracket.
**7MPGK-7MPGM** With soldered tangential bracket.

**Temperature Rating.**
—55° C. to +85° C.
**Derating:**
0% at +55° C.
30% at +85° C.
**Standard Tolerance.**
±20%

## TYPE MPTIK-MPTIM METAL-TUBE METALLIZED PAPER CAPACITORS

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **150 VOLTS DC WORKING** | | |
| MPTIK1.5-3 | 3.0 | ¾x1 7/16 |
| MPTIK1.5-4 | 4.0 | ⅞x1 13/16 |
| MPTIK1.5-6 | 6.0 | 1 x1 13/16 |
| **200 VOLTS DC WORKING** | | |
| MPTIK2-S1 | .05 | ⅜x 15/16 |
| MPTIK2-P1 | .1 | 7/16 x 13/16 |
| MPTIK2-P25 | .25 | ½x 15/16 |
| MPTIK2-P5 | .5 | ½x1¼ |
| MPTIK2-1 | 1.0 | ⅝x1 7/16 |
| MPTIK2-2 | 2.0 | ⅝x1 13/16 |
| **400 VOLTS DC WORKING** | | |
| MPTIM4-S3 | .03 | ⅜x 15/16 |
| MPTIM4-S5 | .05 | 7/16 x 15/16 |
| MPTIM4-P1 | .1 | 7/16 x1¼ |
| MPTIM4-P25 | .25 | ⅝x1¼ |
| MPTIM4-P5 | .5 | ⅝x1 15/16 |
| MPTIM4-1 | 1.0 | ¾x2 7/16 |
| MPTIM4-2 | 2.0 | 1 x2 7/16 |
| **600 VOLTS DC WORKING** | | |
| MPTIM6-S1 | .01 | ⅜x 15/16 |
| MPTIM6-S2 | .02 | 7/16 x 15/16 |
| MPTIM6-S3 | .03 | 7/16 x 15/16 |
| MPTIM6-S5 | .5 | ½x 15/16 |
| MPTIM6-P1 | .1 | ½x1 7/16 |
| MPTIM6-P25 | .25 | ⅝x1 7/16 |
| MPTIM6-P5 | .5 | ½x 15/16 |
| MPTIM6-1 | 1.0 | 15/16 x2 7/16 |
| MPTIM6-2 | 2.0 | 1⅛x2 7/16 |

**MPTIK-MPTIM VARIATIONS**
**MPTIK-MPTIM** Basic types with floating case. **MPTK-MPTM** With grounded case. **MPTIKV-MPTIMV** With insulating plastic sleeve **4MPTIK-4MPTIM** With riveted radial bracket. **4MPTIKV-4MPTIMV** With insulating plastic sleeve and riveted radial bracket. **7MPTIK-7MPTIM** With soldered tangential bracket.

Extended-foil section assembled in hermetically sealed metal tubular case. Spun-over synthetic rubber end-discs. Basic Type MPTIK impregnated in microcrystalline mineral wax. Basic Type MPTIM impregnated in mineral oil. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

**Temperature Rating:** —55° C. to +85° C.
**Derating:** 0% at +55° C. 30% at +85° C.
**Standard Tolerance:** —20% to +30%.

## TYPE MTR KRAFT-TUBE HI-TEMP METALLIZED PAPER CAPACITORS

| Catalog Number | Cap. in UF | Inches D x L |
|---|---|---|
| **200 VOLTS DC WORKING** | | |
| MTR2-S1 | .01 | ¼x [illegible] |
| MTR2-S2 | .02 | ¼x [illegible] |
| MTR2-S3 | .03 | ¼x [illegible] |
| MTR2-S5 | .05 | ¼x [illegible] |
| MTR2-P1 | .1 | [illegible] x [illegible] |
| MTR2-P25 | .25 | [illegible] x [illegible] |
| MTR2-P5 | .5 | [illegible] x1⅛ |
| MTR2-1 | 1.0 | [illegible] x1⅛ |
| MTR2-2 | 2.0 | ⅝x1 7/16 |
| MTR4-S1 | .01 | ¼x [illegible] |
| MTR4-S2 | .02 | [illegible] x [illegible] |
| MTR4-S3 | .03 | [illegible] x [illegible] |
| MTR4-S5 | .05 | ⅜x [illegible] |
| MRT4-P1 | .1 | [illegible] x1⅛ |
| MTR4-P25 | .25 | [illegible] x1⅛ |
| MTR4-P5 | .5 | ⅝x1 7/16 |
| MTR4-1 | 1.0 | ¾x1 13/16 |
| MTR4-2 | 2.0 | ⅞x2⅜ |
| MTR6-S1 | .01 | ¼x [illegible] |
| MTR6-S2 | .02 | [illegible] x [illegible] |
| MTR6-S3 | .03 | ⅜x [illegible] |
| MTR6-S5 | .05 | [illegible] x [illegible] |
| MTR6-P1 | .1 | [illegible] x1⅛ |
| MTR6-P25 | .25 | ⅝x1⅛ |
| MTR6-P5 | .5 | [illegible] x1 7/16 |
| MTR6-1 | 1.0 | [illegible] x1 [illegible] |
| MTR6-2 | 2.0 | 1 [illegible] x2⅜ |

Extended-foil section assembled in a special kraft tube. Impregnated in solid thermosetting resin. Plastic end-seals. Overall coating of highly moisture-resistant wax. 1⅝ inch minimum lead length. Self-healing. Low r-f impedance. Excellent power factor over a wide temperature range.

**Temperature Rating.**
40° C. to +100° C.
**Standard Tolerance:**
—20% to +30%.

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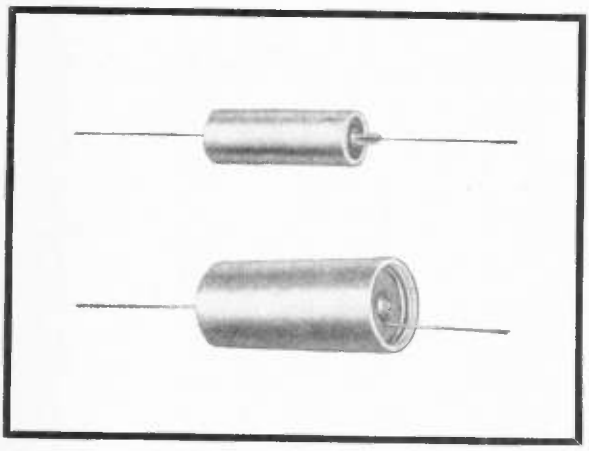
World Radio History

# "JETS" ELECTROLYTIC TUBULARS



"JETS"

Tobe "Jets" are tubular electrolytic capacitors hermetically sealed into aluminum containers with plastic sleeves.

They are constructed with utmost compactness and are self-supported by means of rigged tinned leads. The larger sizes may be further supported by a metal strap furnished on order.

**NEGATIVE TERMINAL IS GROUNDED TO CAN.**

**TEMPERATURE RANGE:** to +85°C; except 500 VDC +65°C

| JET Cat. No. | Cap. Mfd. | Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **3 W.V.D.C.** | | |
| JET 25-3 | 25 | 3/8 x 1 11/16 | $ .85 | $ .51 |
| JET 50-3 | 50 | 3/8 x 1 11/16 | .95 | .57 |
| | | **6 W.V.D.C.** | | |
| JET 5-6 | 5 | 3/8 x 1 11/16 | .80 | .48 |
| JET 25-6 | 25 | 3/8 x 1 11/16 | .85 | .51 |
| JET 50-6 | 50 | 3/8 x 1 11/16 | .95 | .57 |
| JET 100-6 | 100 | 1/2 x 1 7/16 | 1.20 | .72 |
| JET 250-6 | 250 | 1/2 x 1 7/16 | 1.35 | .81 |
| JET 500-6 | 500 | 3/4 x 1 11/16 | 1.55 | .93 |
| JET 1000-6 | 1000 | 7/8 x 2 | 1.90 | 1.14 |
| JET 2000-6 | 2000 | 1 x 2 1/2 | 2.30 | 1.38 |
| | | **15 W.V.D.C.** | | |
| JET 100-15 | 100 | 1/2 x 1 11/16 | 1.25 | .75 |
| JET 2501 | 250 | 3/4 x 1 11/16 | 1.55 | .93 |
| JET 5001 | 500 | 7/8 x 2 | 1.75 | 1.05 |
| JET 10001 | 1000 | 1 x 2 | 2.30 | 1.38 |
| JET 20001 | 2000 | 1 x 3 | 3.20 | 1.92 |
| | | **25 W.V.D.C.** | | |
| JET 10-25 | 10 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 20-25 | 20 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 25-25 | 25 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 50-25 | 50 | 1/2 x 1 7/16 | 1.10 | .66 |
| JET 100-25 | 100 | 1/2 x 1 7/16 | 1.35 | .81 |
| JET 2502 | 250 | 7/8 x 1 11/16 | 1.70 | 1.02 |
| JET 5002 | 500 | 1 x 2 | 2.30 | 1.38 |
| | | **50 W.V.D.C.** | | |
| JET 1-50 | 1 | 3/8 x 1 11/16 | .90 | .54 |
| JET 2-50 | 2 | 3/8 x 1 11/16 | .90 | .54 |
| JET 4-50 | 4 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 5-50 | 5 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 10-50 | 10 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 25-50 | 25 | 1/2 x 1 7/16 | 1.05 | .63 |
| JET 1005 | 100 | 3/4 x 2 | 1.40 | .84 |
| JET 1505 | 150 | 7/8 x 2 | 1.55 | .93 |
| JET 2505 | 250 | 1 x 2 | 1.75 | 1.05 |
| JET 5005 | 500 | 1 x 3 | 2.40 | 1.44 |

| JET Cat. No. | Cap. Mfd. | Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **90 W.V.D.C.** | | |
| JET 10-90 | 10 | 1/2 x 1 11/16 | $1.10 | $ .66 |
| JET 16-90 | 16 | 1/2 x 1 7/16 | 1.10 | .66 |
| | | **150 W.V.D.C.** | | |
| JET 4-150 | 4 | 3/8 x 1 11/16 | 1.00 | .60 |
| JET 8-150 | 8 | 1/2 x 1 11/16 | 1.05 | .63 |
| JET 10-150 | 10 | 1/2 x 1 11/16 | 1.05 | .63 |
| JET 12-150 | 12 | 1/2 x 1 11/16 | 1.10 | .66 |
| JET 16-150 | 16 | 1/2 x 1 7/16 | 1.15 | .69 |
| JET 20-150 | 20 | 1/2 x 1 7/16 | 1.20 | .72 |
| JET 2515 | 25 | 3/4 x 1 7/16 | 1.25 | .75 |
| JET 3015 | 30 | 3/4 x 1 7/16 | 1.30 | .78 |
| JET 4015 | 40 | 3/4 x 1 11/16 | 1.35 | .81 |
| JET 5015 | 50 | 7/8 x 1 11/16 | 1.40 | .84 |
| JET 6015 | 60 | 7/8 x 2 | 1.50 | .90 |
| JET 8015 | 80 | 7/8 x 2 | 1.60 | .96 |
| JET 10015 | 100 | 1 x 2 1/2 | 1.75 | 1.05 |
| JET 15015 | 150 | 1 x 3 | 1.90 | 1.14 |
| JET 20015 | 200 | 1 x 3 | 2.20 | 1.32 |
| JET 30015 | 300 | 1 x 4 1/16 | 2.55 | 1.53 |
| | | **250 W.V.D.C.** | | |
| JET 4-250 | 4 | 1/2 x 1 11/16 | 1.00 | .60 |
| JET 8-250 | 8 | 1/2 x 1 7/16 | 1.15 | .69 |
| JET 12-250 | 12 | 1/2 x 1 7/16 | 1.25 | .75 |
| JET 1625 | 16 | 3/4 x 1 11/16 | 1.30 | .78 |
| JET 2025 | 20 | 3/4 x 1 11/16 | 1.35 | .81 |
| JET 3025 | 30 | 7/8 x 1 11/16 | 1.45 | .87 |
| JET 4025 | 40 | 7/8 x 2 | 1.55 | .93 |
| JET 5025 | 50 | 1 x 2 | 1.70 | 1.02 |
| JET 6025 | 60 | 1 x 2 1/2 | 1.80 | 1.08 |
| | | **350 W.V.D.C.** | | |
| JET 435 | 4 | 5/8 x 1 7/16 | 1.05 | .63 |
| JET 835 | 8 | 5/8 x 1 11/16 | 1.20 | .72 |
| JET 1235 | 12 | 3/4 x 1 11/16 | 1.30 | .78 |
| JET 1635 | 16 | 7/8 x 1 11/16 | 1.40 | .84 |
| JET 2035 | 20 | 7/8 x 1 11/16 | 1.45 | .87 |
| JET 3035 | 30 | 1 x 2 | 1.65 | .99 |
| JET 4035 | 40 | 1 x 2 1/2 | 1.75 | 1.05 |
| JET 5035 | 50 | 1 x 2 1/2 | 1.85 | 1.11 |
| JET 6035 | 60 | 1 x 2 1/2 | 1.95 | 1.17 |
| JET 8035 | 80 | 1 x 3 9/16 | 2.10 | 1.26 |
| JET 10035 | 100 | 1 x 4 1/16 | 2.30 | 1.38 |
| | | **450 W.V.D.C.** | | |
| JET 145 | 1 | 5/8 x 1 11/16 | 1.10 | .66 |
| JET 245 | 2 | 5/8 x 1 11/16 | 1.10 | .66 |
| JET 445 | 4 | 5/8 x 1 7/16 | 1.15 | .69 |
| JET 845 | 8 | 3/4 x 1 7/16 | 1.25 | .75 |
| JET 1045 | 10 | 3/4 x 1 11/16 | 1.30 | .78 |
| JET 1245 | 12 | 3/4 x 1 11/16 | 1.35 | .81 |
| JET 1645 | 16 | 7/8 x 2 | 1.40 | .84 |
| JET 2045 | 20 | 7/8 x 2 | 1.55 | .93 |
| JET 3045 | 30 | 1 x 2 1/2 | 1.70 | 1.02 |
| JET 4045 | 40 | 1 x 2 1/2 | 1.80 | 1.08 |
| JET 6045 | 60 | 1 x 3 9/16 | 2.35 | 1.41 |
| JET 8045 | 80 | 1 x 4 1/16 | 2.80 | 1.68 |
| JET 10045 | 100 | 1 x 4 1/16 | 3.20 | 1.92 |
| | | **500 W.V.D.C.** | | |
| JET 450 | 4 | 5/8 x 1 11/16 | 1.20 | .72 |
| JET 850 | 8 | 3/4 x 1 11/16 | 1.30 | .78 |
| JET 1250 | 12 | 7/8 x 2 | 1.40 | .84 |
| JET 1650 | 16 | 1 x 2 | 1.50 | .90 |
| JET 2050 | 20 | 1 x 2 | 1.60 | .96 |
| JET 3050 | 30 | 1 x 2 1/2 | 1.75 | 1.05 |

| JET-H Cat. No. | Cap. Mfd. | OVERALL Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|
| | | **600 W.V.D.C.** | | |
| JET-H 604 | 4 | 11/16 x 2 7/16 | $1.95 | $1.17 |
| JET-H 608 | 8 | 11/16 x 3 3/16 | 2.10 | 1.26 |
| JET-H 610 | 10 | 11/16 x 3 3/16 | 2.20 | 1.32 |
| JET-H 612 | 12 | 1 1/16 x 3 3/16 | 2.40 | 1.44 |
| JET-H 616 | 16 | 1 1/16 x 3 3/16 | 2.55 | 1.53 |
| JET-H 620 | 20 | 1 1/16 x 3 11/16 | 2.70 | 1.62 |
| | | **700 W.V.D.C.** | | |
| JET-H 708 | 8 | 11/16 x 3 3/16 | 2.20 | 1.32 |
| JET-H 710 | 10 | 1 1/16 x 3 3/16 | 2.35 | 1.41 |
| JET-H 712 | 12 | 1 1/16 x 3 11/16 | 2.45 | 1.47 |
| JET-H 716 | 16 | 1 1/16 x 4 1/16 | 2.65 | 1.59 |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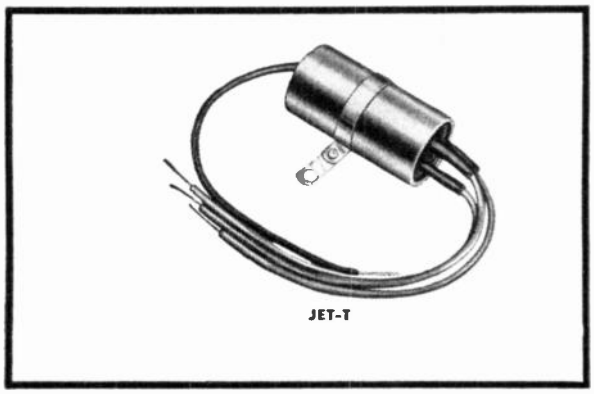
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# MULTI-SECTION TUBULAR ELECTROLYTICS



JET-T

A series of compact, tubular METAL-CASED, CARDBOARD SLEEVED electrolytics—specially sealed against heat and humidity.

Featuring—

- Direct-to-terminal internal lead construction reduces possibility of shorts. (Pure aluminum wires crimped securely together with outer leads within aluminum stud terminals.)
- New high-insulation vinylite covered leads — generous 7 inches long.
- Sections sealed in aluminum tube for protection against moisture getting in, or electrolyte drying out.
- Wax impregnated cardboard outer insulation sleeve.
- Rubber diaphragm-type vent insures ideal vent action under all conditions.
- **IDEAL FOR OPERATION AT TEMPERATURES UP TO 85° C.**

### JET-D — Dual Common Negative

| JET-D Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| JET-D 2202 | 20-20 | 25 | ¾ x 1 1/16 | $1.40 | $ .84 |
| JET-D 115 | 10-10 | 50 | ¾ x 1 1/16 | 1.40 | .84 |
| JET-D 2115 | 20-10 | 150 | ¾ x 1 7/16 | 1.55 | .93 |
| JET-D 2215 | 20-20 | 150 | ¾ x 1 11/16 | 1.65 | .99 |
| JET-D 3215 | 30-20 | 150 | ⅞ x 1 11/16 | 1.70 | 1.02 |
| JET-D 3315 | 30-30 | 150 | ⅞ x 1 11/16 | 1.80 | 1.08 |
| JET-D 4215 | 40-20 | 150 | ⅞ x 1 11/16 | 1.75 | 1.05 |
| JET-D 4315 | 40-30 | 150 | ⅞ x 2 | 1.80 | 1.08 |
| JET-D 4415 | 40-40 | 150 | ⅞ x 2 | 1.85 | 1.11 |
| JET-D 5315 | 50-30 | 150 | ⅞ x 2 | 1.95 | 1.17 |
| JET-D 5515 | 50-50 | 150 | 1 x 2 | 2.10 | 1.26 |
| JET-D 8415 | 80-40 | 150 | 1 x 2 3/16 | 2.25 | 1.35 |
| JET-D 8515 | 80-50 | 150 | 1 x 2½ | 2.30 | 1.38 |
| *JET-D 0183.7 | 100-50 | 150 | 1 x 3 | 3.00 | 1.80 |
| *JET-D 101015 | 100-100 | 150 | 1 x 3 | 3.20 | 1.92 |
| *JET-D 0196 | 200-5 | 200 | 1 x 4 5/16 | 3.50 | 2.10 |
| JET-D 8D25 | 8-8 | 250 | ¾ x 1 7/16 | 1.60 | .96 |
| JET-D 16825 | 16-8 | 250 | ¾ x 2 | 1.70 | 1.02 |
| JET-D 16D25 | 16-16 | 250 | ⅞ x 2 | 1.80 | 1.08 |
| JET-D 2225 | 20-20 | 250 | 1 x 1 11/16 | 1.85 | 1.11 |
| JET-D 3325 | 30-30 | 250 | 1 x 2 3/16 | 2.25 | 1.35 |
| *JET-D 7V225 | 75-20 | 250 | 1 x 3 | 2.60 | 1.56 |
| *JET-D 0242 | 80-10 | 250 | 1 x 3 | 2.55 | 1.53 |
| *JET-D 0246 | 120-80 | 250 | 1⅜ x 3 1/16 | 4.00 | 2.40 |
| *JET-D 0286 | 150-100 | 300 | 1⅜ x 4 3/16 | 5.25 | 3.15 |
| *JET-D 0334 | 140-5 | 350 | 1⅛ x 4 1/16 | 4.15 | 2.49 |
| JET-D 8D45 | 8-8 | 450 | ⅞ x 1 11/16 | 1.70 | 1.02 |
| JET-D 16845 | 16-8 | 450 | 1 x 2 3/16 | 2.00 | 1.20 |
| JET-D 16D45 | 16-16 | 450 | 1 x 2½ | 2.25 | 1.35 |
| *JET-D 2245 | 20-20 | 450 | 1 x 3 | 2.50 | 1.50 |
| *JET-D 3345 | 30-30 | 450 | 1⅛ x 3 9/16 | 3.00 | 1.80 |
| *JET-D 4445 | 40-40 | 450 | 1 x 4 5/16 | 3.40 | 2.04 |
| *JET-D 0576 | 60, 125 | 200, 50 | 1 x 3 | 3.25 | 1.95 |
| JET-D 0646 | 20, 100 | 450, 25 | 1 x 2½ | 2.20 | 1.32 |
| *JET-D 0652 | 40, 50 | 450, 50 | 1 x 3 9/16 | 3.00 | 1.80 |
| *JET-D 0722 | 80, 100 | 450, 50 | 1⅜ x 3 9/16 | 3.75 | 2.25 |
| *JET-D 0707 | 30, 50 | 450, 200 | 1⅛ x 2½ | 2.85 | 1.71 |

### JET-T — Triple-Common Negative

| JET-T Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| JET-T 22215 | 20-20-20 | 150 | ⅞ x 1 11/16 | $2.20 | $1.32 |
| JET-T 32V215 | 30-25-20 | 150 | ⅞ x 2 | 2.25 | 1.35 |
| JET-T 33315 | 30-30-30 | 150 | 1 x 2 | 2.35 | 1.41 |
| JET-T 42215 | 40-20-20 | 150 | 1 x 1 11/16 | 2.25 | 1.35 |
| JET-T 43215 | 40-30-20 | 150 | 1 x 2 | 2.35 | 1.41 |
| JET-T 44215 | 40-40-20 | 150 | 1 x 2 | 2.35 | 1.41 |
| JET-T 44415 | 40-40-40 | 150 | 1 x 2 3/16 | 2.45 | 1.47 |
| JET-T 53215 | 50-30-20 | 150 | 1 x 2 | 2.45 | 1.47 |
| *JET-T 84215 | 80-40-20 | 150 | 1 x 3 | 2.75 | 1.65 |
| *JET-T 0126.5 | 150-150-150 | 150 | 1⅜ x 4 5/16 | 4.75 | 2.85 |
| *JET-T 7V4125 | 75-40-10 | 250 | 1⅛ x 3 | 3.45 | 2.07 |
| *JET-T 0185 | 40-40-40 | 300 | 1⅛ x 3 | 4.60 | 2.76 |
| *JET-T 0196 | 120-40-10 | 300 | 1⅜ x 3 1/16 | 4.85 | 2.91 |
| *JET-T 0235 | 60-60-5 | 350 | 1⅜ x 3 1/16 | 4.25 | 2.55 |
| *JET-T 11145 | 10-10-10 | 450 | 1 x 2½ | 2.45 | 1.47 |
| *JET-T 16T45 | 16-16-16 | 450 | 1⅛ x 3 | 3.10 | 1.86 |
| JET-T 4415X25 | 40-40, 250 | 150, 10 | 1 x 2 1/16 | 2.60 | 1.56 |
| JET-T 5315X20 | 50-30, 200 | 150, 10 | 1 x 2 3/16 | 2.55 | 1.53 |
| JET-T 5315C | 50-30, 20 | 150, 25 | 1 x 1 11/16 | 2.35 | 1.41 |
| JET-T 5515C | 50-50, 20 | 150, 25 | 1 x 2 3/16 | 2.50 | 1.50 |
| JET-T 8415C | 80-40, 20 | 150, 25 | 1 x 2½ | 2.65 | 1.59 |
| JET-T 3215C10 | 30-20, 100 | 150, 25 | 1 x 2 | 2.35 | 1.41 |
| JET-T 2215C | 20-20, 20 | 150, 25 | ⅞ x 1 11/16 | 2.05 | 1.23 |
| JET-T 3315C | 30-30, 20 | 150, 25 | ⅞ x 2 | 2.20 | 1.32 |
| JET-T 4215C | 40-20, 20 | 150, 25 | 1 x 1 11/16 | 2.15 | 1.29 |
| JET-T 4315C | 40-30, 20 | 150, 25 | 1 x 1 11/16 | 2.20 | 1.32 |
| JET-T 4415C | 40-40, 20 | 150, 25 | 1 x 1 11/16 | 2.25 | 1.35 |
| JET-T 5315C10 | 50-30, 100 | 150, 25 | 1 x 2 3/16 | 2.45 | 1.47 |
| *JET-T 5313C25 | 50-30, 250 | 150, 25 | 1 x 3 | 3.10 | 1.86 |
| JET-T 8215C10 | 80-20, 100 | 150, 25 | 1 x 2½ | 2.75 | 1.65 |
| JET-T 2225C | 20-20, 20 | 250, 25 | 1 x 2 | 2.25 | 1.35 |
| JET-T 4225C | 40-20, 20 | 250, 25 | 1 x 2 3/16 | 2.55 | 1.53 |
| JET-T 4425C | 40-40, 20 | 250, 25 | 1 x 2 11/16 | 2.90 | 1.74 |
| *JET-T 0733 | 80-10, 100 | 300, 50 | 1⅜ x 3 1/16 | 4.05 | 2.43 |
| *JET-T 0878 | 140-5, 200 | 350, 200 | 1½ x 4 3/16 | 6.70 | 4.02 |
| *JET-T 2245C | 20-20, 20 | 450, 25 | 1 x 3 | 2.90 | 1.74 |
| *JET-T 1238 | 5, 80-40 | 450,400 | 1⅜ x 3 5/16 | 4.55 | 2.73 |
| *JET-T 1411 | 30, 50, 100 | 450, 150, 25 | 1⅛ x 3 | 3.70 | 2.22 |

### JET-Q — Quadruple-Common Negative

| JET-Q Cat. No. | Cap. Mfd. | D.C. W. Volts | Can† Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| *JET-Q 111145 | 10-10-10-10 | 450 | 1 x 3 | $3.20 | $1.92 |
| *JET-Q 222245 | 20-20-20-20 | 450 | 1⅛ x 4 1/16 | 4.50 | 2.70 |
| *JET-Q 0125 | 20-20-20-10 | 450 | 1⅜ x 3 1/16 | 4.25 | 2.55 |
| *JET-Q 0170.5 | 40-20-20-10 | 450 | 1⅜ x 3 9/16 | 4.70 | 2.82 |
| *JET-Q 0174 | 40-40-20-20 | 450 | 1⅜ x 4 3/16 | 5.45 | 3.27 |
| JET-Q 33215C | 30-30-20, 20 | 150, 25 | 1 x 2 | 2.90 | 1.74 |
| JET-Q 42215C | 40-20-20, 20 | 150, 25 | 1 x 2 | 2.85 | 1.71 |
| JET-Q 44315C | 40-40-30, 20 | 150, 25 | 1 x 2½ | 3.00 | 1.80 |
| JET-Q 53215C | 50-30-20, 20 | 150, 25 | 1 x 2½ | 3.05 | 1.83 |
| *JET-Q 55515C | 50-50-50, 20 | 150, 25 | 1 x 3 | 3.45 | 2.07 |
| *JET-Q 0789.4 | 140-5, 200-30 | 300, 150 | 1½ x 4 3/16 | 5.15 | 3.09 |
| *JET-Q 0385 | 120-40-40, 10 | 300, 250 | 1⅜ x 3 9/16 | 6.20 | 3.72 |
| *JET-Q 22245C | 20-20-20, 20 | 450, 25 | 1⅛ x 3 9/16 | 4.05 | 2.43 |
| *JET-Q 0695.3 | 10, 20-20-10 | 450, 350 | 1⅛ x 3 | 3.50 | 2.10 |
| *JET-Q 0789.5 | 80-60, 40, 20 | 350, 300, 150 | 1⅜ x 3 9/16 | 5.90 | 3.54 |
| *JET-Q 0925 | 140, 5, 200-30 | 350, 300, 200 | 1½ x 4 3/16 | 7.65 | 4.59 |
| *JET-Q 0805 | 80-10, 40, 100 | 400, 300, 50 | 1⅜ x 3 9/16 | 5.45 | 3.27 |
| *JET-Q 0926.5 | 10, 80, 40-40 | 450, 300, 250 | 1⅜ x 3 9/16 | 4.95 | 2.97 |
| *JET-Q 0954 | 10, 80, 40, 100 | 450, 300, 250, 50 | 1⅜ x 3 9/16 | 4.80 | 2.88 |
| JET-Q 0954.5 | 20, 120, 40, 100 | 450, 300, 250, 50 | 1⅜ x 4 5/16 | 6.15 | 3.69 |

### TEJ — Dual SEPARATE Section

Type TEJ Capacitors are dual units in CARDBOARD TUBE containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

**TEMPERATURE RANGE: to +65°C.**

| TEJ Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| *TEJ 221555 | 20-20 | 150 | 13/16 x 2⅝ | $1.65 | $ .99 |
| *TEJ 331555 | 30-30 | 150 | 1 x 2⅝ | 1.80 | 1.08 |
| *TEJ 421555 | 40-20 | 150 | 1 x 2⅝ | 1.75 | 1.05 |
| *TEJ 441555 | 40-40 | 150 | 1 1/16 x 2⅞ | 1.85 | 1.11 |
| *TEJ 531555 | 50-30 | 150 | 1 1/16 x 2⅞ | 1.95 | 1.17 |
| *TEJ 551555 | 50-50 | 150 | 1⅛ x 3⅛ | 2.10 | 1.26 |
| *TEJ 841555 | 80-40 | 150 | 1 3/16 x 3⅜ | 2.25 | 1.35 |

†For OVERALL size add 1/16" to Diam. and 3/16" to Length.
All above Packed—5 Units per Carton, except those marked (*) which are individual Carton Packed.

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World Radio History

# TWIST-PRONG BASE ELECTROLYTICS

TOBE TD types are small round-can TWIST-PRONG electrolytic units. Each is furnished with a bakelite and a metal mounting washer.

TDX types are especially designed for SELENIUM RECTIFIER circuit applications. ONLY THIS TYPE SHOULD BE USED FOR THIS SERVICE.

**TEMP. RANGE:** to 475 V.D.C.W. +85°C.
over 475 V.D.C.W. +65°C.

★ **PREFERRED TYPE**

## SINGLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 10 Ohms 30 CPS. | TDA0010 | ¾ x 2 | $2.50 | $1.50 |
| .5 Ohms 15,750 CPS. | TDA0020 | 1 x 2 | 2.75 | 1.65 |
| 1 Ohms 60 CPS. | TDA0030 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 2000/6 | TDA0040 | 1⅜ x 2 | 2.55 | 1.53 |
| 3000/10 | TDA0050 | 1⅜ x 2½ | 3.65 | 2.19 |
| ★ 225/15 | TDA0053 | ¾ x 2 | 1.75 | 1.05 |
| ★ 1000/15 | TDA0060 | 1 x 2½ | 2.55 | 1.53 |
| ★ 2000/15 | TDA0070 | 1⅜ x 2½ | 3.45 | 2.07 |
| ★ 3000/15 | TDA0080 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 40/25 | TDA0090 | ¾ x 2 | 1.35 | .81 |
| 100/25 | TDA0100 | ¾ x 2 | 2.00 | 1.20 |
| 500/25 | TDA0110 | 1 x 2½ | 3.20 | 1.92 |
| ★ 500/25 | TDA0120 | 1 x 2 | 2.55 | 1.53 |
| ★ 1000/25 | TDA0130 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 100/50 | TDA0140 | ¾ x 2 | 1.65 | .99 |
| ★ 150/50 | TDA0150 | 1 x 2 | 1.80 | 1.08 |
| ★ 500/50 | TDA0160 | 1⅜ x 2 | 2.65 | 1.59 |
| ★ 1000/50 | TDA0170 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 1500/50 | TDA0174 | 1⅜ x 4⅛ | 3.85 | 2.31 |
| ★ 30/150 | TDA0180 | ¾ x 2 | 1.55 | .93 |
| 40/150 | TDA0190 | 1 x 2 | 2.00 | 1.20 |
| 40/150 | TDXA0191 | ¾ x 2 | 2.00 | 1.20 |
| ★ 50/150 | TDA0200 | 1 x 2 | 1.65 | .99 |
| 60/150 | TDA0220 | 1 x 2 | 2.20 | 1.32 |
| 80/150 | TDA0230 | 1 x 2 | 2.30 | 1.38 |
| ★ 80/150 | TDXA0231 | 1 x 2 | 1.85 | 1.11 |
| 100/150 | TDA0240 | 1 x 2½ | 2.50 | 1.50 |
| ★ 100/150 | TDXA0241 | 1 x 2½ | 2.00 | 1.20 |
| ★ 120/150 | TDXA0248 | 1 x 2½ | 2.05 | 1.23 |
| ★ 120/150 | TDA0250 | 1⅜ x 2 | 2.05 | 1.23 |
| 150/150 | TDA0260 | 1 x 3 | 2.70 | 1.62 |
| ★ 150/150 | TDXA0261 | 1 x 3 | 2.15 | 1.29 |
| ★ 200/150 | TDXA0262 | 1⅜ x 2½ | 2.45 | 1.47 |
| ★ 200/150 | TDXA0262.1 | 1 x 3⅝ | 2.45 | 1.47 |
| ★ 300/150 | TDXA0263 | 1⅜ x 3 | 2.80 | 1.68 |
| 80/200 | TDXA0265 | 1⅜ x 2 | 2.45 | 1.47 |
| ★ 120/200 | TDXA0265.3 | 1⅜ x 2 | 2.80 | 1.68 |
| 150/200 | TDXA0266 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 20/250 | TDA0270 | ¾ x 2 | 1.60 | .96 |
| 30/250 | TDA0280 | 1 x 2 | 2.15 | 1.29 |
| 40/250 | TDA0290 | 1 x 2 | 2.25 | 1.35 |
| ★ 40/250 | TDXA0291 | 1 x 2 | 1.80 | 1.08 |
| 60/250 | TDA0300 | 1 x 2½ | 2.55 | 1.53 |
| 80/250 | TDA0310 | 1 x 3 | 2.70 | 1.62 |
| ★ 100/250 | TDXA0312 | 1 x 3 | 2.70 | 1.62 |
| ★ 150/250 | TDXA0315 | 1⅜ x 2½ | 3.10 | 1.86 |
| ★ 200/250 | TDXA0318 | 1⅜ x 3 | 3.95 | 2.37 |
| 50/300 | TDA0320 | 1 x 2½ | 2.55 | 1.53 |
| 60/300 | TDXA0324 | 1 x 2½ | 2.65 | 1.59 |
| 80/300 | TDA0330 | 1 x 3 | 3.20 | 1.92 |
| ★ 80/300 | TDXA0331 | 1 x 3 | 2.55 | 1.53 |
| ★ 100/300 | TDA0340 | 1⅜ x 3 | 2.90 | 1.74 |
| ★ 100/300 | TDA0350 | 1 x 3⅝ | 2.90 | 1.74 |
| ★ 150/300 | TDXA0355 | 1⅜ x 3 | 3.50 | 2.10 |

## SINGLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 15/350 | TDA0360 | 1 x 2 | $2.05 | $1.23 |
| ★ 30/350 | TDA0370 | 1 x 2 | 1.90 | 1.14 |
| ★ 40/350 | TDA0380 | 1 x 2½ | 2.00 | 1.20 |
| ★ 50/350 | TDA0390 | 1 x 3 | 2.10 | 1.26 |
| 80/350 | TDA0400 | 1⅜ x 2½ | 3.55 | 2.13 |
| ★ 80/350 | TDXA0401 | 1⅜ x 2½ | 2.80 | 1.68 |
| 125/350 | TDA0410 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 125/350 | TDXA0411 | 1⅜ x 3 | 3.65 | 2.19 |
| ★ 150/350 | TDXA0415 | 1⅜ x 3⅝ | 3.95 | 2.37 |
| 80/400 | TDA0420 | 1⅜ x 3 | 3.70 | 2.22 |
| ★ 10/450 | TDA0430 | 1 x 2 | 1.55 | .93 |
| 10/450 | TDA0440 | ¾ x 2 | 1.95 | 1.17 |
| 15/450 | TDA0450 | 1 x 2 | 2.15 | 1.29 |
| ★ 20/450 | TDA0460 | 1 x 2 | 1.80 | 1.08 |
| ★ 30/450 | TDA0470 | 1 x 2½ | 1.95 | 1.17 |
| ★ 40/450 | TDA0480 | 1 x 3 | 2.05 | 1.23 |
| ★ 50/450 | TDA0490 | 1 x 3⅝ | 2.35 | 1.41 |
| ★ 60/450 | TDA0500 | 1⅜ x 2½ | 2.60 | 1.56 |
| ★ 80/450 | TDA0510 | 1⅜ x 3 | 3.05 | 1.83 |
| ★ 100/450 | TDA0512 | 1⅜ x 3 | 3.45 | 2.07 |
| ★ 125/450 | TDA0514 | 1⅜ x 4⅛ | 3.75 | 2.25 |
| ★ 40/475 | TDA0516 | 1⅜ x 2 | 2.50 | 1.50 |
| ★ 10/500 | TDA0520 | 1 x 2 | 1.60 | .96 |
| ★ 20/500 | TDA0530 | 1 x 2½ | 1.85 | 1.11 |
| 25/500 | TDA0532 | 1 x 2½ | 2.45 | 1.47 |
| 30/500 | TDA0540 | 1 x 3 | 2.50 | 1.50 |
| ★ 30/500 | TDXA0541 | 1 x 3 | 2.00 | 1.20 |
| ★ 40/500 | TDA0550 | 1 x 3⅝ | 2.50 | 1.50 |
| ★ 80/500 | TDA0560 | 1⅜ x 3⅝ | 3.20 | 1.92 |
| ★ 90/500 | TDA0570 | 1⅜ x 3⅝ | 3.50 | 2.10 |

## DUAL SECTION

| | | | | |
|---|---|---|---|---|
| .5 Ohms 15,750 CPS. 2.5 Ohms 60 CPS. | TDB0010 | 1⅜ x 2 | 4.90 | 2.94 |
| 1000-500/6 VNP | TDB0020 | 1⅜ x 2 | 4.80 | 2.88 |
| ★ 1000-1000/15 | TDB0030 | 1 x 3⅝ | 4.40 | 2.64 |
| ★ 1000-1000/15 | TDB0040 | 1⅜ x 2½ | 4.40 | 2.64 |
| ★ 500-100/20 | TDB0045 | 1 x 2 | 3.15 | 1.89 |
| 20-20/25 | TDB0050 | 1 x 2 | 1.80 | 1.08 |
| 40-40/25 | TDB0060 | 1 x 2 | 2.00 | 1.20 |
| 150-50/25 | TDB0070 | 1 x 2 | 2.40 | 1.44 |
| ★ 50-50/50 | TDB0080 | 1 x 2 | 1.70 | 1.02 |
| ★ 100-100/50 | TDB0085 | 1 x 2 | 2.10 | 1.26 |
| 20-20/150 | TDB0090 | 1 x 2 | 2.15 | 1.29 |
| ★ 20-20/150 | TDXB0091 | 1 x 2 | 1.70 | 1.02 |
| ★ 30-20/150 | TDB0100 | 1 x 2 | 2.20 | 1.32 |
| 30-30/150 | TDB0110 | 1 x 2 | 1.85 | 1.11 |
| ★ 40-20/150 | TDB0120 | 1 x 2 | 1.80 | 1.08 |
| ★ 40-30/150 | TDB0130 | 1 x 2 | 1.85 | 1.11 |
| 40-40/150 | TDB0140 | 1 x 2 | 2.40 | 1.44 |
| ★ 40-40/150 | TDXB0141 | 1 x 2 | 1.90 | 1.14 |
| ★ 50-30/150 | TDB0150 | 1 x 2 | 2.00 | 1.20 |
| 50-50/150 | TDB0160 | 1 x 2½ | 2.70 | 1.62 |
| ★ 50-50/150 | TDXB0161 | 1 x 2½ | 2.15 | 1.29 |
| ★ 60-60/150 | TDXB0165 | 1 x 3 | 2.35 | 1.41 |
| ★ 75-75/150 | TDB0170 | 1 x 3 | 2.60 | 1.56 |
| 80-40/150 | TDB0180 | 1 x 2½ | 2.90 | 1.74 |
| ★ 80-40/150 | TDXB0181 | 1 x 2½ | 2.30 | 1.38 |
| ★ 80-80/150 | TDXB0183 | 1⅜ x 2 | 2.65 | 1.59 |
| 100-100/150 | TDXB0184 | 1⅜ x 2½ | 4.05 | 2.43 |
| ★ 125-100/150 | TDXB0184.5 | 1⅜ x 2½ | 3.50 | 2.10 |
| 150-150/150 | TDXB0185 | 1⅜ x 3 | 4.40 | 2.64 |
| 200-5/150 | TDB0186 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 200-125/150 | TDXB0187 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 200-150/150 | TDXB0188 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 200-200/150 | TDXB0189 | 1⅜ x 3⅝ | 4.00 | 2.40 |
| ★ 60-60/200 | TDB0190 | 1⅜ x 2 | 2.55 | 1.53 |
| ★ 100-100/200 | TDXB0194 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 200-5/200 | TDXB0196 | 1⅜ x 2½ | 2.70 | 1.62 |
| 10-10/250 | TDB0200 | 1 x 2 | 2.15 | 1.29 |
| ★ 20-20/250 | TDB0210 | 1 x 2 | 1.90 | 1.14 |
| 30-30/250 | TDB0220 | 1 x 2½ | 2.90 | 1.74 |


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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY
World Radio History

# TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

## DUAL SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40/20/250 | TDB0230 | 1 x 2½ | $2.75 | $1.65 |
| 40/40/250 | TDB0240 | 1 x 3 | 3.20 | 1.92 |
| ★ 40/40/250 | TDXB0241 | 1 x 3 | 2.50 | 1.50 |
| 80/40/250 | TDXB0243 | 1⅜ x 2½ | 3.75 | 2.25 |
| ★ 150/150/250 | TDB0250 | 1⅜ x 4⅛ | 5.15 | 3.09 |
| ★ 200/200/250 | TDXB0252 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 40/40/300 | TDXB0254 | 1 x 3 | 3.75 | 2.25 |
| 50/50/300 | TDB0260 | 1⅜ x 2½ | 4.20 | 2.52 |
| 80/40/300 | TDXB0264 | 1⅜ x 2½ | 4.45 | 2.67 |
| ★ 80/80/300 | TDB0270 | 1⅜ x 3 | 4.05 | 2.43 |
| ★ 120/20/300 | TDB0280 | 1⅜ x 3 | 4.00 | 2.40 |
| 120/40/300 | TDB0282 | 1⅜ x 3⅝ | 5.45 | 3.27 |
| ★ 200/80/300 | TDB0286 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 15/15/350 | TDB0290 | 1 x 2 | 2.25 | 1.35 |
| 20/20/350 | TDB0300 | 1 x 2½ | 2.90 | 1.74 |
| ★ 30/30/350 | TDB0310 | 1 x 3 | 2.90 | 1.74 |
| ★ 50/30/350 | TDB0320 | 1⅜ x 2½ | 3.15 | 1.89 |
| ★ 80/20/350 | TDB0322 | 1 x 3⅝ | 3.50 | 2.10 |
| ★ 80/20/350 | TDB0324 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 80/40/350 | TDB0326 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 80/80/350 | TDB0330 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 90/40/350 | TDB0331 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 100/100/350 | TDB0332 | 1⅜ x 4⅛ | 6.15 | 3.69 |
| ★ 160/10/350 | TDB0334 | 1⅜ x 3⅝ | 4.30 | 2.58 |
| ★ 40/120/400 | TDB0336 | 1⅜ x 4⅛ | 5.25 | 3.15 |
| 60/60/400 | TDB0340 | 1⅜ x 3⅝ | 5.50 | 3.30 |
| 80/10/400 | TDB0350 | 1⅜ x 3 | 4.25 | 2.55 |
| ★ 80/60/400 | TDB0354 | 1⅜ x 3⅝ | 4.85 | 2.91 |
| ★ 80/80/400 | TDB0356 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 4/4/450 | TDB0360 | 1 x 2 | 2.05 | 1.23 |
| ★ 5/5/450 | TDB0362 | 1 x 2 | 1.60 | .96 |
| ★ 10/10/450 | TDB0370 | 1 x 2 | 1.90 | 1.14 |
| 15/10/450 | TDB0374 | 1 x 2½ | 2.55 | 1.53 |
| ★ 15/15/450 | TDB0380 | 1 x 2½ | 2.25 | 1.35 |
| ★ 20/10/450 | TDB0390 | 1 x 2½ | 2.25 | 1.35 |
| ★ 20/20/450 | TDB0400 | 1 x 3 | 2.55 | 1.53 |
| ★ 30/10/450 | TDB0410 | 1 x 3 | 2.50 | 1.50 |
| 30/10/450 | TDB0420 | 1⅜ x 2 | 3.00 | 1.80 |
| ★ 30/30/450 | TDB0430 | 1⅜ x 2½ | 3.05 | 1.83 |
| 40/5/450 | TDB0436 | 1 x 3 | 3.20 | 1.92 |
| ★ 40/20/450 | TDB0440 | 1⅜ x 2½ | 3.00 | 1.80 |
| ★ 40/40/450 | TDB0450 | 1⅜ x 3 | 3.45 | 2.07 |
| ★ 50/50/450 | TDXB0455 | 1⅜ x 3 | 3.85 | 2.31 |
| ★ 60/20/450 | TDB0460 | 1⅜ x 3 | 3.55 | 2.13 |
| ★ 60/40/450 | TDB0462 | 1⅜ x 3⅝ | 3.95 | 2.37 |
| 60/60/450 | TDB0464 | 1⅜ x 3⅝ | 5.65 | 3.39 |
| ★ 80/10/450 | TDB0470 | 1⅜ x 3 | 3.60 | 2.16 |
| ★ 80/20/450 | TDB0473 | 1⅜ x 3⅝ | 3.90 | 2.34 |
| ★ 80/40/450 | TDB0480 | 1⅜ x 3⅝ | 4.35 | 2.61 |
| ★ 100/40/450 | TDB0483 | 1⅜ x 4⅛ | 4.85 | 2.91 |
| ★ 15/15/475 | TDB0485 | 1 x 2½ | 2.35 | 1.41 |
| ★ 30/10/475 | TDB0486 | 1⅜ x 2 | 2.60 | 1.56 |
| ★ 40/10/475 | TDB0487 | 1⅜ x 2½ | 3.10 | 1.86 |
| ★ 80/50/475 | TDB0489 | 1⅜ x 4⅛ | 5.20 | 3.12 |
| ★ 10/10/500 | TDB0490 | 1 x 2½ | 1.95 | 1.17 |
| ★ 20/20/500 | TDB0500 | 1⅜ x 2½ | 2.85 | 1.71 |
| 25/40/500 | TDB0510 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 30/10/500 | TDB0520 | 1⅜ x 2½ | 2.60 | 1.56 |
| ★ 40/40/500 | TDB0530 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| ★ 60/40/500 | TDB0540 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 250/10/1000/6 | TDB0550 | 1⅜ x 2 | 2.85 | 1.71 |
| 40/150/20/50 | TDB0560 | 1 x 2 | 2.15 | 1.29 |
| 40/150/150/25 | TDB0570 | 1 x 2 | 2.55 | 1.53 |
| ★ 50/150/500/5 | TDB0574 | 1 x 2½ | 2.45 | 1.47 |
| ★ 150/150/100/25 | TDB0575 | 1⅜ x 2½ | 2.70 | 1.62 |
| 60/200/125/50 | TDB0576 | 1 x 3 | 3.00 | 1.80 |
| 40/250/20/25 | TDB0580 | 1 x 2 | 2.50 | 1.50 |
| 50/250/100/50 | TDB0590 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 100/250/150/50 | TDB0600 | 1⅜ x 3 | 3.65 | 2.19 |
| ★ 35/300/500/6 | TDXB0603 | 1 x 2½ | 2.80 | 1.68 |
| 80/300/100/50 | TDB0606 | 1⅜ x 2½ | 3.95 | 2.37 |
| ★ 150/300/100/150 | TDB0608 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| 20/350/20/25 | TDB0610 | 1 x 2 | 2.40 | 1.44 |
| 20/350/100/75 | TDB0612 | 1 x 2½ | 2.80 | 1.68 |

## DUAL SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40/350/20/25 | TDB0620 | 1 x 2½ | $2.95 | $1.77 |
| ★ 35/400/100/50 | TDB0623 | 1 x 3 | 2.60 | 1.56 |
| ★ 100/400/30/50 | TDB0626 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 10/450/20/25 | TDB0630 | 1 x 2 | 1.70 | 1.02 |
| 20/450/20/25 | TDB0640 | 1 x 2 | 2.50 | 1.50 |
| 20/450/100/25 | TDB0646 | 1 x 2½ | 2.75 | 1.65 |
| 40/450/20/25 | TDB0650 | 1 x 3 | 3.05 | 1.83 |
| 40/450/50/50 | TDB0652 | 1 x 3⅝ | 3.75 | 2.25 |
| 80/450/20/25 | TDB0660 | 1⅜ x 3 | 4.25 | 2.55 |
| 10/450/100/50 | TDB0670 | 1⅜ x 2 | 2.55 | 1.53 |
| ★ 20/450/50/250 | TDB0674 | 1 x 3 | 2.80 | 1.68 |
| ★ 20/450/80/350 | TDB0680 | 1⅜ x 3 | 3.65 | 2.19 |
| 20/450/100/100 | TDB0690 | 1⅜ x 2 | 3.30 | 1.98 |
| 30/450/40/150 | TDB0700 | 1⅜ x 2 | 3.15 | 1.89 |
| ★ 30/450/200/150 | TDB0705 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 40/450/10/350 | TDB0710 | 1⅜ x 2 | 2.60 | 1.56 |
| ★ 50/450/100/50 | TDB0715 | 1⅜ x 2½ | 3.00 | 1.80 |
| ★ 80/450/50/50 | TDB0720 | 1⅜ x 3 | 3.50 | 2.10 |
| ★ 80/450/100/50 | TDB0722 | 1⅜ x 3⅝ | 3.75 | 2.25 |
| ★ 20/475/100/400 | TDB0726 | 1⅜ x 4⅛ | 4.50 | 2.70 |
| 15/500/20/300 | TDB0730 | 1 x 2½ | 2.90 | 1.74 |
| 20/500/100/300 | TDB0740 | 1⅜ x 3 | 4.95 | 2.97 |
| 40/500/50/200 | TDB0750 | 1⅜ x 2½ | 4.20 | 2.52 |
| 60/500/80/150 | TDB0760 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| 80/500/50/50 | TDB0770 | 1⅜ x 3⅝ | 4.75 | 2.85 |

## TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20/20/20/25 | TDC0010 | 1 x 2 | 1.95 | 1.17 |
| ★ 40/40/40/25 | TDC0020 | 1 x 2 | 2.15 | 1.29 |
| 30/30/30/50 | TDC0030 | 1 x 2 | 3.25 | 1.95 |
| 20/20/20/150 | TDC0040 | 1 x 2 | 3.55 | 2.13 |
| ★ 20/20/20/150 | TDXC0041 | 1 x 2 | 2.30 | 1.38 |
| 30/30/10/150 | TDC0050 | 1 x 2 | 3.55 | 2.13 |
| ★ 40/20/10/150 | TDC0060 | 1 x 2 | 2.35 | 1.41 |
| 40/20/20/150 | TDC0070 | 1 x 2 | 3.60 | 2.16 |
| ★ 40/20/20/150 | TDXC0071 | 1 x 2 | 2.40 | 1.44 |
| ★ 40/30/20/150 | TDC0080 | 1 x 2 | 2.50 | 1.50 |
| ★ 40/40/40/150 | TDC0090 | 1 x 2½ | 2.60 | 1.56 |
| ★ 40/70/40/150 | TDC0100 | 1 x 3 | 2.95 | 1.77 |
| ★ 50/40/10/150 | TDC0103 | 1 x 2½ | 2.55 | 1.53 |
| ★ 50/50/50/150 | TDXC0105 | 1 x 3 | 3.00 | 1.80 |
| ★ 60/40/20/150 | TDC0110 | 1 x 2½ | 2.75 | 1.65 |
| ★ 70/15/15/150 | TDC0113 | 1 x 2½ | 2.70 | 1.62 |
| ★ 80/40/20/150 | TDC0120 | 1 x 3 | 2.90 | 1.74 |
| 80/80/80/150 | TDXC0123 | 1⅜ x 3 | 5.65 | 3.39 |
| ★ 120/80/40/150 | TDXC0125 | 1⅜ x 3 | 3.80 | 2.28 |
| ★ 120/120/40/150 | TDXC0126 | 1⅜ x 3 | 4.05 | 2.43 |
| ★ 200/100/60/150 | TDXC0127 | 1⅜ x 3⅝ | 4.55 | 2.73 |
| ★ 200/150/150/150 | TDXC0128 | 1⅜ x 4⅛ | 7.50 | 4.50 |
| ★ 250/200/10/150 | TDXC0129 | 1⅜ x 4⅛ | 5.60 | 3.36 |
| 20/20/10/250 | TDC0130 | 1 x 2 | 3.75 | 2.25 |
| ★ 20/20/20/250 | TDC0132 | 1 x 2 | 2.60 | 1.56 |
| 30/20/10/250 | TDC0140 | 1 x 2½ | 4.05 | 2.43 |
| 40/20/10/250 | TDC0150 | 1⅜ x 2 | 4.30 | 2.58 |
| ★ 40/20/20/250 | TDC0160 | 1 x 3 | 2.90 | 1.74 |
| ★ 80/80/60/250 | TDC0170 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| 20/80/10/300 | TDC0180 | 1⅜ x 2½ | 5.70 | 3.42 |
| ★ 60/20/10/300 | TDC0190 | 1⅜ x 2½ | 3.45 | 2.07 |
| ★ 80/40/40/300 | TDC0194 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 120/50/40/300 | TDC0200 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10/10/10/350 | TDC0210 | 1 x 2 | 2.40 | 1.44 |
| 20/20/10/350 | TDC0220 | 1 x 3 | 4.45 | 2.67 |
| ★ 30/20/10/350 | TDC0225 | 1 x 3 | 3.25 | 1.95 |
| ★ 60/40/20/350 | TDC0230 | 1⅜ x 3 | 4.25 | 2.55 |
| 60/40/40/350 | TDC0232 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 60/50/50/350 | TDC0234 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 80/60/60/350 | TDC0236 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 90/40/20/350 | TDC0237 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 100/100/10/350 | TDC0238 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 80/20/10/400 | TDC0239 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 90/10/5/400 | TDC0239.2 | 1⅜ x 3 | 4.40 | 2.64 |
| ★ 10/10/10/450 | TDC0240 | 1 x 2½ | 2.60 | 1.56 |
| 15/15/10/450 | TDC0250 | 1 x 3 | 4.45 | 2.67 |
| ★ 15/15/15/450 | TDC0254 | 1 x 3 | 3.10 | 1.86 |

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

# TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20-10-10 450 | TDC0260 | 1 x 3 | $2.95 | $1.77 |
| ★ 20-20-20 450 | TDC0270 | 1⅜ x 2½ | 3.60 | 2.16 |
| ★ 30-20-20 450 | TDC0280 | 1⅜ x 3 | 3.85 | 2.31 |
| 30-30-20 450 | TDC0290 | 1⅜ x 3 | 6.15 | 3.69 |
| ★ 30-30-30 450 | TDC0300 | 1⅜ x 3 | 4.35 | 2.61 |
| ★ 30-60-10 450 | TDC0310 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| ★ 40-10-10 450 | TDC0320 | 1⅜ x 3 | 3.35 | 2.01 |
| ★ 40-30-20 450 | TDC0330 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 40-40-10 450 | TDC0340 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 40-40-20 450 | TDC0344 | 1⅜ x 3⅝ | 4.45 | 2.67 |
| ★ 40-40-40 450 | TDC0350 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 50-40-30 450 | TDC0355 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| ★ 60-20-20 450 | TDC0360 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 60-40-20 450 | TDC0365 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 80-40-20 450 | TDC0370 | 1⅜ x 4⅛ | 5.40 | 3.24 |
| ★ 30-30-20 475 | TDC0371 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 40-20-20 475 | TDC0372 | 1⅜ x 3 | 4.75 | 2.85 |
| ★ 40-30-10 475 | TDC0373 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 40-30-30 475 | TDC0374 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 10-10-10 500 | TDC0380 | 1 x 3 | 2.70 | 1.62 |
| ★ 30-20-20 500 | TDC0390 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 40-10-10 500 | TDC0400 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 40-40-10 500 | TDC0410 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| ★ 15-15 150 1200 1.5 | TDC0420 | 1 x 2 | 3.00 | 1.80 |
| 20-20 150 20 25 | TDC0430 | 1 x 2 | 3.30 | 1.98 |
| 20-20 150 20 25 | TDXC0431 | 1 x 2 | 3.30 | 1.98 |
| 20-20 150 100 10 | TDC0440 | 1 x 2 | 3.55 | 2.13 |
| 20-20/150 250 10 | TDC0450 | 1 x 2 | 3.90 | 2.34 |
| 30-30 150 20 25 | TDC0460 | 1 x 2 | 3.55 | 2.13 |
| 30-30 150 200 10 | TDC0470 | 1 x 2 | 3.75 | 2.25 |
| 40-20 150 20 25 | TDC0480 | 1 x 2 | 3.45 | 2.07 |
| ★ 40-20 150 20 25 | TDXC0481 | 1 x 2 | 2.30 | 1.38 |
| 40-20 150 100 25 | TDC0490 | 1 x 2 | 3.75 | 2.25 |
| 40-20 150 100 10 | TDC0500 | 1 x 2 | 3.60 | 2.16 |
| ★ 40-20 150 200 25 | TDC0510 | 1 x 2½ | 2.70 | 1.62 |
| ★ 40-20 150 200 10 | TDC0520 | 1 x 2 | 2.40 | 1.44 |
| 40-20 150 250 10 | TDC0530 | 1 x 2 | 4.05 | 2.43 |
| 40-30 150 20 25 | TDC0540 | 1 x 2 | 3.55 | 2.13 |
| 40-40 150 20 25 | TDC0550 | 1 x 2 | 3.60 | 2.16 |
| ★ 40-40 150 20 25 | TDXC0551 | 1 x 2 | 2.40 | 1.44 |
| ★ 40-40 150 250 25 | TDXC0555 | 1 x 3 | 3.15 | 1.89 |
| ★ 50-30/150 20 25 | TDC0560 | 1 x 2 | 2.50 | 1.50 |
| ★ 50-30 150 100 25 | TDC0570 | 1 x 2½ | 2.70 | 1.62 |
| ★ 50-50 150 20 25 | TDC0580 | 1 x 2½ | 2.65 | 1.59 |
| 60-20 150 20 25 | TDC0590 | 1 x 2 | 3.85 | 2.31 |
| 60-40 150 20 25 | TDC0600 | 1 x 2½ | 4.00 | 2.40 |
| ★ 80-30 150 300 10 | TDXC0602 | 1⅜ x 2 | 3.15 | 1.89 |
| 80-30 150 300 25 | TDXC0604 | 1⅜ x 2½ | 5.50 | 3.30 |
| ★ 80-40 150 20 25 | TDC0610 | 1 x 2½ | 2.80 | 1.68 |
| ★ 80-40 150 300 25 | TDXC0613 | 1⅜ x 2½ | 3.70 | 2.22 |
| ★ 80-60 150 250 10 | TDXC0615 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 100-80 150 200 10 | TDXC0618 | 1⅜ x 2½ | 3.60 | 2.16 |
| 120-60 150 20 25 | TDC0620 | 1⅜ x 2½ | 5.05 | 3.03 |
| ★ 300-80 150 200 50 | TDC0626 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 30-20 200 20 25 | TDC0630 | 1 x 2 | 3.85 | 2.31 |
| ★ 30-20 200 40 150 | TDC0632 | 1 x 2½ | 2.70 | 1.62 |
| 40-80 200 100 50 | TDC0634 | 1⅜ x 3 | 5.25 | 3.15 |
| ★ 60-5 200 20 50 | TDC0636 | 1 x 2½ | 2.50 | 1.50 |
| 100-10 200 40 50 | TDC0640 | 1⅜ x 2 | 4.75 | 2.85 |
| ★ 15-15 250 20 25 | TDC0650 | 1 x 2 | 2.35 | 1.41 |
| 20-15 250 20 25 | TDC0660 | 1 x 2 | 3.55 | 2.13 |
| ★ 30-30 250 20 25 | TDC0670 | 1 x 2½ | 2.80 | 1.68 |
| 40-40 250 10 200 | TDC0674 | 1 x 3 | 4.45 | 2.67 |
| 70-70 250 20 50 | TDC0680 | 1⅜ x 3 | 5.85 | 3.51 |
| 80-80 250 10 450 | TDC0690 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| ★ 90-90 250 20 50 | TDC0695 | 1⅜ x 3 | 4.60 | 2.76 |
| 10-10 300 15 250 | TDC0700 | 1 x 2 | 3.70 | 2.22 |
| 20-20 300 20 25 | TDC0710 | 1 x 2 | 4.15 | 2.49 |
| 30-30/300 25/50 | TDC0720 | 1 x 3 | 4.35 | 2.61 |
| 40-15 300 20/25 | TDC0730 | 1 x 3 | 4.45 | 2.67 |
| 40-20/300 20/25 | TDXC0732 | 1 x 2½ | 4.65 | 2.79 |
| ★ 100-10/300 60/50 | TDC0733 | 1⅜ x 2½ | 4.05 | 2.43 |
| ★ 140-10/300 200/150 | TDC0734 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 140-100/300 60/50 | TDC0734.3 | 1⅜ x 4⅛ | 6.05 | 3.63 |

TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 200-20/300 10/100 | TDC0735 | 1⅜ x 4⅛ | $4.90 | $2.94 |
| 10-5/350 30/50 | TDC0739 | 1 x 2½ | 3.85 | 2.31 |
| 10-5/350 150/50 | TDC0740 | 1 x 3 | 4.05 | 2.43 |
| 10-10/350 20/25 | TDC0750 | 1 x 2 | 3.40 | 2.04 |
| 10-15 350 20/25 | TDC0760 | 1 x 2 | 3.75 | 2.25 |
| ★ 15-10 350 20/25 | TDC0770 | 1 x 2 | 2.50 | 1.50 |
| ★ 20-4 350 100/25 | TDC0773 | 1 x 2½ | 2.60 | 1.56 |
| ★ 20-5 350 150/50 | TDC0775 | 1 x 3 | 2.95 | 1.77 |
| ★ 20-10 350 20/25 | TDC0780 | 1 x 2 | 2.55 | 1.53 |
| ★ 20-10, 350 5/250 | TDC0790 | 1 x 2 | 2.55 | 1.53 |
| ★ 20-20 350 20/25 | TDC0800 | 1 x 2½ | 2.80 | 1.68 |
| 30-5 350 100/200 | TDC0806 | 1⅜ x 2½ | 6.00 | 3.60 |
| 30-10 350 20/25 | TDC0810 | 1 x 2½ | 4.30 | 2.58 |
| 30-10 350 20/250 | TDC0820 | 1 x 3 | 4.60 | 2.76 |
| ★ 30-20 350 20/25 | TDC0830 | 1 x 3 | 3.10 | 1.86 |
| ★ 30-20 350 100/150 | TDC0835 | 1⅜ x 2½ | 4.00 | 2.40 |
| ★ 30-30 350 20/25 | TDC0840 | 1⅜ x 2 | 3.40 | 2.04 |
| 40-20 350 10/100 | TDC0850 | 1⅜ x 2 | 4.30 | 2.58 |
| 20-40, 350 10/150 | TDC0860 | 1 x 3 | 4.80 | 2.88 |
| 40-40 350 50/25 | TDC0870 | 1⅜ x 2½ | 5.65 | 3.39 |
| ★ 80-40, 350 400/50 | TDXC0874 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 100-60 350 20/250 | TDC0875 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| ★ 20-20 400 10/350 | TDC0876 | 1 x 3 | 3.00 | 1.80 |
| 30-10 400 150/50 | TDC0880 | 1⅜ x 2½ | 5.10 | 3.06 |
| ★ 60-30 400 20/350 | TDC0885 | 1⅜ x 3 | 4.55 | 2.73 |
| ★ 80-40/400 150/50 | TDC0890 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 100-10 400 20/50 | TDC0894 | 1⅜ x 3⅝ | 4.50 | 2.70 |
| ★ 100-10 400 80 350 | TDC0896 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 15-5 450 15/350 | TDC0900 | 1 x 3 | 4.30 | 2.58 |
| ★ 10-10/450 20 25 | TDC0910 | 1 x 2 | 2.40 | 1.44 |
| ★ 10-10 450 40/50 | TDC0920 | 1 x 2½ | 2.50 | 1.50 |
| 10-10 450 50/100 | TDC0930 | 1⅜ x 2 | 4.00 | 2.40 |
| 15-15 450 20/25 | TDC0940 | 1 x 2½ | 4.15 | 2.49 |
| ★ 15-15, 450 40/25 | TDC0945 | 1 x 2½ | 2.75 | 1.65 |
| 15-15 450 10/300 | TDC0950 | 1 x 3 | 4.35 | 2.61 |
| ★ 20-10 450 20 25 | TDC0960 | 1 x 2½ | 2.70 | 1.62 |
| ★ 20-10/450 50/50 | TDC0970 | 1 x 3 | 2.85 | 1.71 |
| 20-15/450 20/25 | TDC0980 | 1 x 3 | 4.35 | 2.61 |
| ★ 20-20 450 20 25 | TDC0990 | 1 x 3 | 3.05 | 1.83 |
| 20-20/450 100/50 | TDC0992 | 1⅜ x 2½ | 5.25 | 3.15 |
| 20-20 450 60/350 | TDC1000 | 1⅜ x 3 | 6.10 | 3.66 |
| ★ 30-10 450 150 50 | TDC1005 | 1⅜ x 2½ | 3.50 | 2.10 |
| 30-20/450 30/150 | TDC1010 | 1⅜ x 2½ | 5.25 | 3.15 |
| ★ 30-30/450 20 25 | TDC1020 | 1⅜ x 2½ | 3.55 | 2.13 |
| 30-30, 450 40 50 | TDC1030 | 1⅜ x 3 | 5.50 | 3.30 |
| ★ 30-30 450 125/25 | TDC1034 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 35-25/450 100/50 | TDC1036 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-10/450 100, 50 | TDC1040 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 40-10, 450 80/200 | TDC1050 | 1⅜ x 3 | 3.90 | 2.34 |
| ★ 40-20/450 20 25 | TDC1060 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 40-40 450 20/25 | TDC1070 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-40 450 40/25 | TDC1080 | 1⅜ x 3 | 3.95 | 2.37 |
| ★ 40-40 450 100/50 | TDC1090 | 1⅜ x 3⅝ | 4.30 | 2.58 |
| ★ 40-40 450 40 150 | TDC1100 | 1⅜ x 3⅝ | 4.10 | 2.46 |
| ★ 40-40/450 60 200 | TDC1102 | 1⅜ x 3⅝ | 4.45 | 2.67 |
| ★ 40-40 450 80/350 | TDC1103 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 50-5 450 50 350 | TDC1103.5 | 1⅜ x 3⅝ | 4.25 | 2.55 |
| ★ 60-40 450 75/50 | TDC1104 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 80-10 450 125 25 | TDC1106 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| ★ 80-20/450 100/50 | TDC1108 | 1⅜ x 4⅛ | 4.80 | 2.88 |
| ★ 80-40 450 100 25 | TDC1110 | 1⅜ x 4⅛ | 5.10 | 3.06 |
| ★ 20-10/475 100/400 | TDC1114 | 1⅜ x 4⅛ | 5.25 | 3.15 |
| 10-10/500 100/50 | TDC1120 | 1 x 3 | 4.30 | 2.58 |
| 10-10 500 4/350 | TDC1130 | 1 x 2½ | 3.75 | 2.25 |
| ★ 20-10 500 100, 50 | TDC1150 | 1 x 3⅝ | 3.30 | 1.98 |
| 20-20 500 60/400 | TDC1160 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 20-20 500 60/450 | TDC1162 | 1⅜ x 3⅝ | 4.85 | 2.91 |
| ★ 40 475 80-10/450 | TDC1167 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| 30-10 500 20/50 | TDC1170 | 1⅜ x 2½ | 4.65 | 2.79 |
| ★ 40-40/500 100/200 | TDC1180 | 1⅜ x 4⅛ | 5.85 | 3.51 |
| 100 100 50-25/25 | TDC1190 | 1 x 3 | 4.00 | 2.40 |
| 20 150 250-100/15 | TDC1200 | 1⅜ x 2 | 4.35 | 2.61 |
| ★ 60 200 200-140/150 | TDXC1202 | 1⅜ x 4⅛ | 4.80 | 2.88 |
| ★ 10 300 500-500/15 | TDXC1204 | 1⅜ x 2½ | 3.90 | 2.34 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

## TRIPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20/300 150-80/150 | TDC1206 | 1⅜ x 3 | $3.95 | $2.37 |
| ★ 100/300 200-30/150 | TDXC1207 | 1⅜ x 4⅛ | 5.05 | 3.03 |
| ★ 100/300 200-60/150 | TDXC1208 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| 100/300 60-20/250 | TDXC1209 | 1⅜ x 4⅛ | 7.35 | 4.41 |
| 120/300 15-10/450 | TDC1210 | 1⅜ x 3⅝ | 6.75 | 4.05 |
| ★ 200/300 60-20/250 | TDXC1212 | 1⅜ x 5 | 5.80 | 3.48 |
| 4/350 100-40/25 | TDC1214 | 1 x 2 | 3.40 | 2.04 |
| 30/350 20-10/250 | TDC1220 | 1 x 3 | 4.50 | 2.70 |
| ★ 40/350 200-100/150 | TDC1224 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 60/350 200-30/150 | TDC1226 | 1⅜ x 3⅝ | 4.40 | 2.64 |
| 80/400 20-10/300 | TDC1230 | 1⅜ x 3⅝ | 6.40 | 3.84 |
| ★ 5/450 80-40/300 | TDC1231 | 1⅜ x 3 | 4.15 | 2.49 |
| 10/450 20-10/25 | TDC1232 | 1 x 2 | 3.25 | 1.95 |
| ★ 10/450 80-80/250 | TDC1236 | 1⅜ x 3⅝ | 4.20 | 2.52 |
| 20/450 40-10/250 | TDC1240 | 1⅜ x 2 | 4.75 | 2.85 |
| ★ 20/450 40-10/350 | TDC1243 | 1⅜ x 2½ | 3.50 | 2.10 |
| ★ 20/450 80-10/350 | TDC1246 | 1⅜ x 3⅝ | 4.25 | 2.55 |
| 30/450 100-25/25 | TDC1250 | 1⅜ x 2 | 4.50 | 2.70 |
| ★ 40/450 90-50/150 | TDC1260 | 1⅜ x 3 | 3.95 | 2.37 |
| 60/450 40-20/350 | TDC1261 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| ★ 80/450 40-40/250 | TDC1262 | 1⅜ x 4⅛ | 4.95 | 2.97 |
| 80/450 100-20/50 | TDC1263 | 1⅜ x 3⅝ | 6.40 | 3.84 |
| 40/475 40-10/250 | TDC1265 | 1⅜ x 2½ | 6.00 | 3.60 |
| 40/475 80-10/300 | TDC1266 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 40/475 20-20/450 | TDC1268 | 1⅜ x 3 | 6.75 | 4.05 |
| 10/500 80-10/150 | TDC1269 | 1 x 3⅝ | 4.30 | 2.58 |
| 40/150 25/25 130/15 | TDC1270 | 1 x 3 | 3.55 | 2.13 |
| 50/150 100/50 20/25 | TDC1274 | 1 x 3 | 4.30 | 2.58 |
| ★ 80/250 40/150 50/50 | TDC1280 | 1⅜ x 2½ | 2.35 | 1.41 |
| 100/300 60/150 20/50 | TDC1290 | 1⅜ x 3 | 6.30 | 3.78 |
| ★ 20/350 50/100 100/75 | TDC1300 | 1 x 3 | 3.10 | 1.86 |
| ★ 30/350 30/300 20/25 | TDC1310 | 1 x 3 | 3.15 | 1.89 |
| 50/350 10/250 500/5 | TDC1320 | 1⅜ x 2½ | 5.40 | 3.24 |
| ★ 125/350 5/200 100/75 | TDC1325 | 1⅜ x 3⅝ | 5.30 | 3.18 |
| 10/400 50/350 30/25 | TDC1330 | 1 x 3 | 4.65 | 2.79 |
| 40/400 80/350 100/200 | TDC1336 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| 60/400 40/300 20/25 | TDC1340 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| 10/450 50/150 100/25 | TDC1350 | 1 x 3 | 4.15 | 2.49 |
| ★ 10/450 50/150 100/75 | TDC1355 | 1 x 3 | 3.25 | 1.95 |
| ★ 10/450 40/300 10/150 | TDC1360 | 1⅜ x 2 | 3.10 | 1.86 |
| 10/450 40/350 100/50 | TDC1366 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 10/450 30/400 30/300 | TDC1370 | 1⅜ x 2½ | 5.05 | 3.03 |
| 15/450 20/350 20/250 | TDC1380 | 1 x 3 | 4.50 | 2.70 |
| ★ 20/450 80/200 50/50 | TDC1385 | 1⅜ x 2½ | 3.40 | 2.04 |
| ★ 20/450 60/250 100/25 | TDC1390 | 1⅜ x 2½ | 3.65 | 2.19 |
| 20/450 15/350 10/300 | TDC1400 | 1 x 3 | 4.60 | 2.76 |
| 20/450 80/350 100/50 | TDC1410 | 1⅜ x 3⅝ | 6.75 | 4.05 |
| ★ 30/450 15/350 40/25 | TDC1412 | 1⅜ x 2 | 2.40 | 1.44 |
| ★ 30/450 40/350 50/25 | TDC1414 | 1 x 4⅛ | 3.70 | 2.22 |
| 30/450 50/400 40/25 | TDC1420 | 1⅜ x 3 | 5.95 | 3.57 |
| ★ 40/450 40/150 130/50 | TDC1430 | 1⅜ x 3 | 3.75 | 2.25 |
| 40/450 100/150 50/50 | TDC1440 | 1⅜ x 3 | 5.95 | 3.57 |
| 40/450 50/350 50/300 | TDC1442 | 1⅜ x 4⅛ | 7.30 | 4.38 |
| ★ 60/450 80/400 20/350 | TDC1443 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10/475 4/350 40/250 | TDC1444 | 1⅜ x 2 | 3.00 | 1.80 |
| 10/475 4/350 100/50 | TDC1445 | 1 x 2½ | 4.50 | 2.70 |
| ★ 10/475 40/450 100/200 | TDC1445.3 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 20/475 50/50 20/25 | TDC1446 | 1 x 3 | 2.75 | 1.65 |
| 20/475 10/350 5/150 | TDC1448 | 1 x 2½ | 4.90 | 2.94 |
| ★ 80/475 80/150 50/50 | TDC1449 | 1⅜ x 4⅛ | 4.85 | 2.91 |
| 10/500 100/200 40/50 | TDC1450 | 1⅜ x 2½ | 5.05 | 3.03 |
| 20/500 20/300 40/25 | TDC1460 | 1⅜ x 2 | 4.65 | 2.79 |
| 40/500 40/250 100/50 | TDC1470 | 1⅜ x 3 | 6.45 | 3.87 |
| 40/500 40/400 25/50 | TDC1480 | 1⅜ x 3 | 6.45 | 3.87 |

## QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 40-40-40-30/150 | TDD0010 | 1⅜ x 2 | 3.35 | 2.01 |
| ★ 100-80-60-40/150 | TDD0014 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 40-20-10-10/300 | TDD0016 | 1⅜ x 2 | 3.95 | 2.37 |
| ★ 40-40-20-10/300 | TDD0020 | 1⅜ x 2½ | 4.55 | 2.73 |
| ★ 40-40-30-20/300 | TDD0022 | 1⅜ x 3 | 4.85 | 2.91 |
| ★ 60-40-10-10/300 | TDD0024 | 1⅜ x 3⅝ | 4.55 | 2.73 |
| ★ 150-100-10-5/300 | TDD0025 | 1⅜ x 4⅛ | 6.60 | 3.96 |
| ★ 200-20-20-20/300 | TDD0026 | 1⅜ x 5 | 6.15 | 3.69 |

## QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 10-10-10-10/350 | TDD0030 | 1⅜ x 2 | $4.65 | $2.79 |
| ★ 40-20-20-10/350 | TDD0032 | 1⅜ x 2½ | 4.35 | 2.61 |
| ★ 40-40-40-40/350 | TDD0034 | 1⅜ x 3⅝ | 6.00 | 3.60 |
| 80-10-10-10/350 | TDD0040 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| 100-40-10-10/350 | TDD0044 | 1⅜ x 3⅝ | 7.60 | 4.56 |
| 100-40-10-10/350 | TDD0046 | 1⅜ x 4⅛ | 7.90 | 4.74 |
| 30-30-20-20/400 | TDD0050 | 1⅜ x 3 | 7.30 | 4.38 |
| ★ 50-40-30-20/400 | TDD0054 | 1⅜ x 4⅛ | 5.50 | 3.30 |
| 80-10-10-10/400 | TDD0058 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 80-20-10-10/400 | TDD0060 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| 4-4-4-4/450 | TDD0070 | 1⅜ x 2 | 4.35 | 2.61 |
| ★ 5-5-5-5/450 | TDD0080 | 1⅜ x 2 | 3.00 | 1.80 |
| 10-10-10-5/450 | TDD0088 | 1⅜ x 2 | 4.90 | 2.94 |
| ★ 10-10-10-10/450 | TDD0090 | 1⅜ x 2 | 3.35 | 2.01 |
| 15-30-30-10/450 | TDD0100 | 1⅜ x 3 | 7.05 | 4.23 |
| 15-30-30-30/450 | TDD0110 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| ★ 20-10-10-10/450 | TDD0120 | 1⅜ x 2½ | 3.70 | 2.22 |
| ★ 20-20-20-20/450 | TDD0130 | 1⅜ x 3 | 4.70 | 2.82 |
| ★ 30-15-15-15/450 | TDD0140 | 1⅜ x 3 | 4.45 | 2.67 |
| ★ 30-30-20-20/450 | TDD0144 | 1⅜ x 3⅝ | 5.20 | 3.12 |
| ★ 35-35-10-5/450 | TDD0150 | 1⅜ x 3⅝ | 4.65 | 2.79 |
| ★ 40-10-10-10/450 | TDD0160 | 1⅜ x 3 | 4.15 | 2.49 |
| ★ 40-20-10-10/450 | TDD0170 | 1⅜ x 3 | 4.45 | 2.67 |
| ★ 40-35-10-10/450 | TDD0171 | 1⅜ x 3 | 4.80 | 2.88 |
| ★ 40-40-4-4/450 | TDD0172 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 40-40-20-20/450 | TDD0174 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| ★ 40-40-30-30/450 | TDD0176 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| ★ 40-40-40-40/450 | TDD0177 | 1⅜ x 5 | 6.45 | 3.87 |
| ★ 60-20-20-20/450 | TDD0177.4 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 60-30-10-2/450 | TDD0177.6 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 70-10-10-5/450 | TDD0178 | 1⅜ x 3⅝ | 7.15 | 4.29 |
| ★ 80-10-10-10/450 | TDD0179 | 1⅜ x 3⅝ | 5.05 | 3.03 |
| ★ 20-20-10-10/475 | TDD0179.3 | 1⅜ x 2½ | 4.35 | 2.61 |
| ★ 20-20-20-20/475 | TDD0179.5 | 1⅜ x 3 | 5.20 | 3.12 |
| ★ 40-20-10-10/475 | TDD0179.7 | 1⅜ x 3 | 5.10 | 3.06 |
| ★ 10-10-10-10/500 | TDD0180 | 1⅜ x 2 | 3.50 | 2.10 |
| ★ 40-40-8-8/500 | TDD0185 | 1⅜ x 3⅝ | 5.70 | 3.42 |
| 20-20-20/150 20/25 | TDD0190 | 1⅜ x 2 | 4.35 | 2.61 |
| 30-20-20/150 200/10 | TDD0200 | 1⅜ x 2 | 4.65 | 2.79 |
| ★ 30-30-30/150 40/25 | TDD0210 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 40-20-20/150 20/25 | TDD0220 | 1⅜ x 2 | 2.95 | 1.77 |
| ★ 40-40-20/150 200/10 | TDD0230 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 40-40-30/150 20/25 | TDD0240 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 40-40-40/150 20/25 | TDD0250 | 1⅜ x 2 | 3.15 | 1.89 |
| 40-40-40/150 100/25 | TDD0260 | 1⅜ x 2 | 5.05 | 3.03 |
| ★ 40-40-40/150 160/25 | TDD0270 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 50-20-20/150 200/25 | TDD0275 | 1⅜ x 2 | 3.50 | 2.10 |
| ★ 50-30-30/150 100/25 | TDD0280 | 1⅜ x 2 | 3.45 | 2.07 |
| ★ 50-50-50/150 20/25 | TDD0290 | 1⅜ x 2 | 3.55 | 2.13 |
| ★ 60-40-20/150 200/10 | TDD0300 | 1⅜ x 2 | 3.50 | 2.10 |
| 75-75-75/150 30/25 | TDD0310 | 1⅜ x 3 | 6.45 | 3.87 |
| 80-40-40/150 20/25 | TDD0320 | 1⅜ x 2 | 5.35 | 3.21 |
| ★ 80-40-40/150 40/25 | TDD0325 | 1⅜ x 2 | 3.60 | 2.16 |
| ★ 80-40-40/150 100/25 | TDD0330 | 1⅜ x 2½ | 3.75 | 2.25 |
| ★ 100-90-60/150 200/25 | TDD0336 | 1⅜ x 3 | 4.95 | 2.97 |
| ★ 200-200-100/150 10/75 | TDD0338 | 1⅜ x 4⅛ | 5.95 | 3.57 |
| 40-20-10/250 20/25 | TDD0340 | 1⅜ x 2 | 5.10 | 3.06 |
| 80-60-40/250 20/150 | TDD0350 | 1⅜ x 3⅝ | 7.65 | 4.59 |
| ★ 100-40-10/250 100/50 | TDD0360 | 1⅜ x 3⅝ | 5.15 | 3.09 |
| ★ 40-20-20/300 25/25 | TDD0367 | 1⅜ x 2 | 4.00 | 2.40 |
| ★ 40-40-40/300 20/150 | TDD0370 | 1⅜ x 3 | 4.90 | 2.94 |
| ★ 60-40-20/300 50/25 | TDD0380 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 120-40-40/300 10/250 | TDD0385 | 1⅜ x 4⅛ | 6.15 | 3.69 |
| ★ 150-20-10/300 250/50 | TDD0387 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| 10-10-10/350 20/25 | TDD0390 | 1⅜ x 2 | 4.45 | 2.67 |
| 15-15-15/350 50/50 | TDD0400 | 1⅜ x 2 | 5.70 | 3.42 |
| ★ 20-10-5/350 20/25 | TDD0410 | 1⅜ x 2 | 3.10 | 1.86 |
| ★ 30-10-5/350 200/25 | TDD0414 | 1⅜ x 2 | 3.80 | 2.28 |
| ★ 30-10-5/350 100/200 | TDD0416 | 1⅜ x 2½ | 4.40 | 2.64 |
| ★ 30-20-5/350 100/200 | TDD0418 | 1⅜ x 3 | 4.70 | 2.82 |
| 30-20-20/350 20/25 | TDD0420 | 1⅜ x 2½ | 6.15 | 3.69 |
| ★ 40-40-20/350 20/25 | TDD0430 | 1⅜ x 3 | 4.70 | 2.82 |
| ★ 40-40-30/350 10/25 | TDD0433 | 1⅜ x 3 | 4.95 | 2.97 |
| 40-20-20/350 25/25 | TDD0440 | 1⅜ x 2½ | 6.40 | 3.84 |

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World Radio History

# TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| 40-30-10 350 50 50 | TDD0450 | 1⅜ x 3 | $6.60 | $3.96 |
| ★ 40-40-40 350 40 25 | TDD0460 | 1⅜ x 3 | 5.20 | 3.12 |
| ★ 40-40-40 350 150 50 | TDD0470 | 1⅜ x 3⅝ | 5.70 | 3.42 |
| 80-60-60 350 10 50 | TDD0472 | 1⅜ x 4⅛ | 9.30 | 5.58 |
| ★ 90-30-5 350 100 75 | TDD0473 | 1⅜ x 3⅝ | 6.15 | 3.69 |
| ★ 100-10-10 350 20 50 | TDD0473.3 | 1⅜ x 3 | 5.15 | 3.09 |
| ★ 100-80-10 350 20 50 | TDD0473.5 | 1⅜ x 4⅛ | 6.60 | 3.96 |
| ★ 100-40-30 350 50/50 | TDD0474 | 1⅜ x 4⅛ | 6.55 | 3.93 |
| ★ 20-10-10 400 25 25 | TDD0476 | 1⅜ x 2 | 3.25 | 1.95 |
| ★ 80-40-10 400 20 25 | TDD0477 | 1⅜ x 3⅝ | 5.30 | 3.18 |
| ★ 80-40-10 400 100 200 | TDD0477.5 | 1⅜ x 4⅛ | 6.30 | 3.78 |
| ★ 80-40-30 400 40 25 | TDD0478 | 1⅜ x 4⅛ | 5.95 | 3.57 |
| ★ 10-10-10 450 20 25 | TDD0480 | 1⅜ x 2 | 3.15 | 1.89 |
| 10-10-10 450 100 25 | TDD0490 | 1⅜ x 2 | 5.05 | 3.03 |
| 10-10-10 450 150 50 | TDD0500 | 1⅜ x 2½ | 5.55 | 3.33 |
| 15-10-10 450 20 25 | TDD0504 | 1⅜ x 2 | 4.95 | 2.97 |
| 20-10-10 450 100 25 | TDD0510 | 1⅜ x 2 | 5.55 | 3.33 |
| ★ 20-20-20 450 20 25 | TDD0520 | 1⅜ x 2½ | 4.15 | 2.49 |
| ★ 20-20-20 450 100 50 | TDD0530 | 1⅜ x 3 | 4.55 | 2.73 |
| 30-15-15 450 40 25 | TDD0540 | 1⅜ x 2½ | 6.25 | 3.75 |
| 30-20-20 450 20 25 | TDD0550 | 1⅜ x 3 | 6.60 | 3.96 |
| ★ 30-30-10 450 125 25 | TDD0555 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 30-30-15 450 30 50 | TDD0560 | 1⅜ x 3 | 4.55 | 2.73 |
| 30-30-15 450 100 50 | TDD0570 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 30-30-10 450 20 25 | TDD0580 | 1⅜ x 3 | 6.55 | 3.93 |
| 30-30-20 450 20 25 | TDD0590 | 1⅜ x 3 | 7.00 | 4.20 |
| 35-35-10 450 10 200 | TDD0592 | 1⅜ x 3⅝ | 6.90 | 4.14 |
| ★ 40-10-10 450 250 25 | TDD0600 | 1⅜ x 3 | 4.65 | 2.79 |
| 40-10-10 450 40 300 | TDD0604 | 1⅜ x 3⅝ | 7.00 | 4.20 |
| ★ 40-10-10 450 40 350 | TDD0606 | 1⅜ x 3 | 4.75 | 2.85 |
| 40-20-10 450 25 25 | TDD0610 | 1⅜ x 3 | 6.40 | 3.84 |
| ★ 40-20-10 450 100 50 | TDD0620 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 40-20-10 450 100 250 | TDD0622 | 1⅜ x 4⅛ | 5.85 | 3.51 |
| ★ 40-20-20 450 20 25 | TDD0624 | 1⅜ x 3 | 4.60 | 2.76 |
| ★ 40-20-20 450 40 25 | TDD0630 | 1⅜ x 3 | 4.65 | 2.79 |
| ★ 40-30-10 450 20 25 | TDD0640 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 40-40-10 450 25 50 | TDD0650 | 1⅜ x 3⅝ | 4.70 | 2.82 |
| ★ 40-40-10 450 50 50 | TDD0655 | 1⅜ x 3⅝ | 4.80 | 2.88 |
| ★ 40-40-10 450 100 100 | TDD0660 | 1⅜ x 3⅝ | 5.35 | 3.21 |
| 40-40-10 450 10 350 | TDD0662 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 40-40-20 450 20 25 | TDD0663 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| ★ 40-40-40 450 40 25 | TDD0663.2 | 1⅜ x 3⅝ | 5.50 | 3.30 |
| 50-40-5 450 20 25 | TDD0664 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| ★ 60-10-10 450 20 150 | TDD0670 | 1⅜ x 3 | 4.60 | 2.76 |
| ★ 60-40-10 450 25 50 | TDD0672 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 60-40-40 450 10 25 | TDD0674 | 1⅜ x 4⅛ | 6.00 | 3.60 |
| ★ 60-50-5 450 20 25 | TDD0676 | 1⅜ x 3⅝ | 5.35 | 3.21 |
| 40-10-20 475 10 25 | TDD0680 | 1⅜ x 3 | 7.30 | 4.38 |
| ★ 20-20-10 500 10 300 | TDD0690 | 1⅜ x 2½ | 4.30 | 2.58 |
| ★ 50-30-10 500 20 300 | TDD0692 | 1⅜ x 3⅝ | 5.60 | 3.36 |
| ★ 10 300 200-140-30 150 | TDD0694 | 1⅜ x 5 | 5.10 | 3.06 |
| ★ 10 300 200-200-30 150 | TDXD0694.5 | 1⅜ x 5 | 5.35 | 3.21 |
| ★ 160 350 60-10-4 300 | TDXD0695 | 1⅜ x 4⅛ | 6.40 | 3.84 |
| ★ 10/450 100-20-20 300 | TDD0695.5 | 1⅜ x 3 | 5.25 | 3.15 |
| ★ 10 475 130-20-10 350 | TDD0695.7 | 1⅜ x 4⅛ | 6.00 | 3.60 |
| 20/475 60-40-10/350 | TDD0696 | 1⅜ x 3⅝ | 7.80 | 4.68 |
| ★ 30/475 130-10-10 350 | TDD0697 | 1⅜ x 4⅛ | 6.40 | 3.84 |
| ★ 20/500 80-20-10 300 | TDD0698 | 1⅜ x 3⅝ | 5.00 | 3.00 |
| 5 75 25-25 25 100 15 | TDD0700 | 1⅜ x 2 | 4.15 | 2.49 |
| ★ 20 300 150-150 150 100 50 | TDD0710 | 1⅜ x 4⅛ | 5.30 | 3.18 |
| 15 350 80-40 200 200 25 | TDD0720 | 1⅜ x 3 | 6.75 | 4.05 |
| 20 350 150-80 150 20 25 | TDD0722 | 1⅜ x 3 | 6.85 | 4.11 |
| 40 350 50-20 150 80 50 | TDD0724 | 1⅜ x 3 | 6.10 | 3.66 |
| 10/400 50-30 350 30/25 | TDD0730 | 1⅜ x 3 | 6.60 | 3.96 |
| ★ 20 400 50-40 350 80/50 | TDD0730.4 | 1⅜ x 3 | 5.00 | 3.00 |
| 30 400 60-20 350 100/50 | TDD0731 | 1⅜ x 3 | 6.80 | 4.08 |
| ★ 40 400 120-10 250 150 50 | TDD0731.3 | 1⅜ x 4⅛ | 5.90 | 3.54 |
| 80 400 40-10 350 10/25 | TDD0732 | 1⅜ x 3⅝ | 7.95 | 4.77 |
| 50 400 60-40 350 20 25 | TDD0733 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 10/450 100-20 300 20/25 | TDD0734 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 10 450 100-20 300 20/200 | TDD0736 | 1⅜ x 3⅝ | 7.60 | 4.56 |
| ★ 10/450 60-40 350 25/25 | TDD0740 | 1⅜ x 3⅝ | 4.60 | 2.76 |
| ★ 10 450 100-10 350 20 25 | TDD0750 | 1⅜ x 3⅝ | 5.25 | 3.15 |
| ★ 20/450 80-20 200 50/50 | TDD0760 | 1⅜ x 3 | 4.15 | 2.49 |

QUADRUPLE SECTION

| Single Section Cap./Volts | Rotational Stock No. | Size—Ins. Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|
| ★ 20/450 80-50/350 100/50 | TDD0764 | 1⅜ x 4⅛ | $6.00 | $3.60 |
| 25 450 100-10/300 60 50 | TDD0768 | 1⅜ x 3⅝ | 8.40 | 5.04 |
| 30 450 125-125/25 30 450 | TDD0770 | 1⅜ x 3 | 7.35 | 4.41 |
| 30 450 40-40 350 10/200 | TDD0780 | 1⅜ x 3⅝ | 7.75 | 4.65 |
| 40 450 40-40 250 20 25 | TDD0782 | 1⅜ x 3 | 6.85 | 4.11 |
| ★ 40 450 40-40 300 20 150 | TDD0783 | 1⅜ x 3 | 4.90 | 2.94 |
| ★ 60 450 80-40 250 20/150 | TDD0783.2 | 1⅜ x 4⅛ | 5.65 | 3.39 |
| ★ 10 475 140-4 350 100 50 | TDD0783.4 | 1⅜ x 4⅛ | 5.30 | 3.18 |
| ★ 10 475 40-10 450 100 50 | TDD0783.6 | 1⅜ x 3 | 4.30 | 2.58 |
| ★ 10/475 50-30 450 30/25 | TDD0783.8 | 1⅜ x 3⅝ | 4.75 | 2.85 |
| 5/500 100-10 300 200 150 | TDD0784 | 1⅜ x 3⅝ | 10.45 | 6.27 |
| ★ 10/500 10-4/300 20/25 | TDD0784.8 | 1⅜ x 2 | 2.90 | 1.74 |
| ★ 10 500 100-10 300 100 25 | TDD0785 | 1⅜ x 3⅝ | 4.90 | 2.94 |
| 20/525 40-20 450 100/25 | TDD0786 | 1⅜ x 3⅝ | 8.95 | 5.37 |
| 5-5 75 25/25 100/15 | TDD0788 | 1⅜ x 2 | 4.00 | 2.40 |
| ★ 80-5 300 60/150 20/25 | TDD0788.2 | 1⅜ x 2½ | 4.30 | 2.58 |
| ★ 140-10 300 10/150 100/50 | TDD0788.3 | 1⅜ x 3⅝ | 5.20 | 3.12 |
| ★ 60-40 350 60 250 20/150 | TDD0789.2 | 1⅜ x 3⅝ | 5.40 | 3.24 |
| ★ 60-100 350 60 200 40 75 | TDD0789.4 | 1⅜ x 4⅛ | 6.55 | 3.93 |
| 5-5 400 50 300 80 250 | TDD0790 | 1⅜ x 3 | 7.00 | 4.20 |
| 40-60 400 40 350 10 50 | TDD0800 | 1⅜ x 3⅝ | 8.65 | 5.19 |
| ★ 100-10 400 20 350 20 50 | TDD0805 | 1⅜ x 3⅝ | 5.45 | 3.27 |
| ★ 10-10 450 60 200 100 50 | TDD0810 | 1⅜ x 3 | 3.85 | 2.31 |
| ★ 20-20 450 60 150 100/25 | TDD0816 | 1⅜ x 2½ | 4.25 | 2.55 |
| ★ 35-25 450 20 200 100 50 | TDD0820 | 1⅜ x 3⅝ | 4.65 | 2.79 |
| ★ 40-40 450 125/150 125 25 | TDD0825 | 1⅜ x 4⅛ | 5.70 | 3.42 |
| 10-5 475 80/450 40/50 | TDD0830 | 1⅜ x 3⅝ | 7.45 | 4.47 |
| ★ 15-15 475 80 300 40 50 | TDD0840 | 1⅜ x 3 | 4.80 | 2.88 |
| ★ 20-10 475 20/450 100 25 | TDD0841 | 1⅜ x 2½ | 4.20 | 2.52 |
| ★ 40-10 475 4 350 40/300 | TDD0842 | 1⅜ x 3 | 4.95 | 2.97 |
| ★ 20-20 150 160-40 25 | TDXD0844 | 1⅜ x 2 | 3.20 | 1.92 |
| 40-40 150 40-40 25 | TDD0850 | 1⅜ x 2 | 4.60 | 2.76 |
| 40-40 150 100-100 25 | TDD0860 | 1⅜ x 2 | 5.05 | 3.03 |
| ★ 50-20 150 150-30 15 | TDXD0862 | 1⅜ x 2 | 3.20 | 1.92 |
| 140-40 150 50-30 50 | TDXD0864 | 1⅜ x 2½ | 5.25 | 3.15 |
| ★ 100-10 300 200-30/150 | TDD0866 | 1⅜ x 5 | 5.90 | 3.54 |
| ★ 60-4 350 100-40 25 | TDD0868 | 1⅜ x 2½ | 3.80 | 2.28 |
| 60-40 350 60-20 200 | TDD0869 | 1⅜ x 3⅝ | 7.00 | 4.20 |
| 40-10 400 80-10/250 | TDD0870 | 1⅜ x 3⅝ | 7.05 | 4.23 |
| ★ 100-10 400 30-20 50 | TDD0875 | 1⅜ x 3⅝ | 5.10 | 3.06 |
| 10-10 450 20-20/25 | TDD0880 | 1⅜ x 2 | 4.45 | 2.67 |
| ★ 20-20 450 20-20 25 | TDD0890 | 1⅜ x 2 | 3.55 | 2.13 |
| 20-20 450 30-30 350 | TDD0900 | 1⅜ x 3 | 7.60 | 4.56 |
| 30-10 450 150-30 50 | TDD0906 | 1⅜ x 3 | 6.15 | 3.69 |
| 40-10 450 35-10 350 | TDD0910 | 1⅜ x 3 | 6.90 | 4.14 |
| 40-20 450 80-10 350 | TDD0912 | 1⅜ x 4⅛ | 8.70 | 5.22 |
| ★ 40-40 450 100-60/200 | TDD0914 | 1⅜ x 4⅛ | 6.05 | 3.63 |
| ★ 40-40 450 30-30 350 | TDD0920 | 1⅜ x 4⅛ | 5.90 | 3.54 |
| 100 300 40 50 80-20 25 | TDD0922 | 1⅜ x 2½ | 6.85 | 4.11 |
| 40 350 100 250 100-25/50 | TDD0924 | 1⅜ x 3⅝ | 6.30 | 3.78 |
| 20 400 50 350 80-40/25 | TDD0926 | 1⅜ x 2½ | 6.25 | 3.75 |
| ★ 80 450 10 400 40-30 300 | TDD0927 | 1⅜ x 4⅛ | 5.80 | 3.48 |
| ★ 30 500 10 450 150-30 50 | TDD0928 | 1⅜ x 3 | 4.20 | 2.52 |
| ★ 100 300 60 200 10/150 20/50 | TDD0929 | 1⅜ x 3 | 5.35 | 3.21 |
| 120 300 20 250 20/25 100/50 | TDD0930 | 1⅜ x 4⅛ | 7.60 | 4.56 |
| ★ 200 300 20 250 20/25 100 50 | TDD0940 | 1⅜ x 5 | 5.80 | 3.48 |
| 20 350 40 300 10/150 250/50 | TDD0950 | 1⅜ x 3 | 6.90 | 4.14 |
| ★ 20 350 150 300 10/250 250/50 | TDD0951 | 1⅜ x 4⅛ | 6.10 | 3.66 |
| 10 400 100 300 10/75 100/25 | TDD0952 | 1⅜ x 3 | 6.70 | 4.02 |
| ★ 10 450 40 350 100/250 100/50 | TDD0953 | 1⅜ x 3 | 5.55 | 3.33 |
| 10 450 80 300 40/250 100/50 | TDD0954 | 1⅜ x 3⅝ | 7.35 | 4.41 |
| 60 450 40 250 10/150 80/50 | TDD0956 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 80 450 10 400 30/300 40/150 | TDD0960 | 1⅜ x 4⅛ | 7.90 | 4.74 |
| ★ 10 475 40 350 80/300 100/100 | TDD0961 | 1⅜ x 4⅛ | 5.55 | 3.33 |
| 10 475 40 350 80/200 100/50 | TDD0962 | 1⅜ x 3⅝ | 7.20 | 4.32 |
| 10 475 40 400 100/50 10/25 | TDD0964 | 1⅜ x 2½ | 6.00 | 3.60 |
| ★ 10 475 40 400 4/350 100/50 | TDD0966 | 1⅜ x 2½ | 4.05 | 2.43 |
| 10 475 10 450 80/200 50/60 | TDD0970 | 1⅜ x 2½ | 5.80 | 3.48 |
| ★ 10 475 60/450 30/400 125/50 | TDD0980 | 1⅜ x 4⅛ | 5.45 | 3.27 |
| ★ 20 475 40/300 100/50 80/25 | TDD0990 | 1⅜ x 3 | 4.50 | 2.70 |
| ★ 20 475 40 350 80/200 100 100 | TDD0995 | 1⅜ x 4⅛ | 5.45 | 3.27 |
| ★ 25 475 20/450 20/300 100/50 | TDD0997 | 1⅜ x 3 | 4.60 | 2.76 |
| 25 475 20 450 40 300 100 50 | TDD1000 | 1⅜ x 3 | 7.45 | 4.47 |
| ★ 40 475 40/250 50/150 80/50 | TDD1004 | 1⅜ x 3⅝ | 5.00 | 3.00 |



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World Radio History

# MOUNTING HARDWARE

UNIVERSAL CLIPS

MOUNTING CLIPS

H

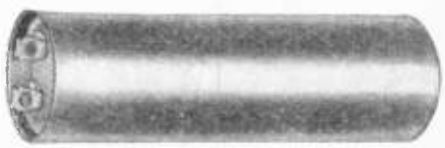
MOUNTING RINGS

"C" CLAMPS

MOUNTING STRAPS

| Part No. | Description | List Price | Suggested Resale |
|---|---|---|---|
| 12125 | Mounting Ring for 1⅜" dia. Cans.....L... | $.20 | $.12 |
| 13590 | Mounting Ring for 2½" dia. Cans.....L... | .50 | .30 |
| 13591 | Mounting Ring for 3" dia. Cans.....L... | .50 | .30 |
| 14464 | Mounting Ring for 2" dia. Cans.....L... | .50 | .30 |
| 14582 | Mounting Ring for 1" dia. Cans.....L... | .20 | .12 |
| 15266 | Mounting Ring for 3½" dia. Cans.....L... | .50 | .30 |
| 15591 | Mounting Ring for 1½" dia. Cans.....L... | .30 | .18 |
| 16279 | Tubular Mounting Straps, 11/16" ID..... | .15 | .09 |
| 16280 | Tubular Mounting Straps, ½" ID..... | .15 | .09 |
| 16285 | Tubular Mounting Straps, 11/16" ID..... | .15 | .09 |
| 16693 | Mounting Ring for 1¾" dia. Cans.....L... | .40 | .24 |
| 17203 | Tubular Mounting Straps, 9/16" ID..... | .15 | .09 |
| 17516 | Tubular Mounting Straps, ⅝" ID..... | .15 | .09 |
| 17517 | Tubular Mounting Straps, ¾" ID..... | .15 | .09 |
| 17842 | Mounting Ring for 1" dia. Cans.....H... | .20 | .12 |
| 17843 | Mounting Ring for 1¾" dia. Cans....H.... | .20 | .12 |
| 17844 | Mounting Ring for 1½" dia. Cans.....H... | .30 | .18 |
| 17920 | "C" Clamp for ⅝"-¾" Cans or Tubulars... | .30 | .18 |
| 17921 | "C" Clamp for ⅞"-1" Cans or Tubulars.... | .30 | .18 |
| 18573 | Mounting Ring for 1¼" dia. Cans.....H... | .20 | .12 |
| 19213 | Mounting Ring for 1⅛" dia. Cans.....H... | .20 | .12 |
| 19883 | Metal Washer for 1"..... | .14 | .08 |
| 19884 | Bakelite Washer for 1"..... | .14 | .08 |
| 19887 | Metal Washer for 1⅜"..... | .14 | .08 |
| 19888 | Bakelite Washer for 1⅜"..... | .14 | .08 |
| 19890 | Metal Washer for ¾"..... | .14 | .08 |
| 19891 | Bakelite Washer for ¾"..... | .14 | .08 |
| 21368-1 | Mounting Clip for ¾"..... | .30 | .18 |
| 21368-2 | Mounting Clip for 1"..... | .30 | .18 |
| 21368-3 | Mounting Clip for 1⅜"..... | .30 | .18 |
| 22272 | Wrench for Mounting Units..... | 2.48 | 1.49 |
| 27886 | Tubular Mounting Straps, ⅞" ID..... | .15 | .09 |
| 28521-1 | Insulating Tube for ¾" x 2"..... | .14 | .08 |
| 28521-4 | Insulating Tube for 1" x 2"..... | .14 | .08 |
| 28521-5 | Insulating Tube for 1" x 2½"..... | .14 | .08 |
| 28521-6 | Insulating Tube for 1" x 3"..... | .14 | .08 |
| 28521-7 | Insulating Tube for 1⅜" x 2"..... | .14 | .08 |
| 28521-8 | Insulating Tube for 1⅜" x 2½"..... | .14 | .08 |
| 28521-9 | Insulating Tube for 1⅜" x 3"..... | .14 | .08 |
| 28521-12 | Insulating Tube for 1⅜" x 3⅝"..... | .14 | .08 |
| 28521-15 | Insulating Tube for 1⅜" x 4⅛"..... | .14 | .08 |
| 28521-19 | Insulating Tube for 1" x 3⅝"..... | .14 | .08 |
| 30010-1 | Universal Clips, ⅜"-13/16" Cans or Tubulars.. | .30 | .18 |
| 30010-2 | Universal Clips, ½"-9/16" Cans or Tubulars.. | .30 | .18 |
| 30010-3 | Universal Clips, ⅝"-11/16" Cans or Tubulars.. | .30 | .18 |
| 30010-4 | Universal Clips, ¾"-13/16" Cans or Tubulars.. | .30 | .18 |
| 30010-5 | Universal Clips, ⅞"-15/16" Cans or Tubulars.. | .30 | .18 |
| 30010-6 | Universal Clips, 1" -1 1/16" Cans or Tubulars. | .30 | .18 |
| 30010-7 | Universal Clips, 1⅜"-1 7/16" Cans or Tubulars. | .30 | .18 |
| 30035 | Bakelite Washer for 1" in 1⅜" Hole Mounting | .14 | .08 |
| 30036 ● | Metal Washer for 1" in 1⅜" Hole Mounting. | .14 | .08 |

# HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS



HL★

Type HL capacitors in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.

**TEMPERATURE RANGE** to +85° C.

| HL Cat. No. | Cap. Mfd. | D.C. W. Volts | Can†† Size Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| HL 1005 | 500 | 10 | 1⅜ x 2⅜ | $3.10 | $1.86 |
| HL 1010 | 1000 | 10 | 1⅜ x 2⅜ | 3.55 | 2.13 |
| HL 1015 | 1500 | 10 | 1⅜ x 2⅜ | 3.75 | 2.25 |
| HL 1020 | 2000 | 10 | 1⅜ x 2⅝ | 3.95 | 2.37 |
| HL 1030 | 3000 | 10 | 1⅜ x 3⅛ | 4.35 | 2.61 |
| HL 1040 | 4000 | 10 | 1⅜ x 4⅛ | 4.75 | 2.85 |
| HL 1050 | 5000 | 10 | 1½ x 4⅛ | 5.15 | 3.09 |
| HL 1060 | 6000 | 10 | 1¾ x 4⅛ | 7.50 | 4.50 |
| HL 1205 | 500 | 12 | 1⅜ x 2⅜ | 3.20 | 1.92 |
| HL 1210 | 1000 | 12 | 1⅜ x 2⅜ | 3.75 | 2.25 |
| HL 1215 | 1500 | 12 | 1⅜ x 2⅝ | 3.95 | 2.37 |
| HL 1220 | 2000 | 12 | 1⅜ x 3⅛ | 4.15 | 2.49 |
| HL 1225 | 2500 | 12 | 1⅜ x 3⅛ | 4.85 | 2.91 |
| HL 1230 | 3000 | 12 | 1⅜ x 4⅛ | 5.05 | 3.03 |
| HL 1240 | 4000 | 12 | 1½ x 4⅛ | 5.25 | 3.15 |
| HL 1260 | 6000 | 12 | 2 x 4⅛ | 9.35 | 5.61 |
| HL 1505 | 500 | 15 | 1⅜ x 2⅜ | 3.25 | 1.95 |
| HL 1510 | 1000 | 15 | 1⅜ x 2⅜ | 3.80 | 2.28 |
| HL 1515 | 1500 | 15 | 1⅜ x 2⅝ | 4.00 | 2.40 |
| HL 1520 | 2000 | 15 | 1⅜ x 3⅛ | 4.70 | 2.82 |
| HL 1530 | 3000 | 15 | 1⅜ x 4⅛ | 5.15 | 3.09 |
| HL 1540 | 4000 | 15 | 1½ x 4⅛ | 8.10 | 4.86 |
| HL 1560 | 6000 | 15 | 2 x 4⅛ | 10.00 | 6.00 |
| HL 1805 | 500 | 18 | 1⅜ x 2⅜ | 3.00 | 1.80 |
| HL 1810 | 1000 | 18 | 1⅜ x 2⅜ | 3.90 | 2.34 |
| HL 1820 | 2000 | 18 | 1⅜ x 3⅛ | 4.90 | 2.94 |
| HL 1840 | 4000 | 18 | 1½ x 4⅛ | 8.45 | 5.07 |
| HL 2005 | 500 | 20 | 1⅜ x 2⅜ | 3.40 | 2.04 |
| HL 2010 | 1000 | 20 | 1⅜ x 3⅛ | 4.10 | 2.46 |
| HL 2020 | 2000 | 20 | 1⅜ x 4⅛ | 5.20 | 3.12 |
| HL 2040 | 4000 | 20 | 2 x 4⅛ | 8.75 | 5.25 |
| HL 2505 | 500 | 25 | 1⅜ x 2⅜ | 3.55 | 2.13 |
| HL 2510 | 1000 | 25 | 1⅜ x 3⅛ | 4.80 | 2.88 |
| HL 2520 | 2000 | 25 | 1⅜ x 4⅛ | 5.75 | 3.45 |
| HL 2530 | 3000 | 25 | 1¾ x 4⅛ | 8.00 | 4.80 |
| HL 2540 | 4000 | 25 | 2 x 4⅛ | 9.50 | 5.70 |
| HL 2550 | 5000 | 25 | 2½ x 4⅛ | 11.00 | 6.60 |
| HL 3005 | 500 | 30 | 1⅜ x 3⅛ | 3.60 | 2.16 |
| HL 3010 | 1000 | 30 | 1⅜ x 4⅛ | 4.90 | 2.94 |
| HL 3020 | 2000 | 30 | 1¾ x 4⅛ | 7.40 | 4.44 |
| HL 3030 | 3000 | 30 | 2 x 4⅛ | 8.95 | 5.37 |
| HL 3040 | 4000 | 30 | 2½ x 4⅛ | 10.50 | 6.30 |
| HL 3505 | 500 | 35 | 1⅜ x 3⅛ | 3.70 | 2.22 |
| HL 3510 | 1000 | 35 | 1⅜ x 4⅛ | 5.00 | 3.00 |
| HL 3520 | 2000 | 35 | 1¾ x 4⅛ | 8.00 | 4.80 |
| HL 3530 | 3000 | 35 | 2 x 4⅛ | 9.50 | 5.70 |
| HL 3540 | 4000 | 35 | 2½ x 4⅛ | 11.00 | 6.60 |
| HL 4005 | 500 | 40 | 1⅜ x 3⅛ | 3.80 | 2.28 |
| HL 4010 | 1000 | 40 | 1⅜ x 4⅛ | 6.50 | 3.90 |
| HL 4020 | 2000 | 40 | 1¾ x 4⅛ | 9.00 | 5.40 |
| HL 4030 | 3000 | 40 | 2 x 4⅛ | 10.50 | 6.30 |
| HL 4040 | 4000 | 40 | 2½ x 4⅛ | 11.50 | 6.90 |
| HL 5005 | 500 | 50 | 1⅜ x 3⅛ | 3.90 | 2.34 |
| HL 5010 | 1000 | 50 | 1⅜ x 4⅛ | 7.00 | 4.20 |
| HL 5020 | 2000 | 50 | 1¾ x 4⅛ | 9.10 | 5.46 |
| HL 5030 | 3000 | 50 | 2 x 4⅛ | 11.50 | 6.90 |
| HL 5040 | 4000 | 50 | 2½ x 4⅛ | 12.50 | 7.80 |

★When JAN-C-62 units must be supplied, order according to specific CE type designations. ††For Overall Size add 1/16" to Diam. and ⅜" to Length.

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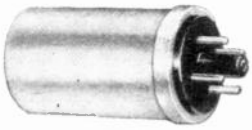
World Radio History

# PLUG-IN ELECTROLYTIC



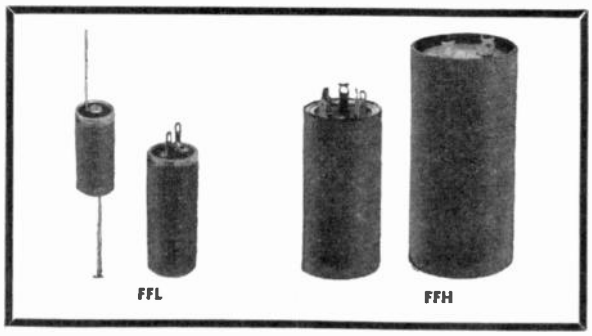
CQ★

Type CQ Capacitors are hermetically sealed in round aluminum containers with a four-pin octal base. Ideally suited for experimental, testing, juke box, government communication receiver uses and applications where quick capacitor changes are required. Ground lugs are furnished with all multiple-section units for cathode connection.

**TEMPERATURE RANGE:** to +85°C; except, +65°C at 500 V.D.C.W.

| CQ Cat. No. | Cap. Mfd. | D.C. W. Volts | Size—Inches Dia. x Lgth. | List Price | Net Price |
|---|---|---|---|---|---|
| **SINGLES** | | | | | |
| **CQ 1045** | 10 | 450 | 1 5/32 x 2½ | $4.05 | **$2.43** |
| **CQ 2045** | 20 | 450 | 1 5/32 x 2½ | 4.30 | **2.58** |
| **CQ 4045** | 40 | 450 | 1⅜ x 2½ | 4.55 | **2.73** |
| **CQ 8045** | 80 | 450 | 1⅜ x 3½ | 5.55 | **3.33** |
| **CQ 4050** | 40 | 500 | 1⅜ x 2½ | 5.00 | **3.00** |
| **DUALS** | | | | | |
| **CQ 2215** | 20–20 | 150 | 1 5/32 x 2½ | 4.20 | **2.52** |
| **CQ 4415** | 40–40 | 150 | 1 5/32 x 2½ | 4.40 | **2.64** |
| **CQ 5515** | 50–50 | 150 | 1 5/32 x 2½ | 4.65 | **2.79** |
| **CQ 8815** | 80–80 | 150 | 1⅜ x 2½ | 5.15 | **3.09** |
| **CQ 1145** | 10–10 | 450 | 1 5/32 x 2½ | 4.40 | **2.64** |
| **CQ 2245** | 20–20 | 450 | 1⅜ x 2½ | 5.05 | **3.03** |
| **CQ 3345** | 30–30 | 450 | 1⅜ x 3 | 5.55 | **3.33** |
| **CQ 4445** | 40–40 | 450 | 1⅜ x 3½ | 5.90 | **3.54** |
| **CQ 2250** | 20–20 | 500 | 1⅜ x 2½ | 5.30 | **3.18** |
| **TRIPLES** | | | | | |
| **CQ 22215** | 20–20–20 | 150 | 1 5/32 x 2½ | 4.85 | **2.91** |
| **CQ 44415** | 40–40–40 | 150 | 1⅜ x 2½ | 5.10 | **3.06** |
| **CQ 11145** | 10–10–10 | 450 | 1 5/32 x 2½ | 5.10 | **3.06** |
| **CQ 22245** | 20–20–20 | 450 | 1⅜ x 3 | 6.10 | **3.66** |
| **CQ 4245C** | 40–20/20 | 450/25 | 1⅜ x 3 | 6.00 | **3.60** |
| **CQ 11150** | 10–10–10 | 500 | 1⅜ x 2½ | 5.30 | **3.18** |
| **QUADRUPLES** | | | | | |
| **CQ 11145C** | 10–10–10/20 | 450/25 | 1⅜ x 2½ | 5.65 | **3.39** |
| **CQ 33145C** | 30–30–10/20 | 450/50 | 1⅜ x 4¼ | 6.85 | **4.11** |

# PHOTOFLASH



FFL FFH

| FFH Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Length | Watt Seconds | List Price | Net Price |
|---|---|---|---|---|---|---|
| TDXB 0455 | 2 x 50 | 450 | 1⅜ x 3 | 10 | $ 3.85 | **$ 2.31** |
| FFH 10063 (2) | 200 | 450 | 2 1/16 x 4½ | 20 | 6.85 | **4.11** |
| FFH 10005 (3) | 200 | 500 | 2 1/16 x 4⅜ | 25 | 10.50 | **6.30** |
| FFH 10007 (3) | 300 | 450 | 2 1/16 x 4⅜ | 30 | 10.50 | **6.30** |
| FFH 10000 (5) | 300 | 450 | 2 1/16 x 4⅜ | 30 | 11.50 | **6.90** |
| FFH 10300 (4) | 400 | 450 | 2 1/16 x 4½ | 40 | 17.95 | **10.77** |
| FFH 10001 (5) | 525 | 450 | 2 1/16 x 4⅜ | 53 | 22.60 | **13.56** |

| FFL Cat. No. | Cap. Mfd. | D.C. W. Volts | OVERALL Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| FFL 100001 (6) | 40 | 150 | ¾ x 1 7/16 | $1.35 | **$ .81** |
| FFL 10077 (7) | 100 | 30 | 1 x 2 11/16 | 3.35 | **2.01** |
| FFL 10062 (8) | 125 | 25 | ⅝ x 1 13/16 | 1.35 | **.81** |
| FFL 10067 (6) | 150 | 50 | ¾ x 1 11/16 | 1.35 | **.81** |
| JET 2502 (6) | 250 | 25 | ⅞ x 1 11/16 | 1.70 | **1.02** |

### PHYSICAL CHARACTERISTICS

① Aluminum Can—Cardboard Sleeve—Solder Lug Terms.—Twist Prong Mt.
② Aluminum Can—Cardboard Sleeve—Solder Lug Terms.
③ Bakelite Case—Solder Lug Terms.
④ Aluminum Can—Cardboard Sleeve—Screw Terms.
⑤ Bakelite Case—Screw Terms.
⑥ Aluminum Can—Tinned Wire Leads.
⑦ Aluminum Can—Solder Lug Terms.
⑧ Aluminum Can—Clip Mt. Terms.
⑨ Aluminum Can—Cardboard Sleeve—Mounting Strap

# Ultra Small Aluminum-Cased Electrolytics

Type LE capacitors are ultra-small, compression sealed, aluminum foil units. They are housed in aluminum containers which in turn are covered by a skin-tight, clear plastic insulating sleeve. The tinned copper pigtails are securely anchored in crimped stud terminals.

They are especially recommended for use in printed circuit assemblies, miniature radios, recorders, hearing aids, portable TV cameras and similar compact equipments.

**TEMPERATURE RANGE:** — 20° C. to + 65° C.

| LE Cat. No. | Cap. Mfd. | WVDC | Can Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| **LE 5-1** | 5 | 1 | 3/16 x ½ | $1.25 | **$.75** |
| **LE 2-3** | 2 | 3 | 3/16 x ½ | 1.25 | **.75** |
| **LE 10-3** | 10 | 3 | ¼ x ⅝ | 1.25 | **.75** |
| **LE 25-3** | 25 | 3 | ¼ x ⅝ | 1.25 | **.75** |
| **LE 40-3** | 40 | 3 | ¼ x ¾ | 1.25 | **.75** |
| **LE 50-3** | 50 | 3 | ¼ x ¾ | 1.25 | **.75** |
| **LE 110-3** | 110 | 3 | ⅜ x ¾ | 1.40 | **.84** |
| **LE 200-3** | 200 | 3 | ⅜ x 1 | 1.50 | **.90** |
| **LE 1-6** | 1 | 6 | 3/16 x ½ | 1.25 | **.75** |
| **LE 2-6** | 2 | 6 | 3/16 x ½ | $1.25 | **$.75** |
| **LE 3-6** | 3 | 6 | 3/16 x ½ | 1.25 | **.75** |
| **LE 4-6** | 4 | 6 | 3/16 x ⅝ | 1.25 | **.75** |
| **LE 5-6** | 5 | 6 | 3/16 x ⅝ | 1.25 | **.75** |
| **LE 8-6** | 8 | 6 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 10-6** | 10 | 6 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 15-6** | 15 | 6 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 20-6** | 20 | 6 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 25-6** | 25 | 6 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 30-6** | 30 | 6 | ⅜ x ⅝ | 1.40 | **.84** |
| **LE 40-6** | 40 | 6 | ⅜ x ⅝ | 1.40 | **.84** |
| **LE 50-6** | 50 | 6 | ⅜ x ⅝ | 1.40 | **.84** |
| **LE 60-6** | 60 | 6 | ⅜ x ¾ | 1.40 | **.84** |
| **LE 100-6** | 100 | 6 | ⅜ x ⅞ | 1.50 | **.90** |
| **LE 10-10** | 10 | 10 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 15-10** | 15 | 10 | ¼ x ⅝ | 1.35 | **.81** |
| **LE 25-10** | 25 | 10 | ⅜ x ⅝ | 1.35 | **.81** |
| **LE 50-10** | 50 | 10 | ⅜ x ¾ | 1.45 | **.87** |
| **LE 100-10** | 100 | 10 | ⅜ x 1 | 1.60 | **.96** |
| **LE 5-15** | 5 | 15 | ¼ x ⅝ | 1.40 | **.84** |
| **LE 10-15** | 10 | 15 | ¼ x ⅝ | 1.40 | **.84** |
| **LE 20-15** | 20 | 15 | ⅜ x ⅝ | 1.45 | **.87** |
| **LE 30-15** | 30 | 15 | ⅜ x ¾ | 1.50 | **.90** |
| **LE 5-25** | 5 | 25 | ¼ x ⅝ | 1.40 | **.84** |
| **LE 6-25** | 6 | 25 | ¼ x ⅝ | 1.40 | **.84** |
| **LE 10-25** | 10 | 25 | ⅜ x ⅝ | 1.45 | **.87** |
| **LE 15-25** | 15 | 25 | ⅜ x ⅝ | 1.45 | **.87** |
| **LE 20-25** | 20 | 25 | ⅜ x ⅝ | 1.50 | **.90** |
| **LE 5-50** | 5 | 50 | ¼ x ¾ | 1.45 | **.87** |
| **LE 10-50** | 10 | 50 | ⅜ x ⅝ | 1.50 | **.90** |
| **LE 20-50** | 20 | 50 | ⅜ x ⅞ | 1.50 | **.90** |

★When JAN-C-62 units must be supplied, order according to specific CE type designations.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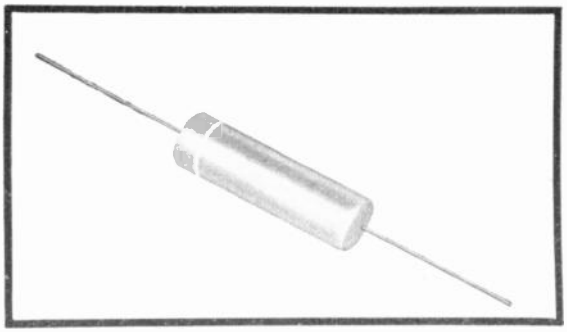
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

# "TOBEMITE" MOLDED PLASTIC TUBULARS



TOBE "TOBEMITES" are one of the toughest little capacitors ever offered servicemen for all types of television, auto radios, and other compact electronic equipment.

- Molded In Extra Hard Plastic
- Excellent Capacitance Stability
- Tested At Twice Rated Voltage
- Solidly Anchored Leads

**TEMPERATURE RANGE:** −40°C to +85°C.

| TOB Cat. No. | Cap. Mfd. | Size—Inches Dia. & Length | List Price | Net Price |
|---|---|---|---|---|
| | | **200 V. D.C.** | | |
| TOB 2S2 | .02 | ¼ x 1 1/16 | $.25 | $.15 |
| TOB 2S5 | .05 | ⅜ x 1 1/16 | .25 | .15 |
| TOB 2P1 | .1 | ⅜ x 1 1/16 | .35 | .21 |
| TOB 2P25 | .25 | ⅝ x 1⅞ | .45 | .27 |
| TOB 2P5 | .5 | ⅝ x 1⅞ | .60 | .36 |
| TOB 2W1 | 1.0 | ¾ x 2¼ | .90 | .54 |
| | | **400 V. D.C.** | | |
| TOB 4S1 | .01 | ¼ x 1 1/16 | .25 | .15 |
| TOB 4S2 | .02 | ⅜ x 1 5/16 | .25 | .15 |
| TOB 4S22 | .022 | ⅜ x 1 1/16 | .25 | .15 |
| TOB 4S47 | .047 | ⅜ x 1 1/16 | .30 | .18 |
| TOB 4S5 | .05 | ⅜ x 1 1/16 | .30 | .18 |
| TOB 4S68 | .068 | ½ x 1½ | .35 | .21 |
| TOB 4P1 | .1 | ½ x 1½ | .35 | .21 |
| TOB 4P15 | .15 | ⅝ x 1⅞ | .35 | .21 |
| TOB 4P22 | .22 | ⅝ x 1⅞ | .40 | .24 |
| TOB 4P25 | .25 | ⅝ x 1⅞ | .45 | .27 |
| TOB 4P47 | .47 | ¾ x 2¼ | .60 | .36 |
| TOB 4P5 | .5 | ¾ x 2¼ | .60 | .36 |
| TOB 4W1 | 1.0 | 1 x 2⅛ | .90 | .54 |
| | | **600 V. D.C.** | | |
| TOB 6T25 | .00025 | 7/16 x 1 | .25 | .15 |
| TOB 6T5 | .0005 | ¼ x ¾ | .25 | .15 |
| TOB 6D1 | .001 | ¼ x ¾ | .25 | .15 |
| TOB 6D15 | .0015 | ¼ x ¾ | .25 | .15 |
| TOB 6D2 | .002 | ¼ x ¾ | .25 | .15 |
| TOB 6D22 | .0022 | ¼ x ¾ | .25 | .15 |
| TOB 6D3 | .003 | ¼ x ¾ | .25 | .15 |
| TOB 6D33 | .0033 | ¼ x ¾ | .25 | .15 |
| TOB 6D4 | .004 | ¼ x 11/16 | .25 | .15 |
| TOB 6D47 | .0047 | ¼ x 11/16 | .25 | .15 |
| TOB 6D5 | .005 | ¼ x 11/16 | .25 | .15 |
| | | **600 V. D.C. (Continued)** | | |
| TOB 6D6 | .006 | ¼ x 11/16 | .25 | $.15 |
| TOB 6D68 | .0068 | ¼ x 11/16 | .30 | .18 |
| TOB 6S1 | .01 | ⅜ x 11/16 | .30 | .18 |
| TOB 6S15 | .015 | ⅜ x 11/16 | .30 | .18 |
| TOB 6S2 | .02 | ⅜ x 11/16 | .30 | .18 |
| TOB 6S22 | .022 | ⅜ x 11/16 | .30 | .18 |
| TOB 6S25 | .025 | ⅜ x 11/16 | .30 | .18 |
| TOB 6S3 | .03 | ⅜ x 11/16 | .35 | .21 |
| TOB 6S4 | .04 | ½ x 1½ | .35 | .21 |
| TOB 6S47 | .047 | ½ x 1½ | .40 | .24 |
| TOB 6S5 | .05 | ½ x 1½ | .40 | .24 |
| TOB 6S6 | .06 | ⅝ x 1⅞ | .40 | .24 |
| TOB 6S68 | .068 | ⅝ x 1⅞ | .40 | .24 |
| TOB 6P1 | .10 | ⅝ x 1⅞ | .45 | .27 |
| TOB 6P25 | .25 | ¾ x 2¼ | .55 | .33 |
| TOB 6P5 | .5 | 1 x 2⅛ | .80 | .48 |
| | | **1000 V. D.C.** | | |
| TOB 10D1 | .001 | ¼ x 11/16 | .50 | .30 |
| TOB 10D15 | .0015 | ¼ x 11/16 | .50 | .30 |
| TOB 10D2 | .002 | ⅜ x 11/16 | .50 | .30 |
| TOB 10D22 | .0022 | ⅜ x 11/16 | .50 | .30 |
| TOB 10D3 | .003 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D33 | .0033 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D4 | .004 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D47 | .0047 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D5 | .005 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D55 | .0055 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D6 | .006 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D68 | .0068 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D7 | .007 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D75 | .0075 | ⅜ x 1¼ | .50 | .30 |
| TOB 10D8 | .008 | ⅜ x 1¼ | .50 | .30 |
| TOB 10S1 | .01 | ⅜ x 1¼ | .50 | .30 |
| TOB 10S15 | .015 | 7/16 x 1¼ | .50 | .30 |
| TOB 10S2 | .02 | ½ x 1½ | .50 | .30 |
| TOB 10S25 | .025 | ½ x 1½ | .50 | .30 |
| TOB 10S3 | .03 | ½ x 1½ | .50 | .30 |
| TOB 10S4 | .04 | ⅝ x 1⅞ | .50 | .30 |
| | | **1600 V. D.C.** | | |
| TOB 16D1 | .001 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D15 | .0015 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D2 | .002 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D22 | .0022 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D3 | .003 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D33 | .0033 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D4 | .004 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D47 | .0047 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D5 | .005 | ⅜ x 1¼ | .65 | .39 |
| TOB 16D55 | .0055 | 7/16 x 1¼ | .65 | .39 |
| TOB 16D6 | .006 | 7/16 x 1¼ | .65 | .39 |
| TOB 16D68 | .0068 | 7/16 x 1¼ | .65 | .39 |
| TOB 16D7 | .007 | 7/16 x 1¼ | .65 | .39 |
| TOB 16D75 | .0075 | 7/16 x 1¼ | .65 | .39 |
| TOB 16D8 | .008 | 7/16 x 1¼ | .65 | .39 |
| TOB 16S1 | .01 | ½ x 1½ | .70 | .42 |
| TOB 16S15 | .015 | ½ x 1½ | .70 | .42 |
| TOB 16S2 | .02 | ⅝ x 1⅞ | .70 | .42 |
| TOB 16S25 | .025 | ⅝ x 1⅞ | .70 | .42 |
| TOB 16S3 | .03 | ⅝ x 1⅞ | .70 | .42 |
| TOB 16S4 | .04 | ⅝ x 1⅞ | .70 | .42 |
| | | **6000 V. D.C.** | | |
| TOB 60T5 | .0005 | 9/16 x 1½ | 1.35 | .81 |
| TOB 60D1 | .001 | 9/16 x 1½ | 1.35 | .81 |
| TOB 60D5 | .005 | 11/16 x 1⅞ | 1.35 | .81 |
| | | **10,000 V. D.C.** | | |
| TOB 100T5 | .0005 | 11/16 x 1⅞ | 1.50 | .90 |
| | | **12,500 V. D.C.** | | |
| TOB 125T25 | .00025 | 11/16 x 1⅞ | 1.70 | 1.02 |

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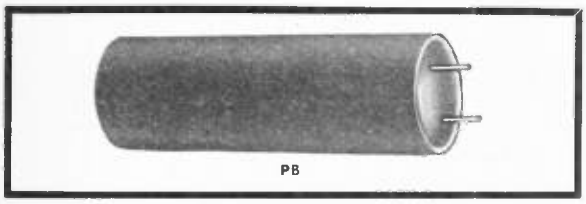
# PHENOLIC-CASED PRINTED CIRCUIT PAPER TUBULAR



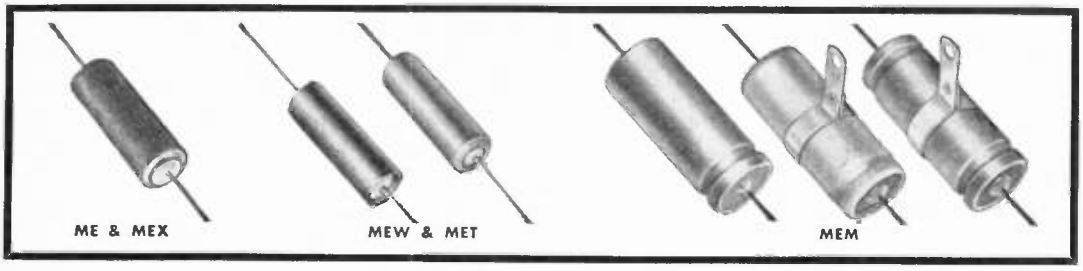
PB

- PARALLEL LEAD WIRES: May be plugged directly into printed circuit.
- PRE-MOLDED PHENOLIC SHELL: No distortion and no stresses are set up because capacitor section is not subjected to molding pressures.
- WIDE TEMPERATURE RANGE: Vikane impregnated units (rated at 600 WVDC) will withstand operating temperature from —55°C to +100°C. Units impregnated with HT compound (rated at 400 WVDC and 200 WVDC) will withstand operating temperatures from —40°C to +90°C.
- POLYKANE FILL: Securely anchors leads, locks section in place and provides a barrier to moisture.
- SOLID CONNECTIONS: Leads are soldered directly to the extended foils for low resistance connections.
- STRONG CONSTRUCTION: Will withstand the extremes of soldering temperatures without damage to case material, moisture seal, lead connections or electrical performance.

| PB Cat. No. | Cap. Mfd. | Size | List Price | Net Price |
|---|---|---|---|---|
| | | **200 V. D.C.** | | |
| PB 2D68J | .0068 | 3/8 x 1 | $.30 | $.18 |
| PB 2S1J | .01 | 3/8 x 1 | .30 | .18 |
| PB 2S15J | .015 | 3/8 x 1 1/4 | .30 | .18 |
| PB 2S22J | .022 | 3/8 x 1 1/4 | .35 | .21 |
| PB 2S33J | .033 | 7/16 x 1 1/4 | .35 | .21 |
| PB 2S47J | .047 | 1/2 x 1 1/4 | .35 | .21 |
| PB 2S68J | .068 | 1/2 x 1 1/4 | .35 | .21 |
| PB 2P1J | .10 | 1/2 x 1 1/2 | .40 | .24 |
| PB 2P15J | .15 | 1/2 x 1 1/2 | .45 | .27 |
| PB 2P22J | .22 | 5/8 x 1 7/8 | .50 | .30 |
| PB 2P33J | .33 | 5/8 x 1 7/8 | .55 | .33 |
| PB 2P47J | .47 | 7/8 x 2 1/2 | .65 | .39 |
| PB 2P68J | .68 | 7/8 x 2 1/2 | .70 | .42 |
| | | **600 V. D.C.** | | |
| PB 6D1J | .001 | 3/8 x 1 | .30 | .18 |
| PB 6D15J | .0015 | 3/8 x 1 | .30 | .18 |
| PB 6D22J | .0022 | 3/8 x 1 | .30 | .18 |
| PB 6D33J | .0033 | 3/8 x 1 | .30 | .18 |
| PB 6D47J | .0047 | 3/8 x 1 | .30 | .18 |
| PB 6D68J | .0068 | 3/8 x 1 | .30 | .18 |
| PB 6S1J | .01 | 3/8 x 1 1/4 | .35 | .21 |
| PB 6S15J | .015 | 7/16 x 1 1/4 | .35 | .21 |
| PB 6S22J | .022 | 7/16 x 1 1/4 | .40 | .24 |
| PB 6S33J | .033 | 1/2 x 1 1/4 | .40 | .24 |
| PB 6S47J | .047 | 1/2 x 1 1/2 | .45 | .27 |
| PB 6S68J | .068 | 5/8 x 1 7/8 | .50 | .30 |
| PB 6P1J | .10 | 5/8 x 1 7/8 | .55 | .33 |
| PB 6P15J | .15 | 7/8 x 2 1/2 | .60 | .36 |
| PB 6P22J | .22 | 7/8 x 2 1/2 | .65 | .39 |
| PB 6P33J | .33 | 7/8 x 2 1/2 | .70 | .42 |
| *PB 4P47J | .47 | 7/8 x 2 1/2 | .70 | .42 |

*Rated at 400 V. D.C.

# COMPACT METALIZED-PAPER CAPACITORS



ME & MEX MEW & MET MEM

TOBE self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. Units are light and compact.

"ME" units have bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"MEM" types are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets.

"MEW" types are a high quality metalized paper capacitor, designed for smallest size and positive seal against moisture. They are hermetically sealed in metal cases with solder—seal glass terminals. Especially recommended in military and commercial equipment where miniature size and light weight are paramount.

**METAL END-CAP "ME" CARDBOARD TUBULARS**

**TEMPERATURE RANGE:** —40°C to +60°C.

| ME Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| ME 2S5 | .05 | 200 | 3/8 x 5/8 | $ .75 | $ .45 |
| ME 2P1 | .1 | 200 | 3/8 x 5/8 | .79 | .47 |
| ME 2P25 | .25 | 200 | 11/32 x 5/8 | 1.14 | .68 |
| ME 2P5 | .5 | 200 | 11/32 x 1 1/8 | 1.33 | .80 |
| ME 2W1 | 1.0 | 200 | 9/16 x 1 1/8 | 1.78 | 1.07 |
| ME 2W2 | 2.0 | 200 | 5/8 x 1 5/8 | 2.42 | 1.45 |
| ME 4S5 | .05 | 400 | 11/32 x 5/8 | .79 | .47 |
| ME 4P1 | .1 | 400 | 11/32 x 1 1/8 | .83 | .50 |
| ME 4P25 | .25 | 400 | 9/16 x 1 1/8 | 1.25 | .75 |
| ME 4P5 | .5 | 400 | 5/8 x 1 5/8 | 1.58 | .94 |
| ME 4W1 | 1.0 | 400 | 23/32 x 2 1/8 | 2.20 | 1.32 |
| ME 6S1 | .01 | 600 | 3/8 x 5/8 | .75 | .45 |
| ME 6P1 | .1 | 600 | 13/32 x 1 1/8 | .97 | .58 |
| ME 6P25 | .25 | 600 | 5/8 x 1 1/8 | 1.53 | .92 |
| ME 6P5 | .5 | 600 | 23/32 x 1 5/8 | 1.92 | 1.15 |
| ME 6W1 | 1.0 | 600 | 23/32 x 2 1/8 | 2.39 | 1.43 |

(Continued next page)



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# COMPACT METALIZED-PAPER CAPACITORS †

### ONE-PIECE METAL "MEM" TUBULARS
(Ungrounded)

TEMPERATURE RANGE: —55°C. to +95°C.

| MEM Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | * List Price | Net Price |
|---|---|---|---|---|---|
| MEM 2S5 | .05 | 200 | 3/8 x 29/32 | $2.03 | $1.22 |
| MEM 2P1 | .1 | 200 | 7/16 x 29/32 | 2.11 | 1.27 |
| MEM 2P25 | .25 | 200 | 1/2 x 29/32 | 2.34 | 1.40 |
| MEM 2P5 | .05 | 200 | 1/2 x 1 13/32 | 2.56 | 1.54 |
| MEM 2W1 | 1.0 | 200 | .670 x 1 13/32 | 3.00 | 1.80 |
| MEM 2W2 | 2.0 | 200 | .670 x 1 29/32 | 3.73 | 2.24 |
| MEM 4S5 | .05 | 400 | 1/2 x 29/32 | 2.11 | 1.27 |
| MEM 4P1 | .1 | 400 | 1/2 x 1 13/32 | 2.25 | 1.35 |
| MEM 4P25 | .25 | 400 | .670 x 1 13/32 | 2.61 | 1.57 |
| MEM 4P5 | .50 | 400 | .670 x 1 29/32 | 2.92 | 1.75 |
| MEM 4W1 | 1.0 | 400 | 3/4 x 2 13/32 | 3.70 | 2.22 |
| MEM 4W2 | 2.0 | 400 | 1 x 2 15/32 | 5.31 | 3.19 |
| MEM 6S1 | .01 | 600 | 7/16 x 29/32 | 2.17 | 1.30 |
| MEM 6P1 | .1 | 600 | 1/2 x 1 13/32 | 2.34 | 1.40 |
| MEM 6P25 | .25 | 600 | .670 x 1 13/32 | 2.89 | 1.73 |
| MEM 6P5 | .50 | 600 | .670 x 1 29/32 | 3.25 | 1.95 |
| MEM 6W1 | 1.0 | 600 | 3/4 x 2 13/32 | 4.25 | 2.55 |
| MEM 6W2 | 2.0 | 600 | 1 1/8 x 2 15/32 | 6.10 | 3.66 |

*Deduct 10¢ from List Price for Basic GROUNDED style.

### GLASS-METAL "MEW" END-SEALED TUBULARS
(Ungrounded)

TEMPERATURE RANGE: —55°C. to +95°C.

| MEW Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | * List Price | Net Price |
|---|---|---|---|---|---|
| MEW 2S5 | .05 | 200 | .235 x 3/4 | $2.43 | 1.46 |
| MEW 2P1 | .1 | 200 | .312 x 3/4 | 2.53 | 1.52 |
| MEW 2P25 | .25 | 200 | .312 x 1 1/16 | 2.77 | 1.66 |
| MEW 2P5 | .5 | 200 | .400 x 1 1/16 | 3.03 | 1.82 |
| MEW 2W1 | 1.0 | 200 | .562 x 1 1/4 | 3.27 | 1.96 |
| MEW 2W15 | 1.5 | 200 | .562 x 1 3/4 | 4.62 | 2.77 |
| MEW 2W2 | 2.0 | 200 | .562 x 1 3/4 | 4.62 | 2.77 |
| MEW 4S5 | .05 | 400 | .400 x 3/4 | 2.45 | 1.47 |
| MEW 4P1 | .1 | 400 | .400 x 1 1/16 | 2.65 | 1.59 |
| MEW 4P25 | .25 | 400 | .562 x 1 1/16 | 3.08 | 1.85 |
| MEW 4P5 | .5 | 400 | .562 x 1 3/4 | 3.68 | 2.21 |
| MEW 4W1 | 1.0 | 400 | .670 x 2 1/4 | 3.92 | 2.35 |
| MEW 6S1 | .01 | 600 | .312 x 3/4 | 2.48 | 1.49 |
| MEW 6P1 | .1 | 600 | .500 x 1 1/4 | 2.75 | 1.65 |
| MEW 6P25 | .25 | 600 | .670 x 1 3/8 | 3.25 | 1.95 |
| MEW 6P5 | .5 | 600 | .750 x 1 3/4 | 3.80 | 2.28 |
| MEW 6W1 | 1.0 | 600 | .750 x 2 1/4 | 4.22 | 2.53 |

*Deduct 50¢ from List Price for Basic GROUNDED style.

# High Temperature Metalized-Paper Capacitors

- **RESIN-IMPREGNATED:** This impregnant insures excellent electrical properties over long service life.
- **MOISTURE RESISTANT:** MET tubulars have the finest glass-to-metal solder seal terminals for maximum protection against moisture. MEX tubulars have RESIN-impregnated paper tubes, bonded securely to the RESIN fill. An external flash wax dip provides an increased moisture seal for extra long storage and service conditions under extremes of humidity.
- **NON-LEAKING:** RESIN is a special solid thermosetting plastic that will not soften, crack, or leak at the maximum temperature. No oil or wax is used internally with these units.

### "MEX" HIGH TEMPERATURE Paper-Cased TUBULARS

STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE: —35°C to +100°C

| MEX Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| MEX 2S5 | .05 | 200 | 1/4 x 13/16 | $ .75 | $ .45 |
| MEX 2P1 | .10 | 200 | 5/16 x 13/16 | .79 | .47 |
| MEX 2P25 | .25 | 200 | 13/32 x 13/16 | 1.14 | .68 |
| MEX 2P5 | .50 | 200 | 13/32 x 1 1/8 | 1.33 | .80 |
| MEX 2W1 | 1.0 | 200 | 9/16 x 1 3/16 | 1.78 | 1.07 |
| MEX 2W2 | 2.0 | 200 | 5/8 x 1 1/2 | 2.42 | 1.45 |
| MEX 4S5 | .05 | 400 | 3/8 x 13/16 | .79 | .47 |
| MEX 4P1 | .10 | 400 | 3/8 x 1 1/8 | .83 | .50 |
| MEX 4P25 | .25 | 400 | 9/16 x 1 3/16 | 1.25 | .75 |
| MEX 4P5 | .50 | 400 | 5/8 x 1 3/8 | 1.58 | .94 |
| MEX 4W1 | 1.0 | 400 | 11/16 x 1 7/8 | 2.20 | 1.32 |
| MEX 4W2 | 2.0 | 400 | 7/8 x 2 3/8 | 3.10 | 1.86 |
| MEX 6S1 | .01 | 600 | 1/4 x 13/16 | .75 | .45 |
| MEX 6P1 | .10 | 600 | 1/4 x 1 1/8 | .97 | .58 |
| MEX 6P25 | .25 | 600 | 5/8 x 1 3/16 | 1.53 | .92 |
| MEX 6P5 | .50 | 600 | 11/16 x 1 1/2 | 1.92 | 1.15 |
| MEX 6W1 | 1.0 | 600 | 13/16 x 1 7/8 | 2.39 | 1.43 |
| MEX 6W2 | 2.0 | 600 | 1 x 2 3/8 | 3.42 | 2.04 |

### "MET" HIGH TEMPERATURE Metal-Cased TUBULARS
STYLE BASIC (Ungrounded)

STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE —55°C to +130°C

| MET Cat. No. | Cap. Mfd. | Voltage DCW | Size—Inches Diam. x Length | * List Price | Net Price |
|---|---|---|---|---|---|
| MET 2S5 | .05 | 200 | .235 x 13/16 | $2.37 | $1.42 |
| MET 2P1 | .10 | 200 | .312 x 13/16 | 2.47 | 1.48 |
| MET 2P25 | .25 | 200 | .312 x 1 1/8 | 2.70 | 1.62 |
| MET 2P5 | .50 | 200 | .400 x 1 1/8 | 2.97 | 1.78 |
| MET 2W1 | 1.0 | 200 | .562 x 1 1/8 | 3.20 | 1.92 |
| MET 2W15 | 1.5 | 200 | .562 x 1 13/16 | 4.55 | 2.73 |
| MET 2W2 | 2.0 | 200 | .562 x 1 13/16 | 4.55 | 2.73 |
| MET 4S5 | .05 | 400 | .312 x 13/16 | 2.38 | 1.43 |
| MET 4P1 | .10 | 400 | .400 x 1 1/8 | 2.58 | 1.55 |
| MET 4P25 | .25 | 400 | .500 x 1 1/8 | 3.03 | 1.82 |
| MET 4P5 | .50 | 400 | .562 x 1 13/16 | 3.63 | 2.18 |
| MET 4W1 | 1.0 | 400 | .670 x 2 5/16 | 3.87 | 2.32 |
| MET 6S1 | .01 | 600 | .312 x 13/16 | 2.42 | 1.45 |
| MET 6P1 | .10 | 600 | .400 x 1 1/8 | 2.70 | 1.62 |
| MET 6P25 | .25 | 600 | .562 x 1 5/32 | 3.20 | 1.92 |
| MET 6P5 | .50 | 600 | .670 x 1 13/16 | 3.72 | 2.23 |
| MET 6W1 | 1.0 | 600 | .750 x 2 5/16 | 4.17 | 2.50 |

*Deduct 50¢ from List Price Basic GROUNDED style.

†A wide range of values beyond those listed on this page is available upon request.

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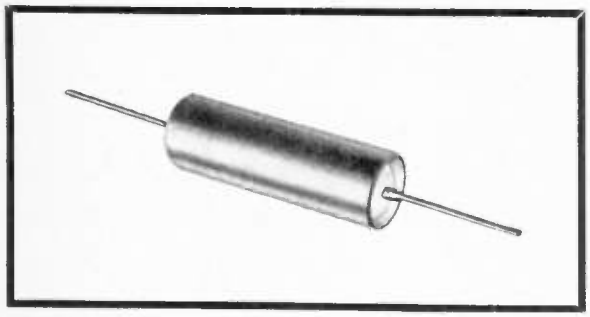
# MINIATURE·METAL-CASED TUBULARS



Hermetically sealed in metal cases, with glass-to-metal seal terminals and available in a wide variety of mounting styles, impregnants, tolerances, and internal construction.

**STANDARD TOLERANCE:** ±20%

**TEMPERATURE RANGE:**

†Full Rating at 85°C.
†Derate to 90% at 100°C.
†Derate to 50% at 125°C.
†Derate to 33% at 160°C.

| | | |
|---|---|---|
| DMH | Stabilized Halowax | −40°C. to +85°C. |
| DMC | Mineral oil | −55°C. to +85°C. |
| DMU | Silicone fluid | −55°C. to +125°C. |
| DMMA | "Mylar"** polyester film | −55°C. to +160°C.† |

PRICES shown below are for BASIC STYLE—UNGROUNDED.

**Registered Dupont trade mark.

## "BASIC" STYLE UNGROUNDED

| DMH Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| DMH 1D1 | .001 | 100 | .175 x ¾ | $2.25 | $1.35 |
| DMH 1D47 | .0047 | 100 | .175 x ¾ | 2.30 | 1.38 |
| DMH 1S1 | .01 | 100 | .175 x ¾ | 2.30 | 1.38 |
| DMH 1S22 | .022 | 100 | .175 x ¾ | 2.30 | 1.38 |
| DMH 1S47 | .047 | 100 | .235 x ¾ | 2.35 | 1.41 |
| DMH 1P1 | .1 | 100 | .312 x ⅞ | 2.50 | 1.50 |
| DMH 1P22 | .22 | 100 | .400 x ⅞ | 2.55 | 1.53 |
| DMH 1P47 | .47 | 100 | .400 x 1⅜ | 2.70 | 1.62 |
| DMH 1W1 | 1.0 | 100 | .562 x 1⅜ | 3.20 | 1.92 |
| DMH 2D1 | .001 | 200 | .235 x ¾ | 2.35 | 1.41 |
| DMH 2D47 | .0047 | 200 | .235 x ¾ | 2.40 | 1.44 |
| DMH 2S1 | .01 | 200 | .235 x ¾ | 2.40 | 1.44 |
| DMH 2S22 | .022 | 200 | .235 x ¾ | 2.40 | 1.44 |
| DMH 2S47 | .047 | 200 | .312 x ⅞ | 2.50 | 1.50 |
| DMH 2P1 | .1 | 200 | .312 x ⅞ | 2.60 | 1.56 |
| DMH 2P47 | .47 | 200 | .562 x 1⅛ | 2.95 | 1.77 |
| DMH 2W1 | 1.0 | 200 | .562 x 1⅞ | 3.30 | 1.98 |
| DMH 4D1 | .001 | 400 | .235 x ¾ | 2.40 | 1.44 |
| DMH 4D47 | .0047 | 400 | .235 x ¾ | 2.45 | 1.47 |
| DMH 4S1 | .01 | 400 | .235 x ¾ | 2.50 | 1.50 |
| DMH 4S22 | .022 | 400 | .312 x ⅞ | 2.55 | 1.53 |
| DMH 4S47 | .047 | 400 | .312 x ⅞ | 2.55 | 1.53 |
| DMH 4P1 | .1 | 400 | .400 x 1⅛ | 2.70 | 1.62 |
| DMH 4P47 | .47 | 400 | .562 x 1⅞ | 3.35 | 2.01 |
| DMH 4W1 | 1.0 | 400 | .750 x 2⅛ | 3.90 | 2.34 |

| DMC Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| DMC 1D1 | .001 | 100 | .175 x ¾ | $2.30 | $1.38 |
| DMC 1D47 | .0047 | 100 | .175 x ¾ | 2.35 | 1.41 |
| DMC 1S1 | .01 | 100 | .175 x ¾ | 2.40 | 1.44 |
| DMC 1S22 | .022 | 100 | .195 x ¾ | 2.40 | 1.44 |
| DMC 1S47 | .047 | 100 | .312 x ⅞ | 2.50 | 1.50 |
| DMC 1P1 | .1 | 100 | .312 x ⅞ | 2.60 | 1.56 |
| DMC 1P47 | .47 | 100 | .562 x 1⅛ | 3.00 | 1.80 |
| DMC 1W1 | 1.0 | 100 | .562 x 1⅞ | 3.40 | 2.04 |
| DMC 2D1 | .001 | 200 | .235 x ¾ | 2.40 | 1.44 |
| DMC 2D47 | .0047 | 200 | .235 x ¾ | 2.45 | 1.47 |
| DMC 2S1 | .01 | 200 | .235 x ¾ | 2.50 | 1.50 |
| DMC 2S22 | .022 | 200 | .235 x ¾ | 2.50 | 1.50 |
| DMC 2S47 | .047 | 200 | .312 x ⅞ | 2.60 | 1.56 |
| DMC 2P1 | .1 | 200 | .400 x ⅞ | 2.70 | 1.62 |
| DMC 2P22 | .22 | 200 | .400 x 1⅜ | 2.90 | 1.74 |
| DMC 2P47 | .47 | 200 | .562 x 1⅜ | 3.25 | 1.95 |

DMC (cont'd)

| DMC Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| DMC 2W1 | 1.0 | 200 | .670 x 1⅞ | $3.80 | $2.28 |
| DMC 4D1 | .001 | 400 | .235 x ¾ | 2.50 | 1.50 |
| DMC 4D47 | .0047 | 400 | .235 x ¾ | 2.50 | 1.50 |
| DMC 4S1 | .01 | 400 | .235 x ¾ | 2.55 | 1.53 |
| DMC 4S22 | .022 | 400 | .312 x ⅞ | 2.65 | 1.59 |
| DMC 4S47 | .047 | 400 | .400 x ⅞ | 2.75 | 1.65 |
| DMC 4P1 | .1 | 400 | .400 x 1⅜ | 2.90 | 1.74 |
| DMC 4P22 | .22 | 400 | .562 x 1⅜ | 3.25 | 1.95 |
| DMC 4P47 | .47 | 400 | .670 x 1⅞ | 3.75 | 2.25 |
| DMC 6D1 | .001 | 600 | .235 x ¾ | 2.50 | 1.50 |
| DMC 6D47 | .0047 | 600 | .235 x ¾ | 2.55 | 1.53 |
| DMC 6S1 | .01 | 600 | .312 x ⅞ | 2.65 | 1.59 |
| DMC 6S22 | .022 | 600 | .312 x ⅞ | 2.70 | 1.62 |
| DMC 6S47 | .047 | 600 | .400 x 1⅛ | 2.80 | 1.68 |
| DMC 6P1 | .1 | 600 | .562 x 1⅛ | 3.10 | 1.86 |
| DMC 6P22 | .22 | 600 | .562 x 1⅞ | 3.45 | 2.07 |
| DMC 6P47 | .47 | 600 | .750 x 2⅛ | 4.05 | 2.43 |

| DMU Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| DMU 1D1 | .001 | 100 | .175 x ¾ | $2.60 | $1.56 |
| DMU 1D47 | .0047 | 100 | .175 x ¾ | 2.60 | 1.56 |
| DMU 1S1 | .01 | 100 | .175 x ¾ | 2.65 | 1.59 |
| DMU 1S22 | .022 | 100 | .195 x ¾ | 2.65 | 1.59 |
| DMU 1S47 | .047 | 100 | .312 x ⅞ | 2.80 | 1.68 |
| DMU 1P1 | .1 | 100 | .312 x ⅞ | 2.90 | 1.74 |
| DMU 1P47 | .47 | 100 | .562 x 1⅛ | 3.35 | 2.01 |
| DMU 1W1 | 1.0 | 100 | .562 x 1⅞ | 3.80 | 2.28 |
| DMU 2D1 | .001 | 200 | 235 x ¾ | 2.70 | 1.62 |
| DMU 2D47 | .0047 | 200 | .235 x ¾ | 2.75 | 1.65 |
| DMU 2S1 | .01 | 200 | .235 x ¾ | 2.80 | 1.68 |
| DMU 2S22 | .022 | 200 | .235 x ¾ | 2.80 | 1.68 |
| DMU 2S47 | .047 | 200 | .312 x ⅞ | 2.90 | 1.74 |
| DMU 2P1 | .1 | 200 | .400 x ⅞ | 3.00 | 1.80 |
| DMU 2P22 | .22 | 200 | .400 x 1⅜ | 3.20 | 1.92 |
| DMU 2P47 | .47 | 200 | .562 x 1⅜ | 3.60 | 2.16 |
| DMU 2W1 | 1.0 | 200 | .670 x 1⅞ | 4.25 | 2.55 |
| DMU 4D1 | .001 | 400 | .235 x ¾ | 2.80 | 1.68 |
| DMU 4D47 | .0047 | 400 | .235 x ¾ | 2.80 | 1.68 |
| DMU 4S1 | .01 | 400 | .235 x ¾ | 2.85 | 1.71 |
| DMU 4S22 | .022 | 400 | .312 x ⅞ | 2.95 | 1.77 |
| DMU 4S47 | .047 | 400 | .400 x ⅞ | 3.05 | 1.83 |
| DMU 4P1 | .1 | 400 | .400 x 1⅜ | 3.25 | 1.95 |
| DMU 4P22 | .22 | 400 | .562 x 1⅜ | 3.60 | 2.16 |
| DMU 4P47 | .47 | 400 | .670 x 1⅞ | 4.20 | 2.52 |
| DMU 6D1 | .001 | 600 | .235 x ¾ | 2.80 | 1.68 |
| DMU 6D47 | .0047 | 600 | .235 x ¾ | 2.85 | 1.71 |
| DMU 6S1 | .01 | 600 | .312 x ⅞ | 2.95 | 1.77 |
| DMU 6S22 | .022 | 600 | .312 x ⅞ | 3.00 | 1.80 |
| DMU 6S47 | .047 | 600 | .400 x 1⅛ | 3.15 | 1.89 |
| DMU 6P1 | .1 | 600 | .562 x 1⅛ | 3.50 | 2.10 |
| DMU 6P22 | .22 | 600 | .562 x 1⅞ | 3.90 | 2.34 |
| DMU 6P47 | .47 | 600 | .750 x 2⅛ | 4.55 | 2.73 |

| DMMA Cat. No. | Cap. Mfd. | V.D.C.W. | Size—Inches Dia. x Length | List Price | Net Price |
|---|---|---|---|---|---|
| DMMA 1S1 | .01 | 100 | .235 x ⅞ | $3.10 | $1.86 |
| DMMA 1S22 | .022 | 100 | .312 x ⅞ | 3.10 | 1.86 |
| DMMA 1S47 | .047 | 100 | .312 x ⅞ | 3.25 | 1.95 |
| DMMA 1P1 | .1 | 100 | .400 x ⅞ | 3.35 | 2.01 |
| DMMA 4D47 | .0047 | 400 | .235 x ⅞ | 3.25 | 1.95 |
| DMMA 4S1 | .01 | 400 | .312 x ⅞ | 3.30 | 1.98 |
| DMMA 4S22 | .022 | 400 | .400 x ⅞ | 3.40 | 2.04 |
| DMMA 4S47 | .047 | 400 | .400 x 1 | 3.55 | 2.13 |
| DMMA 4P1 | .1 | 400 | .562 x 1 | 3.75 | 2.25 |
| DMMA 4P22 | .22 | 400 | .562 x 1⅜ | 4.20 | 2.52 |
| DMMA 4P47 | .47 | 400 | .670 x 1⅞ | 4.85 | 2.91 |
| DMMA 4W1 | 1.0 | 400 | .750 x 2½ | 5.85 | 3.51 |
| DMMA 6D47 | .0047 | 600 | .312 x 1 | 3.30 | 1.98 |
| DMMA 6S1 | .01 | 600 | .312 x 1 | 3.40 | 2.04 |
| DMMA 6S22 | .022 | 600 | .400 x 1 | 3.50 | 2.10 |
| DMMA 6S47 | .047 | 600 | .400 x 1⅜ | 3.65 | 2.19 |
| DMMA 6P1 | .1 | 600 | .562 x 1⅜ | 4.05 | 2.43 |
| DMMA 6P22 | .22 | 600 | .670 x 1⅝ | 4.50 | 2.70 |
| DMMA 6P47 | .47 | 600 | .750 x 2⅜ | 5.30 | 3.18 |
| DMMA 6W1 | 1.0 | 600 | 1 x 2 11/16 | 7.00 | 4.20 |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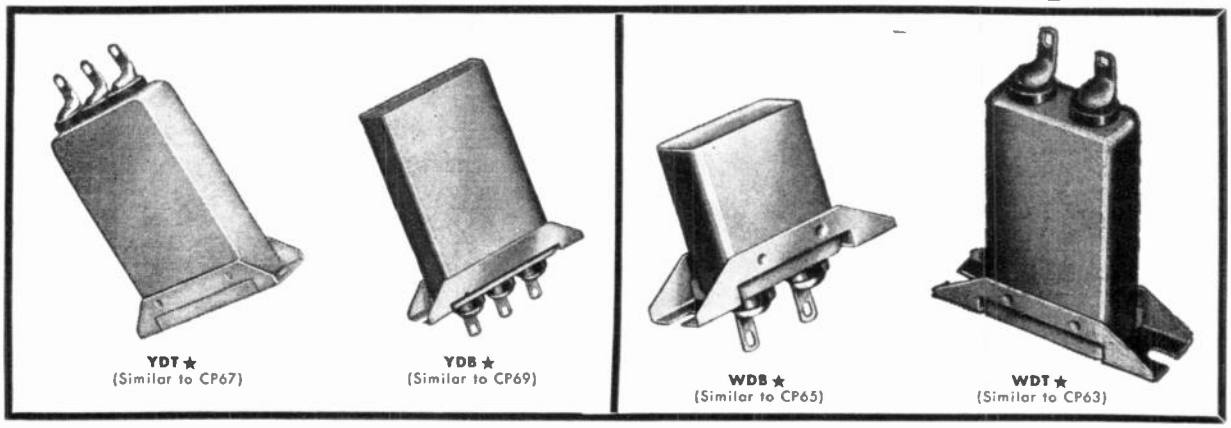
World Radio History

# METAL CASED PAPER CAPACITORS

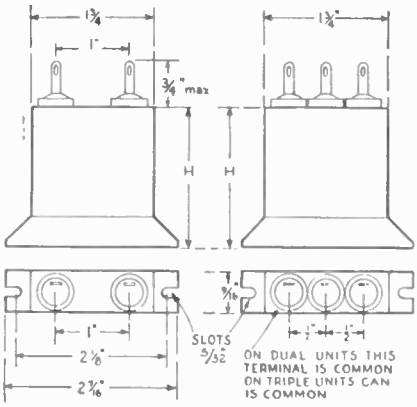


YDT ★ (Similar to CP67)

YDB ★ (Similar to CP69)

WDB ★ (Similar to CP65)

WDT ★ (Similar to CP63)



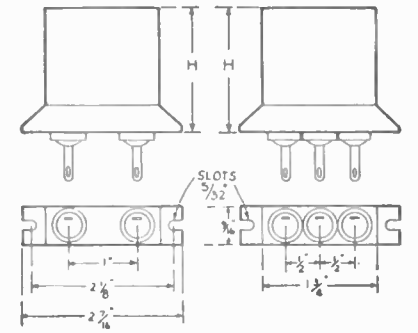

TYPE YDT

Types YDT and YDB are oil impregnated and oil filled with non-inflammable, non-oxidizable liquid. They are especially suited for use in bypass, audio frequency coupling circuits and other applications. Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers. They will meet MIL-C-25A performance and test requirements.

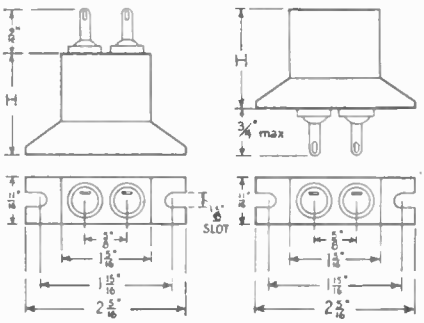
**TEMPERATURE RANGE:** —55°C to +85°C.

**STANDARD TOLERANCE:** +20%, —10%.

| YDB/YDT Cat. No. | Cap. Mfd. | Case Size—Inches L. x W. x H. | List Price | Net Price |
|---|---|---|---|---|
| | | **600 V. D.C. Work.** | | |
| YDB or YDT 6005 | .05 | 1¾ x 9/16 x 1 1/16 | $3.60 | **$2.16** |
| YDB or YDT 610 | .1 | 1¾ x 9/16 x 1 1/16 | 3.60 | **2.16** |
| YDB or YDT 625 | .25 | 1¾ x 9/16 x 1½ | 3.85 | **2.31** |
| YDB or YDT 650 | .5 | 1¾ x 9/16 x 2 | 4.15 | **2.49** |
| YDB or YDT 601 | 1.0 | 1¾ x 11/16 x 2½ | 4.70 | **2.82** |
| YDB or YDT 6205 | .05 .05 | 1¾ x 9/16 x 1 1/16 | 3.65 | **2.19** |
| YDB or YDT 6210 | .1-.1 | 1¾ x 9/16 x 1½ | 4.70 | **2.82** |
| YDB or YDT 6225 | .25 .25 | 1¾ x 9/16 x 2 | 4.70 | **2.82** |
| YDB or YDT 6250 | .5 .5 | 1¾ x 9/16 x 2½ | 5.50 | **3.30** |
| YDB or YDT 6305 | .05 .05-.05 | 1¾ x 9/16 x 1 1/16 | 5.25 | **3.15** |
| YDB or YDT 6310 | .1 .1 .1 | 1¾ x 9/16 x 1½ | 5.50 | **3.30** |
| YDB or YDT 6325 | .25-.25 .25 | 1¾ x 9/16 x 2½ | 5.80 | **3.48** |
| | | **1000 V. D.C. Work.** | | |
| YDB or YDT 10005 | .05 | 1¾ x 9/16 x 1 1/16 | 3.70 | **2.22** |
| YDB or YDT 1010 | .1 | 1¾ x 9/16 x 1 1/16 | 4.00 | **2.40** |
| YDB or YDT 1025 | .25 | 1¾ x 9/16 x 2 | 4.15 | **2.49** |
| YDB or YDT 1050 | .5 | 1¾ x 9/16 x 2½ | 4.40 | **2.64** |
| YDB or YDT 10205 | .05 .05 | 1¾ x 9/16 x 1 1/16 | 4.40 | **2.64** |
| YDB or YDT 10210 | .1 -.1 | 1¾ x 9/16 x 1½ | 4.95 | **2.97** |
| YDB or YDT 10225 | .25 .25 | 1¾ x 9/16 x 2½ | 5.25 | **3.15** |
| YDB or YDT 10305 | .05 .05 .05 | 1¾ x 9/16 x 1½ | 5.80 | **3.48** |
| YDB or YDT 10310 | .1-.1-.1 | 1¾ x 9/16 x 2½ | 6.35 | **3.81** |




TYPE YDB




TYPE WDT TYPE WDT

Types WDT and WDB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together. They will meet MIL-C-25A performance and test requirements.

**TEMPERATURE RANGE:** —55°C to +85°C.

**STANDARD TOLERANCE:** +20%, —10%.

| WDB/WDT Cat. No. | Cap. Mfd. | Case Size—Inches L. x W. x H. | List Price | Net Price |
|---|---|---|---|---|
| | | **600 V. D.C. Work.** | | |
| WDB or WDT 6005 | .05 | 1 1/16 x 11/16 x 1 1/16 | $3.85 | **$2.31** |
| WDB or WDT 610 | .1 | 1 1/16 x 11/16 x 1⅜ | 4.15 | **2.49** |
| WDB or WDT 625 | .25 | 1 1/16 x 11/16 x 1⅝ | 4.40 | **2.64** |
| WDB or WDT 650 | .5 | 1 1/16 x 11/16 x 2 | 4.70 | **2.82** |
| WDB or WDT 601 | 1.0 | 1 5/16 x 11/16 x 2½ | 5.25 | **3.15** |
| | | **1000 V. D.C. Work.** | | |
| WDB or WDT 10005 | .05 | 1 5/16 x 11/16 x 1⅜ | 4.15 | **2.49** |
| WDB or WDT 1010 | .1 | 1 1/16 x 11/16 x 1⅜ | 4.15 | **2.49** |
| WDB or WDT 1025 | .25 | 1 1/16 x 11/16 x 2 | 4.40 | **2.64** |
| WDB or WDT 1050 | .5 | 1 1/16 x 11/16 x 2½ | 4.40 | **2.64** |

★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.

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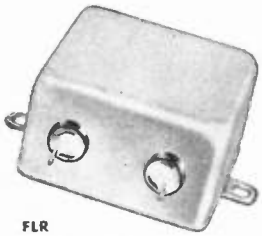
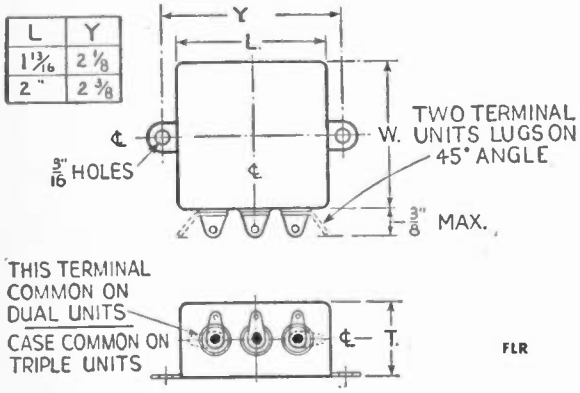
# METAL CASED PAPER CAPACITORS



FLR
(Similar to CP53) ★

| L | Y |
|---|---|
| 1 13/16 | 2 1/8 |
| 2" | 2 3/8 |




FLR

Type FLR oil-filled Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling under all humidity conditions. They are built to meet MIL-C-25A performance and test requirements and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications.

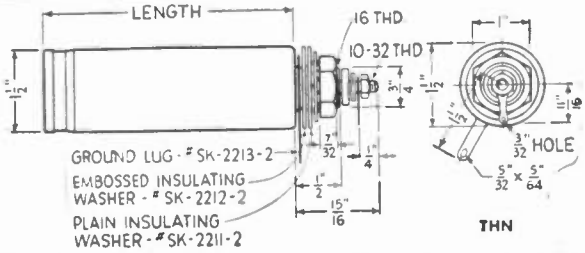
**TEMPERATURE RANGE:** —55°C to +85°C.

**STANDARD TOLERANCE:** +20%, —10%.

| FLR Cat. No. | Cap. Mfd. | Size—Inches Lgth. x Wid. x Thick. | List Price | Net Price |
|---|---|---|---|---|
| | | **600 V. D.C. Work.** | | |
| FLR 6005 | .05 | 1 13/16 x 1 x 3/4 | $2.90 | **$1.74** |
| FLR 610 | .1 | 1 13/16 x 1 x 3/4 | 2.95 | **1.77** |
| FLR 625 | .25 | 1 13/16 x 1 x 3/4 | 3.10 | **1.86** |
| FLR 650 | .5 | 1 13/16 x 1 x 7/8 | 3.30 | **1.98** |
| FLR 601 | 1.0 | 2 x 1 3/4 x 7/8 | 3.75 | **2.25** |
| FLR 602 | 2.0 | 2 x 2 x 1 1/8 | 5.00 | **3.00** |
| FLR 6205-3 | .05-.05 | 1 13/16 x 1 x 3/4 | 3.65 | **2.19** |
| FLR 6210-3 | .1-.1 | 1 13/16 x 1 x 3/4 | 3.70 | **2.22** |
| FLR 6225-3 | .25-.25 | 1 13/16 x 1 x 7/8 | 3.75 | **2.25** |
| FLR 6250-3 | .5-.5 | 2 x 1 3/4 x 7/8 | 4.30 | **2.58** |
| FLR 621-3 | 1.-1. | 2 x 2 x 1 1/8 | 5.30 | **3.18** |
| FLR 6310 | .1-.1-.1 | 1 13/16 x 1 x 3/4 | 4.20 | **2.52** |
| FLR 6325 | .25-.25-.25 | 2 x 1 3/4 x 7/8 | 4.75 | **2.85** |
| FLR 6350 | .5-.5-.5 | 2 x 2 x 1 1/8 | 5.75 | **3.45** |
| | | **1000 V. D.C. Work.** | | |
| FLR 10005 | .05 | 1 13/16 x 1 x 3/4 | 3.05 | **1.83** |
| FLR 1010 | .1 | 1 13/16 x 1 x 3/4 | 3.15 | **1.89** |
| FLR 1025 | .25 | 1 13/16 x 1 x 3/4 | 3.25 | **1.95** |
| FLR 1050 | .5 | 2 x 1 3/4 x 7/8 | 3.55 | **2.13** |
| FLR 1001 | 1.0 | 2 x 2 x 1 1/8 | 4.40 | **2.64** |
| FLR 10205-3 | .05-.05 | 1 13/16 x 1 x 3/4 | 3.85 | **2.31** |
| FLR 10210-3 | .1-.1 | 1 13/16 x 1 x 3/4 | 4.00 | **2.40** |
| FLR 10225-3 | .25-.25 | 2 x 1 3/4 x 7/8 | 4.20 | **2.52** |
| FLR 10250-3 | .5-.5 | 2 x 2 x 1 1/8 | 5.45 | **3.27** |
| FLR 10310 | .1-.1-.1 | 2 x 1 3/4 x 7/8 | 4.60 | **2.76** |
| FLR 10325 | .25-.25-.25 | 2 x 2 x 1 1/8 | 5.50 | **3.30** |

# THREADED NECK CAPACITORS

THN
(Similar to CP40)




THN

TOBE type THN capacitors employ paper dielectric and are thoroughly oil impregnated and oil filled. Designed for through-chassis mounting. Case is grounded but may be isolated from chassis by means of insulating washer provided.

**TEMPERATURE RANGE:** —55°C to +85°C.

**STANDARD TOLERANCE:** +20%, —10%.

| THN Cat. No. | Cap. Mfd. | D.C. W. Volts | Size—Inches Lgth. x Diam. | List Price | Net Price |
|---|---|---|---|---|---|
| THN 6020 | 2 | 600 | 2 7/8 x 1 1/2 | $4.60 | **$2.76** |
| THN 6040 | 4 | 600 | 4 1/2 x 1 1/2 | 6.30 | **3.78** |
| THN 10010 | 1 | 1000 | 2 7/8 x 1 1/2 | 4.20 | **2.52** |
| THN 10020 | 2 | 1000 | 4 1/2 x 1 1/2 | 5.45 | **3.27** |
| THN 15005 | .5 | 1500 | 2 7/8 x 1 1/2 | 5.00 | **3.00** |
| THN 15010 | 1 | 1500 | 4 1/2 x 1 1/2 | 5.45 | **3.27** |

**TEMPERATURE RANGE:** —55°C to +85°C.

**STANDARD TOLERANCE:** +20%, —10%.

| THND* Cat. No. | Cap. Mfd. | D.C. W. Volts | Size—Inches Lgth. x Diam. | List Price | Net Price |
|---|---|---|---|---|---|
| THND 6020 | 2 | 600 | 2 7/8 x 1 1/2 | $5.40 | **$3.24** |
| THND 6040 | 4 | 600 | 4 1/2 x 1 1/2 | 7.10 | **4.26** |
| THND 10010 | 1 | 1000 | 2 7/8 x 1 1/2 | 5.00 | **3.00** |
| THND 10020 | 2 | 1000 | 4 1/2 x 1 1/2 | 6.30 | **3.78** |
| THND 15005 | .5 | 1500 | 2 7/8 x 1 1/2 | 5.85 | **3.51** |
| THND 15010 | 1 | 1500 | 4 1/2 x 1 1/2 | 6.30 | **3.78** |

*Type THND—Two solder lug terminals insulated from case. This type similar to CP41.

★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.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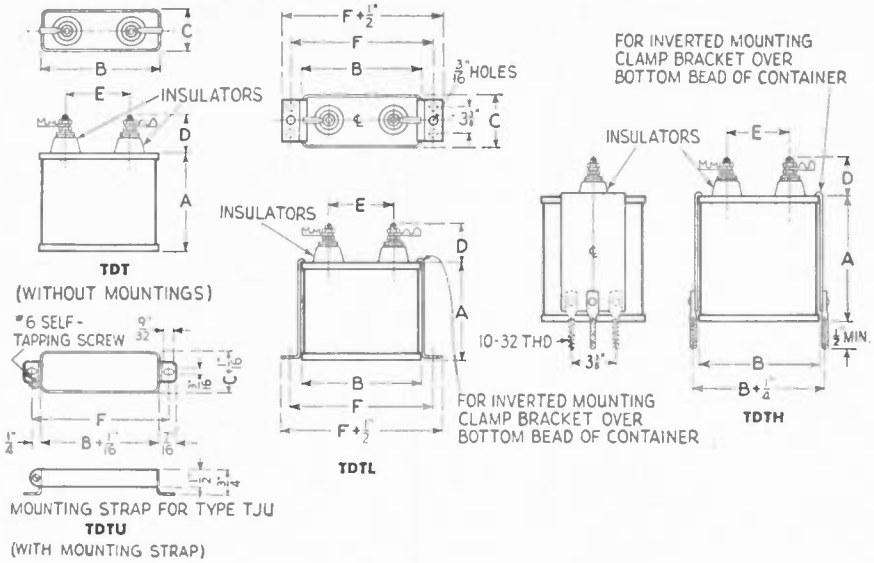
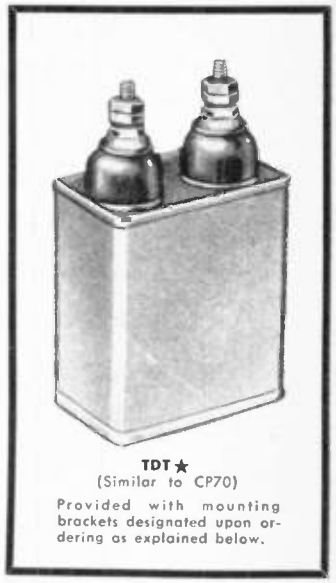
# TRANSMITTING & INDUSTRIAL CAPACITORS



**TDT★**
(Similar to CP70)

Provided with mounting brackets designated upon ordering as explained below.

TYPE DESIGNATIONS—Type TDT (basic units) are without mountings. To order Types TDTH, TDTL or TDTU with mountings as shown above, use letter symbols of type mountings desired for Cat. No. as follows:

**TYPE TDT**—(Basic unit) without mountings.
**TYPE TDTH**—With screw spade-lug brackets.
**TYPE TDTL**—With mounting foot brackets.
**TYPE TDTU**—With universal mounting strap.

***Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.***

**TEMPERATURE RANGE:** −55°C to +85°C. **STANDARD TOLERANCE:** ±10%.

| TDT Cat. No. | Cap. Mfd. | Dimensions—Inches A | B | C | D | E | F | List Price | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| | | **600 V. D.C. Working** | | | | | | | |
| **TDT 650** | .5 | 2¼ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | $4.70 | **$2.82** |
| **TDT 601** | 1 | 2¼ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 5.80 | **3.48** |
| **TDT 602** | 2 | 2⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.15 | **4.29** |
| **TDT 604** | 4 | 3½ | 2½ | 1 3/16 | 1 | 1⅛ | 3 | 9.10 | **5.46** |
| **TDT 606** | 6 | 4¾ | 2½ | 1 3/16 | 1 | 1⅛ | 3 | 11.30 | **6.78** |
| **TDT 608** | 8 | 3⅞ | 3¾ | 1¼ | 1 | 2 | 4⅜ | 13.50 | **8.10** |
| **TDT 6010** | 10 | 4¾ | 3¾ | 1¼ | 1 | 2 | 4⅜ | 15.15 | **9.09** |
| | | **1000 V. D.C. Working** | | | | | | | |
| **TDT 1010** | .1 | 1⅝ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.15 | **2.49** |
| **TDT 1025** | .25 | 2¼ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.70 | **2.82** |
| **TDT 1050** | .5 | 2¼ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 4.95 | **2.97** |
| **TDT 1001** | 1 | 2¼ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 6.35 | **3.81** |
| **TDT 1002** | 2 | 3⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 8.25 | **4.95** |
| **TDT 1004** | 4 | 4¾ | 2½ | 1 3/16 | 1 | 1⅛ | 3 | 10.45 | **6.27** |
| **TDT 1006** | 6 | 4¾ | 3¾ | 1¼ | 1 | 2 | 4⅜ | 14.05 | **8.43** |
| **TDT 1008** | 8 | 3⅞ | 3¾ | 1¾ | 1 | 2 | 4⅜ | 15.15 | **9.09** |
| **TDT 10010** | 10 | 4¾ | 3¾ | 1¾ | 1 | 2 | 4⅜ | 16.80 | **10.08** |
| **TDT 10012** | 12 | 4½ | 3¾ | 2¼ | 1 | 2 | 4⅜ | 18.15 | **10.89** |
| **TDT 10015** | 15 | 4¾ | 3¾ | 2½ | 1 | 2 | 4⅜ | 20.10 | **12.06** |
| | | **1500 V. D.C. Working** | | | | | | | |
| **TDT 1550** | .5 | 2⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 6.35 | **3.81** |
| **TDT 1501** | 1 | 3⅞ | 1 13/16 | 1 1/16 | ⅞ | 13/16 | 2¼ | 7.45 | **4.47** |
| **TDT 1502** | 2 | 4¼ | 2½ | 1 3/16 | 1 | 1⅛ | 3 | 10.20 | **6.12** |
| **TDT 1504** | 4 | 4¾ | 3¾ | 1¼ | 1 | 2 | 4⅜ | 14.05 | **8.43** |
| **TDT 1506** | 6 | 4¾ | 3¾ | 1¾ | 1 | 2 | 4⅜ | 17.05 | **10.23** |
| **TDT 1508** | 8 | 4¾ | 3¾ | 2½ | ⅞ | 2 | 4⅜ | 20.90 | **12.54** |
| ***TDT 15010** | 10 | 4¾ | 3¾ | 3 3/16 | ⅞ | 2 | 4⅜ | 25.05 | **15.03** |
| ***TDT 15012** | 12 | 4¾ | 3¾ | 3 3/16 | ⅞ | 2 | 4⅜ | 27.25 | **16.35** |
| **†*TDT 15015** | 15 | 4¾ | 4 9/16 | 3¾ | ⅞ | 2 | 4⅜ | 30.00 | **18.00** |

NOTES—*Type TDTU units are not furnished in these sizes.

† Types TDTL and TDTH units are furnished with two mounting holes or spade lugs 3⅜" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

| TDT Cat. No. | Cap. Mfd. | Dimensions—Inches A | B | C | D | E | F | List Price | Net Price |
|---|---|---|---|---|---|---|---|---|---|
| | | **2000 V. D.C. Working** | | | | | | | |
| **TDT 2010** | .1 | 2½ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | $6.60 | **$3.96** |
| **TDT 2025** | .25 | 2½ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 7.15 | **4.29** |
| **TDT 2050** | .5 | 2⅞ | 2½ | 1 3/16 | ⅞ | 1⅛ | 3 | 7.45 | **4.47** |
| **TDT 2001** | 1 | 3½ | 2½ | 1 3/16 | 1 | 1⅛ | 3 | 9.10 | **5.46** |
| **TDT 2002** | 2 | 4¼ | 3¾ | 1¼ | 1 | 2 | 4⅜ | 10.75 | **6.45** |
| **TDT 2004** | 4 | 3⅞ | 3¾ | 2¼ | 1 | 2 | 4⅜ | 15.15 | **9.09** |
| ***TDT 2006** | 6 | 4½ | 3¾ | 3 3/16 | 1¼ | 2 | 4⅜ | 20.10 | **12.06** |
| ***TDT 2008** | 8 | 5⅛ | 3¾ | 3 3/16 | 1¼ | 2 | 4⅜ | 25.05 | **15.03** |
| ***TDT 20010** | 10 | 4¾ | 4 9/16 | 3¾ | 1¼ | 2 | 4⅜ | 30.55 | **18.33** |
| **†*TDT 20012** | 12 | 5½ | 4 9/16 | 3¾ | 1¼ | 2 | 4⅜ | 33.30 | **19.98** |
| | | **2500 V. D.C. Working** | | | | | | | |
| **TDT 2550** | .5 | 3½ | 2½ | 1 3/16 | 1¼ | 1⅛ | 3 | 11.55 | **6.93** |
| **TDT 2501** | 1 | 3¼ | 3¾ | 1¾ | ⅞ | 2 | 4⅜ | 13.20 | **7.92** |
| **TDT 2502** | 2 | 4¾ | 3¾ | 1¾ | ⅞ | 2 | 4⅜ | 21.45 | **12.87** |
| **†*TDT 2504** | 4 | 4⅜ | 4 9/16 | 3¾ | ⅞ | 2 | 4⅜ | 30.00 | **18.00** |
| **†*TDT 25010** | 10 | 7 | 4 9/16 | 3¾ | 1¼ | 2 | 4⅜ | 75.10 | **45.06** |
| | | **3000 V. D.C. Working** | | | | | | | |
| **TDT 3010** | .1 | 2½ | 2½ | 1 3/16 | 1 9/16 | 1⅛ | 3 | 14.05 | **8.43** |
| **TDT 3025** | .25 | 2⅞ | 2½ | 1 3/16 | 1 9/16 | 1⅛ | 3 | 14.85 | **8.91** |
| **TDT 3050** | .5 | 4¼ | 2½ | 1 3/16 | 1 9/16 | 1⅛ | 3 | 16.80 | **10.08** |
| **TDT 3001** | 1 | 3⅞ | 3¾ | 2¼ | 1 9/16 | 2 | 4⅜ | 20.10 | **12.06** |
| ***TDT 3002** | 2 | 4½ | 3¾ | 3 3/16 | 1 9/16 | 2 | 4⅜ | 25.05 | **15.03** |
| **†*TDT 3004** | 4 | 4¾ | 4 9/16 | 3¾ | 1 9/16 | 2 | 4⅜ | 36.85 | **22.11** |
| | | **4000 V. D.C. Working** | | | | | | | |
| **TDT 4010** | .1 | 2¾ | 3¾ | 2¼ | 1 9/16 | 2 | 4⅜ | 18.00 | **10.80** |
| **TDT 4025** | .25 | 2¾ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 20.00 | **12.00** |
| **TDT 4050** | .5 | 3⅞ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 23.00 | **13.80** |
| **TDT 4001** | 1 | 5⅛ | 3¾ | 2¼ | 1 9/16 | 2 | 4⅜ | 29.00 | **17.40** |
| **†*TDT 4002** | 2 | 5⅛ | 4 9/16 | 3¾ | 2 | 2 | 4⅜ | 39.00 | **23.40** |
| **†*TDT 4004** | 4 | 8½ | 4 9/16 | 3¾ | 2 | 2 | 4⅜ | 66.85 | **40.11** |
| | | **5000 V. D.C. Working** | | | | | | | |
| **TDT 5050** | .5 | 4½ | 3¾ | 2¼ | 2 | 2 | 4⅜ | 25.00 | **15.00** |
| **†*TDT 5001** | 1 | 4⅜ | 4 9/16 | 3¾ | 1 9/16 | 2 | 4⅜ | 34.00 | **20.40** |
| **†*TDT 5002** | 2 | 6 | 4 9/16 | 3¾ | 1 9/16 | 2 | 4⅜ | 52.00 | **31.20** |
| | | **6000 V. D.C. Working** | | | | | | | |
| **TDT 6010** | .1 | 2¾ | 3¾ | 2¼ | 2 | 1¾ | 4⅜ | 27.00 | **16.20** |
| **†*TDT 6001** | 1 | 4¾ | 3¾ | 4 9/16 | 2 | 2 | 4⅜ | 49.00 | **29.40** |

For higher voltage units, to 25,000 v.d.c., write for data and prices.

★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.

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World Radio History

# Unecap CAPACITORS

## SUPER CAP

• Hermetically sealed units. • Aluminum cans with insulating sleeve. • Easy identification and clarity.

## UNECAP

• Wax impregnated cardboard tube with mounting strap. • Insulated flexible leads. • Color coated leads. • Striped for easy soldering. • Good for 80 "C" operation. • Made in Single, Dual, Triple and Quadruple combinations.

## TWIST PRONG CAN

• Compact, in aluminum grounded cans. • Hermetically sealed. • sizes: 1 inch and 1⅜" diameters. • Also made in Single, Dual, Triple and Quadruple units.

### Super Cap / Unecap

| MFD | Super Cap DIMENSIONS D | Super Cap DIMENSIONS L | Unecap DIMENSIONS D | Unecap DIMENSIONS L |
|---|---|---|---|---|
| **6 WVDC** | | | | |
| 500 | 15/16 | 2 1/4 | 1 | 2 1/2 |
| 1000 | 15/16 | 2 1/4 | 1 | 2 3/4 |
| **15 WVDC** | | | | |
| 100 | 11/16 | 1 1/2 | 3/4 | 2 |
| 250 | 5/8 | 1 1/2 | 3/4 | 2 1/2 |
| 500 | 15/16 | 2 1/4 | 1 | 2 1/2 |
| **25 WVDC** | | | | |
| 10 | 7/16 | 1 1/2 | 9/16 | 2 |
| 25 | 11/16 | 1 1/2 | 9/16 | 2 |
| 50 | 11/16 | 1 1/2 | 5/8 | 2 |
| 100 | 11/16 | 1 1/2 | 5/8 | 2 1/2 |
| 250 | 13/16 | 2 1/4 | 7/8 | 2 1/2 |
| 500 | 7/16 | 2 1/4 | 1 | 2 3/4 |
| **50 WVDC** | | | | |
| 10 | 11/16 | 1 1/2 | 9/16 | 2 |
| 25 | 11/16 | 1 1/2 | 9/16 | 2 |
| 50 | 11/16 | 1 1/2 | 5/8 | 2 |
| 100 | 13/16 | 1 1/2 | 3/4 | 2 1/2 |

### DUAL UNITS — COMMON NEGATIVES

| SUPER CAP MFD. | SUPER CAP VOLTS | SUPER CAP Dimensions D | SUPER CAP Dimensions L | UNECAP Dimensions D | UNECAP Dimensions L |
|---|---|---|---|---|---|
| **150 WVDC** | | | | | |
| 20 20 | 150 | 15/16 | 1 1/2 | 3/4 | 2 1/2 |
| 30 30 | 150 | 13/16 | 2 1/4 | 1 | 2 1/2 |
| 40 40 | 150 | 15/16 | 2 1/4 | 1 | 2 3/4 |
| 50 30 | 150 | 15/16 | 2 1/4 | 1 | 2 3/4 |
| 50 50 | 150 | 15/16 | 2 1/4 | 1 | 2 3/4 |
| 80 40 | 150 | 1 1/16 | 2 1/4 | 1 | 2 3/4 |
| **150 WVDC** | | | | | |
| 8 | 11/16 | 1 1/2 | | 9/16 | 2 |
| 10 | 11/16 | 1 1/2 | | 9/16 | 2 |
| 12 | 11/16 | 1 1/2 | | 5/8 | 2 |
| 16 | 11/16 | 1 1/2 | | 5/8 | 2 |
| 20 | 11/16 | 1 1/2 | | 5/8 | 2 |
| 24 | 11/16 | 1 1/2 | | 5/8 | 2 |
| 30 | 13/16 | 1 1/2 | | 5/8 | 2 1/2 |
| 40 | 13/16 | 1 1/2 | | 11/16 | 2 1/2 |
| 50 | 13/16 | 1 1/2 | | 11/16 | 2 1/2 |
| **450 WVDC** | | | | | |
| 4 | 11/16 | 1 1/2 | | 5/8 | 2 1/2 |
| 8 | 13/16 | 1 1/2 | | 3/4 | 2 1/2 |
| 10 | 13/16 | 1 1/2 | | 3/4 | 2 1/2 |
| 12 | 15/16 | 1 1/2 | | 3/4 | 2 1/2 |
| 16 | 15/16 | 1 1/2 | | 7/8 | 2 1/2 |
| 20 | 15/16 | 2 1/4 | | 1 | 2 1/2 |
| 30 | 15/16 | 2 1/4 | | 1 | 2 3/4 |
| 40 | 1 1/16 | 2 1/4 | | 1 | 2 3/4 |

### TRIPLE UNITS — COMMON NEGATIVES

| UNECAP MFD. | VOLTS | DIMENSIONS D | DIMENSIONS L |
|---|---|---|---|
| 40 40 20 | 150 | 1 | 2 3/4 |
| 20 20 20 | 150 25 | 1 | 2 3/4 |
| 80 40 20 | 150 | 1 | 2 3/4 |
| 40 10 20 | 150 25 | 1 | 2 3/4 |
| 30 25 20 | 150 | 7/8 | 2 3/4 |
| 40 30 20 | 150 25 | 1 | 2 3/4 |
| 50 50 20 | 150 25 | 1 | 2 3/4 |
| 40 40 40 | 150 25 | 1 | 2 3/4 |

### Twist Prong Can

| CAPACITY MFD. | WORKING VOLTS DC | SIZE D | SIZE L |
|---|---|---|---|
| **SINGLE UNITS** | | | |
| 2000 | 6 | 1 3/8 | 2 |
| 40 | 25 | 1 | 2 |
| 100 | 25 | 1 | 2 |
| 150 | 50 | 1 | 2 |
| 30 | 150 | 1 | 2 |
| 50 | 150 | 1 | 2 |
| 80 | 150 | 1 | 2 |
| 20 | 250 | 1 | 2 |
| 40 | 250 | 1 | 2 |
| 60 | 250 | 1 | 2 1/2 |
| 50 | 300 | 1 | 2 1/2 |
| 80 | 350 | 1 3/8 | 2 1/2 |
| 80 | 400 | 1 3/8 | 2 1/2 |
| 10 | 450 | 1 | 2 |
| 15 | 450 | 1 | 2 |
| 20 | 450 | 1 | 2 |
| 30 | 450 | 1 | 2 1/2 |
| **DUAL UNITS** | | | |
| 40/40 | 25 | 1 | 2 |
| 50 50 | 50 | 1 | 2 |
| 20 20 | 150 | 1 | 2 |
| 30/15 | 150 | 1 | 2 |
| 30 30 | 150 | 1 | 2 |
| 40 20 | 150 | 1 | 2 |
| 40/40 | 150 | 1 | 2 1/2 |
| 50 30 | 150 | 1 | 2 1/2 |
| 50/50 | 150 | 1 | 2 1/2 |
| 20/20 | 250 | 1 | 2 |
| 15/15 | 400 | 1 | 2 1/2 |
| 10/10 | 450 | 1 | 2 |
| 20/20 | 300/25 | 1 | 2 |
| 40/10 | 450 350 | 1 3/8 | 2 |
| **TRIPLE UNITS** | | | |
| 20/20 20 | 25 | 1 | 2 |
| 30/30 30 | 50 | 1 | 2 |
| 10/30 30 | 150 | 1 | 2 |
| 20/20 20 | 150 | 1 | 2 |
| 40/30 20 | 150 | 1 | 2 |
| 10/15 15 | 250 | 1 | 2 |
| 10/10/10 | 300 | 1 | 2 |
| 10/10 10 | 400 | 1 | 2 1/2 |
| 10/10 10 | 450 | 1 | 2 1/2 |
| 20/20 20 | 450 | 1 3/8 | 2 1/2 |
| 20 250 100 | 150 15/15 | 1 3/8 | 2 1/2 |
| 30 20 100 | 150 150 6 | 1 | 2 |
| 20/20 20 | 150 150 25 | 1 | 2 |
| 30 20 20 | 150 150 25 | 1 | 2 |
| 30 30 20 | 150 150 25 | 1 | 2 |
| 40 30 20 | 150 150 25 | 1 | 2 |
| 50 30 100 | 150 150 25 | 1 | 2 1/2 |
| 50 50 20 | 150 150 25 | 1 | 2 1/2 |
| 15/15 20 | 250 250 25 | 1 | 2 |
| 30 30 20 | 250 250 25 | 1 | 2 1/2 |
| 20 20 20 | 300 30 25 | 1 | 2 1/2 |
| 40/15 20 | 300 30 25 | 1 | 2 1/2 |
| 40/20 10 | 350 300 200 | 1 3/8 | 2 |
| 10 10 20 | 350 350 25 | 1 | 2 |
| 15/15 20 | 350 350 25 | 1 | 2 1/2 |
| 15/15 40 | 400 400 25 | 1 | 2 1/2 |
| 30/100 25 | 450 25 25 | 1 3/8 | 2 |
| 10/10 20 | 450 350 25 | 1 | 2 |
| 15 20 20 | 450 350 250 | 1 3/8 | 2 |
| 10 30 30 | 450 400 300 | 1 3/8 | 2 1/2 |
| 10/10 10 | 450 450/25 | 1 | 2 1/2 |
| 10/10 20 | 450 450 25 | 1 | 2 1/2 |
| 30 30 20 | 450 450 25 | 1 3/8 | 2 1/2 |
| **QUADRUPLE UNITS** | | | |
| 10/10 10 10 | 450 | 1 3/8 | 2 |
| 30 30 30 40 | 150/150/150/25 | 1 3/8 | 2 |
| 40/40 30/20 | 150 150/150/25 | 1 3/8 | 2 |
| 50 50 50 20 | 150 150 150 25 | 1 3/8 | 2 |
| 10/10/10 20 | 300 300/300 25 | 1 3/8 | 2 |
| 10/10 10 10 | 350 350/300 300 | 1 3/8 | 2 |
| 20/20/20/20 | 400 400/400/25 | 1 3/8 | 2 1/2 |
| 20 15 15 20 | 450 350 350/25 | 1 3/8 | 2 |
| 20/15 20 20 | 450 450/25/25 | 1 3/8 | 2 |
| 10 10 10 20 | 450 450/450 25 | 1 3/8 | 2 |
| 10/10/10 10 | 450 450/450/150 | 1 3/8 | 2 |

**Units Not Listed Can Be Made To Order**

**Branches In All Principal Cities**

# UNITED ELECTRONIC MFG. CORP.

UNION CITY NEW JERSEY



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World Radio History

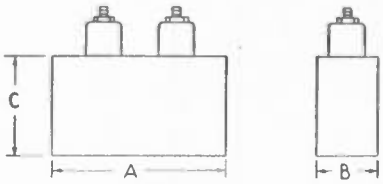
# Plastic Capacitors, Inc.

CHICAGO 14, ILL

Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric

## TYPE OE
## PLASTIC FILM DC FILTER — CONTAINER 70

Type OE high voltage capacitors are the smallest available for general filter and by-pass applications. The CP70 style containers are primed and painted. Bushings are steatite.




| PART NUMBER | CAP. MFD | VOLTS DC | A | B | C | LIST PRICE |
|---|---|---|---|---|---|---|
| OE20-104 | 0.1 | 2000 | 2 1/2 | 1 3/16 | 2 1/8 | $5.10 |
| OE20-254 | 0.25 | 2000 | 2 1/2 | 1 3/16 | 2 1/8 | 5.50 |
| OE20-504 | 0.5 | 2000 | 2 1/2 | 1 3/16 | 2 1/8 | 5.80 |
| OE20-105 | 1.0 | 2000 | 2 1/2 | 1 3/16 | 2 5/8 | 7.00 |
| OE20-205 | 2 | 2000 | 2 1/2 | 1 3/16 | 3 7/8 | 8.10 |
| OE20-405 | 4 | 2000 | 3 3/4 | 1 3/4 | 3 1/2 | 11.00 |
| OE20-605 | 6 | 2000 | 3 3/4 | 1 3/4 | 4 3/4 | 15.50 |
| OE20-805 | 8 | 2000 | 3 3/4 | 2 1/4 | 4 3/4 | 19.20 |
| OE30-104 | 0.1 | 3000 | 2 1/2 | 1 3/16 | 2 1/4 | 12.10 |
| OE30-254 | 0.25 | 3000 | 2 1/2 | 1 3/16 | 2 1/4 | 12.50 |
| OE30-504 | 0.5 | 3000 | 2 1/2 | 1 3/16 | 3 | 13.20 |
| OE30-105 | 1.0 | 3000 | 2 1/2 | 1 3/16 | 3 3/4 | 14.50 |
| OE30-205 | 2 | 3000 | 3 3/4 | 1 1/4 | 4 3/8 | 18.40 |
| OE30-405 | 4 | 3000 | 3 3/4 | 2 1/4 | 4 5/8 | 25.50 |
| OE30-605 | 6 | 3000 | 4 9/16 | 3 3/4 | 3 3/8 | 45.00 |
| OE30-805 | 8 | 3000 | 4 9/16 | 3 3/4 | 4 7/8 | 64.60 |
| OE40-104 | 0.1 | 4000 | 2 1/2 | 1 3/16 | 2 1/8 | 19.50 |
| OE40-254 | 0.25 | 4000 | 2 1/2 | 1 3/16 | 2 3/8 | 23.00 |
| OE40-504 | 0.5 | 4000 | 2 1/2 | 1 3/16 | 3 1/8 | 26.00 |
| OE40-105 | 1.0 | 4000 | 3 3/4 | 1 1/4 | 3 3/4 | 31.00 |
| OE40-205 | 2 | 4000 | 3 3/4 | 1 3/4 | 4 3/8 | 38.50 |
| OE40-405 | 4 | 4000 | 4 9/16 | 3 3/4 | 3 3/4 | 54.20 |
| OE40-605 | 6 | 4000 | 4 9/16 | 3 3/4 | 4 7/8 | 69.80 |
| OE40-805 | 8 | 4000 | 4 9/16 | 3 3/4 | 6 5/8 | 78.00 |
| OE50-104 | 0.1 | 5000 | 2 1/2 | 1 3/16 | 2 1/8 | 22.40 |
| OE50-254 | 0.25 | 5000 | 2 1/2 | 1 3/16 | 2 1/2 | 26.00 |
| OE50-504 | 0.5 | 5000 | 2 1/2 | 1 3/16 | 3 7/8 | 28.40 |
| OE50-105 | 1.0 | 5000 | 3 3/4 | 1 3/4 | 3 5/8 | 35.00 |
| OE50-205 | 2 | 5000 | 3 3/4 | 2 1/4 | 4 3/4 | 44.30 |
| OE50-405 | 4 | 5000 | 4 9/16 | 3 3/4 | 4 5/8 | 67.00 |
| OE50-605 | 6 | 5000 | 4 9/16 | 3 3/4 | 6 3/4 | 94.00 |
| OE50-805 | 8 | 5000 | 4 9/16 | 3 3/4 | 8 1/4 | 106.00 |
| OE60-104 | 0.1 | 6000 | 3 3/4 | 1 1/4 | 2 1/2 | 24.40 |
| OE60-254 | 0.25 | 6000 | 3 3/4 | 1 3/4 | 2 1/2 | 29.00 |
| OE60-504 | 0.5 | 6000 | 3 3/4 | 1 3/4 | 3 7/8 | 33.00 |
| OE60-105 | 1.0 | 6000 | 3 3/4 | 2 1/4 | 5 | 49.00 |
| OE60-205 | 2 | 6000 | 4 9/16 | 3 3/4 | 5 | 65.00 |
| OE60-405 | 4 | 6000 | 4 9/16 | 3 3/4 | 8 1/2 | 94.00 |
| OE60-605 | 6 | 6000 | 8 | 4 | 9 1/4 | 130.00 |
| OE60-805 | 8 | 6000 | 13 1/2 | 4 1/8 | 7 | 142.00 |

| PART NUMBER | CAP MFD | VOLTS DC | A | B | C | LIST PRICE |
|---|---|---|---|---|---|---|
| OE75-104 | 0.1 | 7500 | 3 3/4 | 1 3/4 | 2 3/4 | $26.30 |
| OE75-254 | 0.25 | 7500 | 3 3/4 | 1 3/4 | 2 3/4 | 32.00 |
| OE75-504 | 0.5 | 7500 | 3 3/4 | 2 1/4 | 4 1/8 | 35.00 |
| OE75-105 | 1.0 | 7500 | 3 3/4 | 3 3/16 | 5 | 58.00 |
| OE75-205 | 2 | 7500 | 4 9/16 | 3 3/4 | 7 | 78.00 |
| OE75-405 | 4 | 7500 | 8 | 4 | 9 1/4 | 118.00 |
| OE75-605 | 6 | 7500 | 13 1/2 | 4 1/8 | 7 | 157.00 |
| OE75-805 | 8 | 7500 | 13 1/2 | 4 1/8 | 9 1/4 | 178.00 |
| OE100-104 | 0.1 | 10 KV | 3 3/4 | 1 3/4 | 3 3/8 | 34.20 |
| OE100-254 | 0.25 | 10 KV | 3 3/4 | 1 3/4 | 4 7/8 | 40.60 |
| OE100-504 | 0.5 | 10 KV | 3 3/4 | 2 1/4 | 4 7/8 | 58.00 |
| OE100-105 | 1.0 | 10 KV | 4 9/16 | 3 3/4 | 5 1/8 | 82.00 |
| OE100-205 | 2 | 10 KV | 4 9/16 | 3 3/4 | 9 | 105.00 |
| OE100-405 | 4 | 10 KV | 8 | 4 | 11 | 140.00 |
| OE100-605 | 6 | 10 KV | 13 1/2 | 4 1/8 | 9 1/4 | 178.00 |
| OE100-805 | 8 | 10 KV | 13 1/2 | 4 1/8 | 13 1/8 | 208.00 |
| OE150-104 | 0.1 | 15 KV | 3 3/4 | 1 3/4 | 4 1/2 | 61.00 |
| OE150-254 | 0.25 | 15 KV | 3 3/4 | 3 3/16 | 4 3/4 | 72.00 |
| OE150-504 | 0.5 | 15 KV | 4 9/16 | 3 3/4 | 7 5/8 | 116.00 |
| OE150-105 | 1.0 | 15 KV | 8 | 4 | 7 | 158.00 |
| OE150-205 | 2 | 15 KV | 13 1/2 | 4 1/8 | 13 1/8 | 189.00 |
| OE200-503 | .05 | 20 KV | 3 3/4 | 1 3/4 | 4 1/8 | 60.00 |
| OE200-104 | 0.1 | 20 KV | 3 3/4 | 2 1/4 | 5 1/8 | 78.00 |
| OE200-254 | 0.25 | 20 KV | 4 9/16 | 3 3/4 | 5 3/8 | 102.00 |
| OE200-504 | 0.5 | 20 KV | 4 9/16 | 3 3/4 | 10 | 159.00 |
| OE200-105 | 1.0 | 20 KV | 8 | 4 | 11 | 207.00 |
| OE200-205 | 2 | 20 KV | 13 1/2 | 4 1/8 | 13 1/8 | 297.00 |
| OE250-103 | .01 | 25 KV | 3 3/4 | 2 1/4 | 2 7/8 | 51.00 |
| OE250-203 | .02 | 25 KV | 3 3/4 | 2 1/4 | 3 5/8 | 55.00 |
| OE250-503 | .05 | 25 KV | 3 3/4 | 2 1/4 | 4 5/8 | 64.00 |
| OE250-104 | 0.1 | 25 KV | 3 3/4 | 3 3/16 | 5 1/2 | 86.00 |
| OE250-254 | 0.25 | 25 KV | 4 9/16 | 3 3/4 | 9 1/2 | 132.00 |
| OE250-504 | 0.5 | 25 KV | 8 | 4 | 11 | 187.00 |
| OE250-105 | 1.0 | 25 KV | 13 1/2 | 4 1/8 | 13 1/8 | 297.00 |
| OE300-103 | .01 | 30 KV | 3 3/4 | 2 1/4 | 3 1/2 | 63.50 |
| OE300-203 | .02 | 30 KV | 3 3/4 | 2 1/4 | 4 1/2 | 72.00 |
| OE300-503 | .05 | 30 KV | 3 3/4 | 3 3/16 | 5 | 95.00 |
| OE300-104 | 0.1 | 30 KV | 4 9/16 | 3 3/4 | 5 3/4 | 121.00 |
| OE300-254 | 0.25 | 30 KV | 8 | 4 | 7 | 163.00 |
| OE300-504 | 0.5 | 30 KV | 13 1/2 | 4 1/8 | 7 | 195.00 |

## HIGH VOLTAGE POWER PACKS

The high voltage power packs listings are designed for 118 volts 60 cycle input. Three styles are available. All except the HV20-202H and HV50-302H have a separate primary input for the heaters of the rectifier tubes if used. This enables the high voltage output to be adjusted from zero to rated voltage by changing the input from zero to 118V.

**HV SEALED TUBE TYPE** is smaller than the HV Standard and have the rectifiers sealed in the metal container. This necessitates return to the factory for rectifier tube replacement at a nominal charge.

| PART NUMBER | OUTPUT KV | OUTPUT MA | L | W | H | NET PRICE |
|---|---|---|---|---|---|---|
| HV 20-202H | 2 | 2 | 3 3/4 | 3 3/16 | 5 1/2 | $54.00 |
| HV 50-302H | 5 | 5 | 3 3/4 | 4 9/16 | 6 | 74.40 |
| HV100-102H | 0 to 10 | 1 | 3 3/4 | 4 9/16 | 8 | 93.60 |
| HV150-102H | 0 to 15 | 1 | 3 3/4 | 4 9/16 | 9 | 108.00 |

**HV SELENIUM RECTIFIER TYPES** are the smallest 60 cycle high voltage Power Pack.

| | | | | | | |
|---|---|---|---|---|---|---|
| HV 20-202S | 0 to 2 | 2 | 3 3/4 | 3 3/16 | 5 | $64.20 |
| HV 50-302S | 0 to 5 | 5 | 3 3/4 | 4 9/16 | 5 1/2 | 127.20 |
| HV100-102S | 0 to 10 | 1 | 3 3/4 | 4 9/16 | 7 | 186.00 |
| HV150-102S | 0 to 15 | 1 | 3 3/4 | 4 9/16 | 8 | 246.00 |

**HV STANDARD POWER PACKS** have as their major feature special tube wells which permit easy access for replacement of the rectifier tubes.

| PART NUMBER | OUTPUT KV | OUTPUT MA. | L | W | H | NET PRICE |
|---|---|---|---|---|---|---|
| HV50-502 | 0-5 | 5 | 6 5/8 | 4 3/8 | 6 | $89.40 |
| HV100-102 | 0-10 | 1 | 7 1/2 | 5 | 5 1/2 | 108.00 |
| HV100-502 | 0-10 | 5 | 8 1/4 | 6 | 6 1/2 | 120.00 |
| HV150-102 | 0-15 | 1 | 7 1/2 | 5 | 5 1/2 | 118.80 |
| HV150-502 | 0-15 | 5 | 8 1/4 | 6 | 6 1/2 | 130.80 |
| HV200-102 | 0-20 | 1 | 7 1/2 | 5 | 5 1/2 | 138.00 |
| HV200-502 | 0-20 | 5 | 10 1/4 | 7 | 7 3/4 | 191.40 |
| HV300-102 | 0-30 | 1 | 8 3/4 | 6 3/4 | 6 | 207.00 |
| HV300-502 | 0-30 | 5 | 10 1/4 | 7 | 7 3/4 | 222.00 |
| HV500-502 | 0-50 | 5 | 12 1/2 | 11 | 12 1/2 | 426.00 |
| HV750-502 | 0-75 | 2 | 19 | 11 1/2 | 13 1/2 | 744.00 |

THE ABOVE ARE PARTIAL LISTINGS. OTHER VOLTAGES AND CAPACITANCES ARE AVAILABLE.

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

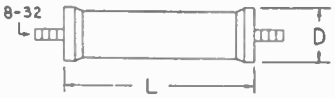
# Plastic Capacitors, Inc.

CHICAGO 14, ILL

Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric

## GLASS CAPS TYPE OF

Voltage rated for operation at 85°C. Glass style container with 8-32x3 8" axial studs, except 19 32 diameter which has ±18x2½" hot tinned copper wire. This capacitor is capable of passing environment at and electrical tests of MIL-L-25A characteristic E terminal D.




| PART NUMBER | CAP. MFD | VOLTS DC | DIMENSIONS LGTH. | DIMENSIONS DIA. | LIST PRICE |
|---|---|---|---|---|---|
| OF20-502 | .005 | 2000 | 1 3/16 | 19 32 | $2.80 |
| OF20-103 | .01 | 2000 | 1 3/16 | 19 32 | 2.80 |
| OF20-203 | .02 | 2000 | 1 9/16 | 19 32 | 2.90 |
| OF20-503 | .05 | 2000 | 1 3 4 | 3 4 | 3.10 |
| OF20-104 | 0.1 | 2000 | 2 1/4 | 3 4 | 3.20 |
| OF20-254 | 0.25 | 2000 | 2 3/4 | 29 32 | 3.60 |
| OF30-502 | .005 | 3000 | 1 3/16 | 19 32 | 4.10 |
| OF30-103 | .01 | 3000 | 1 9/16 | 19 32 | 4.30 |
| OF30-203 | .02 | 3000 | 1 3 4 | 3 4 | 5.00 |
| OF30-503 | .05 | 3000 | 2 1 4 | 3 4 | 5.50 |
| OF30-104 | 0.1 | 3000 | 1 3/4 | 1 1/8 | 6.00 |
| OF30-254 | 0.25 | 3000 | 2 | 1 3 8 | 6.60 |
| OF40-502 | .005 | 4000 | 1 3/16 | 19 32 | 5.90 |
| OF40-103 | .01 | 4000 | 1 3 16 | 3 4 | 6.10 |
| OF40-203 | .02 | 4000 | 1 3/4 | 3 4 | 6.40 |
| OF40-503 | .05 | 4000 | 2 | 13 16 | 6.50 |
| OF40-104 | 0.1 | 4000 | 2 | 1 1 8 | 7.40 |
| OF40-254 | 0.25 | 4000 | 2 1 4 | 1 5 8 | 8.10 |
| OF50-502 | .005 | 5000 | 1 5 8 | 19 32 | 6.50 |
| OF50-103 | .01 | 5000 | 1 3 4 | 3 4 | 6.80 |
| OF50-203 | .02 | 5000 | 2 1 4 | 3 4 | 7.20 |
| OF50-503 | .05 | 5000 | 2 1 4 | 29 32 | 7.60 |
| OF50-104 | 0.1 | 5000 | 2 1/4 | 1 3/8 | 8.50 |
| OF50-254 | 0.25 | 5000 | 3 | 1 5 8 | 9.40 |
| OF80-202 | .002 | 8000 | 1 3 4 | 19 32 | 6.80 |
| OF80-502 | .005 | 8000 | 1 3 4 | 3 4 | 7.00 |
| OF80-103 | .01 | 8000 | 2 1 4 | 3 4 | 7.50 |
| OF80-203 | .02 | 8000 | 2 3 4 | 29 32 | 8.60 |
| OF80-503 | .05 | 8000 | 2 3/4 | 1 3 8 | 11.00 |
| OF80-104 | 0.1 | 8000 | 3 5 8 | 1 5 8 | 12.50 |
| OF100-102 | .001 | 10 KV | 1 5 8 | 19/32 | 7.20 |
| OF100-202 | .002 | 10 KV | 1 5 8 | 3 4 | 7.40 |
| OF100-502 | .005 | 10 KV | 1 3 4 | 13 16 | 8.50 |
| OF100-103 | .01 | 10 KV | 2 1/4 | 29 32 | 9.20 |
| OF100-203 | .02 | 10 KV | 2 3 4 | 1 1 8 | 11.40 |
| OF100-503 | .05 | 10 KV | 2 3 4 | 1 5 8 | 14.60 |
| OF100-603 | .06 | 10 KV | 3 | 1 5 8 | 15.50 |

| PART NUMBER | CAP. MFD | VOLTS DC | DIMENSIONS LGTH. | DIMENSIONS DIA. | LIST PRICE |
|---|---|---|---|---|---|
| OF150-102 | .001 | 15 KV | 2 1/4 | 3/4 | 13.80 |
| OF150-202 | .002 | 15 KV | 2 1/4 | 3/4 | 14.60 |
| OF150-502 | .005 | 15 KV | 2 3/4 | 1 1/8 | 17.00 |
| OF150-103 | .01 | 15 KV | 3 3/4 | 1 1/8 | 20.00 |
| OF150-203 | .02 | 15 KV | 4 1/4 | 1 3/8 | 22.00 |
| OF150-503 | .05 | 15 KV | 7 | 1 5/8 | 26.00 |
| OF200-501 | .0005 | 20 KV | 3 1/2 | 19/32 | 18.00 |
| OF200-102 | .001 | 20 KV | 3 1 2 | 3/4 | 19.00 |
| OF200-202 | .002 | 20 KV | 3 1/2 | 13/16 | 21.00 |
| OF200-502 | .005 | 20 KV | 3 1/2 | 1 1 8 | 22.50 |
| OF200-103 | .01 | 20 KV | 4 1/2 | 1 1/8 | 24.00 |
| OF200-203 | .02 | 20 KV | 4 1/2 | 1 5/8 | 27.00 |
| OF300-201 | .0002 | 30 KV | 4 9 16 | 19 32 | 21.00 |
| OF300-501 | .0005 | 30 KV | 4 9 16 | 19/32 | 21.00 |
| OF300-102 | .001 | 30 KV | 5 | 3/4 | 23.50 |
| OF300-202 | .002 | 30 KV | 5 | 29 32 | 26.00 |
| OF300-502 | .005 | 30 KV | 5 | 1 3/8 | 28.00 |
| OF300-103 | .01 | 30 KV | 6 1/2 | 1 5 8 | 35.00 |
| OF400-101 | .0001 | 40 KV | 5 3 4 | 3/4 | 22.50 |
| OF400-201 | .0002 | 40 KV | 5 3/4 | 3/4 | 22.50 |
| OF400-501 | .0005 | 40 KV | 5 3 4 | 3/4 | 22.50 |
| OF400-102 | .001 | 40 KV | 6 1/2 | 13/16 | 26.00 |
| OF400-202 | .002 | 40 KV | 6 1/2 | 1 1/8 | 28.00 |
| OF400-502 | .005 | 40 KV | 6 1/2 | 1 5/8 | 33.00 |
| OF500-101 | .0001 | 50 KV | 8 1/4 | 3/4 | 23.50 |
| OF500-201 | .0002 | 50 KV | 8 1/4 | 3/4 | 23.50 |
| OF500-501 | .0005 | 50 KV | 8 1/4 | 3/4 | 24.50 |
| OF500-102 | .001 | 50 KV | 8 1/4 | 13/16 | 28.00 |
| OF500-202 | .002 | 50 KV | 8 1/4 | 1 1/8 | 31.50 |
| OF500-502 | .005 | 50 KV | 10 3/4 | 1 3 8 | 36.00 |
| OF600-101 | .0001 | 60 KV | 10 | 3/4 | 24.50 |
| OF600-201 | .0002 | 60 KV | 10 | 3/4 | 24.50 |
| OF600-501 | .0005 | 60 KV | 10 | 3/4 | 28.00 |
| OF600-102 | .001 | 60 KV | 10 | 29/32 | 34.00 |
| OF600-202 | .002 | 60 KV | 10 | 1 3/8 | 36.50 |
| OF600-502 | .005 | 60 KV | 11 1/2 | 1 5/8 | 41.50 |

## RF AND PULSE GLASS CAPS

The plastic films used in the manufacture of RF and PULSE GLASS CAPS have very low losses. These capacitors will handle large peak currents such as encountered in a 25 ohm type E plus forming network charged to the peak pulse voltage at a repetition rate of 1000 PPS.

### TYPE TF

VOLTAGE RATED FOR 125°C OPERATION

| PART NUMBER | CAP. MFD | VOLTS DC | P P VOLTS | DIMENSIONS LGTH. | DIMENSIONS DIA. | LIST PRICE |
|---|---|---|---|---|---|---|
| TF40-501 | .0005 | 4000 | 3500 | 1 5 8 | 19 32 | $13.10 |
| TF40-102 | .001 | 4000 | 3500 | 1 5 8 | 3 4 | 13.10 |
| TF40-202 | .002 | 4000 | 3500 | 1 5 8 | 13 16 | 14.20 |
| TF40-502 | .005 | 4000 | 3500 | 1 5 8 | 1 1 8 | 15.40 |
| TF40-103 | .01 | 4000 | 3500 | 2 1 8 | 1 1 8 | 21.10 |
| TF40-203 | .02 | 4000 | 3500 | 2 1 8 | 1 5 8 | 24.20 |
| TF60-101 | .0001 | 6000 | 5000 | 2 1 8 | 3 4 | 15.20 |
| TF60-201 | .0002 | 6000 | 5000 | 2 1 8 | 3 4 | 15.20 |
| TF60-501 | .0005 | 6000 | 5000 | 2 1 8 | 3 4 | 15.20 |
| TF60-102 | .001 | 6000 | 5000 | 2 1 8 | 3 4 | 15.20 |
| TF60-202 | .002 | 6000 | 5000 | 2 1 8 | 13 16 | 16.80 |
| TF60-502 | .005 | 6000 | 5000 | 2 1 8 | 1 3 8 | 18.60 |
| TF60-103 | .01 | 6000 | 5000 | 2 5 8 | 1 3/8 | 24.10 |
| TF80-101 | .0001 | 8000 | 7000 | 2 7 8 | 3 4 | 16.10 |
| TF80-201 | .0002 | 8000 | 7000 | 2 7 8 | 3 4 | 16.10 |
| TF80-501 | .0005 | 8000 | 7000 | 2 7 8 | 3 4 | 16.10 |
| TF80-102 | .001 | 8000 | 7000 | 2 7 8 | 13/16 | 21.20 |
| TF80-202 | .002 | 8000 | 7000 | 2 7 8 | 1 1/8 | 22.40 |
| TF80-502 | .005 | 8000 | 7000 | 2 7/8 | 1 5/8 | 29.00 |
| TF80-103 | .01 | 8000 | 7000 | 3 7/8 | 1 1/8 | 36.90 |
| TF120-101 | .0001 | 12 KV | 10 KV | 3 1/8 | 3 4 | 16.90 |
| TF120-201 | .0002 | 12 KV | 10 KV | 3 1 8 | 3 4 | 16.90 |
| TF120-501 | .0005 | 12 KV | 10 KV | 3 1/8 | 13 16 | 16.90 |
| TF120-102 | .001 | 12 KV | 10 KV | 3 1/8 | 29 32 | 22.50 |
| TF120-202 | .002 | 12 KV | 10 KV | 3 7/8 | 1 1 8 | 29.70 |
| TF120-502 | .005 | 12 KV | 10 KV | 4 7 8 | 1 3 8 | 40.20 |
| TF180-101 | .0001 | 18 KV | 15 KV | 4 1 4 | 3 4 | 18.00 |
| TF180-201 | .0002 | 18 KV | 15 KV | 4 1 4 | 3 4 | 18.00 |
| TF180-501 | .0005 | 18 KV | 15 KV | 4 1 4 | 1 1 8 | 25.20 |
| TF180-102 | .001 | 18 KV | 15 KV | 5 3/4 | 1 1/8 | 35.20 |
| TF180-202 | .002 | 18 KV | 15 KV | 5 3/4 | 1 3 8 | 44.10 |

### TYPE HG

VOLTAGE RATED FOR 65 C OPERATION

| PART NUMBER | CAP. MFD | VOLTS DC | P P VOLTS | DIMENSIONS LGTH. | DIMENSIONS DIA. | LIST PRICE |
|---|---|---|---|---|---|---|
| HG25-103 | .01 | 2500 | 1500 | 1 | 1 1 8 | $6.50 |
| HG25-203 | .02 | 2500 | 1500 | 1 1/2 | 1 1 8 | 7.10 |
| HG25-503 | .05 | 2500 | 1500 | 2 | 1 3 8 | 8.60 |
| HG25-104 | 0.1 | 2500 | 1500 | 2 1/2 | 1 5/8 | 11.40 |
| HG35-502 | .005 | 3500 | 2500 | 1 | 1 1 8 | 7.50 |
| HG35-103 | .01 | 3500 | 2500 | 1 | 1 5 8 | 8.10 |
| HG35-203 | .02 | 3500 | 2500 | 1 1/2 | 1 3/8 | 8.50 |
| HG35-503 | .05 | 3500 | 2500 | 2 1/2 | 1 5/8 | 11.60 |
| HG50-502 | .005 | 5000 | 3000 | 2 | 1 1 8 | 10.50 |
| HG50-103 | .01 | 5000 | 3000 | 2 | 1 3 8 | 11.50 |
| HG50-203 | .02 | 5000 | 3000 | 3 | 1 3 8 | 12.50 |
| HG50-503 | .05 | 5000 | 3000 | 6 | 1 3 8 | 18.50 |
| HG70-202 | .002 | 7000 | 5000 | 2 | 29/32 | 11.00 |
| HG70-502 | .005 | 7000 | 5000 | 2 | 1 5 8 | 14.20 |
| HG70-103 | .01 | 7000 | 5000 | 4 | 1 1 8 | 17.00 |
| HG70-203 | .02 | 7000 | 5000 | 4 | 1 5 8 | 18.60 |
| HG100-102 | .001 | 10 KV | 7000 | 3 | 29/32 | 12.00 |
| HG100-202 | .002 | 10 KV | 7000 | 3 | 1 1/8 | 13.50 |
| HG100-502 | .005 | 10 KV | 7000 | 6 | 1 1/8 | 21.00 |
| HG100-103 | .01 | 10 KV | 7000 | 6 | 1 3 8 | 24.00 |
| HG140-102 | .001 | 14 KV | 10 KV | 4 | 29/32 | 15.30 |
| HG140-202 | .002 | 14 KV | 10 KV | 4 | 1 3/8 | 20.00 |
| HG140-502 | .005 | 14 KV | 10 KV | 8 | 1 1/8 | 24.00 |
| HG140-103 | .01 | 14 KV | 10 KV | 8 | 1 5/8 | 27.00 |
| HG200-201 | .0002 | 20 KV | 15 KV | 5 3/4 | 3 4 | 17.00 |
| HG200-501 | .0005 | 20 KV | 15 KV | 5 3/4 | 29/32 | 20.00 |
| HG200-102 | .001 | 20 KV | 15 KV | 5 3/4 | 1 1/8 | 22.50 |
| HG200-202 | .002 | 20 KV | 15 KV | 5 3/4 | 1 5/8 | 24.50 |
| HG250-201 | .0002 | 25 KV | 20 KV | 7 1/4 | 3/4 | 20.00 |
| HG250-501 | .0005 | 25 KV | 20 KV | 7 1/4 | 29 32 | 25.00 |
| HG250-102 | .001 | 25 KV | 20 KV | 7 1/4 | 1 3 8 | 31.00 |
| HG250-202 | .002 | 25 KV | 20 KV | 7 1/4 | 1 5/8 | 35.00 |

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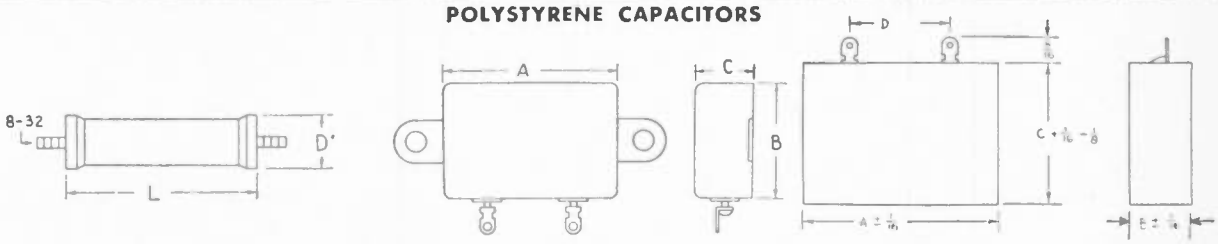
World Radio History

# Plastic Capacitors, Inc.

CHICAGO 14, ILL

Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric

## POLYSTYRENE CAPACITORS




Polystyrene capacitors feature extremely low dielectric absorption, very high stability and ultra high resistance. The polystyrene capacitors listed have a resistance of one million megohms X mfd or one million megohms whichever is less and a dielectric absorption of .02% maximum. Standard capacitance is 5% but tolerances of as low as 0.1% are available in the PC and PB style and 2% in the PG style.

### TYPE PC—CP70 STYLE CONTAINER

| Part Number | Cap. MFD | Volts DC | Case Size A | Case Size B | Case Size C | List Price |
|---|---|---|---|---|---|---|
| PC1-504 | 0.5 | 100 | 1 3/4 | 1 | 2 1/8 | $8.10 |
| PC1-105 | 1.0 | 100 | 1 3/4 | 1 | 3 | 10.00 |
| PC1-205 | 2 | 100 | 2 1/2 | 1 3/16 | 3 | 14.40 |
| PC1-405 | 4 | 100 | 3 3/4 | 1 3/4 | 4 | 18.50 |
| PC1-505 | 5 | 100 | 3 3/4 | 1 1/4 | 5 1/4 | 21.70 |
| PC1-605 | 6 | 100 | 3 3/4 | 1 3/4 | 4 | 24.80 |
| PC1-805 | 8 | 100 | 3 3/4 | 2 1/4 | 4 | 29.10 |
| PC1-106 | 10 | 100 | 3 3/4 | 2 1/4 | 4 1/2 | 33.40 |
| PC2-504 | 0.5 | 200 | 1 3/4 | 1 | 2 1/8 | 8.30 |
| PC2-105 | 1.0 | 200 | 1 3/4 | 1 | 4 | 10.20 |
| PC2-205 | 2 | 200 | 3 3/4 | 1 1/4 | 3 | 14.70 |
| PC2-405 | 4 | 200 | 3 3/4 | 1 3/4 | 4 | 18.50 |
| PC2-505 | 5 | 200 | 3 3/4 | 1 3/4 | 4 | 21.50 |
| PC2-605 | 6 | 200 | 3 3/4 | 2 1/4 | 4 | 24.50 |
| PC2-805 | 8 | 200 | 3 3/4 | 3 3/16 | 4 | 29.00 |
| PC2-106 | 10 | 200 | 4 9/16 | 3 3/4 | 4 | 33.00 |
| PC4-254 | 0.25 | 400 | 1 3/4 | 1 | 3 | 11.00 |
| PC4-504 | 0.5 | 400 | 2 1/2 | 1 3/16 | 3 | 11.50 |
| PC4-105 | 1.0 | 400 | 3 3/4 | 1 1/4 | 4 | 15.00 |
| PC4-205 | 2 | 400 | 3 3/4 | 1 3/4* | 4 | 23.00 |
| PC4-405 | 4 | 400 | 3 3/4 | 3 3/16 | 4 | 35.80 |
| PC4-505 | 5 | 400 | 3 3/4 | 3 3/16 | 5 1/4 | 42.50 |
| PC4-605 | 6 | 400 | 3 3/4 | 3 3/16 | 7 1/4 | 49.30 |
| PC4-805 | 8 | 400 | 3 3/4 | 3 3/16 | 7 1/4 | 61.40 |
| PC4-106 | 10 | 400 | 3 3/4 | 4 9/16 | 7 1/4 | 74.50 |
| PC6-254 | 0.25 | 600 | 1 3/4 | 1 | 4 | 11.00 |
| PC6-504 | 0.5 | 600 | 2 1/2 | 1 3/16 | 4 | 11.50 |
| PC6-105 | 1.0 | 600 | 3 3/4 | 1 1/4 | 4 1/4 | 15.00 |
| PC6-205 | 2 | 600 | 3 3/4 | 2 1/4 | 4 1/4 | 22.50 |
| PC6-405 | 4 | 600 | 4 9/16 | 3 3/4 | 4 1/4 | 35.00 |
| PC6-505 | 5 | 600 | 3 3/4 | 3 3/16 | 7 3/4 | 42.00 |
| PC10-104 | 0.1 | 1000 | 1 3/4 | 1 | 2 1/8 | 9.70 |
| PC10-254 | 0.25 | 1000 | 1 3/4 | 1 | 4 | 11.40 |
| PC10-504 | 0.5 | 1000 | 2 1/2 | 1 3/16 | 4 | 15.30 |
| PC10-105 | 1.0 | 1000 | 3 3/4 | 1 3/4 | 4 | 22.10 |
| PC10-205 | 2 | 1000 | 3 3/4 | 3 3/16 | 4 | 34.70 |
| PC10-405 | 4 | 1000 | 3 3/4 | 3 3/16 | 7 1/4 | 58.50 |
| PC10-505 | 5 | 1000 | 4 9/16 | 3 3/4 | 7 1/4 | 71.20 |

### TYPE PB—BATHTUB CONTAINER

| Part Number | Cap. MFD | Volts DC | Case Size A | Case Size B | Case Size C | List Price |
|---|---|---|---|---|---|---|
| PB1-503 | .05 | 100 | 1 3/4 | 1 | 3/4 | $8.40 |
| PB1-104 | 0.1 | 100 | 1 3/4 | 1 | 3/4 | 8.70 |
| PB1-254 | 0.25 | 100 | 1 3/4 | 1 | 3/4 | 9.50 |
| PB1-504 | 0.5 | 100 | 2 | 1 3/4 | 7/8 | 9.80 |
| PB1-105 | 1.0 | 100 | 2 | 1 3/4 | 7/8 | 14.20 |
| PB2-203 | .02 | 200 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB2-503 | .05 | 200 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB2-104 | 0.1 | 200 | 1 3/4 | 1 | 3/4 | 8.70 |
| PB2-254 | 0.25 | 200 | 2 | 1 3/4 | 7/8 | 9.50 |
| PB2-504 | 0.5 | 200 | 2 | 1 3/4 | 7/8 | 9.80 |
| PB2-105 | 1.0 | 200 | 2 | 2 | 1 1/8 | 14.00 |
| PB4-103 | .01 | 400 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB4-203 | .02 | 400 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB4-503 | .05 | 400 | 1 3/4 | 1 | 3/4 | 8.70 |
| PB4-104 | 0.1 | 400 | 1 3/4 | 1 | 7/8 | 9.40 |
| PB4-254 | 0.25 | 400 | 2 | 1 3/4 | 7/8 | 14.10 |
| PB4-504 | 0.5 | 400 | 2 | 2 | 1 1/8 | 16.20 |
| PB6-103 | .01 | 600 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB6-203 | .02 | 600 | 1 3/4 | 1 | 3/4 | 8.40 |
| PB6-503 | .05 | 600 | 1 3/4 | 1 | 3/4 | 8.70 |
| PB6-104 | 0.1 | 600 | 2 | 1 3/4 | 7/8 | 9.40 |
| PB6-254 | 0.25 | 600 | 2 | 1 3/4 | 7/8 | 14.00 |
| PB10-103 | .01 | 1000 | 1 3/4 | 1 | 3/4 | 9.90 |
| PB10-203 | .02 | 1000 | 1 3/4 | 1 | 3/4 | 10.70 |
| PB10-503 | .05 | 1000 | 1 3/4 | 1 | 7/8 | 11.80 |
| PB10-104 | 0.1 | 1000 | 2 | 1 3/4 | 7/8 | 12.10 |
| PB10-204 | 0.2 | 1000 | 2 | 2 | 1 1/8 | 15.20 |

### TYPE PG—GLASS CONTAINER

| Part Number | Capacity MFD | Volts DC | Dimensions Lgth. | Dimensions Dia. | List Price |
|---|---|---|---|---|---|
| PG1-103 | .01 | 100 | 1 | 19/32 | $4.60 |
| PG1-203 | .02 | 100 | 1 | 19/32 | 4.60 |
| PG1-503 | .05 | 100 | 1 3/4 | 19/32 | 6.30 |
| PG1-104 | 0.1 | 100 | 1 3/4 | 3/4 | 8.30 |
| PG1-254 | 0.25 | 100 | 1 3/4 | 29/32 | 10.50 |
| PG1-504 | 0.5 | 100 | 2 1/2 | 1 1/8 | 12.60 |
| PG1-105 | 1.0 | 100 | 3 1/2 | 1 3/8 | 15.30 |
| PG2-502 | .005 | 200 | 1 | 3/4 | 5.30 |
| PG2-103 | .01 | 200 | 1 | 3/4 | 5.30 |
| PG2-203 | .02 | 200 | 1 | 3/4 | 5.30 |
| PG2-503 | .05 | 200 | 1 | 29/32 | 7.50 |
| PG2-104 | 0.1 | 200 | 1 3/4 | 29/32 | 9.20 |
| PG2-254 | 0.25 | 200 | 1 3/4 | 1 3/8 | 11.50 |
| PG2-504 | 0.5 | 200 | 2 1/2 | 1 3/8 | 13.20 |
| PG4-502 | .005 | 400 | 1 | 3/4 | 6.30 |
| PG4-103 | .01 | 400 | 1 | 3/4 | 6.30 |
| PG4-203 | .02 | 400 | 1 | 13/16 | 7.60 |
| PG4-503 | .05 | 400 | 1 3/4 | 29/32 | 9.60 |
| PG4-104 | 0.1 | 400 | 2 1/2 | 1 1/8 | 12.00 |
| PG4-254 | 0.25 | 400 | 3 1/2 | 1 3/8 | 14.50 |
| PG6-102 | .001 | 600 | 1 | 3/4 | 6.30 |
| PG6-202 | .002 | 600 | 1 | 3/4 | 6.30 |
| PG6-502 | .005 | 600 | 1 | 3/4 | 6.30 |
| PG6-103 | .01 | 600 | 1 | 3/4 | 6.80 |
| PG6-203 | .02 | 600 | 1 | 29/32 | 8.00 |
| PG6-503 | .05 | 600 | 1 1/2 | 1 1/8 | 10.60 |
| PG6-104 | 0.1 | 600 | 1 1/2 | 1 3/8 | 13.20 |
| PG10-102 | .001 | 1000 | 1 | 3/4 | 7.60 |
| PG10-202 | .002 | 1000 | 1 | 3/4 | 8.60 |
| PG10-502 | .005 | 1000 | 1 3/4 | 3/4 | 9.80 |
| PG10-103 | .01 | 1000 | 1 3/4 | 13/16 | 10.60 |
| PG10-203 | .02 | 1000 | 1 3/4 | 29/32 | 11.60 |
| PG10-503 | .05 | 1000 | 3 1/2 | 29/32 | 12.40 |
| PG10-104 | 0.1 | 1000 | 3 1/2 | 1 1/8 | 13.30 |
| PG10-204 | 0.2 | 1000 | 3 1/2 | 1 3/8 | 14.40 |

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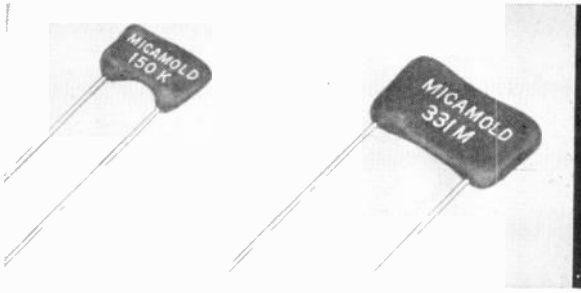



# MICAMOLD MICAP®
## ENCAPSULATED MICA
# *Capacitors*

**Micamold Micaps are silvered mica capacitors having the same mica capacitor sections as the Micamold molded styles CM-15 and CM-20. They differ in that they are hermetically sealed by a dip coating method and have radial wire leads instead of axial leads. This latter feature results in a shorter RF current path and greater ease of installation, making them specially suitable for use in printed circuitry. Micamold Micaps are smaller than the comparable molded types and are particularly applicable in the development of miniature equipment.**

**TYPE DESIGNATION TO BE IN FOLLOWING FORM:**

**MQ-15 151 J**

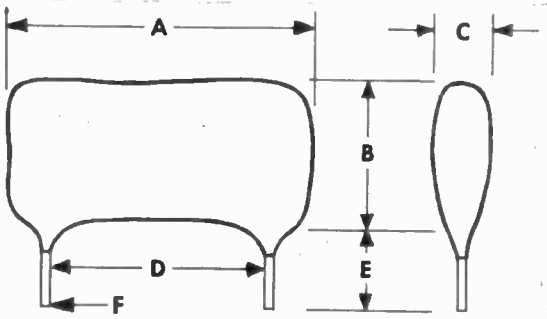
STYLE — CAPACITANCE* — TOLERANCE

*The nominal capacitance value expressed in microfarads is identified by a three-digit number; the first two digits represent significant figures and the last digit specifies the number of zeros that follow.

## TYPE MQ-15 500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|---|
| 1 | MQ-15-010† | $0.25 | | | |
| 2 | MQ-15-020† | .25 | | | |
| 3 | MQ-15-030† | .25 | | | |
| 5 | MQ-15-050† | .25 | | | |
| 10 | MQ-15-100 | .25 | $0.28 | | |
| 12 | MQ-15-120 | .25 | .28 | | |
| 15 | MQ-15-150 | .25 | .28 | | |
| 18 | MQ-15-180 | .25 | .28 | | |
| 20 | MQ-15,200 | .25 | .28 | | |
| 22 | MQ-15-220 | .25 | .28 | | |
| 24 | MQ-15-240 | .25 | .28 | | |
| 27 | MQ-15-270 | .25 | .28 | $0.33 | |
| 30 | MQ-15-300 | .25 | .28 | .33 | |
| 33 | MQ-15-330 | .25 | .28 | .33 | |
| 36 | MQ-15-360 | .25 | .28 | .33 | |
| 39 | MQ-15-390 | .25 | .28 | .33 | |
| 43 | MQ-15-430 | .25 | .28 | .33 | |
| 47 | MQ-15-470 | .25 | .28 | .33 | |
| 50 | MQ-15-500 | .25 | .28 | .33 | $0.40 |
| 51 | MQ-15-510 | .25 | .28 | .33 | .40 |
| 56 | MQ-15-560 | .25 | .28 | .33 | .40 |
| 62 | MQ-15-620 | .25 | .28 | .33 | .40 |
| 68 | MQ-15-680 | .25 | .28 | .33 | .40 |
| 75 | MQ-15-750 | .25 | .28 | .33 | .40 |
| 82 | MQ-15-820 | .25 | .28 | .33 | .40 |
| 91 | MQ-15-910 | .25 | .28 | .33 | .40 |
| 100 | MQ-15-101 | .25 | .28 | .33 | .40 |
| 110 | MQ-15-111 | .30 | .33 | .39 | .48 |
| 120 | MQ-15-121 | .30 | .33 | .39 | .48 |
| 130 | MQ-15-131 | .30 | .33 | .39 | .48 |
| 150 | MQ-15-151 | .30 | .33 | .39 | .48 |
| 160 | MQ-15-161 | .35 | .39 | .46 | .56 |
| 180 | MQ-15-181 | .35 | .39 | .46 | .56 |
| 200 | MQ-15-201 | .35 | .39 | .46 | .56 |
| 220 | MQ-15-221 | .40 | .44 | .52 | .64 |
| 240 | MQ-15-241 | .40 | .44 | .52 | .64 |
| 250 | MQ-15-251 | .40 | .44 | .52 | .64 |
| 270 | MQ-15-271 | .45 | .50 | .59 | .72 |
| 300 | MQ-15-301 | .45 | .50 | .59 | .72 |
| 330 | MQ-15-331 | .50 | .55 | .65 | .80 |
| 360 | MQ-15-361 | .50 | .55 | .65 | .80 |
| 390 | MQ-15-391 | .55 | .61 | .72 | .88 |
| 430* | MQ-15-431 | .55 | .61 | .72 | .88 |
| 470* | MQ-15-471 | .60 | .66 | .78 | .96 |
| 500* | MQ-15-501 | .60 | .66 | .78 | .96 |
| 510* | MQ-15-511 | .60 | .66 | .78 | .96 |
| 560* | MQ-15-561 | .65 | .72 | .85 | 1.04 |
| 620* | MQ-15-621 | .70 | .77 | .91 | 1.12 |
| 680* | MQ-15-681 | .75 | .83 | .98 | 1.20 |
| 750* | MQ-15-751 | .80 | .88 | 1.04 | 1.28 |
| 820* | MQ-15-821 | .85 | .94 | 1.11 | 1.36 |

All capacities marked with * are 300WV.




| STYLE | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| MQ-15 | 7/16" | 11/32" | 5/32" | 1/4" | 1½" | #22AWG |
| MO-19 | 5/8" | 15/32" | 3/16" | 13/32" | 1½" | #20AWG |

ALL DIMENSIONS ARE NOMINAL

## TYPE MO-19 500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "K" ±10% | "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|---|
| 430 | MO-19-431 | $0.45 | $0.50 | $0.54 | $0.68 |
| 470 | MO-19-471 | .50 | .55 | .60 | .75 |
| 500 | MO-19-501 | .50 | .55 | .60 | .75 |
| 510 | MO-19-511 | .50 | .55 | .60 | .75 |
| 560 | MO-19-561 | .55 | .61 | .66 | .83 |
| 620 | MO-19-621 | .55 | .61 | .66 | .83 |
| 680 | MO-19-681 | .60 | .66 | .72 | .90 |
| 750 | MO-19-751 | .60 | .66 | .72 | .90 |
| 820 | MO-19-821 | .60 | .66 | .72 | .90 |
| 910 | MO-19-911 | .65 | .72 | .78 | .98 |
| 1000 | MO-19-102 | .70 | .77 | .84 | 1.05 |
| 1100 | MO-19-112 | .70 | .77 | .84 | 1.05 |
| 1200 | MO-19-122 | .75 | .83 | .90 | 1.13 |
| 1300 | MO-19-132 | .80 | .88 | .96 | 1.20 |
| 1500 | MO-19-152 | .85 | .94 | 1.02 | 1.28 |
| 1600 | MO-19-162 | .90 | .99 | 1.08 | 1.35 |
| 1800 | MO-19-182 | 1.00 | 1.10 | 1.20 | 1.50 |
| 2000 | MO-19-202 | 1.10 | 1.21 | 1.32 | 1.65 |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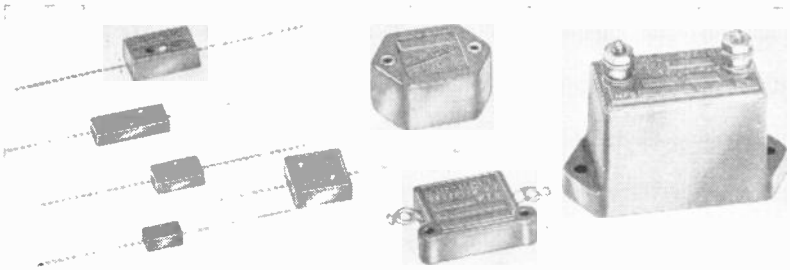
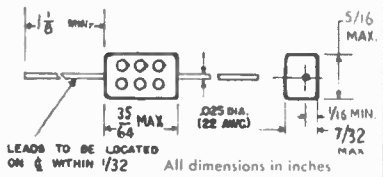
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History



# MICAMOLD MICA Capacitors

## TYPE CM-15 Silvered Mica




**500 VDCW**

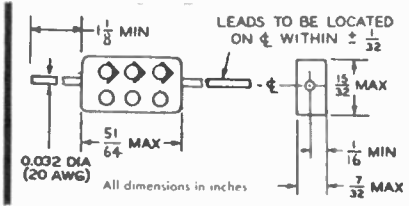
| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 1 | CM-15-C-010† | $0.40 | | |
| 2 | CM-15-C-020† | .40 | | |
| 3 | CM-15-C-030† | .40 | | |
| 5 | CM-15-C-050† | .40 | | |
| 10 | CM-15-C-100 | .40 | | |
| 12 | CM-15-C-120 | .40 | | |
| 15 | CM-15-C-150 | .40 | | |
| 18 | CM-15-C-180 | .40 | | |
| 20 | CM-15-C-200 | .40 | | |
| 22 | CM-15-C-220 | .40 | | |
| 24 | CM-15-E-240 | .40 | | |
| 27 | CM-15-E-270 | .40 | $0.46 | |
| 30 | CM-15-E-300 | .40 | .46 | |
| 33 | CM-15-E-330 | .40 | .46 | |
| 36 | CM-15-E-360 | .40 | .46 | |
| 39 | CM-15-E-390 | .40 | .46 | |
| 43 | CM-15-E-430 | .40 | .46 | |
| 47 | CM-15-E-470 | .40 | .46 | |
| 50 | CM-15-E-500 | .40 | .46 | $0.50 |
| 51 | CM-15-E-510 | .40 | .46 | .50 |
| 56 | CM-15-E-560 | .40 | .46 | .50 |
| 62 | CM-15-E-620 | .40 | .46 | .50 |
| 68 | CM-15-E-680 | .40 | .46 | .50 |
| 75 | CM-15-E-750 | .40 | .46 | .50 |
| 82 | CM-15-E-820 | .45 | .52 | .56 |
| 91 | CM-15-E-910 | .45 | .52 | .56 |
| 100 | CM-15-E-101 | .45 | .52 | .56 |
| 110 | CM-15-E-111 | .45 | .52 | .56 |
| 120 | CM-15-E-121 | .45 | .52 | .56 |
| 130 | CM-15-E-131 | .45 | .52 | .56 |
| 150 | CM-15-E-151 | .45 | .52 | .56 |
| 160 | CM-15-E-161 | .50 | .58 | .63 |
| 180 | CM-15-E-181 | .50 | .58 | .63 |
| 200 | CM-15-E-201 | .50 | .58 | .63 |
| 220 | CM-15-E-221 | .55 | .63 | .69 |
| 240 | CM-15-E-241 | .55 | .63 | .69 |
| 250 | CM-15-E-251 | .55 | .63 | .69 |
| 270 | CM-15-E-271 | .60 | .69 | .75 |
| 300 | CM-15-E-301 | .60 | .69 | .75 |
| 330 | CM-15-E-331 | .65 | .75 | .81 |
| 360 | CM-15-E-361 | .70 | .81 | .88 |
| 390 | CM-15-E-391 | .70 | .81 | .88 |
| 430* | CM-15-E-431 | .75 | .86 | .94 |
| 470* | CM-15-E-471 | .80 | .92 | 1.00 |
| 500* | CM-15-E-501 | .80 | .92 | 1.00 |
| 510* | CM-15-E-511 | .80 | .92 | 1.00 |

*Voltage Rating 300VDCW.
†Closest Tolerance ±0.5 μμf.

**SPECIFICATIONS NOTES:**
±½% tolerance available above 100 μμf at double ±5% price.

CM19, 20 available "E" characteristic above 33 μμf.

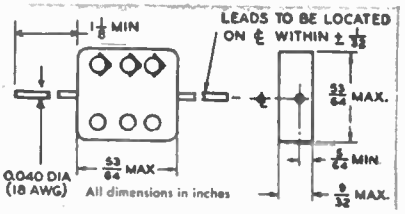
## TYPE CM-20 Silvered Mica




**500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 5 | CM-20-C-050 | $0.40 | | |
| 10 | CM-20-C-100 | .40 | | |
| 12 | CM-20-C-120 | .40 | | |
| 15 | CM-20-C-150 | .40 | | |
| 18 | CM-20-C-180 | .40 | | |
| 20 | CM-20-C-200 | .40 | | |
| 22 | CM-20-C-220 | .40 | | |
| 24 | CM-20-C-240 | .40 | | |
| 27 | CM-20-C-270 | .40 | $0.46 | |
| 30 | CM-20-C-300 | .40 | .46 | |
| 33 | CM-20-C-330 | .40 | .46 | |
| 36 | CM-20-C-360 | .40 | .46 | |
| 39 | CM-20-C-390 | .40 | .46 | |
| 43 | CM-20-C-430 | .40 | .46 | |
| 47 | CM-20-C-470 | .40 | .46 | |
| 50 | CM-20-C-500 | .40 | .46 | $0.50 |
| 51 | CM-20-C-510 | .40 | .46 | .50 |
| 56 | CM-20-C-560 | .40 | .46 | .50 |
| 62 | CM-20-C-620 | .40 | .46 | .50 |
| 68 | CM-20-C-680 | .40 | .46 | .50 |
| 75 | CM-20-C-750 | .40 | .46 | .50 |
| 82 | CM-20-C-820 | .40 | .46 | .50 |
| 91 | CM-20-C-910 | .40 | .46 | .50 |
| 100 | CM-20-C-101 | .40 | .46 | .50 |
| 110 | CM-20-C-111 | .45 | .52 | .56 |
| 120 | CM-20-C-121 | .45 | .52 | .56 |
| 130 | CM-20-C-131 | .45 | .52 | .56 |
| 150 | CM-20-C-151 | .45 | .52 | .56 |
| 160 | CM-20-C-161 | .45 | .52 | .56 |
| 180 | CM-20-C-181 | .45 | .52 | .56 |
| 200 | CM-20-D-201 | .45 | .52 | .56 |
| 220 | CM-20-D-221 | .45 | .52 | .56 |
| 240 | CM-20-D-241 | .55 | .63 | .69 |
| 250 | CM-20-D-251 | .55 | .63 | .69 |
| 270 | CM-20-D-271 | .55 | .63 | .69 |
| 300 | CM-20-D-301 | .55 | .63 | .69 |
| 330 | CM-20-D-331 | .55 | .63 | .69 |
| 360 | CM-20-D-361 | .55 | .63 | .69 |
| 390 | CM-20-D-391 | .65 | .75 | .81 |
| 430 | CM-20-D-431 | .65 | .75 | .81 |
| 470 | CM-20-D-471 | .70 | .81 | .88 |
| 500 | CM-20-D-501 | .70 | .81 | .88 |
| 510 | CM-20-D-511 | .70 | .81 | .88 |
| 560 | CM-20-D-561 | .75 | .86 | .94 |
| 620 | CM-20-D-621 | .75 | .86 | .94 |
| 680 | CM-20-D-681 | .80 | .92 | 1.00 |
| 750 | CM-20-D-751 | .80 | .92 | 1.00 |
| 820 | CM-20-D-821 | .85 | .98 | 1.06 |
| 910 | CM-20-D-911 | .85 | .98 | 1.06 |
| 1000 | CM-20-D-102 | .90 | 1.04 | 1.13 |
| 1100 | CM-20-D-112 | .90 | 1.04 | 1.13 |
| 1200 | CM-20-D-122 | 1.00 | 1.15 | 1.25 |
| 1300 | CM-20-D-132 | 1.00 | 1.15 | 1.25 |
| 1500 | CM-20-D-152 | 1.10 | 1.27 | 1.38 |
| 1600 | CM-20-D-162 | 1.10 | 1.27 | 1.38 |
| 1800 | CM-20-D-182 | 1.20 | 1.38 | 1.50 |
| 2000 | CM-20-D-202 | 1.30 | 1.50 | 1.63 |

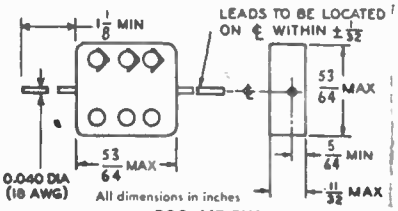
## TYPE CM-30 Silvered Mica




**500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 510 | CM-30-E-511 | $0.70 | $0.81 | $0.88 |
| 560 | CM-30-E-561 | .75 | .86 | .94 |
| 620 | CM-30-E-621 | .75 | .86 | .94 |
| 680 | CM-30-E-681 | .80 | .92 | 1.00 |
| 750 | CM-30-E-751 | .80 | .92 | 1.00 |
| 820 | CM-30-E-821 | .85 | .98 | 1.06 |
| 910 | CM-30-E-911 | .90 | 1.04 | 1.13 |
| 1000 | CM-30-E-102 | 1.00 | 1.15 | 1.25 |
| 1100 | CM-30-E-112 | 1.00 | 1.15 | 1.25 |
| 1200 | CM-30-E-122 | 1.15 | 1.32 | 1.44 |
| 1300 | CM-30-E-132 | 1.15 | 1.32 | 1.44 |
| 1500 | CM-30-E-152 | 1.25 | 1.44 | 1.56 |
| 1600 | CM-30-E-162 | 1.25 | 1.44 | 1.56 |
| 1800 | CM-30-E-182 | 1.25 | 1.44 | 1.56 |
| 2000 | CM-30-E-202 | 1.35 | 1.55 | 1.69 |
| 2200 | CM-30-E-222 | 1.35 | 1.55 | 1.69 |
| 2400 | CM-30-E-242 | 1.60 | 1.84 | 2.00 |
| 2500 | CM-30-E-252 | 1.60 | 1.84 | 2.00 |
| 2700 | CM-30-E-272 | 1.80 | 2.07 | 2.25 |
| 3000 | CM-30-E-302 | 1.90 | 2.19 | 2.38 |
| 3300 | CM-30-E-332 | 1.90 | 2.19 | 2.38 |
| 3600 | CM-30-E-362 | 2.00 | 2.30 | 2.50 |
| 3900 | CM-30-E-392 | 2.00 | 2.30 | 2.50 |
| 4300 | CM-30-E-432 | 2.10 | 2.42 | 2.63 |
| 4700 | CM-30-E-472 | 2.10 | 2.42 | 2.63 |
| 5000 | CM-30-E-502 | 2.15 | 2.47 | 2.69 |
| 5100 | CM-30-E-512 | 2.15 | 2.47 | 2.69 |
| 5600 | CM-30-E-562 | 2.25 | 2.59 | 2.81 |
| 6200 | CM-30-E-622 | 2.40 | 2.76 | 3.00 |

## TYPE CM-35 Silvered Mica




**500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 6800* | CM-35-E-682 | $2.65 | $3.05 | $3.31 |
| 7500* | CM-35-E-752 | 2.80 | 3.22 | 3.50 |
| 8200* | CM-35-E-822 | 3.00 | 3.45 | 3.75 |
| 9100* | CM-35-E-912 | 3.20 | 3.68 | 4.00 |
| 10000* | CM-35-E-103 | 3.50 | 4.03 | 4.38 |
| 12000* | CM-35-E-123 | 4.25 | 4.89 | 5.31 |
| 15000* | CM-35-E-153 | 5.00 | 5.75 | 6.25 |
| 6800 | VCM-35-E-682 | 2.90 | 3.34 | 3.62 |
| 7500 | VCM-35-E-752 | 3.05 | 3.51 | 3.81 |
| 8200 | VCM-35-E-822 | 3.30 | 3.80 | 4.13 |
| 9100 | VCM-35-E-912 | 3.50 | 4.03 | 4.38 |
| 10000 | VCM-35-E-103 | 3.85 | 4.43 | 4.81 |

All capacities marked with * are 300WV.

NOTE: For ±½% tolerance, double the 5% list prices.

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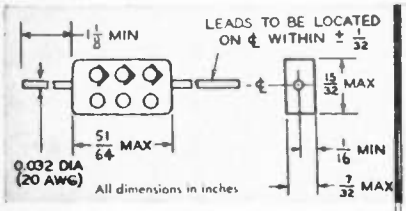
World Radio History

# MICAMOLD SALES..

**completely stocked for immediate delivery**

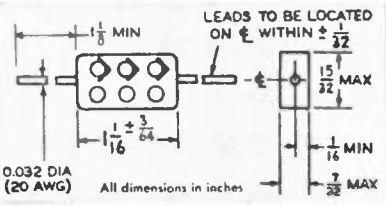
## TYPE CM-20 Foil Mica




500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 5 | CM-20-B-050 | $0.30 | $0.33 | |
| 10 | CM-20-B-100 | .30 | .33 | $0.38 |
| 12 | CM-20-B-120 | .30 | .33 | .38 |
| 15 | CM-20-B-150 | .30 | .33 | .38 |
| 18 | CM-20-B-180 | .30 | .33 | .38 |
| 20 | CM-20-B-200 | .30 | .33 | .38 |
| 22 | CM-20-B-220 | .30 | .33 | .38 |
| 24 | CM-20-B-240 | .30 | .33 | .38 |
| 27 | CM-20-B-270 | .30 | .33 | .38 |
| 30 | CM-20-B-300 | .30 | .33 | .38 |
| 33 | CM-20-B-330 | .20 | .22 | .25 |
| 36 | CM-20-B-360 | .20 | .22 | .25 |
| 39 | CM-20-B-390 | .20 | .22 | .25 |
| 43 | CM-20-B-430 | .20 | .22 | .25 |
| 47 | CM-20-B-470 | .20 | .22 | .25 |
| 50 | CM-20-B-500 | .20 | .22 | .25 |
| 51 | CM-20-B-510 | .20 | .22 | .25 |
| 56 | CM-20-B-560 | .20 | .22 | .25 |
| 62 | CM-20-B-620 | .20 | .22 | .25 |
| 68 | CM-20-B-680 | .20 | .22 | .25 |
| 75 | CM-20-B-750 | .20 | .22 | .25 |
| 82 | CM-20-B-820 | .20 | .22 | .25 |
| 91 | CM-20-B-910 | .20 | .22 | .25 |
| 100 | CM-20-B-101 | .20 | .22 | .25 |
| 110 | CM-20-B-111 | .20 | .22 | .25 |
| 120 | CM-20-B-121 | .20 | .22 | .25 |
| 130 | CM-20-B-131 | .25 | .28 | .31 |
| 150 | CM-20-B-151 | .25 | .28 | .31 |
| 160 | CM-20-B-161 | .25 | .28 | .31 |
| 180 | CM-20-B-181 | .25 | .28 | .31 |
| 200 | CM-20-B-201 | .25 | .28 | .31 |
| 220 | CM-20-B-221 | .25 | .28 | .31 |
| 240 | CM-20-B-241 | .30 | .33 | .38 |
| 250 | CM-20-B-251 | .30 | .33 | .38 |
| 270 | CM-20-B-271 | .30 | .33 | .38 |
| 300 | CM-20-B-301 | .30 | .33 | .38 |
| 330 | CM-20-B-331 | .30 | .33 | .38 |
| 360 | CM-20-B-361 | .30 | .33 | .38 |
| 390 | CM-20-B-391 | .30 | .33 | .38 |
| 430 | CM-20-B-431 | .30 | .33 | .38 |
| 470 | CM-20-B-471 | .30 | .33 | .38 |
| 500 | CM-20-B-501 | .30 | .33 | .38 |
| 510 | CM-20-B-511 | .30 | .33 | .38 |
| 560 | CM-20-B-561 | .35 | .39 | .44 |
| 620 | CM-20-B-621 | .35 | .39 | .44 |
| 680 | CM-20-B-681 | .35 | .39 | .44 |
| 750 | CM-20-B-751 | .35 | .39 | .44 |
| 820 | CM-20-B-821 | .40 | .44 | .50 |
| 910 | CM-20-B-911 | .45 | .50 | .56 |
| 1000 | CM-20-B-102 | .45 | .50 | .56 |
| 1100 | CM-20-B-112 | .50 | .55 | .63 |
| 1200 | CM-20-B-122 | .50 | .55 | .63 |
| 1300 | CM-20-B-132 | .50 | .55 | .63 |
| 1500 | CM-20-B-152 | .60 | .66 | .75 |
| 1600 | CM-20-B-162 | .60 | .66 | .75 |
| 1800 | CM-20-B-182 | .70 | .77 | .88 |
| 2000 | CM-20-B-202 | .75 | .83 | .94 |

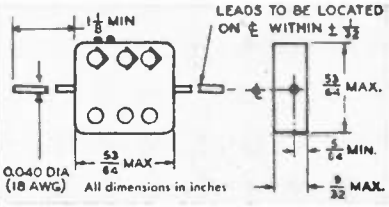
## TYPE CM-25 Foil Mica




500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE ±10% ONLY |
|---|---|---|
| 51 | CM-25-B-510K | $0.28 |
| 56 | CM-25-B-560K | .28 |
| 62 | CM-25-B-620K | .28 |
| 68 | CM-25-B-680K | .28 |
| 75 | CM-25-B-750K | .28 |
| 82 | CM-25-B-820K | .28 |
| 91 | CM-25-B-910K | .28 |
| 100 | CM-25-B-101K | .28 |
| 110 | CM-25-B-111K | .28 |
| 120 | CM-25-B-121K | .28 |
| 130 | CM-25-B-131K | .28 |
| 150 | CM-25-B-151K | .28 |
| 160 | CM-25-B-161K | .28 |
| 180 | CM-25-B-181K | .28 |
| 200 | CM-25-B-201K | .28 |
| 220 | CM-25-B-221K | .28 |
| 240 | CM-25-B-241K | .33 |
| 250 | CM-25-B-251K | .33 |
| 270 | CM-25-B-271K | .33 |
| 300 | CM-25-B-301K | .33 |
| 330 | CM-25-B-331K | .33 |
| 360 | CM-25-B-361K | .33 |
| 390 | CM-25-B-391K | .33 |
| 430 | CM-25-B-431K | .33 |
| 470 | CM-25-B-471K | .33 |
| 500 | CM-25-B-501K | .33 |
| 510 | CM-25-B-511K | .33 |
| 560 | CM-25-B-561K | .39 |
| 620 | CM-25-B-621K | .39 |
| 680 | CM-25-B-681K | .39 |
| 750 | CM-25-B-751K | .39 |
| 820 | CM-25-B-821K | .44 |
| 910 | CM-25-B-911K | .50 |
| 1000 | CM-25-B-102K | .50 |
| 1100 | CM-25-B-112K | .55 |
| 1200 | CM-25-B-122K | .55 |
| 1300 | CM-25-B-132K | .55 |
| 1500 | CM-25-B-152K | .66 |
| 1600 | CM-25-B-162K | .66 |
| 1800 | CM-25-B-182K | .77 |
| 2000 | CM-25-B-202K | .83 |

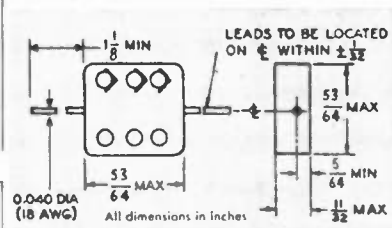
## TYPE CM-30 Foil Mica




500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 510 | CM-30-B-511 | $0.30 | $0.36 | $0.39 |
| 560 | CM-30-B-561 | .30 | .36 | .39 |
| 620 | CM-30-B-621 | .30 | .36 | .39 |
| 680 | CM-30-B-681 | .30 | .36 | .39 |
| 750 | CM-30-B-751 | .30 | .36 | .39 |
| 820 | CM-30-B-821 | .30 | .36 | .39 |
| 910 | CM-30-B-911 | .30 | .36 | .39 |
| 1000 | CM-30-B-102 | .35 | .39 | .44 |
| 1100 | CM-30-B-112 | .35 | .39 | .44 |
| 1200 | CM-30-B-122 | .35 | .39 | .44 |
| 1300 | CM-30-B-132 | .35 | .39 | .44 |
| 1500 | CM-30-B-152 | .40 | .44 | .50 |
| 1600 | CM-30-B-162 | .40 | .44 | .50 |
| 1800 | CM-30-B-182 | .45 | .50 | .56 |
| 2000 | CM-30-B-202 | .45 | .50 | .56 |
| 2200 | CM-30-B-222 | .45 | .50 | .56 |
| 2400 | CM-30-B-242 | .50 | .55 | .63 |
| 2500 | CM-30-B-252 | .50 | .55 | .63 |
| 2700 | CM-30-B-272 | .50 | .55 | .63 |
| 3000 | CM-30-B-302 | .60 | .66 | .75 |
| 3300 | CM-30-B-332 | .60 | .66 | .75 |
| 3600 | CM-30-B-362 | .60 | .66 | .75 |
| 3900 | CM-30-B-392 | .65 | .75 | .85 |
| 4300 | CM-30-B-432 | .65 | .75 | .85 |
| 4700 | CM-30-B-472 | .65 | .75 | .85 |
| 5000 | CM-30-B-502 | .70 | .81 | .91 |
| 5100 | CM-30-B-512 | .70 | .81 | .91 |
| 5600 | CM-30-B-562 | .70 | .81 | .91 |
| 6200 | CM-30-B-622 | .90 | 1.04 | 1.17 |

## TYPE CM-35 Foil Mica




500 VDCW

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 6800* | CM-35-B-682 | .95 | 1.05 | 1.19 |
| 7500* | CM-35-B-752 | 1.00 | 1.10 | 1.25 |
| 8200* | CM-35-B-822 | 1.15 | 1.27 | 1.44 |
| 9100* | CM-35-B-912 | 1.15 | 1.27 | 1.44 |
| 10000* | CM-35-B-103 | 1.40 | 1.54 | 1.75 |
| 12000* | CM-35-B-123 | 1.60 | 1.76 | 2.00 |
| 15000* | CM-35-B-153 | 2.00 | 2.20 | 2.50 |
| 6800 | VCM-35-B-682 | 1.05 | 1.16 | 1.31 |
| 7500 | VCM-35-B-752 | 1.15 | 1.27 | 1.44 |
| 8200 | VCM-35-B-822 | 1.30 | 1.43 | 1.62 |
| 9100 | VCM-35-B-912 | 1.30 | 1.43 | 1.62 |
| 10000 | VCM-35-B-103 | 1.55 | 1.71 | 1.94 |

All capacities marked with * are 300WV.

## NON-STANDARD CAPACITORS

To meet the ever increasing demands for non-standard capacitors, Micamold Electronic Sales, Inc. stocks large quantities of capacitors not listed in the Mica section. Thus, immediate delivery of almost any non-standard capacitor can be made. These capacitors, though not listed, are manufactured to meet or exceed MIL-C-5A specifications. The price of any non-standard capacitor will be the same as the list price of the next highest standard capacity value catalogued.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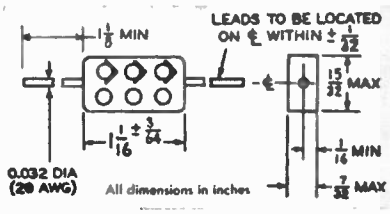
World Radio History

# MICAMOLD SALES ..

**equipped to ship to you within 24 hours**

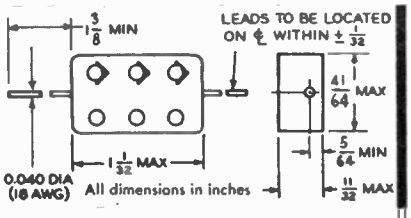
## TYPE CM-25 Silvered Mica




**500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "J" ±5% | "G" ±2% | "F" ±1% |
|---|---|---|---|---|
| 51 | CM-25-E-510 | $0.40 | $0.46 | $0.50 |
| 56 | CM-25-E-560 | .40 | .46 | .50 |
| 62 | CM-25-E-620 | .40 | .46 | .50 |
| 68 | CM-25-E-680 | .40 | .46 | .50 |
| 75 | CM-25-E-750 | .40 | .46 | .50 |
| 82 | CM-25-E-820 | .40 | .46 | .50 |
| 91 | CM-25-E-910 | .40 | .46 | .50 |
| 100 | CM-25-E-101 | .40 | .46 | .50 |
| 110 | CM-25-E-111 | .45 | .52 | .56 |
| 120 | CM-25-E-121 | .45 | .52 | .56 |
| 130 | CM-25-E-131 | .45 | .52 | .56 |
| 150 | CM-25-E-151 | .45 | .52 | .56 |
| 160 | CM-25-E-161 | .45 | .52 | .56 |
| 180 | CM-25-E-181 | .45 | .52 | .56 |
| 200 | CM-25-E-201 | .45 | .52 | .56 |
| 220 | CM-25-E-221 | .45 | .52 | .56 |
| 240 | CM-25-E-241 | .55 | .63 | .69 |
| 250 | CM-25-E-251 | .55 | .63 | .69 |
| 270 | CM-25-E-271 | .55 | .63 | .69 |
| 300 | CM-25-E-301 | .55 | .63 | .69 |
| 330 | CM-25-E-331 | .55 | .63 | .69 |
| 360 | CM-25-E-361 | .55 | .63 | .69 |
| 390 | CM-25-E-391 | .65 | .75 | .81 |
| 430 | CM-25-E-431 | .65 | .75 | .81 |
| 470 | CM-25-E-471 | .70 | .81 | .88 |
| 500 | CM-25-E-501 | .70 | .81 | .88 |
| 510 | CM-25-E-511 | .70 | .81 | .88 |
| 560 | CM-25-E-561 | .75 | .86 | .94 |
| 620 | CM-25-E-621 | .80 | .92 | 1.00 |
| 680 | CM-25-E-681 | .85 | .98 | 1.06 |
| 750 | CM-25-E-751 | .90 | 1.04 | 1.13 |
| 820 | CM-25-E-821 | .95 | 1.09 | 1.19 |
| 910 | CM-25-E-911 | 1.00 | 1.15 | 1.25 |
| 1000 | CM-25-E-102 | 1.10 | 1.27 | 1.38 |
| 1100 | CM-25-E-112 | 1.20 | 1.38 | 1.50 |
| 1200 | CM-25-E-122 | 1.30 | 1.50 | 1.63 |
| 1300 | CM-25-E-132 | 1.40 | 1.61 | 1.75 |
| 1500 | CM-25-E-152 | 1.50 | 1.73 | 1.88 |
| 1600 | CM-25-E-162 | 1.60 | 1.84 | 2.00 |
| 1800 | CM-25-E-182 | 1.70 | 1.96 | 2.13 |
| 2000 | CM-25-E-202 | 1.80 | 2.07 | 2.25 |

## TYPE CM-40 Foil Mica

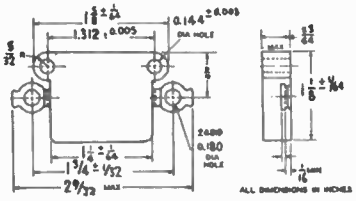



**500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE "M" ±20% | "K" ±10% | "J" ±5% |
|---|---|---|---|---|
| 2700 | CM-40-B-272 | $0.55 | $0.63 | $0.69 |
| 3000 | CM-40-B-302 | .60 | .69 | .75 |
| 3300 | CM-40-B-332 | .65 | .75 | .81 |
| 3600 | CM-40-B-362 | .70 | .81 | .88 |
| 3900 | CM-40-B-392 | .75 | .86 | .94 |
| 4300 | CM-40-B-432 | .80 | .92 | 1.00 |
| 4700 | CM-40-B-472 | .85 | .98 | 1.06 |
| 5000 | CM-40-B-502 | .90 | 1.04 | 1.13 |
| 5100 | CM-40-B-512 | .90 | 1.04 | 1.13 |
| 5600 | CM-40-B-562 | 1.00 | 1.15 | 1.25 |
| 6200 | CM-40-B-622 | 1.05 | 1.21 | 1.31 |
| 6800 | CM-40-B-682 | 1.15 | 1.32 | 1.44 |
| 7500 | CM-40-B-752 | 1.30 | 1.50 | 1.63 |
| 8200 | CM-40-B-822 | 1.40 | 1.61 | 1.75 |
| 9100 | VCM-40-B-912 | 1.60 | 1.84 | 2.00 |
| 10000 | VCM-40-B-103 | 1.70 | 1.96 | 2.13 |
| 9100* | CM-40-B-912 | 1.30 | 1.50 | 1.63 |
| 10000* | CM-40-B-103 | 1.50 | 1.73 | 1.88 |

All capacities marked with * are 300WV.

## TYPE CM-45 Foil Mica




**2500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE* "K" ±10% | "J" ±5% | "G" ±2% |
|---|---|---|---|---|
| 50 | CM-45-B-500 | $1.90 | $2.19 | $2.85 |
| 100 | CM-45-B-101 | 1.90 | 2.19 | 2.85 |
| 200 | CM-45-B-201 | 1.90 | 2.19 | 2.85 |
| 300 | CM-45-B-301 | 2.25 | 2.59 | 3.38 |
| 400 | CM-45-B-401 | 2.30 | 2.65 | 3.45 |
| 500 | CM-45-B-501 | 2.40 | 2.76 | 3.60 |
| 750 | CM-45-B-751 | 2.60 | 2.99 | 3.90 |
| 1000 | CM-45-B-102 | 2.80 | 3.22 | 4.20 |
| 1500 | CM-45-B-152 | 3.55 | 4.08 | 5.33 |
| 1800 | CM-45-B-182 | 4.00 | 4.60 | 6.00 |

**1200 VDCW**

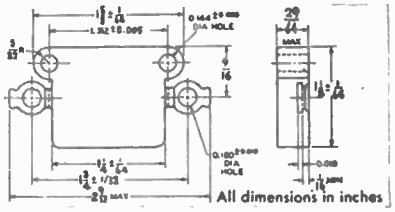
| | | | | |
|---|---|---|---|---|
| 2000 | CM-45-B-202 | 2.40 | 2.76 | 3.60 |
| 2200 | CM-45-B-222 | 2.60 | 2.99 | 3.90 |
| 2400 | CM-45-B-242 | 2.75 | 3.16 | 4.13 |
| 2700 | CM-45-B-272 | 2.90 | 3.36 | 4.35 |
| 3000 | CM-45-B-302 | 3.05 | 3.51 | 4.58 |
| 3300 | CM-45-B-332 | 3.05 | 3.51 | 4.58 |
| 3600 | CM-45-B-362 | 3.05 | 3.51 | 4.58 |

**600 VDCW**

| | | | | |
|---|---|---|---|---|
| 3900 | CM-45-B-392 | 1.50 | 1.73 | 2.25 |
| 4300 | CM-45-B-432 | 1.55 | 1.78 | 2.33 |
| 4700 | CM-45-B-472 | 1.55 | 1.78 | 2.33 |
| 5100 | CM-45-B-512 | 1.60 | 1.84 | 2.40 |
| 5600 | CM-45-B-562 | 1.65 | 1.90 | 2.48 |
| 6200 | CM-45-B-622 | 1.75 | 2.01 | 2.63 |
| 6800 | CM-45-B-682 | 1.85 | 2.13 | 2.78 |
| 7500 | CM-45-B-752 | 1.90 | 2.19 | 2.85 |
| 8200 | CM-45-B-822 | 2.00 | 2.30 | 3.00 |
| 9100 | CM-45-B-912 | 2.10 | 2.42 | 3.15 |
| 10000 | CM-45-B-103 | 2.15 | 2.47 | 3.23 |

*Standard Tolerance ±10%.

## TYPE CM-50 Foil Mica




**2500 VDCW**

| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE* "K" ±10% | "J" ±5% | "G" ±2% |
|---|---|---|---|---|
| 2000 | CM-50-B-202 | $4.15 | $4.77 | $6.23 |
| 2200 | CM-50-B-222 | 4.40 | 5.06 | 6.60 |
| 2400 | CM-50-B-242 | 4.60 | 5.29 | 6.90 |
| 2700 | CM-50-B-272 | 4.75 | 5.49 | 7.14 |
| 3000 | CM-50-B-302 | 5.10 | 5.87 | 7.65 |
| 3300 | CM-50-B-332 | 5.20 | 5.98 | 7.80 |
| 3600 | CM-50-B-362 | 5.45 | 6.27 | 8.18 |
| 3900 | CM-50-B-392 | 5.70 | 6.56 | 8.55 |
| 4300 | CM-50-B-432 | 6.00 | 6.90 | 9.00 |
| 4700 | CM-50-B-472 | 6.30 | 7.25 | 9.45 |
| 5100 | CM-50-B-512 | 6.50 | 7.48 | 9.75 |

**1200 VDCW**

| | | | | |
|---|---|---|---|---|
| 5600 | CM-50-B-562 | 3.30 | 3.80 | 4.95 |
| 6200 | CM-50-B-622 | 3.60 | 4.14 | 5.40 |
| 6800 | CM-50-B-682 | 3.80 | 4.37 | 5.70 |
| 7500 | CM-50-B-752 | 4.10 | 4.72 | 6.15 |
| 8200 | CM-50-B-822 | 4.45 | 5.12 | 6.68 |
| 9100 | CM-50-B-912 | 4.80 | 5.52 | 7.20 |
| 10000 | CM-50-B-103 | 5.10 | 5.87 | 7.65 |

**600 VDCW**

| | | | | |
|---|---|---|---|---|
| 12000 | CM-50-B-123 | 2.45 | 2.82 | 3.68 |
| 15000 | CM-50-B-153 | 2.65 | 3.08 | 3.98 |
| 18000 | CM-50-B-183 | 2.85 | 3.28 | 4.28 |
| 20000 | CM-50-B-203 | 3.05 | 3.51 | 4.58 |
| 22000 | CM-50-B-223 | 3.40 | 3.91 | 5.10 |
| 24000 | CM-50-B-243 | 3.75 | 4.31 | 5.63 |
| 27000 | CM-50-B-273 | 4.05 | 4.66 | 6.08 |

*Standard Tolerance ±10%.

## GOVERNMENT INSPECTION

Micamold capacitors are approved for use in all types of military equipment. Facilities are available for the inspection of capacitors by government inspectors. Orders requiring inspection will be shipped immediately upon completion of inspection procedures. Avoid costly delays by expediting necessary papers through your local government inspector.

## *Immediate Delivery*

Micamold Electronic Sales, Inc. stocks millions of capacitors for immediate delivery and has tremendous quantities of capacitors in the process of manufacture at all times. All capacitors listed are types most frequently used by the electronic industry and are heavily stocked so that delivery can be made immediately upon receipt of an order. Many other types of capacitors are manufactured by Micamold and can be supplied with a minimum of delay.

***No Order Too Large or Too Small!***

**YOUR INQUIRIES ARE INVITED!**

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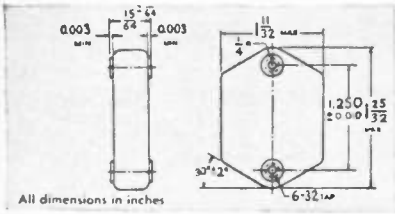
# MICAMOLD . .

**capacitor pioneers with 33 years of experience**

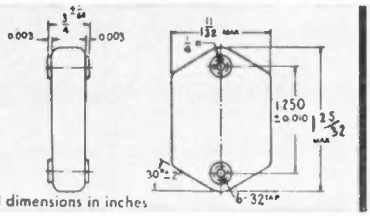
## TYPE CM-55 Foil Mica




| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE* "K" ±10% | "J" ±5% | "G" ±2% |
|---|---|---|---|---|
| **2500 VDCW** | | | | |
| 500 | CM-55-B-501 | $2.55 | $2.93 | $3.83 |
| 1000 | CM-55-B-102 | 2.90 | 3.36 | 4.35 |
| 1500 | CM-55-B-152 | 3.55 | 4.08 | 5.33 |
| 2000 | CM-55-B-202 | 4.25 | 4.89 | 6.38 |
| 3000 | CM-55-B-302 | 5.10 | 5.87 | 7.65 |
| **1200 VDCW** | | | | |
| 5000 | CM-55-B-502 | 3.30 | 3.80 | 4.95 |
| 7500 | CM-55-B-752 | 3.90 | 4.49 | 5.88 |
| 10000 | CM-55-B-103 | 4.70 | 5.41 | 7.05 |
| 12000 | CM-55-B-123 | 5.25 | 6.04 | 7.88 |
| 15000 | CM-55-B-153 | 5.80 | 6.67 | 8.70 |
| **600 VDCW** | | | | |
| 20000 | CM-55-B-203 | 3.55 | 4.08 | 5.33 |
| 22000 | CM-55-B-223 | 3.85 | 4.43 | 5.78 |
| 24000 | CM-55-B-243 | 4.05 | 4.66 | 6.08 |
| 27000 | CM-55-B-273 | 4.30 | 4.95 | 6.45 |
| 30000 | CM-55-B-303 | 4.55 | 5.23 | 6.83 |
| 33000 | CM-55-B-333 | 5.20 | 5.98 | 7.80 |

*Standard Tolerance ±10%.
Also available in characteristics C, D and E at extra cost.

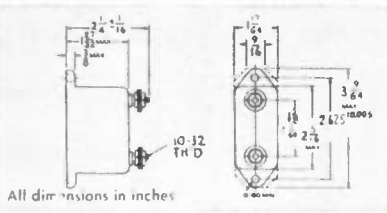
## TYPE CM-60 Foil Mica




| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE* "K" ±10% | "J" ±5% | "G" ±2% |
|---|---|---|---|---|
| **2500 VDCW** | | | | |
| 5000 | CM-60-B-502 | $6.20 | $7.13 | $9.30 |
| 7500 | CM-60-B-752 | 6.85 | 7.88 | 10.28 |
| 10000 | CM-60-B-103 | 7.50 | 8.63 | 11.25 |
| 12000 | CM-60-B-123 | 7.80 | 8.97 | 11.70 |
| 15000 | CM-60-B-153 | 8.05 | 9.26 | 12.08 |
| **1200 VDCW** | | | | |
| 20000 | CM-60-B-203 | 7.05 | 8.13 | 10.58 |
| 22000 | CM-60-B-223 | 7.35 | 8.45 | 11.03 |
| 24000 | CM-60-B-243 | 7.60 | 8.74 | 11.40 |
| 27000 | CM-60-B-273 | 7.85 | 9.03 | 11.78 |
| 30000 | CM-60-B-303 | 8.10 | 9.32 | 12.15 |
| 33000 | CM-60-B-333 | 8.35 | 9.60 | 12.53 |
| **600 VDCW** | | | | |
| 36000 | CM-60-B-363 | 4.15 | 4.77 | 6.23 |
| 39000 | CM-60-B-393 | 5.10 | 5.87 | 7.65 |
| 43000 | CM-60-B-433 | 6.05 | 6.96 | 9.08 |
| 47000 | CM-60-B-473 | 6.80 | 7.82 | 10.20 |

*Standard Tolerance ±10%.
Also available in characteristics C, D, E and F to 22,000 μμf and in characteristics C, D and E to 47,000 μμf at extra cost.

## TYPE CM-70 Foil Mica




| CAP. μμf | TYPE DESIGNATION | LIST PRICE TOLERANCE* "J" %5± | "G" ±2% |
|---|---|---|---|
| **5000 VDCW** | | | |
| 500 | CM-70-B-501 | 17.30 | 20.76 |
| 1000 | CM-70-B-102 | 17.30 | 20.76 |
| 1500 | CM-70-B-152 | 17.30 | 20.76 |
| 2000 | CM-70-B-202 | 17.30 | 20.76 |
| 2400 | CM-70-B-242 | 17.30 | 20.76 |
| **3000 VDCW** | | | |
| 2700 | CM-70-B-272 | 17.30 | 20.76 |
| 3000 | CM-70-B-302 | 17.30 | 20.76 |
| 5000 | CM-70-B-502 | 17.30 | 20.76 |
| 7500 | CM-70-B-752 | 17.30 | 20.76 |
| **2000 VDCW** | | | |
| 10000 | CM-70-B-103 | 17.30 | 20.76 |
| 15000 | CM-70-B-153 | 17.30 | 20.76 |
| 20000 | CM-70-B-203 | 17.30 | 20.76 |
| **1500 VDCW** | | | |
| 24000 | CM-70-B-243 | 17.30 | 20.76 |
| 27000 | CM-70-B-273 | 17.30 | 20.76 |
| 30000 | CM-70-B-303 | 17.30 | 20.76 |
| 33000 | CM-70-B-333 | 17.30 | 20.76 |
| 36000 | CM-70-B-363 | 17.30 | 20.76 |
| 39000 | CM-70-B-393 | 17.30 | 20.76 |
| 43000 | CM-70-B-433 | 17.30 | 20.76 |
| 47000 | CM-70-B-473 | 17.30 | 20.76 |
| 51000 | CM-70-B-513 | 17.30 | 20.76 |
| **1000 VDCW** | | | |
| 75000 | CM-70-B-753 | 17.30 | 20.76 |
| **500 VDCW** | | | |
| 100000 | CM-70-B-104 | 19.20 | 23.04 |

*Standard Tolerance ±5%
Also available in characteristics C, D and E at extra cost.

## GOVERNMENT INSPECTION

Micamold capacitors are approved for use in all types of military equipment. Facilities are available for the inspection of capacitors by government inspectors. Orders requiring inspection will be shipped immediately upon completion of inspection procedures. Avoid costly delays by expediting necessary papers through your local government inspector.

# *IMMEDIATE DELIVERY*

To give you the fast service you need . . . with no costly delays or work stoppages . . . Micamold Electronic Sales Inc. stock millions of capacitors ready for immediate delivery! All types of capacitors are constantly being manufactured to insure a complete stock at all times.

The capacitors listed, types most frequently used by the electronics industry, are available immediately . . . WHATEVER THE SIZE OF YOUR ORDER! Micamold manufactures many other types and styles of capacitors . . . and can be supplied with a minimum of delay.

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**MICAMOLD ELECTRONIC SALES INC.**

**Brooklyn 37, N. Y.**



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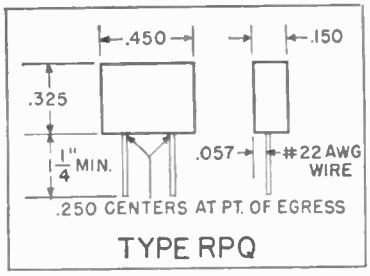


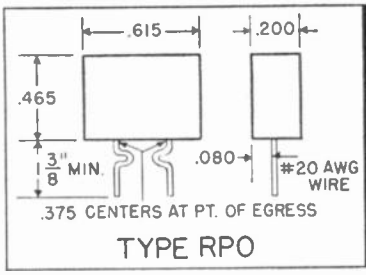


# MICAMOLD MECAP® MOLDED*, RADIAL-LEAD *Mica Capacitors*

*Pat. applied for

Micamold's new "modern designed" MECAPS are the first MOLDED, radial-lead mica capacitors available with precisely controlled body dimensions. Being molded . . . not dipped or encapsulated, each capacitor is exactly the same size, and symmetrical, so units can be conveniently "stacked" in an assembly to reduce component space requirements. MECAPS are available taped for mechanical insertion, and with leads straight or crimped.

Recommended for use in computors, delay lines, with printed circuitry, miniaturized assemblies . . . or wherever constant body dimensions can mean savings in assembly cost.

These MECAPS meet and exceed MIL-C-5A specifications, can be furnished in "C", "D", "E" and "F" characteristics. Operating temperatures from —55°C to 125°C (standard range is from —40°C to 85°C).

## CHARACTERISTICS

| Letter Designation | Temperature Coefficient PPM/°C (—40° to +85°C) | Capacitance Drift |
|---|---|---|
| C | ±200 | ±.5% |
| D | ±100 | ±.3% |
| E | +100 —20 | ±(.1%+.1uuf) |
| F | +70 0 | ±(.05+.1uuf) |

## CATALOG NUMBERING SYSTEM

*R — P — Q — C — 121 — J

- *R: Radial leads (not crimped)
- P: Silvered Mica Construction
- Q: Case style (equivalent to CM15 size of MIL-C-5A)
- C: Characteristic
- 121: Capacitance in mmf (The 1st 2 digits signify significant numbers and the 3rd the number of zeros)
- J: Tolerance

*If crimped leads are desired, substitute "K" for "R" in the type designation.

## CAPACITANCE TOLERANCE

| Capacitance Tolerance | Letter Designation |
|---|---|
| ±1% | F |
| ±2% | G |
| ±5% | J |

## MECAP RATINGS, TYPE RPQ

| Capaci- (uuf) | Type Designation* | DC Working Voltage | Characteristics available at capacitance tolerance: ±1% (F) | List Price | ±2% (G) | List Price | (J) ±5% | Price List |
|---|---|---|---|---|---|---|---|---|
| 5 | RPQ-050- | 500 | | | ..... | | C | .40 |
| 10 | RPQ-100- | 500 | | | ..... | | C | .40 |
| 12 | RPQ-120- | 500 | | | ..... | | C | .40 |
| 15 | RPQ-150- | 500 | | | ..... | | C | .40 |
| 18 | RPQ-180- | 500 | | | ..... | | C | .40 |
| 20 | RPQ-200- | 500 | | | ..... | | CD | .40 |
| 22 | RPQ-220- | 500 | | | ..... | | CD | .40 |
| 24 | RPQ-240- | 500 | | | CDE | .46 | CD | .40 |
| 27 | RPQ-270- | 500 | | | CDE | .46 | CD | .40 |
| 30 | RPQ-300- | 500 | | | CDE | .46 | CD | .40 |
| 33 | RPQ-330- | 500 | | | CDE | .46 | CD | .40 |
| 36 | RPQ-360- | 500 | | | CDE | .46 | CD | .40 |
| 39 | RPQ-390- | 500 | | | CDE | .46 | CD | .40 |
| 43 | RPQ-430- | 500 | | | CDE | .46 | CD | .40 |
| 47 | RPQ-470- | 500 | | | CDE | .46 | CD | .40 |
| 51 | RPQ-510- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 56 | RPQ-560- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 62 | RPQ-620- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 68 | RPQ-680- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 75 | RPQ-750- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 82 | RPQ-820- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 91 | RPQ-910- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 100 | RPQ-101- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 110 | RPQ-111- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 120 | RPQ-121- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 130 | RPQ-131- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 150 | RPQ-151- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 160 | RPQ-161- | 500 | CDE | .63 | CDE | .58 | CDE | .50 |
| 180 | RPQ-181- | 500 | CDE | .63 | CDE | .58 | CDE | .50 |
| 200 | RPQ-201- | 500 | CDE | .63 | CDE | .58 | CDE | .50 |
| 220 | RPQ-221- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 240 | RPQ-241- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 270 | RPQ-271- | 500 | CDE | .75 | CDE | .69 | CDE | .60 |
| 300 | RPQ-301- | 500 | CDE | .75 | CDE | .69 | CDE | .60 |
| 330 | RPQ-331- | 500 | CDE | .81 | CDE | .75 | CDE | .65 |
| 360 | RPQ-361- | 500 | CDE | .88 | CDE | .81 | CDE | .70 |
| 390 | RPQ-391- | 500 | CDE | .88 | CDE | .81 | CDE | .70 |
| 430 | RPQ-431- | 300 | CDEF | .94 | CDEF | .86 | CDEF | .75 |
| 470 | RPQ-471- | 300 | CDEF | 1.00 | CDEF | .92 | CDEF | .80 |
| 510 | RPQ-511- | 300 | CDEF | 1.00 | CDEF | .92 | CDEF | .80 |

## MECAP RATINGS, TYPE RPO

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 | RPO-050- | 500 | | | | | C | $0.40 |
| 10 | RPO-100- | 500 | | | | | C | .40 |
| 12 | RPO-120- | 500 | | | | | C | .40 |
| 15 | RPO-150- | 500 | | | | | C | .40 |
| 18 | RPO-180- | 500 | | | | | C | .40 |
| 20 | RPO-200- | 500 | | | | | CD | .40 |
| 22 | RPO-220- | 500 | | | | | CD | .40 |
| 24 | RPO-240- | 500 | | | | | CD | .40 |
| 27 | RPO-270- | 500 | | | CD | $0.46 | CD | .40 |
| 30 | RPO-300- | 500 | | | CD | .46 | CD | .40 |
| 33 | RPO-330- | 500 | | ..... | CD | .46 | CD | .40 |
| 36 | RPO-360- | 500 | | ..... | CD | .46 | CD | .40 |
| 39 | RPO-390- | 500 | | ..... | CD | .46 | CD | .40 |

## MECAP RATINGS, TYPE RPO (Continued)

| Capaci- (uuf) | Type Designation* | DC Working Voltage | Characteristics available at capacitance tolerance: ±1% (F) | List Price | ±2% (G) | List Price | ±5% (J) | List Price |
|---|---|---|---|---|---|---|---|---|
| 43 | RPO-430- | 500 | | ..... | CD | .46 | CD | .40 |
| 47 | RPO-470- | 500 | | ..... | CD | .46 | CD | .40 |
| 50 | RPO-500- | 500 | CDE | $0.50 | CDE | .46 | CDE | .40 |
| 51 | RPO-510- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 56 | RPO-560- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 62 | RPO-620- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 68 | RPO-680- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 75 | RPO-750- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 82 | RPO-820- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 91 | RPO-910- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 100 | RPO-101- | 500 | CDE | .50 | CDE | .46 | CDE | .40 |
| 110 | RPO-111- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 120 | RPO-121- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 130 | RPO-131- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 150 | RPO-151- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 160 | RPO-161- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 180 | RPO-181- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 200 | RPO-201- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 220 | RPO-221- | 500 | CDE | .56 | CDE | .52 | CDE | .45 |
| 240 | RPO-241- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 250 | RPO-251- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 270 | RPO-271- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 300 | RPO-301- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 330 | RPO-331- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 360 | RPO-361- | 500 | CDE | .69 | CDE | .63 | CDE | .55 |
| 390 | RPO-391- | 500 | CDE | .81 | CDE | .75 | CDE | .65 |
| 430 | RPO-431- | 500 | CDEF | .81 | CDEF | .75 | CDEF | .65 |
| 470 | RPO-471- | 500 | CDEF | .88 | CDEF | .81 | CDEF | .70 |
| 500 | RPO-501- | 500 | CDEF | .88 | CDEF | .81 | CDEF | .70 |
| 510 | RPO-511- | 500 | CDEF | .88 | CDEF | .81 | CDEF | .70 |
| 560 | RPO-561- | 500 | CDEF | .94 | CDEF | .86 | CDEF | .75 |
| 620 | RPO-621- | 500 | CDEF | .94 | CDEF | .86 | CDEF | .75 |
| 680 | RPO-681- | 500 | CDEF | 1.00 | CDEF | .92 | CDEF | .80 |
| 750 | RPO-751- | 500 | CDEF | 1.00 | CDEF | .92 | CDEF | .80 |
| 820 | RPO-821- | 500 | CDEF | 1.06 | CDEF | .98 | CDEF | .85 |
| 910 | RPO-911- | 500 | CDEF | 1.06 | CDEF | .98 | CDEF | .85 |
| 1000 | RPO-102- | 500 | CDEF | 1.13 | CDEF | 1.04 | CDEF | .90 |
| 1100 | RPO-112- | 500 | CDEF | 1.13 | CDEF | 1.04 | CDEF | .90 |
| 1200 | RPO-122- | 500 | CDEF | 1.25 | CDEF | 1.15 | CDEF | 1.00 |
| 1300 | RPO-132- | 500 | CDEF | 1.25 | CDEF | 1.15 | CDEF | 1.00 |
| 1500 | RPO-152- | 500 | CDEF | 1.38 | CDEF | 1.27 | CDEF | 1.10 |
| 1600 | RPO-162- | 500 | CDEF | 1.38 | CDEF | 1.27 | CDEF | 1.10 |
| 1800 | RPO-182- | 500 | CDEF | 1.50 | CDEF | 1.38 | CDEF | 1.20 |
| 2000 | RPO-202- | 500 | CDEF | 1.63 | CDEF | 1.50 | CDEF | 1.30 |
| 2200 | RPO-222- | 500 | CDEF | 1.69 | CDEF | 1.55 | CDEF | 1.35 |
| 2400 | RPO-242- | 500 | CDEF | 2.00 | CDEF | 1.84 | CDEF | 1.60 |
| 2500 | RPO-252- | 500 | CDEF | 2.00 | CDEF | 1.84 | CDEF | 1.60 |
| 2700 | RPO-272- | 500 | CDEF | 2.25 | CDEF | 2.07 | CDEF | 1.80 |
| 3000 | RPO-302- | 500 | CDEF | 2.38 | CDEF | 2.19 | CDEF | 1.90 |
| 3300 | RPO-332- | 300 | CDEF | 2.38 | CDEF | 2.19 | CDEF | 1.90 |
| 3600 | RPO-362- | 300 | CDEF | 2.50 | CDEF | 2.30 | CDEF | 2.00 |
| 3900 | RPO-392- | 300 | CDEF | 2.50 | CDEF | 2.30 | CDEF | 2.00 |

*Complete type designation shall include additional symbols to indicate construction, characteristic and tolerance.
If crimped leads are desired, substitute "K" for "R" in the type designation.

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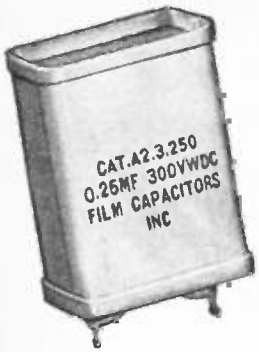


# FILM CAPACITORS, INC.

## F-C-I POLYSTYRENE CAPACITORS

F-C-I Polystyrene capacitors are characterized by a unique combination of low power factor, high insulation resistance and low dielectric absorption ("soakage") which cannot be duplicated by any other type of capacitor except Teflon units. Furthermore, the capacitance stability is excellent, and the temperature coefficient of capacitance is very small. Values of electrical characteristics are given in Table I. F-C-I Polystyrene capacitors are furnished as standard units in hermetically sealed glass tubes with metal end caps; in bathtub cases with low loss glass terminals; and in style CP70 metal cans with low loss glass terminals. Special units, including multi-section blocks are also available to order, and made to your specifications.

### GLASS CASED POLYSTYRENE CAPACITORS

| Part Number | Volts DC | Cap. MFD. | Case Size—Ins. L | D | List Price |
|---|---|---|---|---|---|
| A1-1-10 | 100 | .01 | 1 3/8 | 1/2 | $5.00 |
| A1-1-20 | 100 | .02 | 1 3/8 | 1/2 | 5.00 |
| A1-1-50 | 100 | .05 | 1 3/8 | 1/2 | 5.25 |
| A1-1-100 | 100 | .10 | 1 3/8 | 11/16 | 5.35 |
| A1-1-250 | 100 | .25 | 2 3/8 | 11/16 | 5.45 |
| A1-1-500 | 100 | .50 | 2 3/8 | 7/8 | 6.00 |
| A1-2-10 | 200 | .01 | 1 3/8 | 1/2 | 5.00 |
| A1-2-20 | 200 | .02 | 1 3/8 | 1/2 | 5.00 |
| A1-2-50 | 200 | .05 | 1 3/8 | 1/2 | 5.25 |
| A1-2-100 | 200 | .10 | 1 3/8 | 11/16 | 5.35 |
| A1-2-250 | 200 | .25 | 2 3/8 | 3/4 | 5.45 |
| A1-4-5 | 400 | .005 | 1 3/8 | 1/2 | 5.00 |
| A1-4-10 | 400 | .01 | 1 3/8 | 1/2 | 5.15 |
| A1-4-20 | 400 | .02 | 1 3/8 | 1/2 | 5.15 |
| A1-4-50 | 400 | .05 | 1 3/8 | 11/16 | 5.25 |
| A1-4-100 | 400 | .10 | 2 3/8 | 11/16 | 5.35 |
| A1-4-250 | 400 | .25 | 2 3/8 | 3/4 | 5.45 |
| A1-6-1 | 600 | .001 | 1 3/8 | 1/2 | 5.00 |
| A1-6-2 | 600 | .002 | 1 3/8 | 1/2 | 5.00 |
| A1-6-5 | 600 | .005 | 1 3/8 | 1/2 | 5.00 |
| A1-6-10 | 600 | .01 | 1 3/8 | 1/2 | 5.15 |
| A1-6-20 | 600 | .02 | 1 3/8 | 11/16 | 5.15 |
| A1-6-50 | 600 | .05 | 2 3/8 | 11/16 | 5.25 |
| A1-6-100 | 600 | .10 | 2 3/8 | 3/4 | 5.35 |
| A1-10-1 | 1000 | .001 | 1 3/8 | 1/2 | 7.10 |
| A1-10-2 | 1000 | .002 | 1 3/8 | 1/2 | 7.50 |
| A1-10-5 | 1000 | .005 | 1 3/8 | 1/2 | 7.90 |
| A1-10-10 | 1000 | .01 | 1 3/8 | 11/16 | 8.35 |
| A1-10-20 | 1000 | .02 | 2 3/8 | 11/16 | 8.75 |
| A1-10-50 | 1000 | .05 | 2 3/8 | 7/8 | 9.15 |
| A1-10-100 | 1000 | .10 | 2 3/8 | 1 1/8 | 9.60 |

### BATHTUB CASED POLYSTYRENE CAPACITORS

| Part Number | Volts DC | Cap. MFD. | Case Size—Ins. L | W | H | List Price |
|---|---|---|---|---|---|---|
| A3-1-50 | 100 | .05 | 1 3/4 | 1 | 3/4 | $5.25 |
| A3-1-100 | 100 | .10 | 1 3/4 | 1 | 3/4 | 5.35 |
| A3-1-250 | 100 | .25 | 1 3/4 | 1 | 3/4 | 5.45 |
| A3-1-500 | 100 | .50 | 2 | 1 3/4 | 7/8 | 6.00 |
| A3-1-1000 | 100 | 1.0 | 2 | 1 3/4 | 7/8 | 9.50 |
| A3-2-50 | 200 | .05 | 1 3/4 | 1 | 3/4 | 5.25 |
| A3-2-100 | 200 | .10 | 1 3/4 | 1 | 3/4 | 5.35 |
| A3-2-250 | 200 | .25 | 2 | 1 3/4 | 7/8 | 5.45 |
| A3-2-500 | 200 | .50 | 2 | 1 3/4 | 7/8 | 6.10 |
| A3-2-1000 | 200 | 1.0 | 2 | 2 | 1 1/4 | 9.60 |
| A3-4-10 | 400 | .01 | 1 3/4 | 1 | 3/4 | 5.15 |
| A3-4-20 | 400 | .02 | 1 3/4 | 1 | 3/4 | 5.15 |
| A3-4-50 | 400 | .05 | 1 3/4 | 1 | 3/4 | 5.25 |
| A3-4-100 | 400 | .10 | 1 3/4 | 1 | 3/4 | 5.35 |
| A3-4-250 | 400 | .25 | 2 | 1 3/4 | 7/8 | 5.45 |
| A3-4-500 | 400 | .50 | 2 | 1 3/4 | 7/8 | 7.20 |
| A3-4-1000 | 400 | 1.0 | 2 | 2 | 1 1/4 | 14.50 |
| A3-6-10 | 600 | .01 | 1 3/4 | 1 | 3/4 | 5.15 |
| A3-6-20 | 600 | .02 | 1 3/4 | 1 | 3/4 | 5.15 |
| A3-6-50 | 600 | .05 | 1 3/4 | 1 | 3/4 | 5.25 |
| A3-6-100 | 600 | .10 | 1 3/4 | 1 | 1 | 5.35 |
| A3-6-250 | 600 | .25 | 2 | 1 3/4 | 7/8 | 5.45 |
| A3-6-500 | 600 | .50 | 2 | 2 | 1 1/4 | 7.20 |
| A3-10-10 | 1000 | .01 | 1 3/4 | 1 | 3/4 | 8.35 |
| A3-10-20 | 1000 | .02 | 1 3/4 | 1 | 3/4 | 8.75 |
| A3-10-50 | 1000 | .05 | 1 3/4 | 1 | 1 | 9.15 |
| A3-10-100 | 1000 | .10 | 2 | 1 3/4 | 7/8 | 9.60 |
| A3-10-250 | 1000 | .25 | 2 | 2 | 1 1/4 | 11.25 |

### STYLE CP70 CASED POLYSTYRENE CAPACITORS

| Part Number | Volts DC | Cap. MFD. | Case Size—Ins. L | W | H | List Price |
|---|---|---|---|---|---|---|
| A2-1-500 | 100 | 0.5 | 1 3/4 | 1 | 2 1/4 | $6.00 |
| A2-1-1000 | 100 | 1.0 | 1 3/4 | 1 | 2 7/8 | 9.50 |
| A2-1-2000 | 100 | 2.0 | 2 1/2 | 1 1/4 | 3 1/2 | 13.65 |
| A2-1-4000 | 100 | 4.0 | 3 3/4 | 1 1/4 | 3 1/2 | 17.55 |
| A2-1-6000 | 100 | 6.0 | 3 3/4 | 2 1/4 | 3 1/2 | 23.50 |
| A2-1-8000 | 100 | 8.0 | 3 3/4 | 3 3/16 | 3 1/2 | 27.70 |
| A2-1-10M | 100 | 10.0 | 4 1/16 | 3 3/4 | 3 1/2 | 32.30 |
| A2-2-250 | 200 | 0.25 | 1 3/4 | 1 | 2 1/4 | 5.40 |
| A2-2-500 | 200 | 0.5 | 1 3/4 | 1 | 3 1/4 | 6.10 |
| A2-2-1000 | 200 | 1.0 | 2 1/2 | 1 1/4 | 3 1/2 | 9.60 |
| A2-2-2000 | 200 | 2.0 | 3 3/4 | 1 1/4 | 3 1/2 | 13.75 |
| A2-2-4000 | 200 | 4.0 | 3 3/4 | 2 1/4 | 3 1/2 | 17.90 |
| A2-2-6000 | 200 | 6.0 | 3 3/4 | 3 3/16 | 3 1/2 | 23.80 |
| A2-2-8000 | 200 | 8.0 | 3 3/4 | 3 3/16 | 5 1/8 | 28.00 |
| A2-2-10M | 200 | 10.0 | 4 1/16 | 3 3/4 | 5 1/8 | 32.60 |
| A2-4-250 | 400 | 0.25 | 1 3/4 | 1 | 2 1/4 | 5.45 |
| A2-4-500 | 400 | 0.5 | 1 3/4 | 1 | 3 1/4 | 7.20 |
| A2-4-1000 | 400 | 1.0 | 2 1/2 | 1 1/4 | 3 1/2 | 14.50 |
| A2-4-2000 | 400 | 2.0 | 3 3/4 | 1 1/4 | 3 1/2 | 21.70 |
| A2-4-4000 | 400 | 4.0 | 3 3/4 | 2 1/4 | 3 1/2 | 34.10 |
| A2-4-6000 | 400 | 6.0 | 3 3/4 | 3 3/16 | 3 1/2 | 47.50 |
| A2-4-8000 | 400 | 8.0 | 3 3/4 | 3 3/16 | 5 1/8 | 58.50 |
| A2-4-10M | 400 | 10.0 | 4 1/16 | 3 3/4 | 5 1/8 | 72.00 |
| A2-6-250 | 600 | 0.25 | 1 3/4 | 1 | 2 1/4 | 5.45 |
| A2-6-500 | 600 | 0.5 | 2 1/2 | 1 1/4 | 3 1/2 | 7.20 |
| A2-6-1000 | 600 | 1.0 | 3 3/4 | 1 1/4 | 3 1/2 | 14.50 |
| A2-6-2000 | 600 | 2.0 | 3 3/4 | 2 1/4 | 3 1/2 | 22.10 |
| A2-6-4000 | 600 | 4.0 | 4 1/16 | 3 3/4 | 3 1/2 | 34.60 |
| A2-6-5000 | 600 | 5.0 | 4 1/16 | 3 3/4 | 3 1/2 | 41.65 |
| A2-10-100 | 1000 | 0.1 | 1 3/4 | 1 | 3 1/4 | 9.60 |
| A2-10-250 | 1000 | 0.25 | 1 3/4 | 1 | 3 1/4 | 11.25 |
| A2-10-500 | 1000 | 0.5 | 2 1/2 | 1 1/4 | 3 1/2 | 15.00 |
| A2-10-1000 | 1000 | 1.0 | 3 3/4 | 1 3/4 | 3 1/2 | 21.70 |
| A2-10-2000 | 1000 | 2.0 | 3 3/4 | 3 3/16 | 3 1/2 | 34.10 |
| A2-10-4000 | 1000 | 4.0 | 3 3/4 | 3 3/16 | 7 1/4 | 57.50 |
| A2-10-5000 | 1000 | 5.0 | 4 1/16 | 3 3/4 | 7 1/4 | 70.00 |

## F-C-I TEFLON CAPACITORS

F-C-I Teflon capacitors are essentially identical to polystyrene capacitors in their electrical characteristics, with one important difference—Teflon capacitors may be operated at temperatures up to 200° C, whereas polystyrene capacitors have a maximum operating temperature of 85° C. Furthermore, the insulation resistance of Teflon capacitors is many times that of polystyrene at elevated temperatures.

### Table I
### ELECTRICAL CHARACTERISTICS OF F-C-I PLASTIC DIELECTRIC CAPACITORS

| | POLYSTYRENE | TEFLON |
|---|---|---|
| OPERATING TEMP. RANGE | −55° C to +85° C | −55° C to 200° C |
| Voltage Range, D.C. | 100 to 30,000 | 100 to 30,000 |
| Capacitance Range | .001 to 20 MF | .001 to 20 MF |
| Power Factor | .02% @ 1 KC | .02% @ 1 KC |
| Dielectric Absorption | .01% | .01% |
| Voltage Derating at 85° C | none | none |
| Voltage Derating at 125° C | not operable | none |
| Voltage Derating at 150° C | not operable | none |
| Voltage Derating at 200° C | not operable | 33% |
| Temperature Coefficient | −100 PPM/° C | −50 PPM/° C |
| I.R. at Room Temperature | $10^5$ megohms/MF | $10^5$ megohms/MF |
| Capacitance Stability | 0.1% | 0.1% |

### GLASS CASED TEFLON CAPACITORS

| Part Number | Volts DC | Capacity MFD. | Case Size — Inches L | D | List Price |
|---|---|---|---|---|---|
| C1-3-5 | 300 | .005 | 1 3/8 | 1/2 | $ 4.45 |
| C1-3-10 | 300 | .01 | 1 3/8 | 1/2 | 4.45 |
| C1-3-20 | 300 | .02 | 1 3/8 | 1/2 | 4.45 |
| C1-3-50 | 300 | .05 | 1 3/8 | 11/16 | 5.15 |
| C1-3-100 | 300 | .10 | 2 3/8 | 11/16 | 6.15 |
| C1-6-1 | 600 | .001 | 1 3/8 | 1/2 | 5.15 |
| C1-6-2 | 600 | .002 | 1 3/8 | 1/2 | 5.15 |
| C1-6-5 | 600 | .005 | 1 3/8 | 1/2 | 5.15 |
| C1-6-10 | 600 | .01 | 1 3/8 | 1/2 | 6.70 |
| C1-6-20 | 600 | .02 | 1 3/8 | 11/16 | 7.20 |
| C1-6-50 | 600 | .05 | 2 3/8 | 11/16 | 8.20 |
| C1-6-100 | 600 | .10 | 2 3/8 | 7/8 | 10.30 |

### BATHTUB CASED TEFLON CAPACITORS

| Part Number | Volts DC | Capacity MFD. | Case Sizes — Inches L | W | H | List Price |
|---|---|---|---|---|---|---|
| C3-3-5 | 300 | .005 | 1 3/4 | 1 | 3/4 | $ 4.45 |
| C3-3-10 | 300 | .01 | 1 3/4 | 1 | 3/4 | 4.45 |
| C3-3-20 | 300 | .02 | 1 3/4 | 1 | 3/4 | 4.45 |
| C3-3-50 | 300 | .05 | 1 3/4 | 1 | 1 | 5.15 |
| C3-3-100 | 300 | .10 | 2 | 1 3/4 | 7/8 | 6.15 |
| C3-6-1 | 600 | .001 | 1 3/4 | 1 | 3/4 | 5.15 |
| C3-6-2 | 600 | .002 | 1 3/4 | 1 | 3/4 | 5.15 |
| C3-6-5 | 600 | .005 | 1 3/4 | 1 | 3/4 | 5.15 |
| C3-6-10 | 600 | .01 | 1 3/4 | 1 | 3/4 | 6.70 |
| C3-6-20 | 600 | .02 | 1 3/4 | 1 | 1 | 7.20 |
| C3-6-50 | 600 | .05 | 2 | 1 3/4 | 7/8 | 8.20 |
| C3-6-100 | 600 | .10 | 2 | 2 | 1 1/8 | 10.30 |

### STYLE CP70 CASED TEFLON CAPACITORS

| Part Number | Volts DC | Capacity MFD. | Case Sizes — Inches L | W | H | List Price |
|---|---|---|---|---|---|---|
| C2-3-250 | 300 | 0.25 | 1 3/4 | 1 | 2 1/4 | $ 11.50 |
| C2-3-500 | 300 | 0.50 | 1 3/4 | 1 | 3 1/4 | 22.00 |
| C2-3-1000 | 300 | 1.0 | 2 1/2 | 1 1/4 | 3 1/2 | 44.00 |
| C2-3-2000 | 300 | 2.0 | 3 3/4 | 1 1/4 | 3 1/2 | 82.30 |
| C2-6-250 | 600 | 0.25 | 1 3/4 | 1 | 3 1/4 | 22.00 |
| C2-6-500 | 600 | 0.50 | 2 1/2 | 1 1/4 | 3 1/2 | 44.00 |
| C2-6-1000 | 600 | 1.0 | 3 3/4 | 2 1/4 | 3 1/2 | 83.30 |
| C2-6-2000 | 600 | 2.0 | 4 1/16 | 3 3/4 | 3 1/2 | 155.00 |


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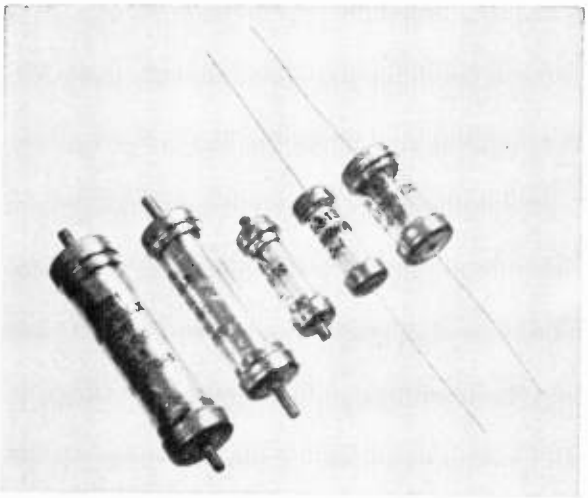
# FILM CAPACITORS, INC.

## F-C-I HIGH VOLTAGE CAPACITORS

F-C-I Type D capacitors employ a newly developed plastic film dielectric which, with suitable processing, produces capacitors which are better, smaller and cheaper than could ever be produced before. The table below shows the electrical properties of these capacitors. In view of these excellent characteristics, it is evident that F-C-I Type D capacitors are suitable for practically every type of high voltage D.C. application. With these capacitors available, it is no longer necessary to stock groups of units each outstanding in only one property. F-C-I Type D capacitors are furnished in glass tubes with hermetically sealed metal end caps and either threaded studs or wire leads. Sizes not listed here can be furnished upon request. Ask for our quotation.

### NOW FURNISHED IN STEATITE CASES — NO BREAKAGE . . . NO LEAKAGE

| Cat. No. | Capacity MFD. | Working Volts DC | Dimensions Dia. | Dimensions L | List Price |
|---|---|---|---|---|---|
| D6-6-10 | .01 | 600 | 1/2 | 1 3/8 | $ 2.80 |
| D6-6-20 | .02 | 600 | 1/2 | 1 3/8 | 2.80 |
| D6-6-50 | .05 | 600 | 1/2 | 1 3/8 | 2.90 |
| D6-6-100 | .10 | 600 | 11/16 | 1 3/8 | 3.00 |
| D6-6-250 | .25 | 600 | 11/16 | 2 3/8 | 3.20 |
| D6-6-500 | .50 | 600 | 1 | 2 3/8 | 3.60 |
| D6-6-1000 | 1.00 | 600 | 1 1/4 | 2 3/8 | 3.90 |
| D6-10-10 | .01 | 1000 | 1/2 | 1 3/8 | 2.90 |
| D6-10-20 | .02 | 1000 | 1/2 | 1 3/8 | 2.90 |
| D6-10-50 | .05 | 1000 | 11/16 | 1 3/8 | 2.90 |
| D6-10-100 | .10 | 1000 | 11/16 | 2 3/8 | 3.10 |
| D6-10-250 | .25 | 1000 | 7/8 | 2 3/8 | 3.10 |
| D6-10-500 | .50 | 1000 | 1 | 2 3/8 | 3.30 |
| D6-20-2 | .002 | 2000 | 1/2 | 1 3/8 | 2.90 |
| D6-20-5 | .005 | 2000 | 1/2 | 1 3/8 | 2.90 |
| D6-20-10 | .01 | 2000 | 1/2 | 1 3/8 | 2.90 |
| D6-20-20 | .02 | 2000 | 1/2 | 1 3/8 | 2.90 |
| D6-20-50 | .05 | 2000 | 11/16 | 1 3/8 | 2.90 |
| D6-20-100 | .10 | 2000 | 11/16 | 2 3/8 | 3.10 |
| D6-20-250 | .25 | 2000 | 1 | 2 3/8 | 3.50 |
| D6-20-500 | .50 | 2000 | 1 1/4 | 2 3/8 | 4.10 |
| D6-30-2 | .002 | 3000 | 1/2 | 1 3/8 | 4.10 |
| D6-30-5 | .005 | 3000 | 1/2 | 1 3/8 | 4.10 |
| D6-30-10 | .01 | 3000 | 1/2 | 1 3/8 | 4.30 |
| D6-30-20 | .02 | 3000 | 11/16 | 1 3/8 | 5.00 |
| D6-30-50 | .05 | 3000 | 11/16 | 2 3/8 | 5.50 |
| D6-30-100 | .10 | 3000 | 7/8 | 2 3/8 | 6.00 |
| D6-30-250 | .25 | 3000 | 1 1/4 | 2 3/8 | 6.60 |
| D6-50-5 | .005 | 5 KV | 5/8 | 1 11/16 | 6.50 |
| D6-50-10 | .01 | 5 KV | 3/4 | 1 11/16 | 6.80 |
| D6-50-20 | .02 | 5 KV | 3/4 | 2 9/16 | 7.20 |
| D6-50-50 | .05 | 5 KV | 7/8 | 2 9/16 | 7.60 |
| D6-50-100 | .10 | 5 KV | 1 1/4 | 2 9/16 | 8.50 |
| D6-75-1 | .001 | 7 1/2 KV | 5/8 | 1 11/16 | 6.50 |
| D6-75-2 | .002 | 7 1/2 KV | 5/8 | 1 11/16 | 6.80 |
| D6-75-5 | .005 | 7 1/2 KV | 3/4 | 1 11/16 | 7.00 |
| D6-75-10 | .01 | 7 1/2 KV | 3/4 | 2 9/16 | 7.50 |
| D6-75-20 | .02 | 7 1/2 KV | 7/8 | 2 9/16 | 8.60 |
| D6-75-50 | .05 | 7 1/2 KV | 1 1/4 | 2 9/16 | 11.10 |
| D6-75-100 | .10 | 7 1/2 KV | 1 1/2 | 2 9/16 | 12.50 |



| Cat. No. | Capacity MFD. | Working Volts DC | Dimensions Dia. | Dimensions L | List Price |
|---|---|---|---|---|---|
| D6-100-1 | .001 | 10 KV | 5/8 | 1 11/16 | $ 7.20 |
| D6-100-2 | .002 | 10 KV | 5/8 | 1 11/16 | 7.40 |
| D6-100-5 | .005 | 10 KV | 5/8 | 2 9/16 | 8.50 |
| D6-100-10 | .01 | 10 KV | 7/8 | 2 9/16 | 9.20 |
| D6-100-20 | .02 | 10 KV | 1 | 2 9/16 | 11.40 |
| D6-100-50 | .05 | 10 KV | 1 1/2 | 2 9/16 | 14.60 |
| D6-150-1 | .001 | 15 KV | 5/8 | 2 3/8 | 13.80 |
| D6-150-2 | .002 | 15 KV | 7/8 | 2 3/8 | 14.60 |
| D6-150-5 | .005 | 15 KV | 7/8 | 2 9/16 | 17.00 |
| D6-150-10 | .01 | 15 KV | 1 1/4 | 2 9/16 | 20.00 |
| D6-150-20 | .02 | 15 KV | 1 1/4 | 4 3/4 | 22.00 |
| D6-150-50 | .05 | 15 KV | 1 1/2 | 4 3/4 | 26.00 |
| D6-200-05 | .0005 | 20 KV | 5/8 | 2 3/8 | 18.00 |
| D6-200-1 | .001 | 20 KV | 3/4 | 2 3/8 | 19.00 |
| D6-200-2 | .002 | 20 KV | 3/4 | 2 9/16 | 21.00 |
| D6-200-5 | .005 | 20 KV | 1 | 2 9/16 | 22.50 |
| D6-200-10 | .01 | 20 KV | 1 1/2 | 2 9/16 | 24.00 |
| D6-200-20 | .02 | 20 KV | 1 1/2 | 4 3/4 | 27.00 |
| D6-300-02 | .0002 | 30 KV | 5/8 | 3 | 20.00 |
| D6-300-05 | .0005 | 30 KV | 5/8 | 3 | 21.00 |
| D6-300-1 | .001 | 30 KV | 7/8 | 3 | 23.50 |
| D6-300-2 | .002 | 30 KV | 3/4 | 4 3/4 | 26.00 |
| D6-300-5 | .005 | 30 KV | 1 1/4 | 4 3/4 | 28.00 |
| D6-300-10 | .01 | 30 KV | 1 1/4 | 6 7/8 | 35.00 |
| D6-400-01 | .0001 | 40 KV | 5/8 | 3 | 20.50 |
| D6-400-02 | .0002 | 40 KV | 5/8 | 3 | 21.50 |
| D6-400-05 | .0005 | 40 KV | 3/4 | 3 | 22.50 |
| D6-400-1 | .001 | 40 KV | 3/4 | 4 3/4 | 26.00 |
| D6-400-2 | .002 | 40 KV | 1 | 4 3/4 | 28.00 |
| D6-400-5 | .005 | 40 KV | 1 1/2 | 4 3/4 | 33.00 |
| D6-500-01 | .0001 | 50 KV | 5/8 | 4 1/4 | 22.50 |
| D6-500-02 | .0002 | 50 KV | 5/8 | 4 1/4 | 23.50 |
| D6-500-05 | .0005 | 50 KV | 3/4 | 4 1/4 | 24.50 |
| D6-500-1 | .001 | 50 KV | 3/4 | 6 7/8 | 28.00 |
| D6-500-2 | .002 | 50 KV | 7/8 | 6 7/8 | 31.50 |
| D6-500-5 | .005 | 50 KV | 1 1/4 | 6 7/8 | 36.00 |
| D6-600-01 | .0001 | 60 KV | 5/8 | 4 1/4 | 23.50 |
| D6-600-02 | .0002 | 60 KV | 5/8 | 4 1/4 | 24.50 |
| D6-600-05 | .0005 | 60 KV | 7/8 | 4 1/4 | 28.00 |
| D6-600-1 | .001 | 60 KV | 7/8 | 6 7/8 | 34.00 |
| D6-600-2 | .002 | 60 KV | 1 1/4 | 6 7/8 | 36.50 |
| D6-600-5 | .005 | 60 KV | 1 1/4 | 13 | 41.50 |

### ELECTRICAL PROPERTIES OF F-C-I TYPE D CAPACITORS

| | |
|---|---|
| Operating Range | −55° C to +125° C |
| Voltage Range, D.C. | 600 Volts to 60KV; higher on order |
| Capacitance Range | .0001 MF to 0.1 MF |
| Power Factor | 0.5% at 1 KC |
| I.R. at Room Temperature | $10^6$ Megohm-Microfarads |
| Dielectric Absorption | 0.1% |
| Temperature Coefficient | +500 PPM/° C |
| Capacitance Stability | 0.5% |
| Voltage Derating at 65° C | None |
| Voltage Derating at 85° C | 30% |
| Voltage Derating at 105° C | 50% |
| Voltage Derating at 125° C | 66% |

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World Radio History

# FILM CAPACITORS, INC.

## MINIATURE POLYSTYRENE AND MYLAR® CAPACITORS

### HERMETICALLY SEALED — CLOSE TOLERANCE

F-C-I miniature polystyrene and "Mylar" capacitors are furnished in metal shells hermetically sealed with metal-glass compression type seals. The capacitor elements are non-inductively wound, and wire leads are carefully soldered to the swedged, extended foils to minimize self-inductance, power factor and noise. Characteristics of the polystyrene capacitors are given on pg. P-1156. The Mylar dielectric capacitors are characterized by high insulation resistance ($10^6$ megohm-microfarads at 20° C); 0.5% power factor; and a temperature coefficient of +500 PPM/° C.

### POLYSTYRENE

| PART No. | CAP. MFD. | SIZE L | SIZE D | LIST PRICE |
|---|---|---|---|---|
| **100 VWDC** | | | | |
| A4-1-10 | .01 | 1 | .235 | $4.50 |
| A4-1-15 | .015 | 1 | .235 | 4.50 |
| A4-1-22 | .022 | 1 | .312 | 4.50 |
| A4-1-33 | .033 | 1 | .312 | 4.60 |
| A4-1-47 | .047 | 1 | .400 | 4.60 |
| A4-1-68 | .068 | 1 | .400 | 4.75 |
| A4-1-100 | .10 | 1 3/8 | .400 | 5.25 |
| A4-1-220 | .22 | 1 3/8 | .562 | 5.45 |
| A4-1-330 | .33 | 1 3/8 | .670 | 5.70 |
| A4-1-470 | .47 | 1 7/8 | .670 | 6.00 |
| **200 VWDC** | | | | |
| A4-2-10 | .01 | 1 | .312 | 4.50 |
| A4-2-15 | .015 | 1 | .312 | 4.50 |
| A4-2-22 | .022 | 1 | .400 | 4.75 |
| A4-2-33 | .033 | 1 | .400 | 4.75 |
| A4-2-47 | .047 | 1 3/8 | .400 | 4.85 |
| A4-2-68 | .068 | 1 3/8 | .400 | 4.85 |
| A4-2-100 | .10 | 1 3/8 | .562 | 5.00 |
| A4-2-220 | .22 | 1 7/8 | .562 | 5.45 |
| A4-2-330 | .33 | 1 7/8 | .750 | 5.80 |
| A4-2-470 | .47 | 1 7/8 | 1.00 | 6.10 |
| **400 VWDC** | | | | |
| A4-4-10 | .01 | 1 | .312 | 4.50 |
| A4-4-15 | .015 | 1 | .400 | 4.50 |
| A4-4-22 | .022 | 1 | .400 | 4.60 |
| A4-4-33 | .033 | 1 3/8 | .400 | 4.75 |
| A4-4-47 | .047 | 1 3/8 | .400 | 4.85 |
| A4-4-68 | .068 | 1 3/8 | .562 | 5.00 |
| A4-4-100 | .10 | 1 7/8 | .562 | 5.35 |
| A4-4-220 | .22 | 1 7/8 | .750 | 5.45 |
| A4-4-330 | .33 | 1 7/8 | .750 | 6.30 |
| A4-4-470 | .47 | 1 7/8 | 1.00 | 7.20 |
| **600 VWDC** | | | | |
| A4-6-10 | .01 | 1 | .400 | 4.50 |
| A4-6-15 | .015 | 1 3/8 | .400 | 4.50 |
| A4-6-22 | .022 | 1 3/8 | .562 | 4.75 |
| A4-6-33 | .033 | 1 3/8 | .562 | 4.75 |
| A4-6-47 | .047 | 1 3/8 | .670 | 5.00 |
| A4-6-68 | .068 | 1 7/8 | .562 | 5.35 |
| A4-6-100 | .10 | 1 7/8 | .670 | 5.35 |
| A4-6-220 | .22 | 1 7/8 | .750 | 5.45 |
| A4-6-330 | .33 | 2 3/8 | 1.00 | 6.30 |
| A4-6-470 | .47 | 2 3/8 | 1.00 | 7.20 |

Prices listed above are for ±5% tolerance. For ±2% tolerance, add 20% and for ±1% tolerance, add 50% to these prices. These capacitors are also available in ceramic shells with epoxy resin end fill. Write for prices.

®Du Pont Trade Mark

### MYLAR

| PART No. | CAP. MFD. | SIZE L | SIZE D | LIST PRICE |
|---|---|---|---|---|
| **100 VWDC** | | | | |
| HD4-1-10 | .01 | 1 | .235 | $3.60 |
| HD4-1-15 | .015 | 1 | .235 | 3.60 |
| HD4-1-22 | .022 | 1 | .235 | 3.60 |
| HD4-1-33 | .033 | 1 | .312 | 3.60 |
| HD4-1-47 | .047 | 1 | .312 | 3.60 |
| HD4-1-68 | .068 | 1 | .400 | 3.60 |
| HD4-1-100 | .10 | 1 | .400 | 3.70 |
| HD4-1-220 | .22 | 1 3/8 | .400 | 3.85 |
| HD4-1-330 | .33 | 1 3/8 | .562 | 4.05 |
| HD4-1-470 | .47 | 1 3/8 | .562 | 4.25 |
| HD4-1-1000 | 1.0 | 1 3/8 | .670 | 4.80 |
| **200 VWDC** | | | | |
| HD4-2-10 | .01 | 1 | .235 | 3.60 |
| HD4-2-15 | .015 | 1 | .235 | 3.60 |
| HD4-2-22 | .022 | 1 | .312 | 3.65 |
| HD4-2-33 | .033 | 1 | .312 | 3.70 |
| HD4-2-47 | .047 | 1 | .400 | 3.70 |
| HD4-2-68 | .068 | 1 | .400 | 3.80 |
| HD4-2-100 | .10 | 1 3/8 | .400 | 3.90 |
| HD4-2-220 | .22 | 1 3/8 | .562 | 4.15 |
| HD4-2-330 | .33 | 1 3/8 | .670 | 4.50 |
| HD4-2-470 | .47 | 1 7/8 | .670 | 4.75 |
| HD4-2-1000 | 1.0 | 1 7/8 | 1.00 | 6.00 |
| **400 VWDC** | | | | |
| HD4-4-10 | .01 | 1 | .312 | 3.60 |
| HD4-4-15 | .015 | 1 | .312 | 3.65 |
| HD4-4-22 | .022 | 1 | .400 | 3.70 |
| HD4-4-33 | .033 | 1 | .400 | 3.75 |
| HD4-4-47 | .047 | 1 3/8 | .400 | 3.85 |
| HD4-4-68 | .068 | 1 3/8 | .400 | 3.95 |
| HD4-4-100 | .10 | 1 3/8 | .562 | 4.05 |
| HD4-4-220 | .22 | 1 7/8 | .670 | 4.50 |
| HD4-4-330 | .33 | 1 7/8 | .750 | 5.00 |
| HD4-4-470 | .47 | 1 7/8 | 1.00 | 5.60 |
| HD4-4-1000 | 1.0 | 2 3/8 | 1.00 | 6.20 |
| **600 VWDC** | | | | |
| HD4-6-10 | .01 | 1 | .400 | 3.65 |
| HD4-6-15 | .015 | 1 | .400 | 3.70 |
| HD4-6-22 | .022 | 1 3/8 | .400 | 3.75 |
| HD4-6-33 | .033 | 1 3/8 | .400 | 3.80 |
| HD4-6-47 | .047 | 1 3/8 | .562 | 3.85 |
| HD4-6-68 | .068 | 1 3/8 | .562 | 3.90 |
| HD4-6-100 | .10 | 1 3/8 | .670 | 4.00 |
| HD4-6-220 | .22 | 1 7/8 | 1.00 | 5.00 |
| HD4-6-330 | .33 | 1 7/8 | 1.00 | 6.00 |
| HD4-6-470 | .47 | 2 3/8 | 1.00 | 7.00 |

The capacitors listed above are suitable for continuous operation at 125° C without derating. For 85° C operation, 100 volt series HD capacitors may be operated at 200 volts; 200 volt capacitors at 400 volts; 400 volt capacitors at 600 volts; and 600 volt capacitors at 1000 volts. To correctly designate 85° C capacitors, omit the letter "H" in the part number, and correct the single number standing for the voltage rating.

Prices listed above are for ±5% tolerance. For ±2% tolerance, add 20% and for ±1% tolerance, add 50% to these prices. These capacitors are also available in ceramic shells with epoxy resin end fill. Write for prices.

We are set up to produce these capacitors in any quantity to any odd value of capacitance at close tolerance for manufacturers of filter networks, R-C networks and the like. Write for information.


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World Radio History

# FILM CAPACITORS, INC.

## HIGH CAPACITANCE MYLAR® CAPACITORS

### HERMETICALLY SEALED — HIGH INSULATION RESISTANCE

F-C-I Series D-2 capacitors are Mylar dielectric capacitors which possess extremely high insulation resistance, together with good power factor and dielectric absorption. The insulation resistance runs well over $10^6$ megohm-microfarads at room temperature, even for the highest values of capacitance. The power factor and the dielectric absorption are both on the order of 0.5%. These properties make Series D-2 capacitors extremely useful in computers of moderate precision, in timing circuits, and similar types of circuitry. Standard tolerance is ±10%, and closer tolerances are available on order. (Case sizes indicated below are in inches.) (D3 indicates bathtub case.)

| CAP. MFD. | 100 VWDC CASE SIZE L W H | 100 VWDC LIST PRICE | 200 VWDC CASE SIZE L W H | 200 VWDC LIST PRICE | 300 VWDC CASE SIZE L W H | 300 VWDC LIST PRICE | 400 VWDC CASE SIZE L W H | 400 VWDC LIST PRICE | 600 VWDC CASE SIZE L W H | 600 VWDC LIST PRICE |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 CAT # | 1¾ 1 ¾ D3-1-500 | $ 3.00 | 1¾ 1 ¾ D3-2-500 | $ 3.00 | 1¾ 1 1 D3-3-500 | $ 3.20 | 1¾ 1 1 D3-4-500 | $ 3.38 | 1¾ 1 1 D3-6-500 | $ 3.38 |
| 1.0 CAT # | 1¾ 1 ¾ D3-1-1000 | 3.12 | 1¾ 1 1 D3-2-1000 | 3.12 | 1¾ 1 1⅝ D2-3-1000 | 4.95 | 1¾ 1 2¼ D2-4-1000 | 5.37 | 1¾ 1 2¾ D2-6-1000 | 5.50 |
| 2.0 CAT # | 1¾ 1 1 D3-1-2000 | 4.00 | 1¾ 1 1⅝ D2-2-2000 | 5.12 | 1¾ 1 2¼ D2-3-2000 | 6.35 | 1¾ 1 3¼ D2-4-2000 | 6.60 | 2½ 1¼ 3½ D2-6-2000 | 7.60 |
| 5.0 CAT # | 1¾ 1 2¼ D2-1-5000 | 6.35 | 1¾ 1 3¼ D2-2-5000 | 7.00 | 2½ 1¼ 3½ D2-3-5000 | 9.50 | 3¾ 1¼ 2½ D2-4-5000 | 11.25 | 3¾ 1¼ 5 D2-6-5000 | 11.25 |
| 10.0 CAT # | 2½ 1¼ 3½ D2-1-10000 | 11.00 | 2½ 1¼ 3½ D2-2-10000 | 11.60 | 3¾ 1¾ 3¼ D2-3-10000 | 17.75 | 3¾ 1¾ 4 D2-4-10000 | 19.75 | 3¾ 1¾ 5 D2-6-10000 | 24.70 |
| 20.0 CAT # | 3¾ 1¾ 2½ D2-1-20000 | 18.80 | 3¾ 1¾ 3¼ D2-2-20000 | 20.30 | 4 9/16 3¾ 3 D2-3-20000 | 29.40 | 4 9/16 3¾ 4 D2-4-20000 | 32.50 | 4 9/16 3¾ 4½ D2-6-20000 | 42.50 |
| 25.0 CAT # | 3¾ 1¾ 3¼ D2-1-25000 | 22.20 | 3¾ 1¾ 4 D2-2-25000 | 23.70 | 4 9/16 3¾ 3½ D2-3-25000 | 36.10 | 4 9/16 3¾ 4 D2-4-25000 | 39.00 | 4 9/16 3¾ 5 D2-6-25000 | 51.50 |

### METALLIZED PAPER CAPACITORS

Available in voltages from 150 VWDC to 600 VWDC and capacitance values from .01 to 50 MF at 85° C and 125° C. Units can be furnished in case types and sizes which are standard in the industry.

### METALLIZED MYLAR CAPACITORS

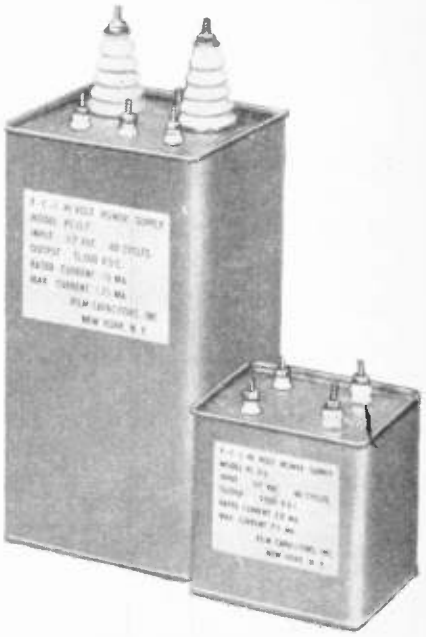
Available in voltages from 100 VWDC to 600 VWDC and capacitance values from .01 to 50 MF at 85° C and 125° C. Units can be furnished in all types of cases.

## HIGH VOLTAGE PACKAGED POWER SUPPLIES

Completely enclosed and hermetically sealed power supplies operating on 115 volt, 60 or 400 cycle, AC input. Output ranges from 2,000 vdc to 50,000 vdc. Standard sizes as follows:

| PART No. | OUTPUT VOLTAGE | RATED CURRENT OUTPUT | MAX. CURRENT OUTPUT |
|---|---|---|---|
| PS—2S | 2 KVDC | 5 MA | 7.5 MA |
| PS—5S | 5 KVDC | 5 MA | 7.5 MA |
| PS—12T | 12 KVDC | 1 MA | 1.75 MA |
| PS—15T | 15 KVDC | 1 MA | 1.75 MA |
| PS—30T | 30 KVDC | 1 MA | 1.75 MA |
| PS—50T | 50 KVDC | 2 MA | 4 MA |

® Du Pont Trade Mark



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World Radio History

EFCON

# CLOSE TOLERANCE POLYSTYRENE

## TYPE PC CARDBOARD TUBE

Temperature Range −65° to +85°C

| Catalog Number | Cap. MFD | Size D | Size L | Price |
|---|---|---|---|---|
| **100 D.C. Working Volts** | | | | |
| PC-1002-1C | .010 | 3/16 | 1 | $1.66 |
| PC-2702-1C | .027 | 1/4 | 1 | 1.68 |
| PC-3902-1C | .039 | 5/16 | 1 | 1.70 |
| PC-6802-1C | .068 | 3/8 | 1 | 1.78 |
| PC-8202-1C | .082 | 7/16 | 1 1/8 | 1.84 |
| PC-1003-1C | .10 | 1/2 | 1 1/8 | 1.90 |
| PC-1503-1C | .15 | 9/16 | 1 1/8 | 2.02 |
| PC-2203-1C | .22 | 9/16 | 1 3/8 | 2.22 |
| PC-2703-1C | .27 | 5/8 | 1 3/8 | 2.38 |
| PC-3303-1C | .33 | 11/16 | 1 3/8 | 2.54 |
| PC-3903-1C | .39 | 9/16 | 1 13/16 | 2.72 |
| PC-4703-1C | .47 | 5/8 | 1 13/16 | 2.92 |
| PC-5603-1C | .56 | 11/16 | 1 13/16 | 3.16 |
| PC-6803-1C | .68 | 3/4 | 1 13/16 | 3.52 |
| PC-1004-1C | 1.0 | 7/8 | 1 13/16 | 3.52 |
| PC-1204-1C | 1.2 | 1 | 1 13/16 | 3.52 |
| **200 D.C. Working Volts** | | | | |
| PC-1002-2C | .010 | 1/4 | 1 | 1.66 |
| PC-1502-2C | .015 | 1/4 | 1 | 1.68 |
| PC-2202-2C | .022 | 5/16 | 1 | 1.68 |
| PC-3902-2C | .039 | 3/8 | 1 | 1.76 |
| PC-5602-2C | .056 | 7/16 | 1 1/8 | 1.84 |
| PC-6802-2C | .068 | 1/2 | 1 1/8 | 1.86 |
| PC-8202-2C | .082 | 9/16 | 1 1/8 | 1.92 |
| PC-1003-2C | .10 | 1/2 | 1 3/8 | 1.96 |
| PC-1203-2C | .12 | 9/16 | 1 3/8 | 2.04 |
| PC-1503-2C | .15 | 5/8 | 1 3/8 | 2.14 |
| PC-1803-2C | .18 | 11/16 | 1 3/8 | 2.26 |
| PC-2703-2C | .27 | 11/16 | 1 13/16 | 2.62 |
| PC-3303-2C | .33 | 3/4 | 1 13/16 | 2.82 |
| PC-3903-2C | .39 | 7/8 | 1 13/16 | 3.06 |
| PC-5603-2C | .56 | 1 | 1 13/16 | 3.68 |
| **400 D.C. Working Volts** | | | | |
| PC-1002-4C | .010 | 5/16 | 1 | 1.68 |
| PC-1202-4C | .012 | 5/16 | 1 | 1.68 |
| PC-2202-4C | .022 | 3/8 | 1 | 1.74 |
| PC-3302-4C | .033 | 7/16 | 1 1/8 | 1.78 |
| PC-4702-4C | .047 | 1/2 | 1 1/8 | 1.86 |
| PC-5602-4C | .056 | 9/16 | 1 1/8 | 1.92 |
| PC-8202-4C | .082 | 9/16 | 1 3/8 | 2.08 |
| PC-1003-4C | .10 | 5/8 | 1 3/8 | 2.14 |
| PC-1203-4C | .12 | 9/16 | 1 13/16 | 2.26 |
| PC-1503-4C | .15 | 5/8 | 1 13/16 | 2.46 |
| PC-1803-4C | .18 | 11/16 | 1 13/16 | 2.62 |
| PC-2703-4C | .27 | 3/4 | 1 13/16 | 3.10 |
| PC-3303-4C | .33 | 7/8 | 1 13/16 | 3.44 |
| PC-4703-4C | .47 | 1 | 1 13/16 | 4.22 |
| **600 D.C. Working Volts** | | | | |
| PC-1002-6C | .010 | 3/8 | 1 | 1.68 |
| PC-1202-6C | .012 | 3/8 | 1 | 1.68 |
| PC-1502-6C | .015 | 7/16 | 1 1/8 | 1.70 |
| PC-2202-6C | .022 | 1/2 | 1 1/8 | 1.76 |
| PC-2702-6C | .027 | 9/16 | 1 1/8 | 1.78 |
| PC-3902-6C | .039 | 9/16 | 1 3/8 | 1.90 |
| PC-5602-6C | .056 | 5/8 | 1 3/8 | 2.02 |
| PC-6802-6C | .068 | 9/16 | 1 13/16 | 2.10 |
| PC-8202-6C | .082 | 5/8 | 1 13/16 | 2.22 |
| PC-1003-6C | .10 | 11/16 | 1 13/16 | 2.36 |
| PC-1203-6C | .12 | 3/4 | 1 13/16 | 2.50 |
| PC-1803-6C | .18 | 7/8 | 1 13/16 | 2.96 |
| PC-2203-6C | .22 | 1 | 1 13/16 | 3.24 |

Larger values and/or voltages than those listed are available in bath tub or CP70 type cans.

Tolerances of ± 5%, 2%, 1% and closer are available.

## TYPE PH HERMETICALLY SEALED

Temperature Range −65° to +85°C

| Catalog Number | Cap. MFD | Size D | Size L | Price |
|---|---|---|---|---|
| **100 D.C. Working Volts** | | | | |
| PH-1002-1C | .010 | .235 | 15/16 | 4.00 |
| PH-1502-1C | .015 | .235 | 15/16 | 4.00 |
| PH-3902-1C | .039 | .312 | 15/16 | 4.12 |
| PH-6802-1C | .068 | .400 | 15/16 | 4.22 |
| PH-1503-1C | .15 | .562 | 15/16 | 4.62 |
| PH-2203-1C | .22 | .562 | 1 15/16 | 4.82 |
| PH-3303-1C | .33 | .670 | 1 15/16 | 5.26 |
| PH-3903-1C | .39 | .562 | 1 11/16 | 5.44 |
| PH-5603-1C | .56 | .670 | 1 11/16 | 5.92 |
| PH-5603-1C | .68 | .750 | 1 11/16 | 6.52 |
| PH-1204-1C | 1.2 | 1.000 | 1 11/16 | 8.08 |
| **200 D.C. Working Volts** | | | | |
| PH-1002-2C | .010 | .312 | 15/16 | 4.04 |
| PH-2202-2C | .012 | .312 | 15/16 | 4.08 |
| PH-3902-2C | .039 | .400 | 15/16 | 4.18 |
| PH-8202-2C | .082 | .562 | 15/16 | 4.50 |
| PH-1203-2C | .12 | .562 | 1 5/16 | 4.64 |
| PH-1803-2C | .18 | .670 | 1 5/16 | 5.04 |
| PH-2703-2C | .27 | .670 | 1 11/16 | 5.36 |
| PH-3303-2C | .33 | .750 | 1 11/16 | 5.88 |
| PH-5603-2C | .56 | 1.000 | 1 13/16 | 6.84 |
| **400 D.C. Working Volts** | | | | |
| PH-1002-4C | .010 | .312 | 15/16 | 4.06 |
| PH-1202-4C | .012 | .312 | 15/16 | 4.06 |
| PH-2202-4C | .022 | .400 | 15/16 | 4.16 |
| PH-5602-4C | .056 | .562 | 15/16 | 4.48 |
| PH-6802-4C | .068 | .562 | 1 5/16 | 4.56 |
| PH-1003-4C | .10 | .670 | 1 5/16 | 4.94 |
| PH-1203-4C | .12 | .562 | 1 11/16 | 5.04 |
| PH-1803-4C | .18 | .670 | 1 11/16 | 5.36 |
| PH-2703-4C | .27 | .750 | 1 11/16 | 6.14 |
| PH-4703-4C | .47 | 1.000 | 1 11/16 | 7.36 |
| **600 D.C. Working Volts** | | | | |
| PH-1002-6C | .010 | .400 | 15/16 | 4.12 |
| PH-1202-6C | .012 | .400 | 15/16 | 4.14 |
| PH-2702-6C | .027 | .562 | 15/16 | 4.38 |
| PH-3902-6C | .039 | .562 | 1 5/16 | 4.48 |
| PH-5602-6C | .056 | .670 | 1 5/16 | 4.80 |
| PH-6802-6C | .068 | .562 | 1 11/16 | 4.88 |
| PH-1003-6C | .10 | .670 | 1 11/16 | 5.12 |
| PH-1203-6C | .12 | .750 | 1 11/16 | 5.52 |
| PH-2203-6C | .22 | 1.000 | 1 11/16 | 6.38 |

## CAPACITORS IN RECTANGULAR CONTAINERS

### *EFCON TYPE PH STYLE N SIZE CHART

* Polystyrene dielectric capacitors in upright, rectangular, hermetically sealed containers. Standard units are provided with two glass terminals with solder lug attached.

| 100 Volts | | | 200 Volts | | | 400 Volts | | |
|---|---|---|---|---|---|---|---|---|
| Cap. | Base | Height | Cap. | Base | Height | Cap. | Base | Height |
| 2.0 | 1 13/16 x 1 1/16 | 2 1/4 | 1.2 | 1 13/16 x 1 1/16 | 2 1/4 | .82 | 1 13/16 x 1 1/16 | 2 1/4 |
| 3.0 | 1 13/16 x 1 1/16 | 3 1/4 | 1.5 | 1 13/16 x 1 1/16 | 2 7/8 | 1.0 | 2 1/2 x 1 3/16 | 3 1/2 |
| 4.0 | 2 1/2 x 1 3/16 | 3 1/2 | 2.0 | 2 1/2 x 1 3/16 | 3 7/8 | 2.0 | 3 3/4 x 1 1/4 | 3 7/8 |
| 5.0 | 2 1/2 x 1 3/16 | 3 7/8 | 3.0 | 3 3/4 x 1 1/4 | 3 1/4 | 3.0 | 3 3/4 x 2 1/4 | 4 1/2 |
| 6.0 | 2 1/2 x 1 3/16 | 4 3/4 | 4.0 | 3 3/4 x 1 1/4 | 4 1/4 | 4.0 | 3 3/4 x 3 1/16 | 4 1/2 |
| 8.0 | 3 3/4 x 1 1/4 | 3 7/8 | 6.0 | 3 3/4 x 1 3/4 | 3 1/4 | 5.0 | 3 3/4 x 3 1/16 | 5 1/8 |
| 9.0 | 3 3/4 x 1 1/4 | 4 3/4 | 8.0 | 3 3/4 x 3 1/16 | 4 1/2 | 6.0 | 4 9/16 x 3 3/4 | 4 3/4 |
| 10.0 | 3 3/4 x 1 3/4 | 4 1/4 | 10.0 | 3 3/4 x 3 9/16 | 5 1/8 | 8.0 | 4 9/16 x 3 3/4 | 5 1/2 |
| | | | | | | 10.0 | 4 9/16 x 3 3/4 | 7 |

### *EFCON TYPE MH STYLE N SIZE CHART

* Mylar dielectric capacitors in upright, rectangular, hermetically sealed containers. Standard units are provided with two glass terminals with solder lug attached.

| 200 Volts | | | 400 Volts | | | 600 Volts | | |
|---|---|---|---|---|---|---|---|---|
| Cap. | Base | Height | Cap. | Base | Height | Cap. | Base | Height |
| 4.0 | 1 13/16 x 1 1/16 | 2 1/4 | 2.0 | 1 13/16 x 1 1/16 | 2 1/4 | .68 | 1 13/16 x 1 1/16 | 1 5/8 |
| 6.0 | 1 13/16 x 1 1/16 | 3 1/4 | 3.0 | 1 13/16 x 1 1/16 | 2 7/8 | 1.2 | 1 13/16 x 1 1/16 | 2 1/4 |
| 7.0 | 1 13/16 x 1 1/16 | 3 7/8 | 4.0 | 2 1/2 x 1 3/16 | 2 1/2 | 1.5 | 1 13/16 x 1 1/16 | 2 7/8 |
| 8.0 | 3 3/4 x 1 1/4 | 3 1/4 | 6.0 | 2 1/2 x 1 3/16 | 3 1/2 | 2.0 | 1 13/16 x 1 1/16 | 3 1/4 |
| 10.0 | 3 3/4 x 1 1/4 | 3 7/8 | 8.0 | 3 3/4 x 1 3/4 | 3 7/8 | 3.0 | 2 1/2 x 1 3/16 | 3 1/2 |
| | | | 10.0 | 3 3/4 x 1 3/4 | 4 3/4 | 4.0 | 3 3/4 x 1 3/4 | 3 7/8 |
| | | | | | | 6.0 | 3 3/4 x 1 3/4 | 4 |
| | | | | | | 8.0 | 3 3/4 x 2 1/4 | 3 3/8 |
| | | | | | | 10.0 | 3 3/4 x 3 1/16 | 4 1/2 |

**ELECTRONIC FABRICATORS**
**NEW YORK 12, N. Y.**


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World Radio History

# Miniature Capacitors and "MYLAR"*

For economy . . . for quality . . . wherever close tolerances are important . . . it pays to specify EFCON Plastic Film Miniature Capacitors. They have earned an enviable reputation for DEPENDABILITY and HIGH LEVEL PERFORMANCE in filters, timing circuits, analog and digital computers . . . plus many other applications.

Thanks to advanced engineering and special production techniques EFCON Capacitors are consistently made to tolerances closer than ±1%. They are available in a range of capacitance values from .001 to 2 Mfd. Non-standard values are made to customer's specifications.

EFCON Close Tolerance Capacitors . . . both Polystyrene and "Mylar" . . . provide excellent stability over an extended temperature range . . . Polystyrene has extremely high insulation resistance ($10^{12}$ ohms at 25° C.) They have a negative temperature coefficient in the order of 100PPM/°C. In addition to a very low dielectric absorption . . . EFCON Capacitors feature the lowest dissipation factor of any film capacitors. They are tested at a DC voltage of at least 200% of rated voltage at 25°C.

Both EFCON Polystyrene and "Mylar" Capacitors are produced in two types: Polystyrene Type PC and "Mylar" Type MC feature a rigid impregnated cardboard tube construction. Polystyrene Type PH and "Mylar" Type MH are hermetically sealed in a metal case with glass-to-metal, solder-sealed terminals. Both types feature non-inductive extended foil construction with leads soldered directly to the foil . . . assuring minimum contact resistance.

### TYPE MHH HERMETICALLY SEALED
Temperature Range
−60°C to +125°C

| Catalog Number | Cap. MFD | Size D | Size L | Price |
|---|---|---|---|---|
| **100 D.C. Working Volts** | | | | |
| MHH-1002-1C | .010 | .235 | 1 | 8.92 |
| MHH-3302-1C | .033 | .235 | 1 | 3.62 |
| MHH-1003-1C | .10 | .312 | 1 | 3.70 |
| MHH-1503-1C | .15 | .400 | 1 | 3.78 |
| MHH-3303-1C | .33 | .562 | 1 1/16 | 4.06 |
| MHH-5603-1C | .56 | .562 | 1 7/16 | 4.28 |
| MHH-8203-1C | .82 | .670 | 1 7/16 | 4.66 |
| MHH-1004-1C | 1.0 | .670 | 1 13/16 | 4.80 |
| MHH-1504-1C | 1.5 | .750 | 1 13/16 | 5.46 |
| MHH-2004-1C | 2.0 | 1.000 | 1 13/16 | 5.98 |
| **200 D.C. Working Volts** | | | | |
| MHH-1002-2C | .010 | .235 | 1 | 3.60 |
| MHH-1202-2C | .012 | .235 | 1 | 3.60 |
| MHH-3302-2C | .033 | .312 | 1 | 3.68 |
| MHH-5602-2C | .056 | .400 | 1 | 3.74 |
| MHH-8202-2C | .082 | .400 | 1 7/16 | 3.80 |
| MHH-1203-2C | .12 | .562 | 1 1/16 | 3.98 |
| MHH-2203-2C | .22 | .562 | 1 7/16 | 4.18 |
| MHH-2703-2C | .27 | .670 | 1 7/16 | 4.26 |
| MHH-4703-2C | .47 | .670 | 1 13/16 | 4.76 |
| MHH-5603-2C | .56 | .750 | 1 13/16 | 5.16 |
| MHH-1004-2C | 1.0 | 1.000 | 1 13/16 | 5.98 |
| **400 D.C. Working Volts** | | | | |
| MHH-1002-4C | .010 | .312 | 1 | 3.64 |
| MHH-1502-4C | .015 | .312 | 1 | 3.66 |
| MHH-3302-4C | .033 | .400 | 1 | 3.74 |
| MHH-6802-4C | .068 | .562 | 1 1/16 | 3.96 |
| MHH-1003-4C | .10 | .562 | 1 7/16 | 4.04 |
| MHH-1503-4C | .15 | .562 | 1 13/16 | 4.18 |
| MHH-1803-4C | .18 | .670 | 1 7/16 | 4.42 |
| MHH-2203-4C | .22 | .670 | 1 13/16 | 4.52 |
| MHH-2703-4C | .27 | .750 | 1 7/16 | 4.88 |
| MHH-3303-4C | .33 | .750 | 1 13/16 | 5.02 |
| MHH-5603-4C | .56 | 1.000 | 1 13/16 | 5.72 |
| **600 D.C. Working Volts** | | | | |
| MHH-1002-6C | .010 | .400 | 1 | 3.68 |
| MHH-1802-6C | .018 | .400 | 1 | 3.72 |
| MHH-3902-6C | .039 | .562 | 1 1/16 | 3.92 |
| MHH-5602-6C | .056 | .562 | 1 7/16 | 3.98 |
| MHH-8202-6C | .082 | .670 | 1 7/16 | 4.24 |
| MHH-1203-6C | .12 | .670 | 1 13/16 | 4.38 |
| MHH-1503-6C | .15 | .750 | 1 13/16 | 4.70 |
| MHH-2703-6C | .27 | 1.000 | 1 13/16 | 5.22 |

### TYPE MH HERMETICALLY SEALED
Temperature Range
−60°C to +85°C

| Catalog Number | Cap. MFD | Size D | Size L | Price |
|---|---|---|---|---|
| **200 D.C. Working Volts** | | | | |
| MH-1002-2C | .010 | .235 | 1 | 3.60 |
| MH-3302-2C | .033 | .235 | 1 | 3.62 |
| MH-1003-2C | .10 | .312 | 1 | 3.70 |
| MH-1503-2C | .15 | .400 | 1 | 3.78 |
| MH-3303-2C | .33 | .562 | 1 1/16 | 4.06 |
| MH-5603-2C | .56 | .562 | 1 7/16 | 4.28 |
| MH-8203-2C | .82 | .670 | 1 7/16 | 4.66 |
| MH-1004-2C | 1.0 | .670 | 1 13/16 | 4.80 |
| MH-1504-2C | 1.5 | .750 | 1 13/16 | 5.46 |
| MH-2004-2C | 2.0 | 1.000 | 1 13/16 | 5.98 |
| **400 D.C. Working Volts** | | | | |
| MH-1002-4C | .010 | .235 | 1 | 3.60 |
| MH-1002-4C | .010 | .235 | 1 | 3.60 |
| MH-3302-4C | .033 | .312 | 1 | 3.68 |
| MH-5602-4C | .056 | .400 | 1 | 3.74 |
| MH-8202-4C | .082 | .400 | 1 7/16 | 3.80 |
| MH-1203-4C | .12 | .562 | 1 1/16 | 3.98 |
| MH-2203-4C | .22 | .562 | 1 7/16 | 4.18 |
| MH-2703-4C | .27 | .670 | 1 7/16 | 4.26 |
| MH-4703-4C | .47 | .670 | 1 13/16 | 4.76 |
| MH-5603-4C | .56 | .750 | 1 13/16 | 5.16 |
| MH-1004-4C | 1.0 | 1.000 | 1 13/16 | 5.98 |
| **600 D.C. Working Volts** | | | | |
| MH-1002-6C | .010 | .312 | 1 | 3.64 |
| MH-1502-6C | .015 | .312 | 1 | 3.66 |
| MH-3302-6C | .033 | .400 | 1 | 3.74 |
| MH-6802-6C | .068 | .562 | 1 1/16 | 3.96 |
| MH-1003-6C | .10 | .562 | 1 7/16 | 4.04 |
| MH-1503-6C | .15 | .562 | 1 13/16 | 4.18 |
| MH-1803-6C | .18 | .670 | 1 7/16 | 4.42 |
| MH-2203-6C | .22 | .670 | 1 13/16 | 4.52 |
| MH-2703-6C | .27 | .750 | 1 7/16 | 4.88 |
| MH-3303-6C | .33 | .750 | 1 13/16 | 5.02 |
| MH-5603-63 | .56 | 1.000 | 1 13/16 | 5.72 |

### TYPE MC CARDBOARD TUBE
Temperature Range
−60°C to +85°C

| Catalog Number | Cap. MFD | Size D | Size L | Price |
|---|---|---|---|---|
| **200 D.C. Working Volts** | | | | |
| MC-1002-2C | .010 | 3/16 | 1 | 3.64 |
| MC-1502-2C | .015 | 3/16 | 1 | 1.46 |
| MC-5602-2C | .056 | 1/4 | 1 | 1.50 |
| MC-1003-2C | .10 | 5/16 | 1 | 1.54 |
| MC-1503-2C | .15 | 3/8 | 1 | 1.58 |
| MC-2203-2C | .22 | 7/16 | 1 1/8 | 1.64 |
| MC-2703-2C | .27 | 1/2 | 1 1/8 | 1.68 |
| MC-3303-2C | .33 | 9/16 | 1 1/8 | 1.72 |
| MC-3903-2C | .39 | 7/16 | 1 3/8 | 1.78 |
| MC-5603-2C | .56 | 1/2 | 1 3/8 | 1.92 |
| MC-6803-2C | .68 | 9/16 | 1 3/8 | 2.02 |
| MC-8203-2C | .82 | 11/16 | 1 3/8 | 2.14 |
| MC-1004-2C | 1.0 | 5/8 | 1 13/16 | 2.30 |
| MC-1504-2C | 1.5 | 3/4 | 1 13/16 | 2.76 |
| MC-2004-2C | 2.0 | 7/8 | 1 13/16 | 3.22 |
| **400 D.C. Working Volts** | | | | |
| MC-1002-4C | .010 | 3/16 | 1 | 1.46 |
| MC-1502-4C | .015 | 1/4 | 1 | 1.48 |
| MC-3302-4C | .033 | 5/16 | 1 | 1.50 |
| MC-5602-4C | .056 | 3/8 | 1 | 1.54 |
| MC-8202-4C | .082 | 3/8 | 1 3/8 | 1.58 |
| MC-1003-4C | .10 | 1/2 | 1 1/8 | 1.62 |
| MC-1503-4C | .15 | 9/16 | 1 1/8 | 1.70 |
| MC-1803-4C | .18 | 1/2 | 1 3/8 | 1.74 |
| MC-2203-4C | .22 | 9/16 | 1 3/8 | 1.82 |
| MC-2703-4C | .27 | 5/8 | 1 3/8 | 1.90 |
| MC-3903-4C | .39 | 5/8 | 1 13/16 | 2.12 |
| MC-4703-4C | .47 | 11/16 | 1 13/16 | 2.24 |
| MC-6803-4C | .68 | 3/4 | 1 13/16 | 2.60 |
| MC-8203-4C | .82 | 7/8 | 1 13/16 | 2.82 |
| MC-1004-4C | 1.0 | 1 | 1 13/16 | 3.14 |
| **600 D.C. Working Volts** | | | | |
| MC-1002-6C | .010 | 1/4 | 1 | 1.48 |
| MC-1502-6C | .015 | 5/16 | 1 | 1.48 |
| MC-3302-6C | .033 | 3/8 | 1 | 1.52 |
| MC-3902-6C | .039 | 7/16 | 1 1/8 | 1.54 |
| MC-5602-6C | .056 | 1/2 | 1 1/8 | 1.58 |
| MC-6802-6C | .068 | 9/16 | 1 1/8 | 1.62 |
| MC-1003-6C | .10 | 1/2 | 1 3/8 | 1.70 |
| MC-1503-6C | .15 | 1/2 | 1 13/16 | 1.82 |
| MC-1803-6C | .18 | 5/8 | 1 3/8 | 1.90 |
| MC-2203-6C | .22 | 5/8 | 1 13/16 | 2.00 |
| MC-2703-6C | .27 | 3/4 | 1 3/8 | 2.14 |
| MC-3303-6C | .33 | 3/4 | 1 13/16 | 2.28 |
| MC-4703-6C | .47 | 7/8 | 1 13/16 | 2.64 |
| MC-5603-6C | .56 | 1 | 1 13/16 | 2.86 |

**NOTE:** Due to space limitations only the largest values in a specific tube are listed.

**WRITE** for brochure which gives temperature characteristic curves for capacitance change, power factor and insulation resistance over an extended temperature range . . . plus detailed test data and general characteristics. Also available is information about EFCON "Teflon" High Temperature Capacitors and Type S, molded Silvered Mica.

Larger values and/or voltages than those listed are available in bath tub or CP70 type cans.

**Tolerances of ± 5%, 2%, 1% and closer are available.**

**ELECTRONIC FABRICATORS**
**NEW YORK 12, N. Y.**

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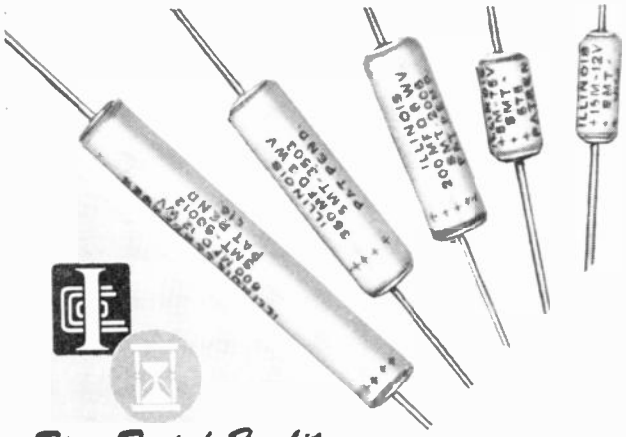
World Radio History



Actual Size

# TYPE SMT

# TUBULAR ELECTROLYTIC CAPACITORS

**TEMPERATURE RANGE:** −40 to +65°C
Also Available
−30 to +85°C

**VOLTAGE RANGE:** 3 to 350 volts

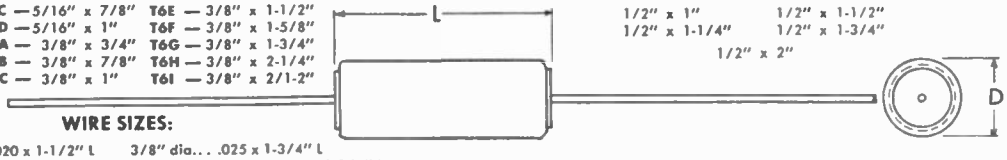
*Time Tested Quality*

**ILLINOIS SMT TUBULAR CAPACITORS are available in the following standard keysize diameters & lengths:**

T3A — 3/16" x 5/8"
T3B — 3/16" x 3/4"
T4A — 1/4" x 5/8"
T4B — 1/4" x 3/4"
T4C — 1/4" x 7/8"
T5A — 5/16" x 5/8"
T5B — 5/16" x 3/4"
T5C — 5/16" x 7/8"
T5D — 5/16" x 1"
T6A — 3/8" x 3/4"
T6B — 3/8" x 7/8"
T6C — 3/8" x 1"
T6D — 3/8" x 1-1/4"
T6E — 3/8" x 1-1/2"
T6F — 3/8" x 1-5/8"
T6G — 3/8" x 1-3/4"
T6H — 3/8" x 2-1/4"
T6I — 3/8" x 2/1-2"

**These sizes are special and optional for specific requirements. The standard sizes can be changed both in diameter and length.**

1/2" x 1"
1/2" x 1-1/4"
1/2" x 1-1/2"
1/2" x 1-3/4"
1/2" x 2"




**WIRE SIZES:**

3/16" dia... .020 x 1-1/2" L
1/4" dia... .025 x 1-3/4" L
5/16" dia... .025 x 1-3/4" L
3/8" dia... .025 x 1-3/4" L
7/16" dia... .025 or .0231 x 1-3/4" L
1/2" dia... .025 or .0231 x 1-3/4" L

Other diameters and lengths available.

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & L | LIST PRICE |
|---|---|---|---|---|
| SMT 23 | 2 | 3 | 3/16 X 5/8 | 1.00 |
| SMT 43 | 4 | 3 | 3/16 X 5/8 | 1.00 |
| SMT 83 | 8 | 3 | 3/16 X 5/8 | 1.00 |
| SMT 103 | 10 | 3 | 3/16 X 5/8 | 1.00 |
| SMT 203 | 20 | 3 | 1/4 X 5/8 | 1.00 |
| SMT 253 | 25 | 3 | 1/4 X 5/8 | 1.00 |
| SMT 403 | 40 | 3 | 5/16 X 5/8 | 1.05 |
| SMT 503 | 50 | 3 | 5/16 X 3/4 | 1.10 |
| SMT 1003 | 100 | 3 | 5/16 X 7/8 | 1.20 |
| SMT 1503 | 150 | 3 | 3/8 X 7/8 | 1.25 |
| SMT 2003 | 200 | 3 | 3/8 X 1 | 1.35 |
| SMT 2503 | 250 | 3 | 3/8 X 1-1/4 | 1.40 |
| SMT 3003 | 300 | 3 | 3/8 X 1-1/2 | 1.50 |
| SMT 3503 | 350 | 3 | 3/8 X 1-1/2 | 1.60 |
| SMT 4003 | 400 | 3 | 3/8 X 1-3/4 | 1.65 |
| SMT 5003 | 500 | 3 | 3/8 X 2 | 1.70 |
| SMT 26 | 2 | 6 | 3/16 X 5/8 | 1.00 |
| SMT 36 | 3 | 6 | 3/16 X 5/8 | 1.00 |
| SMT 106 | 10 | 6 | 1/4 X 5/8 | 1.05 |
| SMT 156 | 15 | 6 | 1/4 X 5/8 | 1.05 |
| SMT 206 | 20 | 6 | 5/16 X 5/8 | 1.05 |
| SMT 256 | 25 | 6 | 5/16 X 5/8 | 1.05 |
| SMT 306 | 30 | 6 | 5/16 X 3/4 | 1.10 |
| SMT 506 | 50 | 6 | 5/16 X 3/4 | 1.15 |
| SMT 1006 | 100 | 6 | 3/8 X 3/4 | 1.25 |
| SMT 1506 | 150 | 6 | 3/8 X 1 | 1.40 |
| SMT 2006 | 200 | 6 | 3/8 X 1-1/4 | 1.50 |
| SMT 2506 | 250 | 6 | 3/8 X 1-1/4 | 1.65 |
| SMT 3006 | 300 | 6 | 3/8 X 1-1/2 | 1.80 |
| SMT 4006 | 400 | 6 | 3/8 X 1-3/4 | 2.00 |
| SMT 5006 | 500 | 6 | 3/8 X 2 | 2.30 |
| SMT 410 | 4 | 10 | 1/4 X 5/8 | 1.05 |
| SMT 510 | 5 | 10 | 1/4 X 5/8 | 1.05 |
| SMT 610 | 6 | 10 | 1/4 X 5/8 | 1.05 |
| SMT 1010 | 10 | 10 | 1/4 X 5/8 | 1.05 |
| SMT 1510 | 15 | 10 | 5/16 X 5/8 | 1.10 |
| SMT 2010 | 20 | 10 | 5/16 X 3/4 | 1.10 |
| SMT 3010 | 30 | 10 | 5/16 X 7/8 | 1.15 |
| SMT 4010 | 40 | 10 | 5/16 X 7/8 | 1.20 |
| SMT 5010 | 50 | 10 | 3/8 X 3/4 | 1.25 |
| SMT 10010 | 100 | 10 | 3/8 X 1 | 1.30 |
| SMT 15010 | 150 | 10 | 3/8 X 1-1/4 | 1.45 |
| SMT 20010 | 200 | 10 | 3/8 X 1-1/2 | 1.75 |
| SMT 25010 | 250 | 10 | 3/8 X 1-1/2 | 1.85 |
| SMT 30010 | 300 | 10 | 3/8 X 1-3/4 | 2.00 |
| SMT 212 | 2 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 412 | 4 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 512 | 5 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 612 | 6 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 812 | 8 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 1012 | 10 | 12 | 1/4 X 5/8 | 1.05 |
| SMT 1512 | 15 | 12 | 5/16 X 5/8 | 1.10 |
| SMT 2012 | 20 | 12 | 5/16 X 5/8 | 1.10 |
| SMT 2512 | 25 | 12 | 5/16 X 5/8 | 1.15 |
| SMT 4012 | 40 | 12 | 3/8 X 3/4 | 1.15 |
| SMT 5012 | 50 | 12 | 3/8 X 3/4 | 1.25 |
| SMT 10012 | 100 | 12 | 3/8 X 1 | 1.35 |
| SMT 15012 | 150 | 12 | 3/8 X 1-1/4 | 1.50 |
| SMT 20012 | 200 | 12 | 3/8 X 1-1/2 | 1.80 |
| SMT 25012 | 250 | 12 | 3/8 X 1-1/2 | 1.90 |
| SMT 30012 | 300 | 12 | 3/8 X 1-3/4 | 2.10 |
| SMT 50012 | 500 | 12 | 3/8 X 2 | 2.45 |
| SMT 215 | 2 | 15 | 1/4 X 5/8 | 1.05 |
| SMT 315 | 3 | 15 | 1/4 X 5/8 | 1.05 |
| SMT 415 | 4 | 15 | 1/4 X 5/8 | 1.05 |
| SMT 515 | 5 | 15 | 1/4 X 5/8 | 1.05 |
| SMT 615 | 6 | 15 | 1/4 X 5/8 | 1.05 |
| SMT 1015 | 10 | 15 | 1/4 X 3/4 | 1.05 |
| SMT 1515 | 15 | 15 | 5/16 X 5/8 | 1.10 |
| SMT 2015 | 20 | 15 | 5/16 X 3/4 | 1.10 |
| SMT 3015 | 30 | 15 | 5/16 X 7/8 | 1.15 |
| SMT 4015 | 40 | 15 | 5/16 X 7/8 | 1.25 |
| SMT 5015 | 50 | 15 | 3/8 X 3/4 | 1.30 |
| SMT 10015 | 100 | 15 | 3/8 X 1-1/4 | 1.50 |
| SMT 15015 | 150 | 15 | 3/8 X 1-1/2 | 1.75 |
| SMT 20015 | 200 | 15 | 3/8 X 1-1/2 | 2.00 |
| SMT 25015 | 250 | 15 | 3/8 X 1-3/4 | 2.10 |
| SMT 125 | 1 | 25 | 1/4 X 5/8 | 1.05 |
| SMT 225 | 2 | 25 | 1/4 X 5/8 | 1.05 |
| SMT 325 | 3 | 25 | 1/4 X 5/8 | 1.05 |
| SMT 425 | 4 | 25 | 1/4 X 5/8 | 1.05 |
| SMT 525 | 5 | 25 | 1/4 X 3/4 | 1.10 |
| SMT 825 | 8 | 25 | 1/4 X 3/4 | 1.10 |
| SMT 1025 | 10 | 25 | 1/4 X 3/4 | 1.15 |
| SMT 1525 | 15 | 25 | 5/16 X 3/4 | 1.15 |
| SMT 2025 | 20 | 25 | 3/8 X 3/4 | 1.20 |
| SMT 2525 | 25 | 25 | 3/8 X 3/4 | 1.25 |
| SMT 3025 | 30 | 25 | 3/8 X 7/8 | 1.25 |
| SMT 4025 | 40 | 25 | 3/8 X 7/8 | 1.30 |
| SMT 5025 | 50 | 25 | 3/8 X 1 | 1.50 |
| SMT 10025 | 100 | 25 | 3/8 X 1-1/4 | 1.85 |
| SMT 15025 | 150 | 25 | 3/8 X 1-1/2 | 2.25 |
| SMT 150 | 1 | 50 | 1/4 X 3/4 | 1.10 |
| SMT 250 | 2 | 50 | 1/4 X 3/4 | 1.10 |
| SMT 350 | 3 | 50 | 1/4 X 3/4 | 1.15 |
| SMT 450 | 4 | 50 | 1/4 X 3/4 | 1.20 |
| SMT 550 | 5 | 50 | 1/4 X 3/4 | 1.20 |
| SMT 1050 | 10 | 50 | 3/8 X 3/4 | 1.25 |
| SMT 1550 | 15 | 50 | 3/8 X 3/4 | 1.25 |
| SMT 2050 | 20 | 50 | 3/8 X 7/8 | 1.30 |
| SMT 2550 | 25 | 50 | 3/8 X 1 | 1.35 |
| SMT 3050 | 30 | 50 | 3/8 X 1-1/4 | 1.35 |
| SMT 4050 | 40 | 50 | 3/8 X 1-1/2 | 1.40 |
| SMT 5050 | 50 | 50 | 1/2 X 1-1/2 | 1.60 |
| SMT 10050 | 100 | 50 | 1/2 X 2 | 1.95 |
| SMT 175 | 1 | 75 | 1/4 X 3/4 | 1.20 |
| SMT 275 | 2 | 75 | 1/4 X 3/4 | 1.20 |
| SMT 375 | 3 | 75 | 1/4 X 3/4 | 1.25 |
| SMT 475 | 4 | 75 | 5/16 X 3/4 | 1.30 |
| SMT 575 | 5 | 75 | 5/16 X 3/4 | 1.30 |
| SMT 1075 | 10 | 75 | 3/8 X 3/4 | 1.45 |
| SMT 1575 | 15 | 75 | 3/8 X 3/4 | 1.55 |
| SMT 2075 | 20 | 75 | 3/8 X 1 | 1.65 |
| SMT 1150 | 1 | 150 | 1/4 X 3/4 | 1.25 |
| SMT 2150 | 2 | 150 | 1/4 X 3/4 | 1.25 |
| SMT 3150 | 3 | 150 | 5/16 X 3/4 | 1.25 |
| SMT 4150 | 4 | 150 | 5/16 X 3/4 | 1.30 |
| SMT 5150 | 5 | 150 | 5/16 X 3/4 | 1.35 |
| SMT 8150 | 8 | 150 | 3/8 X 3/4 | 1.40 |
| SMT 10150 | 10 | 150 | 3/8 X 3/4 | 1.50 |
| SMT 12150 | 12 | 150 | 3/8 X 1 | 1.55 |
| SMT 16150 | 16 | 150 | 3/8 X 1-1/4 | 1.65 |
| SMT 4250 | 4 | 250 | 3/8 X 1 | 1.60 |
| SMT 8250 | 8 | 250 | 3/8 X 1-1/4 | 1.70 |
| SMT 12250 | 12 | 250 | 3/8 X 1-1/2 | 1.85 |
| SMT 16250 | 16 | 250 | 3/8 X 1-3/4 | 1.95 |

## Non-Polarized Capacitors

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & L | LIST PRICE |
|---|---|---|---|---|
| SMT-NP 256 | 25 | 6 | 3/8 X 3/4 | 1.30 |
| SMT-NP 506 | 50 | 6 | 3/8 X 1 | 1.45 |
| SMT-NP 1006 | 100 | 6 | 3/8 X 1-1/4 | 1.55 |
| SMT-NP 1506 | 150 | 6 | 3/8 X 2 | 1.75 |
| SMT-NP 2510 | 25 | 10 | 3/8 X 3/4 | 1.40 |
| SMT-NP 5010 | 50 | 10 | 3/8 X 1 | 1.55 |
| SMT-NP 15010 | 150 | 10 | 3/8 X 1-3/4 | 1.80 |
| SMT-NP 20010 | 200 | 10 | 3/8 X 2 | 2.20 |
| SMT-NP 2515 | 25 | 15 | 3/8 X 7/8 | 1.50 |
| SMT-NP 5015 | 50 | 15 | 3/8 X 1-1/4 | 1.65 |
| SMT-NP 15015 | 150 | 15 | 3/8 X 1-3/4 | 2.20 |
| SMT-NP 25015 | 250 | 15 | 1/2 X 1-3/4 | 2.80 |

**ILLINOIS** CONDENSER COMPANY
Chicago, Illinois

Write for catalog on our complete line including:
- Tubular Electrolytics TYPE IHT
- Cardboard Tubular Electrolytics TYPE IHC
- Twist Prong Electrolytics TYPE UMP
- Screw Neck Electrolytics TYPE UMS
- Plug-in Electrolytics TYPE PE
- Clamp Mounting Electrolytics TYPE UMT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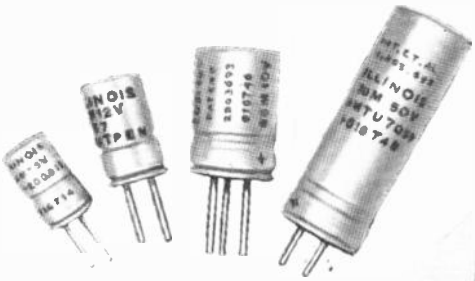
**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# TYPE SMTU

# UPRIGHT ELECTROLYTIC CAPACITORS



Actual Size

*Time Tested Quality*

**TEMPERATURE RANGE:**
−40 to +65°C
Also Available
−30 to +85°C

**VOLTAGE RANGE:**
3 to 350 volts

**ILLINOIS SMT TUBULAR CAPACITORS are available in the following standard keysize diameters & heights:**

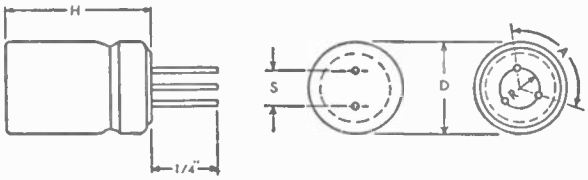
U5A — 5/16" x 5/8" U6C — 3/8" x 7/8" U8A — 1/2" x 3/4"
U5B — 5/16" x 3/4" U7A — 7/16" x 3/4" U8B — 1/2" x 7/8"
U6A — 3/8" x 5/8" U7B — 7/16" x 7/8" U8C — 1/2" x 1"
U6B — 3/8" x 3/4" U7C — 7/16" x 1"

Other diameters available in 5/3" and 3/4"

**WIRE SIZES:**

5/16" dia... .025 and .0310
3/8" dia... .025 and .031
7/16" dia... .031 and .045
1/2" dia... .0316 and .045

S — Space
R — Radius
A — Angle
L — Length
D — Diameter
H — Height




| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & H | LIST PRICE |
|---|---|---|---|---|
| SMTU 23 | 2 | 3 | 5/16 X 5/8 | 1.15 |
| SMTU 43 | 4 | 3 | 5/16 X 5/8 | 1.15 |
| SMTU 103 | 10 | 3 | 5/16 X 3/4 | 1.15 |
| SMTU 203 | 20 | 3 | 5/16 X 3/4 | 1.15 |
| SMTU 253 | 25 | 3 | 5/16 X 3/4 | 1.15 |
| SMTU 403 | 40 | 3 | 3/8 X 5/8 | 1.20 |
| SMTU 503 | 50 | 3 | 3/8 X 3/4 | 1.25 |
| SMTU 1003 | 100 | 3 | 3/8 X 7/8 | 1.35 |
| SMTU 1503 | 150 | 3 | 7/16 X 3/4 | 1.40 |
| SMTU 2003 | 200 | 3 | 7/16 X 7/8 | 1.50 |
| SMTU 26 | 2 | 6 | 5/16 X 5/8 | 1.15 |
| SMTU 36 | 3 | 6 | 5/16 X 5/8 | 1.15 |
| SMTU 106 | 10 | 6 | 5/16 X 3/4 | 1.20 |
| SMTU 156 | 15 | 6 | 5/16 X 3/4 | 1.20 |
| SMTU 206 | 20 | 6 | 3/8 X 3/4 | 1.20 |
| SMTU 256 | 25 | 6 | 3/8 X 3/4 | 1.20 |
| SMTU 306 | 30 | 6 | 3/8 X 3/4 | 1.25 |
| SMTU 506 | 50 | 6 | 3/8 X 3/4 | 1.30 |
| SMTU 1006 | 100 | 6 | 3/8 X 7/8 | 1.40 |
| SMTU 1506 | 150 | 6 | 7/16 X 3/4 | 1.55 |
| SMTU 2006 | 200 | 6 | 7/16 X 7/8 | 1.65 |
| SMTU 410 | 4 | 10 | 5/16 X 5/8 | 1.20 |
| SMTU 510 | 5 | 10 | 5/16 X 5/8 | 1.20 |
| SMTU 610 | 6 | 10 | 5/16 X 5/8 | 1.20 |
| SMTU 1010 | 10 | 10 | 5/16 X 3/4 | 1.20 |
| SMTU 1510 | 15 | 10 | 5/16 X 3/4 | 1.25 |
| SMTU 2010 | 20 | 10 | 3/8 X 3/4 | 1.25 |
| SMTU 3010 | 30 | 10 | 3/8 X 3/4 | 1.30 |
| SMTU 4010 | 40 | 10 | 3/8 X 3/4 | 1.35 |
| SMTU 5010 | 50 | 10 | 3/8 X 3/4 | 1.40 |
| SMTU 10010 | 100 | 10 | 7/16 X 7/8 | 1.45 |
| SMTU 15010 | 150 | 10 | 7/16 X 1 | 1.60 |
| SMTU 20010 | 200 | 10 | 7/16 X 1 | 1.90 |

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & H | LIST PRICE |
|---|---|---|---|---|
| SMTU 215 | 2 | 15 | 5/16 X 3/4 | 1.15 |
| SMTU 315 | 3 | 15 | 5/16 X 3/4 | 1.15 |
| SMTU 415 | 4 | 15 | 5/16 X 3/4 | 1.15 |
| SMTU 515 | 5 | 15 | 5/16 X 3/4 | 1.20 |
| SMTU 1015 | 10 | 15 | 5/16 X 3/4 | 1.20 |
| SMTU 1515 | 15 | 15 | 3/8 X 3/4 | 1.20 |
| SMTU 2015 | 20 | 15 | 3/8 X 3/4 | 1.25 |
| SMTU 3015 | 30 | 15 | 3/8 X 3/4 | 1.30 |
| SMTU 4015 | 40 | 15 | 3/8 X 3/4 | 1.40 |
| SMTU 5015 | 50 | 15 | 7/16 X 3/4 | 1.45 |
| SMTU 10015 | 100 | 15 | 7/16 X 1 | 1.65 |
| SMTU 15015 | 150 | 15 | 7/16 X 1 | 1.90 |
| SMTU 20015 | 200 | 15 | 7/16 X 1−1/4 | 2.15 |
| SMTU 25015 | 250 | 15 | 7/16 X 1−1/4 | 2.40 |
| SMTU 125 | 1 | 25 | 5/16 X 3/4 | 1.20 |
| SMTU 225 | 2 | 25 | 5/16 X 3/4 | 1.20 |
| SMTU 325 | 3 | 25 | 5/16 X 3/4 | 1.20 |
| SMTU 425 | 4 | 25 | 5/16 X 3/4 | 1.20 |
| SMTU 525 | 5 | 25 | 5/16 X 3/4 | 1.25 |
| SMTU 1025 | 10 | 25 | 3/8 X 3/4 | 1.30 |
| SMTU 1525 | 15 | 25 | 3/8 X 3/4 | 1.30 |
| SMTU 2025 | 20 | 25 | 3/8 X 3/4 | 1.35 |
| SMTU 2525 | 25 | 25 | 3/8 X 3/4 | 1.40 |
| SMTU 4025 | 40 | 25 | 7/16 X 3/4 | 1.45 |
| SMTU 5025 | 50 | 25 | 7/16 X 7/8 | 1.65 |
| SMTU 10025 | 100 | 25 | 7/16 X 1 | 2.00 |
| SMTU 15025 | 150 | 25 | 7/16 X 1−1/4 | 2.40 |
| SMTU 150 | 1 | 50 | 3/8 X 3/4 | 1.25 |
| SMTU 250 | 2 | 50 | 3/8 X 3/4 | 1.25 |
| SMTU 350 | 3 | 50 | 3/8 X 3/4 | 1.30 |
| SMTU 450 | 4 | 50 | 3/8 X 3/4 | 1.30 |
| SMTU 550 | 5 | 50 | 3/8 X 3/4 | 1.35 |

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & H | LIST PRICE |
|---|---|---|---|---|
| SMTU 1050 | 10 | 50 | 7/16 X 3/4 | 1.45 |
| SMTU 2550 | 25 | 50 | 7/16 X 1 | 1.50 |
| SMTU 4050 | 40 | 50 | 7/16 X 1−1/4 | 1.55 |
| SMTU 5050 | 50 | 50 | 7/16 X 1−1/2 | 1.75 |
| SMTU 1150 | 1 | 150 | 7/16 X 3/4 | 1.40 |
| SMTU 2150 | 2 | 150 | 7/16 X 3/4 | 1.40 |
| SMTU 3150 | 3 | 150 | 7/16 X 3/4 | 1.40 |
| SMTU 4150 | 4 | 150 | 7/16 X 3/4 | 1.45 |
| SMTU 5150 | 5 | 150 | 7/16 X 7/8 | 1.50 |
| SMTU 8150 | 8 | 150 | 7/16 X 1 | 1.55 |
| SMTU 10150 | 10 | 150 | 7/16 X 1−1/4 | 1.65 |
| SMTU 12150 | 12 | 150 | 1/2 X 1−1/4 | 1.70 |
| SMTU 16150 | 16 | 150 | 1/2 X 1−1/2 | 1.80 |

**Dual SMTU Common Negative**

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & H | LIST PRICE |
|---|---|---|---|---|
| SMTUCN 3 | 25−25 | 10 | 1/2 X 3/4 | 1.75 |
| SMTUCN 9 | 50−25 | 10 | 1−2 X 3/4 | 1.80 |
| SMTUCN 15 | 50−50 | 10 | 1/2 X 7/8 | 1.80 |
| SMTUCN 21 | 100−25 | 10 | 1/2 X 1−1/8 | 1.90 |
| SMTUCN 27 | 100−50 | 10 | 1/2 X 1−1/8 | 2.00 |
| SMTUCN 33 | 100−100 | 10 | 1/2 X 1−1/4 | 2.40 |

**Dual SMTU Common Positive**

| PART NUMBER | CAP. MFD. | WORK VOLT. D.C. | SIZE D & H | LIST PRICE |
|---|---|---|---|---|
| SMTUCP 52 | 25−25 | 10 | 1/2 X 3/4 | 2.20 |
| SMTUCP 58 | 50−25 | 10 | 1/2 X 3/4 | 2.25 |
| SMTUCP 64 | 50−50 | 10 | 1/2 X 7/8 | 2.25 |
| SMTUCP 70 | 100−25 | 10 | 1/2 X 1−1/8 | 2.35 |
| SMTUCP 76 | 100−50 | 10 | 1/2 X 1−1/8 | 2.50 |
| SMTUCP 82 | 100−100 | 10 | 1/2 X 1−1/4 | 3.00 |

Other diameters, height and values available upon request

- Bath Tub Eleterolytics TPYE BT
- Inverted Screw Mounting Electrolytics TYPE LN
- Photo Flash Capacitors—Energy Discharge TYPE UMC
- Electronic Flash Kit "ILLINI 300 BANTAM"
- High Capacity Electrolytics—Low Voltage TYPE UMC
- Motor Starting Capacitors and Hardware TYPE MS and MSB
- Paper Tubular Capacitors TYPE ITC and "ILLINI 300"

**ILLINOIS CONDENSER COMPANY**
Chicago, Illinois

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World Radio History

# PLANET SALES CORPORATION
BLOOMFIELD, NEW JERSEY

## Universal Replacement Type Capacitors

## "LYTICAP"

### Single Section Electrolytics — Type "L"

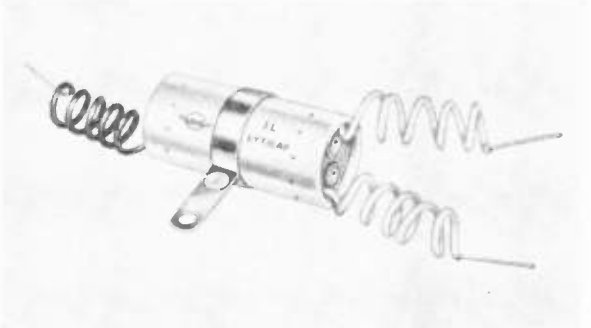
Hermetically sealed in aluminum tubes, covered with red Kraftboard insulating jackets — tinned brass leads, guaranteed for one year.

| CAT. NO. | MFD. | SIZE* | LIST PRICE |
|---|---|---|---|
| | | **500 WVDC** | |
| L-5-500 | 5 | 3/4 x 1 5/8 | $1.25 |
| L-10-500 | 10 | 7/8 x 2 1/16 | 1.35 |
| L-20-500 | 20 | 1 x 2 3/8 | 1.60 |
| L-30-500 | 30 | 1 x 2 11/16 | 1.75 |
| | | **450 WVDC** | |
| L-4-450 | 4 | 5/8 x 1 5/8 | 1.15 |
| L-8-450 | 8 | 3/4 x 1 5/8 | 1.25 |
| L-10-450 | 10 | 3/4 x 1 5/8 | 1.30 |
| L-12-450 | 12 | 7/8 x 1 5/8 | 1.35 |
| L-16-450 | 16 | 7/8 x 2 1/16 | 1.40 |
| L-20-450 | 20 | 1 x 2 1/16 | 1.55 |
| L-30-450 | 30 | 1 x 2 3/8 | 1.70 |
| L-40-450 | 40 | 1 x 2 11/16 | 1.80 |
| L-50-450 | 50 | 1 1/4 x 2 11/16 | 2.10 |
| L-60-450 | 60 | 1 1/4 x 2 11/16 | 2.40 |
| L-80-450 | 80 | 1 3/8 x 2 11/16 | 2.80 |
| | | **350 WVDC** | |
| L-8-350 | 8 | 5/8 x 1 5/8 | 1.20 |
| L-16-350 | 16 | 7/8 x 1 5/8 | 1.40 |
| L-20-350 | 20 | 7/8 x 1 5/8 | 1.45 |
| L-30-350 | 30 | 7/8 x 2 1/16 | 1.65 |
| L-40-350 | 40 | 1 x 2 1/16 | 1.75 |
| | | **250 WVDC** | |
| L-5-250 | 5 | 5/8 x 1 5/8 | 1.00 |
| L-10-250 | 10 | 5/8 x 1 5/8 | 1.20 |
| L-20-250 | 20 | 3/4 x 1 5/8 | 1.35 |
| L-24-250 | 24 | 3/4 x 1 5/8 | 1.35 |
| L-30-250 | 30 | 3/4 x 1 5/8 | 1.45 |
| L-40-250 | 40 | 7/8 x 1 3/4 | 1.55 |
| | | **150 WVDC** | |
| L-5-150 | 5 | 5/8 x 1 1/8 | $1.00 |
| L-8-150 | 8 | 1/2 x 1 5/8 | 1.05 |
| L-10-150 | 10 | 1/2 x 1 5/8 | 1.05 |
| L-16-150 | 16 | 5/8 x 1 5/8 | 1.15 |
| L-20-150 | 20 | 5/8 x 1 5/8 | 1.20 |
| L-30-150 | 30 | 3/4 x 1 5/8 | 1.30 |

| CAT. NO. | MFD. | SIZE* | LIST PRICE |
|---|---|---|---|
| | | **150 WVDC (Cont'd)** | |
| L-40-150 | 40 | 3/4 x 1 5/8 | 1.35 |
| L-50-150 | 50 | 3/4 x 2 1/16 | 1.40 |
| L-80-150 | 80 | 7/8 x 2 1/16 | 1.60 |
| L-100-150 | 100 | 7/8 x 2 3/8 | 1.75 |
| L-150-150 | 150 | 1 x 2 11/16 | 1.90 |
| | | **50 WVDC** | |
| L-1-50 | 1 | 1/2 x 1 1/8 | .90 |
| L-3-50 | 3 | 1/2 x 1 1/8 | .90 |
| L-5-50 | 5 | 1/2 x 1 1/8 | 1.00 |
| L-10-50 | 10 | 1/2 x 1 1/8 | 1.00 |
| L-25-50 | 25 | 5/8 x 1 5/8 | 1.05 |
| L-50-50 | 50 | 5/8 x 1 5/8 | 1.20 |
| L-100-50 | 100 | 3/4 x 1 5/8 | 1.40 |
| L-150-50 | 150 | 7/8 x 1 5/8 | 1.55 |
| L-250-50 | 250 | 1 x 2 1/16 | 1.75 |
| | | **25 WVDC** | |
| L-10-25 | 10 | 1/2 x 1 1/8 | 1.00 |
| L-25-25 | 25 | 1/2 x 1 5/8 | 1.00 |
| L-50-25 | 50 | 5/8 x 1 5/8 | 1.10 |
| L-100-25 | 100 | 5/8 x 1 5/8 | 1.35 |
| L-250-25 | 250 | 7/8 x 2 1/16 | 1.70 |
| L-500-25 | 500 | 1 x 2 3/8 | 2.30 |
| | | **12 WVDC** | |
| L-100-12 | 100 | 3/4 x 1 5/8 | 1.20 |
| L-250-12 | 250 | 3/4 x 2 1/16 | 1.45 |
| L-500-12 | 500 | 7/8 x 2 3/8 | 1.70 |
| | | **6 WVDC** | |
| L-500-6 | 500 | 3/4 x 1 5/8 | 1.55 |
| L-1000-6 | 1000 | 7/8 x 2 1/16 | 1.90 |
| L-1500-6 | 1500 | 7/8 x 2 3/8 | 2.10 |
| L-2000-6 | 2000 | 1 x 2 3/8 | 2.30 |
| | | **3 WVDC** | |
| L-1000-3 | 1000 | 7/8 x 2 1/16 | 1.80 |
| L-1500-3 | 1500 | 7/8 x 2 1/16 | 2.10 |
| L-2000-3 | 2000 | 1 x 2 3/8 | 2.30 |

### Dual Section Electrolytics — Type "IL"

Hermetically sealed in aluminum tubes with completely flexible leads. U/L Approved, plastic coated leads are rivetted directly to the condenser end disc, eliminating the use of rigid terminal risers, allowing capacitor to fit into smaller space and eliminating lead breakage. IL capacitors have wrap around mounting strap and are common negative, guaranteed for one year.



| CAT. NO. | MFD. | SIZE* | LIST PRICE |
|---|---|---|---|
| | | **450 WVDC** | |
| IL-2x8-450 | 8+8 | 7/8 x 2 1/16 | $1.70 |
| IL-2x20-450 | 20+20 | 1 x 2 11/16 | 2.50 |
| IL-2x30-450 | 30+30 | 1 1/4 x 2 11/16 | 3.00 |
| IL-2x40-450 | 40+40 | 1 3/8 x 2 11/16 | 3.40 |

* Dimensions are for metal tubes. Add 1/16" to diameter and 1/8" to length for over-all dimensions over cardboard insulating tube.

| CAT. NO. | MFD. | SIZE* | LIST PRICE |
|---|---|---|---|
| | | **150 WVDC** | |
| IL-2x20x150 | 20+20 | 7/8 x 1 5/8 | 1.65 |
| IL-2x30-150 | 30+30 | 7/8 x 1 5/8 | 1.80 |
| IL-4020-150 | 40+20 | 7/8 x 1 5/8 | 1.75 |
| IL-2x40-150 | 40+40 | 7/8 x 2 1/16 | 1.85 |
| IL-5030-150 | 50+30 | 7/8 x 2 1/16 | 1.95 |
| IL-2x50-150 | 50+50 | 1 x 2 1/16 | 2.10 |
| IL-8040-150 | 80+40 | 1 x 2 3/8 | 2.25 |



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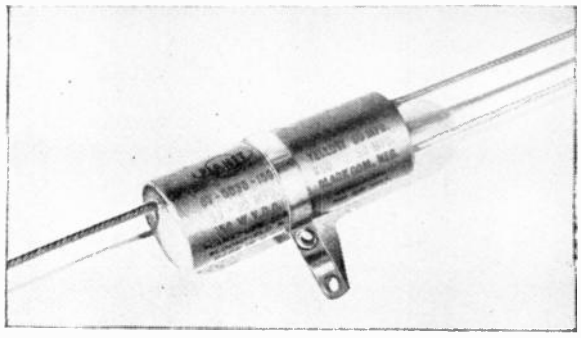
World Radio History

# PLANET SALES CORPORATION
BLOOMFIELD, NEW JERSEY



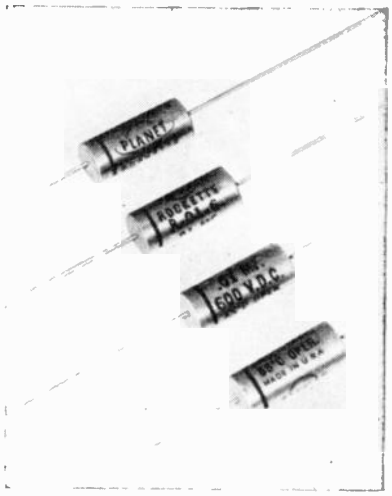
## Universal Replacement Type Capacitors

### Cardboard Tube Electrolytics — Type "CT"

Constructed in strong red cardboard tubes, wax impregnated — long insulated stranded leads of U/L approved wire — high temperature wax end-fill — wrap around mounting strap. Guaranteed for one year.

| CAT. NO. | MFD. | WVDC | SIZE | LIST PRICE |
|---|---|---|---|---|
| **DUAL UNITS — COMMON NEGATIVE** | | | | |
| CT-2x20-150 | 20+20 | 150 | ¾ x 2½ | $1.65 |
| CT-2x30-150 | 30+30 | 150 | ⅞ x 2½ | 1.80 |
| CT-4020-150 | 40+20 | 150 | ⅞ x 2½ | 1.75 |
| CT-2x40-150 | 40+40 | 150 | 1 x 2½ | 1.85 |
| CT-5030-150 | 50+30 | 150 | 1 x 2½ | 1.95 |
| CT-2x50-150 | 50+50 | 150 | 1 x 3 | 2.10 |
| CT-8040-150 | 80+40 | 150 | 1 x 3¼ | 2.25 |
| **DUAL UNITS — SEPARATE NEGATIVE** | | | | |
| CT-2x20-150-SS | 20+20 | 150 | 1 x 2⅜ | 2.05 |

| CAT. NO. | MFD. | WVDC | SIZE | LIST PRICE |
|---|---|---|---|---|
| **TRIPLE UNITS — COMMON NEGATIVE** | | | | |
| CT-3x20-150 | 20+20+20 | 150 | 1 x 2½ | $2.20 |
| CT-302520-150 | 30+25+20 | 150 | 1 x 2½ | 2.25 |
| CT-402020-150 | 40+20+20 | 150 | 1 x 3 | 2.25 |
| CT-403020-150 | 40+30+20 | 150 | 1 x 3 | 2.35 |
| CT-404020-150 | 40+40+20 | 150 | 1 x 3 | 2.40 |
| CT-3x40-150 | 40+40+40 | 150 | 1 x 3¼ | 2.45 |
| CT-503020-150 | 50+30+20 | 150 | 1 x 3 | 2.45 |
| CT-302 | 30+20/20 | 150/25 | 1 x 2½ | 2.10 |
| CT-303 | 40+30/20 | 150/25 | 1 x 3 | 2.20 |
| CT-304 | 50+50/20 | 150/25 | 1 x 3¼ | 2.50 |
| CT-305 | 50+30/20 | 150/25 | 1 x 3 | 2.35 |



## All Purpose Paper Capacitors

### "ROCKETTES"

Planet ROCKETTES are impregnated and jacketed with a HARD-as-ROCK plastic which will not dry out, shrink away from the leads nor develop fissures nor cracks, thus guaranteeing against the entrance of moisture and guaranteeing good shelf life and long service life. The coiled heads of the leads are securely soldered to the foil, which is imbedded in the same plastic used as an impregnant, making it impossible for them to work loose or pull out. ROCKETTES have exceptionally high insulation resistance which is maintained proportionately over the entire temperature range of —30° to +85° C.

| CAT. NO. | MFD. | SIZE | LIST PRICE |
|---|---|---|---|
| **600 WVDC** | | | |
| R-001-6 | .001 | 11/32 x 1 | $ .25 |
| R-002-6 | .002 | 11/32 x 1 | .25 |
| R-003-6 | .003 | ⅜ x 1 | .25 |
| R-004-6 | .004 | ⅜ x 1 | .25 |
| R-0047-6 | .0047 | ⅜ x 1 | .25 |
| R-005-6 | .005 | ⅜ x 1 | .25 |
| R-006-6 | .006 | ⅜ x 1 | .25 |
| R-01-6 | .01 | 7/16 x 1 | .30 |
| R-02-6 | .02 | 7/16 x 1¼ | .30 |
| R-03-6 | .03 | 7/16 x 1½ | .35 |
| R-04-6 | .04 | 13/32 x 1½ | .35 |
| R-047-6 | .047 | ½ x 1⅝ | .40 |
| R-05-6 | .05 | 17/32 x 1⅝ | .40 |
| R-1-6 | .1 | 11/16 x 1⅝ | .45 |

| CAT. NO. | MFD. | SIZE | LIST PRICE |
|---|---|---|---|
| **600 WVDC (Cont'd)** | | | |
| R-2-6 | .2 | 13/16 x 2 | .55 |
| R-25-6 | .25 | 13/16 x 2 | .55 |
| R-5-6 | .5 | 15/16 x 2⅛ | .80 |
| **1600 WVDC** | | | |
| R-001-16 | .001 | 5/16 x 1⅛ | .55 |
| R-002-16 | .002 | ⅜ x 1⅛ | .55 |
| R-003-16 | .003 | 7/16 x 1¼ | .55 |
| R-005-16 | .005 | ½ x 1¼ | .55 |
| R-0075-16 | .0075 | 9/16 x 1¼ | .60 |
| R-008-16 | .008 | 9/16 x 1¼ | .60 |
| R-01-16 | .01 | 9/16 x 1½ | .60 |
| R-02-16 | .02 | 9/16 x 1¾ | .60 |
| R-05-16 | .05 | 13/16 x 2 | .70 |

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World Radio History

# PLASTICON DC RECTANGULARS

Mineral oil impregnated and filled. Hermetically sealed. Can be operated in any position, continuously at 10% over rated voltage up to +40° C. Tolerance 10%. Ambient temperature range -40° C. to +85° C. Insulators: Two ceramic type bushings for standard temperature range. Two soldered-in metallized glass insulators for extended temperature range. All DC rectangulars have 8-32 screw and hex nut terminals with removable hot-tinned solder lugs. Case: Rectangular base, lead coated steel with heavy finish of grey organic lacquer.

| Mfr's. No | Cap. Mfd. | Volts DC | Dimensions - Inches Height | Width | Depth | Term. Height | Dist. Bet. Ter. | Net |
|---|---|---|---|---|---|---|---|---|
| AOC6C1 | 1.0 | 600 | 2 1/8 | 1 3/4 | 1 | 5/8 | 13/16 | $ 2.69 |
| AOC6C2 | 2.0 | 600 | 2 3/4 | 1 3/4 | 1 | 5/8 | 13/16 | 3.25 |
| AOC6C4 | 4.0 | 600 | 3 1/2 | 2 1/2 | 1 1/16 | 5/8 | 1 1/8 | 4.04 |
| AOC6C8 | 8.0 | 600 | 4 | 3 3/4 | 1 1/4 | 5/8 | 2 | 6.10 |
| AOC6C10 | 10.0 | 600 | 4 | 3 3/4 | 1 3/4 | 5/8 | 2 | 6.85 |
| AOC1M1 | 1.0 | 1000 | 2 3/8 | 1 3/4 | 1 | 5/8 | 13/16 | 2.60 |
| AOC1M2 | 2.0 | 1000 | 3 | 2 1/2 | 1 1/2 | 3/4 | 1 1/8 | 3.47 |
| AOC1M4 | 4.0 | 1000 | 4 5/8 | 2 1/2 | 1 1/16 | 3/4 | 1 1/8 | 4.24 |
| AOC1M8 | 8.0 | 1000 | 4 5/8 | 3 3/4 | 1 3/4 | 5/8 | 2 | 5.99 |
| AOC1M10 | 10.0 | 1000 | 4 5/8 | 3 3/4 | 2 1/4 | 5/8 | 2 | 6.91 |
| AOC2M05 | 0.5 | 2000 | 2 3/4 | 1 3/4 | 1 | 5/8 | 13/16 | 3.14 |
| ACC2M1 | 1.0 | 2000 | 4 1/2 | 1 3/4 | 1 | 5/8 | 13/16 | 3.81 |
| AOC2M2 | 2.0 | 2000 | 3 1/4 | 3 3/4 | 1 1/4 | 3/4 | 2 | 4.42 |
| AOC2M4 | 4.0 | 2000 | 3 1/2 | 3 3/4 | 2 1/4 | 3/4 | 2 | 5.99 |
| AOC3M1 | 1.0 | 3000 | 4 | 2 1/2 | 1 1/16 | 1 1/8 | 1 1/8 | 7.84 |
| AOC3M2 | 2.0 | 3000 | 4 5/8 | 3 3/4 | 1 1/4 | 1 1/16 | 2 | 9.98 |
| AOC3M4 | 4.0 | 3000 | 4 5/8 | 3 3/4 | 2 1/4 | 1 | 2 | 13.80 |
| AOC4M1 | 1.0 | 4000 | 4 | 3 3/4 | 1 1/4 | 1 1/4 | 2 | 17.82 |
| AOC4M2 | 2.0 | 4000 | 4 | 3 3/4 | 1 3/4 | 1 1/4 | 2 | 21.38 |
| AOC4M4 | 4.0 | 4000 | 4 | 3 3/4 | 4 1/16 | 1 1/16 | 2 | 32.69 |
| AOC5M1 | 1.0 | 5000 | 4 | 3 3/4 | 1 3/4 | 2 1/4 | 2 | 21.38 |
| AOC5M2 | 2.0 | 5000 | 3 1/2 | 3 3/4 | 4 1/16 | 1 1/8 | 2 | 26.73 |
| AOC10M1 | 1.0 | 10000 | 4 5/8 | 3 3/4 | 4 1/16 | 2 1/4 | 2 | 57.02 |

# PLASTICON TEFLON CAPACITORS FOR 200° C. APPLICATIONS

**POWER FACTOR** ..... @ 25°C ..... .05%
@ 165°C ..... .07%

**TEMPERATURE COEFFICIENT** .... —70°C to 200°C .... —200 ppm/°C.

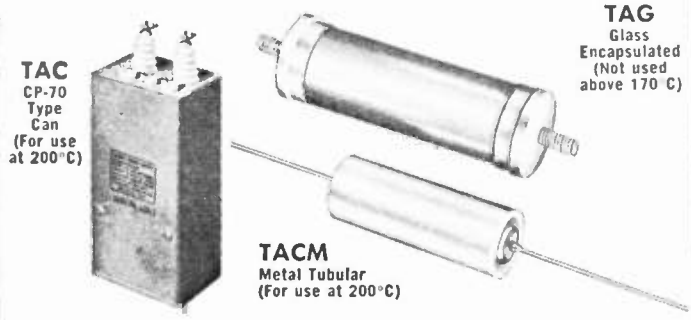
**INSULATION RESISTANCE** ..... @25°C ..... 500,000 meg x mfd.
But need not exceed ..... 10,000,000 megohms

@ 165°C ..... 7,000 meg. x mfd.
But need not exceed ..... 50,000 megohms

@ 170°C ..... 4,000 meg. x mfd.
But need not exceed ..... 25,000 megohms

@ 200°C ..... 1,000 meg. x mfd.
But need not exceed ..... 5,000 megohms

**DIELECTRIC ABSORPTION** ..... @25°C ..... .02%




**VOLTAGE RANGE** ..... 200 to 1,000 vdc.

**CAPACITANCE RANGE** ..... TAG, TACM — .001 to 1.0 mfd
TAC — 1 mfd and above.

## Condenser Products Company

Division of New Haven Clock & Watch Company

MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks



Net

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World Radio History

# "Glassmike" PLASTICON CAPACITORS
## Type LSG

LSG type capacitors have Plasticon L film-silicone fluid impregnant in Glassmike style case. Designed to compete with mica capacitors, the LSG capacitors are more applicable for Radio Frequency. Special beneficial features include greater safety factor, lower RF losses, more conveniently mounted, utilize less chassis space, impervious to moisture and smaller in overall volume.

| Part # | Size | Cap | Volts D.C. | List Price |
|---|---|---|---|---|
| 752-6C | 13/32 x1 | .0075 | 600 | $4.17 |
| 103-6C | ¾ x1 | .01 | 600 | 4.50 |
| 203-6C | 29/32 x1 | .02 | 600 | 5.50 |
| 253-6C | 29/32 x1 ½ | .025 | 600 | 5.50 |
| 303-6C | 29/32 x1 ½ | .03 | 600 | 5.50 |
| 403-6C | 29/32 x1 ½ | .04 | 600 | 5.50 |
| 503-6C | 29/32 x1 ½ | .05 | 600 | 5.50 |
| 603-6C | 29/32 x1 ½ | .06 | 600 | 5.50 |
| 753-6C | 1 1/16 x1 ½ | .075 | 600 | 6.17 |
| 104-6C | 1 1/16 x1 ½ | 0.1 | 600 | 6.17 |
| 154-6C | 1 3/16 x1 ½ | 0.15 | 600 | 7.00 |
| 204-6C | 1 3/16 x2 | 0.2 | 600 | 7.00 |
| 254-6C | 1 3/16 x2 ½ | 0.25 | 600 | 7.33 |
| 304-6C | 1 5/16 x2 ½ | 0.3 | 600 | 8.86 |
| 404-6C | 1 5/16 x2 ½ | 0.4 | 600 | 8.86 |
| 504-6C | 1 5/16 x3 | 0.5 | 600 | 10.80 |
| 502-1M | 13/32 x1 | .005 | 1000 | 5.00 |
| 602-1M | ¾ x1 | .006 | 1000 | 5.50 |
| 752-1M | ¾ x1 | .0075 | 1000 | 5.50 |
| 103-1M | ¾ x1 | .01 | 1000 | 5.50 |
| 203-1M | ¾ x1 ½ | .02 | 1000 | 5.85 |
| 253-1M | ¾ x1 ½ | .025 | 1000 | 5.85 |
| 303-1M | 13/16 x1 ½ | .03 | 1000 | 6.17 |
| 403-1M | 29/32 x1 ½ | .04 | 1000 | 6.85 |
| 503-1M | 1 1/16 x1 ½ | .05 | 1000 | 7.33 |
| 603-1M | 1 1/16 x1 ½ | .06 | 1000 | 7.33 |
| 753-1M | 1 1/16 x1 ½ | .075 | 1000 | 7.33 |
| 104-1M | 1 1/16 x2 | 0.1 | 1000 | 8.00 |
| 154-1M | 1 3/16 x2 | 0.15 | 1000 | 9.50 |
| 204-1M | 1 3/16 x2 ½ | 0.2 | 1000 | 10.80 |
| 254-1M | 1 5/16 x2 ½ | 0.25 | 1000 | 11.00 |
| 304-1M | 1 5/16 x3 | 0.3 | 1000 | 11.70 |
| 404-1M | 1 5/16 x3 ½ | 0.4 | 1000 | 12.70 |
| 202-25C | 13/32 x1 | .002 | 2500 | 5.15 |
| 252-25C | ¾ x1 | .0025 | 2500 | 5.50 |
| 302-25C | ¾ x1 | .003 | 2500 | 5.50 |
| 402-25C | ¾ x1 | .004 | 2500 | 5.50 |
| 502-25C | 13/16 x1 | .005 | 2500 | 5.85 |
| 602-25C | 13/16 x1 | .006 | 2500 | 5.85 |
| 752-25C | 29/32 x1 | .0075 | 2500 | 6.17 |
| 103-25C | 1 1/16 x1 | .01 | 2500 | 6.50 |
| 203-25C | 1 1/16 x1 ½ | .02 | 2500 | 7.18 |
| 253-25C | 1 1/16 x1 ½ | .025 | 2500 | 7.18 |
| 303-25C | 1 1/16 x1 ½ | .03 | 2500 | 7.18 |
| 403-25C | 1 1/16 x2 | .04 | 2500 | 8.00 |
| 503-25C | 1 3/16 x2 | .05 | 2500 | 8.68 |
| 603-25C | 1 3/16 x2 | .06 | 2500 | 8.68 |
| 753-25C | 1 5/16 x2 | .075 | 2500 | 10.40 |
| 104-25C | 1 5/16 x2 ½ | 0.1 | 2500 | 11.70 |
| 154-25C | 1 5/16 x3 ½ | 0.15 | 2500 | 12.70 |
| 601-35C | 13/32 x1 | .0006 | 3500 | 5.50 |
| 751-35C | ¾ x1 | .00075 | 3500 | 5.85 |
| 102-35C | ¾ x1 | .001 | 3500 | 5.85 |
| 202-35C | ¾ x1 | .002 | 3500 | 5.85 |
| 252-35C | 13/16 x1 | .0025 | 3500 | 6.20 |
| 302-35C | 29/32 x1 | .003 | 3500 | 7.00 |
| 402-35C | 29/32 x1 | .004 | 3500 | 7.00 |
| 502-35C | 1 1/16 x1 | .005 | 3500 | 7.50 |
| 602-35C | 1 1/16 x1 | .006 | 3500 | 7.50 |
| 752-35C | 1 3/16 x1 | .0075 | 3500 | 7.85 |
| 103-35C | 1 5/16 x1 | .01 | 3500 | 8.18 |
| 203-35C | 1 5/16 x1 ½ | .02 | 3500 | 8.50 |
| 253-35C | 1 5/16 x1 ½ | .025 | 3500 | 8.67 |
| 303-35C | 1 5/16 x2 | .03 | 3500 | 10.80 |
| 403-35C | 1 5/16 x2 | .04 | 3500 | 10.80 |
| 503-35C | 1 5/16 x2 ½ | .05 | 3500 | 11.65 |
| 603-35C | 1 5/16 x3 | .06 | 3500 | 12.35 |

| Part # | Size | Cap | Volts D.C. | List Price |
|---|---|---|---|---|
| 753-35C | 1 5/16 x3 | .075 | 3500 | $12.35 |
| 104-35C | 1 5/16 x4 | 0.1 | 3500 | 13.65 |
| 401-5M | 13/32 x2 | .0004 | 5000 | 8.00 |
| 501-5M | 13/32 x2 | .0005 | 5000 | 8.00 |
| 601-5M | ¾ x2 | .0006 | 5000 | 8.85 |
| 751-5M | ¾ x2 | .00075 | 5000 | 8.85 |
| 102-5M | ¾ x2 | .001 | 5000 | 8.85 |
| 202-5M | 13/16 x2 | .002 | 5000 | 9.65 |
| 252-5M | 13/16 x2 | .0025 | 5000 | 9.65 |
| 302-5M | 13/16 x2 | .003 | 5000 | 9.65 |
| 402-5M | 1 1/16 x2 | .004 | 5000 | 10.50 |
| 502-5M | 1 1/16 x2 | .005 | 5000 | 10.50 |
| 602-5M | 1 1/16 x2 | .006 | 5000 | 10.50 |
| 752-5M | 1 3/16 x2 | .0075 | 5000 | 11.50 |
| 103-5M | 1 3/16 x2 | .01 | 5000 | 11.50 |
| 203-5M | 1 3/16 x3 | .02 | 5000 | 12.50 |
| 253-5M | 1 3/16 x3 | .025 | 5000 | 12.50 |
| 303-5M | 1 3/16 x4 | .03 | 5000 | 15.00 |
| 403-5M | 1 5/16 x4 | .04 | 5000 | 16.70 |
| 503-5M | 1 5/16 x6 | .05 | 5000 | 18.70 |
| 603-5M | 1 5/16 x6 | .06 | 5000 | 20.70 |
| 753-5M | 1 5/16 x8 | .075 | 5000 | 22.70 |
| 104-5M | 1 5/16 x8 | 0.1 | 5000 | 24.70 |
| 301-7M | 13/32 x2 | .0003 | 7000 | 8.15 |
| 401-7M | ¾ x2 | .0004 | 7000 | 9.00 |
| 501-7M | ¾ x2 | .0005 | 7000 | 9.00 |
| 601-7M | ¾ x2 | .0006 | 7000 | 9.00 |
| 751-7M | ¾ x2 | .00075 | 7000 | 9.00 |
| 102-7M | ¾ x2 | .001 | 7000 | 9.00 |
| 202-7M | 29/32 x2 | .002 | 7000 | 11.00 |
| 252-7M | 1 1/16 x2 | .0025 | 7000 | 11.85 |
| 302-7M | 1 1/16 x2 | .003 | 7000 | 11.85 |
| 402-7M | 1 3/16 x2 | .004 | 7000 | 12.35 |
| 502-7M | 1 5/16 x2 | .005 | 7000 | 14.35 |
| 602-7M | 1 5/16 x2 | .006 | 7000 | 14.35 |
| 752-7M | 1 1/16 x4 | .0075 | 7000 | 17.00 |
| 103-7M | 1 1/16 x4 | .01 | 7000 | 17.00 |
| 203-7M | 1 5/16 x4 | .02 | 7000 | 18.65 |
| 253-7M | 1 5/16 x6 | .025 | 7000 | 21.30 |
| 303-7M | 1 5/16 x6 | .03 | 7000 | 21.30 |
| 403-7M | 1 3/16 x8 | .04 | 7000 | 23.00 |
| 503-7M | 1 5/16 x8 | .05 | 7000 | 23.00 |

| Part # | Size | Cap | Kilovolts D.C. | List Price |
|---|---|---|---|---|
| 201-10M | 13/32 x3 | .0002 | 10 | $10.80 |
| 301-10M | ¾ x3 | .0003 | 10 | 11.00 |
| 401-10M | ¾ x3 | .0004 | 10 | 11.00 |
| 501-10M | ¾ x3 | .0005 | 10 | 11.00 |
| 601-10M | 13/16 x3 | .0006 | 10 | 11.65 |
| 751-10M | 29/32 x3 | .00075 | 10 | 12.35 |
| 102-10M | 29/32 x3 | .001 | 10 | 12.35 |
| 202-10M | 1 1/16 x3 | .002 | 10 | 13.65 |
| 252-10M | 1 3/16 x3 | .0025 | 10 | 15.35 |
| 302-10M | 1 3/16 x3 | .003 | 10 | 15.35 |
| 402-10M | 1 5/16 x3 | .004 | 10 | 17.65 |
| 502-10M | 1 1/16 x6 | .005 | 10 | 21.30 |
| 602-10M | 1 1/16 x6 | .006 | 10 | 21.30 |
| 752-10M | 1 3/16 x6 | .0075 | 10 | 24.00 |
| 103-10M | 1 3/16 x6 | .01 | 10 | 24.00 |
| 203-10M | 1 5/16 x9 | .02 | 10 | 27.70 |
| 253-10M | 1 5/16 x9 | .025 | 10 | 27.70 |
| 101-14M | 13/32 x4 | .0001 | 14 | 12.00 |
| 201-14M | ¾ x4 | .0002 | 14 | 12.85 |
| 251-14M | ¾ x4 | .00025 | 14 | 12.85 |

| Part # | Size | Cap | Kilovolts D.C. | List Price |
|---|---|---|---|---|
| 301-14M | ¾ x4 | .0003 | 14 | $12.85 |
| 401-14M | ¾ x4 | .0004 | 14 | 12.85 |
| 501-14M | ¾ x4 | .0005 | 14 | 12.85 |
| 601-14M | 13/16 x4 | .0006 | 14 | 13.65 |
| 751-14M | 29/32 x4 | .00075 | 14 | 15.35 |
| 102-14M | 29/32 x4 | .001 | 14 | 15.35 |
| 202-14M | 1 3/16 x4 | .002 | 14 | 20.00 |
| 252-14M | 1 5/16 x4 | .0025 | 14 | 22.70 |
| 302-14M | 1 5/16 x4 | .003 | 14 | 22.70 |
| 402-14M | 1 1/16 x8 | .004 | 14 | 24.00 |
| 502-14M | 1 1/16 x8 | .005 | 14 | 24.00 |
| 602-14M | 1 3/16 x8 | .006 | 14 | 25.40 |
| 752-14M | 1 5/16 x8 | .0075 | 14 | 27.50 |
| 103-14M | 1 5/16 x8 | .01 | 14 | 27.70 |
| 101-17M | 13/32 x4 ¾ | .0001 | 17 | 14.00 |
| 201-17M | ¾ x4 ¾ | .0002 | 17 | 14.70 |
| 251-17M | ¾ x4 ¾ | .00025 | 17 | 14.70 |
| 301-17M | ¾ x4 ¾ | .0003 | 17 | 14.70 |
| 401-17M | ¾ x4 ¾ | .0004 | 17 | 14.70 |
| 501-17M | 13/16 x4 ¾ | .0005 | 17 | 16.00 |
| 601-17M | 29/32 x4 ¾ | .0006 | 17 | 17.35 |
| 751-17M | 1 1/16 x4 ¾ | .00075 | 17 | 19.00 |
| 102-17M | 1 1/16 x4 ¾ | .001 | 17 | 19.00 |
| 202-17M | 1 5/16 x4 ¾ | .002 | 17 | 21.85 |
| 252-17M | 1 5/16 x4 ¾ | .0025 | 17 | 21.85 |
| 302-17M | 1 3/16 x5 ¾ | .0030 | 17 | 23.00 |
| 402-17M | 1 5/16 x5 ¾ | .004 | 17 | 25.90 |
| 502-17M | 1 5/16 x6 ¾ | .005 | 17 | 29.00 |
| 101-20M | 13/32 x5 ¾ | .0001 | 20 | 16.00 |
| 201-20M | ¾ x5 ¾ | .0002 | 20 | 17.00 |
| 251-20M | ¾ x5 ¾ | .00025 | 20 | 17.00 |
| 301-20M | ¾ x5 ¾ | .0003 | 20 | 17.00 |
| 401-20M | 13/16 x5 ¾ | .0004 | 20 | 18.35 |
| 501-20M | 29/32 x5 ¾ | .0005 | 20 | 20.15 |
| 601-20M | 29/32 x5 ¾ | .0006 | 20 | 20.15 |
| 751-20M | 1 1/16 x5 ¾ | .00075 | 20 | 22.65 |
| 102-20M | 1 1/16 x5 ¾ | .001 | 20 | 22.65 |
| 202-20M | 1 5/16 x5 ¾ | .002 | 20 | 24.50 |
| 252-20M | 1 3/16 x7 | .0025 | 20 | 26.70 |
| 302-20M | 1 5/16 x7 | .003 | 20 | 28.70 |
| 402-20M | 1 5/16 x8 ½ | .004 | 20 | 30.20 |
| 750-25M | 13/32 x7 ¼ | .000075 | 25 | 20.15 |
| 101-25M | ¾ x7 ¼ | .0001 | 25 | 21.70 |
| 201-25M | ¾ x7 ¼ | .0002 | 25 | 21.70 |
| 251-25M | ¾ x7 ¼ | .00025 | 25 | 21.70 |
| 301-25M | 13/16 x7 ¼ | .0003 | 25 | 22.20 |
| 401-25M | 29/32 x7 ¼ | .0004 | 25 | 25.00 |
| 501-25M | 29/32 x7 ¼ | .0005 | 25 | 25.00 |
| 601-25M | 1 1/16 x7 ¼ | .0006 | 25 | 27.50 |
| 751-25M | 1 3/16 x7 ¼ | .00075 | 25 | 31.20 |
| 102-25M | 1 3/16 x7 ¼ | .001 | 25 | 31.20 |
| 202-25M | 1 5/16 x7 ¼ | .002 | 25 | 35.40 |
| 252-25M | 1 5/16 x9 ½ | .0025 | 25 | 45.00 |
| 302-25M | 1 5/16 x9 ½ | .003 | 25 | 45.00 |
| 500-30M | 13/32 x9 | .00005 | 30 | 23.70 |
| 600-30M | ¾ x9 | .00006 | 30 | 25.00 |
| 750-30M | ¾ x9 | .000075 | 30 | 25.00 |
| 101-30M | ¾ x9 | .0001 | 30 | 25.00 |
| 201-30M | ¾ x9 | .0002 | 30 | 25.00 |
| 251-30M | 13/16 x9 | .00025 | 30 | 30.70 |
| 301-30M | 29/32 x9 | .0003 | 30 | 37.00 |
| 401-30M | 29/32 x9 | .0004 | 30 | 37.00 |
| 501-30M | 1 1/16 x9 | .0005 | 30 | 44.00 |
| 601-30M | 1 1/16 x9 | .0006 | 30 | 44.00 |
| 751-30M | 1 3/16 x9 | .00075 | 30 | 46.00 |
| 102-30M | 1 5/16 x9 | .001 | 30 | 50.00 |

**Condenser Products Company**

Division of New Haven Clock & Watch Company

**MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks**

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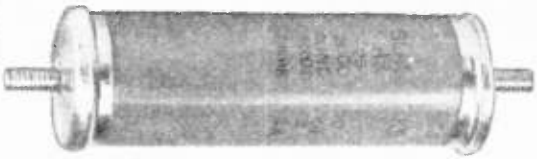
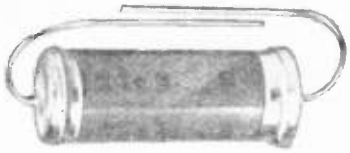
World Radio History

# "Glassmike" PLASTICON CAPACITORS





## Type ASG

Type ASG are Plasticon A dielectric-silicone fluid impregnated capacitor elements in hermetically sealed glass tubes. Standard range —60°C to +85°C, extended range —60°C to +125°C with proper derating. The smallest and lightest high voltage capacitors made. Type ASG are ideal for DC and low frequency AC applications. All 19/32 diameter Glassmikes are supplied with pigtail leads.

Plasticon dielectric is superior to the finest linen or kraft condenser paper hitherto used. Plasticon is a thin plastic film, free from metallic particles or other foreign matter. Much higher tensile strength than paper and does not become brittle with age and heat. Not porous as paper and has higher breakdown voltage.

| Cat. No. | Cap. Mfd. | Volts D.C. | Dimensions Dia. & Length | List Price |
|---|---|---|---|---|
| ASG103-6C | .01 | 600 | 19/32 x1 3/16 | $ 1.50 |
| ASG203-6C | .02 | 600 | 19/32 x1 3/16 | 1.60 |
| ASG303-6C | .03 | 600 | 19/32 x1 3/16 | 1.60 |
| ASG403-6C | .04 | 600 | 19/32 x1 3/16 | 1.60 |
| ASG503-6C | .05 | 600 | 19/32 x1 3/16 | 1.75 |
| ASG603-6C | .06 | 600 | 19/32 x1 3/16 | 1.75 |
| ASG753-6C | .075 | 600 | 19/32 x1 3/16 | 1.75 |
| ASG104-6C | .1 | 600 | ¾ x1 ¾ | 1.95 |
| ASG204-6C | .2 | 600 | 13/16 x1 ¾ | 2.15 |
| ASG254-6C | .25 | 600 | 29/32 x2 ¼ | 2.25 |
| ASG304-6C | .3 | 600 | 29/32 x1 ¾ | 2.35 |
| ASG504-6C | .5 | 600 | 29/32 x2 ¾ | 2.60 |
| ASG105-6C | 1.0 | 600 | 1 ⅜ x2 | 3.90 |
| ASG502-1M | .005 | 1000 | 19/32 x1 3/16 | 2.85 |
| ASG103-1M | .01 | 1000 | 19/32 x1 3/16 | 2.85 |
| ASG203-1M | .02 | 1000 | 19/32 x1 3/16 | 2.85 |
| ASG503-1M | .05 | 1000 | ¾ x1 ¾ | 3.08 |
| ASG104-1M | .1 | 1000 | ¾ x2 ¼ | 3.08 |
| ASG254-1M | .25 | 1000 | 29/32 x2 ¾ | 3.08 |
| ASG504-1M | .5 | 1000 | 1 ⅛ x2 ¼ | 2.90 |
| ASG202-2M | .002 | 2000 | 19/32 x1 3/16 | 2.75 |
| ASG502-2M | .005 | 2000 | 19/32 x1 3/16 | 2.75 |
| ASG103-2M | .01 | 2000 | 19/32 x1 3/16 | 2.75 |
| ASG203-2M | .02 | 2000 | 19/32 x1 3/16 | 2.85 |
| ASG503-2M | .05 | 2000 | ¾ x1 ¾ | 3.08 |
| ASG104-2M | .1 | 2000 | ¾ x2 ¼ | 3.18 |
| ASG254-2M | .25 | 2000 | 29/32 x2 ¾ | 3.55 |
| ASG504-2M | .5 | 2000 | 1 ⅜ x2 | 4.10 |
| ASG102-3M | .001 | 3000 | 19/32 x1 3/16 | 4.08 |
| ASG202-3M | .002 | 3000 | 19/32 x1 3/16 | 4.08 |
| ASG502-3M | .005 | 3000 | 19/32 x1 3/16 | 4.08 |
| ASG103-3M | .01 | 3000 | 19/32 x1 3/16 | 4.25 |
| ASG203-3M | .02 | 3000 | ¾ x1 ¾ | 4.95 |
| ASG503-3M | .05 | 3000 | 29/32 x2 ¼ | 5.45 |
| ASG104-3M | .1 | 3000 | 1 ⅛ x2 ¼ | 6.00 |
| ASG254-3M | .25 | 3000 | 1 ⅜ x2 | 6.60 |
| ASG102-4M | .001 | 4000 | 19/32 x1 3/16 | 5.60 |
| ASG202-4M | .002 | 4000 | 19/32 x1 3/16 | 5.70 |
| ASG502-4M | .005 | 4000 | 19/32 x1 ⅝ | 5.90 |
| ASG103-4M | .01 | 4000 | ¾ x1 3/16 | 6.10 |
| ASG203-4M | .02 | 4000 | ¾ x1 ¾ | 6.40 |
| ASG503-4M | .05 | 4000 | 1 3/16 x2 | 6.50 |
| ASG104-4M | .1 | 4000 | 1 ⅛ x2 | 7.40 |
| ASG102-5M | .001 | 5000 | 19/32 x1 3/16 | 6.30 |
| ASG202-5M | .002 | 5000 | 19/32 x1 3/16 | 6.40 |
| ASG502-5M | .005 | 5000 | 19/32 x1 ⅝ | 6.50 |
| ASG103-5M | .01 | 5000 | ¾ x1 ¾ | 6.80 |
| ASG203-5M | .02 | 5000 | ¾ x2 ¼ | 7.20 |
| ASG503-5M | .05 | 5000 | 29/32 x2 ¼ | 7.60 |
| ASG104-5M | .1 | 5000 | 1 ⅜ x3 ½ | 8.50 |

| Cat. No. | Cap. Mfd. | Volts D.C. | Dimensions Dia. & Length | List Price |
|---|---|---|---|---|
| ASG501-8M | .0005 | 8000 | 19/32 x1 3/16 | $ 6.50 |
| ASG102-8M | .001 | 8000 | 19/32 x1 3/16 | 6.50 |
| ASG202-8M | .002 | 8000 | 13/16 x1 ¾ | 6.80 |
| ASG502-8M | .005 | 8000 | ¾ x1 ¾ | 7.00 |
| ASG103-8M | .01 | 8000 | ¾ x2 ¼ | 7.50 |
| ASG203-8M | .02 | 8000 | 29/32 x2 ¾ | 8.60 |
| ASG503-8M | .05 | 8000 | 1 ⅜ x4 ¼ | 11.00 |
| ASG501-10M | .0005 | 10,000 | 19/32 x1 ⅝ | 7.00 |
| ASG102-10M | .001 | 10,000 | 19/32 x1 ⅝ | 7.20 |
| ASG202-10M | .002 | 10,000 | 19/32 x1 ⅝ | 7.40 |
| ASG502-10M | .005 | 10,000 | 13/16 x1 ¾ | 8.50 |
| ASG103-10M | .01 | 10,000 | 29/32 x3 ½ | 9.20 |
| ASG203-10M | .02 | 10,000 | 1 ⅛ x2 ¾ | 11.40 |
| ASG303-10M | .03 | 10,000 | 1 ⅜ x2 ¾ | 14.60 |
| ASG603-10M | .06 | 10,000 | 1 ⅜ x4 ¼ | 17.50 |
| ASG501-15M | .0005 | 15,000 | 19/32 x2 ¼ | 13.50 |
| ASG102-15M | .001 | 15,000 | ¾ x2 ¼ | 13.80 |
| ASG202-15M | .002 | 15,000 | ¾ x2 ¼ | 14.60 |
| ASG502-15M | .005 | 15,000 | 1 ⅛ x2 ¾ | 17.00 |
| ASG103-15M | .01 | 15,000 | 1 ⅛ x3 ¾ | 20.00 |
| ASG203-15M | .02 | 15,000 | 1 ⅜ x4 ½ | 22.00 |
| ASG501-20M | .0005 | 20,000 | 13/16 x3 ½ | 18.00 |
| ASG102-20M | .001 | 20,000 | ¾ x3 ½ | 19.00 |
| ASG202-20M | .002 | 20,000 | 13/16 x3 ½ | 21.00 |
| ASG502-20M | .005 | 20,000 | 1 ⅛ x3 ½ | 22.50 |
| ASG103-20M | .01 | 20,000 | 1 ⅜ x4 ½ | 24.00 |
| ASG501-30M | .0005 | 30,000 | 13/16 x4 3/16 | 21.00 |
| ASG102-30M | .001 | 30,000 | ¾ x5 | 23.50 |
| ASG202-30M | .002 | 30,000 | 1 ⅛ x4 ¼ | 26.00 |
| ASG502-30M | .005 | 30,000 | 1 ⅜ x5 | 28.00 |
| ASG501-40M | .0005 | 40,000 | ¾ x6 ½ | 22.50 |
| ASG102-40M | .001 | 40,000 | 13/16 x6 ½ | 26.00 |
| ASG202-40M | .002 | 40,000 | 1 ⅛ x6 ½ | 28.00 |
| ASG501-50M | .0005 | 50,000 | ¾ x8 ¼ | 24.50 |
| ASG102-50M | .001 | 50,000 | 13/16 x8 ¼ | 28.00 |
| ASG202-50M | .002 | 50,000 | 1 ⅛ x8 ¼ | 31.50 |
| ASG502-50M | .005 | 50,000 | 1 ⅜ x10 ¼ | 36.00 |
| ASG501-60M | .0005 | 60,000 | ¾ x11 | 28.50 |
| ASG102-60M | .001 | 60,000 | 29/32 x11 | 34.00 |

Other prices and values by quotation.

**Condenser Products Company**

Division of New Haven Clock & Watch Company

MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks



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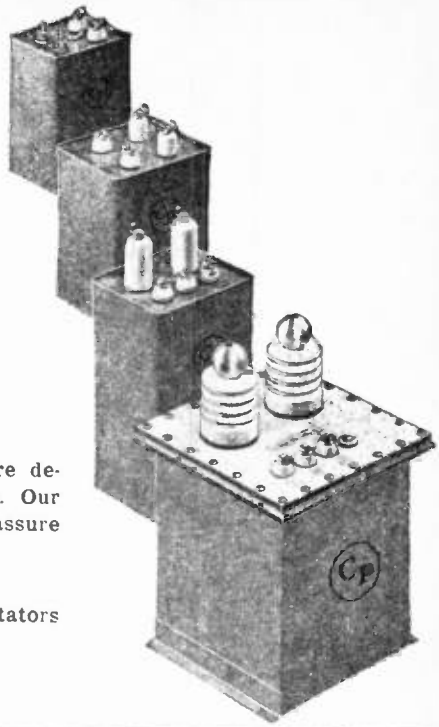
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# HiVolt POWER SUPPLIES



## Where size and weight must be kept to a minimum —

These hermetically-sealed, self-contained power supplies are designed for Hi Voltage low current DC for many applications. Our exclusive engineering techniques and oil-filled construction assure smaller, lighter, more flexible units.

**APPLICATIONS:**

- radiation counters
- spectrographic analyzers
- projection television sets
- dust and electrostatic precipitators
- oscilloscopes
- display tubes, etc.

| Model # | Output Voltage | Rated Output Current | Max. Output Current | % Ripple at Rated Current | Circuit | Case Size | Weight |
|---|---|---|---|---|---|---|---|
| PS 2-2M60 | 2 KV DC | 2.0 ma | 5.0 ma | 1.5 | Half Wave | 3¾ x 3 3/16 x 5½ | 4.5 pounds |
| PS 5-5M60 | 5 KV DC | 5.0 ma | 5.0 | 1.5 | Half Wave | 3¾ x 4 5/16 x 6 | 9 pounds |
| PS10-1M60V | 0-12 KV DC | 1.0 ma | 1.75ma | 3.0 | Full Wave Doubler | 3¾ x 4 5/16 x 8 | 11.5 pounds |
| PS15-1M60V | 0-15 KV DC | 1.0 ma | 1.75ma | 3.0 | Full Wave Doubler | 3¾ x 4 5/16 x 9 | 12 pounds |
| PS30-1M60V | 0-30 KV DC | 1.0 ma | 1.5 ma | 3.0 | Full Wave Doubler | 7 x 7 x 8¼ | 25 pounds |
| PS50-2M60VT | 0-50 KV DC | 2.0 ma | 4.0 ma | 1.5 | Full Wave Tripler | 12½ x 12½ x 12½ | 30 pounds |

NOTES: *The PS 50 supply has a separate accessible compartment for the rectifier tubes.
1. Hivolt Supplies are rated at 118 V AC input, 60 cycles.
2. Hivolt Supplies for 400 cycle operation are also available for aircraft use, built to military specifications.
3. Hivolt Supplies are engineered for various applications. Send us your requirements.

## LABORATORY GRADE PLASTICON CAPACITORS

Low dielectric absorption, .01-.02% residual. Low dissipation factor, .0002-.0003 at 1 MC. Constant Q and capacitance, from DC to 100 KC. High insulation resistance, $10^{12}$ ohms/mfd. average. Negative temp. coefficient, minus 400-500 ppm/°C. Rated voltage 500 V DC. Resistance and absorption readings taken at 200 V DC. 2% and 5% standard tolerances, 1% to order. Type LAG Glassmike style. Type LAC rectangular metal can.

| No. | Mfd. | Dimensions | List Price 5% Tolerance |
|---|---|---|---|
| LAG101 | .0001 | 13/32 x 1" | $ 6.25 |
| LAG201 | .0002 | 13/32 x 1" | 6.33 |
| LAG501 | .0005 | 13/32 x 1" | 6.50 |
| LAG102 | .001 | ¾ x 1" | 6.67 |
| LAG202 | .002 | ¾ x 1" | 6.83 |
| LAG502 | .005 | ¾ x 1" | 7.25 |
| LAG103 | .01 | 23/32 x 1" | 7.75 |
| LAG203 | .02 | 23/32 x 1" | 8.50 |
| LAG503 | .05 | 1⅜ x 1" | 9.33 |
| LAC104 | .1 | 2¼ x 1¾ x 1" | 12.83 |
| LAC204 | .2 | 2¼ x 2½ x 1 3/16" | 13.83 |
| LAC504 | .5 | 4 x 2½ x 1 3/16" | 15.83 |
| LAC105 | 1. | 4⅝ x 3¾ x 1¼" | 27.50 |
| LAC205 | 2. | 4⅝ x 3¾ x 2¼" | 40.83 |
| LAC505 | 5. | 6 x 4 9/16 x 3¾" | 88.33 |

**Condenser Products Company**

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World Radio History

# INSULATED RESISTORS

## TYPE BT FIXED COMPOSITION CARBON RESISTORS

More IRC Filament Type BT Resistors are used in the electronic industry than any other brand of fixed composition resistors. For original equipment, IRC BT's are by far the leading choice of Electronic Engineers. For replacement, Service Technicians favor IRC BT's over all other brands combined.

IRC's exclusive filament-type resistance element is combined with superior construction features to provide a stable resistor of extremely low operating temperature and excellent power dissipation in a compact, light weight, fully insulated unit.

## COLOR CODING AND STAMPING

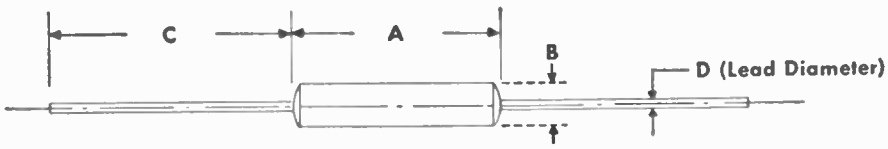
Resistance values are clearly indicated by standard EIA (formerly RETMA) Color Code. All resistors in Distributor Packages, except BTR, are individually stamped with value and wattage.

| IRC TYPE NUMBER | BTR | BTS | BTA | BTB | BW-½ | BW-1 | BW-2 |
|---|---|---|---|---|---|---|---|
| Element Style | Carbon Filament | Carbon Filament | Carbon Filament | Carbon Filament | Wire Wound | Wire Wound | Wire Wound |
| Equivalent MIL TYPE | RC09 | RC20 | RC30 | | RU3 Max. 470 ohms | RU4 Max. 2200 ohms | RU6 Max. 3300 ohms |
| MIL CHARACTERISTICS | GF | GF | GF | | B | B | |
| Rating in Watts 70° Ambient—BT 40° Ambient—BW | ¼ | ½ | 1 | 2 | ½ | 1 | 2 |
| Minimum Resistance | 10 Ohms | 10 Ohms | 10 Ohms | 100 Ohms | 0.24 Ohm | 0.47 Ohm | 1.0 Ohm |
| Maximum Resistance | 22 Meg. | 22 Meg. | 22 Meg. | 22 Meg. | 820 Ohms | 5100 Ohms | 8200 Ohms |
| Rated Voltage | 250V | 350V | 500V | 500V | | | |
| Dimensions (Fig. 1) A—Body Length B—Body Diameter C—Lead Length D—Lead Diameter | 13/32" 3/32" 1½±⅛" .028" | 13/32" ⅛" 1½±⅛" .032" | 23/32" ¼" 1½±⅛" .040" | 1¼" ¼" 1½±⅛" .043" | ⅝" 3/16" 1½±⅛" .032" | 1¼" ¼" 1½±⅛" .036" | 1¾" 21/64" 1½±⅛" .036" |
| List Price 10% Tolerance 5% Tolerance | $0.20 $0.40 | $0.20 $0.40 | $0.30 $0.60 | $0.40 $0.80 | .27-8.2Ω ±10% $.40 10-820Ω ±10% $.33 .24-9.1Ω ±5% $.80 10-820Ω ±5% $.50 | .47-4700Ω ±10% $.50 .47-4700Ω ±5% $.75 | 1-8200Ω ±10% $.67 1-8200Ω ±5% $1.00 |

NOTE: Consult your IRC Distributor for prices in lots of 100 and over per item.

Figure 1

Dimensions



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World Radio History

## TYPE BW INSULATED WIRE WOUND RESISTORS

Type BW's are exceptionally stable, inexpensive wire wound resistors for low range requirements. These small, completely insulated units are similar in appearance to insulated composition resistors but are readily identified by the double width of the first color code band.

The wire element is uniformly and tightly wound on an insulated core. Tinned, solid wire leads are keyed to the element by a specially designed terminal. Leads are anchored inside the insulation and cannot turn or pull loose.

# IRC INSULATED RESISTORS

## STANDARD STOCK VALUES

BT and BW Insulated Resistors are available in EIA (formerly RETMA) Ranges within the maximum and minimum values for each type. Stock values are listed below.

### STANDARD VALUES AT ±10% TOLERANCE

| OHM | OHMS | OHMS | OHMS | OHMS | OHMS | OHMS | MEGS | MEGS |
|---|---|---|---|---|---|---|---|---|
| — | 1.0 | 10 | 100 | 1,000 | 10K | 100K | 1.0 | 10 |
| — | 1.2 | 12 | 120 | 1,200 | 12K | 120K | 1.2 | 12 |
| — | 1.5 | 15 | 150 | 1,500 | 15K | 150K | 1.5 | 15 |
| — | 1.8 | 18 | 180 | 1,800 | 18K | 180K | 1.8 | 18 |
| — | 2.2 | 22 | 220 | 2,200 | 22K | 220K | 2.2 | 22 |
| 0.27 | 2.7 | 27 | 270 | 2,700 | 27K | 270K | 2.7 | — |
| 0.33 | 3.3 | 33 | 330 | 3,300 | 33K | 330K | 3.3 | — |
| 0.39 | 3.9 | 39 | 390 | 3,900 | 39K | 390K | 3.9 | — |
| 0.47 | 4.7 | 47 | 470 | 4,700 | 47K | 470K | 4.7 | — |
| 0.56 | 5.6 | 56 | 560 | 5,600 | 56K | 560K | 5.6 | — |
| 0.68 | 6.8 | 68 | 680 | 6,800 | 68K | 680K | 6.8 | — |
| 0.82 | 8.2 | 82 | 820 | 8,200 | 82K | 820K | 8.2 | — |

### STANDARD VALUES AT ±5% TOLERANCE

| OHM | OHMS | OHMS | OHMS | OHMS | OHMS | OHMS | MEGS | MEGS |
|---|---|---|---|---|---|---|---|---|
| — | 1.0 | 10 | 100 | 1,000 | 10K | 100K | 1.0 | 10 |
| — | 1.1 | 11 | 110 | 1,100 | 11K | 110K | 1.1 | 11 |
| — | 1.2 | 12 | 120 | 1,200 | 12K | 120K | 1.2 | 12 |
| — | 1.3 | 13 | 130 | 1,300 | 13K | 130K | 1.3 | 13 |
| — | 1.5 | 15 | 150 | 1,500 | 15K | 150K | 1.5 | 15 |
| — | 1.6 | 16 | 160 | 1,600 | 16K | 160K | 1.6 | 16 |
| — | 1.8 | 18 | 180 | 1,800 | 18K | 180K | 1.8 | 18 |
| — | 2.0 | 20 | 200 | 2,000 | 20K | 200K | 2.0 | 20 |
| — | 2.2 | 22 | 220 | 2,200 | 22K | 220K | 2.2 | 22 |
| 0.24 | 2.4 | 24 | 240 | 2,400 | 24K | 240K | 2.4 | — |
| 0.27 | 2.7 | 27 | 270 | 2,700 | 27K | 270K | 2.7 | — |
| 0.30 | 3.0 | 30 | 300 | 3,000 | 30K | 300K | 3.0 | — |
| 0.33 | 3.3 | 33 | 330 | 3,300 | 33K | 330K | 3.3 | — |
| 0.36 | 3.6 | 36 | 360 | 3,600 | 36K | 360K | 3.6 | — |
| 0.39 | 3.9 | 39 | 390 | 3,900 | 39K | 390K | 3.9 | — |
| 0.43 | 4.3 | 43 | 430 | 4,300 | 43K | 430K | 4.3 | — |
| 0.47 | 4.7 | 47 | 470 | 4,700 | 47K | 470K | 4.7 | — |
| 0.51 | 5.1 | 51 | 510 | 5,100 | 51K | 510K | 5.1 | — |
| 0.56 | 5.6 | 56 | 560 | 5,600 | 56K | 560K | 5.6 | — |
| 0.62 | 6.2 | 62 | 620 | 6,200 | 62K | 620K | 6.2 | — |
| 0.68 | 6.8 | 68 | 680 | 6,800 | 68K | 680K | 6.8 | — |
| 0.75 | 7.5 | 75 | 750 | 7,500 | 75K | 750K | 7.5 | — |
| 0.82 | 8.2 | 82 | 820 | 8,200 | 82K | 820K | 8.2 | — |
| 0.91 | 9.1 | 91 | 910 | 9,100 | 91K | 910K | 9.1 | — |

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World Radio History

# RESIST-O-CABINETS and RESIST-O-KITS

## ALL METAL RESIST-O-CABINETS

4 practical assortments of most frequently used IRC Resistors.

4 "non-spill" drawers with 28 identified compartments. Attractive blue, yellow and silver finish. Designed for stacking. Cabinets measure 5 7/8" x 5 1/16" x 10 7/8".

### ½ WATT ASSORTMENT #4A

150 BTS ½ Watt Resistors. **List Price $30.00**

| QUANTITY | RANGE |
|---|---|
| 3 | 47 ohms |
| 4 | 100 ohms |
| 3 | 220 ohms |
| 3 | 270 ohms |
| 4 | 470 ohms |
| 8 | 1,000 ohms |
| 4 | 1,500 ohms |
| 4 | 2,200 ohms |
| 4 | 2,700 ohms |
| 5 | 3,300 ohms |
| 7 | 4,700 ohms |
| 7 | 10K ohms |
| 5 | 22K ohms |
| 5 | 27K ohms |
| 5 | 33K ohms |
| 8 | 47K ohms |
| 4 | 56K ohms |
| 4 | 68K ohms |
| 8 | 100K ohms |
| 7 | 220K ohms |
| 8 | 270K ohms |
| 5 | 330K ohms |
| 8 | 470K ohms |
| 8 | 1.0 meg. |
| 7 | 2.2 meg. |
| 4 | 3.3 meg. |
| 5 | 4.7 meg. |
| 3 | 10.0 meg. |

### 1 WATT ASSORTMENT #5A

125 BTA 1 Watt Resistors. **List Price $37.50**

| QUANTITY | RANGE |
|---|---|
| 3 | 47 ohms |
| 3 | 100 ohms |
| 3 | 150 ohms |
| 3 | 220 ohms |
| 3 | 270 ohms |
| 3 | 470 ohms |
| 7 | 1,000 ohms |
| 3 | 1,500 ohms |
| 5 | 2,200 ohms |
| 3 | 2,700 ohms |
| 3 | 3,300 ohms |
| 5 | 4,700 ohms |
| 7 | 10K ohms |
| 3 | 15K ohms |
| 5 | 22K ohms |
| 7 | 27K ohms |
| 4 | 33K ohms |
| 1 | 39K ohms |
| 7 | 47K ohms |
| 4 | 68K ohms |
| 7 | 100K ohms |
| 3 | 150K ohms |
| 3 | 220K ohms |
| 7 | 270K ohms |
| 7 | 470K ohms |
| 7 | 1.0 meg. |
| 3 | 2.2 meg. |
| 3 | 4.7 meg. |

### 2 WATT ASSORTMENT #3A

120 BW-2 and BTB 2 Watt Resistors. **List Price $48.00**

| QUANTITY | RANGE |
|---|---|
| 2 | 4.7 ohms |
| 2 | 10 ohms |
| 1 | 15 ohms |
| 2 | 22 ohms |
| 1 | 27 ohms |
| 1 | 33 ohms |
| 1 | 39 ohms |
| 3 | 47 ohms |
| 2 | 68 ohms |
| 3 | 82 ohms |
| 4 | 100 ohms |
| 3 | 150 ohms |
| 3 | 220 ohms |
| 3 | 270 ohms |
| 4 | 330 ohms |
| 4 | 470 ohms |
| 5 | 1,000 ohms |
| 4 | 1,500 ohms |
| 4 | 2,200 ohms |
| 4 | 3,300 ohms |
| 3 | 3,900 ohms |
| 4 | 4,700 ohms |
| 5 | 6,800 ohms |
| 7 | 8,200 ohms |
| 7 | 10K ohms |
| 5 | 15K ohms |
| 7 | 22K ohms |
| 4 | 27K ohms |
| 7 | 47K ohms |
| 5 | 100K ohms |
| 3 | 220K ohms |
| 3 | 470K ohms |
| 4 | 1.0 meg. |

### COMB. ASSORTMENT #6A

139 Insulated Resistors & Type DCF Tolerance Resistors. **List Price $38.70**

| RANGE | ½ Watt | 1 Watt | 2 Watt | DCF |
|---|---|---|---|---|
| 47 ohms | 2 | 1 | 1 | - |
| 100 ohms | 2 | 1 | 1 | - |
| 150 ohms | 2 | 1 | - | - |
| 220 ohms | 2 | 1 | - | - |
| 270 ohms | 2 | 1 | - | - |
| 470 ohms | 2 | 1 | 1 | - |
| 1,000 ohms | 4 | 4 | - | 1 |
| 1,500 ohms | 2 | 1 | - | - |
| 2,200 ohms | 2 | 1 | - | - |
| 2,700 ohms | 2 | 1 | - | - |
| 3,300 ohms | 2 | 2 | - | - |
| 4,700 ohms | 3 | 1 | 1 | - |
| 10K ohms | 3 | 4 | 1 | 1 |
| 15K ohms | 2 | 2 | - | - |
| 22K ohms | 2 | 2 | 1 | - |
| 27K ohms | 2 | 4 | - | - |
| 33K ohms | 2 | 1 | - | - |
| 39K ohms | 2 | 1 | - | - |
| 47K ohms | 4 | 3 | 1 | - |
| 68K ohms | 2 | 2 | - | - |
| 100K ohms | 4 | 4 | - | 1 |
| 150K ohms | 2 | 2 | - | - |
| 220K ohms | 3 | 1 | - | - |
| 270K ohms | 4 | 2 | - | - |
| 470K ohms | 4 | 3 | - | - |
| 1.0 meg. | 4 | 4 | - | 1 |
| 2.2 meg. | 3 | 3 | - | - |
| 4.7 meg. | 2 | 1 | - | - |
| 5.0 meg. | - | - | - | 1 |


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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

## MICROSTAK SELENIUM DIODES

Type GA Microstak Diodes for use in low current circuits where very high back resistance and low forward resistance are required. Miniature selenium cells with outstanding performance characteristics, they are ideal for such applications as A. V. C., switching, blocking and bias supplies. Design and small size give high frequency performance not found in conventional cells — tests prove their successful performance in circuit applications up to 1 megacycle. Hermetically sealed to assure stable operation under high humidity, dust, fumes and changing pressures.

Dimensions: (Type 6GA1) Length of leads — 1½". Body length — .450". Diameter — .145". (Type 9GA1) Length of leads — 1½". Body length — .500". Diameter — .210".

### TYPE 6GA1

**Stock No. 6GA1-2B.** Minimum forward current (at 2 V.D.C.) is 0.5 M.A. and corresponding resistance, 4000 ohms. Maximum inverse current (at 20 V.D.C.) is 20 microamperes and corresponding resistance, 1 megohm. Peak inverse volts —36. Continuous inverse volts —22. Maximum A.C. input (RMS volts with resistive load only) —26. Temperature range is —55°C to +90°C. Shunt capacitance — approximately 25 mmf (measured with two plates back-to-back on 1000 cycle bridge).

List $1.67

**Stock No. 6GA1-3C.** Minimum forward current (at 2 V.D.C.) is 1 M.A. and corresponding resistance, 2000 ohms. Maximum inverse current (at 20 V.D.C.) is 10 microamperes and corresponding resistance, 2 megohms.

List $2.25

### TYPE 9GA1

**Stock No. 9GA1-2B.** Characteristics are the same as the 6GA1-2B.

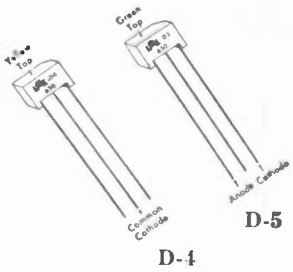
List $1.50

**Stock No. 9GA1-3C.** Characteristics are the same as the 6GA1-3C.

List $2.04

# IRC SELENIUM DIODES & FUSE RESISTORS

## IRC DUAL DIODES




New IRC Universal Selenium Dual Diodes for horizontal phase detectors and remote control in TV Receivers. Also used in radio control devices for model planes, and other circuits. Two basic types: (1) common cathode; (2) series diodes. Sealed in plastic housing. Attractively packaged.

D4 (replaces former D1 and D2). Common cathode dual diode to replace the following Mfrs.' Parts: G.E. K115J510-1, -2; Hallicrafter 27C226; Hoffman 10031; Motorola 48K741255; Philco 34-8037-1-2.

**List Price $1.65**

D5 (replaces former D3). Series connected dual diode to replace the following Mfrs.' Parts: Admiral 93A5-2; Citizenship Radio 34-8037; Magnavox 530045-1,-2; Motorola 48K741752; Webcor 65P124.

**List Price $1.65**

## NEW IRC TYPE FR FUSE RESISTOR

New IRC Fuse-Resistor. Modern design in rectangular ceramic shell. Equipped with plug-in terminals. Available in three popular resistance values. Attractively packaged.

| | |
|---|---|
| FR5 —Fuse-Resistor 5.0 ohms | List $ .75 |
| FR5.6—Fuse-Resistor 5.6 ohms | List $ .75 |
| FR7.5—Fuse-Resistor 7.5 ohms | List $ .75 |

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World Radio History

# IRC

# TYPE Q
# VOLUME CONTROLS

## RADIO-TV TECHNICIANS'
## TYPE Q VOLUME CONTROL

IRC's Type Q Control is the basic control for servicing all sets. It is carefully engineered to meetmostreplacement requirements with a minimum stock. The quality appearance and "cushioned turn" of the Q Control assure customer satisfaction. Easier installation and dependble performance provide more profitable servicing.

### KNOB MASTER STANDARD FIXED SHAFT

Standard shaft is knurled, flatted and slotted and fits most knobs without alteration. For knurled or spring type push-on knobs, cut to length. For over-size, worn or web type knobs, split shaft slot lengthwise and spread ends. For positioned knobs, bend down control locating pins and rotate control base for correct knob position.

### ¼" LONG BUSHING

Shorter bushing and compact 15/16" design suit Q Controls to all small sets, yet handle large set needs as well.

### "Q" CONTROLS IN ORDER OF RESISTANCE

| Ohms | Tap | Stock No. | T |
|---|---|---|---|
| 250 | | Q11-201 | A |
| 500 | | Q11-103 | A |
| 750 | | Q11-105 | A |
| 750 | | Q17-105 | P |
| 750 | 250 | Q17-105X | S |
| 1000 | | Q11-108 | A |
| 1000 | | Q17-108 | P |
| 1500 | | Q11-109 | A |
| 1500 | | Q17-109 | Q |
| 2000 | | Q11-110 | A |
| 2000 | | Q17-110 | Q |
| 2000 | 250-500 | Q17-110XX | S |
| 2500 | | Q13-111 | C |
| 2500 | | Q17-111 | Q |
| 3000 | | Q11-112 | A |
| 3000 | | Q17-112 | Q |
| 5000 | | Q11-114 | A |
| 5000 | | Q13-114 | C |
| 5000 | | Q17-114 | Q |
| 7500 | | Q11-115 | A |
| 10K | | Q11-116 | A |
| 10K | | Q13-116 | C |
| 10K | | Q14-116 | D |
| 10K | | Q17-116 | Q |
| 15K | 10K | Q13-118X | S |
| 15K | 5K-10K | Q13-118XX | S |
| 15K | 5K | Q17-118X | S |
| 15K | 5K-10K | Q17-118XX | S |
| 20K | | Q11-119 | A |
| 20K | | Q16-119 | S |
| 25K | | Q11-120 | A |
| 25K | | Q13-120 | C |
| 25K | | Q14-120 | D |
| 30K | | Q11-121 | A |
| 35K | | Q11-122 | A |
| 50K | | Q11-123 | A |
| 50K | | Q13-123 | C |
| 50K | | Q14-123 | D |
| 75K | | Q11-125 | A |
| 100K | | Q11-128 | A |
| 100K | | Q13-128 | C |
| 125K | | Q11-228 | A |
| 150K | | Q11-328 | A |
| 150K | | Q13-328 | C |
| 150K | 19K-38K | Q17-328XX | S |
| 200K | | Q11-129 | A |
| 250K | | Q11-130 | A |
| 250K | | Q13-130 | C |
| 250K | 60K | Q18-130X | H |
| 250K | 125K | Q13-130X | S |
| 250K | 60K-120K | Q18-130XX | S |
| 300K | | Q11-131 | A |
| 350K | | Q11-132 | A |
| 350K | | Q13-132 | C |
| 350K | 35K | Q17-132X | S |
| 350K | 75K | Q18-132X | H |
| 500K | | Q11-133 | A |
| 500K | | Q13-133 | C |
| 500K | | Q14-133 | D |
| 500K | | Q17-133 | Q |
| 500K | 25K | Q17-133X | S |
| 500K | 50K | Q18-133X | S |
| 500K | 125K | Q13-133X | H |
| 500K | 250K | Q19-133X | S |
| 500K | 100K-200K | Q18-133XX | S |
| 600K | | Q11-134 | A |
| 750K | | Q11-136 | A |
| 1.0M | | Q11-137 | A |
| 1.0M | | Q13-137 | C |
| 1.0M | | Q14-137 | D |
| 1.0M | | Q17-137 | Q |
| 1.0M | 35K | Q17-137X | S |
| 1.0M | 100K | Q18-137X | S |
| 1.0M | 250K | Q13-137X | H |
| 1.0M | 500K | Q19-137X | S |
| 1.0M | 500K | QVC-539X | S |
| 1.0M | 50K-100K | Q17-137XX | S |
| 1.0M | 250K-500K | Q18-137XX | S |
| 1.5M | | Q11-138 | A |
| 1.5M | 250K | Q13-138X | S |
| 2.0M | | Q11-139 | A |
| 2.0M | | Q13-139 | C |
| 2.0M | | Q17-139 | Q |
| 2.0M | 50K | Q19-139X | S |
| 2.0M | 150K | Q17-139X | S |
| 2.0M | 500K | Q13-139X | H |
| 2.0M | 1.0M | Q18-139X | S |
| 2.0M | 250K-500K | Q18-139XX | S |
| 2.0M | 500K-1M | Q13-139XX | S |
| 2.5M | | Q11-239 | A |
| 3.0M | | Q11-140 | A |
| 3.0M | | Q13-140 | C |
| 3.0M | | Q17-140 | Q |
| 3.0M | 900K | Q13-140X | S |
| 3.0M | 1.5M | Q18-140X | S |
| 5.0M | | Q11-141 | A |
| 5.0M | | Q12-141 | S |
| 5.0M | | Q13-141 | C |
| 5.0M | | Q17-141 | Q |
| 7.5M | | Q11-142 | A |
| 10.0M | | Q11-143 | A |

### "Q" CONTROLS IN ORDER OF STOCK NUMBER

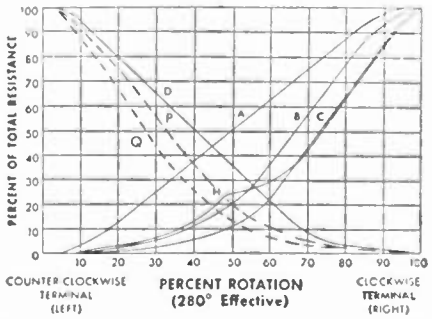
| Stock No. | Ohms | Tap | T |
|---|---|---|---|
| Q11-103 | 500 | | A |
| Q11-105 | 750 | | A |
| Q17-105 | 750 | | P |
| Q17-105X | 750 | 250 | S |
| Q11-108 | 1000 | | A |
| Q17-108 | 1000 | | P |
| Q11-109 | 1500 | | A |
| Q17-109 | 1500 | | Q |
| Q11-110 | 2000 | | A |
| Q17-110 | 2000 | | Q |
| Q17-110XX | 2000 | 250-500 | S |
| Q13-111 | 2500 | | A |
| Q17-111 | 2500 | | Q |
| Q11-112 | 3000 | | A |
| Q17-112 | 3000 | | Q |
| Q11-114 | 5000 | | A |
| Q13-114 | 5000 | | C |
| Q17-114 | 5000 | | Q |
| Q11-115 | 7500 | | A |
| Q11-116 | 10K | | A |
| Q13-116 | 10K | | C |
| Q14-116 | 10K | | D |
| Q17-116 | 10K | | Q |
| Q13-118X | 15K | 10K | S |
| Q13-118XX | 15K | 5K-10K | S |
| Q17-118X | 15K | 5K | S |
| Q17-118XX | 15K | 5K-10K | S |
| Q11-119 | 20K | | A |
| Q16-119 | 20K | | S |
| Q11-120 | 25K | | A |
| Q13-120 | 25K | | C |
| Q14-120 | 25K | | D |
| Q11-121 | 30K | | A |
| Q11-122 | 35K | | A |
| Q11-123 | 50K | | A |
| Q13-123 | 50K | | C |
| Q14-123 | 50K | | D |
| Q11-125 | 75K | | A |
| Q11-128 | 100K | | A |
| Q13-128 | 100K | | C |
| Q11-129 | 200K | | A |
| Q11-130 | 250K | | A |
| Q13-130 | 250K | | C |
| Q13-130X | 250K | 125K | S |
| Q18-130X | 250K | 60K | H |
| Q18-130XX | 250K | 60K-120K | S |
| Q11-131 | 300K | | A |
| Q11-132 | 350K | | A |
| Q13-132 | 350K | | C |
| Q17-132X | 350K | 35K | S |
| Q18-132X | 350K | 75K | H |
| Q11-133 | 500K | | A |
| Q13-133 | 500K | | C |
| Q14-133 | 500K | | D |
| Q17-133 | 500K | | Q |
| Q17-133X | 500K | 25K | S |
| Q17-133X | 500K | 25K | S |
| Q18-133X | 500K | 50K | S |
| Q18-133XX | 500K | 100K-200K | S |
| Q19-133X | 500K | 250K | S |
| Q11-134 | 600K | | A |
| Q11-136 | 750K | | A |
| Q11-137 | 1.0M | | A |
| Q13-137 | 1.0M | | C |
| Q13-137X | 1.0M | 250K | H |
| Q14-137 | 1.0M | | D |
| Q17-137 | 1.0M | | Q |
| Q17-137X | 1.0M | 35K | S |
| Q17-137XX | 1.0M | 50K-100K | S |
| Q18-137X | 1.0M | 100K | S |
| Q18-137XX | 1.0M | 250K-500K | S |
| Q19-137X | 1.0M | 500K | S |
| Q11-138 | 1.5M | | A |
| Q13-138X | 1.5M | 250K | S |
| Q11-139 | 2.0M | | A |
| Q13-139 | 2.0M | | C |
| Q13-139X | 2.0M | 500K | H |
| Q13-139XX | 2.0M | 500K-1M | S |
| Q17-139 | 2.0M | | Q |
| Q17-139X | 2.0M | 150K | S |
| Q18-139X | 2.0M | 1.0M | S |
| Q18-139XX | 2.0M | 250K-500K | S |
| Q19-139X | 2.0M | 50K | S |
| Q11-140 | 3.0M | | A |
| Q13-140 | 3.0M | | C |
| Q13-140X | 3.0M | 900K | S |
| Q17-140 | 3.0M | | Q |
| Q18-140X | 3.0M | 1.5M | S |
| Q11-141 | 5.0M | | A |
| Q12-141 | 5.0M | | S |
| Q13-141 | 5.0M | | C |
| Q17-141 | 5.0M | | Q |
| Q11-142 | 7.5M | | A |
| Q11-143 | 10.0M | | A |
| Q11-201 | 250 | | A |
| Q11-228 | 125K | | A |
| Q11-239 | 2.5M | | A |
| Q11-328 | 150K | | A |
| Q13-328 | 150K | | C |
| Q17-328XX | 150K | 19K-38K | S |
| QVC-539X | 1.0M | 500K | S |

T—Taper M—Megohms Plain Controls—List $1.55
Tapped Controls—List $2.25

### SWITCHES FOR ABOVE

| | | |
|---|---|---|
| 76-1 | SPST | List $.70 |
| 76-2 | DPST | List .70 |

### STANDARD TAPERS FOR Q CONTROLS




A — For Pots or Rheostats where resistance change is Uniform.

B — Semi-log curve for tone or audio circuit control.

C — Log curve-reverse taper for contrast and picture control circuits in television.

D — Tapered at both ends for grid bias and antenna circuit control; where grid bias control is important to volume control.

H — Tapped log curve for audio level control for automatic bass compensation.

P — Semi-log curve-reverse taper for use in contrast and picture control circuits in television.

Q — Log curve-reverse taper for use in contrast and picture control circuits in television.

S — Special Taper—based on specific specifications.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# IRC Q CONTROL ACCESSORIES

## ASSEMBLE YOUR OWN STANDARD OR SPECIAL IRC Q CONTROLS

For those who would like to use their IRC Base-Element stock for assembly of standard controls, the component parts are available. Plain Q Control assemblies with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1-QCC Cover. Switch type Q control assembles with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1 of either 76-1 or 76-2 Switch.

**QCB-BUSHING**—3/8-32 thread, 1/4" long. Pkg. of 5
List Price $0.60

**QCC-COVER**—For plain or tapped controls. Pkg. of 5.
List Price $0.95

**IRC VOLUME CONTROL GROUNDING LUG**—Same as supplied with IRC Type Q Controls. Fits 3/8" bushing. Lug length from hole center—1 1/16". Type QCL Grounding Lugs. Pkg. of 5. List Price $0.20

**STANDARD Q CONTROL LOCKNUT**—Hex nut for 3/8-32 thread, 7/16" across flats. Type QCN. Pkg. of 10.
List Price $0.35

New SK1 (QPK) Kit assembles above standard Q control parts with IRC base elements. Contents: AQ Knob Master Shaft, QCB Ground Plate/Bushing, QCC Universal Cover, R-1 Resilient Retainer Ring, QCN Mounting Nut. List Price $0.95

### Q CONTROL PARTS KITS

Package of parts for assembly of specific Q Control types. Includes shaft, bushing and cover. Add desired Base-Element.
SK1—Formerly QPK, Includes AQ shaft for Q Control assembly.
SK2—Includes RQ shaft for RQ Control assembly.
SK3—Includes SQ shaft for SQ Control assembly.
Any SK Kit ..... List $ .95

## 16 INTERCHANGEABLE FIXED SHAFTS FOR Q CONTROLS

**AQ**

Knob Master Shaft. Same as supplied in Type Q Controls. Flatted, grooved and knurled. 3" long. List Price $0.60

**BQ**

Slotted or tongued. For remote control cables. Includes 7/16" and 1 3/8" guide funnels and tongue. Approximately 3 1/2" long from mounting face. 1/4" diameter.
List Price $1.40

**GQ**

Specially slotted with hole in bottom. For Philco sets. Slot 1/4" x 7/16" deep. Approximately 1 1/2" long from mounting face when installed in control. 1/4" diameter.
List Price $0.85

**HQ**

Flatted, with groove for dial plate. For Delco, RCA, Sears-Roebuck and Westinghouse sets. 3/32" deep flat. 3/8" deep groove. Approximately 1 11/16" long from mounting face. 1/4" diameter. List Price $1.10

**JQ**

1/8" diameter with .105" flat. For Zenith models where shaft must operate inside another shaft. Approximately 4 3/8" long from mounting face. List Price $1.10

**KQ**

Special 1/4" round with two concentric holes in end. For Motorola sets. Approximately 1 3/8" long from mounting face.
List Price $0.95

**LQ**

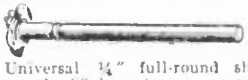
Short flat with groove and threaded hole in end. For Belmont and Montgomery-Ward sets. 1/32" deep flat. 1/32" deep groove. Approximately 1" long from mounting face. 1/4" diameter. List Price $1.40

**MQ**

Special double flat, threaded for 3/8" on end. For Belmont, Montgomery-Ward and Wells-Gardner sets. Has two concentric holes in end, the smaller being threaded. Approximately 1 1/2" long from mounting face. List Price $1.40

**NQ**

Universal 3/16" flatted and slotted shaft. Slot milled entire length of shaft except for thin web. Approximately 4" long from mounting face. List Price $0.55



**PQ**

Universal 1/4" full-round shaft approximately 3" long from mounting face. For 1/4" or 3/8" bushings. 3/8" bushing included.
List Price $0.60

**RQ**

Very short screw-driver slot shaft. Slot, 3/16" x 1/16". Approximately 1/2" long from mounting face. 1/4" diameter. For 3/8" bushing only. Bushing included.
List Price $0.60

**SQ**

Combination finger knurl and screw-driver slot. Shaft knurled at end for 1/8". Screw-driver slot in end, 3/16" x 1/16". 1/4" diameter. Approximately 3/4" long from mounting face. List Price $0.60

**TQ**

Insulated shaft for use in television. Drive arm and shaft of insulating material. Used without retainer ring. 3" long from mounting face. Easily cut to required length. 1/4" diameter. CANNOT BE USED WITH SWITCH. List Price $0.70

**UQ**

Identical with BQ Shaft except for addition of friction clutch-drive arm. Used for remote control as in auto radios.
List Price $1.40

**VQ**

Special tongued shaft—15/16" long from mounting face, tongue 3/8" wide, 5/16" long, .050" thick. For Magnavox TV Receivers.
List Price $1.10

**WQ**

Special tongued shaft—1" long from mounting face, tongue 1/4" wide, 1/2" long, .062" thick. For Zenith TV Receivers.
List Price $1.10

### FOR QUICK, EASY CONVERSION TO "SPECIALS" WITH FIXED SHAFT SECURITY

This feature adapts the Q Control to a "special" in 6 easy steps. (1) Remove control cover by bending up tabs. (2) Remove Resilient Retainer Ring with knife or pointed tool. (3) Remove standard shaft from control base. (4) Insert special shaft in base. (5) Roll new Ring into shaft groove. (6) Replace cover (or add switch).

IRC INTERCHANGEABLE FIXED SHAFTS ARE INDIVIDUALLY PACKAGED with complete instructions and extra Resilient Retainer Ring.

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World Radio History

# Q CONTROL ACCESSORIES

## TAB MOUNT CONTROLS

Many recent TV sets use Tab Mount Controls. These are single controls without switch. They differ from standard controls in that bushing is omitted and mounting to chassis is made with two heavy twist-type mounting tabs.

## IRC TAB-MOUNT KITS

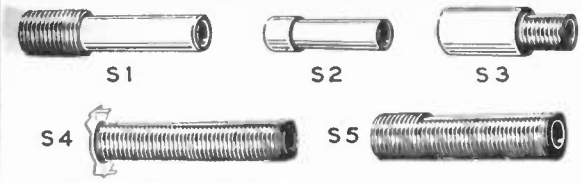
Since assembly of Tab-Mount Controls is so simple, IRC supplies three 3-Part Tab-Mount Kits which will assemble with any standard plain or tapped IRC Base-Element to provide satisfactory Tab-Mount Controls. Each TM Kit includes a Tab-type Ground Plate, a control cover and a finger-knurled and screw-driver slotted shaft of appropriate length for universal replacement. Packaged with instruction sheet but without necessary Base-Element.

TM-1—IRC Tab-Mount Kit—Shaft ¼" long. List Price $0.70

TM-2—IRC Tab-Mount Kit—Shaft ⅝" long. List Price $0.70

TM-3—IRC Tab-Mount Kit—Shaft 1" long. List Price $0.70

## SLEEVE BUSHINGS




TYPE S1—For use with standard controls. List Price $0.55

TYPE S2—To provide bearing for switching mechanism. List Price $0.40

TYPE S3—For use with standard controls to set control back from chassis or mounting bracket. 1½"—½" dia. for 1" unthd. —⅜" dia. for ½", ⅜"—32 thd.—.344 flat. List Price $0.70

TYPE S4—For use with concentric duals to provide 7/16" dia. bushing. 1½"—7/16"—28 thd. full length—.375 dbl. flat. List Price $0.70

TYPE S5—For use with standard controls to provide ½" dia. bushing, 2¼"—½"—28 thd. full length—.437 flat. List Price $0.70

## EXTENSION SHAFTS

These attach to regular shafts, thus extending length to any needed size. They frequently make it possible to use standard controls for "special" jobs.

| Type | Dimensions |
|---|---|
| Shaft 441 | 4" x ¼" dia. x 3/32" flat |
| Shaft 442 | 4" x ¼" dia. x 3/32" flat |
| Shaft 443 | 4" x 7/16" dia. x 3/64" flat |
| Shaft 444 | 8" x ¼" dia. x 3/32" flat for 4" lengths |

List Price $0.50

## SHAFT COUPLER

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection.

TYPE C3—Plain coupler to couple ¼" shafts; insert allows coupling of ¼" shaft to 3/16" shaft. List Price $0.40

# SPECIAL PURPOSE CONTROLS

## Type QJ-3 TV ATTENUATOR

- Reduces overloading effects on TV sets in strong signal areas.
- Diminishes interstation interference caused by nearby or powerful stations.
- Minimizes buzz due to high signal level in intercarrier systems.
- Permits easy adjustment of signal RIGHT AT SET.
- Frequently prevents mismatch of antenna load to set.

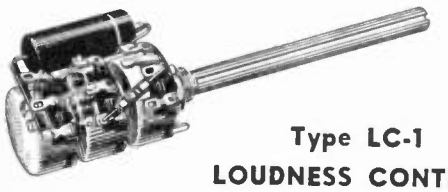
IRC's QJ-3 TV Attenuator permits ready adjustment of signal input to TV sets. In most cases, it corrects or substantially reduces such conditions as:—Adjacent channel interference, background picture on weaker stations, poor definition, picture and sound breakover. Also useful in service work—duplicating fringe area signals when shop is near strong local station. List Price $4.00

## L AND T PAD CONSTANT IMPEDANCE CONTROLS

For use in sound systems and for speaker control. Handle up to 10 watts of audio power (3 watts D.C.) L Pad provides constant input impedance; T Pad provides constant input and output impedances. IRC L and T Pads provide unusual convenience features small size: Diameter—1¾"; depth behind panel—1-9/32" (L Pad) and 1-27/32" (T Pad). ⅞" bushing mounts Pad on panels up to ¼" thick. Interchangeable bushing available for metal panels. Shaft length is correct for knob supplied — no shaft cutting necessary.

Each IRC Pad is individually boxed and includes knob and dial plate.

| L PADS Stock No. | Impedance | T PADS Stock No. | Impedance |
|---|---|---|---|
| LP4 | 4 ohms | TP4 | 4 ohms |
| LP8 | 8 ohms | TP8 | 8 ohms |
| LP15 | 15 ohms | TP15 | 15 ohms |
| LP500 | 500 ohms | TP500 | 500 ohms |
| List Price $4.65 | | List Price $5.25 | |



## Type LC-1 LOUDNESS CONTROL

A continuously compensated control that boosts lows and highs as volume is decreased—maintains depth and brilliance even at whisper level. Type LC-1 replaces makeshift compensating units—tapped volume controls, stepped-type loudness controls, bass and treble boost circuits. Automatically maintains proper balance of all frequencies in the audio spectrum at any listening level. Simplicity itself—as easy to wire into an audio circuit as any standard three-terminal volume control. Complete instructions included, showing applications. Type 76-1 or 76-2 switch can be added to this control. List Price $12.00



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World Radio History

# UNIVERSAL WIRE WOUND CONTROLS

## 2 and 4 WATT WIRE WOUNDS

International Resistance Company's new Universal Wire Wound Control, engineered to handle all 2-watt and 4-watt requirements, may be used as a replacement for former types W, WK, 4WK, and IWS. Dimensions: 1¼" in diameter, 15/64" deep behind mounting face without switch; 1-7/32" with switch.
Available in the following types:

**Type WPK (Technician's Replacement)**
⅜-32 x ¼" long bushing with popular Q Type Knob Master Shaft 3" long from mounting face.

**Type WPS (Technicians' Replacement)**
⅜-32 x ¼" long bushing with combination finger knurl and screwdriver slot shaft ¾" long from mounting face.

## TYPE WM

Type WM Universal Wire Wound Multisections. Adds to WPK or WPS to make dual or triple section controls. Supplied assembled but may be assembled in field by use of WM Kit and desired WP Base Element. Switches cannot be used.

**List Price $1.90**

## HIGH VOLTAGE CONTROLS

TYPE HV—A two watt carbon element high voltage control for use in television receivers using picture tubes requiring electrostatic focus. Equipped with Knob Master Shaft. Diameter 2-11/64", depth behind panel 25/32", bushing ¼", shaft length 5".

## TYPE HV

| | | | |
|---|---|---|---|
| HV-15 | 15 Meg. | Linear | $3.65 |
| HV-25 | 25 Meg. | Linear | 3.65 |

**Plain Control—2 to 10,000 ohms** ..... **$1.90**
**above 10,000 ohms** ..... **2.30**
**Tapped Control—10 to 200 ohms** ..... **2.45**

Switches are available for use with all of the above types. Windings are not compensated and the resistance in approximately 15% rotation will be lost.

**Switch type 76-11 SPST** ..... **List Price $ .70**
**Switch type 76-12 DPST** ..... **List Price .70**

## STANDARD TAPERS

**L Taper**—Left Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Left Terminal to Center Terminal facing shaft end of control with terminals down.
**R Taper**—Right Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Right Terminal to Center Terminal facing shaft end of control with terminals down.
**U Taper**—Standard Linear Taper.

**Type WP (Distributors' Industrial Control)**
Constructed with ⅜-32 x ⅞" bushing and 1¼" diameter, full round shaft 5" long from mounting face.

## TYPE WPRL

A new line of IRC distributor industrial controls with short screw-driver slot shaft ¼" diameter and approximately ½" long from mounting face, with ⅜" locking type bushing and locking nut. 10% resistance tolerance. Linear taper.

## STOCK VALUES OF TYPE WP AND WPRL CONTROLS AND MULTISECTIONS

| Ohms | Taper | *MAX. Current in Amps | Type WP | Type WPRL | Multi-sections |
|---|---|---|---|---|---|
| 2 | U (Lin.) | 1.414 | WP2 | WPRL2 | — |
| 3 | U | 1.152 | WP3 | WPRL3 | — |
| 5 | U | .895 | WP5 | WPRL5 | — |
| 6 | U | .817 | WP6 | WPRL6 | — |
| 8 | U | .707 | WP8 | WPRL8 | — |
| 10 | U | .633 | WP10 | WPRL10 | — |
| 15 | U | .517 | WP15 | WPRL15 | — |
| 20 | U | .447 | WP20 | WPRL20 | — |
| 25 | U | .400 | WP25 | WPRL25 | — |
| 30 | U | .365 | WP30 | WPRL30 | — |
| 40 | U | .316 | WP40 | WPRL40 | — |
| 50 | U | .283 | WP50 | WPRL50 | WM50 |
| 60 | U | .258 | WP60 | WPRL60 | — |
| 75 | U | .231 | WP75 | WPRL75 | — |
| 100 | U | .200 | WP100 | WPRL100 | WM100 |
| 200 | U | .141 | WP200 | WPRL200 | WM200 |
| 250 | U | .126 | WP250 | WPRL250 | WM250 |
| 300 | U | .115 | WP300 | WPRL300 | — |
| 400 | U | .100 | WP400 | WPRL400 | — |
| 500 | U | .090 | WP500 | WPRL500 | WM500 |
| 750 | U | .073 | WP750 | WPRL750 | — |
| 1,000 | U | .063 | WP1000 | WPRL1000 | WM1000 |
| 1,500 | U | .052 | WP1500 | WPRL1500 | WM1500 |
| 2,000 | U | .045 | WP2000 | WPRL2000 | WM2000 |
| 2,500 | U | .040 | WP2500 | WPRL2500 | WM2500 |
| 3,000 | U | .036 | WP3000 | WPRL3000 | WM3000 |
| 4,000 | U | .031 | WP4000 | WPRL4000 | — |
| 5,000 | U | .028 | WP5000 | WPRL5000 | WM5000 |
| 7,500 | U | .023 | WP7500 | WPRL7500 | — |
| 7,500 | L (L.H. Log.) | .016 | | — | WM7500L |
| 10,000 | U | .020 | WP10000 | WPRL10000 | WM10000 |
| 15,000 | U | .016 | WP15000 | WPRL15000 | — |
| 20,000 | U | .014 | WP20000 | WPRL20000 | — |
| 25,000 | U | .0126 | WP25000 | WPRL25000 | — |
| 30,000 | U | .0115 | WP30000 | WPRL30000 | |
| 40,000 | U | .010 | WP40000 | WPRL40000 | — |
| 50,000 | U | .0089 | WP50000 | WPRL50000 | — |

* Maximum current is given for a single control operating at an ambient temperature of 40 C and mounted on a metal chassis. Multiple controls must be so located that hot spot temperature (ambient plus temperature rise) will not exceed 110 C on any winding.

| Type | List Price | Type | List Price | Type | List Price |
|---|---|---|---|---|---|
| WP, 2 to 10k Ohms | $1.90 | WPRL, 2 to 10k Ohms | 2.25 | WM Multisection | $1.90 |
| 10k to 25k | 2.30 | WPRL, 10k to 25k | 2.65 | 76-11 (SPST) | .70 |
| WP, over 25K | 2.65 | WPRL, over 25K | 3.00 | 76-12 (DPST) | $.70 |

## STOCK VALUES OF TYPE WPK AND WPS CONTROLS

| Ohms | Tap | Taper | Type WPK Control | Type WPS Control |
|---|---|---|---|---|
| 10 | — | U | WPK10 | — |
| 10 | 5. | U | — | WPS10X5 |
| 15 | 7.5 | U | — | WPS15X7.5 |
| 20 | — | U | WPK20 | — |
| 20 | 10 | U | — | WPS20X10 |
| 25 | — | U | — | WPS25 |
| 25 | 12.5 | U | — | WPS25X12.5 |
| 30 | — | U | WPK30 | — |
| 30 | 15 | U | — | WPS30X15 |
| 40 | — | U | — | WPS40 |
| 40 | 20 | U | — | WPS40X20 |
| 50 | — | U | WPK50 | — |
| 50 | 25 | U | — | WPS50X25 |
| 60 | — | U | — | WPS60 |
| 80 | 40 | U | — | WPS80X10 |
| 100 | — | U | WPK100 | — |
| 100 | 50 | U | — | WPS100X50 |
| 110 | 70 | U | — | WPS110X70 |
| 150 | 75 | U | — | WPS150X75 |
| 200 | — | U | WPK200 | — |
| 200 | 100 | U | — | WPS200X100 |
| 250 | — | U | WPK250 | WPS250 |
| 300 | — | U | WPK300 | — |
| 400 | — | U | WPK400 | — |
| 500 | — | U | WPK500 | WPS500 |
| 500 | — | L | — | WPS500L |
| 600 | — | U | WPK600 | — |
| 650 | — | U | WPK650 | — |
| 750 | — | U | WPK750 | — |
| 750 | — | L | WPK750L | — |
| 750 | — | R | WPK750R | — |

| Ohms | Tap | Taper | Type WPK Control | Type WPS Control |
|---|---|---|---|---|
| 750 | 250 | S | — | — |
| 1000 | — | U | WPK1000 | WPS1000 |
| 1,50 | — | U | WPK1,50 | — |
| 1,50 | — | R | WPK1,50R | — |
| 1500 | — | U | WPK1500 | WPS1500 |
| 1500 | — | L | WPK1500L | — |
| 1500 | 500 | S | — | — |
| 2000 | — | U | WPK2000 | WPS2000 |
| 2000 | — | L | WPK2000L | — |
| 2250 | — | U | — | WPS2250 |
| 2250 | — | L | WPK2250L | WPS2250L |
| 2500 | — | U | WPK2500 | WPS2500 |
| 2500 | — | R | WPK2500R | |
| 3000 | — | U | WPK3000 | WPS3000 |
| 3000 | — | R | — | — |
| 3300 | — | L | — | — |
| 4000 | — | U | — | WPS4000 |
| 4000 | — | L | WPK4000L | WPS4000L |
| 5000 | — | U | WPK5000 | WPS5000 |
| 5000 | — | L | WPK5000L | — |
| 5000 | — | R | — | — |
| 6000 | — | U | WPK6000 | — |
| 6000 | — | L | WPK6000L | — |
| 7500 | — | U | WPK7500 | — |
| 7500 | — | L | WPK7500L | — |
| 10000 | — | U | WPK10000 | — |
| 12500 | — | U | WPK12500 | — |
| 15000 | — | U | WPK15000 | — |
| 20000 | — | U | WPK20000 | — |
| 25000 | — | U | WPK25000 | — |
| 30000 | — | U | WPK30000 | — |
| 40000 | — | U | WPK40000 | — |
| 50000 | — | U | WPK50000 | — |

| Type | List Price |
|---|---|
| WPK, Plain Control—2-10,000 ohms | $1.90 |
| WPK 10,000 to 25,000 ohms | 2.30 |
| WPK Above 25,000 ohms | 2.65 |
| SK1 Parts Kit for WPK Controls | .95 |

| Type | List Price |
|---|---|
| SK5 Parts Kit for WPS Controls | $ .95 |
| WPS, Plain Control 10-5,000 ohms | 1.90 |
| WPS, Tapped Control 10-200 ohms | 2.45 |

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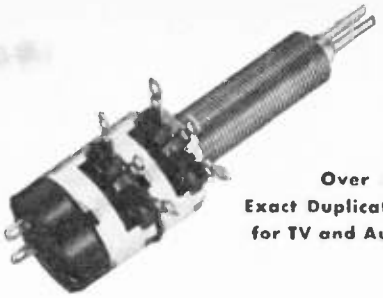
World Radio History

# TELEVISION and AUTO SET CONTROLS



**Over 800 Exact Duplicate Controls for TV and Auto Radios**

For those who prefer factory-assembled special controls, IRC provides an exceptionally broad line of over 800 Exact Duplicate Controls. Each control is specified closely to manufacturers' original control specifications —required. Carbon and wirewound elements are used for panel and rear sections as required.

The IRC Exact Duplicate Line now includes over 100 concentric dual controls for auto radios. Modern in design, these new controls bring many unique and desirable features to provide convenience, economy and long life. The new IRC Printed-Silver Tone Switch eliminates contact fatigue—assures positive, no bump contact. Simple detent assures positive positioning independent of switch action. Control position feature of 7/16" and 1/2" bushings permits exact duplication of original. Short control depth fits most crowded locations. Power switches amply rated for both TV and Auto Radios. Consult S-012L Part Number Replacement Manual for needed controls.

## IRC CONCENTRIKIT ASSEMBLES EXACT DUPLICATE CONTROLS features quick assembly—no modification of parts.

### 14 Basic CONCENTRIKITS

IRC Concentrikits are the common parts to various types of Exact Duplicate Controls. When assembled with parts shown in IRC Parts Number Manual (Form S-012E), they will produce any IRC Exact Duplicate TV or Auto Radio Controls. No cutting or filing of shafts or bushings—one minute assembly.

| Concentrikit | Control Depth | Panel Section | Rear Section | Bushing | Use | List Price |
|---|---|---|---|---|---|---|
| K-2 | * | C | C | 3/8" x 3/8" | TV & Auto | $1.05 |
| K-3 | * | W | C | 3/8" x 3/8" | TV | 1.05 |
| K-4 | * | C | C | 3/8" x 3/8" | TV (Motorola) | 1.15 |
| K-5 | * | C | C | 3/8" x 1/4" | TV (Hallicrafters) | 1.05 |
| K-6 | ** | C | C | 3/8" x 3/8" | TV & Auto | 1.05 |
| K-7 | ** | C | C | 3/8" x 3/8" | TV | 1.15 |
| K-8 | ** | C | C | none | Auto | .60 |
| K-9 | ** | TS | C | none | Auto | .40 |
| K-10 | ** | W | W | 3/8" x 3/8" | TV | 1.05 |
| K-11 | ** | W | C | 3/8" x 1/4" | TV | 1.05 |
| K-12 | ** | C | W | 3/8" x 3/8" | TV | 1.05 |
| K-13 | ** | W | W | 3/8" x 1/4" | TV | 1.05 |
| K-14 | ** | W | W | 3/8" x 3/4" | TV | 1.15 |
| K-15 | ** | C | C | 3/8" x 1/4" | TV | 1.09 |

*—Standard **—Short C—Carbon W—Wire TS—Tone Switch

### IRC Printed-Silver Tone Switch Elements

Sensational new development in concentric tone switch permits assembly of special Exact Duplicate Auto Radio Controls in field. Assembles like standard IRC Base Elements—no loose parts. Packed with detent-type panel cover.

| Stock No. | Description | List Price |
|---|---|---|
| BS1 | 4 Position Tone Switch Element for Ford | $1.30 |
| BS2 | 4 Position Tone Switch Element for Delco | 1.30 |
| BS3 | 3 Position Tone Switch Element for Philco | 1.30 |
| BS4 | 4 Position Tone Switch Element for Delco | 1.30 |
| BS5 | 4 Position Tone Switch Element for Lincoln and Mercury | 1.30 |

### IRC EXACT DUPLICATE BUSHINGS

**featuring Adjustable Positioning**

A wide assortment of Exact Duplicate Bushings provide easy, quick assembly of Auto Radio Controls without cutting, filing or modification. New adjustable ground plate permits positioning of flats or notched mounting face to duplicate original control positioning. Individually packaged.

| Stock No. | Dimensions | Type | List Price |
|---|---|---|---|
| S6 | 7/16" x 13/16" | Double-flat | $0.95 |
| S7 | 7/16" x 1 1/32" | Double-flat | .95 |
| S8 | 7/16" x 1 5/8" | Double-flat | .95 |
| S9 | 7/16" x 1 7/8" | Double-flat | .95 |
| S10 | 1/2" x 0.2" | Single-flat | .95 |
| S11 | 1/2" x 9/16" | Single-flat | .95 |
| S12 | 1/2" x 13/16" | Single-flat | .95 |
| S13 | 1/2" x 1" | Single-flat | .95 |
| S14 | 1/2" x 1 1/4" | Single-flat | .95 |
| S15 | 1/2" x 1 1/2" | Single-flat | .95 |
| S16 | 1/2" x 1 5/8" | Single-flat | .95 |
| S17 | 1/2" x 1 7/8" | Single-flat | .95 |
| S18 | 1/2" x 2" | Single-flat | .95 |
| S19 | 1/2" x 2 1/8" | Single-flat | .95 |
| S20 | 1/2" x 2 1/4" | Single-flat | .95 |
| S21 | 1/2" x 1 1/8" | Notched | .95 |
| S22 | 1/2" x 1 3/16" | Notched | .95 |
| S23 | 1/2" x 1 11/32" | Notched | .95 |
| S24 | 1/2" x 1 3/8" | Notched | .95 |
| S25 | 1/2" x 1 7/16" | Notched | .95 |
| S26 | 1/2" x 1-17/32" | Notched | .95 |
| S27 | 1/2" x 1 21/32" | Notched | .95 |
| S28 | 1/2" x 1 3/4" | Notched | .95 |
| S29 | 1/2" x 1 11/16" | Notched | .95 |
| S30 | 1/2" x 1 7/8" | Notched | .95 |
| S31 | 1/2" x 2" | Notched | .95 |
| S32 | 1/2" x 2 1/8" | Notched | .95 |
| S33 | 3/4" x 1/4" | — | .30 |
| S34 | 3/4" x 3/4" | — | .30 |
| S35 | 1/2" x 13/32" | Single-flat | .95 |
| S36 | 1/2" x 5/8" | Single-flat | .95 |
| S37 | 1/2" x 1/2" | Single-flat | .95 |
| S38 | 1/2" x 27/32" | Single-flat | .95 |
| S39 | 1/2" x 3/4" | Single-flat | .95 |
| N1 | Mounting Nut for 7/16" Bushings—Pkg. of 10 | | .60 |
| N2 | Mounting Nut for 1/2" Bushings—Pkg. of 10 | | .60 |

Base-Elements and Exact Duplicate Shafts for CONCENTRIKIT assembly are listed on 3 pages following →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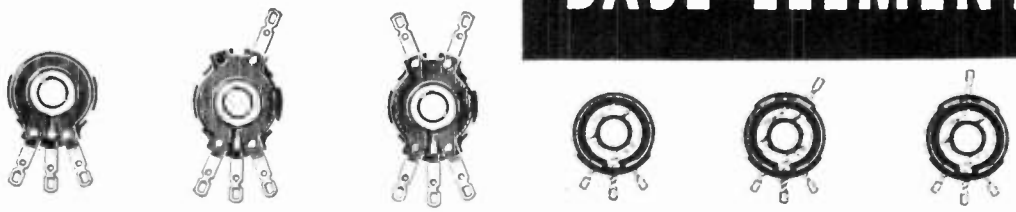
IRC Base-Elements are a revolutionary advance in concentric dual replacement. A relatively small stock at low investment provides wide coverage of electrical requirements of many concentric duals. Each unit is a complete molded control base with element, terminals and collector ring installed. There are no loose parts.

Two types of Base-Elements are available: Type B for panel or rear carbon sections and Type W for wire-wound panel or rear sections.

Two Base-Elements are required for each concentric dual.

# CONCENTRIKIT BASE ELEMENTS



## BASE ELEMENT STOCK VALUES

### CARBON AND WIREWOUND BASE-ELEMENTS BY RESISTANCE VALUE

| Ohms | Tap | T | Stock No. | Ohms | Tap | T | Stock No. | Ohms | Tap | T | Stock No. | Ohms | Tap | T | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | — | U | W11-010 | 1250 | — | U | W11-308 | 11.5K | — | Q | B17-117 | 500K | 25K | S | B17-133X |
| 10 | 5 | U | W11-010X | 1250 | — | R | W17-308 | 12.5K | — | U | W11-217 | 500K | 50K | S | B18-133X |
| 15 | 7.5 | U | W11-015X | 1500 | — | A | B11-109 | 15K | — | A | B11-118 | 500K | 75K | S | B15-133X |
| 20 | — | U | W11-020 | 1500 | — | U | W11-109 | 15K | — | U | W11-118 | 500K | 125K | H | B13-133X |
| 20 | 10 | U | W11-020X | 1500 | — | L | W13-109 | 15K | 10K | S | B13-118X | 500K | 180K | S | B20-133X |
| 25 | — | U | W11-025 | 1500 | — | Q | B17-109 | 15K | 5000 & 10K | S | B13-118XX | 500K | 250K | S | B19-133X |
| 25 | 12.5 | U | W11-025X | 1500 | 185 & 375 | S | B17-109XX | 15K | 5000 | S | B17-118X | 500K | 100K & 200K | S | B18-133XX |
| 30 | — | U | W11-030 | 1500 | 500 | S | W17-109X | 15K | 5000 & 10K | S | B17-118XX | 600K | — | A | B11-134 |
| 30 | 15 | U | W11-030X | 2000 | — | A | B11-110 | 20K | — | A | B11-119 | 750K | — | A | B11-136 |
| 40 | — | U | W11-040 | 2000 | — | U | W11-110 | 20K | — | U | W11-119 | 1.0M | — | A | B11-137 |
| 40 | 20 | U | W11-040X | 2000 | — | L | W13-110 | 20K | — | S | B16-119 | 1.0M | — | C | B13-137 |
| 50 | — | U | W11-050 | 2000 | — | Q | B17-110 | 25K | — | A | B11-120 | 1.0M | — | D | B14-137 |
| 50 | 25 | U | W11-050X | 2000 | 550 | S | B17-110X | 25K | — | U | W11-120 | 1.0M | — | Q | B17-137 |
| 60 | — | U | W11-060 | 2000 | 250 & 500 | S | B17-110XX | 25K | — | C | B13-120 | 1.0M | 35K | S | B17-137X |
| 80 | 40 | U | W11-080X | 2250 | — | U | W11-210 | 25K | — | D | B14-120 | 1.0M | 100K | S | B18-137X |
| 100 | — | U | W11-084 | 2250 | — | L | W13-210 | 30K | — | A | B11-121 | 1.0M | 250K | H | B13-137X |
| 100 | 50 | U | W11-084X | 2500 | — | A | B11-111 | 30K | — | U | W11-121 | 1.0M | 500K | S | B19-137X |
| 140 | 70 | U | W11-092X | 2500 | — | U | W11-111 | 35K | — | A | B11-122 | 1.0M | 500K | S | BVC539X |
| 150 | 75 | U | W11-094X | 2500 | — | C | B13-111 | 40K | — | U | W11-222 | 1.0M | 50K & 100K | S | B17-137XX |
| 200 | — | U | W11-100 | 2500 | — | Q | B17-111 | 50K | — | A | B11-123 | 1.0M | 250K & 500K | S | B18-137XX |
| 200 | 100 | U | W11-100X | 2500 | — | R | W17-111 | 50K | — | U | W11-123 | 1.5M | — | A | B11-138 |
| 250 | — | A | B11-201 | 2500 | 500 | S | B17-111X | 50K | — | C | B13-123 | 1.5M | — | C | B13-138 |
| 250 | — | U | W11-201 | 2500 | 625 | S | B27-111X | 50K | — | D | B14-123 | 1.5M | 250K | S | B13-138X |
| 300 | — | A | B11-102 | 3000 | — | A | B11-112 | 75K | — | A | B11-125 | 2.0M | — | A | B11-139 |
| 300 | — | U | W11-102 | 3000 | — | U | W11-112 | 100K | — | A | B11-128 | 2.0M | — | C | B13-139 |
| 400 | — | U | W11-202 | 3000 | — | Q | B17-112 | 100K | — | C | B13-128 | 2.0M | — | Q | B17-139 |
| 500 | — | A | B11-103 | 3000 | — | R | W17-112 | 100K | — | Q | B17-128 | 2.0M | 50K | S | B19-139X |
| 500 | — | U | W11-103 | 3000 | 150 | S | B17-112X | 125K | — | A | B11-228 | 2.0M | 150K | S | B17-139X |
| 500 | — | L | W13-103 | 3500 | — | L | W13-212 | 150K | — | A | B11-328 | 2.0M | 500K | H | Q13-139X |
| 600 | — | U | W11-104 | 4000 | — | U | W11-113 | 150K | — | C | B13-328 | 2.0M | 1.0M | S | B18-139X |
| 650 | — | U | W11-204 | 4000 | — | L | W13-113 | 150K | 19K & 38K | S | B17-328XX | 2.0M | 250K & 500K | S | B18-139XX |
| 750 | — | A | B11-105 | 5000 | — | A | B11-114 | 200K | — | A | B11-129 | 2.0M | 500K & 1.0M | S | B13-139XX |
| 750 | — | U | W11-105 | 5000 | — | U | W11-114 | 250K | — | A | B11-130 | 2.5M | — | A | B11-239 |
| 750 | — | L | W13-105 | 5000 | — | C | B13-114 | 250K | — | C | B13-130 | 3.0M | — | A | B11-140 |
| 750 | — | P | B17-105 | 5000 | — | L | W13-114 | 250K | 60K | H | B18-130X | 3.0M | — | C | B13-140 |
| 750 | — | R | W17-105 | 5000 | — | Q | B17-114 | 250K | 125K | S | B13-130X | 3.0M | — | Q | B17-140 |
| 750 | 250 | S | B17-105X | 5000 | — | R | W17-114 | 250K | 60K & 120K | S | B18-130XX | 3.0M | 900K | S | B13-140X |
| 750 | 250 | S | W17-105X | 5000 | 1000 | S | B17-114X | 300K | — | A | B11-131 | 3.0M | 1.5M | S | B18-140X |
| 1000 | — | A | B11-108 | 6000 | — | U | W11-214 | 350K | — | A | B11-132 | 5.0M | — | A | B11-141 |
| 1000 | — | U | W11-108 | 6000 | — | L | W13-214 | 350K | — | C | B13-132 | 5.0M | — | S | B12-141 |
| 1000 | — | P | B17-108 | 7500 | — | A | B11-115 | 350K | 55K | S | B17-132X | 5.0M | — | S | B12-241 |
| 1000 | 150 | S | B17-108X | 7500 | — | U | W11-115 | 350K | 75K | H | B18-132X | 5.0M | — | C | B13-141 |
| 1200 | — | Q | B17-208 | 7500 | — | L | W13-115 | 500K | — | A | B11-133 | 5.0M | — | Q | B17-141 |
| | | | | 10K | — | A | B11-116 | 500K | — | C | B13-133 | 7.5M | — | A | B11-142 |
| | | | | 10K | — | U | W11-116 | 500K | — | D | B14-133 | 10.0M | — | A | B11-143 |
| | | | | 10K | — | C | B13-116 | 500K | — | Q | B17-133 | | | | |
| | | | | 10K | — | D | B14-116 | | | | | | | | |
| | | | | 10K | — | Q | B17-116 | | | | | | | | |

T—Taper M—Megohms

### BASE ELEMENTS

| TYPE | List Price |
|---|---|
| Plain Carbon Base Elements | $0.60 |
| Tapped Carbon Base Elements | 1.30 |
| Plain Wire Wound Base Elements 10K ohms and less | 0.95 |
| Plain Wire Wound Base Elements 10.5K ohms to 29.5K ohms | 1.35 |
| Plain Wire Wound Base Elements 30K ohms and over | 1.70 |
| Tapped Wire Wound Base Elements | 1.50 |

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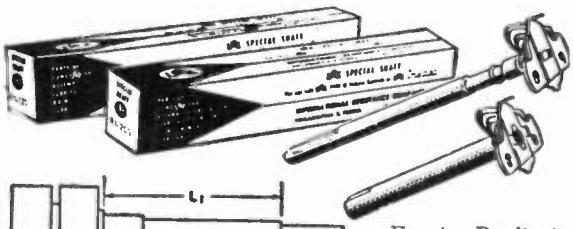
TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

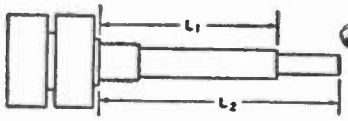


World Radio History

# CONCENTRIKIT
## EXACT DUPLICATE SHAFTS

### DEPENDABLE MECHANICAL FIT FOR YOUR TV REPLACEMENTS






Save time—be assured of accurate fit! IRC now provides a complete line of Exact Duplicate Shafts for CONCENTRIKIT—factory-tailored for dependable mechanical fit. No filing, slotting, soldering or cutting required! Many shafts are flatted as well as slotted to provide wider replacement coverage. Each shaft is a complete assembly, including contactor. Factory-lubricated, packaged in cellophase and in individual carton.

Exact Duplicate Shaft Stock Numbers indicate shaft length measured from mounting face when installed in control ($L_1$ is Outer Shaft length; $L_2$ is Inner Shaft length). First digit is number of whole inches in shaft length; remaining two digits indicate number of additional 32nds of an inch. Thus, P1-210 has shaft lengths of 2-10/32" or 2-5/16". Exception is Inner Shafts when used with K-3 CONCENTRIKIT where 3/32" should be subtracted to determine shaft length.

### EXACT DUPLICATE OUTER SHAFTS

| Shaft Type | Slot Width-Depth | Flat Length | Round Knurled Band | Type Base Element | Concentrikit |
|---|---|---|---|---|---|
| P1 | 1/8" x 3/8" | 17/32" | — | Q | K-2, -4, -5 |
| P2 | 1/16" x 1/2" | 17/32" | — | Q | K-2, -4, -5 |
| P3 | 1/8" x 3/8" | 17/32" | — | W | K-3, -10, -11, -13, -14 |
| P4 | 1/8" x 3/8" | 3/4" | — | W | K-3, -10, -11, -13, -14 |
| P5 | 1/16" x 3/8" | 17/32" | — | W | K-3, -10, -11, -13, -14 |
| P6 | 1/8" x 3/8" | 11/16" | — | Q | K-2, -4, -5 |
| P7 | .120" x 3/8" | 17/32" | — | Q | K-2, -4, -5 |
| P8 | — | — | 1/8" wide | W | K-3, -10, -11, -13, -14 |
| P9 | — | — | 1/8" wide | Q | K-2, -4, -5 |
| P10 | 1/8" x 7/16" | 17/32" | — | Q | K-2, -4, -5 |
| P11 | 3/64" x 1/16" | — | — | Q | K-2, -4, -5 |
| P12 | 1/8" x 3/16" | — | — | Q | K-2, -4, -5 |
| P13 | 1/8" x 1/4" | — | — | Q | K-6, -7, -8, -12, -15 |
| P14 | 1/8" x 3/16" | — | — | Q | K-6, -7, -8, -12, -15 |
| P15 | 1/8" x 1/4" | — | — | Tone SW. | K-9 |
| P16 | .132" x 3/16" | — | — | Q | K-6, -7, -8, -12, -15 |
| P17 | 1/8" x 3/8" | 5/8" | — | Q | K-6, -7, -8, -12, -15 |
| P18 | 3/64" x 1/16" | — | — | W | K-3, -10, -11, -13, -14 |
| P19 | 3/64" x 1/16" | — | — | Q | K-6, -7, -8, -12, -15 |
| P20 | — | — | 1/8" wide | Q | K-6, -7, -8, -12, -15 |
| P21 | 1/8" x 7/16" | 5/8" | — | Q | K-6, -7, -8, -12, -15 |

### EXACT DUPLICATE INNER SHAFTS

| Shaft Type | Diam. | Slot Width - Depth | Flat Length | Round Knurled Band | Type Base Element | Concentrikit |
|---|---|---|---|---|---|---|
| R1 | .187" | 1/16" x 1/2" | 1/2" | — | Q | All but K-10, -12, -13, -14 |
| R2 | .202" | 1/16" x 1/2" | 1/2" | — | Q | All but K-10, -12, -13, -14 |
| R3 | .190" | 20 Tooth Split Knurl (Zenith) | | | Q | All but K-10, -12, -13, -14 |
| R4 | .180" | Round and Slotted (Motorola) | | | Q | All but K-10, -12, -13, -14 |
| R5 | .187" | Rear Extension Type (RCA) | | | Q | All but K-10, -12, -13, -14 |
| R6 | .202" | Rear Extension Type (Dumont) | | | Q | All but K-10, -12, -13, -14 |
| R7 | .189" | 18 Tooth Split Knurl (Zenith) | | | Q | All but K-10, -12, -13, -14 |
| R8 | .187" | 1/16" x 1/2" | 1/2" | — | W | K-10, -12, -13, -14 only |
| R9 | .187" | 1/16" x 1/2" | 5/8" | — | Q | All but K-10, -12, -13, -14 |
| R10 | .187" | — | — | 1/8" wide | W | K-10, -12, -13, -14 only |
| R11 | .187" | — | — | 1/8" wide | Q | All but K-10, -12, -13, -14 |
| R12 | .202" | — | — | 7/32" | Q | All but K-10, -12, -13, -14 |
| R13 | .180" | Round with 5/8" deep slot (Motorola) | | | Q | All but K-10, -12, -13, -14 |
| R14 | .202" | 1/16" x 1/2" | 5/8" | — | Q | All but K-10, -12, -13, -14 |
| R15 | .202" | 3/64" x 1/16" | — | — | Q | All but K-10, -12, -13, -14 |
| R16 | .187" | 1/16" x 1/2" | 25/32" | — | Q | All but K-10, -12, -13, -14 |
| R17 | .202" | 1/16" x 1/2" | 11/16" | — | Q | All but K-10, -12, -13, -14 |
| R18 | .202" | 1/16" x 1/2" | 1/2" | — | W | K-10, -12, -13, -14 only |
| R19 | .202" | 3/64" x 1/16" | — | — | W | K-10, -12, -13, -14 only |
| R20 | .187" | 3/64" x 1/16" | — | — | Q | All but K-10, -12, -13, -14 |
| R21 | .180" | 1/16" x 5/8" | (Motorola) | | Q | All but K-10, -12, -13, -14 |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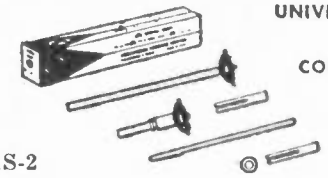

UNIVERSAL SHAFTS FOR CONCENTRIKIT

KS-2

For use with CONCENTRIKITS in place of Exact Duplicate Shafts. Requires shaft modification to desired specification. KS-2 Shaft Kit is for controls in which both sections are carbon. Use with K-2, K-4 or K-5 CONCENTRIKIT. LIST PRICE $1.45

IRC

# CONCENTRIKIT

## EXACT DUPLICATE SHAFTS

### EXACT DUPLICATE SHAFTS

| Stock No. | Shaft Length |
|---|---|
| R15-005 | 5/32" |
| R15-009 | 9/32" |
| R19-011 | 11/32" |
| P19-012 | 3/8" |
| P14-014 | 7/16" |
| R15-014 | 7/16" |
| R19-014 | 7/16" |
| P18-015 | 15/32" |
| P8-016 | 1/2" |
| P19-016 | 1/2" |
| P1-017 | 17/32" |
| R15-017 | 17/32" |
| P9-018 | 9/16" |
| P11-018 | 9/16" |
| P18-018 | 9/16" |
| P14-019 | 19/32" |
| P15-019 | 19/32" |
| P1-020 | 5/8" |
| P8-020 | 5/8" |
| P9-021 | 21/32" |
| P13-022 | 11/16" |
| P16-023 | 23/32" |
| P1-024 | 3/4" |
| P11-024 | 3/8" |
| P14-024 | 3/4" |
| P17-024 | 3/4" |
| R1-024 | 3/4" |
| P14-026 | 13/16" |
| P15-026 | 13/16" |
| R12-026 | 13/16" |
| P16-027 | 27/32" |
| P1-028 | 7/8" |
| P3-028 | 7/8" |
| P6-028 | 7/8" |
| P17-028 | 7/8" |
| R1-028 | 7/8" |
| R2-028 | 7/8" |
| R10-028 | 7/8" |
| R11-028 | 7/8" |
| R15-028 | 7/8" |
| P14-029 | 29/32" |
| P21-029 | 29/32" |
| R12-029 | 29/32" |
| P1-030 | 15/16" |
| P2-031 | 31/32" |
| P17-031 | 31/32" |
| R11-031 | 31/32" |
| P3-100 | 1" |
| P8-100 | 1" |
| R1-100 | 1" |
| P9-101 | 1 1/32" |
| P20-101 | 1 1/32" |
| P1-102 | 1 1/16" |

| Stock No. | Shaft Length |
|---|---|
| P6-102 | 1 1/16" |
| P11-102 | 1 1/16" |
| P14-102 | 1 1/16" |
| P15-102 | 1 1/16" |
| P17-102 | 1 1/16" |
| R1-103 | 1 3/32" |
| R2-103 | 1 3/32" |
| P3-104 | 1 1/8" |
| P9-104 | 1 1/8" |
| P13-104 | 1 1/8" |
| P20-104 | 1 1/8" |
| P17-105 | 1 5/32" |
| R1-105 | 1 5/32" |
| R2-105 | 1 5/32" |
| P1-106 | 1 3/16" |
| P3-106 | 1 3/16" |
| P8-106 | 1 3/16" |
| P15-106 | 1 3/16" |
| R4-106 | 1 3/16" |
| R16-106 | 1 3/16" |
| R1-108 | 1 1/4" |
| R11-108 | 1 1/4" |
| R12-108 | 1 1/4" |
| P1-109 | 1 9/32" |
| P7-109 | 1 9/32" |
| P10-110 | 1 5/16" |
| R2-110 | 1 5/16" |
| R9-110 | 1 5/16" |
| P3-111 | 1 11/32" |
| R1-111 | 1 11/32" |
| P1-112 | 1 3/8" |
| P6-112 | 1 3/8" |
| P9-112 | 1 3/8" |
| P14-112 | 1 3/8" |
| P15-112 | 1 3/8" |
| P17-112 | 1 3/8" |
| R9-112 | 1 3/8" |
| R11-112 | 1 3/8" |
| R16-112 | 1 3/8" |
| P13-113 | 1 13/32" |
| R1-113 | 1 13/32" |
| P1-114 | 1 7/16" |
| P3-114 | 1 7/16" |
| P4-115 | 1 15/32" |
| P17-115 | 1 15/32" |
| R1-115 | 1 15/32" |
| R2-115 | 1 15/32" |
| R9-115 | 1 15/32" |
| P1-116 | 1 1/2" |
| P2-116 | 1 1/2" |
| P3-116 | 1 1/2" |
| P9-116 | 1 1/2" |
| P13-116 | 1 1/2" |
| R14-116 | 1 1/2" |
| R2-117 | 1 17/32" |
| P1-118 | 1 9/16" |

| Stock No. | Shaft Length |
|---|---|
| P2-118 | 1 9/16" |
| P3-118 | 1 9/16" |
| P14-118 | 1 9/16" |
| P17-118 | 1 9/16" |
| R1-118 | 1 9/16" |
| R11-118 | 1 9/16" |
| R16-118 | 1 9/16" |
| R2-119 | 1 19/32" |
| R12-119 | 1 19/32" |
| P15-120 | 1 5/8" |
| P17-120 | 1 5/8" |
| P1-121 | 1 21/32" |
| P3-121 | 1 21/32" |
| P4-121 | 1 21/32" |
| P14-121 | 1 21/32" |
| P6-122 | 1 11/16" |
| P12-122 | 1 11/16" |
| P13-122 | 1 11/16" |
| P15-122 | 1 11/16" |
| R1-122 | 1 11/16" |
| R12-122 | 1 11/16" |
| P1-123 | 1 23/32" |
| P3-123 | 1 23/32" |
| P17-123 | 1 23/32" |
| P4-124 | 1 3/4" |
| P9-124 | 1 3/4" |
| R2-124 | 1 3/4" |
| R11-124 | 1 3/4" |
| P6-125 | 1 25/32" |
| P14-125 | 1 25/32" |
| P1-126 | 1 13/16" |
| P17-126 | 1 13/16" |
| R1-126 | 1 13/16" |
| P3-127 | 1 27/32" |
| R2-127 | 1 27/32" |
| R16-127 | 1 27/32" |
| P1-128 | 1 7/8" |
| P2-128 | 1 7/8" |
| P9-128 | 1 7/8" |
| P13-128 | 1 7/8" |
| R14-128 | 1 7/8" |
| P3-129 | 1 29/32" |
| P17-129 | 1 29/32" |
| R12-129 | 1 29/32" |
| P6-130 | 1 15/16" |
| P14-130 | 1 15/16" |
| P15-130 | 1 15/16" |
| R1-130 | 1 15/16" |
| P3-131 | 1 31/32" |
| R2-131 | 1 31/32" |
| R12-131 | 1 31/32" |
| P1-200 | 2" |
| P2-200 | 2" |
| P6-200 | 2" |
| P13-200 | 2" |
| P15-200 | 2" |
| R1-200 | 2" |
| R2-200 | 2" |

| Stock No. | Shaft Length |
|---|---|
| R11-200 | 2" |
| R18-200 | 2" |
| R21-201 | 2 1/32" |
| P6-202 | 2 1/16" |
| P14-202 | 2 1/16" |
| R1-202 | 2 1/16" |
| R9-202 | 2 1/16" |
| P3-203 | 2 3/32" |
| R17-203 | 2 3/32" |
| P1-204 | 2 1/8" |
| P12-204 | 2 1/8" |
| P14-204 | 2 1/8" |
| P15-204 | 2 1/8" |
| R2-204 | 2 1/8" |
| R3-204 | 2 1/8" |
| R14-204 | 2 1/8" |
| R1-205 | 2 5/32" |
| R9-205 | 2 5/32" |
| R16-205 | 2 5/32" |
| P1-206 | 2 3/16" |
| P5-206 | 2 3/16" |
| P7-206 | 2 3/16" |
| P14-206 | 2 3/16" |
| P15-206 | 2 3/16" |
| R2-206 | 2 3/16" |
| R12-206 | 2 3/16" |
| R17-206 | 2 3/16" |
| R1-207 | 2 7/32" |
| P3-208 | 2 1/4" |
| P14-208 | 2 1/4" |
| R6-208 | 2 1/4" |
| R7-208 | 2 1/4" |
| R9-208 | 2 1/4" |
| R20-208 | 2 1/4" |
| P2-209 | 2 9/32" |
| P9-209 | 2 9/32" |
| R1-209 | 2 9/32" |
| R2-209 | 2 9/32" |
| P1-210 | 2 5/16" |
| P3-210 | 2 5/16" |
| P13-210 | 2 5/16" |
| R1-210 | 2 5/16" |
| R4-210 | 2 5/16" |
| P6-211 | 2 11/32" |
| P14-211 | 2 11/32" |
| R9-211 | 2 11/32" |
| R14-211 | 2 11/32" |
| P1-212 | 2 3/8" |
| P3-212 | 2 3/8" |
| P9-212 | 2 3/8" |
| R1-212 | 2 3/8" |
| R2-212 | 2 3/8" |
| R4-212 | 2 3/8" |
| R7-212 | 2 3/8" |
| R8-213 | 2 13/32" |
| R20-213 | 2 13/32" |
| P2-214 | 2 7/16" |
| P3-214 | 2 7/16" |

| Stock No. | Shaft Length |
|---|---|
| P13-214 | 2 7/16" |
| P14-214 | 2 7/16" |
| P17-214 | 2 7/16" |
| R1-214 | 2 7/16" |
| R9-214 | 2 7/16" |
| R14-214 | 2 7/16" |
| R5-215 | 2 15/32" |
| P1-216 | 2 1/2" |
| R1-216 | 2 1/2" |
| R2-216 | 2 1/2" |
| R11-216 | 2 1/2" |
| R17-216 | 2 1/2" |
| P3-217 | 2 17/32" |
| P13-217 | 2 17/32" |
| P2-218 | 2 9/16" |
| P6-218 | 2 9/16" |
| P15-218 | 2 9/16" |
| R1-218 | 2 9/16" |
| R2-218 | 2 9/16" |
| R11-219 | 2 19/32" |
| P1-220 | 2 5/8" |
| R1-220 | 2 5/8" |
| R2-220 | 2 5/8" |
| R4-221 | 2 21/32" |
| P1-222 | 2 11/16" |
| P2-222 | 2 11/16" |
| P7-222 | 2 11/16" |
| R2-222 | 2 11/16" |
| R9-222 | 2 11/16" |
| P3-223 | 2 23/32" |
| R1-223 | 2 23/32" |
| R3-223 | 2 23/32" |
| P1-224 | 2 3/4" |
| P6-224 | 2 3/4" |
| P10-225 | 2 25/32" |
| P1-226 | 2 13/16" |
| P2-226 | 2 13/16" |
| P3-226 | 2 13/16" |
| R1-226 | 2 13/16" |
| R2-226 | 2 13/16" |
| R4-226 | 2 13/16" |
| P10-227 | 2 27/32" |
| R1-228 | 2 7/8" |
| R4-228 | 2 7/8" |
| P1-229 | 2 29/32" |
| R7-229 | 2 29/32" |
| R14-229 | 2 29/32" |
| R2-230 | 2 15/16" |
| P1-300 | 3" |
| P17-300 | 3" |
| R1-300 | 3" |
| R2-300 | 3" |
| P1-302 | 3 1/16" |
| P6-302 | 3 1/16" |
| R14-302 | 3 1/16" |
| P14-303 | 3 3/32" |

| Stock No. | Shaft Length |
|---|---|
| P1-304 | 3 1/8" |
| R1-304 | 3 1/8" |
| P1-306 | 3 3/16" |
| R2-306 | 3 3/16" |
| R4-306 | 3 3/16" |
| P1-308 | 3 1/4" |
| P10-308 | 3 1/4" |
| R1-308 | 3 1/4" |
| R2-308 | 3 1/4" |
| R14-308 | 3 1/4" |
| P1-310 | 3 5/16" |
| P17-310 | 3 5/16" |
| R2-310 | 3 5/16" |
| R1-312 | 3 3/8" |
| R2-312 | 3 3/8" |
| R16-313 | 3 13/32" |
| P1-314 | 3 7/16" |
| R2-314 | 3 7/16" |
| R9-314 | 3 7/16" |
| P17-316 | 3 1/2" |
| R1-316 | 3 1/2" |
| R13-316 | 3 1/2" |
| P1-317 | 3 17/32" |
| R2-318 | 3 9/16" |
| P1-320 | 3 5/8" |
| R2-322 | 3 11/16" |
| R4-322 | 3 11/16" |
| R1-323 | 3 23/32" |
| R9-324 | 3 3/4" |
| P1-325 | 3 25/32" |
| R1-326 | 3 13/16" |
| R2-329 | 3 29/32" |
| R3-331 | 3 31/32" |
| R13-331 | 3 31/32" |
| P1-400 | 4" |
| P3-400 | 4" |
| R2-401 | 4 1/32" |
| P1-405 | 4 5/32" |
| P3-405 | 4 5/32" |
| R14-409 | 4 9/32" |
| R14-414 | 4 7/16" |
| R1-417 | 4 17/32" |
| R1-420 | 4 5/8" |
| R2-420 | 4 5/8" |
| P8-424 | 4 3/4" |
| R2-426 | 4 13/16" |
| R14-426 | 4 13/16" |
| R2-429 | 4 29/32" |
| R10-431 | 4 31/32" |

LIST PRICE $0.75

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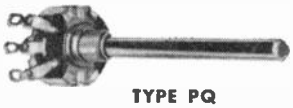
World Radio History

# DISTRIBUTOR CONTROLS FOR INDUSTRY

## SINGLE CONTROLS



TYPE PQ

TYPE RQL

TYPE RQ

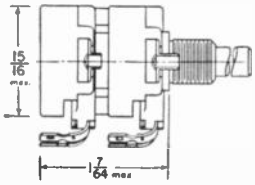
## MULTISECTIONS

IRC MULTISECTIONS are complete control sections that can be added like a switch to any Q, PQ, RQ or RQL Control. With these units, the Radio Technician or Engineer is provided with an endless variety of dual, triple or even quadruple controls. Duals assembled from IRC MULTISECTIONS will accommodate Type 76 switches. Available in a selection of 25 values, as shown in following table. Each MULTISECTION adds $\frac{19}{32}$" to basic control. LIST $2.25

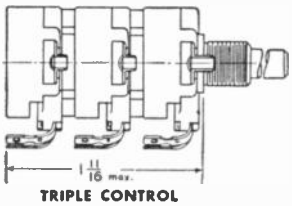
## TYPE RQL

IRC's new line of 10% tolerance Locking Type Bushing Controls. Screw-driver slot shaft ¼" diameter and approximately ½" long from mounting face, with a ⅜" split type bushing, and locking nut. LIST $2.60

## MULTISECTION DIMENSIONS




DUAL CONTROL




TRIPLE CONTROL

IRC Distributor Controls for Industry offer commercial users a wide selection of resistance values and two industrial shaft types. Shafts are fixed. This combination of wide selection of values and speedy Distributor delivery holds many advantages for industrial purchasers. These Industrial Controls are adaptations of the new, compact $\frac{15}{16}$" Q Control. Power rating is ½ watt, 500 volts maximum. Electrical rotation is the same with or without switch. ⅜" bushing is brass and held to close tolerance for snug shaft fit.

Terminals are heavily tinned for easy soldering, and may be bent without becoming noisy. Two locating lugs are provided, either or both of which may be bent down if not needed. Molded base. Both Types PQ and RQ are supplied in standard tapers.

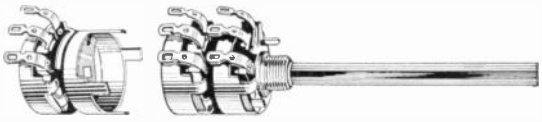
TYPE PQ. Full round ¼" shaft, approximately 3" from mounting face, with ⅜" long bushing. Available in 33 stock values as shown. Regular IRC stock numbers are used with prefix PQ. LIST $2.25

TYPE RQ. Very short screw-driver slot shaft, ¼" diameter and approximately ½" long from mounting face with ⅜" long bushing. Available in 33 values as shown. Regular IRC stock numbers are used with prefix RQ. LIST $2.25

NOTE: Other distributor controls for industry—Types WP, WPRL—see page R-1255.

## DUALS AND TRIPLES

IRC Type PQ, RQ and RQL Industrial Controls are supplied as single controls. Duel Control and Triple Control combinations are available by adding IRC MULTISECTIONS.



## STANDARD VALUES

| OHMS | TAPER | TYPE PQ | TYPE RQ | TYPE RQL | MULTISECTIONS |
|---|---|---|---|---|---|
| 500 | A | PQ11-103 | RQ11-103 | RQL11-103 | M11-103 |
| 1,000 | A | PQ11-108 | RQ11-108 | RQL11-108 | M11-108 |
| 2,000 | A | PQ11-110 | RQ11-110 | RQL11-110 | M11-110 |
| 3,000 | A | PQ11-112 | RQ11-112 | RQL11-112 | M11-112 |
| 5,000 | A | PQ11-114 | RQ11-114 | RQL11-114 | M11-114 |
| 7,500 | A | PQ11-115 | RQ11-115 | — | — |
| 10K | A | PQ11-116 | RQ11-116 | RQL11-116 | M11-116 |
| 10K | C | PQ13-116 | RQ13-116 | — | — |
| 10K | D | PQ14-116 | RQ14-116 | — | — |
| 10K | Q | — | — | — | M17-116 |
| 20K | A | PQ11-119 | RQ11-119 | RQL11-119 | — |
| 25K | A | PQ11-120 | RQ11-120 | RQL11-120 | M11-120 |
| 25K | D | PQ14-120 | RQ14-120 | — | — |
| 30K | A | PQ11-121 | RQ11-121 | RQL11-121 | M11-121 |
| 50K | A | PQ11-123 | RQ11-123 | RQL11-123 | M11-123 |
| 50K | C | PQ13-123 | RQ13-123 | RQL13-123 | — |
| 50K | D | PQ14-123 | RQ14-123 | — | — |
| 100K | A | PQ11-128 | RQ11-128 | RQL11-128 | M11-128 |
| 100K | C | PQ13-128 | RQ13-128 | — | M13-128 |
| 200K | A | PQ11-129 | RQ11-129 | RQL11-129 | — |
| 250K | A | PQ11-130 | RQ11-130 | RQL11-130 | M11-130 |
| 250K | C | PQ13-130 | RQ13-130 | RQL13-130 | M13-130 |
| 500K | A | PQ11-133 | RQ11-133 | RQL11-133 | M11-133 |
| 500K | C | PQ13-133 | RQ13-133 | RQL13-133 | M13-133 |
| 1.0 Meg. | A | PQ11-137 | RQ11-137 | RQL11-137 | M11-137 |
| 1.0 Meg. | C | PQ13-137 | RQ13-137 | RQL13-137 | M13-137 |
| 1.5 Meg. | A | PQ11-138 | RQ11-138 | RQL11-138 | — |
| 1.5 Meg. | C | — | — | — | M13-138 |
| 2.0 Meg. | A | PQ11-139 | RQ11-139 | RQL11-139 | M11-139 |
| 2.0 Meg. | C | PQ13-139 | RQ13-139 | RQL13-139 | M13-139 |
| 2.5 Meg. | A | PQ11-239 | RQ11-239 | RQL11-239 | — |
| 3.0 Meg. | A | PQ11-140 | RQ11-140 | RQL11-140 | — |
| 3.0 Meg. | C | PQ13-140 | RQ13-140 | — | M13-140 |
| 3.0 Meg. | Q | — | — | — | M17-140 |
| 5.0 Meg. | A | PQ11-141 | RQ11-141 | RQL11-141 | M11-141 |
| 10.0 Meg. | A | PQ11-143 | RQ11-143 | RQL11-143 | M11-143 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

IRC Power Wire Wounds are rugged resistors specially engineered for dependable heavy-duty performance. They are supplied in a variety of power ratings, resistance values, sizes and terminal types. In addition to the conventional tubular types, IRC also supplies: 4 watt completely insulated Type PW-4 with axial leads, and two new high temperature resistors rated at 7 and 10 watts. Type PW-7 and PW-10 are fully insulated in rectangular ceramic cases and have axial leads.

# FIXED POWER WIRE WOUND RESISTORS

## STOCK VALUES AND LIST PRICES

| | Ohms | PW4 4 watts | PW7 7 watts | PW10 10 watts | 1¾A 10 watts | 2D 20 watts | 4½E 50 watts | 6½H 100 watts | 10½H 200 watts |
|---|---|---|---|---|---|---|---|---|---|
| **TYPE PW-4** 4 WATTS — 21/64" dia. by 1¾" long. Axial leads. | 1 | $0.50 | $0.55 | $0.60 | $0.80 | $1.05 | $2.50 | $3.70 | $5.00 |
| | 2 | .50 | .55 | .60 | .80 | — | 2.50 | 3.70 | 5.00 |
| | 3 | .50 | .55 | .60 | .80 | — | 2.50 | 3.70 | 5.00 |
| | 4 | .50 | .55 | .60 | .80 | — | 2.50 | 3.70 | 5.00 |
| | 5 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 5.00 |
| | 7.5 | — | — | .60 | .80 | — | — | — | — |
| **TYPE PW-7** 7 WATTS — ⅜" by 11/32" by 1-25/64" long. Axial leads. | 10 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 15 | .50 | .55 | .60 | .80 | — | — | — | — |
| | 20 | .50 | .55 | .60 | .80 | — | — | — | — |
| | 25 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 30 | — | — | — | .80 | — | — | — | — |
| | 35 | — | — | — | .80 | — | — | — | — |
| | 40 | — | — | — | .80 | — | — | — | — |
| | 50 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 75 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| **TYPE PW-10** 10 WATTS — ⅜" by 11/32" by 1⅞" long. Axial leads. | 100 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 125 | — | — | — | .80 | — | — | 2.65 | — |
| | 150 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 200 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | — | — |
| | 225 | — | — | — | .80 | — | — | — | — |
| | 250 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 300 | .50 | .55 | .60 | .80 | 1.05 | — | — | — |
| | 350 | — | — | — | .80 | 1.05 | — | — | — |
| | 400 | .50 | — | — | .80 | 1.05 | — | — | — |
| **TYPE 1¾"** 10 WATTS — 5/16" dia. by 1¾" long. Accommodate Z0 brackets (not included, 12c list). | 450 | — | — | — | .80 | — | — | — | — |
| | 500 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 600 | — | — | — | .80 | — | — | — | — |
| | 700 | — | — | — | .80 | 1.05 | — | — | — |
| | 750 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 800 | — | — | — | .80 | 1.05 | 1.80 | — | — |
| | 900 | — | — | — | .80 | — | — | — | — |
| | 1,000 | .50 | .55 | .60 | .80 | 1.05 | 1.80 | 2.65 | 3.55 |
| | 1,100 | — | — | — | .90 | — | — | — | — |
| **TYPE 2D** 20 WATTS — 7/16" dia. by 2" long. Accommodate Z1 brackets (not included, 12c list). | 1,200 | — | — | — | .90 | 1.10 | — | — | — |
| | 1,250 | .50 | .55 | .60 | .90 | 1.10 | — | 2.80 | — |
| | 1,500 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | 2.80 | 3.60 |
| | 1,750 | — | — | — | .90 | 1.10 | — | — | — |
| | 2,000 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | 2.80 | 3.60 |
| | 2,250 | — | — | — | .90 | 1.10 | — | — | — |
| | 2,500 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | 2.80 | 3.60 |
| | 3,000 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | 2.80 | 3.60 |
| | 3,300 | .50 | .55 | .60 | — | — | — | — | — |
| **TYPE 4½E** 50 WATTS — ¾" dia. by 4½" long. Supplied with Z2 brackets. | 3,500 | — | .55 | — | .90 | 1.10 | — | — | — |
| | 3,900 | — | .55 | .60 | — | — | — | — | — |
| | 4,000 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | — | — |
| | 4,500 | — | — | — | .90 | 1.10 | — | — | — |
| | 5,000 | .50 | .55 | .60 | .90 | 1.10 | 1.90 | 2.80 | 3.60 |
| | 6,000 | — | .55 | .60 | 1.00 | 1.20 | 2.10 | — | — |
| | 7,000 | — | — | — | 1.00 | 1.20 | 2.10 | — | — |
| | 7,500 | .50 | .55 | .60 | 1.00 | 1.20 | 2.10 | 3.00 | 3.90 |
| | 8,000 | — | — | — | 1.00 | 1.20 | 2.10 | — | — |
| **TYPE 6½H** 100 WATTS — 1⅛" dia. by 6½" long. Supplied with Z3 brackets. | 8,200 | .50 | .55 | .60 | — | — | — | — | — |
| | 8,500 | — | — | — | 1.00 | 1.20 | — | — | — |
| | 9,000 | — | — | — | 1.00 | 1.20 | — | — | — |
| | 10K | — | — | .60 | 1.00 | 1.20 | 2.10 | 3.00 | 3.90 |
| | 11K | — | — | — | 1.10 | 1.30 | — | — | — |
| | 12K | — | — | — | 1.10 | 1.30 | 2.30 | — | — |
| | 12.5K | — | — | — | 1.10 | 1.30 | 2.30 | — | — |
| | 15K | — | — | .60 | 1.10 | 1.30 | 2.30 | 3.30 | 4.15 |
| | 20K | — | — | .60 | 1.10 | 1.30 | 2.30 | 3.30 | 4.15 |
| **TYPE 10½H** 200 WATTS — 1⅛" dia. by 10½' long. Supplied with Z3 brackets. | 25K | — | — | .60 | 1.20 | 1.50 | 2.55 | 3.50 | — |
| | 30K | — | — | — | — | 1.50 | 2.55 | — | — |
| | 35K | — | — | — | — | 1.50 | 2.55 | 3.50 | 4.30 |
| | 40K | — | — | — | — | 1.50 | 2.55 | 3.50 | 4.30 |
| | 50K | — | — | — | — | 1.75 | 2.85 | 3.70 | 4.40 |
| | 60K | — | — | — | — | — | 2.85 | 3.70 | 4.40 |
| | 75K | — | — | — | — | — | 3.20 | 3.95 | 4.70 |
| | 100K | — | — | — | — | — | 3.50 | 4.20 | 5.00 |

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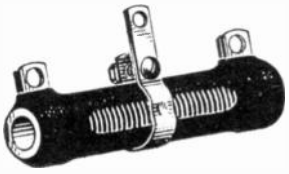
World Radio History

# ADJUSTABLE POWER WIRE WOUND RESISTORS

IRC Power Wire Wounds are designed for continuous operation at full rated power. Derating is unnecessary even for the highest stock values. IRC Power Wire Wounds are full size, thus capable of efficiently handling greater wattage. Cooler performance assures longer resistor life, and safeguards critical components mounted adjacently. Clear, permanent markings show type, size, wattage, and resistance value; markings improve in legibility with temperature rise. Terminals are tin plated for easy soldering.



TYPE 1¾AA

TYPE 4½EA

## STOCK VALUES AND LIST PRICES

| Ohms | 1¾AA 10 watts | 2½DA 25 watts | 4½EA 50 watts | 6½HA 100 watts | 10½HA 200 watts |
|---|---|---|---|---|---|
| 1 | $1.60 | $2.05 | $3.30 | $5.00 | $6.25 |
| 2 | 1.60 | 2.05 | 3.30 | 5.00 | 6.25 |
| 3 | 1.60 | 2.05 | 3.30 | 5.00 | 6.25 |
| 4 | — | — | 3.30 | 5.00 | 6.25 |
| 5 | 1.60 | 2.05 | 2.60 | 3.95 | 6.25 |
| 7.5 | 1.60 | 2.05 | — | — | — |
| 10 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 15 | 1.60 | 2.05 | — | — | — |
| 20 | 1.60 | 2.05 | — | — | — |
| 25 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 50 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 75 | 1.60 | 2.05 | 2.60 | — | — |
| 100 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 150 | 1.60 | 2.05 | 2.60 | — | — |
| 200 | 1.60 | 2.05 | 2.60 | 3.95 | — |
| 250 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 300 | 1.60 | 2.05 | 2.60 | — | — |
| 400 | 1.60 | 2.05 | 2.60 | 3.95 | — |
| 500 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 750 | 1.60 | 2.05 | 2.60 | 3.95 | — |
| 800 | 1.60 | 2.05 | 2.60 | — | — |
| 1,000 | 1.60 | 2.05 | 2.60 | 3.95 | 4.80 |
| 1,250 | 1.70 | 2.10 | 2.70 | — | — |
| 1,500 | 1.70 | 2.10 | 2.70 | 4.05 | 4.90 |
| 2,000 | 1.70 | 2.10 | 2.70 | 4.05 | 4.90 |
| 2,250 | 1.70 | 2.10 | 2.70 | — | — |
| 2,500 | 1.70 | 2.10 | 2.70 | 4.05 | 4.90 |
| 3,000 | 1.70 | 2.10 | 2.70 | 4.05 | 4.90 |
| 3,500 | 1.70 | 2.10 | 2.70 | — | — |
| 4,000 | 1.70 | 2.10 | 2.70 | 4.05 | — |
| 4,500 | 1.70 | 2.10 | 2.70 | — | — |
| 5,000 | 1.70 | 2.10 | 2.70 | 4.05 | 4.90 |
| 6,000 | 1.80 | 2.20 | 2.90 | 4.25 | — |
| 7,000 | 1.80 | 2.20 | 2.90 | — | — |
| 7,500 | 1.80 | 2.20 | 2.90 | 4.25 | — |
| 8,000 | 1.80 | 2.20 | 2.90 | 4.25 | — |
| 9,000 | 1.80 | 2.20 | 2.90 | — | — |
| 10K | 1.80 | 2.20 | 2.90 | 4.25 | 5.20 |
| 12K | — | 2.30 | 3.10 | — | — |
| 15K | — | 2.30 | 3.10 | 4.50 | 5.40 |
| 20K | — | 2.30 | 3.10 | 4.50 | 5.40 |
| 25K | — | 2.50 | 3.40 | 4.80 | 5.40 |
| 30K | — | — | 3.40 | 4.80 | 5.50 |
| 35K | — | — | — | — | — |
| 40K | — | — | 3.40 | 4.80 | 5.50 |
| 45K | — | — | — | — | — |
| 50K | — | — | 3.60 | 5.00 | 5.70 |
| 60K | — | — | 3.60 | 5.00 | 5.70 |
| 75K | — | — | 4.05 | 5.20 | 5.95 |
| 80K | — | — | 4.05 | — | — |
| 100K | — | — | 4.30 | 5.45 | 6.25 |

**TYPE 1¾AA 10 WATTS**
5/16" dia. by 1¾" long. Accommodate ZO brackets (not included, 12c list).

**TYPE 2½DA 25 WATTS**
9/16" dia. by 2½" long. Supplied with Z1 brackets.

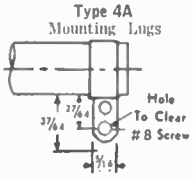
**TYPE 4½EA 50 WATTS**
¾" dia. by 4½" long. Supplied with Z2 brackets.

**TYPE 6½HA 100 WATTS**
1⅛" dia. by 6½" long. Supplied with Z3 brackets.

**TYPE 10½HA 200 WATTS**
1⅛" dia. by 10½" long. Supplied with Z3 brackets.

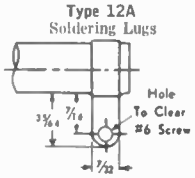
## STANDARD TERMINALS

Type 4A
Mounting Lugs



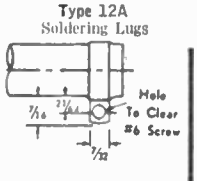

For 6½H, 6½HA, 10½H, 10½HA

Type 12A
Soldering Lugs



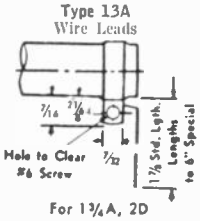

For 4½E, 4½EA, 6½E, 6½EA

Type 12A
Soldering Lugs




For 1¾AA, 2½DA

Type 13A
Wire Leads




For 1¾A, 2D

BRACKETS: Bracket holes are for 8-32 screws.

## TYPE X BANDS

Type "X" bands are furnished for 2½DA, 4½EA, 6½EA, 6½HA and 10½HA. Type 1¾AA, because of its small size, is furnished with special adjustable band.

| Resistor | Band | List |
|---|---|---|
| 2½DA | X2 | $ .25 |
| 4½EA, 6½EA | X3 | .25 |
| 6½HA, 10½HA | X4 | .42 |
| SPECIAL BAND | | |
| 1¾AA | A | .25 |



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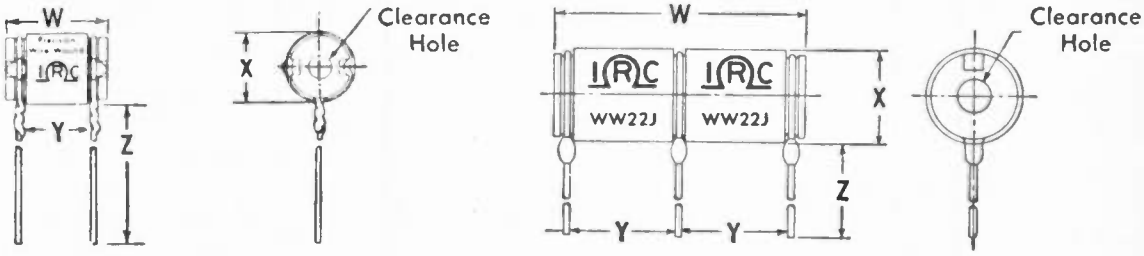
World Radio History

# PRECISION WIRE WOUND RESISTORS

IRC Precision Wire Wound Resistors are designed and manufactured to exacting standards necessary to insure consistent accuracy in critical applications.

The unencapsulated resistor types of the former Hycor ceramic bobbin line of resistors have been added to the IRC WW series resistor line (see following page). This results in presenting a more extended line of unencapsulated precision wire wound resistors to the industry.

These resistors are made on modern equipment from specially selected materials. High reliability is assured by maintaining rigid quality control procedures throughout all manufacturing stages.




## RADIAL LEAD TYPE

| IRC TYPE No. | WW3J | WW4J | WW8J | WW10J | WW11J | WW20J | WW21J | WW22J (Center Tapped) | WW23J | WW24J (Center Tapped) |
|---|---|---|---|---|---|---|---|---|---|---|
| Hycor Type Reference | 70W | 72W | 70W | 52W | None | 50W | 53W | 53WT | 60W | 72WT |
| Rating in Watts | | | | | | | | | | |
| 65°C. Ambient | .50 | 1 | .50 | .25 | .50 | .25 | .25 | .25† | .50 | .50† |
| Former MIL Rating | .35 | .50 | .25 | .15 | .35 | .15 | .15 | .15† | .35 | .25† |
| Maximum Volts | 400 | 700 | 250 | 150 | 500 | 150 | 300 | 150† | 300 | 400† |
| No. of Sections | 2 | 4 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 4 |
| Maximum Resistance .0015 Diameter Wire | 0.3 Meg. | 0.75 Meg. | 0.29 Meg. | 40K | 0.4 Meg. | 35K | 70K | 35K† | 225K | 350K† |
| Maximum Resistance .0009 Diameter Wire | 1.6 Meg. | 4.0 Meg. | 1.5 Meg. | 0.215 Meg. | 2.0 Meg. | 150K | 500K | 250K† | 1.5 Meg. | 1.5 Meg.† |
| Minimum Resistance (ohms) | | | | | | | | | | |
| ±0.05% Tolerance | 25 | 25 | 25 | 200 | 25 | 250 | 200 | 200† | 25 | 25 † |
| ±0.10% " | 10 | 10 | 10 | 150 | 10 | 200 | 150 | 150† | 10 | 10 † |
| ±0.25% " | 5 | 5 | 5 | 75 | 5 | 100 | 75 | 75† | 5 | 5 † |
| ±0.5 % " | 1 | 1 | 1 | 50 | 1 | 75 | 50 | 50† | 1 | 1 † |
| ±1.0 % " | 0.1 | 0.1 | 0.5 | 10 | 0.1 | 10 | 10 | 10† | 0.5 | 0.1† |
| Dimensions | | | | | | | | | | |
| Lead Diameter (AWG) | #20 | #20 | #20 | #22 | #20 | #22 | #22 | #22 | #20 | #20 |
| W Dimension | 9/16" | 1" | 15/32" | 13/32" | 21/32" | 5/16" | 3/4" | 3/4" | 3/4" | 1" |
| X Dimension | 19/32" | 19/32" | 19/32" | 9/32" | 19/32" | 1/4" | 1/4" | 1/4" | 3/8" | 1/2" |
| Y Dimension | 3/8" | 25/32" | 5/16" | 9/32" | 7/16" | 7/32" | 21/32" | 5/16"† | 19/32" | 15/32"† |
| Z Dimension | 2½* | 2½* | 2½* | 2* | 2½* | 2* | 2* | 2* | 2½* | 2½* |
| Clearance hole to fit | #6 Screw | #6 Screw | #6 Screw | #2 Screw | #6 Screw | #2 Screw | #2 Screw | #2 Screw | #6 Screw | #6 Screw |

* Lengths shown are standard. 2", 3" and 4" also available upon request.
† Signifies per tapped section.

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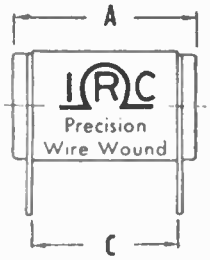
World Radio History

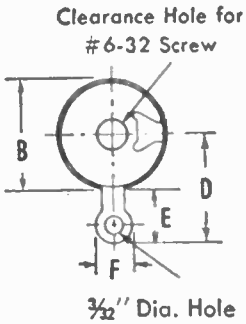
# PRECISION
## WIRE WOUND RESISTORS

RADIAL LUG TYPE

Improved ceramic winding forms have high insulating qualities, high mechanical strength and low coefficient of expansion. Special winding technique, developed by IRC, eliminates shorted turns or strains in the winding.

Improved insulation provides greater humidity protection and contributes to longer trouble-free service. Improved lug and lead terminals assure perfect electrical connections without strain on the windings, and are easily soldered.




# RADIAL LUG TYPE

| IRC TYPE No. | WW2J | WW3J | WW4J | WW5J | WW8J | WW11J |
|---|---|---|---|---|---|---|
| Hycor Type Reference | None | 70L | 72L | 80L | 70L | None |
| MIL-R-93A Style | RB19 | RB16 | RB17 | RB18 | RB15 | RB16 |
| Old JAN-R-93 Style | RB14 | RB11 | RB12 | RB13 | RB10 | RB11 |
| Rating in Watts | | | | | | |
| 65° C. Ambient | 2 | .50 | 1 | 1 | .50 | .50 |
| Former MIL Rating | 1 | .35 | .50 | .50 | .25 | .35 |
| Maximum Volts | 2000 | 400 | 700 | 1000 | 250 | 500 |
| No. of Sections | 8 | 2 | 4 | 4 | 1 | 2 |
| Maximum Resistance .0015 Diameter Wire | 4.0 Meg. | 0.3 Meg. | 0.75 Meg. | 1.7 Meg. | 0.29 Meg. | 0.4 Meg. |
| Maximum Resistance .0009 Diameter Wire | 20.0 Meg. | 1.6 Meg. | 4.0 Meg. | 7.5 Meg. | 1.5 Meg. | 2.0 Meg. |
| Minimum Resistance (ohms) | | | | | | |
| ±0.05% Tolerance | 25 | 25 | 25 | 25 | 25 | 25 |
| ±0.1 % " | 10 | 10 | 10 | 10 | 10 | 10 |
| ±0.25% " | 5 | 5 | 5 | 5 | 5 | 5 |
| ±0.50% " | 1 | 1 | 1 | 1 | 1 | 1 |
| ±1 % " | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 0.1 |
| Dimensions (inches) | | | | | | |
| A Dimension | 2⅛ | 9/16 | 1 | 1¼ | 15/32 | 21/32 |
| B Dimension | 29/32 | 19/32 | 19/32 | 25/32 | 19/32 | 19/32 |
| C Dimension | 1 25/32 | ⅜ | 25/32 | 31/32 | 5/16 | 7/16 |
| D Dimension | 25/32 | ⅝ | ⅝ | 23/32 | ⅝ | ⅝ |
| E Dimension | 5/16 | 5/16 | 5/16 | 5/16 | 5/16 | 5/16 |
| F Dimension | 3/16 | 3/16 | 3/16 | 3/16 | 3/16 | 3/16 |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# STANDARD STOCK VALUES— IRC PRECISION WIRE WOUND RESISTORS

IRC

# PRECISION WIRE WOUND RESISTORS

### TYPE WW2J—1% Tolerance

| Stock Resistance Values | List Price | Stock Resistance Values | List Price |
|---|---|---|---|
| 600K Ohms | $14.15 | 1.5 Megohms | 21.25 |
| 750K Ohms | 16.65 | 2.0 Megohms | 25.00 |
| 900K Ohms | 18.35 | 2.5 Megohms | 26.65 |
| 1.0 Megohm | 20.00 | | |

### TYPE WW3J—1% Tolerance

| | | | |
|---|---|---|---|
| 0.1 Ohm | $2.10 | 5,000 Ohms | 2.25 |
| 0.2 Ohm | 2.10 | 7,500 Ohms | 2.25 |
| 0.5 Ohm | 2.10 | 10K Ohms | 2.85 |
| 1.0 Ohm | 2.10 | 12.5K Ohms | 2.85 |
| 5 Ohms | 2.10 | 15K Ohms | 2.85 |
| 10 Ohms | 2.10 | 20K Ohms | 2.85 |
| 25 Ohms | 2.10 | 22.5K Ohms | 2.85 |
| 50 Ohms | 2.10 | 25K Ohms | 2.85 |
| 100 Ohms | 2.10 | 30K Ohms | 2.85 |
| 200 Ohms | 2.10 | 40K Ohms | 2.85 |
| 250 Ohms | 2.10 | 50K Ohms | 2.85 |
| 300 Ohms | 2.25 | 60K Ohms | 3.35 |
| 500 Ohms | 2.25 | 75K Ohms | 3.35 |
| 1,000 Ohms | 2.25 | 100K Ohms | 3.35 |
| 1,500 Ohms | 2.25 | 125K Ohms | 3.90 |
| 2,000 Ohms | 2.25 | 150K Ohms | 3.90 |
| 2,500 Ohms | 2.25 | 175K Ohms | 3.90 |
| 3,000 Ohms | 2.25 | 200K Ohms | 3.90 |
| 3,500 Ohms | 2.25 | 225K Ohms | 4.55 |
| 4,000 Ohms | 2.25 | | |

### TYPE WW4J—1% Tolerance

| | | | |
|---|---|---|---|
| 0.1 Ohm | $2.20 | 10K Ohms | 2.70 |
| 0.2 Ohm | 2.20 | 12.5K Ohms | 3.50 |
| 0.5 Ohm | 2.20 | 15K Ohms | 3.50 |
| 1.0 Ohm | 2.20 | 20K Ohms | 3.50 |
| 5 Ohms | 2.20 | 22.5K Ohms | 3.50 |
| 10 Ohms | 2.20 | 25K Ohms | 3.50 |
| 25 Ohms | 2.20 | 30K Ohms | 3.50 |
| 50 Ohms | 2.20 | 40K Ohms | 3.50 |
| 100 Ohms | 2.20 | 50K Ohms | 3.50 |
| 200 Ohms | 2.35 | 60K Ohms | 3.95 |
| 250 Ohms | 2.35 | 75K Ohms | 3.95 |
| 300 Ohms | 2.35 | 100K Ohms | 3.95 |
| 500 Ohms | 2.35 | 125K Ohms | 4.35 |
| 1,000 Ohms | 2.35 | 150K Ohms | 4.35 |
| 1,500 Ohms | 2.55 | 175K Ohms | 4.35 |
| 2,000 Ohms | 2.55 | 200K Ohms | 4.35 |
| 2,500 Ohms | 2.55 | 225K Ohms | 4.80 |
| 3,000 Ohms | 2.55 | 250K Ohms | 4.80 |
| 3,500 Ohms | 2.55 | 300K Ohms | 4.80 |
| 4,000 Ohms | 2.55 | 400K Ohms | 5.65 |
| 5,000 Ohms | 2.55 | 500K Ohms | 6.45 |
| 7,500 Ohms | 2.70 | | |

### TYPE WW5J—1% Tolerance

| | | | |
|---|---|---|---|
| 600K Ohms | $12.00 | 900K Ohms | 12.90 |
| 750K Ohms | 12.50 | 1.0 Megohm | 13.35 |

### TYPE WW10J—1% Tolerance

| | | | |
|---|---|---|---|
| 10 Ohms | $2.25 | 4,000 Ohms | 2.20 |
| 25 Ohms | 2.25 | 5,000 Ohms | 2.20 |
| 50 Ohms | 2.25 | 7,500 Ohms | 2.30 |
| 100 Ohms | 2.15 | 10K Ohms | 2.30 |
| 200 Ohms | 2.15 | 12.5K Ohms | 2.70 |
| 250 Ohms | 2.15 | 15K Ohms | 2.70 |
| 300 Ohms | 2.15 | 20K Ohms | 2.70 |
| 500 Ohms | 2.15 | 25K Ohms | 2.70 |
| 1,000 Ohms | 2.15 | 30K Ohms | 2.70 |
| 1,500 Ohms | 2.20 | 40K Ohms | 2.70 |
| 2,000 Ohms | 2.20 | 50K Ohms | 2.70 |
| 2,500 Ohms | 2.20 | 60K Ohms | 3.00 |
| 3,000 Ohms | 2.20 | 75K Ohms | 3.00 |
| 3,500 Ohms | 2.20 | 100K Ohms | 3.00 |

### SPECIAL RESISTANCE TOLERANCES

Prices shown above cover resistance tolerance of ±1%. Other tolerances, subject to minimum values shown on specification charts, are available on special order at increased prices, as follows:

### ALL WWJ TYPES

| Special Tolerance | Add to Prices Above |
|---|---|
| 0.5% | 5% |
| 0.25% | 10% |
| 0.2% | 15% |
| 0.1% | 25% |
| 0.05% | 100% |

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World Radio History

# CLOSE TOLERANCE PRECISTORS

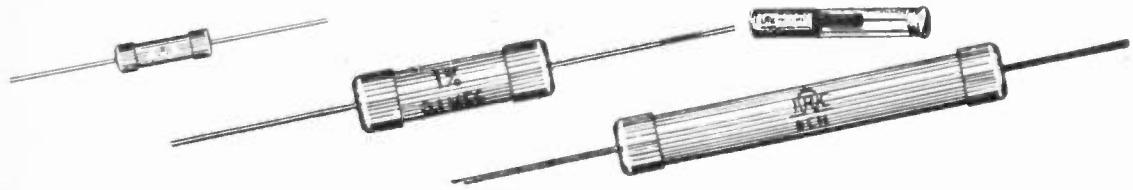
## Type DC — Deposited Carbon Resistors. 1% Accuracy. Precision Packaged. 1/2, 1 and 2 Watts.

IRC Deposited Carbon Precision Resistors offer a unique combination of close tolerance, stability and economy. Pure crystalline carbon is bonded to selected ceramic cores to produce a resistor ideally suited to the requirements of instrumentation, advanced electronics and critical television circuits.

Depostied Carbon Precistors provide a combination of characteristics not found in any other resistor type. The wide range of values, accuracy, high stability, low voltage coefficient, excellent frequency characteristics, predictable temperature characteristics, high voltage rating, low noise level and small size of PRECISTORS make them superior to many popular applications.

IRC Type DC Deposited Carbon Precistors are available in three sizes: 1/2 watt (body size 9/16" x 5/32"), 1 watt (body size 15/16" x 9/32"), and 2 watts (body size 2 1/16" x 9/32"). Accuracy ±1% (25°C).

For complete protection against scratches, jars and surface injury IRC PRECISTORS are factory packed in capped plastic tubes. This special precision packaging also safeguards these close tolerance resistors against excessive handling.



### TYPE DCC DEPOSITED CARBON PRECISTOR — ½ WATT — 1% TOLERANCE

| Ohms | Ohms | Ohms | Ohms | Ohms | Meg. | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|---|
| — | 100 | 1000 | 10K | 100K | 1.0 | $.67 | $.40 | $.32 |
| — | 110 | 1100 | 11K | 110K | 1.1 | .67 | .40 | .32 |
| — | 120 | 1200 | 12K | 120K | 1.2 | .74 | .44 | .35 |
| — | 130 | 1300 | 13K | 130K | 1.3 | .67 | .40 | .32 |
| — | 150 | 1500 | 15K | 150K | 1.5 | .67 | .40 | .32 |
| — | 160 | 1600 | 16K | 160K | 1.6 | .74 | .44 | .35 |
| — | 180 | 1800 | 18K | 180K | 1.8 | .74 | .44 | .35 |
| — | 200 | 2000 | 20K | 200K | 2.0 | .67 | .40 | .35 |
| — | 220 | 2200 | 22K | 220K | — | .74 | .44 | .35 |
| — | 240 | 2400 | 24K | 240K | — | .74 | .44 | .35 |
| — | 270 | 2700 | 27K | 270K | — | .74 | .44 | .35 |
| — | 300 | 3000 | 30K | 300K | — | .74 | .44 | .35 |

| Ohms | Ohms | Ohms | Ohms | Ohms | Meg. | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|---|
| — | 330 | 3300 | 33K | 330K | — | .74 | .44 | .35 |
| — | 360 | 3600 | 36K | 360K | — | .74 | .44 | .35 |
| — | 390 | 3900 | 39K | 390K | — | .74 | .44 | .35 |
| — | 430 | 4300 | 43K | 430K | — | .74 | .44 | .35 |
| — | 470 | 4700 | 47K | 470K | — | .74 | .44 | .35 |
| 51 | 510 | 5100 | 51K | 510K | — | .74 | .44 | .35 |
| 56 | 560 | 5600 | 56K | 560K | — | .74 | .44 | .35 |
| 62 | 620 | 6200 | 62K | 620K | — | .74 | .44 | .35 |
| 68 | 680 | 6800 | 68K | 680K | — | .74 | .44 | .35 |
| 75 | 750 | 7500 | 75K | 750K | — | .67 | .40 | .32 |
| 82 | 820 | 8200 | 82K | 820K | — | .74 | .44 | .35 |
| 91 | 910 | 9100 | 91K | 910K | — | .74 | .44 | .35 |

### TYPE DCF DEPOSITED CARBON PRECISTOR — 1 WATT — 1% TOLERANCE

| Ohms | Ohms | Ohms | Ohms | Meg. | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|
| 100 | 1000 | 10K | 100K | 1.0 | $1.00 | $.60 | $.48 |
| 110 | 1100 | 11K | 110K | 1.1 | 1.00 | .60 | .48 |
| 120 | 1200 | 12K | 120K | 1.2 | 1.10 | .66 | .53 |
| 130 | 1300 | 13K | 130K | 1.3 | 1.00 | .60 | .48 |
| 150 | 1500 | 15K | 150K | 1.5 | 1.00 | .60 | .48 |
| 160 | 1600 | 16K | 160K | 1.6 | 1.10 | .66 | .53 |
| 180 | 1800 | 18K | 180K | 1.8 | 1.10 | .66 | .53 |
| 200 | 2000 | 20K | 200K | 2.0 | 1.00 | .60 | .48 |
| 220 | 2200 | 22K | 220K | 2.2 | 1.10 | .66 | .53 |
| 240 | 2400 | 24K | 240K | 2.4 | 1.10 | .66 | .53 |
| 250 | 2500 | 25K | 250K | 2.5 | 1.10 | .66 | .53 |
| 270 | 2700 | 27K | 270K | 2.7 | 1.10 | .66 | .53 |
| 300 | 3000 | 30K | 300K | 3.0 | 1.10 | .66 | .53 |
| 330 | 3300 | 33K | 330K | 3.3 | 1.10 | .66 | .53 |
| 360 | 3600 | 36K | 360K | 3.6 | 1.10 | .66 | .53 |

| Ohms | Ohms | Ohms | Ohms | Meg. | Price List | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|
| 390 | 3900 | 39K | 390K | 3.9 | 1.10 | .66 | .53 |
| 400 | 4000 | 40K | 400K | 4.0 | 1.10 | .66 | .53 |
| 430 | 4300 | 43K | 430K | 4.3 | 1.10 | .66 | .53 |
| 470 | 4700 | 47K | 470K | 4.7 | 1.10 | .66 | .53 |
| 500 | 5000 | 50K | 500K | 5.0 | 1.10 | .66 | .53 |
| 510 | 5100 | 51K | 510K | * | 1.10 | .66 | .53 |
| 560 | 5600 | 56K | 560K | * | 1.10 | .66 | .53 |
| 620 | 6200 | 62K | 620K | * | 1.10 | .66 | .53 |
| 680 | 6800 | 68K | 680K | * | 1.10 | .66 | .53 |
| 750 | 7500 | 75K | 750K | * | 1.00 | .60 | .48 |
| 820 | 8200 | 82K | 820K | * | 1.10 | .66 | .53 |
| 910 | 9100 | 91K | 910K | * | 1.10 | .66 | .53 |
| * 5.1 Meg., 5.6 Meg., 6.2 Meg., 6.8 Meg., 8.2 Meg., 9.1 Meg. | | | | | 1.21 | .73 | .58 |
| * 7.5 Meg., 10.0 Meg. | | | | | 1.10 | .66 | .53 |

### TYPE DCH DEPOSITED CARBON PRECISTOR — 2 WATTS — 1% TOLERANCE

| Ohms | Ohms | Ohms | Ohms | Meg. | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|
| — | 1000 | 10K | 100K | 1.0 | $1.20 | $.72 | $.57 |
| — | 1100 | 11K | 110K | 1.1 | 1.20 | .72 | .57 |
| — | 1200 | 12K | 120K | 1.2 | 1.30 | .78 | .63 |
| — | 1300 | 13K | 130K | 1.3 | 1.20 | .72 | .57 |
| — | 1500 | 15K | 150K | 1.5 | 1.20 | .72 | .57 |
| — | 1600 | 16K | 160K | 1.6 | 1.30 | .78 | .63 |
| — | 1800 | 18K | 180K | 1.8 | 1.30 | .78 | .63 |
| 200 | 2000 | 20K | 200K | 2.0 | 1.20 | .72 | .57 |
| 220 | 2200 | 22K | 220K | 2.2 | 1.30 | .78 | .63 |
| 240 | 2400 | 24K | 240K | 2.4 | 1.30 | .78 | .63 |
| — | — | — | — | 2.5 | 1.30 | .78 | .63 |
| 270 | 2700 | 27K | 270K | 2.7 | 1.30 | .78 | .63 |
| 300 | 3000 | 30K | 300K | 3.0 | 1.30 | .78 | .63 |
| 330 | 3300 | 33K | 330K | 3.3 | 1.30 | .78 | .63 |
| 360 | 3600 | 36K | 360K | 3.6 | 1.30 | .78 | .63 |

| Ohms | Ohms | Ohms | Ohms | Meg. | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|---|---|---|---|
| 390 | 3900 | 39K | 390K | 3.9 | 1.30 | .78 | .63 |
| — | — | — | — | 4.0 | 1.30 | .78 | .63 |
| 430 | 4300 | 43K | 430K | 4.3 | 1.30 | .78 | .63 |
| 470 | 4700 | 47K | 470K | 4.7 | 1.30 | .78 | .63 |
| — | — | — | 500K | 5.0 | 1.30 | .78 | .63 |
| 510 | 5100 | 51K | 510K | 5.1 | 1.30 | .78 | .63 |
| 560 | 5600 | 56K | 560K | 5.6 | 1.30 | .78 | .63 |
| 620 | 6200 | 62K | 620K | 6.2 | 1.30 | .78 | .63 |
| 680 | 6800 | 68K | 680K | 6.8 | 1.30 | .78 | .63 |
| 750 | 7500 | 75K | 750K | 7.5 | 1.20 | .72 | .57 |
| 820 | 8200 | 82K | 820K | 8.2 | 1.30 | .78 | .63 |
| 910 | 9100 | 91K | 910K | 9.1 | 1.30 | .78 | .63 |
| — | — | — | — | 10.0 | 1.20 | .72 | .57 |
| 11, 13, 15 and 20 Meg. | | | | | 1.30 | .78 | .63 |
| 12, 16, 18, 22, 24, 27 and 30 Meg. | | | | | 1.43 | .86 | .69 |



Net

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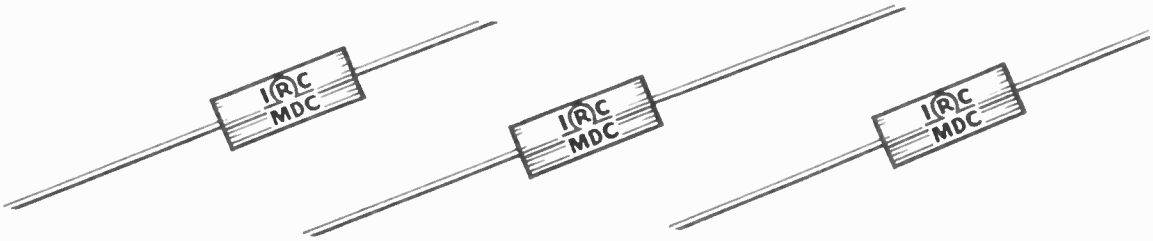
World Radio History

# MOLDED DEPOSITED-CARBON PRECISTORS 1% ACCURACY ½ WATT

# IRC CLOSE TOLERANCE PRECISTORS




## TYPE MDC

IRC's Molded Deposited Carbon Precistor is a precision film type resistor that incorporates the added advantages of a fully insulated unit. The molded insulation provides improved load life characteristics, better insulation resistance and greater resistance to moisture effects. The Molded Deposited Carbon Precistor provides all the advantages of the ceramic solder sealed types without the hazards of seal leakage, breakage and low dielectric strength.

## APPLICATIONS

Type MDC Molded Deposited Carbon Precistors are particularly suited for applications where an unmolded depostied carbon unit cannot be used due to the risk of mechanical damage to its coating, insulation breakdown and excessive moisture conditions.

## SPECIFICATIONS

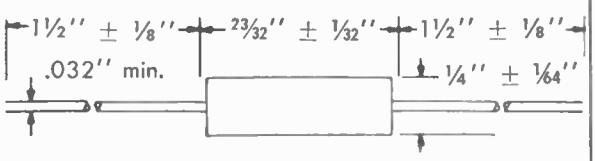
**Wattage Rating:** ½ watt at 70°C. ambient (per MIL-R-10509B) derated to 0 at 120°C.

**Resistance Values:** 100 ohms to 2.21 megohms.

**Tolerance:** Standard Tolerance is 1%.

**Identification:** Housing is distinctive red plastic. Type designation, resistance value and tolerance are stamped on each unit.

**Dimensions:**




## TYPE MDC
## MOLDED DEPOSITED CARBON RESISTORS
## ½ WATT — 1% TOLERANCE

| Ohms | Ohms | Ohms | Ohms | Meg. |
|---|---|---|---|---|
| 100 | 1000 | 10.0K | 100K | 1.00 |
| 110 | 1100 | 11.0K | 110K | 1.10 |
| 121 | 1210 | 12.1K | 121K | — |
| — | — | — | 130K | — |
| 133 | — | 13.3K | — | 1.33 |
| 147 | — | 14.7K | 147K | 1.47 |
| — | 1500 | 15.0K | 150K | 1.50 |
| 162 | — | 16.2K | 162K | 1.62 |
| 178 | — | 17.8K | — | — |
| 196 | — | 19.6K | 196K | 1.96 |
| 200 | 2000 | 20.0K | 200K | 2.00 |
| 215 | — | 21.5K | 215K | 2.15 |
| — | 2210 | — | 221K | 2.21 |
| 237 | 2370 | 23.7K | 237K | — |
| — | — | 24.9K | 249K | — |
| 261 | — | 26.1K | — | — |
| — | 2670 | 26.7K | — | — |
| 287 | 2870 | — | 287K | — |
| — | 3010 | 30.1K | 301K | — |
| 316 | — | 31.6K | 316K | — |
| — | — | 33.2K | 332K | — |
| 348 | 3480 | 34.8K | 348K | — |
| 383 | 3830 | — | 383K | — |
| — | 3920 | 39.2K | — | — |
| — | 4020 | 40.2K | 402K | — |
| 422 | 4220 | 42.2K | 422K | — |
| — | 4640 | 46.4K | 464K | — |
| 475 | 4750 | 47.5K | — | — |
| — | 4990 | 49.9K | 499K | — |
| — | 5110 | — | 511K | — |
| — | 5620 | 56.2K | 562K | — |
| — | 6190 | 61.9K | — | — |
| 681 | 6810 | 68.1K | 681K | — |
| 750 | 7500 | 75.0K | 750K | — |
| 825 | — | 82.5K | — | — |
| — | 9090 | 90.9K | 909K | — |

| Standard Values and Tolerance | List Price | Dealer Net 1-24 | Dealer Net 25-99 |
|---|---|---|---|
| 100 ohms to 2.21 megohms | $1.00 | $.60 | $.48 |

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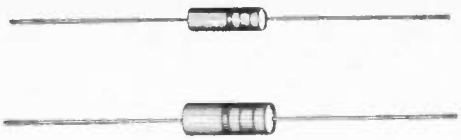
World Radio History

# INSULATED CHOKES



| Type | Inductance (Microhenrys) | List Price |
|---|---|---|
| CL½ | .22 to 1 | $0.35 |
| CLA | .22 to 7.5 | .35 |

IRC Insulated Chokes are available in four sizes designated as types CL½, CLA, CL1, and CL2. All four are fully insulated in molded phenolic housings for full protection against high humidity. The insulated housing also guards the winding from abrasion and physical damage, and prevents any possibility of shorting to chassis. Color coded for easy identification.

The wide range of size and characteristic combinations available permits accurate replacement with respect to space and electrical requirements.

### TYPE CL½ CHOKES

EIA (formerly RETMA) PREFERRED VALUES AND ±20% TOLERANCES

| Inductance (Microhenrys) | Approximate "Q" at Frequencies (Mc) | D. C. Resistance (Ohms) | Approximate Self-Resonant Frequency (Mc) | Current Rating (Milliamperes) (1)* | (2)* |
|---|---|---|---|---|---|
| † .22 | 20 @ 15 | .24 ± 30% | 505 | 1000 | 1500 |
| † .27 | 19 @ 14 | .33 ± 30% | 455 | 850 | 1200 |
| † .33 | 19 @ 14 | .47 ± 30% | 415 | 700 | 1000 |
| † .39 | 18 @ 13 | .51 ± 30% | 380 | 700 | 950 |
| † .47 | 17 @ 12 | .70 ± 30% | 345 | 600 | 800 |
| † .56 | 17 @ 11 | .98 ± 30% | 315 | 500 | 700 |
| † .68 | 16 @ 10 | 1.0 ± 30% | 290 | 500 | 700 |
| † .82 | 16 @ 9 | 1.5 ± 30% | 260 | 400 | 550 |
| †1.0 | 16 @ 9 | 2.0 ± 30% | 235 | 350 | 500 |

### TYPE CLA CHOKES

EIA (formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

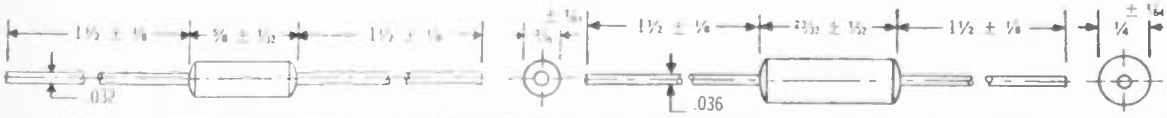
| Inductance (Microhenrys) | Approximate "Q" at Frequencies (Mc) | D. C. Resistance (Ohms) | Approximate Self-Resonant Frequency (Mc) | Current Rating (Milliamperes) (1)* | (2)* |
|---|---|---|---|---|---|
| † .22 | 34 @ 15 | .085 ± 30% | 440 | 2600 | 3900 |
| † .24 | 33 @ 15 | .088 ± 30% | 420 | 2300 | 3400 |
| † .27 | 33 @ 14 | .090 ± 30% | 400 | 2200 | 3300 |
| † .30 | 33 @ 14 | .12 ± 30% | 380 | 1900 | 2800 |
| † .33 | 32 @ 14 | .13 ± 30% | 360 | 1800 | 2700 |
| † .36 | 32 @ 13 | .16 ± 30% | 345 | 1600 | 2500 |
| † .39 | 31 @ 13 | .17 ± 30% | 330 | 1600 | 2400 |
| † .43 | 31 @ 12 | .18 ± 30% | 315 | 1500 | 2300 |
| .47 | 30 @ 12 | .22 ± 30% | 305 | 1400 | 2100 |
| † .51 | 30 @ 11 | .25 ± 30% | 290 | 1300 | 2000 |
| .56 | 30 @ 11 | .26 ± 30% | 275 | 1300 | 1900 |
| † .62 | 29 @ 11 | .34 ± 30% | 265 | 1100 | 1700 |
| .68 | 29 @ 10 | .37 ± 30% | 250 | 1100 | 1600 |
| † .75 | 28 @ 10 | .38 ± 30% | 240 | 1000 | 1600 |
| .82 | 27 @ 9 | .49 ± 30% | 230 | 950 | 1400 |
| † .91 | 26 @ 9 | .51 ± 30% | 215 | 900 | 1400 |
| 1.0 | 26 @ 9 | .66 ± 30% | 205 | 800 | 1200 |
| †1.1 | 25 @ 8 | .67 ± 30% | 200 | 800 | 1200 |
| 1.2 | 24 @ 8 | .68 ± 20% | 190 | 800 | 1200 |
| †1.3 | 24 @ 8 | .88 ± 20% | 180 | 700 | 1050 |
| 1.5 | 23 @ 7 | .94 ± 20% | 170 | 650 | 1000 |
| †1.6 | 22 @ 7 | 1.2 ± 20% | 165 | 600 | 900 |
| 1.8 | 22 @ 7 | 1.3 ± 20% | 155 | 550 | 850 |
| †2.0 | 21 @ 6 | 1.4 ± 20% | 145 | 550 | 850 |
| 2.2 | 20 @ 6 | 1.8 ± 20% | 140 | 475 | 700 |
| †2.4 | 19 @ 5 | 1.9 ± 20% | 135 | 475 | 700 |
| 2.7 | 19 @ 5 | 2.0 ± 20% | 125 | 475 | 700 |
| †3.0 | 18 @ 5 | 2.6 ± 20% | 120 | 400 | 600 |
| 3.3 | 18 @ 5 | 2.8 ± 20% | 115 | 400 | 550 |
| †3.6 | 17 @ 5 | 3.7 ± 20% | 110 | 350 | 500 |
| †3.9 | 17 @ 4.5 | 3.8 ± 20% | 105 | 325 | 500 |
| †4.3 | 16 @ 4.5 | 4.5 ± 30% | 100 | 300 | 450 |
| †4.7 | 15 @ 4.0 | 4.7 ± 30% | 96 | 300 | 450 |
| †5.1 | 14 @ 4.0 | 4.9 ± 30% | 92 | 300 | 450 |
| †5.6 | 13 @ 4.0 | 5.1 ± 30% | 88 | 275 | 425 |
| †6.2 | 13 @ 3.5 | 5.4 ± 30% | 84 | 275 | 425 |
| †6.8 | 12 @ 3.5 | 5.6 ± 30% | 80 | 275 | 400 |

†Will be considered discontinued upon consumption of present stocks.

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.





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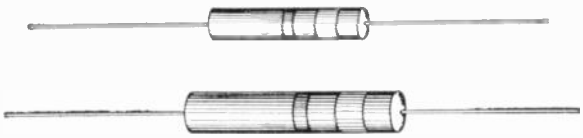


# IRC INSULATED CHOKES

| Type | INDUCTANCE (Microhenrys) | List Price |
|---|---|---|
| CL1 | .47 to 10.0 | $0.35 |
| CL1 | 11 to 24.0 | .50 |
| CL2 | 1.0 to 39 | .67 |

## TYPE CL1 CHOKES

EIA (Formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

| Inductance (Microhenrys) | Approximate "Q" at Frequencies (Mc) | D. C. Resistance (Ohms) | Approximate Self-Resonant Frequency (Mc) | Current Rating (Milliamperes) (1)* | (2)* |
|---|---|---|---|---|---|
| .47 | 35 @ 12 | .14 ± 30% | 330 | 1850 | 2900 |
| † .51 | 34 @ 11 | .15 ± 30% | 315 | 1800 | 2800 |
| † .56 | 34 @ 11 | .16 ± 30% | 300 | 1750 | 2700 |
| † .62 | 33 @ 10 | .16 ± 30% | 285 | 1750 | 2700 |
| † .75 | 33 @ 10 | .23 ± 30% | 260 | 1450 | 2300 |
| .82 | 32 @ 9 | .29 ± 30% | 250 | 1300 | 2000 |
| † .91 | 32 @ 9 | .31 ± 30% | 235 | 1250 | 1950 |
| 1.0 | 32 @ 9 | .33 ± 30% | 225 | 1200 | 1900 |
| † 1.1 | 31 @ 8 | .40 ± 30% | 215 | 1100 | 1700 |
| † 1.2 | 31 @ 8 | .40 ± 20% | 205 | 1100 | 1700 |
| † 1.3 | 30 @ 8 | .42 ± 20% | 195 | 1050 | 1700 |
| 1.5 | 29 @ 7 | .56 ± 20% | 185 | 950 | 1450 |
| † 1.6 | 29 @ 7 | .59 ± 20% | 180 | 900 | 1400 |
| 1.8 | 28 @ 7 | .77 ± 20% | 170 | 800 | 1250 |
| † 2.0 | 27 @ 6 | .82 ± 20% | 160 | 750 | 1200 |
| 2.2 | 26 @ 6 | .87 ± 20% | 150 | 750 | 1150 |
| † 2.4 | 25 @ 6 | 1.1 ± 20% | 145 | 650 | 1050 |
| 2.7 | 25 @ 5 | 1.2 ± 20% | 135 | 600 | 1000 |
| † 3.0 | 24 @ 5 | 1.6 ± 20% | 130 | 550 | 850 |
| 3.3 | 24 @ 5 | 1.7 ± 20% | 125 | 500 | 850 |
| † 3.6 | 23 @ 5 | 1.7 ± 20% | 120 | 500 | 850 |
| 3.9 | 23 @ 4.5 | 2.3 ± 20% | 115 | 450 | 750 |
| † 4.3 | 22 @ 4.5 | 2.4 ± 20% | 110 | 450 | 700 |
| 4.7 | 22 @ 4.0 | 2.5 ± 20% | 105 | 450 | 700 |
| † 5.1 | 21 @ 4.0 | 3.3 ± 20% | 100 | 375 | 600 |
| 5.6 | 21 @ 4.0 | 3.4 ± 20% | 95 | 375 | 600 |
| † 6.2 | 20 @ 3.5 | 3.6 ± 20% | 90 | 375 | 600 |
| 6.8 | 20 @ 3.5 | 4.7 ± 20% | 86 | 325 | 550 |
| † 7.5 | 19 @ 3.5 | 5.0 ± 20% | 82 | 300 | 525 |
| 8.2 | 18 @ 3.0 | 5.2 ± 20% | 79 | 300 | 500 |
| † 9.1 | 18 @ 3.0 | 7.2 ± 20% | 75 | 250 | 425 |
| 10 | 17 @ 3.0 | 7.5 ± 20% | 71 | 250 | 425 |
| †11 | 17 @ 2.5 | 9.5 ± 20% | 68 | 225 | 375 |
| †12 | 16 @ 2.5 | 9.9 ± 20% | 65 | 225 | 375 |
| †13 | 15 @ 2.5 | 11 ± 30% | 62 | 200 | 350 |
| †15 | 14 @ 2.5 | 12 ± 30% | 58 | 200 | 325 |
| †16 | 13 @ 2.5 | 13 ± 30% | 56 | 175 | 325 |
| †18 | 13 @ 2.0 | 14 ± 30% | 53 | 175 | 300 |
| †20 | 12 @ 2.0 | 14 ± 30% | 50 | 175 | 300 |
| †22 | 11 @ 2.0 | 15 ± 30% | 48 | 175 | 300 |
| †24 | 10 @ 2.0 | 15 ± 30% | 46 | 175 | 300 |

## TYPE CL2 CHOKES

EIA (Formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

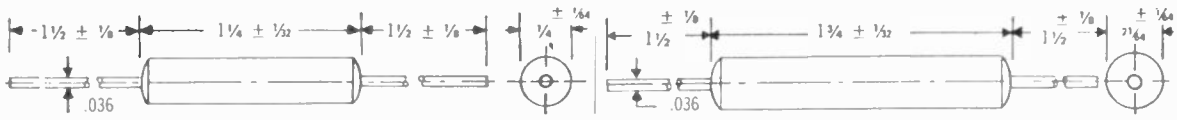
| Inductance (Microhenrys) | Approximate "Q" at Frequencies (Mc) | D. C. Resistance (Ohms) | Approximate Self-Resonant Frequency (Mc) | Current Rating (Milliamperes) (1)* | (2)* |
|---|---|---|---|---|---|
| † 1.0 | 31 @ 9 | .26 ± 30% | 230 | 1500 | 2700 |
| † 1.1 | 30 @ 8 | .35 ± 30% | 215 | 1300 | 2400 |
| † 1.2 | 30 @ 8 | .37 ± 30% | 210 | 1250 | 2300 |
| † 1.3 | 30 @ 8 | .38 ± 30% | 200 | 1250 | 2200 |
| † 1.5 | 29 @ 7 | .52 ± 30% | 185 | 1050 | 1900 |
| † 1.6 | 28 @ 7 | .53 ± 30% | 180 | 1050 | 1900 |
| † 1.8 | 28 @ 7 | .65 ± 20% | 170 | 950 | 1700 |
| † 2.0 | 27 @ 6 | .68 ± 20% | 160 | 900 | 1700 |
| † 2.2 | 27 @ 6 | .71 ± 20% | 155 | 900 | 1600 |
| † 2.4 | 26 @ 6 | .93 ± 20% | 145 | 800 | 1450 |
| † 2.7 | 25 @ 5 | .97 ± 20% | 140 | 750 | 1400 |
| † 3.0 | 25 @ 5 | 1.3 ± 20% | 130 | 650 | 1200 |
| † 3.3 | 25 @ 5 | 1.3 ± 20% | 125 | 650 | 1200 |
| † 3.6 | 24 @ 5 | 1.4 ± 20% | 120 | 650 | 1200 |
| † 3.9 | 24 @ 4.5 | 1.8 ± 20% | 115 | 550 | 1050 |
| † 4.3 | 23 @ 4.5 | 1.9 ± 20% | 110 | 550 | 1000 |
| † 4.7 | 22 @ 4.0 | 2.0 ± 20% | 105 | 550 | 1000 |
| † 5.1 | 22 @ 4.0 | 2.6 ± 20% | 100 | 475 | 850 |
| † 5.6 | 21 @ 4.0 | 2.7 ± 20% | 95 | 450 | 850 |
| † 6.2 | 21 @ 3.5 | 3.7 ± 20% | 90 | 400 | 700 |
| † 6.8 | 20 @ 3.5 | 3.8 ± 20% | 87 | 375 | 700 |
| † 7.5 | 20 @ 3.5 | 4.0 ± 20% | 83 | 375 | 700 |
| † 8.2 | 19 @ 3.0 | 5.2 ± 20% | 80 | 325 | 600 |
| † 9.1 | 19 @ 3.0 | 5.5 ± 20% | 75 | 325 | 600 |
| †10 | 18 @ 3.0 | 5.7 ± 20% | 72 | 300 | 550 |
| †11 | 18 @ 3.0 | 7.6 ± 20% | 69 | 275 | 500 |
| †12 | 17 @ 2.5 | 7.9 ± 20% | 66 | 275 | 500 |
| †13 | 17 @ 2.5 | 8.2 ± 20% | 63 | 250 | 475 |
| †15 | 16 @ 2.5 | 11 ± 20% | 59 | 225 | 425 |
| †16 | 16 @ 2.5 | 11 ± 20% | 57 | 225 | 425 |
| †18 | 15 @ 2.0 | 15 ± 20% | 54 | 175 | 350 |
| †20 | 15 @ 2.0 | 16 ± 20% | 51 | 175 | 350 |
| †22 | 14 @ 2.0 | 19 ± 30% | 49 | 175 | 325 |
| †24 | 14 @ 2.0 | 20 ± 30% | 46 | 150 | 300 |
| †27 | 13 @ 2.0 | 21 ± 30% | 44 | 150 | 300 |
| †30 | 12 @ 1.5 | 22 ± 30% | 42 | 150 | 300 |
| †33 | 12 @ 1.5 | 23 ± 30% | 40 | 150 | 275 |
| †36 | 11 @ 1.5 | 24 ± 30% | 38 | 150 | 225 |
| †39 | 11 @ 1.5 | 25 ± 30% | 36 | 150 | 225 |

†Will be considered discontinued upon consumption of present stocks.

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

*(1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

*(2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.

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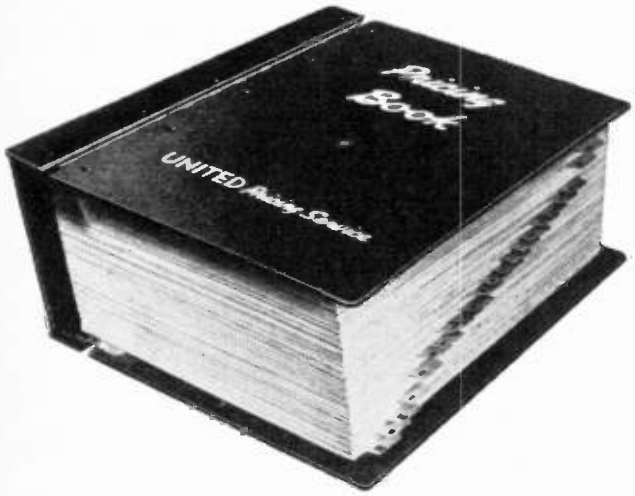


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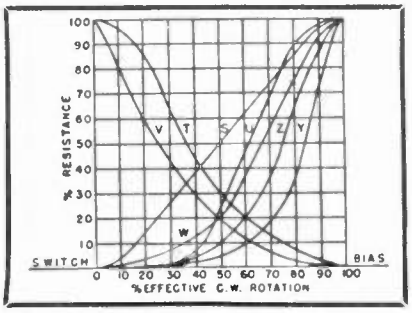
PRODUCTS OF
# THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

## COMPOSITION-ELEMENT CONTROLS

These "Pick-A-Shaft"* and "Ad-A-Switch"* controls will take any of the shafts listed on page R-24, including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. "A47F" and "A47" controls use "SWE" switches, shown on page R-24. Tolerances of these controls are in accord with RETMA standards — overall resistance tolerance of plus/minus 20% for all values up to and including 100K ohms; plus/minus 30% above 100K. Controls are available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating type of shaft desired, when ordering. Example: 47-100K-S with FKS-¼ shaft.




Graph Explanation:

Taper S—Straight or uniform resistance change with rotation.

Taper T—Right-hand 30% resistance at 50% of C.C.W. rotation.

Taper U—Left-hand 1% resistance at 33⅓% of C.W. rotation.

Taper V—Right-hand 20% resistance at 50% of C.C.W. rotation.

Taper W—Left-hand 20% resistance at 50% of C.W. rotation.

Taper Z—Left-hand (Log. audio) 10% resistance at 50% of C.W. rotation.

Taper Y—Left-hand 5% resistance at 50% of C.W. rotation.

## SERIES "A47F"

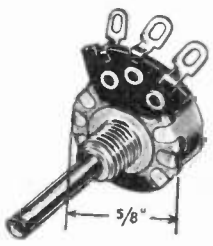
SERIES A47F
(INDUSTRIAL)
SERIES 47F

These are the popular 1 5/16" dia. composition-element controls which are replacing the larger 1-⅛" dia. units, without sacrifice in rating or performance. Series "A47F" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*, as stated above. Tolerances as above-stated. "A47F" controls have taps 1, 2, 3 located at 30%, 50% and 70% of rotation, respectively. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type of shaft desired when ordering. Example: 47F-200K with FS-3 shaft.

| Cat. No. | Res. Ohms. | Tap No. 1 30% | Tap No. 2 50% | Tap No. 3 70% |
|---|---|---|---|---|
| A47F-50K | 50K | | 25K | |
| A47F-200K | 200K | | | 100K |
| A47F-250K | 250K | | | 50K |
| A47F1-250K | 250K | | 125K | |
| A47F-350K | 350K | 75K | | |
| A47F1-350K | 350K | | 75K | |
| A47F-500K | 500K | | | 100K |
| A47F1-500K | 500K | 25K | | |
| A47F2-500K | 500K | | | 200K |
| A47F3-500K | 500K | | 100K | |
| A47F4-500K | 500K | | 50K | |
| A47F5-500K | 500K | | 250K | |
| A47F-1 Meg. | 1 Meg. | 250K | | |
| A47F1-1 Meg. | 1 Meg. | | | 200K |
| A47F2-1 Meg. | 1 Meg. | | 50K | |
| A47F3-1 Meg. | 1 Meg. | | 100K | |
| A47F4-1 Meg. | 1 Meg. | | 225K | |
| A47F5-1 Meg. | 1 Meg. | | 500K | |
| A47F-2 Meg. | 2 Meg. | 20K | | |
| A47F1-2 Meg. | 2 Meg. | 5000 | | |
| A47F2-2 Meg. | 2 Meg. | 15K | | |
| A47F3-2 Meg. | 2 Meg. | | 1 Meg. | |
| A47F4-2 Meg. | 2 Meg. | | 200K | |
| A47F5-2 Meg. | 2 Meg. | | 400K | |
| A47F6-2 Meg. | 2 Meg. | | 500K | |
| A47F-3 Meg. | 3 Meg. | | 250K | |

LIST PRICE $2.25. Standard Packing—10 per Carton. *Reg. U.S. Pat. Off.

## SERIES 44 — 0.02 WATT CONTROLS




Composition Element Controls rated at 0.2 watt, designed specifically for miniaturized applications such as transistorized circuits, pocket radios, hearing aids, etc. Stocked controls have Clarostat "W" taper (20% log audio). Other tapers available on special order. Series 44 is without switch, while Series 44S has factory-attached 0.5 am. 25 v.d.c. DPST switch. Other ohmages available on special order. 200 ohms to 5 meg. linear; 1500 to 2.5 meg. tapered. Also available on special order, controls with 0.5 a. 25 v.d.c. SPST switch. Items not listed are special. Prices and information on request.

**Without Switch Cat. No.**

44-5K-W 44-25K-W
44-10K-W 44-500K-W

LIST PRICE $1.55

**With DPST Switch Cat. No.**

44S-5K-W 44S-25K-W
44S-10K-W 44S-500K-W

LIST PRICE $2.55

Standard Packing — 10 Per Carton

## SERIES "A47" ½ WATT CONTROLS

Composition-element controls in the popular 1 5/16" dia. size. Series "A47" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*, as stated above. Tolerances as above-stated. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type shaft desired when ordering. Example: 47-100K-S with FKS-¼ shaft.

SERIES A47.
(INDUSTRIAL)
SERIES 47

| CAT No. | OHMS | TAPER | CAT No. | OHMS | TAPER |
|---|---|---|---|---|---|
| A47-500-S | 500 | S | A47-75K-V | 75K | V |
| A47-750-S | 750 | S | A47-100K-S | 100K | S |
| A47-1000-S | 1000 | S | A47-100K-Z | 100K | Z |
| A47-1500-S | 1500 | S | A47-150K-S | 150K | S |
| A47-2000-S | 2000 | S | A47-200K-S | 200K | S |
| A47-2500-S | 2500 | S | A47-250K-S | 250K | S |
| A47-3000-S | 3000 | S | A47-250K-Z | 250K | Z |
| A47-4000-S | 4000 | S | A47-300K-S | 300K | S |
| A47-5000-S | 5000 | S | A47-500K-S | 500K | S |
| A47-7500-S | 7500 | S | A47-500K-Z | 500K | Z |
| A47-10K-S | 10K | S | A47-750K-S | 750K | S |
| A47-10K-V | 10K | V | A47-750K-Z | 750K | Z |
| A47-10K-W | 10K | W | A47-1 Meg-S | 1 Meg. | S |
| A47-10K-Z | 10K | Z | A47-1 Meg-Z | 1 Meg. | Z |
| A47-15K-S | 15K | S | A47-1.5 Meg-S | 1.5 Meg. | S |
| A47-15K-V | 15K | V | A47-2 Meg-Z | 2 Meg. | Z |
| A47-15K-W | 15K | W | A47-2 Meg-S | 2 Meg. | S |
| A47-20K-S | 20K | S | A47-2.5 Meg-S | 2.5 Meg. | S |
| A47-25K-S | 25K | S | A47-3 Meg-S | 3 Meg. | S |
| A47-25K-W | 25K | W | A47-3-Meg.-Z | 3 Meg. | Z |
| A47-25K-V | 25K | V | A47-4 Meg-S | 4 Meg. | S |
| A47-30K-S | 30K | S | A47-4 Meg-Z | 4 Meg. | Z |
| A47-40K-S | 40K | S | A47-5 Meg-Z | 5 Meg. | Z |
| A47-50K-S | 50K | S | A47-5 Meg-S | 5 Meg. | S |
| A47-50K-W | 50K | W | A47-7.5 Meg-S | 7.5 Meg. | S |
| A47-50K-Z | 50K | Z | A47-10 Meg-S | 10 Meg. | S |
| A47-75K-S | 75K | S | | | |

LIST PRICE $1.55 Standard Packing—10 per Carton.

## SERIES "AD47" ½-WATT DUAL CONTROLS

These composition-element controls are ganged together so that both sections are operated by a single shaft in corresponding rotation. Available with "Pick-A-Shaft"* and "Ad-A-Switch"* features, for audio, radio-TV and industrial applications. Controls take any shaft listed on page R-24, including High Voltage Coupler and Insulated Shafts. Your choice of 13 shafts listed (this does not include insulated shaft) with each control. Tolerances of plus/minus 20% up to and including 100K ohms; plus/minus 30% above 100K. Controls take Series SWE Switches. Items not listed are special; prices and information on request.

| Cat. No. | Panel | Taper | Rear | Taper |
|---|---|---|---|---|
| AD47-50-S | 50K | S | 50K | S |
| AD47-100K-S | 100K | S | 100K | S |
| AD47-250K-S | 250K | S | 250K | S |
| AD47-250K-Z | 250K | Z | 250K | Z |
| AD47-500K-Z | 500K | Z | 500K | Z |
| AD47-1 Meg.-S | 1 Meg. | S | 1 Meg. | S |
| AD47-1 Meg.-Z | 1 Meg. | Z | 1 Meg. | Z |
| AD47-2 Meg.-S | 2 Meg. | S | 2 Meg. | S |
| AD47-2 Meg.-V | 2 Meg. | V | 2 Meg. | V |
| AD47-5 Meg.-S | 5 Meg. | S | 5 Meg. | S |

LIST PRICE $3.75 Standard Packing — Individual Carton.

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World Radio History

PRODUCTS OF
**THE HOUSE OF RESISTORS®**

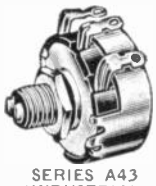
CLAROSTAT®

**RESISTORS · CONTROLS**
**RESISTANCE DEVICES**

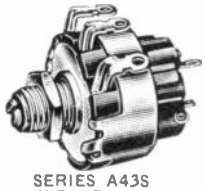
# WIRE-WOUND CONTROLS

These are "Pick-A-Shaft"* controls which take any one of 12 shafts listed on page R-21 including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. Tolerances of these controls are in accordance with RETMA standards. Overall resistance tolerance of plus/minus 10% for all values. All controls are linear. Available with factory-assembled shafts at no extra charge, by omitting the prefix "A" from the catalog number and designating the type of shaft desired when ordering. Example: 43-500 with FKS-¼ shaft, or 43S-10K with FS-3 shaft and SPST switch.

## SERIES "A43" and "A43S" 2-WATT CONTROLS



SERIES A43
(INDUSTRIAL)
SERIES 43



SERIES A43S
(INDUSTRIAL)
SERIES 43S

"A43" is without switch, while "A43S" has factory-attached SPST switch. When ordering "A43S" controls, specify type of switch. Controls with other than SPST switch are special. Prices and information on request.

| Without Switch Cat. No. | With SPST Switch Cat. No. | Res. Ohms | Without Switch Cat. No | With SPST Switch Cat. No. | Res. Ohms |
|---|---|---|---|---|---|
| A43-5 | A43S-5 | 5 | A43-400 | A43S-400 | 400 |
| A43-10 | A43S-10 | 10 | A43-500 | A43S-500 | 500 |
| A43-20 | A43S-20 | 20 | A43-750 | A43S-750 | 750 |
| A43-25 | A43S-25 | 25 | A43-1,000 | A43S-1,000 | 1,000 |
| A43-30 | A43S-30 | 30 | A43-1,500 | A43S-1,500 | 1,500 |
| A43-40 | A43S-40 | 40 | A43-2,000 | A43S-2,000 | 2,000 |
| A43-50 | A43S-50 | 50 | A43-2,500 | A43S-2,500 | 2,500 |
| A43-75 | A43S-75 | 75 | A43-3,000 | A43S-3,000 | 3,000 |
| A43-100 | A43S-100 | 100 | A43-4,000 | A43S-4,000 | 4,000 |
| A43-150 | A43S-150 | 150 | A43-5,000 | A43S-5,000 | 5,000 |
| A43-200 | A43S-200 | 200 | A43-7,500 | A43S-7,500 | 7,500 |
| A43-300 | A43S-300 | 300 | A43-10K | A43S-10K | 10K |

**LIST PRICE $1.55 (Without Switch) — $2.45 (With SPST Switch)**
Standard Packing: 10 per Carton.

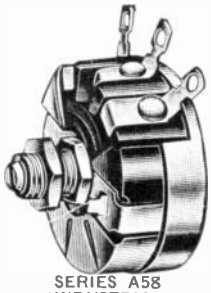
## SERIES "A58" and "A58S" 3- WATT CONTROLS

"A58" is without switch, while "A58S" has factory-attached SPST switch. Available with factory-assembled shafts, at no extra charge, by omitting prefix "A" from catalog number, and designating type of shaft desired when ordering. Example: 58-50K with KS8-3 shaft, or 58S-25K with RS-3 shaft and SPST switch. Controls with other than SPST switch are special. Prices and information on request.

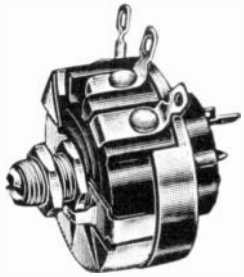
| Without Switch Cat. No. | Res. Ohms | List Price | Without Switch Cat. No. | Res. Ohms | List Price |
|---|---|---|---|---|---|
| A58-1 | 1 | $1.55 | A58-4000 | 4,000 | $1.55 |
| A58-2 | 2 | 1.55 | A58-5,000 | 5,000 | 1.55 |
| A58-4 | 4 | 1.55 | A58-7,500 | 7,500 | 1.55 |
| A58-6 | 6 | 1.55 | A58-10K | 10K | 1.55 |
| A58-10 | 10 | 1.55 | A58-15K | 15K | 2.00 |
| A58-15 | 15 | 1.55 | A58-20K | 20K | 2.00 |
| A58-20 | 20 | 1.55 | A58-25K | 25K | 2.00 |
| A58-25 | 25 | 1.55 | A58-30K | 30K | 2.70 |
| A58-30 | 30 | 1.55 | A58-40K | 40K | 2.70 |
| A58-40 | 40 | 1.55 | A58-50K | 50K | 2.70 |
| A58-50 | 50 | 1.55 | | | |
| A58-60 | 60 | 1.55 | | | |
| A58-75 | 75 | 1.55 | | | |
| A58-100 | 100 | 1.55 | | | |
| A58-200 | 200 | 1.55 | | | |
| A58-300 | 300 | 1.55 | | | |
| A58-400 | 400 | 1.55 | | | |
| A58-500 | 500 | 1.55 | | | |
| A58-750 | 750 | 1.55 | | | |
| A58-1,000 | 1,000 | 1.55 | | | |
| A58-1,500 | 1,500 | 1.55 | | | |
| A58-2,000 | 2,000 | 1.55 | | | |
| A58-2,500 | 2,500 | 1.55 | | | |
| A58-3,000 | 3,000 | 1.55 | | | |

| With SPST Switch Cat. No. | Res. Ohms | List Price |
|---|---|---|
| A58S-1 | 1 | $2.45 |
| A58S-2 | 2 | 2.45 |
| A58S-4 | 4 | 2.45 |
| A58S-6 | 6 | 2.45 |
| A58S-10 | 10 | 2.45 |
| A58S-15 | 15 | 2.45 |
| A58S-20 | 20 | 2.45 |
| A58S-25 | 25 | 2.45 |
| A58S-30 | 30 | 2.45 |
| A58S-40 | 40 | 2.45 |

Standard Packing: 10 per Carton.



SERIES A58
(INDUSTRIAL)
SERIES 58



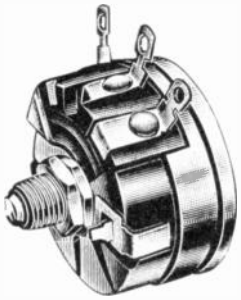
SERIES A58S
(INDUSTRIAL)
SERIES 58S

| With SPST Switch Cat. No. | Res. Ohms | List Price |
|---|---|---|
| A58S-50 | 50 | $2.45 |
| A58S-60 | 60 | 2.45 |
| A58S-75 | 75 | 2.45 |
| A58S-100 | 100 | 2.45 |
| A58S-200 | 200 | 2.45 |
| A58S-300 | 300 | 2.45 |
| A58S-400 | 400 | 2.45 |
| A58S-500 | 500 | 2.45 |
| A58S-750 | 750 | 2.45 |
| A58S-1,000 | 1,000 | 2.45 |
| A58S-1,500 | 1,500 | 2.45 |
| A58S-2,000 | 2,000 | $2.45 |
| A58S-2,500 | 2,500 | 2.45 |
| A58S-3,000 | 3,000 | 2.45 |
| A58S-4,000 | 4,000 | 2.45 |
| A58S-5,000 | 5,000 | 2.45 |
| A58S-7,500 | 7,500 | 2.45 |
| A58S-10K | 10K | 2.45 |
| A58S-15K | 15K | 2.85 |
| A58S-20K | 20K | 2.85 |
| A58S-25K | 25K | 2.85 |
| A58S-30K | 30K | 3.60 |
| A58S-40K | 40K | 3.60 |
| A58S-50K | 50K | 3.60 |

Standard Packing: 10 per Carton.

## SERIES "A10" and "A10S" 4-WATT CONTROLS

"A10" is without switch, while "A10S" has factory-attached SPST switch. Also available with factory-assembled shaft at no extra charge, by omitting prefix "A" from catalog number. See above for examples. Controls with other than SPST switch are special. Price and information on request.



SERIES A10
(INDUSTRIAL)
SERIES 10

| Without Switch Cat. No. | With SPST Switch Cat. No. | Res. Ohms | Without Switch List Price | With SPST Switch List Price | Without Switch Cat. No. | With SPST Switch Cat. No. | Res. Ohms | Without Switch List Price | With SPST Switch List Price |
|---|---|---|---|---|---|---|---|---|---|
| A10-1 | A10S-1 | 1 | $2.25 | $3.15 | A10-750 | A10S-750 | 750 | $2.25 | $3.15 |
| A10-2 | A10S-2 | 2 | 2.25 | 3.15 | A10-1,000 | A10S-1,000 | 1,000 | 2.25 | 3.15 |
| A10-4 | A10S-4 | 4 | 2.25 | 3.15 | A10-1,500 | A10S-1,500 | 1,500 | 2.25 | 3.15 |
| A10-6 | A10S-6 | 6 | 2.25 | 3.15 | A10-2,000 | A10S-2,000 | 2,000 | 2.25 | 3.15 |
| A10-10 | A10S-10 | 10 | 2.25 | 3.15 | A10-2,500 | A10S-2,500 | 2,500 | 2.25 | 3.15 |
| A10-15 | A10S-15 | 15 | 2.25 | 3.15 | A10-3,000 | A10S-3,000 | 3,000 | 2.25 | 3.15 |
| A10-20 | A10S-20 | 20 | 2.25 | 3.15 | A10-4,000 | A10S-4,000 | 4,000 | 2.25 | 3.15 |
| A10-25 | A10S-25 | 25 | 2.25 | 3.15 | A10-5,000 | A10S-5,000 | 5,000 | 2.25 | 3.15 |
| A10-30 | A10S-30 | 30 | 2.25 | 3.15 | A10-7,500 | A10S-7,500 | 7,000 | 2.25 | 3.15 |
| A10-40 | A10S-40 | 40 | 2.25 | 3.15 | A10-10K | A10S-10K | 10K | 2.25 | 3.15 |
| A10-50 | A10S-50 | 50 | 2.25 | 3.15 | A10-15K | A10S-15K | 15K | 2.65 | 3.50 |
| A10-60 | A10S-60 | 60 | 2.25 | 3.15 | A10-20K | A10S-20K | 20K | 2.65 | 3.50 |
| A10-75 | A10S-75 | 75 | 2.25 | 3.15 | A10-25K | A10S-25K | 25K | 2.65 | 3.50 |
| A10-100 | A10S-100 | 100 | 2.25 | 3.15 | A10-30K | A10S-30K | 30K | 3.05 | 4.25 |
| A10-200 | A10S-200 | 200 | 2.25 | 3.15 | A10-40K | A10S-40K | 40K | 3.35 | 4.25 |
| A10-300 | A10S-300 | 300 | 2.25 | 3.15 | A10-50K | A10S-50K | 50K | 3.35 | 4.25 |
| A10-400 | A10S-400 | 400 | 2.25 | 3.15 | A10-75K | A10S-75K | 75K | 4.10 | 4.95 |
| A10-500 | A10S-500 | 500 | 2.25 | 3.15 | A10-100K | A10S-100K | 100K | 4.10 | 4.95 |

*Reg. U. S. Pat. Off.

Standard Packing: 10 per Carton.



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

PRODUCTS OF
# THE HOUSE OF RESISTORS®

CLAROSTAT®

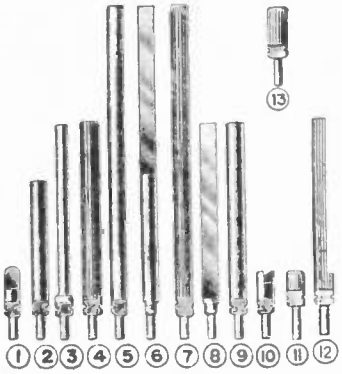
RESISTORS • CONTROLS
RESISTANCE DEVICES

## SHAFTS and SWITCHES • BALLASTS • REGULATORS

### SHAFTS FOR "PICK-A-SHAFT"* CONTROLS

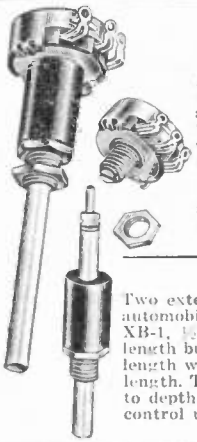
For use with all Clarostat "Pick - A - Shaft"* controls, either carbon or wire-wound. Your choice of shaft furnished with each control.

(1) SS-⅜" length—(Male) to take female fitting.
(2) RS-2—Round shaft, 2" long.
(3) RS-3/16—Round shaft 3/16" dia., 3" long.
(4) KSS-3—Knurled, split shaft, 3" long.
(5) RS-5—Round shaft, 5" long.
(6) FS-5—Flatted shaft, 5" long.
(7) KSS-5—Knurled, split shaft, 5" long.
(8) FS-3—Flatted shaft, 3" long.
(9) RS-3—Round shaft, 3" long.
(10) DFS-½—Double flatted Philco Type, ½" long.
(11) FKS-¼—Fine knurled slotted shaft, ¼" long.
(12) KFS-3—Knurled flatted shaft, 3" long.
(13) FKS-½—Fine knurled slotted shaft, ½" long.




List Price, Each Shaft $0.55

### HIGH VOLTAGE COUPLER



High-voltage shaft unit for operation up to 10K volts. Attaches to any Clarostat "Pick-A-Shaft" control, composition-element or wire-wound. Also available as a factory-attached unit on order. For example: "47-500K-S" unit with factory-attached high voltage coupler, order as a "47-500K-S-HVC." Manufacturers Series 47 - ½ meg.-S-HVC.

| Cat. No. | | List Price |
|---|---|---|
| 59-186 | Spacer and Bushing Assembly | $1.40 |
| RN-3 | Non-Metallic Shaft, Round, 3" long | 1.40 |

### BUSHINGS

Two extension bushings for the make-up of automobile replacement controls. Series XB-1, ½" d. x 2¼" l.; Series XB-2, same length but 7/16" d. Threaded on outside full length with 28 thread; 1/32" flat milled full length. Threaded 3/8" x 32 on inside, one end, to depth of ½". Adaptable to any Clarostat control using 3/8" x 32 bushing.

List Price $0.65

### SERIES "SWE" SWITCHES FOR "AD-A-SWITCH"* CONTROLS

U. S. Pat. 2,642,506

For use with "A47" and "A47F" controls. Underwriters' Laboratories Inc. approved.

| Cat. No. | Wiring | List Price |
|---|---|---|
| SWE-12 | S.P.S.T. — Single Pole Single Throw, 5A.-125V. A.C. | $0.75 |
| SWE-13 | S.P.S.T. — Single Pole Single Throw, 15A.-10V. D.C. | 1.10 |
| SWE-20 | D.P.S.T. — Double Pole Single Throw, 3A.-125V. A.C. | .85 |
| SWE-21 | Mod. D.P.S.T. one pole on, one off or with Jumper S.P.D.T., 3A.-125V. A.C.-D.C. | .85 |
| SWE-23 | D.P.S.T., 15A.-10V. D.C. | 1.10 |

Standard Packing: 10 per Carton.

### SERIES "BE" 15/16" ROTARY SWITCH

U. S. Pat. 2,642,506

Underwriters' Laboratories Inc. approved

| Cat. No. | Wiring | List Price |
|---|---|---|
| BE-12 SPST | — Single-Pole Single-Throw, 5A-125 V. A.C. | $0.75 |
| BE-20 DPST | — Double-Pole Single-Throw, 3A-125 V. A.C. | 0.85 |
| BE-21 (Mod.) DPST | — Double-Pole Single-Throw 3A-125 V. A.C. or D.C. | 0.85 |

Mod. DPST has one pole "on," one pole "off"; or with Jumper it is SPDT).

Standard Packing—Individual Carton.

*Reg. U. S. Pat. Off.

### UNIVERAL BALLAST

Universal replacements for most standard tube types. Replacing tube types as listed below.

| Universal Tube No. | Replaces AC-DC Tubes Beg. with Letters | Having Numbers From | Ending in Letter |
|---|---|---|---|
| 10-23-A | BK, BL, K, L, M | 10 to 23 | A, B, C, D |
| 10-23-E | BK, BL, K, L, M | 10 to 23 | E |
| 10-23-F | BK, BL, K, L, M | 10 to 23 | F, G, H |
| 23-55-A | BK, BL, K, L, M | 23 to 55 | A, B, C, D |
| 23-55-E | BK, BL, K, L, M | 23 to 55 | E |
| 23-55-F | BK, BL, K, L, M | 23 to 55 | F, G, H |
| 60-92-A | BK, BL, K, L, M | 60 to 92 | A, B, C, D |
| 60-92-E | BK, BL, K, L, M | 60 to 92 | E |
| 60-92-F | BK, BL, K, L, M | 60 to 92 | F, G, H |
| 92-105-A | BK, BL, K, L, M | 92 to 105 | A, B, C, D |

LIST PRICE $3.25

Standard Packing: Individual Carton.

### STANDARD BALLAST

Exact replacements for resistor tube types.

| Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. |
|---|---|---|---|---|---|
| BK-29-B | BM-49-B | K-49-H | K-80-B | L-49-D | M-80-B |
| BK-29-D | BM-55-B | K-55-A | K-82-B | L-49-H | |
| BK-32-D | | | | L-55-B | 10-610 |
| BK-36-B | K-36-D | K-55-C | | | 100-37 |
| BK-36-D | K-42-A | | K-90-B | | |
| BK-36-H | | K-55-D | | L-55-C | |
| BK-42-B | | K-55-H | | L-55-D | |
| BK-42-C | K-42-C | K-67-A | | | |
| BK-49-B | K-42-D | | L-42-D | M-42-B | |
| | | | | M-49-B | 5459 |
| | | | | | 28602 |
| BK-67-BJ | | | L-49-C | M-55-H | 43X106 |
| BL-42-D | K-49-D | | | | |

LIST PRICE $2.75

Standard Packing: Individual Carton.

### TELEVISION BALLAST

Specific TV receiver tube-type ballasts.

| | | | |
|---|---|---|---|
| Motorola 17A470503 | Belmont B9M 16067 | Pilot 35-37 | |
| Motorola 17A485459 | Belmont B9M 16534 | Emerson 397021 | |
| Teletone TBR102D | Belmont B9M 15822 | Emerson 397022 | |
| Teletone TBR103D | Belmont B9M 17571 | Emerson 397023 | |
| Teletone TBR104D | Belmont B9M 18041 | Emerson 397036 | |
| | Stewart Warner ST-507300 | | |

LIST PRICE $5.00 except 397036 LIST $3.00

Standard Packing: Individual Carton.
These units act as protective fuses and are therefore expendable.

### RADIO AND TV LINE VOLTAGE REGULATORS

A protective unit designed to minimize Line Voltage fluctuation from reaching radio or TV receivers. Will reduce voltage fluctuation from up to 140 volts down to approximately 110 volts. Plugs into outlet and provides plug-in for receiver.

| Type No. | Rat. Watts | For sets consuming | List Price |
|---|---|---|---|
| O | 50 | up to 60 watts | $3.50 |
| A | 100 | 60 to 100 watts | 3.50 |
| B | 150 | 100 to 150 watts | 3.50 |
| C | 200 | 150 to 200 watts | 3.50 |
| D | 250 | 200 to 250 watts | 3.50 |
| TVA | 300 | 200 to 300 watts | 3.50 |
| TVB | 375 | 300 to 375 watts | 4.00 |

Standard Packing — 10 per carton

### "FUZOHM"* PLUG-IN FUSE-TYPE RESISTORS

Pat. Pending

Protect TV components. Resistors will withstand repeatedly high surge currents without damage, but will fuse when surge becomes dangerous to expensive components. These units act as protective fuses and are therefore expendable.

Cat. No. FZ1—5.6 ohms
Cat. No. FZ1—7.5 ohms

LIST PRICE $0.75

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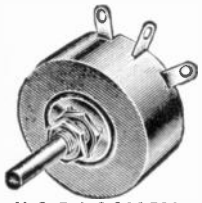
World Radio History



U. S. Pat. 2,346,598

# POWER RHEOSTATS

Clarostat Power Rheostats maintain their full power rating at settings as low as one-third rotation without excessive temperature rise. Standard overall resistance tolerance plus/minus 10%. Closer tolerances are available upon special order.

The metal cored winding is embedded in a cold-setting, inorganic cement and is thereby bonded to the ceramic body. Unit mounts through a single hole. A locking pin is provided for rear panel mounting.

## SERIES 25 — 25-WATT

| Cat. No. | Total Res. Ohms | Max. Cur. at Total Res. Amps. | Max. Cur. Up to 1/3 Res. Amps. | List Price |
|---|---|---|---|---|
| 25-1 | 1 | 5.000 | 7.500 | $6.45 |
| 25-2 | 2 | 3.536 | 5.304 | 5.70 |
| 25-3 | 3 | 2.887 | 4.330 | 5.70 |
| 25-6 | 6 | 2.041 | 3.062 | 5.70 |
| 25-8 | 8 | 1.768 | 2.652 | 5.70 |
| 25-10 | 10 | 1.581 | 2.372 | 5.70 |
| 25-15 | 15 | 1.291 | 1.936 | 5.70 |
| 25-25 | 25 | 1.000 | 1.500 | 5.70 |
| 25-35 | 35 | .845 | 1.268 | 5.70 |
| 25-50 | 50 | .707 | 1.061 | 5.70 |
| 25-75 | 75 | .577 | .866 | 5.70 |
| 25-100 | 100 | .500 | .750 | 5.70 |
| 25-125 | 125 | .447 | .671 | 5.70 |
| 25-175 | 175 | .378 | .567 | 5.70 |
| 25-250 | 250 | .316 | .474 | 5.70 |
| 25-350 | 350 | .267 | .401 | 5.70 |
| 25-500 | 500 | .224 | .335 | 5.70 |
| 25-750 | 750 | .183 | .274 | 5.70 |
| 25-1,000 | 1,000 | .158 | .237 | 6.45 |
| 25-1,500 | 1,500 | .129 | .194 | 6.45 |
| 25-2,500 | 2,500 | .100 | .150 | 6.45 |
| 25-3,500 | 3,500 | .085 | .127 | 6.80 |
| 25-5,000 | 5,000 | .071 | .107 | 7.15 |

Standard Packing: Individual Carton.

## SERIES 50 — 50-WATT

| Cat. No. | Total Res. Ohms | Max. Cur. at Total Res. Amps. | Max. Cur. Up to 1/3 Res. Amps. | List Price |
|---|---|---|---|---|
| 50-0.5 | 0.5 | 10.000 | 15.000 | $7.15 |
| 50-1 | 1 | 7.071 | 10.607 | 7.15 |
| 50-2 | 2 | 5.000 | 7.500 | 7.15 |
| 50-4 | 4 | 3.536 | 5.304 | 6.45 |
| 50-6 | 6 | 2.887 | 4.330 | 6.45 |
| 50-8 | 8 | 2.500 | 3.750 | 6.45 |
| 50-12 | 12 | 2.041 | 3.062 | 6.45 |
| 50-16 | 16 | 1.768 | 2.652 | 6.45 |
| 50-22 | 22 | 1.508 | 2.261 | 6.45 |
| 50-35 | 35 | 1.195 | 1.793 | 6.45 |
| 50-50 | 50 | 1.000 | 1.500 | 6.45 |
| 50-80 | 80 | .791 | 1.186 | 6.45 |
| 50-125 | 125 | .632 | .949 | 6.45 |
| 50-150 | 150 | .577 | .866 | 6.45 |
| 50-225 | 225 | .471 | .707 | 6.45 |
| 50-300 | 300 | .408 | .612 | 6.45 |
| 50-500 | 500 | .316 | .474 | 6.45 |
| 50-800 | 800 | .250 | .375 | 6.80 |
| 50-1,000 | 1,000 | .224 | .335 | 6.80 |
| 50-1,600 | 1,600 | .177 | .265 | 6.80 |
| 50-2,500 | 2,500 | .141 | .212 | 6.80 |
| 50-3,500 | 3,500 | .120 | .179 | 7.15 |
| 50-5,000 | 5,000 | .100 | .150 | 7.15 |
| 50-8,000 | 8,000 | .079 | .118 | 8.60 |
| 50-10K | 10K | .071 | .106 | 8.60 |

Standard Packing: Individual Carton.

# AIRCRAFT-TYPE POWER RHEOSTATS

Basically the same unit as the 25 and 50 watt Power Rheostats, mechanically and electrically. Unit is encased in metal housing rendering it explosion-proof and moisture resistant.

Terminals are screw-type lugs plated to prevent corrosion. 25- and 50-watt power rheostats when encased in metal housing, are derated 50%.

U. S. Pat. 2,346,598

## SERIES AN-3155-25 (25-WATT)

| Cat. No. | | List Price |
|---|---|---|
| AN-3155-25-10 | 10 ohms | $8.00 |
| AN-3155-25-11 | 11 ohms | 8.00 |
| AN-3155-25-15 | 15 ohms | 8.00 |
| AN-3155-25-25 | 25 ohms | 8.00 |
| AN-3155-25-50 | 50 ohms | 8.00 |
| AN-3155-25-75 | 75 ohms | 8.00 |
| AN-3155-25-100 | 100 ohms | 8.00 |
| AN-3155-25-200 | 200 ohms | 9.35 |

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

## SERIES AN-3155-50 (50-WATT)

| Cat. No. | | List Price |
|---|---|---|
| AN-3155-50-5 | 5 ohms | $9.35 |
| AN-3155-50-8 | 8 ohms | 9.35 |
| AN-3155-50-10 | 10 ohms | 9.35 |
| AN-3155-50-25 | 25 ohms | 9.10 |
| AN-3155-50-30 | 30 ohms | 9.10 |
| AN-3155-50-50 | 50 ohms | 9.10 |
| AN-3155-50-75 | 75 ohms | 9.10 |
| AN-3155-50-100 | 100 ohms | 9.10 |
| AN-3155-50-150 | 150 ohms | 10.20 |
| AN-3155-50-200 | 200 ohms | 10.20 |

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

# RTV*-IZE!

No need to guess, experiment, cultivate trouble, when replacing TV controls. Clarostat provides standard replacements where feasible, and matched duplicate replacements where essential. Refer to RTV listings.

Compact. Inexpensive. 2-watt rating. Screwdriver adjusted by slot in drive plate. Mounting ears. For hum balance, centering, hold and locking, linearity, AGC sensitivity, etc.

**LIST PRICE $0.70**

Standard Packing: 10 per Carton.

## SERIES 39 "HUMDINGER"* WIRE-WOUND CONTROLS

| Cat. No. | Total Res. Ohms | Min. Res. Ohms | Cat. No. | Total Res. Ohms | Min. Res. Ohms | Cat. No. | Total Res. Ohms | Min Res. Ohms |
|---|---|---|---|---|---|---|---|---|
| 39-5 | 5 | — | 39-500 | 500 | — | 39-1000-100 | 1,000 | 100 |
| 39-8 | 8 | — | 39-500-100 | 500 | 100 | 39-1500 | 1,500 | — |
| 39-50 | 50 | — | 39-600 | 600 | — | 39-2000 | 2,000 | — |
| 39-75 | 75 | — | 39-650 | 650 | — | 39-2000-100 | 2,000 | 100 |
| 39-100 | 100 | — | 39-700 | 700 | — | 39-3000 | 3,000 | — |
| 39-125 | 125 | — | 39-700-200 | 700 | 200 | 39-3000-700 | 3,000 | 700 |
| 39-150 | 150 | — | 39-800 | 800 | — | 39-4000 | 4,000 | — |
| 39-200 | 200 | — | 39-800-50 | 800 | 50 | 39-4000-350 | 4,000 | 350 |
| 39-300 | 300 | — | 39-1000 | 1,000 | — | 39-4000-1000 | 4,000 | 1,000 |
| | | | | | | 39-5000 | 5,000 | — |

*Reg. U. S. Pat. Off.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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

PRODUCTS OF
**THE HOUSE OF RESISTORS®**

CLAROSTAT®

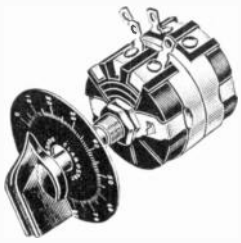
**RESISTORS • CONTROLS**
**RESISTANCE DEVICES**

®

# SOUND-SYSTEM CONTROLS

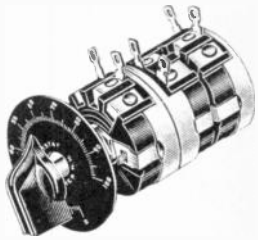
For proper control of volume and tone alike, Clarostat offers a choice of several controls, such as L- and T-pads, output attenuators, and individual-speaker volume controls as used for drive-in theatre installations. These are not ordinary radio controls but rather sound-system controls designed and built for critical requirements.

## CONSTANT-IMPEDANCE CONTROLS



Self-compensating volume controls known as L-pads and T-pads for use in sound systems. Rated at 2½ watts DC, but will handle up to 10 watts audio. Continuous range from 0.5 to 30 decibels attenuation in 90% rotation. Last 10% affords infinite attenuation. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated circuits can be kept within the limits of a constant required value. Knob and dial plate furnished with each control.

| CIT Cat. No. | CIL Cat. No. | Res. Ohms | CIT Cat. No. | CIL Cat. No. | Res. Ohms |
|---|---|---|---|---|---|
| CIT-4 | CIL-4 | 4 | CIT-200 | CIL-200 | 200 |
| CIT-6 | CIL-6 | 6 | CIT-250 | CIL-250 | 250 |
| CIT-8 | CIL-8 | 8 | CIT-500 | CIL-500 | 500 |
| CIT-15 | CIL-15 | 15 | CIT-600 | CIL-600 | 600 |
| CIT-50 | CIL-50 | 50 | CIT-1,000 | CIL-1,000 | 1,000 |
| CIT-100 | CIL-100 | 100 | CIT-2,000 | CIL-2,000 | 2,000 |



U. S. Pat. 2,434,248

**CIT—LIST PRICE $5.25** **CIL—LIST PRICE $4.65**

Standard Packing: Individual Carton.

## CONSTANT IMPEDANCE OUTPUT ATTENUATORS

Series "CIB" rated at 10 watts, but will handle up to 30 watts in audio circuit. Linear attenuation provided in 3 decibel steps up to 24db, then 30db followed by infinity. Equipped with dial plate and bar knob. One-hole mounting, ⅜" bushing diameter. 1" shaft. This control has been developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss. Recommended as an output level control for power amplifiers, or as an input attenuator for individual or for a group of speakers in a public address system.

| Cat. No. | Res. Ohms | Cat. No. | Res. Ohms |
|---|---|---|---|
| CIB-6 | 6 | CIB-200 | 200 |
| CIB-8 | 8 | CIB-250 | 250 |
| CIB-15 | 15 | CIB-500 | 500 |
| CIB-50 | 50 | CIB-600 | 600 |

**NET PRICE $7.70** Standard Packing: Individual Carton.

## SPECIAL DRIVE-IN THEATRE L-PAD

To meet the needs of theater sound systems, more especially those of drive-in theaters, a special 8 ohm L-Pad is now available, containing two separate windings of 5 ohms and 40 ohms. Also 50 ohm linear rheostat and 35 ohm tapered rheostat, as listed. Units have ¼-32 bushing ¾" long, and 1½" round shaft.

Cat. No. CM8727-1 8 ohm L-Pad **List Price $3.00**

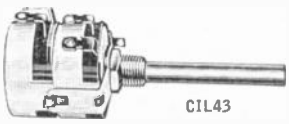
Cat. No. CM17083 50 ohm linear rheostat **List Price $2.20**

Cat. No. CM17084 35 ohm tapered rheostat **List Price $2.20**

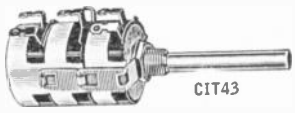
# SPACE-SAVER CONSTANT-IMPEDANCE ATTENUATORS

Characterized by reduced depth and diameter, these attenuators are ideal for use in remote control of speakers since they are small enough to be installed in standard electrical boxes in the home, office, stockroom, etc.

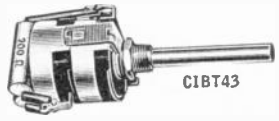
These controls are rated 2 watts D.C., but will handle up to 4 watts of audio, depending upon the type signal being handled. (As the frequency becomes constant, wattage reduces to 2 watts or the same as the D.C. rating).



CIL43



CIT43



CIBT43

| Cat. No. CIL43 (L-Pad) | Cat. No. CIT43 (T-Pad) | Cat. No. CIBT43 (Bridged T-Pad) | Impedance |
|---|---|---|---|
| CIL43-4 | CIT43-4 | CIBT43-4 | 4 ohms |
| CIL43-6 | CIT43-6 | CIBT43-6 | 6 ohms |
| CIL43-8 | CIT43-8 | CIBT43-8 | 8 ohms |
| CIL43-15 | CIT43-15 | CIBT43-15 | 15 ohms |
| CIL43-50 | CIT43-50 | CIBT43-50 | 50 ohms |
| CIL43-100 | CIT43-100 | CIBT43-100 | 100 ohms |
| CIL43-200 | CIT43-200 | CIBT43-200 | 200 ohms |
| CIL43-250 | CIT43-250 | CIBT43-250 | 250 ohms |
| CIL43-500 | CIT43-500 | CIBT43-500 | 500 ohms |

**LIST PRICE CIL43 $4.65 LIST PRICE CIT43 $5.25**

**LIST PRICE CIBT43 $6.05**

Standard Packing — Individual Carton

- Attenuation range of 0 to 30 db over 90% of rotation, 60 db in remaining 10% of rotation. Attenuation will increase approximately linearly to 30 db with counter-clockwise rotation.
- Insertion loss less than 0.5 db.
- Input impedance within plus/ minus 20%.
- The CIT43 and CIBT43 (Bridged T Pad) have constant input and output impedances, while the CIL43 has constant impedance in the input only.
- Shafts and bushings are insulated from the circuit elements.
- Pads have ⅜-32 x ⅜" long bushing.
- ¼" dia. round shafts 1½" long beyond bushing.
- All pads supplied with bar knob and dial plates, as shown above.
- Dia. 1⅛". Depth of body from mounting surface: CIL43 — 1 5/32"; CIT43 — 1¾", CIBT43 — 1½".

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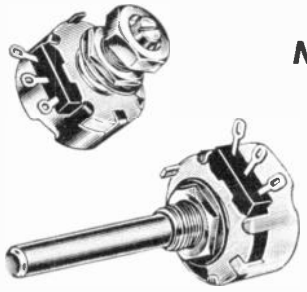
PRODUCTS OF

# THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES



## MOLDED COMPOSITION-ELEMENT POTENTIOMETERS

A new 2-watt Molded Composition Element Potentiometer totally enclosed and sealed against moisture and other environmentals. Meets the need for a high quality resistance device incorporating high-stability under extreme climatic and operational conditions. For use in critical applications, such as. test equipment, military requirements, computers, servo systems and industrial metering devices.

1 1/16" diameter and 3/8" deep, wiper assembly of one piece construction. Carbon to carbon contact insures exceptionally low noise level. Stainless steel shaft. Gold plated terminals.

Electrical tolerances are plus/minus 10% for all values up to 1 meg. 1 meg. and above plus/minus 20%

| Cat. No. 53C1 | Cat. No. 53C2 | Res. Ohms | Taper |
|---|---|---|---|
| 53C1-50-S | 53C2-50-S | 50 | S |
| 53C1-100-S | 53C2-100-S | 100 | S |
| 53C1-250-S | 53C2-250-S | 250 | S |
| 53C1-500-S | 53C2-500-S | 500 | S |
| 53C1-750-S | 53C2-750-S | 750 | S |
| 53C1-1000-S | 53C2-1000-S | 1000 | S |
| 53C1-1500-S | 53C2-1500-S | 1500 | S |
| 53C1-2000-S | 53C2-2000-S | 2000 | S |
| 53C2-2500-S | 53C2-2500-S | 2500 | S |
| 53C1-5000-S | 53C2-5000-S | 5000 | S |
| 53C1-7500-S | 53C2-7500-S | 7500 | S |
| 53C1-10K-S | 53C2-10K-S | 10K | S |
| 53C1-15K-S | 53C2-15K-S | 15K | S |
| 53C1-20K-S | 53C2-20K-S | 20K | S |
| 53C1-25K-S | 53C2-25K-S | 25K | S |
| 53C1-50K-S | 53C2-50K-S | 50K | S |

53C1 LIST PRICE $3.25 53C2 LIST PRICE $4.25

| Cat. No. 53C1 | Cat. No. 53C2 | Res. Ohms | Taper |
|---|---|---|---|
| 53C1-75K-S | 53C2-75K-S | 75K | S |
| 53C1-100K-S | 53C2-100K-S | 100K | S |
| 53C1-150K-S | 53C2-150K-S | 150K | S |
| 53C1-200K-S | 53C2-200K-S | 200K | S |
| 53C1-250K-S | 53C2-250K-S | 250K | S |
| 53C1-500K-S | 53C2-500K-S | 500K | S |
| 53C1-750K-S | 53C2-750K-S | 750K | S |
| 53C1-1 Meg-S | 53C2-1 Meg-S | 1 Meg | S |
| 53C1-1.5 Meg-S | 53C2-1.5 Meg-S | 1.5 Meg | S |
| 53C1-2 Meg-S | 53C2-2 Meg-S | 2 Meg | S |
| 53C1-2.5 Meg-S | 53C2-2.5 Meg-S | 2.5 Meg | S |
| 53C1-3 Meg-S | 53C2-3 Meg-S | 3 Meg | S |
| 53C1-4 Meg-S | 53C2-4 Meg-S | 4 Meg | S |
| 53C1-5 Meg-S | 53C2-5 Meg-S | 5 Meg | S |
| 53C1-10 Meg-S | 53C2-10 Meg-S | 10 Meg | S |

Standard Packing — Individual Carton.

"Z" TAPER

| | |
|---|---|
| 53C1-100K-Z | 100K |
| 53C1-250K-Z | 250K |
| 53C1-500K-Z | 500K |
| 53C1-1 Meg-Z | 1 Meg |
| 53C1-2.5 Meg-Z | 2.5 Meg |

LIST PRICE $3.75

REVERSED "Z" TAPER

| | |
|---|---|
| 53C1-10K-RZ | 10K |
| 53C1-25K-RZ | 25K |
| 53C1-50K-RZ | 50K |

LIST PRICE $3.75

DUAL POTENTIOMETERS

| | |
|---|---|
| D53C1 10K-S | D53C1 250K-S |
| D53C1 25K-S | D53C1 500K-S |
| D53C1 50K-S | D53C1 1 Meg-S |
| D53C1 100K-S | |

LIST PRICE $9.75

Standard Packing—Ind. Carton

*Items not listed are special. Prices and information supplied upon request.*

## SERIES "43C1" and "43C2" 2-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 2%. All controls rated 2 watts.

| 43C1 Cat. No. | 43C2 Cat. No. | Res. Ohms | 43C1 Cat. No. | 43C2 Cat. No. | Res. Ohms | 43C1 Cat. No. | 43C2 Cat. No. | Res. Ohms | 43C1 Cat. No. | 43C2 Cat. No. | Res. Ohms |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43C1-5 | 43C2-5 | 5 | 43C1-100 | 43C2-100 | 100 | 43C1-1500 | 43C2-1500 | 1500 | 43C1-15K | 43C2-15K | 15K |
| 43C1-10 | 43C2-10 | 10 | 43C1-150 | 43C2-150 | 150 | 43C1-2000 | 43C2-2000 | 2000 | 43C1-20K | 43C2-20K | 20K |
| 43C1-20 | 43C2-20 | 20 | 43C1-200 | 43C2-200 | 200 | 43C1-2500 | 43C2-2500 | 2500 | 43C1-25K | 43C2-25K | 25K |
| 43C1-25 | 43C2-25 | 25 | 43C1-300 | 43C2-300 | 300 | 43C1-3000 | 43C2-3000 | 3000 | 43C1-30K | 43C2-30K | 30K |
| 43C1-30 | 43C2-30 | 30 | 43C1-400 | 43C2-400 | 400 | 43C1-4000 | 43C2-4000 | 4000 | 43C1-40K | 43C2-40K | 40K |
| 43C1-40 | 43C2-40 | 40 | 43C1-500 | 43C2-500 | 500 | 43C1-5000 | 43C2-5000 | 5000 | 43C1-50K | 43C2-50K | 50K |
| 43C1-50 | 43C2-50 | 50 | 43C1-750 | 43C2-750 | 750 | 43C1-7500 | 43C2-7500 | 7500 | | | |
| 43C1-75 | 43C2-75 | 75 | 43C1-1000 | 43C2-1000 | 1000 | 43C1-10K | 43C2-10K | 10K | | | |

LIST PRICES

| | | | | | |
|---|---|---|---|---|---|
| 43C1-5 to 43C1-10K | $2.25 | 43C1-30K to 43C1-50K | $3.35 | 43C2-15K to 43C2-25K | $4.25 |
| 43C1-15K to 43C1-25K | 3.00 | 43C2-5 to 43C2-10K | 3.75 | 43C2-30K to 43C2-50K | 5.00 |

## SERIES 58C1 AND 58C2 3-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 1%. All controls rated 3 watts.

| 58C1 Cat. No. | 58C2 Cat. No. | Res. Ohms | 58C1 Cat. No. | 58C2 Cat. No. | Res. Ohms |
|---|---|---|---|---|---|
| 58C1-1 | 58C2-1 | 1 | 58C1-500 | 58C2-500 | 500 |
| 58C1-2 | 58C2-2 | 2 | 58C1-750 | 58C2-750 | 750 |
| 58C1-4 | 58C2-4 | 4 | 58C1-1000 | 58C2-1000 | 1000 |
| 58C1-6 | 58C2-6 | 6 | 58C1-1500 | 58C2-1500 | 1500 |
| 58C1-10 | 58C2-10 | 10 | 58C1-2000 | 58C2-2000 | 2000 |
| 58C1-15 | 58C2-15 | 15 | 58C1-2500 | 58C2-2500 | 2500 |
| 58C1-20 | 58C2-20 | 20 | 58C1-3000 | 58C2-3000 | 3000 |
| 58C1-25 | 58C2-25 | 25 | 58C1-5000 | 58C2-5000 | 5000 |
| 58C1-30 | 58C2-30 | 30 | 58C1-7500 | 58C2-7500 | 7500 |
| 58C1-40 | 58C2-40 | 40 | 58C1-10K | 58C2-10K | 10K |
| 58C1-50 | 58C2-50 | 50 | 58C1-15K | 58C2-15K | 15K |
| 58C1-60 | 58C2-60 | 60 | 58C1-20K | 58C2-20K | 20K |
| 58C1-75 | 58C2-75 | 75 | 58C1-25K | 58C2-25K | 25K |
| 58C1-100 | 58C2-100 | 100 | 58C1-30K | 58C2-30K | 30K |
| 58C1-200 | 58C2-200 | 200 | 58C1-40K | 58C2-40K | 40K |
| 58C1-300 | 58C2-300 | 300 | 58C1-50K | 58C2-50K | 50K |
| 58C1-400 | 58C2-400 | 400 | | | |

LIST PRICES

| | | | |
|---|---|---|---|
| 58C1-1 to 58C1-10K | $2.25 | 58C2-1 to 58C2-10K | $4.25 |
| 58C1-15K to 58C1-25K | 3.00 | 58C2-15K to 58C2-25K | 4.25 |
| 58C1-30K to 58C1-50K | 3.35 | 58C2-30K to 58C2-50K | 5.00 |

## SERIES "10C1" and "10C2" 4-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity to plus minus 1%. All controls rated 4 watts 1 to 50K ohms available on special order Prices and information on request.

| 10C1 Cat. No. | 10C2 Cat. No. | Res. Ohms |
|---|---|---|
| 10C1-75K | 10C2-75K | 75K |
| 10C1-100K | 10C2-100K | 100K |

List Prices

10C1 ..... $4.75 10C2 ..... $6.00

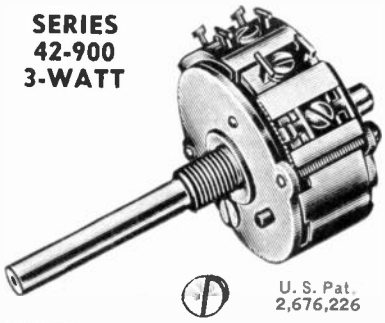
## WIRE-WOUND PRECISION POTENTIOMETERS

Series 42-900 is a superlative-grade precision potentiometer with such features as selection of either limited or continuous rotation by simple manipulation; gold-plated bushings, terminals, screws; front and rear plates of green anodized aluminum; rear shaft extension for coupling to other potentiometers, switch, servoes, etc. Wiring diagram on rear plate indicates terminal connections. Especially intended to meet the needs of your prototypes, laboratory testing, instrument-grade assemblies, etc.

Exceeds MIL-R-19 specifications where applicable

| | *Net Price |
|---|---|
| 42-900—100K ohms | $19.00 |
| 42-900— 50K ohms | 19.00 |
| 42-900— 20K ohms | 16.00 |
| 42-900— 10K ohms | 16.00 |
| 42-900—5000 ohms | 14.00 |
| 42-900—2500 ohms | 14.00 |
| 42-900—1000 ohms | 14.00 |
| 42-900— 500 ohms | 14.00 |
| 42-900— 100 ohms | 14.00 |
| 42-900— 50 ohms | 14.00 |

## SERIES 42-900 3-WATT



U. S. Pat. 2,676,226



Net

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

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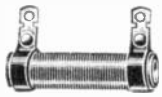
PRODUCTS OF
**THE HOUSE OF RESISTORS®**

CLAROSTAT®

**RESISTORS · CONTROLS**
**RESISTANCE DEVICES**

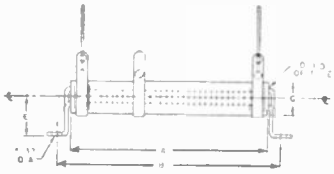
# "GREENOHM"* WIRE-WOUND RESISTORS



**FIXED TYPES** Wire-wound resistors for most rugged applications. Will withstand tremendous overloads and temperature changes without alterating resistance values or appearance. Wire windings on high grade ceramic tubing and coated with special inorganic cement. In accordance with RETMA standards, overall tolerances are ± 5% for resistors of 50 ohms and higher. For resistors of 49.9 ohms and lower, overall tolerances are ± 10%.

**ADJUSTABLE TYPES** Same electrically and mechanically as Fixed types, but incorporating sliding band or bands for tapping any desired resistance values. Slider band tightened by means of screw. In accordance with RETMA standards, overall tolerances are ± 10%.

## DIMENSIONS BY TYPES



| SERIES | WATTS | A | B | C | D | E |
|---|---|---|---|---|---|---|
| PR 5-F | 5 | 1 | 1-7/16 | 5/16 | 5/16 | 7/16 |
| PR 10-F | 10 | 1-3/4 | 2-3/16 | 5/16 | 5/16 | 7/16 |
| PR 10 FA | 10 | 1-3/4 | 2-3/16 | 5/16 | 5/16 | 7/16 |
| PR 20 K | 20 | 2 | 2-1/2 | 9/16 | 3/8 | 9/16 |
| P 25 K | 25 | 2-1/2 | 3 | 9/16 | 3/8 | 9/16 |
| P 25 KA | 25 | 2-1/2 | 3 | 9/16 | 3/8 | 9/16 |
| K 40 N | 40 | 3-1/2 | 4-1/8 | 3/4 | 1/2 | 7/8 |
| K 50 N | 50 | 4 | 5-1/8 | 3/4 | 1/2 | 7/8 |
| K 50 NA | 50 | 4 | 5-1/8 | 3/4 | 1/2 | 7/8 |
| K 80 N | 80 | 6 | 7-1/8 | 3/4 | 1/2 | 7/8 |
| K 80 NA | 80 | 6-1/2 | 7-1/8 | 3/4 | 1/2 | 7/8 |
| K 100 N | 100 | 6-1/2 | 7-1/8 | 1-1/8 | 3/4 | 1-1/8 |
| K 100 NA | 100 | 6-1/2 | 7-1/8 | 1-1/8 | 3/4 | 1-1/8 |
| K 150 N | 150 | 8-1/2 | 9-1/8 | 1-1/8 | 3/4 | 1-1/8 |
| K 150 NA | 150 | 8-1/2 | 9-1/8 | 1-1/8 | 3/4 | 1-1/8 |
| K 200 N | 200 | 10-1/2 | 11-1/8 | 1-1/8 | 3/4 | 1-1/8 |
| K 200 NA | 200 | 10-1/2 | 11-1/2 | 1-1/8 | 3/4 | 1-1/8 |

# FIXED RESISTORS

### 5-WATT SERIES PR-5-F

These resistors conform to E1A specification for type RRW-125 and 128.

| Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|
| 1 | 75 | 800 | 5,000 |
| 2 | 100 | 900 | 6,000 |
| 3 | 125 | 1,000 | 7,000 |
| 4 | 150 | 1,100 | 7,500 |
| 5 | 200 | 1,200 | 8,000 |
| 7.5 | 225 | 1,250 | 8,500 |
| 10 | 250 | 1,500 | 9,000 |
| 12 | 300 | 1,750 | 10K |
| 15 | 350 | 2,000 | |
| 20 | 400 | 2,250 | |
| 25 | 450 | 2,500 | |
| 30 | 500 | 3,000 | |
| 35 | 600 | 3,500 | |
| 40 | 700 | 4,000 | |
| 50 | 750 | 4,500 | |

**LIST PRICE $0.55**

Standard Packing — 10 per Carton.
Mounting brackets supplied at extra cost.

### 25-WATT SERIES P-25-K

| Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|
| 1 | 750 | 10K | |
| 2 | 800 | 12K | |
| 3 | 1,000 | 15K | |
| 5 | 1,250 | 20K | |
| 7.5 | 1,500 | 25K | |
| 10 | 2,000 | 30K | |
| 15 | 2,250 | 35K | |
| 20 | 2,500 | 40K | |
| 25 | 3,000 | 45K | |
| 50 | 3,500 | 50K | |
| 75 | 4,000 | 60K | |
| 100 | 4,500 | 70K | |
| 150 | 5,000 | 75K | |
| 200 | 6,000 | 80K | |
| 250 | 7,000 | 85K | |
| 300 | 7,500 | 90K | |
| 400 | 8,000 | 100K | |
| 500 | 9,000 | | |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 5,000 | $0.85 |
| 6,000 to 15K ohms | .95 |
| 20K to 50K ohms | 1.10 |
| 60K ohms | 1.25 |
| 70K ohms | 1.40 |
| 75K ohms | 1.45 |
| 80K ohms | 1.50 |
| 85K ohms | 1.65 |
| 90K ohms | 1.75 |
| 100K ohms | 1.95 |

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

### 10-WATT SERIES PR-10-F

These resistors conform to military specifications for type RW29, and E1A type RRW-126 and 129.

| Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|
| 1 | 200 | 2,000 | 14.5K |
| 2 | 225 | 2,250 | 15K |
| 3 | 250 | 2,500 | 16K |
| 4 | 300 | 3,000 | 17.5K |
| 5 | 350 | 3,500 | 18K |
| 7.5 | 400 | 4,000 | 20K |
| 10 | 450 | 4,500 | 22.5K |
| 12 | 500 | 5,000 | 25K |
| 15 | 600 | 6,000 | 30K |
| 20 | 700 | 7,000 | 35K |
| 25 | 750 | 7,500 | 40K |
| 30 | 800 | 8,000 | 50K |
| 35 | 900 | 8,500 | |
| 40 | 1,000 | 9,000 | |
| 50 | 1,100 | 10K | |
| 75 | 1,200 | 11K | |
| 100 | 1,250 | 12K | |
| 125 | 1,500 | 12.5K | |
| 150 | 1,750 | 13.5K | |

**LIST PRICE $0.60**

Mounting brackets supplied at extra cost.
Standard Packing — 10 per Carton.

### 40-WATT SERIES K-40-N

These resistors conform to E1A specification for type RRW-131.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 250 | 5,000 | 40K |
| 10 | 300 | 6,000 | 50K |
| 15 | 400 | 7,500 | 60K |
| 20 | 500 | 8,500 | 70K |
| 25 | 750 | 10K | 80K |
| 50 | 1,000 | 12.5K | 90K |
| 75 | 1,500 | 15K | 100K |
| 100 | 2,000 | 20K | 125K |
| 125 | 2,500 | 25K | 150K |
| 150 | 3,000 | 30K | 175K |
| 200 | 4,000 | 35K | 200K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 5,000 ohms | $1.00 |
| 6,000 to 25K ohms | 1.10 |
| 30K to 100K ohms | 1.30 |
| 125K to 150K ohms | 1.55 |
| 175K ohms | 1.65 |
| 200K ohms | 1.75 |

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

### 20-WATT SERIES PR-20-K

These resistors conform to E1A specifications for type RRW-127.

| Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|
| 5 | 850 | 7,000 | 70K |
| 10 | 1,000 | 7,500 | 75K |
| 25 | 1,200 | 8,000 | 80K |
| 50 | 1,250 | 9,000 | 85K |
| 75 | 1,500 | 10K | 90K |
| 100 | 1,750 | 12.5K | 95K |
| 150 | 1,850 | 15K | 100K |
| 200 | 2,000 | 20K | |
| 250 | 2,250 | 25K | |
| 300 | 2,500 | 30K | |
| 350 | 2,750 | 35K | |
| 400 | 3,000 | 40K | |
| 500 | 3,500 | 45K | |
| 650 | 4,000 | 50K | |
| 700 | 4,500 | 55K | |
| 750 | 5,000 | 60K | |
| 800 | 6,000 | 65K | |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 15K ohms | $0.70 |
| 20K to 50K ohms | .95 |
| 55K to 100K ohms | 1.20 |

Mounting brackets supplied at extra cost.
Standard Packing — 5 per Carton.

### 50-WATT SERIES K-50-N

These resistors conform to E1A specification for type RRW-132.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 500 | 5,000 | 35K |
| 5 | 750 | 6,000 | 40K |
| 10 | 1,000 | 7,500 | 50K |
| 25 | 1,250 | 8,000 | 60K |
| 50 | 1,500 | 9,000 | 70K |
| 75 | 2,000 | 10K | 75K |
| 100 | 2,250 | 12K | 80K |
| 150 | 2,500 | 12.5K | 100K |
| 200 | 3,000 | 15K | 125K |
| 250 | 3,500 | 20K | 150K |
| 300 | 4,000 | 25K | 175K |
| 400 | 4,500 | 30K | 200K |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 5,000 | $1.20 |
| 6,000 to 25K ohms | 1.50 |
| 30K to 100K ohms | 1.85 |
| 125K ohms | 2.20 |
| 150K to 175K ohms | 2.50 |
| 200K ohms | 3.30 |

Mounting brackets supplied at no extra cost.
Standard Packing — Individually Boxed.

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RESISTANCE DEVICES

# ADJUSTABLE RESISTORS

### 80-WATT SERIES K-80-N

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 500 | 4,500 | 25K |
| 10 | 750 | 5,000 | 30K |
| 25 | 1,000 | 6,000 | 35K |
| 50 | 1,250 | 7,500 | 40K |
| 75 | 1,500 | 8,000 | 50K |
| 100 | 2,000 | 9,000 | 60K |
| 150 | 2,250 | 10K | 70K |
| 200 | 2,500 | 12K | 75K |
| 250 | 3,000 | 12.5K | 80K |
| 300 | 3,500 | 15K | 100K |
| 400 | 4,000 | 20K | |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 5,000 ohms | $1.40 |
| 6,000 to 25K ohms | 1.65 |
| 30K to 50K ohms | 1.95 |
| 60K to 75K ohms | 2.20 |
| 80K ohms | 2.30 |
| 100K ohms | 2.50 |

### 100-WATT SERIES K-100-W

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 750 | 7,500 | 60K |
| 5 | 1,000 | 8,000 | 70K |
| 10 | 1,250 | 9,000 | 75K |
| 25 | 1,500 | 10K | 80K |
| 50 | 2,000 | 12K | 100K |
| 75 | 2,250 | 12.5K | 125K |
| 100 | 2,500 | 15K | 150K |
| 150 | 3,000 | 20K | 175K |
| 200 | 3,500 | 25K | 200K |
| 250 | 4,000 | 30K | |
| 300 | 4,500 | 35K | |
| 400 | 5,000 | 40K | |
| 500 | 6,000 | 50K | |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 2,500 ohms | $1.95 |
| 3,000 to 4,000 ohms | 2.05 |
| 4,500 to 25K ohms | 2.15 |
| 30K to 50K ohms | 2.75 |
| 60K to 75K ohms | 3.05 |
| 80K ohms | 3.15 |
| 100K ohms | 3.30 |
| 125K ohms | 3.40 |
| 150K ohms | 3.60 |
| 175K ohms | 3.70 |
| 200K ohms | 4.15 |

### 160-WATT SERIES K-160-W

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 500 | 4,500 | 25K |
| 10 | 750 | 5,000 | 30K |
| 25 | 1,000 | 6,000 | 35K |
| 50 | 1,250 | 7,500 | 40K |
| 75 | 1,500 | 8,000 | 50K |
| 100 | 2,000 | 9,000 | 60K |
| 150 | 2,250 | 10K | 70K |
| 200 | 2,500 | 12K | 75K |
| 250 | 3,000 | 12.5K | 80K |
| 300 | 3,500 | 15K | 100K |
| 400 | 4,000 | 20K | 125K |
| | | | 150K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 10K ohms | $2.50 |
| 12K ohms | 2.55 |
| 12.5K ohms | 2.60 |
| 15K to 50K ohms | 2.90 |
| 60K to 100K ohms | 3.30 |
| 125K ohms | 3.50 |
| 150K ohms | 3.85 |

### 200-WATT SERIES K-200-W

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 500 | 4,500 | 25K |
| 10 | 750 | 5,000 | 30K |
| 25 | 1,000 | 6,000 | 35K |
| 50 | 1,250 | 7,500 | 40K |
| 75 | 1,500 | 8,000 | 50K |
| 100 | 2,000 | 9,000 | 60K |
| 150 | 2,250 | 10K | 70K |
| 200 | 2,500 | 12K | 75K |
| 250 | 3,000 | 12.5K | 80K |
| 300 | 3,500 | 15K | 100K |
| 400 | 4,000 | 20K | 125K |
| | | | 150K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 10K ohms | $2.75 |
| 12K ohms | 3.05 |
| 12.5K ohms | 3.15 |
| 15K to 100K ohms | 3.30 |
| 125K to 150K ohms | 4.15 |

### 10-WATT SERIES PR-10-FA

These resistors conform to military specification for type RW-29 and E1A specification for type RRW-226.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 75 | 750 | 4,000 |
| 2 | 100 | 800 | 4,500 |
| 3 | 150 | 1,000 | 5,000 |
| 5 | 200 | 1,250 | 6,000 |
| 7.5 | 250 | 1,500 | 7,000 |
| 10 | 300 | 2,000 | 7,500 |
| 15 | 350 | 2,250 | 8,000 |
| 20 | 400 | 2,500 | 8,500 |
| 25 | 500 | 3,000 | 9,000 |
| 50 | 600 | 3,500 | 10K |

**LIST PRICE $0.95**

### 25-WATT SERIES P-25-KA

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 75 | 1,000 | 5,000 |
| 2 | 100 | 1,250 | 6,000 |
| 3 | 150 | 1,500 | 7,000 |
| 5 | 200 | 2,000 | 7,500 |
| 7.5 | 250 | 2,250 | 8,000 |
| 10 | 300 | 2,500 | 9,000 |
| 15 | 400 | 3,000 | 10K |
| 20 | 500 | 3,500 | 12K |
| 25 | 750 | 4,000 | 15K |
| 50 | 800 | 4,500 | 20K |
| | | | 25K |
| | | | 50K |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 5,000 ohms | $1.05 |
| 6,000 to 15K ohms | 1.20 |
| 20K to 25K ohms | 1.40 |
| 50K ohms | 1.65 |

### 50-WATT SERIES K-50-NA

These resistors conform to E1A specification for type RRW-232.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 250 | 4,000 | 20K |
| 5 | 300 | 4,500 | 25K |
| 10 | 400 | 5,000 | 30K |
| 15 | 500 | 6,000 | 35K |
| 20 | 750 | 7,000 | 40K |
| 25 | 1,000 | 7,500 | 45K |
| 50 | 1,250 | 8,000 | 50K |
| 75 | 1,500 | 9,000 | 60K |
| 100 | 2,000 | 10K | 75K |
| 150 | 2,500 | 12K | 80K |
| 200 | 3,500 | 15K | 100K |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 5,000 ohms | $1.65 |
| 6,000 to 25K ohms | 1.95 |
| 30K to 50K ohms | 2.20 |
| 60K to 100K ohms | 2.75 |

### 80-WATT SERIES K-80-NA

These resistors conform to E1A specification for type RRW-233.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 300 | 4,500 | 20K |
| 10 | 400 | 5,000 | 25K |
| 15 | 500 | 6,000 | 30K |
| 20 | 750 | 7,000 | 35K |
| 25 | 1,000 | 7,500 | 40K |
| 50 | 1,250 | 8,000 | 45K |
| 75 | 1,500 | 9,000 | 50K |
| 100 | 2,000 | 10K | 60K |
| 150 | 2,500 | 12K | 75K |
| 250 | 4,000 | | 100K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 5,000 ohms | $1.95 |
| 6,000 to 25K ohms | 2.20 |
| 30K to 50K ohms | 2.50 |
| 60K to 100K ohms | 3.05 |

### 100-WATT SERIES K-100-WA

These resistors conform to E1A specification for type RRW-234.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 1 | 300 | 5,000 | 35K |
| 5 | 400 | 6,000 | 40K |
| 10 | 500 | 7,000 | 45K |
| 15 | 750 | 7,500 | 50K |
| 20 | 1,000 | 8,000 | 60K |
| 25 | 1,250 | 9,000 | 75K |
| 50 | 1,500 | 10K | 80K |
| 75 | 2,000 | 12K | 100K |
| 100 | 2,500 | 15K | 125K |
| 150 | 3,500 | 20K | 150K |
| 200 | 4,000 | 25K | |
| 250 | 4,500 | 30K | |

**LIST PRICES:**

| | |
|---|---|
| 1 ohm to 2,500 ohms | $2.20 |
| 3,500 to 25K ohms | 2.50 |
| 30K to 50K ohms | 3.05 |
| 60K to 75K ohms | 3.30 |
| 80K to 125K ohms | 3.85 |
| 150K ohms | 4.15 |

### 160-WATT SERIES K-160-WA

These resistors conform to E1A specification for type RRW-235.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 300 | 4,500 | 25K |
| 10 | 400 | 5,000 | 30K |
| 15 | 500 | 6,000 | 35K |
| 20 | 750 | 7,000 | 40K |
| 25 | 1,000 | 7,500 | 45K |
| 50 | 1,250 | 8,000 | 50K |
| 75 | 1,500 | 9,000 | 60K |
| 100 | 2,000 | 10K | 75K |
| 150 | 2,500 | 12K | 80K |
| 200 | 3,500 | 15K | 100K |
| 250 | 4,000 | 20K | 125K |
| | | | 150K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 4,500 | $2.75 |
| 5,000 to 10K ohms | 2.90 |
| 12K ohms | 3.20 |
| 15K to 60K ohms | 3.60 |
| 75K to 100K ohms | 4.15 |
| 125K to 150K ohms | 4.70 |

### 200-WATT SERIES K-200-WA

These resistors conform to military specification for type RW-47 and E1A specification for type RRW-236.

| Res. | Res. | Res. | Res. |
|---|---|---|---|
| 5 | 300 | 4,500 | 20K |
| 10 | 400 | 5,000 | 25K |
| 15 | 500 | 6,000 | 30K |
| 20 | 750 | 7,000 | 35K |
| 25 | 1,000 | 7,500 | 40K |
| 50 | 1,250 | 8,000 | 45K |
| 75 | 1,500 | 9,000 | 50K |
| 100 | 2,000 | 10K | 60K |
| 150 | 2,500 | 12K | 75K |
| 200 | 3,500 | 15K | 80K |
| 250 | 4,000 | | 100K |

**LIST PRICES:**

| | |
|---|---|
| 5 ohms to 4,500 | $3.30 |
| 5,000 ohms to 10K | 3.60 |
| 12K ohms | 3.85 |
| 15K ohms to 75K | 4.15 |
| 80K ohms to 100K | 4.70 |

Above adjustable resistors are supplied with mounting brackets at no extra cost.

Extra Slider Bands — **$0.30** each.

Standard Packing — Individually Boxed.



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## "GREENOHM V"™ VITREOUS-ENAMEL RESISTORS

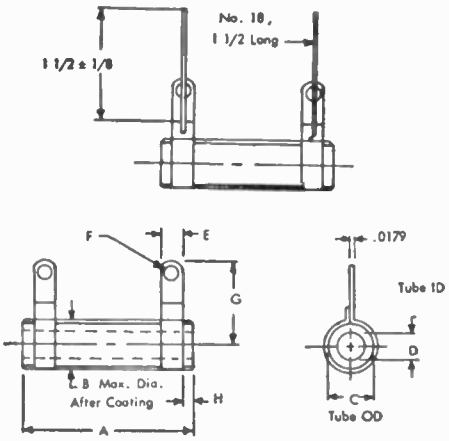
Based on years of research and engineering development, these vitreous-enamel wire-wound power resistors offer superlative performance and life as proved by countless tests. "Greenohm V" resistors provide all the outstanding quality which made Clarostat "Greenohm" cement-coated units famous, *plus* a glass-smooth vitreous-enamel coating in a handsome bluish-green for maximum eye appeal. Made to MIL-R-26C specifications.

- Fixed and adjustable
- 5-watt to 200 watt sizes
- ± 5% tolerance, 50 ohms and over. ± 10% tolerance, 49.9 ohms and under. ± 10% for adjustable.

| Catalog Types | | Watts | TUBE SIZE | | | | TERMINALS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Fixed | Adjustable | Catalog Rating | A Length ± 1/16 | B Max OD | C Tube OD | D Tube ID | E Width Min. | F** Hole D | G From ℄ | H Min. Edge |
| VPR-5-F* | | 5 | 1 | 1/2 | 5/16 | 3/16 | 3/16 | .096 | 5/8 | 1/16 |
| VPR-10F* | VP10FA | 10 | 1 3/4 | 1/2 | 5/16 | 3/16 | 3/16 | .096 | 5/8 | 1/16 |
| VPR-20H* | | 20 | 2 | 19/32 | 7/16 | 1/4 | 3/16 | .096 | 11/16 | 3/32 |
| VP-25-K | VP-25KA | 25 | 2 | 3/4 | 9/16 | 3/8 | 3/16 | .096 | 3/4 | 3/32 |
| VP-50-K | VP-50-KA | 50 | 4 | 3/4 | 9/16 | 3/8 | 3/16 | .096 | 3/4 | 1/8 |
| | VP-75-KA | 75 | 6 | 3/4 | 9/16 | 3/8 | 3/16 | .096 | 3/4 | 3/16 |
| VK-100-N | VK-100-NA | 100 | 6 1/2 | 29/32 | 3/4 | 1/2 | 5/16 | .150 | 7/8 | 3/16 |
| VK-160-W | VK-160-WA | 160 | 8 1/2 | 1 5/16 | 1 1/8 | 3/4 | 5/16 | .150 | 1 1/8 | 3/16 |
| VK-200-W | VK-200-WA | 200 | 10 1/2 | 1 5/16 | 1 1/8 | 3/4 | 5/16 | .150 | 1 1/8 | 3/16 |

* Combination Lug and Lead Terminal. ** .096 Clearance for No. 2 screw / .150 Clearance for No. 6 screw.

*Items not listed are special. Prices and information upon request.*




## "GREENOHM V"™ FIXED RESISTORS (ENAMEL VITREOUS)

### 5-WATT SERIES VPR-5-F
**Core: 1" x 5/16"**
**Terminals, wire lead and lug**

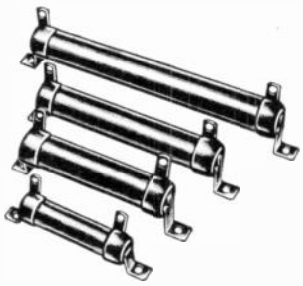
Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 30 | 350 | 1250 | 7000 |
| 1.5 | 35 | 400 | 1500 | 7500 |
| 2 | 40 | 450 | 1750 | 8000 |
| 3 | 50 | 500 | 2000 | 9000 |
| 4 | 75 | 600 | 2250 | 10K |
| 5 | 100 | 700 | 2500 | 12.5K |
| 7.5 | 125 | 750 | 3000 | 15K |
| 10 | 150 | 800 | 3500 | 17.5K |
| 12 | 200 | 900 | 4000 | 20K |
| 15 | 225 | 1000 | 4500 | 22.5K |
| 20 | 250 | 1100 | 5000 | 25K |
| 25 | 300 | 1200 | 6000 | |

**LIST PRICES**

| | | |
|---|---|---|
| 1 | to 1K | $0.75 |
| 1100 | to 5K | .80 |
| 6K | to 10K | .85 |
| 12.5K | to 15K | .90 |
| 17.5K | to 20K | .95 |
| 22.5K | to 25K | 1.00 |

Standard Packing — 10 per Carton



### 10-WATT SERIES VPR-10-F
**Core: 1¾" x 5/16"**
**Terminals, wire lead and lug**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 0.4 | 30 | 500 | 3000 | 13.5K |
| 1 | 35 | 600 | 3500 | 14.5K |
| 1.2 | 40 | 700 | 4000 | 15K |
| 1.5 | 50 | 750 | 4500 | 16K |
| 1.5 | 75 | 800 | 5000 | 17.5K |
| 2 | 100 | 900 | 6000 | 18K |
| 3 | 125 | 1000 | 7000 | 20K |
| 4 | 150 | 1100 | 7500 | 22.5K |
| 5 | 200 | 1200 | 8000 | 25K |
| 7.5 | 225 | 1250 | 8500 | 30K |
| 10 | 250 | 1500 | 9000 | 35K |
| 12 | 300 | 1750 | 10K | 40K |
| 15 | 350 | 2000 | 11K | 45K |
| 20 | 400 | 2250 | 12K | 50K |
| 25 | 450 | 2500 | 12.5K | |

**LIST PRICES**

| | | |
|---|---|---|
| 0.4 | to 1K | $0.80 |
| 1100 | to 5K | .90 |
| 6K | to 10K | 1.00 |
| 11K | to 20K | 1.10 |
| 22.5K | to 25K | 1.20 |
| 30K | to 50K | 1.35 |

Standard Packaging — 10 per Carton

### 20-WATT SERIES VPR-20-H
**Core: 2" x 7/16"**
**Terminals, wire lead and lug**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 0.4 | 350 | 1850 | 7500 | 55K |
| 0.6 | 400 | 2000 | 8000 | 60K |
| 0.8 | 500 | 2250 | 9000 | 65K |
| 5 | 650 | 2100 | 10K | 70K |
| 10 | 700 | 2500 | 12.5K | 75K |
| 25 | 750 | 2750 | 15K | 80K |
| 50 | 800 | 3000 | 20K | 85K |
| 75 | 850 | 3500 | 25K | 90K |
| 100 | 1000 | 4000 | 30K | 95K |
| 150 | 1200 | 4500 | 35K | 100K |
| 200 | 1250 | 5000 | 40K | |
| 250 | 1500 | 6000 | 45K | |
| 300 | 1750 | 7000 | 50K | |

**LIST PRICES**

| | | |
|---|---|---|
| 0.4 | to 1K | $1.05 |
| 1200 | to 5K | 1.10 |
| 6K | to 10K | 1.20 |
| 12.5K | to 20K | 1.30 |
| 25K | to 40K | 1.50 |
| 45K | to 60K | 1.75 |
| 65K | to 80K | 2.00 |
| 85K | to 100K | 2.30 |

Standard Packing — 5 per Carton

### 25-WATT SERIES VP-25-K
**Core: 2" x 9/16"**
**Lug terminals — Mtg. bracket furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 50 | 800 | 5000 | 30K |
| 2 | 75 | 1000 | 6000 | 35K |
| 3 | 100 | 1500 | 7500 | 40K |
| 4 | 150 | 2000 | 10K | 50K |
| 5 | 200 | 2500 | 12K | 60K |
| 10 | 250 | 3000 | 15K | 70K |
| 15 | 500 | 3500 | 20K | 80K |
| 25 | 750 | 4000 | 25K | 100K |

**LIST PRICES**

| | | |
|---|---|---|
| 1 | to 1K | $1.10 |
| 1500 | to 5K | 1.15 |
| 6K | to 10K | 1.25 |
| 12K | to 20K | 1.30 |
| 25K | to 40K | 1.50 |
| 50K | to 60K | 1.70 |
| 70K | to 80K | 2.00 |
| 100K | | 2.30 |

Standard Packing — Individually Boxed

### 50-WATT SERIES VP-50-K
**Core: 4" x 9/16"**
**Lug terminals — Mtg. bracket furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 75 | 1000 | 8000 | 75K |
| 2 | 100 | 1500 | 10K | 100K |
| 3 | 150 | 2000 | 12K | 125K |
| 4 | 200 | 2500 | 15K | 150K |
| 5 | 250 | 3000 | 20K | 175K |
| 10 | 500 | 4000 | 25K | 200K |
| 25 | 750 | 5000 | 35K | 225K |
| 50 | 800 | 7500 | 50K | 250K |

**LIST PRICES**

| | | |
|---|---|---|
| 1 | | $2.50 |
| 2 | to 1K | 1.80 |
| 1500 | to 5K | 1.90 |
| 7500 | to 10K | 2.10 |
| 12K | to 20K | 2.30 |
| 25K | to 35K | 2.55 |
| 50K | | 2.85 |
| 75K | | 3.20 |
| 100K | | 3.50 |
| 125K | | 3.70 |
| 150K | | 3.85 |
| 175K | | 4.00 |
| 200K | | 4.15 |
| 225K | | 4.65 |
| 250K | | 4.65 |

Standard Packing — Individually Boexd

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***



World Radio History

PRODUCTS OF

# THE HOUSE OF RESISTORS®

CLAROSTAT®

## RESISTORS · CONTROLS RESISTANCE DEVICES

### 100-WATT SERIES VK-100-N

**Core: 6½" x ¾"**
**Lug terminals — Mtg. bracket furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 50 | 750 | 7500 | 50K |
| 2 | 75 | 1000 | 10K | 60K |
| 3 | 100 | 1500 | 15K | 75K |
| 4 | 125 | 2000 | 20K | 100K |
| 5 | 150 | 2500 | 25K | |
| 10 | 250 | 3000 | 30K | |
| 25 | 500 | 5000 | 40K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 3 | $3.70 |
| 4 | to 1K | 2.65 |
| 1500 | to 5K | 2.80 |
| 7500 | to 10K | 3.00 |
| 15K | to 20K | 3.30 |
| 25K | to 40K | 3.50 |
| 50K | to 60K | 3.70 |
| 75K | | 3.95 |
| 100K | | 4.20 |

Standard Packing — Individually Boxed

### 160-WATT SERIES VK-160-W

**Core: 8½" x 1⅛"**
**Lug terminals — Mtg. bracket furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 50 | 750 | 7500 | 50K |
| 2 | 75 | 1000 | 10K | 60K |
| 3 | 100 | 1500 | 15K | 75K |
| 4 | 125 | 2000 | 20K | 100K |
| 5 | 150 | 2500 | 25K | |
| 10 | 250 | 3000 | 30K | |
| 25 | 500 | 5000 | 40K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 5 | $4.60 |
| 10 | to 1K | 3.30 |
| 1500 | to 5K | 3.35 |
| 7500 | to 10K | 3.60 |
| 15K | to 20K | 3.90 |
| 25K | to 40K | 4.00 |
| 50K | to 60K | 4.15 |
| 75K | | 4.40 |
| 100K | | 4.70 |

Standard Packing — Individually Boxed

### 200-WATT SERIES VK-200-W

**Core: 10½" x 1⅛"**
**Lug terminals — Mtg. bracket furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 50 | 1000 | 10K | 60K |
| 2 | 75 | 1500 | 15K | 75K |
| 3 | 100 | 2000 | 20K | 100K |
| 4 | 150 | 2500 | 25K | |
| 5 | 250 | 3000 | 30K | |
| 10 | 500 | 5000 | 40K | |
| 25 | 750 | 7500 | 50K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 5 | $5.00 |
| 10 | to 1K | 3.55 |
| 1500 | to 5K | 3.60 |
| 7500 | to 10K | 3.90 |
| 15K | to 20K | 4.15 |
| 25K | to 40K | 4.30 |
| 50K | to 60K | 4.40 |
| 75K | | 4.70 |
| 100K | | 5.00 |

Standard Packing — Individually Boxed

## "GREENOHM V"™ ADJUSTABLE RESISTORS (VITREOUS ENAMEL)

### 10-WATT SERIES VP-10-FA

**Core: 1¾" x 5/16"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 25 | 350 | 1500 | 5000 |
| 2 | 50 | 400 | 2000 | 6000 |
| 3 | 75 | 500 | 2250 | 7000 |
| 5 | 100 | 600 | 2500 | 7500 |
| 7.5 | 150 | 750 | 3000 | 8000 |
| 10 | 200 | 800 | 3500 | 8500 |
| 15 | 250 | 1000 | 4000 | 9000 |
| 20 | 300 | 1250 | 4500 | 10K |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 1K | $1.60 |
| 1250 | to 5K | 1.70 |
| 6000 | to 10K | 1.80 |

Standard Packing — 10 per Carton

### 25-WATT SERIES VP-25-KA

**Core: 2" x 9/16"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 50 | 750 | 5500 | 9000 |
| 2 | 75 | 800 | 4000 | 10K |
| 3 | 100 | 1000 | 4500 | 12K |
| 5 | 150 | 1250 | 5000 | 15K |
| 7.5 | 200 | 1500 | 6000 | 20K |
| 10 | 250 | 2000 | 7000 | 25K |
| 15 | 300 | 2250 | 7200 | |
| 20 | 400 | 2500 | 7500 | |
| 25 | 500 | 3000 | 8000 | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 1K | $2.05 |
| 1250 | to 5K | 2.10 |
| 6K | to 10K | 2.20 |
| 12K | to 20K | 2.30 |
| 25K | | 2.50 |

Standard Packing — Individually Boxed

### OHM'S LAW

Defines relationship between **voltage**, **current** and **resistance** (in dc circuit) or **impedance** (in ac circuit).

Current is directly proportional to applied voltage. Varies with changes in voltage. If voltage is increased without changing resistance, current will increase. If voltage is reduced without changing resistance, current decreases.

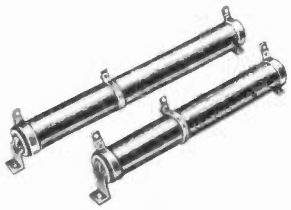
In applying resistors, just remember these simple formulae:

$$I = E \div R$$

$$R = E \div I$$

$$E = I \times R$$

In which I represents current (amperes), R is resistance (ohms), E is voltage.



### 50-WATT SERIES VP-50-KA

**Core: 4" x 9/16"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 150 | 1500 | 7000 | 30K |
| 2 | 200 | 2000 | 7200 | 40K |
| 3 | 250 | 2250 | 7500 | 50K |
| 4 | 300 | 2500 | 8000 | 60K |
| 5 | 400 | 3000 | 9000 | 80K |
| 10 | 500 | 3500 | 10K | 100K |
| 25 | 750 | 4000 | 12K | |
| 50 | 800 | 4500 | 15K | |
| 75 | 1000 | 5000 | 20K | |
| 100 | 1250 | 6000 | 25K | |

LIST PRICES

| | | |
|---|---|---|
| 1 ohm | | $3.30 |
| 2 | to 1K | 2.60 |
| 1250 | to 5K | 2.70 |
| 6K | to 10K | 2.90 |
| 12K | to 20K | 3.10 |
| 25K | to 40K | 3.40 |
| 50K | to 60K | 3.60 |
| 80K | | 4.05 |
| 100K | | 4.30 |

Standard Packing — Individually Boxed

### 75-WATT SERIES VP-75-KA

**Core: 6" x 9/16"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 200 | 2000 | 7200 | 35K |
| 2 | 250 | 2250 | 7500 | 40K |
| 3 | 300 | 2500 | 8000 | 45K |
| 4 | 400 | 3000 | 9000 | 50K |
| 5 | 500 | 3500 | 10K | 60K |
| 10 | 750 | 4000 | 12K | 80K |
| 15 | 800 | 4500 | 15K | 100K |
| 25 | 1000 | 5000 | 20K | |
| 50 | 1250 | 6000 | 25K | |
| 100 | 1500 | 7000 | 30K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 2 | $3.90 |
| 3 | to 1K | 3.00 |
| 1250 | to 5K | 3.10 |
| 6000 | to 10K | 3.30 |
| 12K | to 20K | 3.50 |
| 25K | to 40K | 3.90 |
| 45K | to 60K | 4.00 |
| 10K | | 4.40 |
| 100K | | 4.75 |

Standard Packaging — Individually Boxed

### 100-WATT SERIES VK-100-NA

**Core: 6½" x ¾"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 10 | 500 | 10K | 40K |
| 2 | 25 | 1000 | 15K | 50K |
| 3 | 50 | 1500 | 20K | 75K |
| 4 | 100 | 2500 | 25K | 100K |
| 5 | 250 | 5000 | 30K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 3 | $5.00 |
| 4 | to 1K | 3.95 |
| 1500 | to 5K | 4.05 |
| 10K | | 4.25 |
| 15K | to 20K | 4.50 |
| 25K | to 40K | 4.80 |
| 50K | | 5.00 |
| 75K | | 5.20 |
| 100K | | 5.45 |

Standard Packing — Individually Boxed

### 160-WATT SERIES VK-160-WA

**Core: 8½" x 1⅛"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 10 | 500 | 10K | 40K |
| 2 | 25 | 1000 | 15K | 50K |
| 3 | 50 | 1500 | 20K | 75K |
| 4 | 100 | 2500 | 25K | 100K |
| 5 | 250 | 5000 | 30K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 5 | $5.85 |
| 10 | to 1K | 4.55 |
| 1500 | to 5K | 4.60 |
| 10K | | 4.90 |
| 15K | to 20K | 5.15 |
| 25K | to 40K | 5.30 |
| 50K | | 5.40 |
| 75K | | 5.70 |
| 100K | | 6.00 |

Standard Packing — Individually Boxed

### 200-WATT SERIES VK-200-WA

**Core: 10½" x 1⅛"**
**Lug terminals — Mtg. brackets furnished**

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 1 | 10 | 500 | 10K | 40K |
| 2 | 25 | 1000 | 15K | 50K |
| 3 | 50 | 1500 | 20K | 75K |
| 4 | 100 | 2500 | 25K | 100K |
| 5 | 250 | 5000 | 30K | |

LIST PRICES

| | | |
|---|---|---|
| 1 | to 5 | $6.25 |
| 10 | to 1K | 4.80 |
| 1500 | to 5K | 4.90 |
| 10K | | 5.20 |
| 15K | to 20K | 5.40 |
| 25K | to 40K | 5.50 |
| 50K | | 5.70 |
| 75K | | 5.95 |
| 100K | | 6.25 |

Standard Packing — Individually Boxed



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

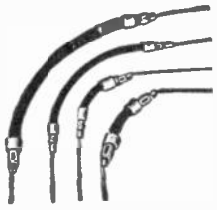
World Radio History

PRODUCTS OF
# THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

## "GLASOHM"* FLEXIBLE RESISTORS



Fixed wire-wound resistors on glass fibre core with flexible woven glass fiber casing. Made up to any length on order. A substitute for a wide range of carbon resistors. Standard types 1" long with 2" pigtail leads, 1/8" dia. RETMA color coded. RETMA overall tolerances are plus/minus 10%.

**LIST PRICE $0.50**

Standard Packing: 10 per carton.

| Cat. No. | Ohms | Cat. No. | Ohms | Cat. No. | Ohms | Cat. No. | Ohms |
|---|---|---|---|---|---|---|---|
| FYG5 | 5 | FYG75 | 75 | FYG350 | 350 | FYG850 | 850 |
| FYG10 | 10 | FYG100 | 100 | FYG375 | 375 | FYG900 | 900 |
| FYG15 | 15 | FYG125 | 125 | FYG400 | 400 | FYG1000 | 1000 |
| FYG25 | 25 | FYG150 | 150 | FYG500 | 500 | FYG1250 | 1250 |
| FYG35 | 35 | FYG200 | 200 | FYG600 | 600 | FYG1500 | 1500 |
| FYG40 | 40 | FYG225 | 225 | FYG700 | 700 | FYG1600 | 1600 |
| FYG50 | 50 | FYG250 | 250 | FYG750 | 750 | FYG1750 | 1750 |
| FYG60 | 60 | FYG300 | 300 | FYG800 | 800 | FYG2000 | 2000 |

## RESISTOR WALL-CARD KITS

Handy wall-card kits holding different selections of popular ohmages in "Greenohm," "Greenohm Jr" and "Glasohm" resistors. Units readily slip off card and ohmage values show up for reordering. Card size 10½ x 12". Also serve as attention-getting silent salesmen.

Six carefully selected assortments, meeting widest range of standard service and other requirements Considerable savings realized

## "GREENOHM"* RESISTOR KIT

**GK-1—10-WATT "GREENOHM" RESISTORS.** 20 popular ohmages—25 to 25K ohms. **List Price: $12.00**

**GK-2—2-WATT "GLASOHM" RESISTORS.** 32 of the most popular ohmages. 5 to 2000 ohms. **List Price: $16.00**

**GK-3—5-WATT "GREENOHM Jr." RESISTORS.** 36 popular ohmages. 1 ohm to 4000 ohms. **List Price: $21.60**

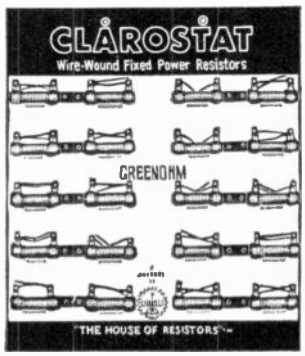
**GK-4—5-WATT "GREENOHM" RESISTORS.** 54 popular ohmages. 1 ohm to 10K ohms. **List Price: $29.70**

**GK-5—10-WATT "GREENOHM Jr." RESISTORS.** 50 popular ohmages. 1 ohm to 900 ohms. **List Price: $30.00**

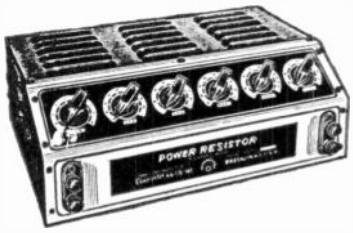
**GK-6—10-WATT "GREENOHM" RESISTORS.** 45 popular ohmages. 5 ohms to 50K ohms. **List Price: $27.00**

**"FUZOHM" FUSE-TYPE RESISTORS** also available in wall-card kits. 12 (7.5 ohm) units. GL-1. **List Price: $9.00**

Also with 12 (5.6 ohm) units. GL-2. **List Price: $9.00**




## POWER RESISTOR DECADE BOX




The Resistance Decade Box Model No. 240C allows changing resistance at a flip of the switch in a working circuit. Any value obtainable from 1 ohm to 999,999 in steps of one ohm and at a maximum power rating of 225 watts using a maximum of 1000 volts D.C. or 660 volts A.C.

Resistance changing switches are of the type that prevents a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Pointer knobs indicate at a glance the resistance value being used.

Clarostat "Greenohm" resistors are used throughout. These are inorganic-cement-coated wire-wound power resistors. The resistors are mounted on rigid metal supports. A baffle plate separating the resistor bank from the switch assembly protects the latter against heat.

The heavy-gauge metal case is finished in frosted gray wrinkle, with an etched black-and-aluminum front panel. 13 in. long; 8½ in. deep; 5¾ in. high. Weight, 11 lbs.

SUGGESTED USES: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

| | Maximum Current Ratings: | Resistance Tolerance | | Maximum Current Ratings: | Resistance Tolerance |
|---|---|---|---|---|---|
| Decade No. 1 | 5 amp. | 5% | Decade No. 4 | .15 amp. | 2% |
| Decade No. 2 | 1.5 amp. | 2% | Decade No. 5 | .05 amp. | 2% |
| Decade No. 3 | .5 amp. | 2% | Decade No. 6 | .005 amp. | 2% |

NET PRICE.....$95.00

## "GREENOHM JR."* Wire-Wound Resistors

Wire-wound power resistors on glass fiber core. Sealed in a cement-filled ceramic case. 1½" axial pigtail leads. C4GJ, 1" l. x 5/16" d.; C7GJ, 1¾" l. x 5/16" d. Tolerance ±10%.

**5-WATT SERIES C4GJ**

| Ohms | Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|---|
| 1 | 12 | 50 | 250 | 700 |
| 2 | 15 | 75 | 300 | 750 |
| 3 | 20 | 100 | 350 | 800 |
| 4 | 25 | 125 | 400 | 900 |
| 5 | 30 | 150 | 450 | 1,000 |
| 7.5 | 35 | 200 | 500 | 2,000 |
| 10 | 40 | 225 | 600 | 3,000 |
| | | | | 4,000 |

**10-WATT SERIES C7GJ**

| Ohms | Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|---|
| 1 | 25 | 225 | 800 | 2,500 |
| 2 | 30 | 250 | 900 | 3,000 |
| 3 | 35 | 300 | 1,000 | 3,500 |
| 4 | 40 | 350 | 1,100 | 4,000 |
| 5 | 50 | 400 | 1,200 | 4,500 |
| 7.5 | 75 | 450 | 1,250 | 5,000 |
| 10 | 100 | 500 | 1,500 | 6,000 |
| 12 | 125 | 600 | 1,750 | 7,000 |
| 15 | 150 | 700 | 2,000 | 8,000 |
| 20 | 200 | 750 | 2,250 | 9,000 |

**LIST PRICE $0.60** Standard Packing—10 per Carton.

*Reg. U. S. Pat. Off

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World Radio History

PRODUCTS OF
**THE HOUSE OF RESISTORS®**

CLAROSTAT®

**RESISTORS · CONTROLS**
**RESISTANCE DEVICES**

# "FIXTOHM*" PRECISION RESISTORS

## SERIES CVF

**½-WATT RATING**
**± 1% TOLERANCE**

**These resistors are equivalent to Military types RN15 and RN20. Working voltage exceeds 350 volts.**

*Note—Values shown with asterisk are preferred Military values and are marked with Military style RN20 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | *178 | 450 | 1300 | 9050 | *1.96K | 13.5K | *38.5K | *82.5K | 200K | 430K | *825K |
| *51.1 | 180 | *464 | 1450 | *1K | *2.15K | *14.7K | 39K | 85K | *215K | 450K | 850K |
| 56 | *196 | 470 | 1500 | *1.1K | *2.37K | 15K | 40K | 90K | 220K | *484K | 900K |
| *56.2 | 200 | 530 | 1600 | 4450 | *2.61K | 16K | *42.2K | *99.0K | 225K | 470K | *909K |
| *61.9 | *215 | 510 | 1750 | 4500 | *2.87K | *16.2K | 45K | 91K | *237K | 500K | 1M |
| 62 | 220 | *511 | 1800 | 4700 | *3.16K | 17.5K | 45K | *100K | 240K | 510K | 1.1M |
| 68 | 225 | 550 | 2000 | 5000 | *3.48K | *17.8K | *46.4K | *110K | 250K | *511K | 1.2M |
| *68.1 | *237 | 560 | 2200 | 5100 | *3.83K | 18K | 47K | 120K | *261K | 550K | 1.21M |
| 75.0 | 240 | *562 | 2250 | 5500 | *4.22K | *19.6K | 50K | *121K | 270K | 560K | 1.25M |
| 82 | 250 | 600 | 2400 | 5600 | *4.64K | 20K | 51K | 125K | *287K | *562K | 1.5M |
| *82.5 | *261 | *619 | 2500 | 5950 | *5.11K | *21.5K | *51.1K | 130K | 300K | 600K | 1.35M |
| *90.9 | 270 | 620 | 2700 | 6000 | *5.62K | 22K | 55K | *133K | *316K | *619K | 1.47M |
| 91 | *287 | *650 | 2950 | 6200 | *6.19K | *22.5K | 56K | *147K | 330K | 620K | 1.5M |
| *100 | 300 | 680 | 3000 | 6500 | *6.81K | *23.7K | *56.2K | 150K | *348K | 650K | 1.6M |
| *110 | *316 | *681 | 3300 | 6800 | *7.50K | 24K | 60K | 160K | 350K | 680K | 1.62M |
| 120 | 330 | *750 | 3500 | 7000 | *8.25K | 25K | *61.9K | *162K | 360K | *681K | 1.78M |
| *121 | *348 | 800 | 3600 | 7450 | *9.09K | *26.1K | 62K | 175K | *383K | 700K | 1.8M |
| 130 | 350 | 820 | 3900 | 8000 | *10K | 27K | 65K | *178K | 390K | *750K | 1.96M |
| *133 | 360 | *825 | 4000 | 8200 | *11K | *28.7K | 68K | 180K | 400K | 800K | 2.0M |
| *147 | *383 | 850 | 4300 | *1.21K | 12K | 30K | *68.1K | *196K | *422K | 820K | |
| 150 | 390 | 900 | 4500 | *1.33K | *12.1K | *31.6K | 70K | | | | |
| 160 | 400 | *909 | 4800 | *1.47K | 12.5K | 33K | *75K | | | | |
| *162 | *422 | 1200 | 9000 | *1.62K | 13K | *34.8K | 80K | | | | |
| 175 | 430 | 1250 | 9100 | *1.78K | *15.3K | 36K | 82K | | | | |

LIST PRICE .....$0.67

## SERIES CVC

**1-WATT RATING**
**± 1% TOLERANCE**

**These resistors are equivalent to Military type RN25. Working voltage exceeds 500 volts.**

*Note—Values shown with asterisk are preferred Military values and are marked with Military style RN25 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 330 | 820 | 3600 | 8500 | 15K | 45K | 125K | *383K | 700K | 2.0M | 4.5M |
| *100 | 350 | 850 | 3900 | 8900 | 16K | 47K | 130K | 390K | *750K | 2.2M | 4.7M |
| 110 | 360 | 900 | 4000 | 8950 | 17.5K | 50K | *147K | 400K | 800K | *2.225M | 5.0M |
| 120 | *383 | 1200 | 4300 | 9000 | 18K | 51K | 150K | 430K | 820K | 2.4M | 5.1M |
| 130 | 390 | 1250 | 4450 | 9100 | *19.6K | *51.1K | 160K | 450K | 850K | 2.5M | *5.11M |
| *147 | 400 | 1300 | 4500 | 9950 | 20K | 55K | 175K | 470K | 900K | *2.61M | 5.5M |
| 150 | 430 | 1450 | 4700 | *1K | 22K | 56K | 180K | 500K | 1M | 2.7M | 5.6M |
| 160 | 450 | 1500 | 5000 | *1.47K | 22.5K | 60K | *196K | 510K | 1.2M | *2.87M | 6.0M |
| 175 | 470 | 1600 | 5100 | *1.96K | 24K | 62K | 200K | *511K | 1.25M | 3.0M | 6.2M |
| 180 | 500 | 1750 | 5500 | *2.61K | 25K | 65K | 220K | 550K | 1.5M | 3.3M | 6.5M |
| *196 | 510 | 1800 | 5600 | *2.87K | *26.1K | 68K | 225K | 560K | *1.47M | 3.5M | 6.8M |
| 200 | *511 | 2000 | 5950 | *3.83K | 27K | 70K | 240K | 600K | 1.5M | 3.6M | 7.0M |
| 220 | 550 | 2250 | 6000 | *5.11K | *28.7K | *75K | 250K | 620K | 1.6M | *3.83M | 8.0M |
| 225 | 560 | 2400 | 6200 | *7.50K | 30K | 80K | *261K | 650K | 1.8M | 3.9M | 8.2M |
| 240 | 600 | 2500 | 6500 | *10K | 33K | 82K | 270K | 680K | *1.96M | 4.0M | 8.5M |
| 250 | 620 | 2700 | 6800 | 12K | 36K | 85K | *287K | | | 4.3M | 9.0M |
| *261 | 650 | 2950 | 7000 | 12.5K | *38.3K | 90K | 300K | | | | |
| 270 | 680 | 3000 | 7450 | 13K | 39K | 91K | 330K | | | | |
| *287 | *750 | 3200 | 8000 | 13.5K | 40K | *100K | 350K | | | | |
| 300 | 800 | 3500 | 8200 | *14.7K | 43K | 120K | 360K | | | | |

LIST PRICES
100 ohms to 5 Meg.....$1.00
5.1 Meg. to 9 Meg..... 1.10

## SERIES CVD

**2-WATT RATING**
**± 1% TOLERANCE**

**These resistors are manufactured to Military Specifications for type RN30. Working voltage exceeds 750 volts.**

Note—Values shown with asterisk are preferred Military values and are marked with Military style RN30 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 450 | 1800 | 5600 | 16K | 60K | 250K | *750K | *2.61M | 5.1M | 9.0M | 20.0M |
| 110 | 470 | 2000 | 5950 | 17.5K | 62K | 270K | 800K | 2.7M | *5.11M | *10M | 22.0M |
| 120 | 500 | 2200 | 6000 | 18K | 65K | 300K | 820K | *2.87M | 5.5M | 11.0M | 24.0M |
| 130 | 510 | 2250 | 6200 | 20K | 68K | 330K | 850K | 3.0M | 5.6M | 12.0M | 25.0M |
| 150 | 550 | 2400 | 6500 | 22K | 70K | 350K | 900K | 3.3M | 6.2M | 12.1M | 27.0M |
| 160 | 560 | 2500 | 6800 | 22.5K | 80K | 360K | *1M | 3.5M | 6.2M | 12.5M | 30.0M |
| 175 | 600 | 2700 | 7000 | 24K | 82K | 390K | 1.2M | 3.6M | 6.5M | 13.0M | 33.0M |
| 180 | 620 | 2950 | 7450 | 25K | 85K | 400K | 1.25M | 3.9M | 6.8M | 13.3M | 36.0M |
| 200 | 650 | 3000 | 8000 | 27K | 90K | 43[illegible]K | 1.5M | 4.0M | 7.0M | *14.7M | 39.0M |
| 220 | 680 | 3300 | 8200 | 30K | 91K | 450K | *1.47M | 4.5M | *7.5M | 15.0M | 43.0M |
| 225 | 800 | 3500 | 8500 | 33K | 120K | 470K | 1.5M | 4.5M | 8.0M | 16.0M | 47.0M |
| 240 | 820 | 3600 | 8900 | 36K | 125K | 500K | 1.6M | 4.7M | 8.2M | 18.0M | 50.1M |
| 250 | 850 | 3900 | 8950 | 39K | 130K | 510K | 1.8M | 5.0M | 8.6M | *19.6M | |
| 270 | 900 | 4000 | 9000 | 40K | 150K | *511K | *1.96M | | | | |
| 300 | 1200 | 4300 | 9100 | 43K | 160K | 550K | 2.0M | | | | |
| 330 | 1250 | 4450 | 9950 | 45K | 175K | 560K | 2.15M | | | | |
| 350 | 1300 | 4500 | 12K | 47K | 180K | 600K | *2.15M | | | | |
| 360 | 1450 | 4700 | 12.5K | 50K | 200K | 620K | 2.2M | | | | |
| 390 | 1500 | 5000 | 13K | 51K | 220K | 650K | 2.225M | | | | |
| 400 | 1600 | 5100 | 13.5K | 55K | 225K | 680K | 2.4M | | | | |
| 430 | 1750 | 5500 | 15K | 56K | 240K | 700K | 2.5M | | | | |

LIST PRICES
100 ohms to 10 Meg.....$1.20
11 Meg. to 20 Meg..... 1.30
22 Meg. to 30 Meg..... 1.75
33 Meg. to 50 Meg..... 2.00



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World Radio History

PRODUCTS OF
# THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

Clarostat offers through its Industrial Distributors a line of Miniaturized Components consisting of Composition-Element Potentiometers, Wire-Wound Potentiometers and Rotary Switches. In addition, also through its Industrial Distributors, Clarostat offers the Power Resistor Decade Box, Metal-Encased Power Rheostats, Molded Composition-Element 2-watt Potentiometers, Wire-Wound Precision Potentiometers for Prototypes, Wire-Wound Potentiometers for Laboratory and other specialized work, as well as a complete line of Deposited-Carbon Precision Resistors.

## MINIATURIZED CARBON AND WIRE-WOUND CONTROLS

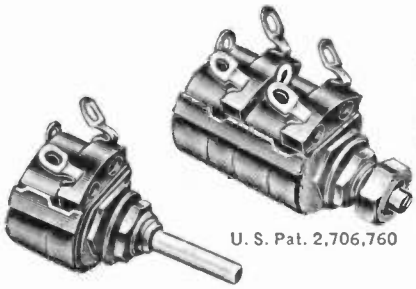
Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have ¼" x 32 NEF-2 x ¼" long bushing and ⅛" dia. x ½" long shaft beyond bushing. For single potentiometer order as Series 48M, plus the ohmage and taper. For dual order as Series D48M, plus the ohmage and taper (designate which is panel and rear if different).

Shaft locking bushing potentiometers have ½" x 32 NEF-2 x ⅜" long bushing and ⅛" dia. x 1/16" long screwdriver slotted shaft. For single potentiometer with shaft locking bushing order as Series 48M-9 or 49M-9 plus the ohmage and taper. For dual with shaft locking bushing order as Series D48M-9 or D49M-9 plus the ohmage and taper (designate which is panel and rear if different).

All potentiometers furnished with mounting nut 1/16" thick x 5/16" across flats, and one internal tooth lockwasher. Potentiometers with split locking bushings furnished with jam nut also.

PRICE: Due to the special nature of these units, prices and specific information will be sent upon request.

## SERIES 48M — 0.2 WATT MINIATURIZED COMPOSITION-ELEMENT POTENTIOMETERS



U. S. Pat. 2,706,760

**Dimensions:** 5/8" dia., ½" body depth.

**Insulation:** Breakdown test between terminals and ground for 1 minute, 1000v.a.c.; 550v.a.c. at 3.4" Hg.

**Resistance Range (Ohms):** Linear, 200 to 5 meg. Tapered, 1500 to 2.5 meg.

**Resistance Tolerance:** Linear, ±10% above 100,000 ohms. Tapered, ± 20% all values.

**Tapers:** Linear. Left hand—10% resistance at 50% rotation. "Z".

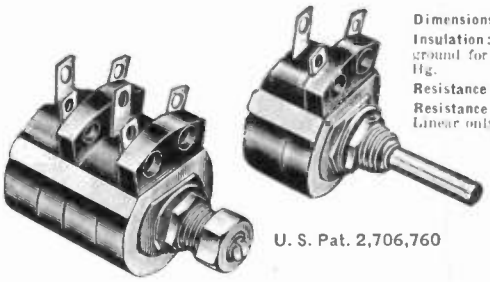
**Mechanical and Electrical Rotation:** 300° ± 5°.

**Effective Rotation:** 300° ± 3°.

**Torque:** 0.5 to 6 oz./in.

**Dual Construction:** Available.

## SERIES 49M — 1.5 WATT MINIATURIZED WIRE-WOUND POTENTIOMETERS



U. S. Pat. 2,706,760

**Dimensions:** 25/32" dia., ½" body depth.

**Insulation:** Breakdown test between terminals and ground for 1 minute, 1000v.a.c.; 500v.a.c. at 3.4" Hg.

**Resistance Range (Ohms):** Linear, 1 to 20,000.

**Resistance Tolerance:** Linear ± 5%. Tapered, Linear only.

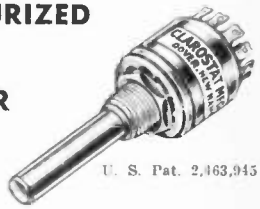
**Mechanical and Electrical Rotation:** 300° ± 3°.

**Effective Rotation:** 300° ± 3°.

**Torque:** 0.5 to 5 oz./in.

**Dual Construction:** Available.

## SERIES BHM — MINIATURIZED ROTARY SELECTOR SWITCH



U. S. Pat. 2,463,945

**Current Rating:** 50 milliamperes at 300v. a.c. or d.c. 500 milliamperes at 50v. a.c. or d.c.

**Protection:** All moving parts and contact mechanisms are totally enclosed and sealed, protecting same from dust and atmospheric conditions.

**Finish:** Nickel plating.

**Torque:** 88 to 42 oz./in.

**Bushing:** ⅜" x 32 NEF-2 thread, ⅜" long.

**Shaft:** ¼" dia. round, 1" beyond bushing.

| | |
|---|---|
| BHM-SP12P-S | Single Pole 12 Positions—Shorting |
| BHM-SP12P-NS | Single Pole 12 Positions—Non-Shorting |
| BHM-2P6P-S | 2 Pole 6 Positions—Shorting |
| BHM-2P6P-NS | 2 Pole 6 Positions—Non-Shorting |
| BHM-3P4P-S | 3 Pole 4 Positions—Shorting |
| HBM-3P4P-NS | 3 Pole 4 Positions—Non-Shorting |
| BHM-4P3P-S | 4 Pole 3 Positions—Shorting |
| BHM-4P3P-NS | 4 Pole 3 Positions—Non-Shorting |

Meets or exceeds test paragraph 4.5.3 through 4.5.13 of MIL-S-3786.

Due to the special nature of these units, prices and specific information will be sent upon request.

## SERIES 55 — 3 WATT MULTI-TURN POTENTIOMETERS

Designed for close tolerance military electronic applications, Clarostat Multi-Turn Potentiometers provide up to **20% more winding length** in a given 10-turn outside diameter. They also feature maximum protection against environmental conditions such as humidity, salt spray, vibration, shock and temperature extremes. Incorporate good basic design with the skill in assembly of New England's finest craftsmen.

1. Each potentiometer is center-tapped.
2. Functional outputs obtainable by resistance loading each side of center tap.
3. Panel bearing is ball bearing; rear bearing oil-impregnated sleeve bearing for greater rotational life.
4. Terminals gold-plated for ease in soldering.
5. Very low "noise" level obtained by strictly-controlled techniques.
6. Exceed applicable MIL specifications.

MINIMUM RUNOUT
MINIMUM END RESISTANCE
MINIMUM "NOISE"
MAXIMUM STABILITY
MAXIMUM RELIABILITY
MAXIMUM RESOLUTION
SERVO AND BUSHING MOUNTINGS

### NET PRICES

| Bushing Mount | | Servo Mount | |
|---|---|---|---|
| 55-900-500 ohms | $22.85 | 55-901-500 ohms | $25.75 |
| 55-900-5000 ohms | 22.85 | 55-901-5000 ohms | 25.75 |
| 55-900-20K ohms | 22.85 | 55-901-20K ohms | 25.75 |
| 55-900-50K ohms | 28.50 | 55-901-50K ohms | 31.25 |
| 55-900-100K ohms | 28.50 | 55-901-100K ohms | 31.25 |

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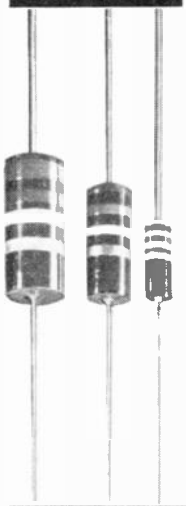
World Radio History

# RESISTORS

HIGH QUALITY
FIXED COMPOSITION

# CAPACITORS

PAPER DIELECTRIC
CUSTOM MANUFACTURED



## 5% and 10% TOLERANCE, ½, 1 and 2 WATT RATINGS

Fixed composition resisters of highest quality, feature permanent electrical characteristics, small physical size for a given wattage rating, great mechanical strength. Leads are differentially tempered—prevent sharp bends near the resistor body while still permitting easy forming to fit a particular wiring arrangement.

Resistor bodies are molded brown phenolic with coding in brilliant colors.

2W 1W 1/2W (ACTUAL SIZE)

These resistors are now supplied in attractive new containers. Three convenient sizes with pull-out sections accommodate standard quantities of ½, 1 and 2 watt resistors.

A G-H innovation, Gold and Silver container ends, permits instant identification of 5% or 10% tolerance units. Quantity, wattage and resistance values are also clearly printed on these ends. These attractive black and green containers with Gold and Silver ends provide a space-saving, functional shelf display.

CONVENIENT
ATTRACTIVE
PACKAGING

### 5% Tolerance

ONE-HALF, ONE AND TWO WATT RATINGS

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | 82 | 680 | 5600 | 47,000 | 390,000 | 3.3 meg. |
| 11 | 91 | 750 | 6200 | 51,000 | 430,000 | 3.6 " |
| 12 | 100 | 820 | 6800 | 56,000 | 470,000 | 3.9 " |
| 13 | 110 | 910 | 7500 | 62,000 | 510,000 | 4.3 " |
| 15 | 120 | 1000 | 8200 | 68,000 | 560,000 | 4.7 " |
| 16 | 130 | 1100 | 9100 | 75,000 | 620,000 | 5.1 " |
| 18 | 150 | 1200 | 10,000 | 82,000 | 680,000 | 5.6 " |
| 20 | 160 | 1300 | 11,000 | 91,000 | 750,000 | 6.2 " |
| 22 | 180 | 1500 | 12,000 | 100,000 | 820,000 | 6.8 " |
| 24 | 200 | 1600 | 13,000 | 110,000 | 910,000 | 7.5 " |
| 27 | 220 | 1800 | 15,000 | 120,000 | 1.0 meg. | 8.2 " |
| 30 | 240 | 2000 | 16,000 | 130,000 | 1.1 " | 9.1 " |
| 33 | 270 | 2200 | 18,000 | 150,000 | 1.2 " | 10.0 " |
| 36 | 300 | 2400 | 20,000 | 160,000 | 1.3 " | 11.0 " |
| 39 | 330 | 2700 | 22,000 | 180,000 | 1.5 " | 12.0 " |
| 43 | 360 | 3000 | 24,000 | 200,000 | 1.6 " | 13.0 " |
| 47 | 390 | 3300 | 27,000 | 220,000 | 1.8 " | 15.0 " |
| 51 | 430 | 3600 | 30,000 | 240,000 | 2.0 " | 16.0 " |
| 56 | 470 | 3900 | 33,000 | 270,000 | 2.2 " | 18.0 " |
| 62 | 510 | 4300 | 36,000 | 300,000 | 2.4 " | 20.0 " |
| 68 | 560 | 4700 | 39,000 | 330,000 | 2.7 " | 22.0 " |
| 75 | 620 | 5100 | 43,000 | 360,000 | 3.0 " | |

Available in 1 watt only

2.7 ohms
3.0 ohms
3.3 ohms
3.6 ohms
3.9 ohms
4.3 ohms
4.7 ohms
5.1 ohms
5 6 ohms
6.2 ohms
6.8 ohms
7 5 ohms
8.2 ohms
9.1 ohms

Standard packages, 50 resistors.

**All Standard RTMA Values**

### 10% Tolerance

ONE-HALF, ONE AND TWO WATT RATINGS

| | | | | | |
|---|---|---|---|---|---|
| 10 | 120 | 1500 | 18,000 | 220,000 | 2.7 meg. |
| 12 | 150 | 1800 | 22,000 | 270,000 | 3.3 " |
| 15 | 180 | 2200 | 27,000 | 330,000 | 3.9 " |
| 18 | 220 | 2700 | 33,000 | 390,000 | 4.7 " |
| 22 | 270 | 3300 | 39,000 | 470,000 | 5.6 " |
| 27 | 330 | 3900 | 47,000 | 560,000 | 6.8 " |
| 33 | 390 | 4700 | 56,000 | 680,000 | 8.2 " |
| 39 | 470 | 5600 | 68,000 | 820,000 | 10.0 " |
| 47 | 560 | 6800 | 82,000 | 1.0 meg. | 12.0 " |
| 56 | 680 | 8200 | 100,000 | 1.2 " | 15.0 " |
| 68 | 820 | 10,000 | 120,000 | 1.5 " | 18.0 " |
| 82 | 1000 | 12,000 | 150,000 | 1.8 " | 22.0 " |
| 100 | 1200 | 15,000 | 180,000 | 2.2 " | |

Available in 1 watt only

2.7 ohms.
3.3 ohms.
3.9 ohms.
4.7 ohms.
5.6 ohms.
6.8 ohms.
8.2 ohms.

Standard packages, 50 resistors

## PAPER DIELECTRIC CAPACITORS

Custom-manufactured to customers specifications. Can be supplied in any practical capacity, working voltage and tolerance. Containers and terminal arrangements may be in accordance with customers drawings. Capacitors can be manufactured for AC or DC operation—impregnated with Wax, Tensoil or in the stable, highly superior oil impregnant, G-H PERMANOL.

# GIRARD-HOPKINS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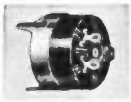
World Radio History

## Midgetrol Accessory Parts

**DS-36**—Special 3" extension shaft for tubular shaft Midgetrols and 2-watt, wire-wound controls. Also used for coupling a front and rear section together to make a single-shaft, dual control for oscilloscope and other push-pull amplifier service. Packaged with the DS-36 are two shaft-end knob adaptors, one knurled and slotted, one flatted. List Price **$0.55**

**DS-37**—3/16" diameter shafts for use with round-shaft Midgetrols to accommodate knobs requiring 3/16" shaft. List Price **$0.55**



## Attachable Midgetrol Switches

| Cat. No. | Description | List Price |
|---|---|---|
| **US-26** | Single Pole—Single Throw | $0.70 |
| **US-26T** | Single Pole—Single Throw (with dummy terminal) | .90 |
| **US-27** | Double Pole—Single Throw | .70 |
| **US-28** | Single Pole—Double Throw | .90 |

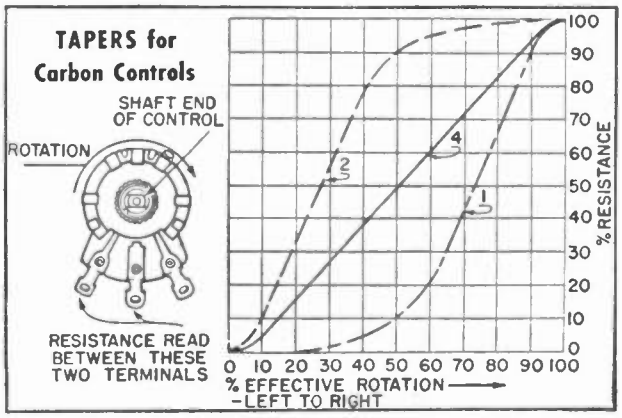
## Explanation of Mallory Tapers

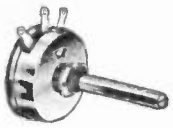
Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.

Taper Number 7 is made only in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



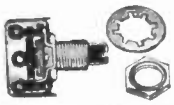



## TV Focus Controls

These 1⅝" diameter units are designed especially for focus control replacement in TV sets. They are 4 watt, wire-wound, and have a special taper. One control, plus accessories and complete instructions per display carton.

| Catalog Number | Ohms Resistance (Maximum) | Type Element | Shaft Length | List Price |
|---|---|---|---|---|
| **TVF140** | 1500 | WW | 2" | **$2.25** |
| **TVF143** | 2500 | WW | 2" | **2.25** |

## Television and Special Application Midgetrols



For use as exact replacement. Meet physical and electrical requirements for special applications. Equipped with fixed, knurled and screw driver-slotted phenolic shafts, ¼" in diameter and ¼" long. List Price **$1.55** each

| Cat. No. | Ohms | Cat. No. | Ohms |
|---|---|---|---|
| **SU-6** | 1500 | **SU-46** | 250M |
| **SU-8** | 3M | **SU-50** | 500M |
| **SU-14** | 5M | **SU-54** | 1 Meg. |
| **SU-20** | 10M | **SU-56** | 2 Meg. |
| **SU-29** | 25M | **SU-565** | 2.5 Meg. |
| **SU-35** | 50M | **SU-59** | 3 Meg. |
| **SU-41** | 100M | **SU-67** | 5 Meg. |

All SU-No. 4—Linear Taper. (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

## Theater Speaker Controls

Designed for use with Motiograph, Simplex, International and other outdoor theater motion picture equipment. Quality constructed with pig-tail rotor connections and corrosion-resistant finish to assure long, noise-free life. Housed in 1 1/16" diameter metal case. Mounting nut supplied.

| Cat. No. | Description | List Price |
|---|---|---|
| **TSA-10** | 4-Ohm L Pad | **$2.45** |
| **TSA-35** | 35-ohm Potentiometer | **1.80** |
| **TSA-6** | 6-ohm Potentiometer | **1.80** |

## T and L Pad Attenuators

High quality attenuators having a peak audio rating of 15 watts and a continuous DC dissipation rating of 4 watts. Packaged with instructions, 366 knob, 395 dial plate and hex nut.

| "T" Pad Attenuators List Price $5.15 each Catalog Number | "L" Pad Attenuators List Price $4.55 each Catalog Number | Ohms Impedance |
|---|---|---|
| **T2** | **L2** | 2 |
| **T4** | **L4** | 4 |
| **T6** | **L6** | 6 |
| **T8** | **L8** | 8 |
| **T15** | **L15** | 15 |
| **T50** | **L50** | 50 |
| **T100** | **L100** | 100 |
| **T200** | **L200** | 200 |
| **T250** | **L250** | 250 |
| **T500** | **L500** | 500 |
| **T600** | **L600** | 600 |
| **T1000** | **L1000** | 1000 |
| **T2000** | **L2000** | 2000 |
| **T3000** | **L3000** | 3000 |
| | **L4000** | 4000 |



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World Radio History

# MALLORY STA-LOC DUAL CONTROLS

## FRONT SECTION CONTROLS (No Taps) (List $1.40)

| Resistance Ohms | Taper | Bushing Dimension Inches A | B | C | Fig.* | Mallory Catalog No. |
|---|---|---|---|---|---|---|
| 100 | 4 | 3/8 | 3/8 | | 1 | FA12L |
| 100 | 4 | 3/8 | 1/4 | | 1 | FB12L |
| 100 | 4 | 3/8 | 3/8 | 1/4 | 2 | FC12L |
| 200 | 4 | 3/8 | 3/8 | | 1 | FA22L |
| 250 | 4 | 3/8 | 3/8 | | 1 | FA251L |
| 250 | 4 | 3/8 | 1/4 | | 1 | FB251L |
| 300 | 4 | 3/8 | 3/8 | | 1 | FA32L |
| 300 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD32L |
| 350 | 4 | 3/8 | 3/8 | | 1 | FA351L |
| 350 | 4 | 3/8 | 3/8 | 1/4 | 2 | FC351L |
| 350 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD351L |
| 500 | 4 | 3/8 | 3/8 | | 1 | FA52L |
| 500 | 4 | 3/8 | 3/8 | 1/4 | 2 | FC52L |
| 500 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD52L |
| 600 | 4 | 3/8 | 3/8 | | 1 | FA62L |
| 600 | 2 | 3/8 | 3/8 | | 1 | FA62R |
| 600 | 4 | 3/8 | 1/4 | | 1 | FB62L |
| 600 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD62R |
| 750 | 4 | 3/8 | 3/8 | | 1 | FA751L |
| 750 | 2 | 3/8 | 3/8 | | 1 | FA751R |
| 750 | 2 | 3/8 | 1/4 | | 1 | FB751R |
| 750 | 4 | 3/8 | 3/8 | 1/4 | 1 | FC751L |
| 750 | 2 | 3/8 | 3/8 | 1/4 | 2 | FC751R |
| 750 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD751R |
| 1000 | 4 | 3/8 | 3/8 | | 1 | FA13L |
| 1000 | 2 | 3/8 | 3/8 | | 1 | FA13R |
| 1000 | 4 | 3/8 | 1/4 | | 1 | FB13L |
| 1000 | 2 | 3/8 | 3/8 | 1/4 | 2 | FC13R |
| 1000 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD13L |
| 1000 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD13R |
| 1000 | 4 | Special | | | | FE13L |
| 1000 | 2 | Special | | | | FF13R |
| 1500 | 4 | 3/8 | 3/8 | | 1 | FA152L |
| 1500 | 2 | 3/8 | 3/8 | | 1 | FA152R |
| 1500 | 1 | 3/8 | 1/4 | | 1 | FB152A |
| 1500 | 2 | 3/8 | 1/4 | | 1 | FB152R |
| 1500 | 2 | 3/8 | 3/8 | 1/4 | 2 | FC152R |
| 1500 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD152L |
| 1500 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD152R |
| 1500 | 2 | Special | | | | FF152R |
| 2000 | 4 | 3/8 | 3/8 | | 1 | FA23L |
| 2000 | 2 | 3/8 | 3/8 | | 1 | FA23R |
| 2000 | 4 | 3/8 | 1/4 | | 1 | FB23L |
| 2000 | 2 | 3/8 | 1/4 | | 1 | FB23R |
| 2000 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD23R |
| 2500 | 4 | 3/8 | 3/8 | | 1 | FA252L |
| 2500 | 2 | 3/8 | 3/8 | | 1 | FA252R |
| 2500 | 4 | 3/8 | 1/4 | | 1 | FB252L |
| 2500 | 2 | 3/8 | 1/4 | | 1 | FB252R |
| 2500 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD252R |
| 2500 | 2 | Special | | | | FF252R |
| 3000 | 4 | 3/8 | 3/8 | | 1 | FA33L |
| 3000 | 2 | 3/8 | 3/8 | | 1 | FA33R |
| 3000 | 2 | 3/8 | 1/4 | | 1 | FB33R |
| 3000 | 4 | 3/8 | 3/8 | 1/4 | 2 | FC33L |
| 3000 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD33R |
| 3000 | 2 | Special | | | | FF33R |
| 5000 | 4 | 3/8 | 3/8 | | 1 | FA53L |
| 5000 | 2 | 3/8 | 3/8 | | 1 | FA53R |
| 5000 | 2 | 3/8 | 3/8 | 1/4 | 2 | FC53R |
| 5000 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD53L |
| 10 K | 1 | 3/8 | 3/8 | | 1 | FA14A |
| 10 K | 4 | 3/8 | 3/8 | | 1 | FA14L |
| 10 K | 2 | 3/8 | 3/8 | | 1 | FA14R |
| 10 K | 4 | 3/8 | 1/4 | | 1 | FB14L |
| 10 K | 2 | 3/8 | 3/8 | 1/4 | 2 | FC14R |
| 10 K | 2 | 3/8 | 3/8 | 3/8 | 2 | FD14R |
| 15 K | 4 | 3/8 | 3/8 | | 1 | FA153L |
| 15 K | 4 | 3/8 | 1/4 | | 1 | FB153L |
| 20 K | 2 | 3/8 | 3/8 | | 1 | FA24R |
| 25 K | 4 | 3/8 | 3/8 | | 1 | FA253L |
| 25 K | 4 | 3/8 | 3/8 | 1/4 | 2 | FC253L |
| 25 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD253L |
| 30 K | 1 | 3/8 | 3/8 | | 1 | FA34A |
| 30 K | 4 | 3/8 | 3/8 | | 1 | FA34L |
| 50 K | 4 | 3/8 | 3/8 | | 1 | FA54L |
| 50 K | 4 | 3/8 | 1/4 | | 1 | FB54L |
| 50 K | 4 | 3/8 | 3/8 | 1/4 | 2 | FC54L |
| 50 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD54L |
| 50 K | 4 | Special | | | | FF54L |
| 75 K | 4 | 3/8 | 3/8 | | 1 | FA753L |
| 100 K | 1 | 3/8 | 3/8 | | 1 | FA15A |
| 100 K | 4 | 3/8 | 3/8 | | 1 | FA15L |
| 100 K | 4 | 3/8 | 1/4 | | 1 | FB15L |
| 100 K | 4 | 3/8 | 3/8 | 1/4 | 2 | FC15L |
| 100 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD15L |
| 100 K | 4 | Special | | | | FI15L |
| 150 K | 4 | 3/8 | 3/8 | | 1 | FA154L |
| 150 K | 4 | 3/8 | 1/4 | | 1 | FB154L |
| 150 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD154L |
| 200 K | 4 | 3/8 | 3/8 | | 1 | FA25L |
| 200 K | 4 | 3/8 | 3/8 | 1/4 | 2 | FC25L |
| 200 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD25L |
| 200 K | 1 | Special | | | | FI25A |
| 225 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD2253L |
| 250 K | 1 | 3/8 | 3/8 | | 1 | FA254A |
| 250 K | 4 | 3/8 | 3/8 | | 1 | FA254L |
| 250 K | 1 | 3/8 | 3/8 | 3/8 | 2 | FD254A |
| 250 K | 4 | Special | | | | FE254L |
| 250 K | 1 | Special | | | | FF254A |
| 250 K | 1 | Special | | | | FG254A |
| 250 K | 1 | Special | | | | FH254A |
| 250 K | 1 | Special | | | | FI254A |
| 300 K | 1 | Special | | | | FJ35A |
| 400 K | 4 | 3/8 | 1/4 | | 1 | FB45L |
| 500 K | 1 | 3/8 | 3/8 | | 1 | FA55A |
| 500 K | 4 | 3/8 | 3/8 | | 1 | FA55L |
| 500 K | 2 | 3/8 | 3/8 | | 1 | FA55R |
| 500 K | 1 | 3/8 | 1/4 | | 1 | FB55A |
| 500 K | 4 | 3/8 | 1/4 | | 1 | FB55L |
| 500 K | 1 | 3/8 | 3/8 | 1/4 | 2 | FC55A |
| 500 K | 2 | 3/8 | 3/8 | 1/4 | 2 | FC55R |
| 500 K | 4 | 3/8 | 3/8 | 3/8 | 2 | FD55L |
| 500 K | 2 | 3/8 | 3/8 | 3/8 | 2 | FD55R |
| 500 K | 1 | Special | | | | FF55A |
| 500 K | 4 | Special | | | | FF55L |
| 500 K | 1 | Special | | | | FK55A |
| 500 K | 1 | Special | | | | FL55A |
| 500 K | 4 | Special | | | | FM55L |
| 500 K | 1 | Special | | | | FN55A |
| 500 K | 1 | Special | | | | FO55A |
| 500 K | 1 | Special | | | | FQ55A |
| 500 K | 2 | Special | | | | FQ55R |
| 500 K | 1 | Special | | | | FR55A |
| 500 K | 1 | Special | | | | FS55A |
| 600 K | 4 | 3/8 | 1/4 | | 1 | FB65L |
| 750 K | 4 | 3/8 | 3/8 | | 1 | FA754L |
| 1 Meg. | 1 | 3/8 | 3/8 | | 1 | FA16A |
| 1 Meg. | 4 | 3/8 | 3/8 | | 1 | FA16L |
| 1 Meg. | 2 | 3/8 | 3/8 | | 1 | FA16R |
| 1 Meg. | 1 | 3/8 | 1/4 | | 1 | FB16A |
| 1 Meg. | 4 | 3/8 | 1/4 | | 1 | FB16L |
| 1 Meg. | 1 | 3/8 | 3/8 | 1/4 | 2 | FC16A |
| 1 Meg. | 4 | 3/8 | 3/8 | 1/4 | 2 | FC16L |
| 1 Meg. | 4 | 3/8 | 3/8 | 3/8 | 2 | FD16L |
| 1 Meg. | 1 | Special | | | | FF16A |
| 1 Meg. | 4 | Special | | | | FF16L |
| 1 Meg. | 2 | Special | | | | FF16R |
| 1 Meg. | 4 | Special | | | | FG16L |
| 1 Meg. | 4 | Special | | | | FM16L |
| 1 Meg. | 4 | Special | | | | FN16L |
| 1 Meg. | 4 | Special | | | | FO16L |
| 1 Meg. | 4 | Special | | | | FR16L |
| 1.25 Meg. | 4 | 3/8 | 3/8 | | 1 | FA1254L |
| 1.5 Meg. | 4 | 3/8 | 3/8 | | 1 | FA155L |
| 1.5 Meg. | 2 | 3/8 | 3/8 | | 1 | FA155R |
| 1.5 Meg. | 4 | 3/8 | 1/4 | | 1 | FB155L |
| 1.5 Meg. | 4 | 3/8 | 3/8 | 1/4 | 2 | FC155L |
| 1.5 Meg. | 4 | Special | | | | FF155L |
| 1.5 Meg. | 1 | Special | | | | FH155A |
| 1.5 Meg. | 4 | Special | | | | FH155L |
| 2 Meg. | 1 | 3/8 | 3/8 | | 1 | FA26A |
| 2 Meg. | 4 | 3/8 | 3/8 | | 1 | FA26L |
| 2 Meg. | 4 | 3/8 | 1/4 | | 1 | FB26L |
| 2 Meg. | 4 | 3/8 | 3/8 | 1/4 | 2 | FC26L |
| 2 Meg. | 2 | 3/8 | 3/8 | 1/4 | 2 | FC26R |
| 2 Meg. | 4 | 3/8 | 3/8 | 3/8 | 2 | FD26L |
| 2 Meg. | 1 | Special | | | | FF26A |
| 2 Meg. | 1 | Special | | | | FG26A |
| 2 Meg. | 1 | Special | | | | FH26A |
| 2 Meg. | 1 | Special | | | | FI26A |
| 2 Meg. | 1 | Special | | | | FM26A |
| 2 Meg. | 1 | Special | | | | FN26A |
| 2 Meg. | 1 | Special | | | | FO26A |
| 2 Meg. | 1 | Special | | | | FQ26A |
| 2 Meg. | 4 | Special | | | | FQ26L |
| 2 Meg. | 4 | Special | | | | FR26L |
| 2 Meg. | 1 | Special | | | | FT26A |
| 2 Meg. | 1 | Special | | | | FU26A |
| 2 Meg. | 1 | Special | | | | FW26A |
| 2 Meg. | 1 | Special | | | | FX26A |
| 2.5 Meg. | 4 | 3/8 | 3/8 | | 1 | FA255L |
| 2.5 Meg. | 4 | 3/8 | 1/4 | | 1 | FB255L |
| 2.5 Meg. | 1 | Special | | | | FF255A |
| 2.5 Meg. | 1 | Special | | | | FG255A |
| 2.5 Meg. | 1 | Special | | | | FH255A |
| 3 Meg. | 4 | 3/8 | 3/8 | | 1 | FA36L |
| 3 Meg. | 2 | 3/8 | 3/8 | | 1 | FA36R |
| 4 Meg. | 4 | 3/8 | 3/8 | | 1 | FA46L |
| 4 Meg. | 4 | 3/8 | 1/4 | | 1 | FB46L |
| 4.5 Meg. | 4 | 3/8 | 1/4 | | 1 | FB455L |
| 5 Meg. | 1 | 3/8 | 3/8 | | 1 | FA56A |
| 5 Meg. | 4 | 3/8 | 3/8 | | 1 | FA56L |
| 5 Meg. | 1 | 3/8 | 1/4 | | 1 | FB56A |
| 5 Meg. | 4 | 3/8 | 3/8 | 1/4 | 2 | FC56L |
| 5 Meg. | 2 | 3/8 | 3/8 | 3/8 | 2 | FD56R |
| 7.5 Meg. | 4 | 3/8 | 1/4 | | 1 | FB765L |
| 10 Meg. | 4 | 3/8 | 1/4 | | 1 | FB17L |
| 120 K | 4 | 3/8 | 1/4 | | 1 | FB124LS |
| Stop 50 K | | | | | | |

## FRONT SECTION CONTROLS (Single Tapped) (List $2.10)

| Resistance Ohms | Tap Resistance | Taper | Bushing Dimension A | B | C | Fig.* | Mallory Catalog No. |
|---|---|---|---|---|---|---|---|
| 100 | 50 | 4 | 3/8 | 3/8 | | 1 | FA12T51 |
| 500 | 75 | 1 | 3/8 | 1/4 | | 1 | FB52T75 |
| 500 | 200 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD52T22S |
| 500 | 350 | 2 | 3/8 | 1/4 | | 1 | FB52T351 |
| 500 | 425 | 2 | 3/8 | 1/4 | | 1 | FB52T425 |
| 750 | 500 | 4 | 3/8 | 3/8 | 3/8 | 2 | FD751T52 |
| 1000 | 750 | 4 | 3/8 | 3/8 | | 1 | FA13T751 |
| 1500 | 200 | 2 | 3/8 | 1/4 | | 1 | FB152T22 |
| 1500 | 1400 | 2 | 3/8 | 3/8 | 1/4 | 2 | FC152T142 |
| 2000 | 1500 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD23T152 |
| 2500 | 500 | 2 | 3/8 | 3/8 | | 1 | FA252T52 |
| 2500 | 1400 | 2 | Special | | | | FF252T142 |
| 2500 | 1500 | 2 | 3/8 | 3/8 | | 1 | FA252T152 |
| 2500 | 2000 | 2 | 3/8 | 3/8 | | 1 | FA252T23 |
| 2500 | 2000 | 2 | 3/8 | 3/8 | 3/8 | 2 | FD252T23 |
| 3000 | 2500 | 2 | 3/8 | 3/8 | | 1 | FA33T252 |
| 3000 | 2800 | 2 | 3/8 | 3/8 | | 1 | FA33T2851 |
| 15 K | 10 K | 4 | 3/8 | 3/8 | | 1 | FA153T14 |
| 250 K | 125 K | 4 | 3/8 | 3/8 | | 1 | FA254T1253 |
| 500 K | 50 K | 1 | 3/8 | 3/8 | | 1 | FA55T34 |
| 500 K | 100 K | 1 | 3/8 | 3/8 | | 1 | FA55T15 |
| 1 Meg. | 250 K | 1 | 3/8 | 3/8 | 1/4 | 2 | FC16T254 |
| 1 Meg. | 300 K | 1 | 3/8 | 3/8 | | 1 | FA16T35 |
| 1 Meg. | 500 K | 4 | 3/8 | 1/4 | | 1 | FB16T55 |
| 2 Meg. | 500 K | 2 | 3/8 | 3/8 | | 1 | FA26T55 |
| 2 Meg. | 500 K | 1 | Special | | | | FR26T55 |

## FRONT SECTION CONTROLS (Double Tapped) (List $2.10)

| Resistance Ohms | #1 Tap Resistance | #2 Tap Resistance | Taper | Bushing Dimension—In. A | B | C | Fig.* | Mallory Catalog No. |
|---|---|---|---|---|---|---|---|---|
| 1500 | 187 | 375 | 2 | 3/8 | 1/4 | | 1 | FB152DT375 |
| 2000 | 1500 | 1750 | 2 | 3/8 | 3/8 | | 1 | FA23DT1751 |
| 15 K | 4 K | 9 K | 4 | 3/8 | 3/8 | | 1 | FA153DT93 |
| 15 K | 4 K | 7 K | 4 | 3/8 | 3/8 | 1/4 | 2 | FC153DT73 |

## REAR SECTION CONTROLS (No Taps) (List $0.90)

| Resistance Ohms | Taper | Mallory Catalog No. | Resistance Ohms | Taper | Mallory Catalog No. |
|---|---|---|---|---|---|
| 100 | 4 | RU12L | 200 K | 4 | RU25L |
| 200 | 4 | RU22L | 250 K | 1 | RU254A |
| 500 | 4 | RU52L | 250 K | 4 | RU254L |
| 650 | 4 | RU651L | 300 K | 1 | RU35A |
| 1000 | 4 | RU13L | 330 K | 1 | RU334A |
| 1200 | 2 | RU122R | 350 K | 1 | RU354A |
| 1500 | 4 | RU152L | 400 K | 4 | RU45L |
| 1500 | 2 | RU152R | 500 K | 1 | RU55A |
| 2000 | 4 | RU23L | 500K | 4 | RU55L |
| 2000 | 2 | RU23R | 750 K | 4 | RU754L |
| 2500 | 1 | RU252A | 1 Meg. | 1 | RU16A |
| 2500 | 4 | RU252L | 1 Meg. | 4 | RU16L |
| 2500 | 2 | RU252R | 1 Meg. | 2 | RU16R |
| 3000 | 2 | RU33R | 1.5 Meg. | 1 | RU155A |

*continued on next page*



*See page 11 for dimensional diagrams



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# MALLORY STA-LOC DUAL CONTROLS

### REAR SECTION CONTROLS (No Taps)—continued

| Resistance Ohms Ohms | Taper Taper | Mallory Catalog No. Catalog No. | Resistance Ohms Ohms | Catalog Taper | Mallory No. Catalog No. |
|---|---|---|---|---|---|
| 3500 | 2 | RU352R | 1.5 Meg. | 4 | RU155L |
| 5000 | 4 | RU53L | 1.75 Meg. | 4 | RU1754L |
| 6000 | 4 | RU63L | 2 Meg. | 1 | RU26A |
| 7000 | 1 | RU73A | 2 Meg. | 4 | RU26L |
| 7500 | 4 | RU752L | 2 Meg. | 2 | RU26R |
| 10 K | 4 | RU14L | 2.5 Meg. | 4 | RU255L |
| 10 K | 2 | RU14R | 3 Meg. | 1 | RU36A |
| 15 K | 4 | RU153L | 3 Meg. | 4 | RU36L |
| 25 K | 4 | RU253L | 4 Meg. | 4 | RU46L |
| 30 K | 4 | RU34L | 4.5 Meg. | 1 | RU455A |
| 50 K | 1 | RU54A | 5 Meg. | 1 | RU56A |
| 50 K | 4 | RU54L | 5 Meg. | 4 | RU56L |
| 75 K | 4 | RU753L | 5 Meg. | 2 | RU56R |
| 100 K | 1 | RU15A | 7.5 Meg. | 1 | RU755A |
| 100 K | 4 | RU15L | 1.1 Meg. Stop 350 K | 4 | RU115LS |
| 150 K | 4 | RU154L | 1.5 Meg. Stop 40 K | 4 | RU155LS |
| 200 K | 1 | RU25A | | | |

### REAR SECTION CONTROLS (Single Tapped) (List $1.60)

| Resistance Ohms | Tap Resistance | Taper | Mallory Catalog No |
|---|---|---|---|
| 750 | 400 | 4 | RU751T42 |
| 250 K | 60 K | 1 | RU254T64 |
| 250 K | 75 K | 1 | RU254T753 |
| 250 K | 100 K | 1 | RU254T15 |
| 250 K | 125 K | 4 | RU254T1253 |
| 250 K | 150 K | 1 | RU254T154 |
| 250 K | 160 K | 4 | RU254T164 |
| 300 K | 50 K | 1 | RU35T54 |
| 300 K | 55 K | 1 | RU35T553 |
| 300 K | 58 K | 1 | RU35T583 |
| 300 K | 70 K | 1 | RU35T74 |
| 300 K | 90 K | 4 | RU35T94 |
| 330 K | 55 K | 1 | RU334T553 |
| 330 K | 65 K | 1 | RU334T653 |
| 330 K | 66 K | 1 | RU334T663 |
| 330 K | 75 K | 1 | RU334T753 |
| 330 K | 100 K | 4 | RU334T15 |
| 350 K | 60 K | 1 | RU354T64 |
| 360 K | 68 K | 1 | RU364T683 |
| 500 K | 40 K | 1 | RU55T44 |
| 500 K | 42 K | 1 | RU55T423 |
| 500 K | 45 K | 1 | RU55T453 |
| 500 K | 50 K | 1 | RU55T54 |
| 500 K | 60 K | 1 | RU55T64 |
| 500 K | 65 K | 1 | RU55T653 |
| 500 K | 100 K | 4 | RU55T15 |
| 500 K | 120 K | 1 | RU55T124 |
| 500 K | 135 K | 1 | RU55T1353 |
| 500 K | 150 K | 1 | RU55T154 |
| 500 K | 180 K | 4 | RU55T184 |

### REAR SECTION CONTROLS (Single Tapped)—continued

| Resistance Ohms | Tap Resistance | Taper | Mallory Catalog No. |
|---|---|---|---|
| 500 K | 220 K | 1 | RU55T224 |
| 500 K | 250 K | 4 | RU55T254 |
| 500 K | 270 K | 4 | RU55T274 |
| 500 K | 300 K | 4 | RU55T35 |
| 750 K | 150 K | 4 | RU754T154 |
| 750 K | 180 K | 1 | RU754T184 |
| 750 K | 200 K | 1 | RU754T25 |
| 1 Meg. | 25 K | 1 | RU16T253 |
| 1 Meg. | 45 K | 1 | RU16T453 |
| 1 Meg. | 50 K | 1 | RU16T54 |
| 1 Meg. | 90 K | 1 | RU16T94 |
| 1 Meg. | 100 K | 1 | RU16T15 |
| 1 Meg. | 125 K | 4 | RU16T1253 |
| 1 Meg. | 160 K | 1 | RU16T164 |
| 1 Meg. | 180 K | 1 | RU16T184 |
| 1 Meg. | 200 K | 1 | RU16T25 |
| 1 Meg. | 220 K | 1 | RU16T224 |
| 1 Meg. | 225 K | 1 | RU16T2253 |
| 1 Meg. | 250 K | 1 | RU16T254 |
| 1 Meg. | 270 K | 1 | RU16T274 |
| 1 Meg. | 300 K | 1 | RU16T35 |
| 1 Meg. | 330 K | 1 | RU16T334 |
| 1 Meg. | 350 K | 1 | RU16T354 |
| 1 Meg. | 400 K | 4 | RU16T45 |
| 1 Meg. | 500 K | 4 | RU16T55 |
| 1 Meg. | 600 K | 4 | RU16T65 |
| 1 Meg. | 650 K | 4 | RU16T654 |
| 1.2 Meg. | 250 K | 1 | RU125T254 |
| 1.5 Meg. | 300 K | 1 | RU155T35 |
| 1.5 Meg. | 350 K | 1 | RU155T354 |
| 2 Meg. | 900 K | 1 | RU26T95 |
| 2 Meg. | 300 K | 1 | RU26T35 |
| 2 Meg. | 350 K | 1 | RU26T354 |
| 2 Meg. | 400 K | 1 | RU26T45 |
| 2 Meg. | 500 K | 1 | RU26T55 |
| 2 Meg. | 600 K | 4 | RU26T65 |
| 2 Meg. | 1 Meg. | 4 | RU26T16 |
| 2 Meg. | 1.2 Meg. | 4 | RU26T125 |
| 3 Meg. | 1 Meg. | 4 | RU36T16 |

### REAR SECTION CONTROLS (Double Tapped) (List $1.60)

| Resistance Ohms | #1 Tap Resistance | #2 Tap Resistance | Taper | Mallory Catalog No. |
|---|---|---|---|---|
| 50 K | 20 K | 35 K | 4 | RU54DT363 |
| 100 K | 25 K | 50 K | 4 | RU15DT54 |
| 500 K | 200 K | 350 K | 4 | RU55DT354 |
| 1 Meg. | 40 K | 60 K | 1 | RU16DT64 |
| 1 Meg. | 400 K | 750 K | 4 | RU16DT754 |
| 1.5 Meg. | 250 K | 500 K | 1 | RU155DT55 |
| 2 Meg. | 400 K | 700 K | 1 | RU26DT75 |
| 2 Meg. | 800 K | 1.2 Meg. | 4 | RU26DT125 |

### SHAFTS**

| Mallory Part No. | Shaft Length F.M.S. Inches | Mallory Part No. | Shaft Length F.M.S. Inches | Mallory Part No. | Shaft Length F.M.S. Inches | Mallory Part No | Shaft Length F.M.S. Inches | Mallory Part No. | Shaft Length F.M.S. Inches | Mallory Part No. | Shaft Length F.M.S. Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IK625 | 5/8 | IS1437 | 1 7/16 | IS3875 | 3 7/8 | OF2437 | 2 7/16 | OS625 | 5/8 | OS2187 | 2 3/16 |
| IK750 | 3/4 | IS1500 | 1 1/2 | IS3937 | 3 15/16 | OF2500 | 2 1/2 | OS687 | 11/16 | OS2250 | 2 1/4 |
| IK875 | 7/8 | IS1562 | 1 9/16 | IS4000 | 4 | OF2562 | 2 9/16 | OS750 | 3/4 | OS2250A | 2 1/4 |
| IK937 | 15/16 | IS1625 | 1 5/8 | IS4062 | 4 1/16 | OF2625 | 2 5/8 | OS750A | 3/4 | OS2312 | 2 5/16 |
| IK1000 | 1 | IS1687 | 1 11/16 | IS4250 | 4 1/4 | OF2687 | 2 11/16 | OS812 | 13/16 | OS2375 | 2 3/8 |
| IK1187 | 1 3/16 | IS1750 | 1 3/4 | IS4437 | 4 7/16 | OF2750 | 2 3/4 | OS875 | 7/8 | OS2437 | 2 7/16 |
| IK1250 | 1 1/4 | IS1812 | 1 13/16 | IS4812 | 4 13/16 | OF2812 | 2 13/16 | OS875A | 7/8 | OS2500 | 2 1/2 |
| IK1312 | 1 5/16 | IS1875 | 1 7/8 | IS5625 | 5 5/8 | OF2937 | 2 15/16 | OS937 | 15/16 | OS2562 | 2 9/16 |
| IK1375 | 1 3/8 | IS1937 | 1 15/16 | OF812 | 13/16 | OF3000 | 3 | OS937A | 15/16 | OS2625 | 2 5/8 |
| IK1437 | 1 7/16 | IS2000 | 2 | OF875 | 7/8 | OF3062 | 3 1/16 | OS1000 | 1 | OS2687 | 2 11/16 |
| IK1812 | 1 13/16 | IS2062 | 2 1/16 | OF937 | 15/16 | OF3375 | 3 3/8 | OS1000A | 1 | OS2687A | 2 11/16 |
| IK1875 | 1 7/8 | IS2125 | 2 1/8 | OF1000 | 1 | OF3500 | 3 1/2 | OS1062 | 1 1/16 | OS2750 | 2 3/4 |
| IK2000 | 2 | IS2187 | 2 3/16 | OF1062 | 1 1/16 | OF5312 | 5 5/16 | OS1125 | 1 1/8 | OS2812 | 2 13/16 |
| IK2062 | 2 1/16 | IS2250 | 2 1/4 | OF1125 | 1 1/8 | OK375 | 3/8 | OS1187 | 1 3/16 | OS2812A | 2 13/16 |
| IK2187 | 2 3/16 | IS2312 | 2 5/16 | OF1187 | 1 3/16 | OK500 | 1/2 | OS1250 | 1 1/4 | OS2875 | 2 7/8 |
| IK2250 | 2 1/4 | IS2375 | 2 3/8 | OF1250 | 1 1/4 | OK625 | 5/8 | OS1250A | 1 1/4 | OS3062 | 3 1/16 |
| IK2375 | 2 3/8 | IS2437 | 2 7/16 | OF1312 | 1 5/16 | OK812 | 13/16 | OS1312 | 1 5/16 | OS3125 | 3 1/8 |
| IK2437 | 2 7/16 | IS2500 | 2 1/2 | OF1375 | 1 3/8 | OK1000 | 1 | OS1375 | 1 3/8 | OS3250 | 3 1/4 |
| IK2500 | 2 1/2 | IS2562 | 2 9/16 | OF1437 | 1 7/16 | OK1062 | 1 1/16 | OS1437 | 1 7/16 | OS3312 | 3 5/16 |
| IK2625 | 2 5/8 | IS2625 | 2 5/8 | OF1500 | 1 1/2 | OK1125 | 1 1/8 | OS1437A | 1 7/16 | OS3375 | 3 3/8 |
| IK3000 | 3 | IS2687 | 2 11/16 | OF1562 | 1 9/16 | OK1312 | 1 5/16 | OS1500 | 1 1/2 | OS3437 | 3 7/16 |
| IK3125 | 3 1/8 | IS2750 | 2 3/4 | OF1625 | 1 5/8 | OK1375 | 1 3/8 | OS1500A | 1 1/2 | OS3562 | 3 9/16 |
| IK3750 | 3 3/4 | IS2812 | 2 13/16 | OF1687 | 1 11/16 | OK1500 | 1 1/2 | OS1562 | 1 9/16 | OS4187 | 4 3/16 |
| IK4062 | 4 1/16 | IS2875 | 2 7/8 | OF1750 | 1 3/4 | OK1625 | 1 5/8 | OS1562A | 1 9/16 | | |
| IK5000 | 5 | IS2937 | 2 15/16 | OF1812 | 1 13/16 | OK1687 | 1 11/16 | OS1625 | 1 5/8 | | |
| IS437 | 7/16 | IS3000 | 3 | OF1875 | 1 7/8 | OK1750 | 1 3/4 | OS1687 | 1 11/16 | | |
| IS875 | 7/8 | IS3062 | 3 1/16 | OF1937 | 1 15/16 | OK2125 | 2 1/8 | OS1750 | 1 3/4 | | |
| IS937 | 15/16 | IS3125 | 3 1/8 | OF2000 | 2 | OK2312 | 2 5/16 | OS1812 | 1 13/16 | | |
| IS1000 | 1 | IS3187 | 3 3/16 | OF2062 | 2 1/16 | OK2375 | 2 3/8 | OS1812A | 1 13/16 | | |
| IS1062 | 1 1/16 | IS3250 | 3 1/4 | OF2125 | 2 1/8 | OK2437 | 2 7/16 | OS1875 | 1 7/8 | | |
| IS1125 | 1 1/8 | IS3312 | 3 5/16 | OF2187 | 2 3/16 | OS437 | 7/16 | OS1875A | 1 7/8 | | |
| IS1187 | 1 3/16 | IS3375 | 3 3/8 | OF2250 | 2 1/4 | OS437A | 7/16 | OS1937 | 1 15/16 | | |
| IS1250 | 1 1/4 | IS3437 | 3 7/16 | OF2312 | 2 5/16 | OS500 | 1/2 | OS2000 | 2 | | |
| IS1312 | 1 5/16 | IS3562 | 3 9/16 | OF2375A | 2 3/8 | OS562 | 9/16 | OS2062 | 2 1/16 | | |
| IS1375 | 1 3/8 | IS3687 | 3 11/16 | OF2375 | 2 3/8 | OS562A | 9/16 | OS2125 | 2 1/8 | | |

### SWITCHES**

| Type | Mallory Catalog No. |
|---|---|
| SPST | US41 |
| DPST | US42 |
| SPDT | US43 |

*See page 11 for dimensional diagrams. **Shafts are all $0.65. Switches—US41 & US42 $0.70, US43 $0.90.



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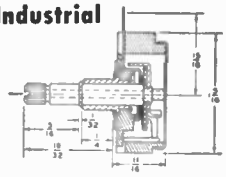
World Radio History

## Two Watt Wire-Wound TV and Industrial Potentiometers



For replacement of positioning, hold and focus controls in TV. Also ideal for industrial circuits up to 1500 volts AC. Completely enclosed in 1 5/16" diameter phenolic case. Thumb-knurled ¼" diameter, 5/16" long, screw driver, slotted, insulated shaft. All have linear resistance change.

For special 3" extension shaft, DS-36, see page 7, Mallory Resistors and Controls Section, this catalog.

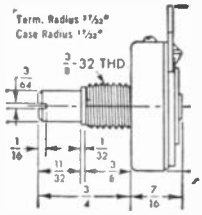
| Cat. No. | Ohms Resistance | List Price | Cat. No. | Ohms Resistance | List Price |
|---|---|---|---|---|---|
| R2L | 2 | $1.55 | R50CT | 50 | $2.20 |
| R3L | 3 | 1.55 | R100L | 100 | 1.55 |
| R5L | 5 | 1.55 | R250L | 250 | 1.55 |
| R6L | 6 | 1.55 | R500L | 500 | 1.55 |
| R8L | 8 | 1.55 | R750L | 750 | 1.55 |
| R10L | 10 | 1.55 | R1000L | 1000 | 1.55 |
| R10CT | 10 | 2.20 | R1500L | 1500 | 1.55 |
| R15L | 15 | 1.55 | R2500L | 2500 | 1.55 |
| R20L | 20 | 1.55 | R3000L | 3000 | 1.55 |
| R20CT† | 20 | 2.20 | R5000L | 5000 | 1.55 |
| R25L | 25 | 1.55 | R7500L | 7500 | 1.80 |
| R30L | 30 | 1.55 | R10ML | 10000 | 1.80 |
| R30CT† | 30 | 2.20 | R15ML | 15000 | 1.80 |
| R50L | 50 | 1.55 | R20ML | 20000 | 1.80 |

All R type are linear No. 4 taper (see Explanation of Mallory Tapers, page 7, Mallory Resistors and Controls section, this catalog).

## Attachable Switches for Above Controls

| Cat. No. | Description | List Price |
|---|---|---|
| US30 | Single Pole-Single Throw | $0.70 |
| US32 | Double Pole-Single Throw | .90 |

## Two Watt Wire-Wound Potentiometers and Rheostats

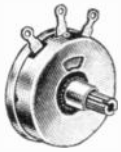


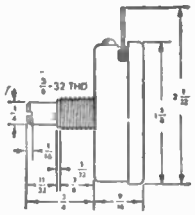

1 1/16" diameter. ¼" diameter by ⅜" long shaft with screw driver slot. For use in test and special instruments, bias control and bridge circuits. Has grounded contact arm. Rheostat has "open" or "off" position—all have linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).

For Dial plate 393, see page 7, Mallory Resistors and Controls Section, this catalog.

| Potentiometer | | Rheostat | | | |
|---|---|---|---|---|---|
| Catalog Number | List Price | Catalog Number | List Price | Ohms | Cap. in Amperes |
| C6P | $1.80 | C6R | $1.55 | 6 | .58 |
| C10P | 1.80 | C10R | 1.55 | 10 | .45 |
| C15P | 1.80 | C15R | 1.55 | 15 | .37 |
| C20P | 1.80 | C20R | 1.55 | 20 | .32 |
| C30P | 1.80 | C30R | 1.55 | 30 | .26 |
| C40P | 1.80 | C40R | 1.55 | 40 | .22 |
| C50P | 1.80 | C50R | 1.55 | 50 | .2 |
| C100P | 1.80 | C100R | 1.55 | 100 | .14 |
| C200P | 1.80 | | | 200 | .1 |
| C400P | 1.80 | | | 400 | .07 |
| C1MP | 2.00 | | | 1M | .045 |
| C3MP | 2.00 | | | 3M | .025 |
| C5MP | 2.45 | | | 5M | .02 |
| C6MP | 2.45 | | | 6M | .018 |
| C10MP | 2.45 | | | 10M | .014 |
| C15MP | 2.45 | | | 15M | .011 |

## Four Watt Wire-Wound Potentiometers and Rheostats





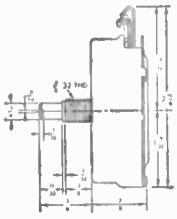

Four-watt, wire-wound controls designed especially for low voltage TV, test equipment, industrial and electronic applications. These controls are supplied with a ⅜" long bushing and have ¼" round knurled screw driver slotted shafts ⅜" long. Overall case diameter is 1 5/8". Mounting radius, including solder lugs, is 1¼" and mounting depth is ⅝". Rheostat styles have "off" position. All have linear resistance change and insulated shaft. For Dial Plate No. 395, see page 7, Mallory Resistors and Controls Section, this catalog.

| Potentiometer | | Rheostat* | | | |
|---|---|---|---|---|---|
| Catalog Number | List Price | Catalog Number | List Price | Ohms | Cap. in Amperes |
| | | M05RK | $1.55 | ½ | 2.80 |
| M1PK | $2.25 | M1RK | 1.55 | 1 | 2.00 |
| | | M2RK | 1.55 | 2 | 1.4 |
| M3PK | 2.25 | M3RK | 1.55 | 3 | 1.15 |
| | | M4RK | 1.55 | 4 | 1.0 |
| M6PK | 2.25 | M6RK | 1.55 | 6 | .82 |
| M10PK | 2.25 | M10RK | 1.55 | 10 | .63 |
| M15PK | 2.25 | M15RK | 1.55 | 15 | .52 |
| M20PK | 2.25 | M20RK | 1.55 | 20 | .45 |
| M25PK | 2.25 | M25RK | 1.55 | 25 | .40 |
| M30PK | 2.25 | M30RK | 1.55 | 30 | .37 |
| M40PK | 2.25 | M40RK | 1.55 | 40 | .32 |
| M50PK | 2.25 | M50RK | 1.55 | 50 | .28 |
| M60PK | 2.25 | M60RK | 1.55 | 60 | .26 |
| M75PK | 2.25 | M75RK | 1.55 | 75 | .23 |
| M100PK | 2.25 | M100RK | 1.55 | 100 | .20 |
| M200PK | 2.25 | | | 200 | .14 |
| M400PK | 2.25 | | | 400 | .10 |
| M500PK | 2.25 | | | 500 | .09 |
| M600PK | 2.25 | | | 600 | .082 |
| M1MPK | 2.25 | | | 1M | .063 |
| M1.5MPK | 2.25 | | | 2M | .045 |
| M2MPK | 2.25 | | | 3M | .037 |
| M2.5MPK | 2.25 | | | 4M | .032 |
| M3MPK | 2.25 | | | 5M | .028 |
| M4MPK | 2.25 | | | 10M | .020 |
| M5MPK | 2.25 | | | 15M | .016 |
| M10MPK | 2.25 | | | 20M | .014 |
| M15MPK | 2.45 | | | 25M | .013 |
| M20MPK | 2.45 | | | 50M | .009 |
| M25MPK | 2.45 | | | 70M | .0075 |
| M50MPK | 2.90 | | | | |
| M70MPK | 2.90 | | | | |
| M75MPK | 4.10 | | | | |
| M100MPK | 4.10 | | | | |

* "Open" or "Off" position counter-clockwise.

| Center Tapped Potentiometer | | | | | |
|---|---|---|---|---|---|
| MT10PK | $2.20 | | | 10 | .63 |
| MT20PK | 2.20 | | | 20 | .45 |
| MT30PK | 2.20 | | | 30 | .37 |

## Seven Watt Wire-Wound Potentiometers



Has 7-watt dissipation, grounded contact arm and linear resistance change. Metal case is 2⅝" diameter, ⅞" deep. Shaft is ¼" diameter and ⅜" long with screw driver slot. For Dial plate No. 399, see page 7, Mallory Resistors and Controls Section, this catalog.

| Catalog Number | Ohms | Capacity in Amperes | List Price |
|---|---|---|---|
| E5MP | 5M | .042 | $4.60 |
| E10MP | 10M | .03 | 4.90 |
| E20MP | 20M | .021 | 5.00 |
| E25MP | 25M | .019 | 5.15 |
| E50MP | 50M | .0135 | 5.25 |
| E75MP | 75M | .011 | 5.40 |
| E100MP | 100M | .0095 | 5.50 |
| E125MP | 125M | .0085 | 5.50 |
| E150MP | 150M | .0078 | 5.60 |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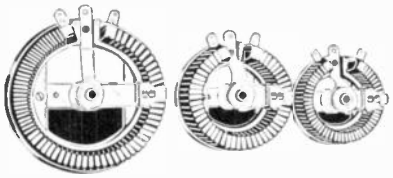
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

# POWER RHEOSTATS

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P. R. MALLORY & CO. Inc. MALLORY

## Type "K" Vitreous Wire-Wound Power Rheostats and Potentiometers



Mallory Power Rheostats and Potentiometers are used with Battery Chargers, Blue Print Machines, Dental and Medical Equipment, Fans, Film Printers, Generators, Motion Picture Projectors, Motors and other applications where it is desired to vary a stable current. Mallory Power Rheostats and Potentiometers are constructed by uniformly winding resistance wire into position and applying a protective coating of vitreous enamel. The element contact arm is hinged and under constant pressure to insure proper contact with the element at all times. Wattage ratings of 75, 225 and 500 are available, in addition to those below. A knob and dial plate are supplied with each rheostat.

### Type 25K—25 Watts

**Outside Diameter—1 9/16"**
**Angle of Rotation—295°**

| Cat. No. | Ohms | Max. Current Amps. | Steps (Approx.) | List Price |
|---|---|---|---|---|
| 25K1P | 1 | 5.000 | 28 | $7.70 |
| 25K2P | 2 | 3.540 | 28 | 6.80 |
| 25K3P | 3 | 2.880 | 53 | 6.80 |
| 25K6P | 6 | 2.040 | 51 | 6.80 |
| 25K8P | 8 | 1.770 | 56 | 6.80 |
| 25K10P | 10 | 1.580 | 54 | 6.80 |
| 25K15P | 15 | 1.290 | 88 | 6.80 |
| 25K25P | 25 | 1.000 | 117 | 6.80 |
| 25K35P | 35 | .845 | 129 | 6.80 |
| 25K50P | 50 | .707 | 149 | 6.80 |
| 25K75P | 75 | .575 | 174 | 6.80 |
| 25K100P | 100 | .500 | 184 | 6.80 |
| 25K125P | 125 | .447 | 187 | 6.80 |
| 25K175P | 175 | .378 | 178 | 6.80 |
| 25K250P | 250 | .316 | 200 | 6.80 |
| 25K350P | 350 | .267 | 227 | 6.80 |
| 25K500P | 500 | .222 | 256 | 6.80 |
| 25K750P | 750 | .182 | 303 | 6.80 |
| 25K1000P | 1000 | .155 | 318 | 7.70 |
| 25K1500P | 1500 | .129 | 310 | 7.70 |
| 25K2500P | 2500 | .100 | 405 | 7.70 |
| 25K3500P | 3500 | .084 | 432 | 8.15 |
| 25K5000P | 5000 | .070 | 471 | 8.15 |

### Type 50K—50 Watts

**Outside Diameter—2 13/32"**
**Angle of Rotation—300°**

| Cat. No. | Ohms | Max. Current Amps. | Steps (Approx.) | List Price |
|---|---|---|---|---|
| 50K.5P | .5 | 10 00 | 25 | $8.60 |
| 50K1P | 1 | 7.07 | 37 | 8.60 |
| 50K2P | 2 | 5.00 | 42 | 8.60 |
| 50K4P | 4 | 3.54 | 66 | 7.70 |
| 50K6P | 6 | 2.89 | 79 | 7.70 |
| 50K8P | 8 | 2.50 | 84 | 7.70 |
| 50K12P | 12 | 2.04 | 100 | 7.70 |
| 50K16P | 16 | 1.76 | 106 | 7.70 |
| 50K22P | 22 | 1.50 | 145 | 7.70 |
| 50K35P | 35 | 1.19 | 145 | 7.70 |
| 50K50P | 50 | 1.00 | 163 | 7.70 |
| 50K80P | 80 | .79 | 210 | 7.70 |
| 50K125P | 125 | .63 | 204 | 7.70 |
| 50K150P | 150 | .58 | 244 | 7.70 |
| 50K225P | 225 | .47 | 298 | 7.70 |
| 50K300P | 300 | .41 | 268 | 7.70 |
| 50K500P | 500 | .32 | 205 | 7.70 |
| 50K800P | 800 | .25 | 363 | 8.15 |
| 50K1000P | 1000 | .22 | 354 | 8.15 |
| 50K1600P | 1600 | .176 | 449 | 8.15 |
| 50K2500P | 2500 | .14 | 455 | 8.15 |
| 50K3500P | 3500 | .12 | 500 | 8.60 |
| 50K5000P | 5000 | .10 | 550 | 8.60 |
| 50K8000P | 8000 | .08 | 690 | 8.60 |

### Type 100K—100 Watts

**Outside Diameter—3 1/8"**
**Angle of Rotation—300°**

| Cat. No. | Ohms | Max. Current Amps. | Steps (Approx.) | List Price |
|---|---|---|---|---|
| 100K.5P | .5 | 14.20 | 30 | $12.85 |
| 100K1P | 1 | 10.00 | 40 | 12.85 |
| 100K2P | 2 | 7.07 | 42 | 12.85 |
| 100K3P | 3 | 5.77 | 56 | 12.85 |
| 100K5P | 5 | 4.47 | 59 | 12.85 |
| 100K7.5P | 7.5 | 3.65 | 96 | 12.05 |
| 100K10P | 10 | 3.16 | 101 | 12.05 |
| 100K16P | 16 | 2.50 | 128 | 12.05 |
| 100K25P | 25 | 2.00 | 160 | 12.05 |
| 100K50P | 50 | 1.41 | 200 | 12.05 |
| 100K75P | 75 | 1.15 | 240 | 12.05 |
| 100K100P | 100 | 1.00 | 250 | 12.05 |
| 100K200P | 200 | .71 | 315 | 12.05 |
| 100K300P | 300 | .58 | 302 | 12.05 |
| 100K400P | 400 | .50 | 316 | 12.05 |
| 100K500P | 500 | .45 | 342 | 12.05 |
| 100K750P | 750 | .37 | 406 | 12.05 |
| 100K1000P | 1000 | .32 | 435 | 12.85 |
| 100K1500P | 1500 | .26 | 520 | 12.85 |
| 100K2000P | 2000 | .22 | 544 | 12.85 |
| 100K2500P | 2500 | .20 | 535 | 12.85 |
| 100K5000P | 5000 | .14 | 692 | 13.70 |
| 100K7500P | 7500 | .12 | 820 | 14.60 |
| 100K10000P | 10000 | .10 | 840 | 15.40 |

### Type 150K—150 Watts

**Outside Diameter—4 1/32"**
**Angle of Rotation—305°**

| Cat. No. | Ohms | Max. Current Amps. | Steps (Approx.) | List Price |
|---|---|---|---|---|
| 150K.5P | .5 | 17.30 | 31 | $16.35 |
| 150K1P | 1 | 12.30 | 38 | 16.35 |
| 150K2P | 2 | 8.66 | 51 | 16.35 |
| 150K3P | 3 | 7.07 | 73 | 16.35 |
| 150K5P | 5 | 5.48 | 77 | 16.35 |
| 150K7.5P | 7.5 | 4.47 | 70 | 16.35 |
| 150K10P | 10 | 3.87 | 145 | 15.40 |
| 150K15P | 15 | 3.16 | 138 | 15.40 |
| 150K25P | 25 | 2.45 | 142 | 15.40 |
| 150K35P | 35 | 2.07 | 198 | 15.40 |
| 150K50P | 50 | 1.73 | 182 | 15.40 |
| 150K75P | 75 | 1.41 | 218 | 15.40 |
| 150K100P | 100 | 1.22 | 229 | 15.40 |
| 150K150P | 150 | 1.00 | 276 | 15.40 |
| 150K200P | 200 | .87 | 289 | 15.40 |
| 150K250P | 250 | .77 | 360 | 15.40 |
| 150K350P | 350 | .66 | 350 | 15.40 |
| 150K500P | 500 | .55 | 400 | 15.40 |
| 150K750P | 750 | .45 | 460 | 16.35 |
| 150K1250P | 1250 | .35 | 490 | 16.35 |
| 150K1800P | 1800 | .290 | 555 | 17.15 |
| 150K2250P | 2250 | .26 | 547 | 17.15 |
| 150K3000P | 3000 | .22 | 729 | 17.15 |
| 150K4500P | 4500 | .18 | 689 | 18.00 |
| 150K7500P | 7500 | .14 | 930 | 18.85 |
| 150K10000P | 10000 | .12 | 980 | 20.55 |

### Type 300K—300 Watts

**Outside Diameter—6 1/16"**
**Angle of Rotation—315°**

| Cat. No. | Ohms | Max. Current Amps. | Steps (Approx.) | List Price |
|---|---|---|---|---|
| 300K1P | 1 | 17.30 | 48 | $23.15 |
| 300K2P | 2 | 12.25 | 60 | 23.15 |
| 300K3P | 3 | 10.00 | 64 | 23.15 |
| 300K4P | 4 | 8.66 | 80 | 23.15 |
| 300K5P | 5 | 7.75 | 80 | 23.15 |
| 300K7.5P | 7.5 | 6.32 | 100 | 23.15 |
| 300K10P | 10 | 5.48 | 139 | 23.15 |
| 300K15P | 15 | 4.47 | 128 | 23.15 |
| 300K25P | 25 | 3.46 | 182 | 23.15 |
| 300K50P | 50 | 2.45 | 228 | 23.15 |
| 300K75P | 75 | 2.00 | 271 | 23.15 |
| 300K100P | 100 | 1.73 | 287 | 23.15 |
| 300K150P | 150 | 1.41 | 338 | 23.15 |
| 300K200P | 200 | 1.22 | 361 | 23.15 |
| 300K300P | 300 | 1.00 | 427 | 23.15 |
| 300K400P | 400 | .87 | 460 | 23.15 |
| 300K700P | 700 | .66 | 555 | 23.15 |
| 300K900P | 900 | .58 | 564 | 23.15 |
| 300K1200P | 1200 | .50 | 605 | 23.15 |
| 300K1500P | 1500 | .45 | 755 | 23.15 |
| 300K1750P | 1750 | .41 | 691 | 23.15 |
| 300K2500P | 2500 | .35 | 785 | 23.15 |

**See Resistor Hardware on Page 7**

**Order by wattage and resistance. For example: A 25-watt 100 ohm unit is indicated by 25K100P. A 100-watt 12 ohm unit is 100K12P. Or, a 50-watt .5 ohm unit is 50K.5P . . . etc. Knobs and Dial Plates packaged with each unit.**



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World Radio History

# VITREOUS ENAMEL RESISTORS

## Mallory Fixed and Adjustable Vitreous Enamel Resistors

Wire-wound, covered with a special vitreous, non-alkaline, non-hygroscopic enamel coating which assures exceptional sealing and permanence of electrical characteristics. Adjustable types equipped with slider. 5 and 10 watt sizes have tinned-copper leads. All others supplied with mounting feet.

## Fixed Types

### Type HHJ-5 Watt Rating
Tube Size 5/16" x 1"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 10 | 40 | 250 | 700 | 1250 | 3500 |
| 1.5 | 12 | 50 | 300 | 750 | 1500 | 4000 |
| 2 | 15 | 75 | 350 | 800 | 1750 | 4500 |
| 3 | 20 | 100 | 400 | 900 | 2000 | 5000 |
| 4 | 25 | 125 | 450 | 1000 | 2250 | |
| 5 | 30 | 150 | 500 | 1100 | 2500 | |
| 7.5 | 35 | 200 | 600 | 1200 | 3000 | |

| Ohms | List Price |
|---|---|
| 1 Thru 1000 | $0.74 |
| 1100 Thru 5000 | .83 |

### Type 1HJ-10 Watt Rating
Tube Size 5/16" x 1¾"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 25 | 225 | 800 | 2500 | 8500 | 18000 |
| 2 | 30 | 250 | 900 | 3000 | 10000 | 20000 |
| 3 | 35 | 300 | 1000 | 3500 | 11000 | 22500 |
| 4 | 40 | 350 | 1100 | 4000 | 12000 | 25000 |
| 5 | 50 | 400 | 1200 | 4500 | 12500 | 30000 |
| 7.5 | 75 | 450 | 1250 | 5000 | 13500 | 35000 |
| 10 | 100 | 500 | 1500 | 6000 | 14300 | 40000 |
| 12 | 125 | 600 | 1750 | 7000 | 15000 | 45000 |
| 15 | 150 | 700 | 2000 | 7500 | 16000 | 50000 |
| 20 | 200 | 750 | 2250 | 8000 | 17500 | |

| Ohms | List Price |
|---|---|
| 1 Thru 1000 | $0.83 |
| 1100 Thru 5000 | .88 |
| 6000 Thru 10000 | 1.01 |
| 11000 Thru 20000 | 1.13 |
| 22500 Thru 50000 | 1.22 |

### Type 2HJ-20 Watt Rating
Tube Size 7/16" x 2"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 100 | 500 | 2000 | 4000 | 12500 | 40000 |
| 10 | 150 | 750 | 2250 | 4500 | 15000 | 50000 |
| 15 | 200 | 1000 | 2500 | 5000 | 20000 | 75000 |
| 25 | 250 | 1250 | 2750 | 6000 | 25000 | 100000 |
| 50 | 300 | 1500 | 3000 | 7500 | 30000 | |
| 75 | 400 | 1750 | 3500 | 10000 | 35000 | |

| Ohms | List Price |
|---|---|
| 5 Thru 1000 | $1.05 |
| 1250 Thru 5000 | 1.07 |
| 6000 Thru 10000 | 1.23 |
| 12500 Thru 20000 | 1.32 |
| 25000 Thru 40000 | 1.51 |
| 50000 | 1.65 |
| 75000 Thru 100000 | 1.93 |

### Type 5HJ—50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms

| | | | | | |
|---|---|---|---|---|---|
| 10 | 250 | 1500 | 7500 | 20000 | 50000 |
| 25 | 500 | 2000 | 10000 | 25000 | 75000 |
| 50 | 750 | 2500 | 12500 | 30000 | 100000 |
| 100 | 1000 | 5000 | 15000 | 40000 | |

| Ohms | List Price |
|---|---|
| 10 Thru 5000 | $1.93 |
| 7500 Thru 10000 | 2.11 |
| 12500 Thru 20000 | 2.33 |
| 25000 Thru 40000 | 2.56 |
| 50000 | 2.84 |
| 75000 | 3.21 |
| 100000 | 3.52 |

### Type 10HJ—100 Watt Rating
Tube Size ¾" x 6½"

Resistance Ohms

| | | | | | |
|---|---|---|---|---|---|
| 25 | 500 | 2000 | 10000 | 25000 | 50000 |
| 50 | 750 | 2500 | 15000 | 30000 | 75000 |
| 100 | 1000 | 5000 | 20000 | 40000 | 100000 |
| 250 | 1500 | 7500 | | | |

| Ohms | List Price |
|---|---|
| 25 Thru 1000 | $2.73 |
| 1500 Thru 5000 | 2.78 |
| 7500 Thru 10000 | 2.97 |
| 15000 Thru 20000 | 3.27 |
| 25000 Thru 40000 | 3.59 |
| 50000 | 3.71 |
| 75000 | 3.94 |
| 100000 | 4.18 |

### Type 20HJ—200 Watt Rating
Tube Size 1⅛" x 10½"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 25 | 100 | 750 | 2000 | 5000 | 20000 | 50000 |
| 50 | 250 | 1000 | 2500 | 7500 | 30000 | 75000 |
| 75 | 500 | 1500 | 3000 | 10000 | 40000 | 100000 |

| Ohms | List Price |
|---|---|
| 25 Thru 1000 | $3.62 |
| 1500 Thru 5000 | 3.67 |
| 7500 Thru 10000 | 3.89 |
| 20000 | 4.13 |
| 30000 Thru 40000 | 4.29 |
| 50000 | 4.43 |
| 75000 | 4.68 |
| 100000 | 4.98 |

## Adjustable Types

### Type 1AV—10 Watt Rating
Tube Size 5/16" x 1¾"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 15 | 150 | 500 | 1500 | 4000 | 8000 |
| 2 | 20 | 200 | 600 | 2000 | 4500 | 8500 |
| 3 | 25 | 250 | 750 | 2250 | 5000 | 9000 |
| 5 | 50 | 300 | 800 | 2500 | 6000 | 10000 |
| 7.5 | 75 | 350 | 1000 | 3000 | 7000 | |
| 10 | 100 | 400 | 1250 | 3500 | 7500 | |

| Ohms | List Price |
|---|---|
| 1 Thru 1000 | $1.62 |
| 1100 Thru 5000 | 1.68 |
| 6000 Thru 10000 | 1.79 |

### Type 2AV—25 Watt Rating
Tube Size 9/16" x 2"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 25 | 200 | 750 | 2500 | 6000 | 20000 |
| 3 | 50 | 250 | 1000 | 3000 | 7500 | 25000 |
| 5 | 75 | 300 | 1250 | 3500 | 10000 | |
| 10 | 100 | 400 | 1500 | 4000 | 12000 | |
| 15 | 150 | 500 | 2000 | 5000 | 15000 | |

| Ohms | List Price |
|---|---|
| 1 Thru 1000 | $2.02 |
| 1250 Thru 5000 | 2.07 |
| 6000 Thru 10000 | 2.23 |
| 12000 Thru 20000 | 2.29 |
| 25000 | 2.51 |

### Type 5AV—50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 75 | 250 | 1500 | 4000 | 15000 | 40000 |
| 10 | 100 | 500 | 2000 | 5000 | 20000 | 50000 |
| 25 | 150 | 750 | 2500 | 7500 | 25000 | |
| 50 | 200 | 1000 | 3000 | 10000 | 30000 | |

| Ohms | List Price |
|---|---|
| 5 Thru 1000 | $2.61 |
| 1500 Thru 5000 | 2.72 |
| 7500 Thru 10000 | 2.89 |
| 15000 Thru 20000 | 3.11 |
| 25000 Thru 40000 | 3.39 |
| 50000 | 3.64 |

### Type 10AV—100 Watt Rating
Tube Size ¾" x 6½"

Resistance Ohms

| | | | | | |
|---|---|---|---|---|---|
| 50 | 2000 | 5000 | 15000 | 30000 | 50000 |
| 100 | 2500 | 7500 | 20000 | 35000 | 75000 |
| 500 | 3000 | 10000 | 25000 | 40000 | |
| 1000 | 4000 | | | | |

| Ohms | List Price |
|---|---|
| 50 Thru 1000 | $3.91 |
| 2000 Thru 5000 | 4.04 |
| 7500 Thru 10000 | 4.26 |
| 15000 Thru 20000 | 4.53 |
| 25000 Thru 40000 | 4.81 |
| 50000 | 5.03 |
| 75000 | 5.23 |

### Type 20AV—200 Watt Rating
Tube Size 1⅛" x 10½"

Resistance Ohms

| | | | | |
|---|---|---|---|---|
| 50 | 1000 | 2500 | 20000 | 50000 |
| 100 | 1500 | 5000 | 25000 | 75000 |
| 500 | 2000 | 10000 | 30000 | |

| Ohms | List Price |
|---|---|
| 50 Thru 1000 | $4.81 |
| 1500 Thru 5000 | 4.90 |
| 10000 | 5.17 |
| 20000 | 5.41 |
| 25000 Thru 30000 | 5.53 |
| 50000 | 5.69 |
| 75000 | 5.96 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

## Yard-Ohm Resistance Kits

Each Yard-Ohm Kit consists of the following: 1 yard spiral wound resistance wire; 1 yard insulated braid; 24 spiral wire leads. The kit is available in eight resistance values.

Dissipation—all types: ½ watt per inch.

List Price $0.85 each

| Catalog Number | Resistance Value (Ohms per Inch) | Carrying Capacity in Amperes | Catalog Number | Resistance Value (Ohms per Inch) | Carrying Capacity in Amperes |
|---|---|---|---|---|---|
| **YO-1** | 1 | .707 | **YO-50** | 50 | .100 |
| **YO-5** | 5 | .315 | **YO-100** | 100 | .071 |
| **YO-10** | 10 | .223 | **YO-250** | 250 | .044 |
| **YO-25** | 25 | .141 | **YO-500** | 500 | .031 |

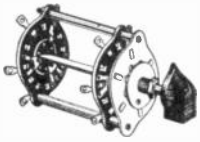
## Adjustable Mounting Brackets

| Cat. No. | Description | List Price |
|---|---|---|
| **RB248** | 1¾" Mounting Centers (A) | **$0.25** |
| **RB249** | 2½" Mounting Centers (B) | **.25** |
| **RB254** | Universal | **.25** |

## Shafts—Couplers—Bushings—Dial Plates

| Cat. No. | Description | List Price |
|---|---|---|
| **EC240** | For coupling two ¼" shafts or ¼" and 3/16" (D) | **$0.75** |
| **EB247** | 5/8" Extension Bushing (F) | **.70** |
| **UB241** | Panel Bushing for ¼" shaft (G) . . . . per 10 | **.95** |
| **178** | ½" and 9/16" Wrench (H) | **.75** |
| **RS242** | 4" long x ¼" diameter x 1/32" flat (K) | **.50** |
| **RS243** | 4" long x ¼" diameter x 3/32" flat (J) | **.50** |
| **RS244** | 4" long x 3/16" diameter x 1/64" flat (L) | **.50** |
| **RS245** | 2" long x ¼" diameter x slotted 3/32" (M) | **.50** |
| **369** | 0-100 All Rheostats and Potentiometers (compromise scale) 2¼" (N) | **.35** |
| **391** | Increase Volume—All Rheostats and Potentiometers—1½" (N) | **.35** |
| **393** | 0-10 For "C" Type Rheostats and Potentiometers—2¼" (N) | **.35** |
| **395** | 0-10 For Standard Wire-Wound Controls with Plain cover; also "M" Type Rheostats and Potentiometers—2¼" (N) | **.35** |
| **396** | 0-10 For Standard Wire-Wound Controls with switch type cover—2¼" (N) | **.35** |
| **397** | 0-10 For Standard Carbon Controls with Plain cover—2¼" (N) | **.35** |
| **398** | 0-10 For Standard Carbon Controls with switch type cover—2¼" (N) | **.35** |
| **399** | 0-10 For "E" Type Potentiometers—2¼" (N) | **.35** |

## Two-Section, Five-Position "Hamswitch"®



For meter or circuit switching in transmitters. Rated at 1000 volts AC up to 1500 volts DC. Two section, 5 position. 2¼" spacing between sections. 60° indexing between positions. Adjustable stop. Non-shorting type. Supplied with 3/8"-32 bushing, ¼" x 2" notched round shaft. Pointer knob and mounting hardware furnished. Requires 3¼" mounting depth.

Catalog No. **151L** — List Price **$3.75**

## Two-Section, Two-Circuit, Six-Position "Hamswitch"

Coil and circuit rotary switch with 6 positions, 2 circuits and 2 sections (½" spacing) designed to short out automatically all unused positions. Ideal for test oscillator switching, band-switching or meter-switching uses. Phenolic insulated and equipped with 3/8"-32 bushing, ¼" x 2" notched round shaft and adjustable stop. Supplied with pointer knob and mounting hardware.

Catalog No. **152L** — List Price **$3.75**

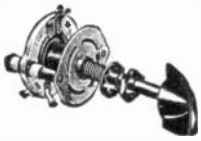
## Decade Switches

Especially designed for use in the construction of capacitor and resistor decade instruments.

The unusual circuit arrangement of these switches permits real economies in the construction of precision resistor and capacitor decade assemblies since they require only 4 standard resistors or capacitors to complete a full decade of test values. Each switch is equipped with high grade phenolic insulation and heavily silvered contact members to assure excellent electrical stability. Adjustable stops are provided to permit interconnecting with other switches for multiple decade operation. One Mallory No. 366 bar knob and mounting nut furnished. Dial plates with 30 degree numeral spacing must be employed.

Catalog No. **153L** Capacitor Decade Switch — List Price **$3.75**
Catalog No. **154L** Resistor Decade Switch — List Price **$4.10**

## Ceramic Section "Ham Band" Switches



For use in transmitter plate circuits not exceeding 1000 volts DC with power up to 100 watts. Switches have 4 positions in 360° rotation with each section a single circuit. 90° indexing. All models are non-shorting. Ceramic insulation provides low losses at high frequencies. Equipped with double-contact tie points. A 2" mounting area is required. Two-section models have 1⅞" spacing, all others have 1". Switches are supplied with ¼" round shafts, 2" long, and 3/8"-32 bushings. Each switch is furnished with pointer knob and mounting hardware.

| Catalog Number | Number of Gangs or Sections | Spacing Between Sections | Circuits Per Switch | List Price |
|---|---|---|---|---|
| **161C** | 1 | | 1 | **$3.00** |
| **162C** | 2 | 1⅞" | 2 | **4.25** |
| **163C** | 3 | 1" | 3 | **5.50** |
| **164C** | 4 | 1" | 4 | **6.75** |
| **165C** | 5 | 1" | 5 | **8.00** |

**For the Best in Radio and TV Controls — Buy Mallory**



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World Radio History

# 2 Big Reasons for Buying and Using...

# G-C STACKPOLE

## Coldite 70+® FIXED COMPOSITION RESISTORS

### 1

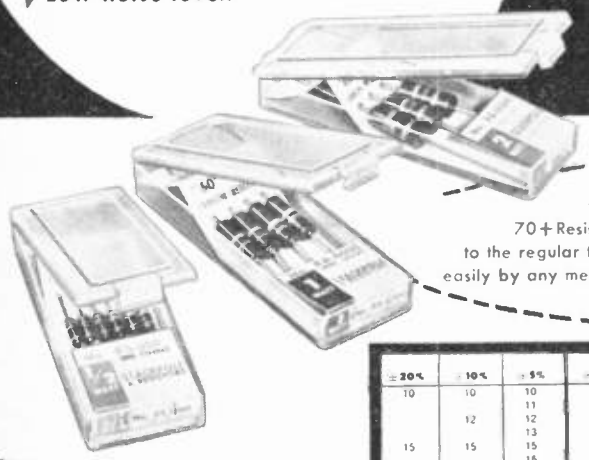
**They're Genuine Stackpole Resistors**

- ✓Exact replacements for original installations.
- ✓Surpass MIL-R11 specifications.
- ✓Rated at 70°C. ambient.
- ✓Protected from humidity.
- ✓Low noise level.

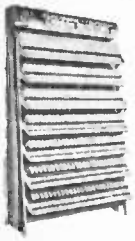
### 2

**They're Packaged by G-C for Protection and Convenience**

- ✓No damage possible to resistors or leads.
- ✓Complete range of RETMA values . . . enough for every circuit need.
- ✓All resistors clearly labelled and color coded.
- ✓Handy hinged plastic boxes are re-usable.



You get extra soldering ease with the special coating of solder on Coldite 70+ Resistor leads. This extra solder coat is in addition to the regular tinning coat. These resistors solder easily by any method . . . dip or iron.



Look for this self-service display at your jobber . . . buy where you see the G-C Stackpole sign!

| ±20% | ±10% | ±5% | ±20% | ±10% | ±5% | ±20% | ±10% | ±5% | ±20% | ±10% | ±5% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 10 | | 390 | 390 | 15000 | 15000 | 15000 | | 560000 | 560000 |
| | | 11 | | | 430 | | | 16000 | | | 620000 |
| | 12 | 12 | 470 | 470 | 470 | | 18000 | 18000 | 680000 | 680000 | 680000 |
| | | 13 | | | 510 | | | 20000 | | | 750000 |
| 15 | 15 | 15 | | 560 | 560 | 22000 | 22000 | 22000 | | 820000 | 820000 |
| | | 16 | | | 620 | | | 24000 | | | 910000 |
| | 18 | 18 | 680 | 680 | 680 | | 27000 | 27000 | 1.0 Meg | 1.0 Meg | 1.0 Meg |
| | | 20 | | | 750 | | | 30000 | | | 1.1 Meg |
| 22 | 22 | 22 | | 820 | 820 | 33000 | 33000 | 33000 | | 1.2 Meg | 1.2 Meg |
| | | 24 | | | 910 | | | 36000 | | | 1.3 Meg |
| | 27 | 27 | 1000 | 1000 | 1000 | | 39000 | 39000 | 1.5 Meg | 1.5 Meg | 1.5 Meg |
| | | 30 | | | 1100 | | | 43000 | | | 1.6 Meg |
| 33 | 33 | 33 | | 1200 | 1200 | 47000 | 47000 | 47000 | | 1.8 Meg | 1.8 Meg |
| | | 36 | | | 1300 | | | 51000 | | | 2.0 Meg |
| | 39 | 39 | 1500 | 1500 | 1500 | | 56000 | 56000 | 2.2 Meg | 2.2 Meg | 2.2 Meg |
| | | 43 | | | 1600 | | | 62000 | | | 2.4 Meg |
| 47 | 47 | 47 | | 1800 | 1800 | 68000 | 68000 | 68000 | | 2.7 Meg | 2.7 Meg |
| | | 51 | | | 2000 | | | 75000 | | | 3.0 Meg |
| | 56 | 56 | 2200 | 2200 | 2200 | | 82000 | 82000 | 3.3 Meg | 3.3 Meg | 3.3 Meg |
| | | 62 | | | 2400 | | | 91000 | | | 3.6 Meg |
| 68 | 68 | 68 | | 2700 | 2700 | 100000 | 100000 | 100000 | | 3.9 Meg | 3.9 Meg |
| | | 75 | | | 3000 | | | 110000 | | | 4.3 Meg |
| | 82 | 82 | 3300 | 3300 | 3300 | | 120000 | 120000 | 4.7 Meg | 4.7 Meg | 4.7 Meg |
| | | 91 | | | 3600 | | | 130000 | | | 5.1 Meg |
| 100 | 100 | 100 | | 3900 | 3900 | 150000 | 150000 | 150000 | | 5.6 Meg | 5.6 Meg |
| | | 110 | | | 4300 | | | 160000 | | | 6.2 Meg |
| | 120 | 120 | 4700 | 4700 | 4700 | | 180000 | 180000 | 6.8 Meg | 6.8 Meg | 6.8 Meg |
| | | 130 | | | 5100 | | | 200000 | | | 7.5 Meg |
| 150 | 150 | 150 | | 5600 | 5600 | 220000 | 220000 | 220000 | | 8.2 Meg | 8.2 Meg |
| | | 160 | | | 6200 | | | 240000 | | | 9.1 Meg |
| | 180 | 180 | 6800 | 6800 | 6800 | | 270000 | 270000 | 10.0 Meg | 10.0 Meg | 10.0 Meg |
| | | 200 | | | 7500 | | | 300000 | | | 11.0 Meg |
| 220 | 220 | 220 | | 8200 | 8200 | 330000 | 330000 | 330000 | | 12.0 Meg | 12.0 Meg |
| | | 240 | | | 9100 | | | 360000 | | | 13.0 Meg |
| | 270 | 270 | 10000 | 10000 | 10000 | | 390000 | 390000 | 15.0 Meg | 15.0 Meg | 15.0 Meg |
| | | 300 | | | 11000 | | | 430000 | | | 16.0 Meg |
| 330 | 330 | 330 | | 12000 | 12000 | 470000 | 470000 | 470000 | | 18.0 Meg | 18.0 Meg |
| | | 360 | | | 13000 | | | 510000 | | | 20.0 Meg |
| | | | | | | | | | 22.0 Meg | 22.0 Meg | 22.0 Meg |

All resistors are available for fast delivery from your local electronics distributor.

WRITE FOR FREE CATALOG listing thousands of items for the electronic industry.

**G-C ELECTRONICS MFG. CO.**

Division of G-C Textron Inc.
Western Plant: Los Angeles 18, Calif.
MAIN PLANT: ROCKFORD, ILLINOIS, U.S.A.



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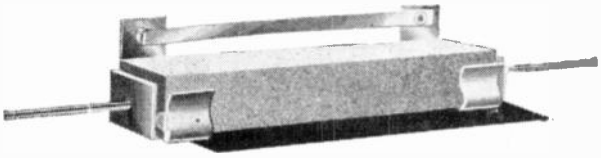
World Radio History

# G-C ELECTRONICS
# TV FUSE-SISTORS

| ILLUSTRATION | PART No. | DESCRIPTION | LIST |
|---|---|---|---|
| | 9272<br>9272-D | **G-C 4.7 OHM TV FUSE-SISTOR**<br>Replacement for Philco, etc.<br>**4.7 Ohm Fuse-Sistor**<br>**Display of 50 #9272** | $ .65<br>32.50 |
| | 9276<br>9276-D | **G-C 5.6 OHM TV FUSE-SISTOR**<br>Replacement for Raytheon, R. C. A., Arvin, Western Auto, etc.<br>**5.6 Ohm Fuse-Sistor**<br>**Display of 50 #9276** | $ .65<br>32.50 |
| | 9207<br>9207-D | **G-C 7.5 OHM TV FUSE-SISTOR**<br>Replaces any fuse resistor in series wired, 1955 TV sets. For Motorola, Crosley, Hoffman, Raytheon, Sylvania, Zenith, R. C. A., Admiral, Hallicrafter, Sonora, etc.<br>**7.5 Ohm Fuse-Sistor**<br>**Display of 50 #9207** | $ .65<br>32.50 |
| | 9277<br>9277-D | **G-C 9 OHM TV FUSE-SISTOR**<br>Ideal replacement for Gamble-Skogmo, Firestone, and Raytheon television receivers.<br>**9 Ohm Fuse-Sistor**<br>**Display of 50 #9277** | $ .65<br>32.50 |
| | 9278<br>9278-D | **G-C 22 OHM TV FUSE-SISTOR**<br>Replacement for Motorola television receivers.<br>**22 Ohm Fuse-Sistor**<br>**Display of 50 #9278** | $ .65<br>32.50 |
| | 9279<br>9279-D | **G-C FUSE-SISTOR KIT**<br>One each of 5.6 Ohm, 7.5 Ohm, 9 Ohm, and 22 Ohm Fuse-Sistors.<br>**Fuse-Sister Kit**<br>**Display of 20 kits** | $2.50<br>50.00 |
| | 9286<br>9286-D | **G-C TV FUSE-SISTOR**<br>150-ohm 0.12 Amp. as used on Motorola Radio, Part. No. 65A633275 with Mounting Board.<br>**Fuse-Sistor**<br>**Display of 50 #9286** | $ .65<br>32.50 |
| | 9287<br>9287-D | **G-C TV FUSE-SISTOR**<br>150-ohm 5 watt, as used on Motorola TV, Part No. 65A31725C.<br>**Fuse-Sistor**<br>**Display of 50 #9287** | $ .65<br>32.50 |

## WUERTH
# SURGISTOR

Stops harmful voltage surges to tube filaments and other circuit components. Connects directly into power line and triples component life.



**G-C WUERTH No. 5301 for Black & White TV**
**List ..... $1.65**

**G-C WUERTH No. 5302 for Color TV Sets**
**List ..... $1.95**

## WUERTH
# TUBE-SAVER

Increases tube life as much as 300% by cushioning initial voltage surges. Has input cord and outlet receptacle for easy use anywhere. For all TV — Radios — Hi-Fi — Projectors — Intercoms — anything that uses tubes!

**G-C WUERTH No. 5303 for Black & White TV**
**List ..... $4.95**

**G-C WUERTH No. 5304 for Color TV Sets**
**List ..... $5.95**

Plus a complete line of Thermistors and Resistors.
Available in all standard resistances for power applications.

**G-C ELECTRONICS MFG. CO.**
**Division of G-C — Textron Inc.**
**Rockford, Illinois**

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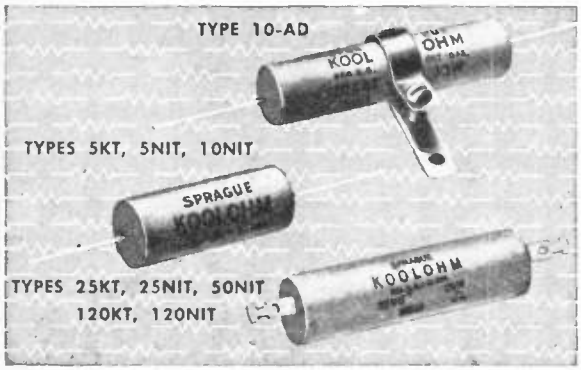
World Radio History

# SPRAGUE INDUSTRIAL RESISTORS

## KOOLOHM® WIREWOUND RESISTORS




- Wound with wire which is insulated before winding with a flexible ceramic coating. Coating is impervious to 1000°C
- Each resistor is "tropicalized" by a ceramic outer shell and special end seals for complete protection against all climatic conditions
- Insulated wire permits winding higher values in layers, which means much smaller physical sizes and true "non - inductive" wound designs
- May be mounted anywhere—even flat against chassis or grounded parts
- Standard resistance tolerance, ±5%
- NIT Types are non-inductive

**5 WATTS**
TYPES 5KT & 5NIT
15/32" dia. x 1 7/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 5 | 1000 | 5.00 |
| 10 | 707 | 7.07 |
| 15 | 587 | 8.67 |
| 20 | 500 | 10 |
| 25 | 446 | 11 |
| 30 | 406 | 12 |
| 40 | 354 | 14 |
| 50 | 316 | 15 |
| 75 | 258 | 19 |
| 100 | 224 | 22 |
| 150 | 183 | 27 |
| 200 | 158 | 31 |
| 250 | 141 | 35 |
| 300 | 129 | 38 |
| 400 | 112 | 44 |
| 500 | 100 | 50 |
| 600 | 91 | 54 |
| 700 | 84 | 59 |
| 800 | 79 | 63 |
| 900 | 74 | 67 |
| 1000 | 70 | 70 |
| 1250 | 63 | 79 |
| 1500 | 57 | 86 |
| 1750 | 53 | 93 |
| 2000 | 50 | 100 |
| 2500 | 44 | 112 |
| 3000 | 40 | 123 |
| 4000 | 35 | 141 |
| 5000 | 31 | 158 |
| 6000* | 28 | 173 |
| 7000* | 26 | 187 |
| 7500* | 25 | 194 |
| 8000* | 25 | 200 |
| 9000* | 23 | 212 |
| 10000* | 22 | 224 |
| 12500* | 20 | 250 |
| 14000* | 18 | 265 |
| 15000* | 18 | 274 |
| 20000* | 15 | 333 |
| 25000* | 14 | 354 |
| 30000* | 13 | 387 |
| 35000* | 12 | 418 |
| 40000* | 11 | 447 |

**10 WATTS**
TYPES 10KT & 10NIT
15/32" dia. x 1 27/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 5 | 1414 | 7.07 |
| 10 | 1000 | 10 |
| 15 | 830 | 12.3 |
| 20 | 707 | 14.1 |
| 25 | 630 | 15.8 |
| 30 | 575 | 17.4 |
| 40 | 500 | 20 |
| 50 | 447 | 22.4 |
| 75 | 365 | 27.4 |
| 100 | 316 | 31.6 |
| 150 | 259 | 38.7 |
| 200 | 223 | 44.6 |
| 250 | 200 | 50 |
| 300 | 182 | 54.7 |
| 400 | 158 | 63.3 |
| 500 | 141 | 70.7 |
| 600 | 129 | 77.6 |
| 700 | 119 | 84 |
| 750 | 115 | 86.9 |
| 800 | 112 | 89.5 |
| 900 | 105 | 95 |
| 1000 | 100 | 100 |
| 1250 | 89 | 112 |
| 1500 | 81 | 123 |
| 1750 | 75 | 133 |
| 2000 | 70 | 143 |
| 2500 | 63 | 158 |
| 3000 | 57 | 174 |
| 4000 | 50 | 200 |
| 5000 | 44 | 227 |
| 6000 | 41 | 245 |
| 7500 | 36 | 275 |
| 8000 | 35 | 283 |
| 9000 | 33 | 300 |
| 10000 | 32 | 316 |
| 12000* | 29 | 346 |
| 14000* | 26 | 384 |
| 15000* | 25 | 400 |
| 17500* | 24 | 419 |
| 20000* | 21 | 475 |
| 25000* | 20 | 500 |
| 30000* | 18 | 555 |
| 35000* | 17 | 591 |
| 40000* | 16 | 632 |
| 50000* | 14 | 700 |
| 60000* | 13 | 780 |
| 70000* | 12 | 840 |

**10 WATTS**
ADJUSTABLE†
TYPE 10-AD
15/32" dia. x 1 29/32" long

| Ohms | Max. MA. | Max. Volts |
|---|---|---|
| 10 | 1000 | 10 |
| 25 | 630 | 15.8 |
| 50 | 447 | 22.4 |
| 100 | 316 | 31.6 |
| 150 | 259 | 38.7 |
| 200 | 223 | 44.6 |
| 250 | 200 | 50 |
| 300 | 182 | 54.7 |
| 400 | 158 | 63.3 |
| 500 | 141 | 70.7 |
| 750 | 115 | 86.9 |
| 1000 | 100 | 100 |
| 1500 | 81 | 123 |
| 2000 | 70 | 143 |
| 2500 | 63 | 158 |
| 3000 | 57 | 174 |
| 4000 | 50 | 200 |
| 5000 | 44 | 227 |
| 7500 | 36 | 275 |
| 10000 | 32 | 316 |

**25 WATTS**
TYPES 25KT & 25NIT
23/32" dia. x 2 7/8" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 2.23 | 11 |
| 10 | 1.58 | 15 |
| 25 | 1.0 | 25 |
| 50 | .707 | 35 |
| 75 | .577 | 43 |
| 100 | .500 | 50 |
| 150 | .408 | 61 |
| 200 | .353 | 70 |
| 250 | .316 | 79 |
| 500 | .223 | 111 |
| 600 | .204 | 122 |
| 750 | .182 | 137 |
| 1000 | .158 | 158 |
| 1500 | .129 | 193 |
| 2000 | .111 | 223 |
| 2500 | .100 | 250 |
| 3000 | .091 | 273 |
| 4000 | .079 | 316 |
| 5000 | .070 | 353 |
| 7500 | .057 | 432 |
| 10000 | .050 | 500 |
| 12000 | .046 | 548 |
| 15000 | .041 | 612 |
| 20000 | .035 | 707 |
| 25000 | .032 | 790 |
| 40000 | .025 | 1000 |
| 50000 | .022 | 1118 |
| 75000 | .018 | 1370 |
| 100000 | .016 | 1580 |

**50 WATTS**
TYPES 50KT & 50NIT
7/8" dia. x 4" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 3.16 | 15 |
| 10 | 2.23 | 22 |
| 25 | 1.41 | 35 |
| 50 | 1.000 | 50 |
| 75 | .816 | 61 |
| 100 | .707 | 70 |
| 150 | .577 | 86 |
| 200 | .500 | 100 |
| 250 | .477 | 111 |
| 500 | .316 | 158 |
| 600 | .289 | 173 |
| 750 | .258 | 193 |
| 1000 | .223 | 223 |
| 1500 | .182 | 274 |
| 2000 | .158 | 316 |
| 2500 | .141 | 353 |
| 3000 | .129 | 387 |
| 4000 | .111 | 447 |
| 5000 | .100 | 500 |
| 7500 | .081 | 612 |
| 10000 | .070 | 707 |
| 12000 | .064 | 775 |
| 15000 | .057 | 870 |
| 20000 | .050 | 1000 |
| 25000 | .044 | 1120 |
| 50000 | .032 | 1580 |
| 75000 | .026 | 1936 |
| 100000 | .022 | 2238 |

**120 WATTS**
TYPES 120KT & 120NIT
1 1/16" dia. x 8 13/16" long

| Ohms | Max. Amps. | Max. Volts |
|---|---|---|
| 5 | 4.9 | 24.5 |
| 10 | 3.46 | 34.6 |
| 25 | 2.18 | 54.6 |
| 50 | 1.54 | 77.4 |
| 75 | 1.26 | 94.8 |
| 100 | 1.09 | 109.5 |
| 150 | .884 | 134 |
| 200 | .775 | 155 |
| 250 | .692 | 173 |
| 390 | .574 | 211 |
| 500 | .490 | 245 |
| 600 | .446 | 268 |
| 750 | .400 | 300 |
| 1000 | .346 | 346 |
| 1500 | .282 | 424 |
| 2000 | .245 | 490 |
| 2500 | .219 | 548 |
| 3000 | .200 | 600 |
| 5000 | .154 | 774 |
| 7500 | .126 | 948 |
| 10000 | .109 | 1095 |
| 15000 | .089 | 1340 |
| 20000 | .077 | 1550 |
| 25000 | .069 | 1733 |
| 50000 | .049 | 2450 |
| 75000 | .040 | 3000 |
| 100000 | .034 | 3460 |

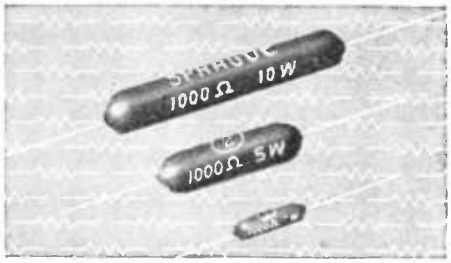
*KT Types Only

†Adjustable Resistors Are Not Tropicalized

### NEW IMPROVED KOOLOHM RESISTORS FOR INDUSTRIAL APPLICATIONS

Designed especially for severe duty cycles encountered in heavy-duty industrial electronic equipment, these units are available in 3, 5, 7, 10, and 14 watt ratings, in both standard and non-inductive windings. The unique construction of these resistors allows them to operate at "hottest-spot" temperatures to 350°C. Every unit is production aged for maximum stability. For complete data write for Engineering Bulletin 7300.

## BLUE JACKET® WIREWOUND RESISTORS




- Dependable in critical equipment yet priced low enough for radio-TV service work
- Ideal for point-to-point and terminal board wiring, as well as on printed wiring boards
- Will meet stringent MIL performance requirements with 35% to 50% Reduction in Size
- Crazeproof vitreous enamel coating guards against humidity and prevents failure from electrolysis
- Hot spot rating, 300°C rise above 40°C amb. temp.
- Standard resistance tolerance to 50 ohms, ±10%. Over 50 ohms, ±5%

| Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA | Ohms | MaxMA |
|---|---|---|---|---|---|---|---|
| TYPE 151E, **3 WATTS**, 15/64" Max. D. x 9/16" Max. L. | | | | | | | |
| 10 | 548 | 82 | 191 | 390 | 88 | 2200 | 37 |
| 12 | 500 | 100 | 173 | 470 | 80 | 2500 | 35 |
| 15 | 446 | 120 | 158 | 500 | 77 | 2700 | 33 |
| 18 | 409 | 150 | 141 | 560 | 73 | 3300 | 30 |
| 22 | 370 | 180 | 129 | 680 | 66 | 3900 | 28 |
| 27 | 334 | 200 | 123 | 820 | 60 | 4700 | 25 |
| 33 | 302 | 220 | 117 | 1000 | 55 | 5000 | 24 |
| 39 | 278 | 250 | 110 | 1200 | 50 | 5600 | 23 |
| 47 | 253 | 270 | 105 | 1500 | 45 | 6800 | 21 |
| 50 | 245 | 300 | 100 | 1800 | 41 | 8200 | 91 |
| 56 | 232 | 330 | 95 | 2000 | 39 | 10000 | 15 |
| 68 | 210 | | | | | | |
| TYPE 27E, **5 WATTS**, 21/32" Max. D. x 1 1/16" Max. L. | | | | | | | |
| 1 | 2236 | 75 | 258 | 800 | 79 | 5000 | 31 |
| 1.5 | 1928 | 100 | 224 | 900 | 74 | 6000 | 28 |
| 2 | 1581 | 125 | 205 | 1000 | 70 | 7000 | 26 |
| 3 | 1356 | 150 | 183 | 1100 | 67 | 7500 | 25 |
| 4 | 1118 | 200 | 158 | 1200 | 64 | 8000 | 25 |
| 5 | 1000 | 225 | 150 | 1250 | 63 | 9000 | 23 |
| 7.5 | 862 | 250 | 141 | 1500 | 57 | 10000 | 22 |
| 10 | 707 | 300 | 129 | 1750 | 53 | 12000 | 20 |
| 12 | 646 | 350 | 122 | 2000 | 50 | 14000 | 18 |
| 15 | 587 | 400 | 112 | 2250 | 47 | 15000 | 18 |
| 20 | 500 | 450 | 106 | 2500 | 44 | 17500 | 16 |
| 25 | 447 | 500 | 100 | 3000 | 40 | 20000 | 15 |
| 30 | 406 | 600 | 91 | 3500 | 37 | 22500 | 15 |
| 35 | 377 | 700 | 84 | 4000 | 35 | 25000 | 14 |
| 40 | 354 | 750 | 82 | 4500 | 33 | 30000 | 13 |
| 50 | 316 | | | | | | |
| TYPE 28E, **10 WATTS**, 27/32" Max. D. x 1 15/16" Max. L. | | | | | | | |
| 1 | 3162 | 150 | 259 | 1500 | 81 | 10000 | 32 |
| 1.5 | 2701 | 200 | 224 | 1750 | 75 | 11000 | 30 |
| 2 | 2236 | 225 | 213 | 2000 | 71 | 12000 | 29 |
| 3 | 1918 | 250 | 200 | 2250 | 67 | 12500 | 28 |
| 4 | 1581 | 300 | 182 | 2500 | 63 | 13500 | 27 |
| 5 | 1414 | 350 | 170 | 3000 | 57 | 14300 | 26 |
| 7.5 | 1252 | 400 | 158 | 3300 | 55 | 15000 | 25 |
| 10 | 1000 | 450 | 148 | 3500 | 54 | 16000 | 25 |
| 12 | 911 | 500 | 141 | 3900 | 51 | 17500 | 24 |
| 15 | 830 | 600 | 129 | 4000 | 50 | 18000 | 23 |
| 20 | 707 | 700 | 119 | 4500 | 47 | 20000 | 21 |
| 25 | 632 | 750 | 115 | 5000 | 45 | 22500 | 21 |
| 30 | 575 | 800 | 112 | 6000 | 41 | 25000 | 20 |
| 35 | 539 | 900 | 105 | 7000 | 38 | 30000 | 18 |
| 40 | 500 | 1000 | 100 | 7500 | 36 | 35000 | 17 |
| 50 | 447 | 1100 | 95 | 8000 | 35 | 40000 | 16 |
| 75 | 365 | 1200 | 91 | 8500 | 34 | 45000 | 15 |
| 100 | 316 | 1250 | 89 | 9000 | 33 | 50000 | 14 |
| 125 | 288 | 1450 | 82 | | | | |

### INDUSTRIAL BLUE JACKET RESISTORS

Available in 2, 3, 5, 7, and 11 watt ratings, these units feature new, improved end cap construction, with wire and leads welded to end cap. Hot spot rating is 350°C rise above 40°C ambient temperature. For complete data write for Engineering Bulletin 7410.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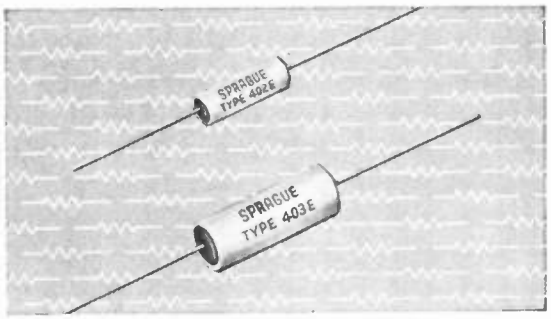
World Radio History

# SPRAGUE INDUSTRIAL RESISTORS

## FILMISTOR® DEPOSITED-CARBON RESISTORS




- Carbon-film resistors intended for close tolerance applications in military, industrial, and telephone electronic equipment where small size and stability of electrical characteristics are important

- Furnished in hermetically-sealed dense ceramic cases using ceramic-to-metal solder seals
- Long-term stability of resistance is maintained because the Filmistor case not only sheds water but is vapor resistant as well, eliminating field failure through electrolytic action and penetration of vapor
- Ceramic case provides excellent physical protection during handling and installation—permits mounting in contact with conducting surfaces, thus saving space.
- Designed to meet stringent performance requirements of MIL Spec. MIL-R-10509B
- High frequency characteristics superior to conventional composition resistors
- Standard resistance tolerances: ±1%, ±2%, ±5%

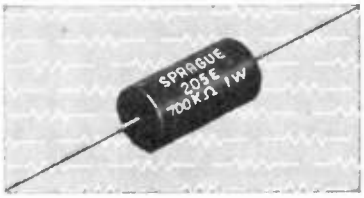
For lower-cost commercial applications, Filmistor Resistors are also available with molded plastic cases in wattage ratings of 1/8, 1/4, 1/2, 1, and 2 watts. For complete data write for Engineering Bulletin 7000.

### SIZES AND ELECTRICAL RATINGS

| Sprague Type No. | MIL Style No. | MIL Wattage | Comm. Wattage | Dimensions in Inches: MIL Dia. | MIL Length | SPRAGUE Dia. | SPRAGUE Length | SPRAGUE Resistance Limits Min. Ω | Max. MΩ | Max. Voltage | Lead AWG |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 400E | RN60 | 1/8 | 1/4 | 1/8 +.040 −.010 | 3/8 + 1/16 − 1/32 | .155±.010 | 13/32±1/32 | 25 | .5 | 250 | No. 22 |
| 401E | RN65 | 1/4 | 1/2 | 3/16 + 1/16 − 1/32 | 5/8 + 1/32 − 1/16 | .240±.010 | 5/8±1/32 | 25 | .75 | 300 | No. 20 |
| 402E | RN70 | 1/2 | 1/2 | 1/4 ± 1/32 | 3/4 + 3/32 − 1/16 | .250±.015 | 3/4±1/16 | 25 | 1 | 350 | No. 20 |
| 403E | RN75 | 1 | 1 | 3/8 + 1/16 − 1/32 | 1 1/16 ± 1/16 | .400±.020 | 1 1/16±1/16 | 25 | 2 | 500 | No. 20 |
| 404E | RN80 | 2 | 2 | 3/8 + 1/16 − 1/32 | 2 3/16 + 3/32 − 1/16 | .400±.020 | 2 7/32±1/16 | 100 | 10 | 750 | No. 20 |

## PERMASEAL®

### ACCURATE WIREWOUND RESISTORS




- Especially designed for applications which require highly accurate resistance values in small physical sizes
- Embedded in special plastic resin for maximum mechanical protection and humidity resistance
- Available for continuous full-load operation at two ambient temperatures —85°C and 125°C
- Carefully aged for high stability by special process
- Will meet severe humidity requirements of MIL Specifications MIL-R-93A and MIL-R-9444
- Available in close resistance tolerances down to 0.1%
- For complete data write for Engineering Bulletin 122A

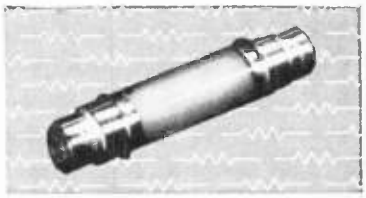
## SPIRAMEG®

### HIGH-OHMIC RESISTORS

- A new concept of reliability with economy
- Ideally suited for use in high voltage circuits of color TV and other cathode-ray equipment as well as in nuclear electronic apparatus
- Stable resistance element helically applied to ceramic rod base, providing long resistance path in small space with relatively low voltage per unit length
- Encapsulated in tough plastic resin housing for positive protection against moisture and mechanical damage
- Available in resistance ratings from .1 to 300 Megohms at voltages to 30KV
- Standard resistance tolerances: ±5%, ±10%, ±15%, ±20%
- For complete data write for Engineering Bulletin 7100

## KOOLOHM®

### GLASS-ENCASED RESISTORS



- Designed to meet the 9-cycle salt-water immersion and thermal shock tests for characteristics F and G, in accordance with MIL Specification MIL-R-26C
- The first resistors on the market able to meet the Navy's Grade 1, Class 1 requirement
- These Koolohms have true hermetic seals, being completely encasd in high-voltage, heat-treated glass tubes, with glass-to-metal soldered end seals
- Will withstand 15KV 60 cycles r.m.s. flash voltage from winding to ground
- Ferrule terminals for fuse clip mounting are made of electro-tinned brass
- Available with standard, non-inductive, and super-non-inductive windings
- Standard resistance tolerance, ±5%
- For complete data, write for Engineering Bulletin 7350

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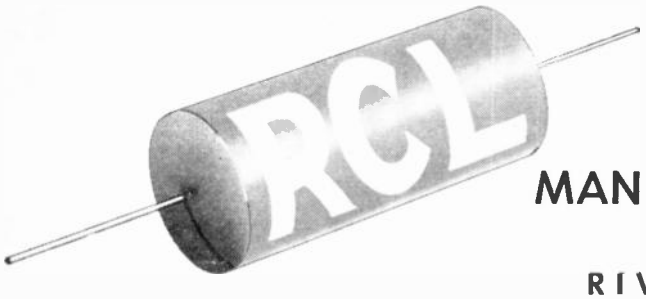



# R. C. L.

## MANUFACTURING COMPANY

*ELECTRONIC SPECIALTIES*

RIVERSIDE, NEW JERSEY

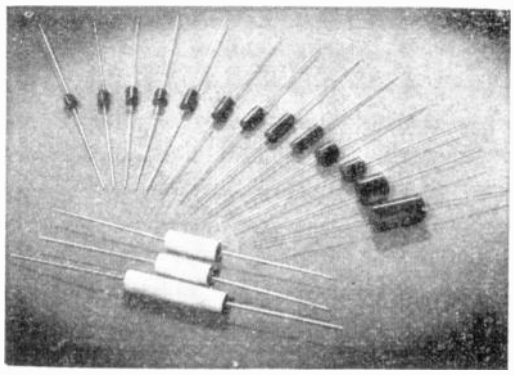
# WIRE-WOUND POWER AND PRECISION RESISTORS

**Wire-wound precision and power resistors made under exact atmospheric conditions to meet all requirements of the electronic industry. RCL resistors are silicone coated by our own special process, using low-temperature coefficient materials.**

## AXIAL LEAD PRECISION RESISTORS

| RCL Type | Military Spec. Mil-R-93 & Mil-R-9444 | Maximum * Resistance Value | Commercial † Wattage Rating | Military ‡ Wattage Rating | Wire Gauge AWG |
|---|---|---|---|---|---|
| 7009 | | 100K | ⅛ | — | #22 |
| 7010 | AFRT 10 | 200KΩ | ¼ | ⅛ | #22 |
| 7011 | | 150 | ¼ | — | #22 |
| 7020 | AFRT 11 | 500KΩ | ⅓ | ¼ | #22 |
| 7030 | AFRT 12 | 750KΩ | ½ | ⅓ | #20 |
| 7040 | AFRT 13 | 1.5 Meg. | 1.0 | ¾ | #20 |
| 7051 | | 1.0 Meg. | ½ | — | #20 |
| 7050 | RB 52<br>AFRT 14 | 2.0 Meg. | 1.0 | 1.0 | #20 |
| 7060 | AFRT 15 | 3.5 Meg. | 2.0 | 2.0 | #20 |

Prices on Axial Lead Precision Resistors Quoted on Request

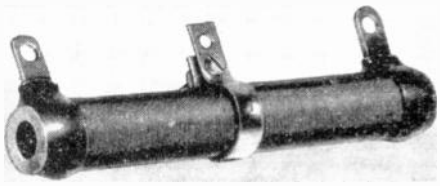


PRECISION WIRE-WOUND RESISTORS

## RADIAL LUG PRECISION RESISTORS

| RCL Type | Military Specs. Mil-R-93 & Mil-R-9444 | Maximum * Resistance Value | Commercial † Wattage Rating | Military Wattage Rating | Mounting Hole Dia. |
|---|---|---|---|---|---|
| 6010 | RB09 | 600KΩ | ¼ | — | .144 |
| 6020 | RB15 | 1.0 Meg. | ⅛ | ¼ | .144 |
| 6030 | RB16 | 1.5 Meg. | ½ | ⅓ | .144 |
| 6040 | RB17 | 3.0 Meg. | 1.0 | ½ | .144 |
| 6041 | RB17 | 1.5 Meg. | 1.0 | ½ | .144 |
| 6050 | RB18 | 5.0 Meg. | 1.0 | ½ | .144 |
| 6060 | RB19 | 10 Meg. | 2.0 | 1 | .144 |

Prices on Radial Lead Precision Resistors Quoted on Request



POWER WIRE-WOUND RESISTORS

## FIXED AND ADJUSTABLE POWER RESISTORS

Standard Band Widths 3/16" and ¼"

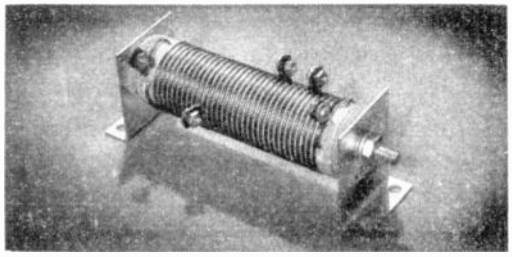
| RCL TYPE Fixed | RCL TYPE Adj. | Mil-R-26 Type | Maximum Resistance | Wattage Rating | LIST PRICE Fixed | LIST PRICE Adj. |
|---|---|---|---|---|---|---|
| 2010 | 2011 | RW 30 | 2,500Ω | 5 | $ .65 | $ .72 |
| 2020 | 2021 | RW 29 | 10,000Ω | 10 | .81 | .89 |
| 2030 | 2031 | RW 32 | 25,000Ω | 20 | .87 | .96 |
| 2040 | 2041 | | 25,000Ω | 25 | .93 | 1.02 |
| 2050 | 2051 | | 50,000Ω | 50 | 2.32 | 2.55 |
| 2060 | 2061 | RW 36 | 100,000Ω | 75 | 3.90 | 4.29 |
| 2070 | 2071 | | 100,000Ω | 100 | 3.42 | 3.76 |
| 2080 | 2081 | | 125,000Ω | 150 | 3.83 | 4.21 |
| 2090 | 2091 | RW 47 | 150,000Ω | 200 | 4.08 | 4.49 |

NOTES:

* Maximum resistance value is based on .0009" E alloy wire.

† Commercial wattage rating is based on a 40°C. ambient.

‡ Military wattage rating is based on ambient specified in the applicable specification.



ADJUSTABLE POWER RESISTORS

### ORDERING INFORMATION

When ordering R.C.L. precision wire-wound resistors, please specify the following: Quantity, R.C.L. style and/or Military Specification style; resistance value in absolute ohms (1 absolute ohm equals 0.9995 International ohm); resistance tolerance, temperature coefficient; and specific requirements that may apply to your particular application.



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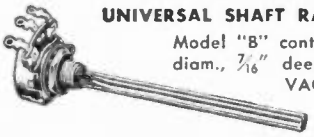
World Radio History

# CONTROLS



### UNIVERSAL SHAFT RADIOHMS®

Model "B" controls, carbon, ½ watt, 15/16" diam., 7/16" deep. Breakdown voltage 900 VAC-RMS to ground. Shaft ¼" diam. 3⅜" long from mtg. surface; UNIVERSAL fluted knurled type — will fit knurl, shallow flat, deep flat, slotted, or round applications. Bushing ⅜" long, ⅜"—32 thrd. equipped with lock washer and mounting nut. Can easily be converted to switch type by merely snapping on a "KB" or "KR" switch listed below.

### ADASHAFT® RADIOHMS®

Model "AB" controls are identical to Model B controls in every respect except for attachable shaft construction thru use of patented stub, screwdriver slot shaft 9/16" long from mtg. surface. This stub can be used as is or extended by using any one of the 12 AK shaft styles shown below. Can easily be converted to switch type by snapping on a "KB" or "KR" switch also listed below.

### PLAIN TYPE

| Ohms. Max. Resistance | Taper | Model B Cat. No. | Model AB Cat. No. | Ohms. Max. Resistance | Taper | Model B Cat. No. | Model AB Cat. No. | Ohms. Max. Resistance | Taper | Model B Cat. No. | Model AB Cat. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | C-1 | B-2 | AB-2 | 20,000 | C-5 | B-23 | AB-23 | ½ Meg. | C-6 | B-616 | AB-616 |
| 500 | C-1 | B-4 | AB-4 | 20,000 | C-6 | B-24 | AB-24 | ½ Meg. | C-7 | B-617 | AB-617 |
| 750 | C-5 | B-415 | AB-415 | 25,000 | C-1 | B-26 | AB-26 | 750,000 | C-1 | B-66 | AB-66 |
| 1,000 | C-1 | B-5 | AB-5 | 25,000 | C-4 | B-29 | AB-29 | 1 Meg. | C-1 | B-69 | AB-69 |
| 1,000 | C-5 | B-505 | AB-505 | 25,000 | C-5 | B-27 | AB-27 | 1 Meg. | C-2 | B-70 | AB-70 |
| 1,500 | C-5 | B-515 | AB-515 | 25,000 | C-6 | B-28 | AB-28 | 1 Meg. | C-4 | B-744 | AB-744 |
| 2,000 | C-1 | B-6 | AB-6 | 50,000 | C-1 | B-31 | AB-31 | 1 Meg. | C-5 | B-68 | AB-68 |
| 2,500 | C-1 | B-7 | AB-7 | 50,000 | C-2 | B-32 | AB-32 | 1 Meg. | C-7 | B-697 | AB-697 |
| 2,500 | C-5 | B-705 | AB-705 | 50,000 | C-5 | B-34 | AB-34 | 1.5 Meg. | C-1 | B-742 | AB-742 |
| 3,000 | C-1 | B-8 | AB-8 | 75,000 | C-1 | B-35 | AB-35 | 2 Meg. | C-1 | B-75 | AB-75 |
| 4,000 | C-1 | B-9 | AB-9 | 75,000 | C-5 | B-36 | AB-36 | 2 Meg. | C-2 | B-76 | AB-76 |
| 5,000 | C-1 | B-10 | AB-10 | 100,000 | C-1 | B-40 | AB-40 | 2 Meg. | C-5 | B-77 | AB-77 |
| 5,000 | C-2 | B-11 | AB-11 | 100,000 | C-2 | B-41 | AB-41 | 2.5 Meg. | C-1 | B-83 | AB-83 |
| 5,000 | C-5 | B-12 | AB-12 | 150,000 | C-1 | B-43 | AB-43 | 3 Meg. | C-1 | B-84 | AB-84 |
| 7,500 | C-1 | B-13 | AB-13 | 150,000 | C-2 | B-44 | AB-44 | 3 Meg. | C-2 | B-85 | AB-85 |
| 10,000 | C-1 | B-14 | AB-14 | 200,000 | C-1 | B-46 | AB-46 | 3 Meg. | C-5 | B-855 | AB-855 |
| 10,000 | C-2 | B-15 | AB-15 | 250,000 | C-1 | B-50 | AB-50 | 4 Meg. | C-1 | B-86 | AB-86 |
| 10,000 | C-4 | B-18 | AB-18 | 250,000 | C-2 | B-51 | AB-51 | 4 Meg. | C-2 | B-862 | AB-862 |
| 10,000 | C-5 | B-17 | AB-17 | 250,000 | C-5 | B-52 | AB-52 | 5 Meg. | C-1 | B-87 | AB-87 |
| 10,000 | C-6 | B-16 | AB-16 | ½ Meg. | C-1 | B-59 | AB-59 | 5 Meg. | C-2 | B-88 | AB-88 |
| 15,000 | C-5 | B-19 | AB-19 | ½ Meg. | C-2 | B-60 | AB-60 | 7 Meg. | C-7 | B-89 | AB-89 |
| 15,000 | C-6 | B-20 | AB-20 | ½ Meg. | C-4 | B-58 | AB-58 | 10 Meg. | C-1 | B-98 | AB-98 |
| 20,000 | C-1 | B-22 | AB-22 | ½ Meg. | C-5 | B-61 | AB-61 | | | | |

### SINGLE TAP

| Ohms. Max. Resis. | Taper | Tap | Model BT Cat. No. | Model ABT Cat. No. |
|---|---|---|---|---|
| 50,000 | C-11 | Tap-25K | BT-33 | ABT-33 |
| 100,000 | C-11 | Tap-50K | BT-39 | ABT-39 |
| 200,000 | C-11 | Tap-100K | BT-47 | ABT-47 |
| 250,000 | C-11 | Tap-125K | BT-53 | ABT-53 |
| 250,000 | C-12 | Tap-50K | BT-54 | ABT-54 |
| 250,000 | C-13 | Tap-75K | BT-55 | ABT-55 |
| 250,000 | C-16 | Tap-125K-62½% Rot. | BT-56 | ABT-56 |
| 350,000 | C-12 | Tap-70K | BT-57 | ABT-57 |
| ½ Meg. | C-11 | Tap-250K | BT-65 | ABT-65 |
| ½ Meg. | C-12 | Tap-100K | BT-66 | ABT-66 |
| ½ Meg. | C-13 | Tap-150K | BT-67 | ABT-67 |
| ½ Meg. | C-15 | Tap-50K-50% Rot. | BT-63 | ABT-63 |
| ½ Meg. | C-16 | Tap-250K-62½% Rot. | BT-64 | ABT-64 |
| ½ Meg. | C-17 | Tap-50K-37½% Rot. | BT-62 | ABT-62 |
| 1 Meg. | C-11 | Tap-500K | BT-71 | ABT-71 |
| 1 Meg. | C-12 | Tap-200K | BT-72 | ABT-72 |
| 1 Meg. | C-13 | Tap-300K | BT-73 | ABT-73 |
| 1 Meg. | C-16 | Tap-500K-62½% Rot. | BT-74 | ABT-74 |
| 1 Meg. | C-17 | Tap-100K | BT-7417 | ABT-7417 |
| 2 Meg. | C-11 | Tap-1 Meg. | BT-78 | ABT-78 |
| 2 Meg. | C-12 | Tap-400K | BT-79 | ABT-79 |
| 2 Meg. | C-13 | Tap-600K | BT-80 | ABT-80 |
| 2 Meg. | C-15 | Tap-200K | BT-81 | ABT-81 |
| 2 Meg. | C-16 | Tap-1 Meg.-62½% Rot. | BT-82 | ABT-82 |
| 3 Meg. | C-15 | Tap-300K-50% Rot. | BT-8515 | ABT-8515 |
| 3 Meg. | C-17 | Tap-300K-37½% Rot. | BT-8517 | ABT-8517 |

### DUAL TAP TYPE

| Ohms. Max. Resistance | Taps | Catalog Number | Catalog Number |
|---|---|---|---|
| 15,000 | Taps- 5K and 10K | BT-154 | ABT-154 |
| 250,000 | Taps-50K and 125K | BT-155 | ABT-155 |
| 250,000 | Taps-41K and 82K | BT-156 | ABT-156 |
| ½ meg. | Taps-82K and 165K | BT-159 | ABT-159 |
| ½ meg. | Taps-100K and 250K | BT-160 | ABT-160 |
| 1 meg. | Taps-165K and 330K | BT-164 | ABT-164 |
| 1 meg. | Taps-200K and 500K | BT-165 | ABT-165 |
| 1.5 meg. | Taps-250K and 500K | BT-167 | ABT-167 |
| 2 megs. | Taps-250K and 500K | BT-174 | ABT-174 |
| 2 megs. | Taps-400K and 1 meg. | BT-175 | ABT-175 |
| 2.5 megs. | Taps-300K and 625K | BT-176 | ABT-176 |

### MODEL B SWITCH TYPE RADIOHMS

Factory assembled switch type units are universal D.P.S.T., for S.P.S.T., D.P.S.T., or 3 wire usage

| Ohms Max. Resistance | Taper | Catalog Number |
|---|---|---|
| ½ Meg | C2 | B-60-S |
| 1 Meg | C2 | B-70-S |

### CONTROL PRICES

All B Units.....List Price $1.55
B-60-S and B-70-S.....List Price 2.25
All BT Units.....List Price 2.25
All AB Units.....List Price 1.40
All ABT Units.....List Price 2.10

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# CONTROLS *(Cont'd)*

### TYPE KR "FASTATCH" SWITCHES

| Circuit | AC Rating | DC Rating | Cat. No. | List Price |
|---|---|---|---|---|
| SPST | 3 amp., 125 v.a.c. | ..... | KR-1 | $ .70 |
| DPST | 3 amp., 125 v.a.c. | ..... | KR-2 | .85 |
| DP (1 Pole "on" 1 Pole "off") | 3 amp., 125 v.a.c. | ..... | †KR-3 | .85 |
| SPST | ..... | 15 amp., 10 v.d.c. | KR-4 | 1.10 |
| SPST | ..... | 15 amp., 10 v.d.c. | *KR-6 | .85 |
| DPST | ..... | 15 amp., 10 v.d.c. | KR-7 | 1.10 |

*(With Dummy Lug)
†(Can be used as SPDT by adding a jumper wire between terminals 1 and 3)

### SWITCH SHIELDS

For use with Switch Type units where AC shielding is required, space permitting; or where required by Underwriters' Lab.
Packaged 5 per carton.....CAT. NO. KB-5

### AB-100 ADASHAFT CONTROL KIT

The AB-100 kit contains 14 AB Adashaft controls, 6 rear switches, 18 assorted shafts and 2 couplers; and is packed in a sturdy transparent plastic box with hinged lid for easy use. This kit will fit into your tool box and is made up of the 14 most active movers by actual sales.

| Ohms Resist. | Taper | Catalog No. | Quantity |
|---|---|---|---|
| ½ Meg | C-2 | AB-60 | 3 |
| 1 Meg | C-2 | AB-70 | 3 |
| 1 Meg | C-1 | AB-69 | 1 |
| 2 Meg | C-2 | AB-76 | 1 |
| 5 Meg | C-1 | AB-87 | 1 |
| 5,000 | C-1 | AB-10 | 1 |
| 10,000 | C-1 | AB-14 | 1 |
| 50,000 | C-1 | AB-31 | 1 |
| 100K | C-1 | AB-40 | 1 |
| ½ Meg | C-1 | AB-59 | 1 |

**List Price $29.25**

### ADASHAFT SHAFTS — COUPLERS — SHAFT EXTENSIONS

| Cat. No. | Description | List Price Per Pkg. |
|---|---|---|
| AK-1 | Fingertip knurl and screwdriver slot ⅜" long from bushing. | $0.75/5 |
| AK-2 | 1 9/16" long from bushing, with .078"-wide slot..... | 1.50/5 |
| AK-3 | Universal fluted mill full length, 3" long from bushing .... | .75/5 |
| AK-4 | Split knurl shaft 3⅞" long from bushing ..... | 1.25/5 |
| AK-7 | 3" long from bushing with full length .156" flat ..... | 1.25/5 |
| AK-8 | 3/16" diameter, full round, 2⅛" long from bushing ..... | 1.50/5 |
| AK-9 | ¼" diameter, full round, 3¼" long from bushing..... | 1.50/5 |
| AK-10 | 10" long from bushing, with flat mill .216" x 4 5/16"..... | 3.00/5 |
| AK-11 | Universal, including split knurl, flat, and slot, 4" long from bushing..... | 1.25/5 |
| AK-16 | Coupler adaptable to ¼" and ¼" or ¼" and 3/16" shafts... | 2.50/5 |
| AK-19 | Insulating nylon, 2 1/16" long from bushing ..... | 3.25/5 |
| AK-21 | Shaft extension 4" long, ¼" diam., .218" flat ..... | 3.50/5 |
| AK-22 | Shaft extension 4" long, ¼" diam., .154" flat ..... | 3.50/5 |
| AK-23 | Shaft extension 4" long, 3/16" diam., .172" flat..... | 3.50/5 |
| AK-24 | ¼" diameter, full round, ⅜" long ..... | 1.25/5 |
| AK-25 | ¼" diameter, flatted to .218", ⅜" long..... | 1.25/5 |
| AK-26 | Adapter bushing, ⅜"-32 thd. to 7/16"-28 thd., with nuts and lockwasher, length 1⅝" long..... | .75 ea. |
| AK-28 | Auto adapter bushing, ⅜" to ½"-28 thd., with nuts and lockwasher, length 2¼"..... | .75 ea. |
| AK-30 | Grounding lug, grounds bushing to terminal ..... | .50/doz. |

### SNAP-TITE* RADIOHMS®
**For speed-servicing of "hidden" or TV rear controls**

The revolutionary new Centralab control with amazing time-saving features:

- SNAP-TITE is installed by just *pushing* it into the chassis mounting hole. It holds itself in place.
- No tools needed for mounting; no nuts, lockwashers, or any other hardware. A clean, fast replacement.
- Six spring clips grip the panel for positive, non-twist mounting. Replaces any standard control type. (One or two locating lugs.)
- Shaft is molded, high-strength polystyrene, fingertip knurled and slotted for screwdriver adjustment. Extends ½" from face of mounting surface.

The ten values below will replace 75% of current rear-end or "hidden" television controls:

| Max. Resistance | Taper | Cat. No. | Max. Resistance | Taper | Cat. No. |
|---|---|---|---|---|---|
| 5000 | C1 | BX-10 | 1 meg. | C1 | BX-69 |
| 50K | C1 | BX-31 | 1½ megs. | C1 | BX-742 |
| 100K | C1 | BX-40 | 2 megs. | C1 | BX-75 |
| 200K | C1 | BX-46 | 2½ megs. | C1 | BX-83 |
| 500K | C1 | BX-59 | 3 megs. | C1 | BX-84 |

**List Price $0.85 each**

* Trademark

### MODEL JP AND JL RADIOHM®

Designed originally to meet rugged military specifications. These miniature controls are completely closed —can be sealed or potted—making them ideal for miniature amplifiers, geophysical equipment, guided missiles, and other application where small size, high quality and dependability are primary factors. Rated at ¼ watt, carbon, .671" diameter. Shaft: Model JP-plain round ⅛" diam. ¾" long from mtg. surface. Model JL—screwdriver slotted 1/8" diam., ½" long from mtg. surface. Model JP has ¼"—32 thread bushing ¼" long. Model JL has split locking bushing ¼"—32 thread, ⅜" long with jam nut. Both types equipped with lockwasher and mtg. nut.

| Ohms | Tol. | Taper See charts at End of Sec. | Catalog Number | Catalog Number |
|---|---|---|---|---|
| 1000 | 20% | C1 | JP-102 | JL-102 |
| 1500 | 20% | C1 | JP-152 | JL-152 |
| 2500 | 20% | C1 | JP-252 | JL-252 |
| 5000 | 20% | C1 | JP-502 | JL-502 |
| 7500 | 20% | C1 | JP-752 | JL-752 |
| 10K | 20% | C1 | JP-103 | JL-103 |
| 10K | 20% | C2 | JP2-103 | ..... |
| 25K | 20% | C1 | JP-253 | JL-253 |
| 50K | 20% | C1 | JP-503 | JL-503 |
| 100K | 20% | C1 | JP-104 | JL-104 |
| 250K | 20% | C1 | JP-254 | JL-254 |
| 500K | 20% | C1 | JP-504 | JL-504 |
| 500K | 20% | C2 | JP2-504 | ..... |
| 1 Meg. | 20% | C1 | JP-105 | JL-105 |
| 2.5 Meg. | 20% | C1 | JP-255 | JL-255 |

**List Price: JP—$5.85; JL—$6.10; KC knobs—$1.50/5.**

| | | | |
|---|---|---|---|
| **KNOBS** | KC-3 | knob | Black |
| | KC-4 | knob | White |
| | KC-5 | knob | Red |


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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***
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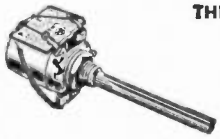
# CONTROLS (Cont'd)

### THE COMPENTROL®



The COMPENTROL is a volume control and special Packaged Electronic Circuit network designed to better reproduce the apparent bass and treble response of amplifiers, radio, and television sets when volume is at low level. For use in radio sets (5 or more tube AC or DC), audio amplifiers, or phono combinations.

| Resistance | Type | Cat. No. |
|---|---|---|
| ½ meg. | Plain Type | C1-60 |
| ½ meg. | Switch Type | C1-60-S |
| 1 meg. | Plain Type | C1-70 |
| 1 meg. | Switch Type | C1-70-S |

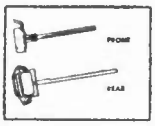
Suggested Dlr. Net — Plain.....$2.75 ea. Switch.....$3.30 ea.

### SENIOR COMPENTROL® WITH LEVEL-SET

Designed for use in hi-fi amplifiers, or preamplifiers a compact dual concentric unit to replace standard gain controls, permits any degree of compensation at low listening levels where compensation is required. For high level (or flat response) listening, compensation can be completely removed. Universal (replaces 100K to 1 Meg) control. Supplied with dual knob.

CAT. NO. C2-100.....Suggested Dealer Net $4.50

### FASTATCH® SENIOR COMPENTROL® KIT With High-Boost PEC Plates




The ultimate in compensated control for the advanced hi-fi owner. The Senior Compentrol is furnished as two separate units that can be snapped together after shafts are cut to any length up to 3¾" from mounting surface. Compensating PEC plate is pre-wired to rear unit. Two high-frequency boost plates are furnished for medium or substantial boosting of highs. Contains knobs and complete instructions.

C2-200 KIT.....Suggested Dealer Net $4.75

### SENIOR COMPENTROL® — CAT. NO. C3-300

The C3-300 is a compensated tone control as used in Baxendall circuit. Not to be confused with the C2-100 and C2-200 Compensated volume controls.

CAT. NO. C3-300.....Suggested Dealer Net $4.50

### SEPARATE HIGH-BOOST PEC PLATES

Same as furnished in C2-200 Kit, for overall emphasis of high frequencies. Can be installed in existing Compentrol unit or other location in high-fidelity amplifiers.

| Cat. No. | Boost at 10 KC. | Recommended for | List Price |
|---|---|---|---|
| PC-60 | 4db. | Multiple speaker installations | $0.50 |
| PC-61 | 8db. | Single or coaxial speaker installations | .50 |

### MODEL "SM" SERIES (Switch Type Only)

Model SM is a precision made sub-miniature unit designed primarily for transistor circuit applications. Rated 1/10 watt, 0.502" diam. without knob — 19/32 with knob. Stud mounted.

| Ohms | Taper | Catalog Number |
|---|---|---|
| 2,500 | C-2 | SM2-252-S |
| 5,000 | C-2 | SM2-502-S |
| 10,000 | C-2 | SM2-103-S |
| 25,000 | C-2 | SM2-253-S |

List Price $6.25

### MODEL B16 SERIES

Miniature controls designed originally for the hearing aid industry. Rated 1/10 watt, ⅝" diam. without knob — 23/32" with knob. ¼" total thickness with knob. Control including switch complete within knob.

| Ohms Max. Resistance | Taper See Chart at End of Sec. | Catalog Number Plain | Catalog Number Switch |
|---|---|---|---|
| 500 | C-1 | B16-107 | ..... |
| 1,000 | C-1 | B16-109 | ..... |
| 2,500 | C-1 | B16-111 | ..... |
| 2,500 | C-2 | B16-112 | B16-212 |
| 5,000 | C-1 | B16-113 | ..... |
| 5,000 | C-2 | B16-114 | B16-214 |
| 10,000 | C-1 | B16-115 | ..... |
| 10,000 | C-2 | B16-116 | B16-216 |
| 25,000 | C-2 | B16-117 | B16-217 |
| 50,000 | C-1 | B16-119 | ..... |
| 100.000 | C-1 | B16-121 | ..... |
| 250,000 | C-1 | B16-123 | ..... |
| ½ Meg. | C-2 | B16-118 | B16-218 |
| 1 Meg. | C-2 | B16-120 | B16-220 |
| 2 Megs. | C-2 | B16-122 | B16-222 |
| 3 Megs. | C-2 | B16-124 | B16-224 |
| 5 Megs. | C-2 | B16-128 | B16-228 |

List Price: Plain Type $2.50; Switch Type $4.00

### 5 WATT WIREWOUND RADIOHMS®

Size of a 2 watt, BUT rated at full 5 watts. 1 3/32" diam. x 9/16" deep. Linear taper. Shaft (WW-Style) full round, aluminum, ¼" diam. x 3" long from mtg. surface. (WN-Style) Finger tip knurl, screwdriver slotted, ¼" diam. x ¾" long from mtg. surface. Bushing ⅜" long — ⅜" —32 thrd.

| Ohms | WW Catalog No. | WN Catalog No. | Ohms | WW Catalog No. | WN Catalog No. |
|---|---|---|---|---|---|
| 1 | WW-010 | WN-010 | 100 | WW-101 | WN-101 |
| 2 | WW-020 | WN-020 | 200 | WW-201 | WN-201 |
| 3 | WW-030 | WN-030 | 250 | WW-251 | WN-251 |
| 4 | WW-040 | WN-040 | 300 | WW-301 | WN-301 |
| 5 | WW-050 | WN-050 | 400 | WW-401 | WN-401 |
| 6 | WW-060 | WN-060 | 500 | WW-501 | WN-501 |
| 8 | WW-080 | WN-080 | 750 | WW-751 | WN-751 |
| 10 | WW-100 | WN-100 | 1000 | WW-102 | WN-102 |
| 15 | WW-150 | WN-150 | 1500 | WW-152 | WN-152 |
| 20 | WW-200 | WN-200 | 2000 | WW-202 | WN-202 |
| 25 | WW-250 | WN-250 | 2500 | WW-252 | WN-252 |
| 30 | WW-300 | WN-300 | 3000 | WW-302 | WN-302 |
| 40 | WW-400 | WN-400 | 4000 | WW-402 | WN-402 |
| 50 | WW-500 | WN-500 | 5000 | WW-502 | WN-502 |
| 60 | WW-600 | WN-600 | 7500 | WW-752 | WN-752 |
| 75 | WW-750 | WN-750 | 10K | WW-103 | WN-103 |
| | | | 15K | WW-153 | WN-153 |

List Price $1.90

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# CONTROLS *(Cont'd)*

### FASTATCH® DUAL RADIOHMS®

Any dual concentric needed is instantly available—just select proper front and rear unit — cut shafts to length, snap together — snap on switch if needed. Carbon units are ½ watt, 15/16" diam.; wirewound units are 5 watts, 1 3/32" diam. Voltage breakdown 900 VAC-RMS to ground. Bushing 3/8" long, 3/8"—32 thrd. equipped with lockwasher and mtg. nut. (AK-26 or AK-28 bushing adaptors can be added for auto radio applications.)

### FASTATCH DUAL — FRONT UNIT

Outer shaft is 3 5/16" long from mounting surface, with double-flat mill . . . brass for quick cutting to proper length. Use for single or double flat or round shaft. Scores make cutting for single or double slot easy.

### FASTATCH DUAL — REAR UNIT

Distinctive blue aluminum inner shaft is 3¾" long from mounting surface. Easily cut to proper length. Diameter, 3/16" with .156" flat. Fits .187" or .202" flat shaft knob — spring adapter furnished for other knob types. Convert to switch type with type KB or KR switches listed in this section.

**List Price $1.90 — F1, F3, R2, R4**

**List Price $2.25 — F7**

| Max. Resist. | Taper or Tap | Front Unit Carbon | Front Unit Wirewound | Rear Unit Carbon |
|---|---|---|---|---|
| 250 | C1 | ..... | F7-50 | ..... |
| 300 | C1 | F1- 0 | F7-53 | ..... |
| 500 | C1 | F1- 1 | F7-59 | R2- 1 |
| 750 | C1 | F1- 2 | F7-65 | ..... |
| 750 | C5 | F3- 2 | .. .. | ..... |
| 750 | 500 | F1- 3 | .. .. | ..... |
| 1000 | C1 | F1- 4 | F7-68 | R2- 4 |
| 1000 | C5 | F1- 5 | | R2- 5 |
| 1500 | C1 | F1- 6 | F7-72 | R2- 6 |
| 1500 | C5 | F1- 7 | .. .. | R2- 7 |
| 1500 | 187 and 375 | F1- 8 | .. .. | ..... |
| 2000 | C1 | F1- 9 | F7-75 | R2- 9 |
| 2000 | C5 | F1-10 | .. .. | R2-10 |
| 2000 | 1500 | F1-11 | .. .. | ..... |
| 2000 | 250 and 500 | F3-11 | .. .. | ..... |
| 2250 | C1 | .. .. | F7-78 | ..... |
| 2500 | C1 | F1-12 | F7-82 | R2-12 |
| 2500 | C2 | .. .. | .. .. | R2-13 |
| 2500 | C3 | .. .. | .. .. | R2-14 |
| 2500 | C5 | F1-15 | .. .. | ..... |
| 2500 | 500 | F1-16 | .. .. | ..... |
| 2500 | 625 | F1-17 | .. .. | ..... |
| 3000 | C1 | .. .. | F7-85 | ..... |
| 3500 | C5 | .. .. | .. .. | R2-18 |
| 5000 | C1 | F1-19 | F7-90 | R2-19 |
| 5000 | C3 | F1-20 | .. .. | ..... |
| 5000 | C5 | F1-21 | .. .. | ..... |
| 7500 | C1 | .. .. | .. .. | R2-22 |
| 10K | C1 | F1-23 | F7-96 | R2-23 |
| 10K | C2 | F1-24 | .. .. | ..... |
| 10K | C5 | F1-25 | .. .. | R2-25 |
| 15K | 5K and 10K | F1-26 | .. .. | ..... |
| 25K | C1 | F1-27 | .. .. | R2-27 |
| 35K | C1 | F1-28 | .. .. | ..... |
| 50K | C1 | F1-29 | | R2-29 |
| 75K | C1 | F1-30 | | R2-30 |
| 100K | C1 | F1-31 | | R2-31 |
| 125K | C1 | F1-32 | | R2-32 |
| 200K | C1 | F1-33 | | R2-33 |
| 250K | C1 | F1-34 | | R2-34 |
| 250K | C2 | F1-35 | | R2-35 |
| 250K | C4 | .. .. | | R2-36 |
| 250K | C5 | F1-37 | | R2-37 |
| 250K | 75K | F3 37 | | R4-37 |
| 330K | 66K | .. .. | | R2-38 |
| 350K | C2 | F1-39 | | ..... |
| 500K | C1 | F1-40 | | R2-40 |
| 500K | C2 | F1-41 | | R2-41 |
| 500K | C4 | F1-42 | | R2-42 |
| 500K | 250K | F3-42 | | R4-42 |
| 500K | 100K | F1-44 | | R2-44 |
| 500K | 150K | .. .. | | R2-45 |
| 500K | 250K | .. .. | | R2-46 |
| 500K | 50K | F1-47 | | R2-47 |
| 500K | 150K | .. .. | | R2-48 |
| 750K | C2 | F1-49 | | ..... |
| 850K | C1 | F1-50 | | ..... |
| 1 meg. | C1 | F1-51 | | R2-51 |
| 1 meg. | C2 | F1-52 | | R2-52 |
| 1 meg. | C3 | F1-53 | | R2-53 |
| 1 meg. | C4 | F1-54 | | R2-54 |
| 1 meg. | C7 | F1-55 | | ..... |
| 1 meg. | 500K | F1-56 | | R2-56 |
| 1 meg. | 200K | .. .. | | R2-57 |
| 1 meg. | 250K | .. .. | | R2-58 |
| 1 meg. | 300K | F1-59 | | R2-59 |
| 1 meg. | 500K | .. .. | | R2-60 |
| 1 meg. | 100K | .. .. | | R2-61 |
| 1 meg. | 300K | .. .. | | R2-62 |
| 1 meg. | 200K and 500K | F1-63 | | ..... |
| 1½ meg. | C1 | F1-64 | | R2-64 |
| 1½ meg. | C7 | F1-65 | | ..... |
| 1½ meg. | 250K and 500K | .. .. | | R2-66 |
| 2 megs. | C1 | F1-67 | | R2-67 |
| 2 megs. | C2 | F1-68 | | R2-68 |
| 2 megs. | C4 | F1-69 | | ..... |
| 2 megs. | C5 | .. .. | | R2-70 |
| 2 megs. | C7 | F1-71 | | ..... |
| 2 megs. | 1 meg. | .. .. | | R2-72 |
| 2 megs. | 400K | F1-73 | | R2-73 |
| 2 megs. | 200K | F1-74 | | R2-74 |
| 2 megs. | 600K | .. .. | | R4-74 |
| 2 megs. | 1 meg. | F1-75 | | R2-75 |
| 2½ megs. | C1 | F1-76 | | R2-76 |
| 2½ megs. | C7 | F1-77 | | R2-77 |
| 3 megs. | C1 | F1-78 | | R2-78 |
| 3 megs. | C2 | F1-79 | | R2-79 |
| 3 megs. | 1½ meg. | .. .. | | R2-80 |
| 3 megs. | 900K | F1-81 | | R2-81 |
| 4 megs. | C7 | F1-82 | | ..... |
| 5 megs. | C7 | F1-83 | | R2-83 |
| 5 megs. | C3 | .. .. | | R2-84 |

### FASTATCH DUAL WIREWOUND FRONT UNIT

The units are constructed in the same style as the carbon front units. Shaft ¼" diam., 2 15/16" long from mtg. surface. Design is identical to carbon front units. Control is rated full 5 watts, wirewound, 1 3/32" diam. — 9/16" deep. All units are linear taper.



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# CONTROLS *(Cont'd)*

### FR-22A FASTATCH DUAL CONCENTRIC CONTROL KIT

The FR-22A kit includes a sturdy metal cabinet and contains one each of the 11 most popular front units and the 11 most popular rear units in the "Fastatch" dual concentric control system. These 22 values are the most active movers by actual sales figures. Over 120 different dual concentric controls can be assembled from this small stock.

**KIT CONTENTS:**

| FRONT UNITS | | | REAR UNITS | | |
|---|---|---|---|---|---|
| Ohms Res. | Taper | Cat. No. | Ohms Res. | Taper | Cat. No. |
| 1,000 | C1 | F1-4 | 50,000 | C1 | R2-29 |
| 1,500 | C1 | F1-6 | 100,000 | C1 | R2-31 |
| 1,500 | C5 | F1-7 | 250,000 | C4 | R2-36 |
| 2,000 | C5 | F1-10 | 250,000 | C14 | R4-37 |
| 2,500 | C5 | F1-15 | ½ meg | C1 | R2-40 |
| 5,000 | C5 | F1-21 | ½ meg | C2 | R2-41 |
| 10,000 | C5 | F1-25 | ½ meg | C17 | R2-47 |
| 50,000 | C1 | F1-29 | 1 meg | C1 | R2-51 |
| ½ meg | C1 | F1-40 | 1 meg | C2 | R2-52 |
| 1 meg | C1 | F1-51 | 1 meg | Tap ½ meg | R2-56 |
| 2 meg | C1 | F1-67 | 1 meg | Tap 200K | R2-57 |

**TYPE KR "FASTATCH" SWITCHES**

| | | |
|---|---|---|
| SPST | 3 amps., 125 V.A.C. | KR-1 (3) |
| SPST | 15 amps., 10 V.D.C. | KR-4 (2) |
| DPST | 3 amps., 125 V.A.C. | KR-2 (1) |
| DPST | 15 amps., 10 V.D.C. | KR-7 (1) |

**ADAPTER BUSHINGS (For Auto Radios)**

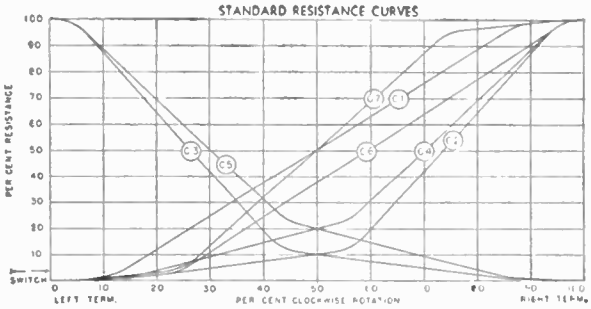
⅜"-32 thd. to 7/16"-28 thd., 1⅝" L with nuts and lockwasher.....AK-26 (1)
⅜" to ½"-28 thd., 2¼" L, with nuts and lockwasher.....AK-28 (1)

**MODEL "BB" TWIN RADIOHM®**

Two Model "B" controls in tandem operated by a single shaft. Specifications same as Model B.

| Resistance Front | Taper Front | Resistance Rear | Taper Rear | Catalog Number |
|---|---|---|---|---|
| 50,000 | C1 | 50,000 | C1 | BB-1051 |
| 100,000 | C1 | 100,000 | C1 | BB-1021 |
| 100,000 | C2 | 100,000 | C2 | BB-102 |
| 250,000 | C1 | 250,000 | C1 | BB-1031 |
| 250,000 | C2 | 250,000 | C2 | BB-103 |
| 500,000 | C1 | 500,000 | C1 | BB-1041 |
| 500,000 | C2 | 500,000 | C2 | BB-104 |
| 1 meg. | C1 | 1 meg. | C1 | BB-108 |
| 1 meg. | C2 | 1 meg. | C2 | BB-107 |
| 2 meg. | C1 | 2 meg. | C1 | BB-110 |
| 5 meg. | C1 | 5 meg. | C1 | BB-112 |

**List Price $3.10**




C-1 Linear, has uniform resistance change from either end.

C-2 Semi-log (audio) 10% center.

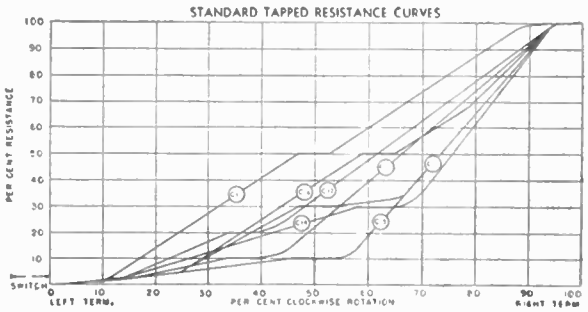
C-3 Right-hand semi-log. Reverse of C-2. Decreases with clockwise rotation.

C-4 Modified log with 20% center.

C-5 Right-hand modified log with 20% center. Reverse of C-4. Decreases with clockwise rotation.

C-6 Modified log with 40% center.

C-7 Symmetrical-straight line with slow resistance change at either end.




C-11 Taper tapped at 50% rotation, 50% resistance.

C-12 Taper tapped at 37½% rotation, 20% resistance.

C-13 Taper tapped at 50% rotation, 30% resistance.

C-14 Taper tapped at 62% rotation, 30% resistance.

C-15 Taper tapped at 50% rotation, 10% resistance.

C-16 Taper tapped at 62% rotation, 50% resistance.

C-17 Taper tapped at 37½% rotation, 10% resistance.

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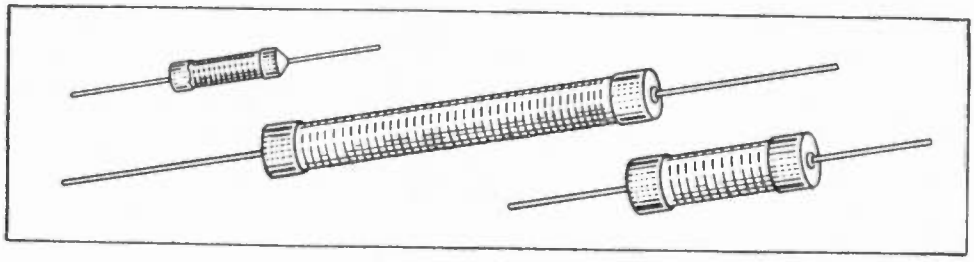
World Radio History

# CORNING FIXED FILM RESISTORS — TYPE S



**CORNING TYPE S RESISTORS (MIL-R-11804B SPECS) FOR RELIABLE, STABLE, ACCURATE OPERATION UP TO 200°C.**

Corning has developed these fixed film Type S resistors to meet problems of small space and high ambient temperatures.

These are not ordinary film-type resistors. They are integral units made by bonding a metallic oxide film to PYREX brand glass at red heat. The rugged film is noninductive, impervious to moisture, unaffected by the heat of soldering and is more abrasion resistant than the base glass itself.

## APPLICATIONS

Miniature power units
High-gain, low-signal amplifiers
Computers
Missiles where shelf-life is critical
Aircraft instruments where weight is critical

## SPECIFICATIONS

**Resistance Element** — An accurate, stable, metallic oxide film, fused to a PYREX brand glass core, meets the most exacting circuit needs. The film thickness ranges from 20-50 microinches. Rugged performance does not depend on encapsulation.

**Protective Coating** — Moisture-resistant, high temperature Silicone lacquer is baked on the resistor for extra mechanical and dirt protection. Plastic stand-off insulating sleeves over end caps available for special applications. Fungus-resistant coating per MIL-V-173A is available if desired.

**Tolerance** — Tolerances are 1, 2, 5, and 10%. Tolerance calibrated at 25°C. ambient.

**Power Rating** — Full rating at 120°C. ambient. Double rating at 40°C. ambient for miniaturized power applications.

**Stability** — The maximum change in resistance is guaranteed to be less than 3% when tested with DC power on 1½ hours, off ½ hour, for 1,000 hours, employing proper power per derating curve for any particular ambient.

**Overload** — A standard 5-second overload of 10 times rated power causes a permanent resistance change of less than 1.0%. Repeated overloads cause negligible further changes.

**Voltage Coefficient** — Negligible factor averaging less than 0.001% per volt.

**Temperature Coefficient** — For the Type S resistor, a temperature coefficient of ±0.03% per °C. can be guaranteed from −55°C. to +235°C. referenced to 25°C.

**Humidity** — Core and film are impervious to moisture. Corning Type S resistors more than meet the moisture-resistance tests per MIL-R-11804B.

**Noise** — Extremely low noise level. Some sources indicate readings 1/10 those of carbon film resistors.

**Frequency Characteristics** — Corning Type S resistors are noninductive up to and over 250 mc. The capacitive component varies between 0.2 to 1.0 uuf as frequency increases to 250 mc.

**Shelf Life** — One year aging shows less than 0.2% resistance change under the most adverse conditions.

| TYPE | | RESISTANCE | | WATTAGE | | Voltage | DIMENSIONS | | AXIAL TERMINALS | |
|---|---|---|---|---|---|---|---|---|---|---|
| MIL | CGW | Min. | Max. | 120°C. | 40°C. | Rating | Length | Diameter | A.W.G. | Length |
| RD60 | S-20 | 10 | 500 K | ½ | 1 | 350 | 19/32 ± 1/16" | 11/64 ± 1/32" | 20 | 1½ ± ⅛" |
| RD65 | S-25 | 10 | 1.5 Meg. | 1 | 2 | 500 | 15/16 ± 1/16" | 19/64 ± 1/32" | 20 | 1½ ± ⅛" |
| RD70 | S-30 | 30 | 4.2 Meg. | 2 | 4 | 750 | 2 1/16 ± 1/16" | 19/64 ± 1/32" | 20 | 1½ ± ⅛" |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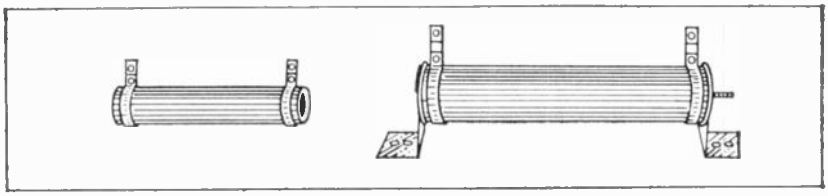
# CORNING TYPE R HIGH-POWER RESISTORS TO MIL-R-11804B SPECIFICATION



Corning Type R Power Resistors have a range of 10 – 1,000,000 ohms, ratings of 7-115 watts, and are non-inductive. They are designed for stable long-life service under the most adverse operating conditions. Noise and frequency characteristics are exceptionally good. Moisture resistance and overload capacity are superior.

**Cores** — The glass tube cores are made from a PYREX brand glass insuring highest resistivity even at elevated temperatures, low expansion, and unusual resistance to chemical and mechanical attack, as well as thermal shock. The cores are impervious, and the glass has been developed to eliminate electrolysis and voltage creepage.

**Resistance Film** — The resistive film of metallic oxides is as rugged as the glass. It is permanently and integrally bonded to the core at red heat. Expansions are matched. The film is practically noninductive at all usable frequencies.

**Terminals** — Silver metallized bands are fired onto the film conductor and core. Lug-type terminals of silver-plated copper alloy strip are expansion fitted over the silver bands to insure a perfect electrical and mechanical junction.

**Silicone Coating** — The coating is tough, moisture and acid resistant, and a good conductor of heat. It adds to the thermal shock resistance but is not essential to overall performance.

**Mounting Brackets** — These are supplied with the resistors at extra charge. They are made to MIL-R-11804B requirements.

**Range** — Resistance range varies with size and power. It is summarized on Table I. Standard tolerance is ±5% for striped or spiraled units..

**Ratings** — Power ratings are based on 25°C. operating ambient. Maximum operating ambient may be as high as 200°C. and hot spot temperature 235°C.

**Temperature Coefficient** — The value of temperature coefficient in the range of 25-85°C. is less than ±.035% per deg. C. Type R resistors meet the requirements of MIL-R-11804B.

**Stability** — The average change of resistance after 500 hours operation at maximum dissipation at 25°C. ambient is 4%.

**Overload** — A standard 5-second overload of 6.25 times the rated power causes a permanent resistance change of less than 0.5%.

**Humidity** — Type R resistors more than meet the specifications for maximum resistance change of MIL-R-11804B.

**Voltage Coefficient** — The voltage coefficient averages less than .001% per volt.

**Noise** — Available data show an inherent noise level of less than .1 microvolt per volt.

**Frequency Characteristics** — The thin film construction of R type resistors makes them inherently noninductive. Inductance is of the order of magnitude of that of the terminals. They are particularly suited to sharp pulse work.

**Design Information** — The power ratings in Table I are for horizontal operation. When vertically operated, the dissipation may be safely increased by about 12%. Power ratings may be increased 4 times by forced air cooling.

**TABLE 1**

| STYLE | RATED WATTS | OHMIC VALUES | | Temperature Rise at Rated Load in Centigrade | Maximum Oper. Temperature in Centigrade |
|---|---|---|---|---|---|
| | | Min. | Max. | | |
| R 31 | 7 | 10 | 70,000 | 200 | 225 |
| R 33 | 13 | 30 | 150,000 | 200 | 225 |
| R 35 | 25 | 20 | 300,000 | 200 | 225 |
| R 37 | 55 | 20 | 500,000 | 200 | 225 |
| R 39 | 115 | 40 | 1,000,000 | 200 | 225 |

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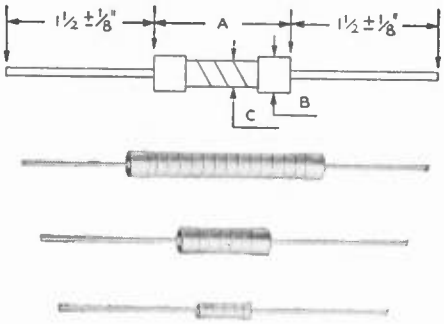
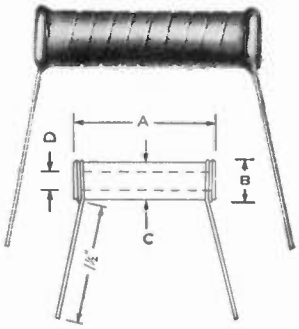
# METAL FILM RESISTORS

## NOBLETTE TYPE NA




## NOBLELOY TYPE NR




## DESIGN and CONSTRUCTION

A metallic resistance element is deposited on a low loss ceramic carrier using a pyrochemic process developed and patented by Continental Wirt. A layer of vitreous enamel protects metal film against unusual atmospheric conditions. They are calibrated to value by means of spiralled grooves cut into the film to increase the resistance path.

Notable qualities of these metal film resistors are low inductance, initial accuracy and excellent resistance stability under adverse operating conditions. Available in resistance ranges and tolerances as listed in tables below.

## NOBLETTE TYPE NA

| Type | Wattage | Resistance Range | Voltage | Dimensions A | Dimensions B | Dimensions C | Wt. (oz.) | List Price ±1% | List Price ±5% |
|---|---|---|---|---|---|---|---|---|---|
| NA15 | ½ | 1 ohm to 1 megohm | 350 | 17/32" ± 1/16" | 5/32" ± .010 | .130" | .026 | $.80 | $.60 |
| NA25 | 1 | 1 ohm to 1 megohm<br>1.1 meg. to 5 megohms | 500 | 15/16" ± 1/16" | 9/32" ± .010 | .250" | .075 | 1.00<br>1.25 | .70<br>.85 |
| NA30 | 2 | 2 ohms to 1 megohm<br>1.1 meg. to 10 megohms | 750 | 2 1/16" ± 1/16" | 9/32" ± .010 | .250" | .120 | 1.25<br>1.70 | .85<br>1.10 |

No. 20 AWG Tinned Copper Axial Leads, 1½" long.

## NOBLELOY TYPE NR

| Type | Wattage | Resistance Range | Voltage | Dimensions A | Dimensions B | Dimensions C | Dimensions D | Wt. (oz.) | List Price ±1% | List Price ±5% |
|---|---|---|---|---|---|---|---|---|---|---|
| NR20 | ½ | 1 ohm to 1 megohm<br>1.1 meg. to 3 megohms | 350 | 5/8" ± 1/16" | 11/32" ± .010 | .250" | .156" | .083 | $.85<br>1.00 | $.65<br>.70 |
| NR25 | 1 | 1 ohm to 1 megohm<br>1.1 meg. to 5 megohms | 500 | 7/8" ± 1/16" | 11/32" ± .010 | .250" | .156" | .099 | 1.00<br>1.25 | .70<br>.85 |
| NR30 | 2 | 2 ohms to 1 megohm<br>1.1 meg. to 10 megohms | 750 | 2" ± 1/16" | 11/32" ± .010 | .250" | .156" | .138 | 1.25<br>1.65 | .85<br>1.10 |
| NR50 | 5 | 3 ohms to 25 ohms<br>26 ohms to 1 megohm<br>1.1 meg. to 15 megohms | 1000 | 2" ± 1/16" | 13/32" ± .010 | .500" | .312" | .448 | 2.00<br>1.50<br>2.00 | 1.50<br>1.20<br>1.50 |

No. 18 AWG Tinned Copper Radial Leads, 1½" long.

## STANDARD RESISTANCE VALUES FOR 1 to 10 DECADE

| 1% F | 5% J | 1% F | 5% J | 1% F | 5% J | 1% F | 5% J | 1% F | 5% J | 1% F | 5% J | 1% F | 5% J | 1% F | 5% J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.00 | 1.00 | 1.33 | 1.33 | 1.78 | 1.78 | 2.37 | 2.37 | 3.16 | 3.16 | 4.22 | 4.22 | 5.62 | 5.62 | 7.50 | 7.50 |
| 1.02 | — | 1.37 | — | 1.82 | — | 2.43 | — | 3.24 | — | 4.32 | — | 5.76 | — | 7.68 | — |
| 1.05 | — | 1.40 | — | 1.87 | — | 2.49 | — | 3.32 | — | 4.42 | — | 5.90 | — | 7.87 | — |
| 1.07 | — | 1.43 | — | 1.91 | — | 2.55 | — | 3.40 | — | 4.53 | — | 6.04 | — | 8.06 | — |
| 1.10 | 1.10 | 1.47 | 1.47 | 1.96 | 1.96 | 2.61 | 2.61 | 3.48 | 3.48 | 4.64 | 4.64 | 6.19 | 6.19 | 8.25 | 8.25 |
| 1.13 | — | 1.50 | — | 2.00 | — | 2.67 | — | 3.57 | — | 4.75 | — | 6.34 | — | 8.45 | — |
| 1.15 | — | 1.54 | — | 2.05 | — | 2.74 | — | 3.65 | — | 4.87 | — | 6.49 | — | 8.66 | — |
| 1.18 | — | 1.58 | — | 2.10 | — | 2.80 | — | 3.74 | — | 4.99 | — | 6.65 | — | 8.87 | — |
| 1.21 | 1.21 | 1.62 | 1.62 | 2.15 | 2.15 | 2.87 | 2.87 | 3.83 | 3.83 | 5.11 | 5.11 | 6.81 | 6.81 | 9.09 | 9.09 |
| 1.24 | — | 1.65 | — | 2.21 | — | 2.94 | — | 3.92 | — | 5.23 | — | 6.98 | — | 9.31 | — |
| 1.27 | — | 1.69 | — | 2.26 | — | 3.01 | — | 4.02 | — | 5.36 | — | 7.15 | — | 9.53 | — |
| 1.30 | — | 1.74 | — | 2.32 | — | 3.09 | — | 4.12 | — | 5.49 | — | 7.32 | — | 9.76 | — |

NOTE: In addition to above table, resistance values conforming to EIA Standards for composition resistors are also available.

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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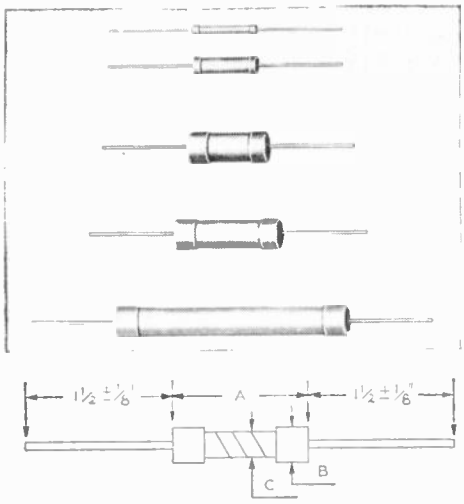
# CARBON FILM RESISTORS

## COATED TYPE

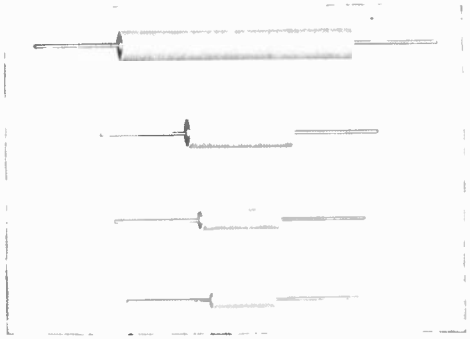
Low Cost Precision



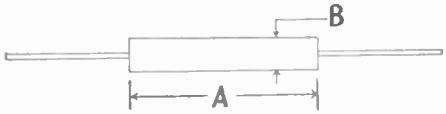

Design and construction feature a layer of pure carbon particles deposited on a ceramic rod. Silver plated endcaps and tinned terminals are expansion fitted over silver contact bands for good electrical contact. Available in resistance ranges, wattage rating and tolerances as shown below. Each resistor is marked with resistance, tolerance and manufacturer's designation and conforms to MIL-R-10509 specification.

## CERAMIC CASED

Hermetically Sealed



MECHANICAL CHARACTERISTICS




This precision resistor is recommended for applications demanding complete protection against exposure to extreme environmental conditions. The unit is comprised of a standard coated type resistor encased in a non-hydroscopic ceramic tube and hermetically sealed which protects against moisture, greatly improves stability and permits operation at higher ambient temperatures. Conforms to MIL-R-10509 specification.

For standard resistance values in ±1% and ±5% tolerances for all resistors listed above, refer to table shown with Metal Film Resistors on reverse side of this page.

## COATED TYPE

| TYPE | WATTS | VOLTAGE | RESISTANCE RANGE | DIMENSIONS A | DIMENSIONS B | DIMENSIONS C | WT. (oz.) | LIST PRICE ±1% | LIST PRICE ±5% |
|---|---|---|---|---|---|---|---|---|---|
| *CF10 | 1/4 | 300 | 5 ohms to 1 megohm | 1/2" ± 1/16" | 3/32" ± .010" | .062" | .011 | $.80 | $.60 |
| CF15 | 1/2 | 350 | 10 ohms to 2 megohms | 9/16" + 1/16" | 5/32" + .010" | .125" | .030 | .50 | .40 |
| CF20 | 1/2 | 350 | 10 ohms to 1 megohm | 11/16" ± 1/16" | 9/32" ± .010" | .250" | .078 | .60 | .45 |
| | | | 1.1 meg. to 3 megohms | | | | | .70 | .50 |
| CF25 | 1 | 500 | 50 ohms to 1 megohm | 15/16" ± 1/16" | 9/32" ± .010" | .250" | .102 | .75 | .55 |
| | | | 1.1 meg. to 10 megohms | | | | | .90 | .70 |
| CF30 | 2 | 1000 | 100 ohms to 1 megohm | 2 1/16" ± 1/16" | 9/32" ± 010" | .250" | .184 | .90 | .70 |
| | | | 1.1 meg. to 20 megohms | | | | | 1.20 | .90 |

*No. 22 AWG Tinned Copper Leads; all others No. 20 AWG

## CERAMIC CASED

| TYPE | WATTS | VOLTAGE | RESISTANCE RANGE | DIMENSIONS A | DIMENSIONS B | WT. (oz.) | LIST PRICE ±1% | LIST PRICE ±5% |
|---|---|---|---|---|---|---|---|---|
| *CFH10 | 1/4 | 300 | 10 ohms to 500K | .625" ± .031" | .187" ± .031" | .032 | $1.75 | $1.50 |
| CFH15 | 1/4 | 350 | 10 ohms to 1 megohm | .687" ± .062" − .000" | .250" ± .031" | .062 | 1.50 | 1.25 |
| CFH25 | 1 | 500 | 50 ohms to 1 megohm | 1.062" ± .062" | .375" ± .062" − .031" | .197 | 1.65 | 1.40 |
| | | | 1.1 meg. to 10 meg. | | | | 2.00 | 1.65 |
| CFH30 | 2 | 1000 | 100 ohms to 1 megohm | 2.156" ± .093" − .031" | .375" ± .062" − .031" | .360 | 1.90 | 1.60 |
| | | | 1.1 meg. to 20 meg. | | | | 2.25 | 1.95 |

*No. 22 AWG Tinned Copper Leads; all others No. 20 AWG

**CONTINENTAL CARBON**, Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.

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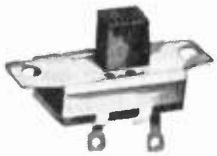
World Radio History

CONTINENTAL WIRT

# SLIDE SWITCHES

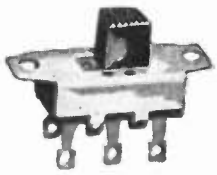
**Knobs:** Standard color black, Length 5/16, Width 1/4", Height 11/32".
**Housings:** Tin plated steel.
**Terminals & Contacts:** Silver plated.
**Mounting Holes:** Standard is .136" dia. ±.002". Extruded and tapped 4-36, 4-40 and 6-32 also available on special order.



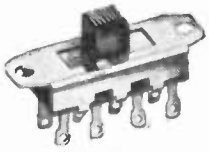
SW 723
or SW 323

SW 724
or SW 324

SW 725
or SW 325



SW 726
or SW 326



SW 728
or SW 328

SW 729
or SW 329

| Type | Circuit | Rating/Amps AC | Rating/Amps DC | Volts | Mtg. Centers (inches) | Terminals | List Price |
|---|---|---|---|---|---|---|---|
| SW723 (UL) | SPST | .75 | .75 | 125 | 1 1/8 | 2 | $.20 |
| SW724 (UL) | SPDT | .75 | .75 | 125 | 1 1/8 | 3 | .25 |
| SW725 (UL) | DPST | .5 | .5 | 125 | 1 1/8 | 4 | .30 |
| SW726 (UL) | DPDT | .5 | .5 | 125 | 1 1/8 | 6 | .35 |
| SW728 (3 Pos.) | DPTT | .5 | .5 | 125 | 1 13/32 | 8 | .45 |
| SW729 (3 Pos.) | SPTT | .5 | .5 | 125 | 1 13/32 | 4 | .40 |
| SW731 | SPST-SR | .5 | .5 | 125 | 1 1/8 | 2-MO | .35 |
| SW732 | SPDT-SR | .5 | .5 | 125 | 1 1/8 | 3-SR | .40 |
| SW734 (3 Pos.) | SP-CO | .5 | .5 | 125 | 1 1/8 | 3-CO | .40 |
| SW736 (3 Pos.) | DP-CO | .5 | .5 | 125 | 1 1/8 | 6-CO | .45 |
| SW323 (UL) | SPST | 3.0 | 1.0 | 125 | 1 1/8 | 2 | .25 |
| SW324 (UL) | SPDT | 3.0 | 1.0 | 125 | 1 1/8 | 3 | .30 |
| SW325 (UL) | DPST | 3.0 | 1.0 | 125 | 1 1/8 | 4 | .35 |
| SW326 (UL) | DPDT | 3.0 | 1.0 | 125 | 1 1/8 | 6 | .40 |
| SW328 (3 Pos.) | DPTT | 3.0 | 1.0 | 125 | 1 13/32 | 8 | .50 |
| SW329 (3 Pos.) | SPTT | 3.0 | 1.0 | 125 | 1 13/32 | 4 | .45 |

**Legend:** SR-Spring Return, CO-Center Off, MO-Momentary On, UL-Underwriters Laboratory Approved.

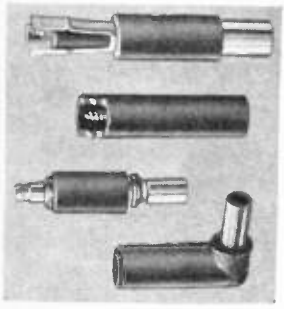
**Average Unit Weight:** Approx. 0.4 oz.

**Overall Dimensions:** Length 1-13/32"; Width 35/64" (except SW728, 729, 328 and 329 which are 1-21/32 x 9/16); Depth 21/32".

SLIDE SWITCH
SHIELD SWS511

Used for terminal protection or electrostatic shielding when switch is mounted in exposed position. Available for all switches with 1 1/8" mounting centers as shown in table. Fiber insulated, Und. Lab. Insp. List price $.15 ea.

# SUPPRESSORS AND CONDENSERS



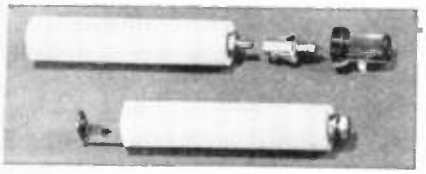
## DISTRIBUTOR and SPARK PLUG SUPPRESSORS

**EASY TO INSTALL . . . FIT ALL CARS, INCLUDING 12-VOLT**

Continental Suppressors are exactingly engineered to effectively remove radio noise from ignition spark discharge at the plugs and high-tension distributor.

| Type | Application | Dimensions Length & Dia. in inches | Mounting | List Price |
|---|---|---|---|---|
| S20A | Sparkplug | 1-1/2 x 1/2 | Angle | $.55 |
| S19 | Sparkplug | 1-27/32 x 1/2 | Vertical | .45 |
| S21 | Sparkplug | 1-27/32 x 1/2 | Vertical | .45 |
| S23 | Sparkplug | 1-21/32 x 1/2 | Angle | .45 |
| S27 | Sparkplug | 1-1/8 x 1/2 | Vertical-Screw | .50 |
| C11 | Distributor | 1-1/2 x 1/2 | Cable | .40 |
| T24 | Distributor | 1-1/2 x 1/2 | Angle-Snap | .55 |
| T20 | Distributor | 2-3/8 x 1/2 | Vertical-Snap | .55 |

Net Unit Weight:—Approx. .033 Oz.



**OIL BURNER SUPPRESSORS**

Eliminate uncomfortable radio-TV interference due to ignition discharge action of oil burner igniting coil.

## GENERATOR CONDENSERS

**FIT ALL CARS . . . UNIVERSAL TYPES**

| Type | Application | CAP. MFD. | Dimensions Length & Dia. in inches | List Price |
|---|---|---|---|---|
| GB 025 | Universal | .25 | 1 5/8 x 5/8 | $.75 |
| GB 05 | Universal | .5 | 1 5/8 x 5/8 | .80 |

Net Unit Weight:—Approx. 1.0 Oz.

## OIL BURNER SUPPRESSORS

| Type | Dimensions Length & Dia. in inches | Terminals | List Price |
|---|---|---|---|
| OB15 | 3 1/2 x 3/4 | Rajah | $1.80 |
| OB15A | 3 1/2 x 3/4 | U-Bracket | 1.50 |

Net Unit Weight:—Approx. 1.8 Oz.

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.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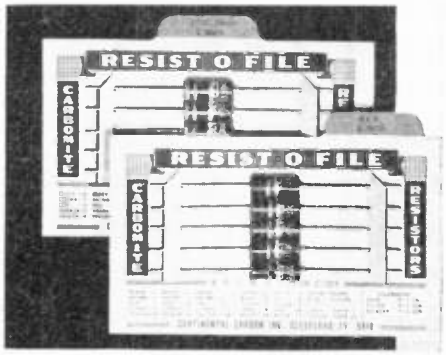
**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# CARBOMITE RESISTORS

Insulated fixed composition resistors for replacement and service applications. Of compact design to conserve space; provide reliable stability under the most critical operating conditions.

## RESIST-O-FILE TYPE MR

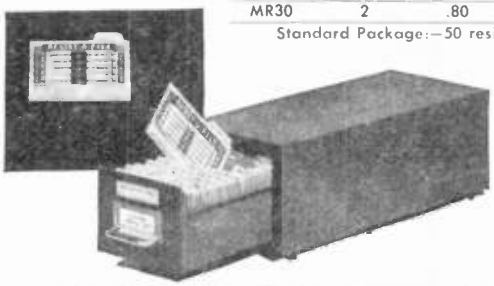



Five Type M resistors of one resistance, type and tolerance are mounted on a 3 x 5 index card, 10 cards per package. Identified, staggered-tab card file system adds to your convenience.

TYPE MR

| TYPE | WATTS | LIST PRICE ±5% | LIST PRICE ±10% |
|---|---|---|---|
| MR20 | ½ | $.40 | $.20 |
| MR25 | 1 | .60 | .30 |
| MR30 | 2 | .80 | .40 |

Standard Package:—50 resistors



## RESIST-O-FILE TYPE MRC

| TYPE | WATTS | NO. OF CARDS | LIST PRICE |
|---|---|---|---|
| MRC20 | ½ | 40 | $40.00 |
| MRC25 | 1 | 40 | 60.00 |
| MRC30 | 2 | 30 | 60.00 |

Five Type M resistors are mounted on a 3 x 5 index card and arranged in RESIST-O-FILES for ½ watt, 1 watt or 2 watt, all 10% tolerance.

Type MRC20, ½ watt (200 resistors), 1 card each with values of: 10 ohms, 15, 22, 33, 47, 68, 100, 150, 220, 330, 470, 680, 1000, 1500, 2200, 3300, 4700, 6800, 10K, 15K, 22K, 33K, 47K, 68K, 150K, 220K, 330K, 1.5 meg., 2.2 meg., 3.3 meg., 4.7 meg., 6.8 meg. and 10 meg., and 2 cards each of 100K, 470K and 1 meg.

Type MRC25, 1 watt (200 resistors), the same values and quantities as MRC20 assortment.

Type MRC30, 2 watt (150 resistors), 1 card each with values of: 10 ohms, 15, 22, 47, 68, 100, 150, 220, 330, 470, 680, 1000, 1500, 2200, 3300, 4700, 6800, 10K, 15K, 22K, 33K, 47K, 68K, 100K, 150K, 220K, 330K, 470K, 680K, and 1 meg.

**KINDLY ORDER BY QUANTITY AND TYPE NUMBER.**

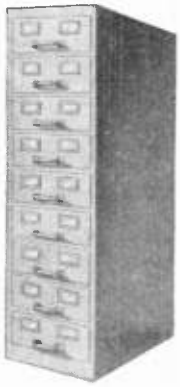
TYPE M

| TYPE | WATTS | RESISTANCE RANGE | DIMENSIONS Length & Dia. in inches | LIST PRICE ±5% | LIST PRICE ±10% |
|---|---|---|---|---|---|
| M20 | ½ | 10 ohms to 22 meg. | 3/8 x 9/64 | $.40 | $.20 |
| M25 | 1 | 10 ohms to 22 meg. | 9/16 x 7/32 | .60 | .30 |
| M30 | 2 | 10 ohms to 22 meg. | 11/16 x 5/16 | .80 | .40 |

Standard Packages:—50 and 250 per box.

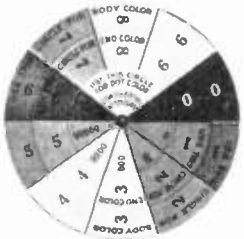
## RESIST-O-FILE STORAGE CABINET

No. 1234, 9-drawer, 18 section metal cabinet for convenient storage of Resist-O-File Cards. Available on a special amortization plan for all purchases of the resistors listed on this page. Write to the factory for details of the place and cost.



DIMENSIONS: 14⅞" x 52¼" x 26⅝"
CAPACITY: Approx. 10,000 resistors
SHIPPING WT.: 164 lbs.
FINISH: Gray

## COLOR CODE INDICATOR



Resistor values easily read with circular slide chart. Band identification printed on back. Free upon request with purchase of items listed on this page.

**All package arrangements are available from your local distributor exclusively.**

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.

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World Radio History

CONTINENTAL WIRT

# *wire wound* FIXED & ADJUSTABLE RESISTORS

## VITREOUS ENAMEL RESISTORS

WIRT POWER resistors are constructed with a low temperature coefficient resistance wire precisely space-wound on a low loss ceramic core. All adjustable types equipped with slider band. 5 and 10 watts have tinned-copper leads. All others with mounting brackets. All are marked with resistance, wattage and mfgr's. designation. Edison-type base and ferrule-type terminals also available. Tapped resistors supplied in fixed type only.

## TABLE OF SIZES AND RATINGS

| Fixed Type No. | Adjustable Type No. | Wattage | Dimensions Length | Dimensions Dia. | Resistance Range Min. | Resistance Range Max. | Wt. (oz.) Fixed | Wt. (oz.) Adjust. |
|---|---|---|---|---|---|---|---|---|
| VFR-1 | | 5 | 1" | 5/16" | 1 ohm | 10K | 0.4 | |
| VFR-3 | VAR-3 | 10 | 1¾" | 5/16" | 1 ohm | 25K | 0.44 | 0.88 |
| VFR-4 | VAR-4 | 20 | 2" | 7/16" | 1 ohm | 50K | 0.8 | 1.2 |
| VFR-7 | VAR-7 | 25 | 2" | ¾" | 1 ohm | 50K | 1.2 | 1.5 |
| VFR-12 | VAR-12 | 50 | 4" | ¾" | 5 ohms | 100K | 2.0 | 2.6 |
| VFR-15 | VAR-15 | 75 | 6" | ¾" | 5 ohms | 100K | 3.0 | 4.0 |
| VFR-19 | VAR-19 | 100 | 6½" | 1⅛" | 5 ohms | 100K | 4.9 | 5.8 |
| VFR-22 | VAR-22 | 160 | 8½" | 1⅛" | 5 ohms | 100K | 11.6 | 12.5 |
| VFR-23 | VAR-23 | 200 | 10½" | 1⅛" | 5 ohms | 100K | 15.0 | 16.0 |

**STANDARD TOLERANCE:** Fixed Types (50 ohms and higher) ±5%; below 50 ohms ±10%; Adjustable Types ±10%.
**RESISTANCE VALUES:** All resistors available in resistance values as listed in EIA Standards.

## LIST PRICES

| FIXED Resistance Range* | VFR-1 5W | VFR-3 10W | VFR-4 20W | VFR-7 25W | VFR-12 50W | VFR-15 75W | VFR-19 100W | VFR-22 160W | VFR-23 200W |
|---|---|---|---|---|---|---|---|---|---|
| 1 Ohm to 1K | .70 | .75 | .95 | 1.10 | 1.60 | 2.25 | 2.40 | 3.00 | 3.20 |
| 1.1K " 5K | .75 | .80 | 1.00 | 1.15 | 1.75 | 2.35 | 2.50 | 3.10 | 3.30 |
| 5.1K " 10K | .80 | .85 | 1.10 | 1.25 | 1.90 | 2.50 | 2.60 | 3.30 | 3.40 |
| 11K " 25K | | .95 | 1.25 | 1.40 | 2.10 | 2.70 | 3.00 | 3.50 | 3.70 |
| 26K " 50K | | | 1.45 | 1.60 | 2.40 | 3.00 | 3.20 | 3.70 | 4.00 |
| 51K " 75K | | | | | 2.70 | 3.30 | 3.50 | 4.00 | 4.20 |
| 76K " 100K | | | | | 3.00 | 3.60 | 3.80 | 4.30 | 4.50 |

| ADJUSTABLE | VAR-3 | VAR-4 | VAR-7 | VAR-12 | VAR-15 | VAR-19 | VAR-22 | VAR-23 |
|---|---|---|---|---|---|---|---|---|
| 1 Ohm to 1K | 1.30 | 1.50 | 1.60 | 2.20 | 3.00 | 3.50 | 3.80 | 4.00 |
| 1.1K " 5K | 1.40 | 1.60 | 1.70 | 2.30 | 3.10 | 3.60 | 3.90 | 4.10 |
| 5.1K " 10K | 1.50 | 1.70 | 1.80 | 2.40 | 3.20 | 3.70 | 4.00 | 4.20 |
| 11K " 25K | | 1.90 | 2.00 | 2.60 | 3.40 | 3.90 | 4.20 | 4.40 |
| 26K " 50K | | | 2.30 | 2.90 | 3.70 | 4.20 | 4.50 | 4.70 |
| 51K " 75K | | | | 3.20 | 4.00 | 4.50 | 4.80 | 5.00 |
| 76K " 100K | | | | 3.70 | 4.50 | 5.00 | 5.30 | 5.50 |

*Consult table for minimum and maximum resistance for each type.

## LOW POWER MOLDED RESISTORS

Wire wound resistors encased in molded bakelite for low power applications. Axial wire leads. Insulated to provide moisture resistance; excellent stability and operating characteristics under severe conditions.

Color coded for quick identification.

| Type | Wattage | Resistance Range | Dimensions Length | Dimensions Dia. | List Price ±5% | List Price ±10% |
|---|---|---|---|---|---|---|
| WM10 | ⅓ | .27 ohms to 10 ohms | 7/16" | ⅛" | $.25 | $.20 |
| WM20 | ½ | .27 ohms to 24 ohms | ⅝" | 7/32" | .30 | .25 |
| WM25 | 1 | .27 ohms to 24 ohms | 1" | 9/32" | .35 | .30 |

**TINNED COPPER LEADS:** WM10 — #21AWG; WM20 and WM25 — #20AWG.
**RESISTANCE VALUES:** All resistors available in resistance values as listed in EIA Standards.

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.


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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

World Radio History

# wire wound POTENTIOMETERS & RHEOSTATS

CONTINENTAL WIRT

## *Metal Housed* 1.5 WATT MINIATURE CONTROLS

WC 807A Rheostat Grounded Rotor | WC 808A Rheostat Insulated Rotor | WC 815A Rheostat With Terminal Back of Panel | WC 816B Rheostat Printed Circuit | WC 816G Potentiometer Printed Circuit | WC 817A Potentiometer Grounded Rotor | WC 818A Potentiometer Insulated Rotor

These potentiometers and rheostats are rugged, compact, fully reliable and inexpensive. For hum balancing and sensitivity applications. Linear windings and screw driver adjustment. Packed in lots of 10 in nested boxes for protection, easy storage and quick identification.

| | DIMENSIONS | | | LIST PRICES | | |
|---|---|---|---|---|---|---|
| TYPE | DIAMETER | DEPTH | MTG. CENTERS | 5 ohm to 1K | 1100 ohm to 3K | 3100 ohm to 5K |
| WC 807A | 3/4" | 3/8" | 1" | .40 | .45 | .50 |
| WC 808A | 3/4" | 11/32" | 1" | .60 | .65 | .75 |
| WC 815A | 3/4" | 3/8" | 1" | .40 | .45 | .50 |
| WC 816B | 3/4" | 3/8" | — | .40 | .45 | .50 |
| WC 816G | 3/4" | 3/8" | — | .50 | .55 | .60 |
| WC 817A | 3/4" | 3/8" | 1" | .50 | .55 | .60 |
| WC 818A | 3/4" | 11/32" | 1" | .75 | .80 | .90 |

**RATING:** 1.5 Watts **RESISTANCE RANGE:** 5 ohms to 5000 ohms
**STANDARD TOLERANCE:** ±20% Wt. 0.2 oz. each

### Standard Stock Resistance Values (Ohms)

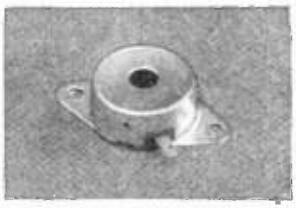
25, 50, 60, 75, 100, 150, 200, 250, 300, 400, 500, 600, 750, 1000, 1500, 2000, 2500, 3000, 4000, 5000.

## *Metal Housed* 2 WATT CONTROLS

Tin plated, steel housed, wire wound potentiometers and rheostats offer assured stability for a wide variety of exacting applications in the radio, instrument, electronic, electrical and test equipment fields. These inexpensive controls provide dependability and long life.

WC801 RHEOSTAT

WC802 POTENTIOMETER



WC804 RHEOSTAT Adjustable from front or back

| | DIMENSIONS | | | | LIST PRICES | | | |
|---|---|---|---|---|---|---|---|---|
| TYPE | DIA. | DEPTH | ROTATING GROUND | WT. (oz.) | 5 ohms to 1K | 1100 ohms to 5K | 5100 ohms to 10K | 11K to 15K |
| WC801 | 1 1/8" | 5/8" | Grounded | 0.8 | .85 | .90 | 1.00 | 1.10 |
| WC802 | 1 1/8" | 5/8" | Grounded | 1.2 | .90 | 1.00 | 1.10 | 1.20 |
| WC804 | 1 1/8" | 1/2" | None | 0.4 | .60 | .70 | .75 | .80 |

**STANDARD TOLERANCE:** ±15%. **SHAFT:** WC801 and WC802 — Round aluminum 1/4" dia. x 3/8" long FEOB; flatted, slotted or knurled also available.
**MOUNTING BUSHING:** WC801 and WC802 — Brass, 3/8" — 32 x 3/8" long.
**MOUNTING NUT:** 1/2" hex nut with each control. (WC801 and WC802 only)
**ADJUSTMENT:** WC804 has slot for screw driver adjustment from front or back.

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.

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World Radio History

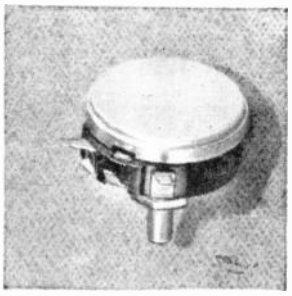
# wire wound POTENTIOMETERS & RHEOSTATS

CONTINENTAL WIRT

## Phenolic Housed CONTROLS

Wirt wire wound controls are especially designed for a wide range of exacting applications in the radio, instrument, electric, electronic, and test equipment fields. The design features stability and dependability and assures maximum heat conduction and radiation. These controls are nominally rated for maximum power dissipation in an ambient temperature of 40°C. All controls are regularly supplied with a linear winding taper.

### SINGLE 3 WATT

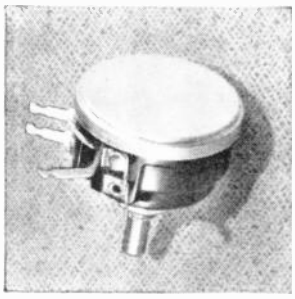


TYPE WCB

### SINGLE 4 WATT

TYPE WCA

### DUAL 5 WATT



TYPE WCD

| TYPE | WATTAGE | RESISTANCE RANGE | CASE DIMENSIONS DIA. | DEPTH | WT. (oz.) | LIST PRICE |
|---|---|---|---|---|---|---|
| WCB | 3 | 10 ohms to 1K | 1-35/64" | 27/32" | 1.8 | $2.00 |
| | | 1.1K to 5K | | | | 2.10 |
| | | 5.1K to 10K | | | | 2.30 |
| | | 11K to 25K | | | | 2.40 |
| | | 26K to 50K | | | | 2.50 |
| | | 51K to 70K | | | | 2.90 |
| WCA | 4 | 10 ohms to 1K | 1-25/32" | 31/32" | 2.0 | 2.10 |
| | | 1.1K to 5K | | | | 2.30 |
| | | 5.1K to 10K | | | | 2.40 |
| | | 11K to 25K | | | | 2.50 |
| | | 26K to 50K | | | | 2.70 |
| | | 51K to 75K | | | | 2.90 |
| | | 76K to 100K | | | | 3.20 |
| WCD | 5 | 10 ohms to 1K | 1-25/32" | 1-1/8" | 2.2 | 3.75 |
| | | 1.1K to 5K | | | | 4.00 |
| | | 5.1K to 10K | | | | 4.20 |
| | | 11K to 25K | | | | 4.40 |
| | | 26K to 50K | | | | 4.60 |
| | | 51K to 75K | | | | 5.00 |

**Standard Tolerance:** ±10% (±5% tolerance available on special order).

**Rotary Contact:** Insulated from mounting bushing.

**Standard Shaft:** 1/4" round aluminum, 3/8" long, FOEB; flatted, screw driver and knurled types also available if specified.

**Standard Mounting Bushing:** 3/8"—32 x 3/8" long; brass.

**Mounting Nut:** One 9/16" hex nut supplied with each control.

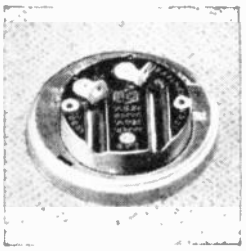
**Terminals:** Hot tin dipped.

**Optional Application:** Types WCD and WCA may be used as a rheostat or potentiometer depending upon terminal connections selected.

### DUAL CONTROL 5 WATT Type WCD

**Maximum resistance ranges are 25,000 ohms on front section and 50,000 ohms on rear section. Contact arm of front winding is grounded to the mounting bushing. Rear winding is completely insulated.**

## SWITCH



TYPE WCS 1

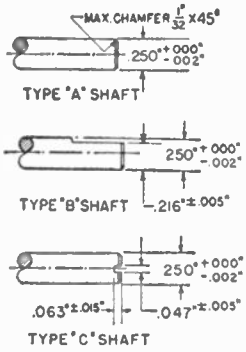
**FOR USE WITH**

**TYPE WCA CONTROL**

SPST 3 Amps., 125 Volts AC Underwriters' Approved Type

**List Price $1.25 each.**

This in addition to price of Type WCA Control shown above.




## SHAFTS

**Available with Phenolic Housed Controls**

TYPE "A" SHAFT Round (Standard)

TYPE "B" SHAFT Flatted

TYPE "C" SHAFT Slotted

TYPE "D" SHAFT Knurled (Same as Type "A" except knurled)

Type "A" Shaft is standard and will be furnished unless otherwise specified with order. Type "B", "C" and "D" Shafts available at additional cost.

**CONTINENTAL CARBON,** Division of Wirt Co., Phila. 44, Pa.

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.



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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# Victory ENGINEERING CORPORATION

UNION, NEW JERSEY

*Manufacturers of THERMISTORS, VARISTORS, ELECTRONIC CONTROLS & SPECIAL INSTRUMENTATION*

# VECO THERMISTORS & VARISTORS

| VECO Number | Resistance @ 25°C (ohms) | Net Price |
|---|---|---|
| **SMALL BEAD THERMISTORS .014" Dia.** | | |
| 32A48 | 2,000 ±25% | $2.90 |
| 34A2 | 3,500 ±15% | 5.50 |
| 38C2 | 8,000 ±20% | 3.80 |
| 43A1 | 30,000 ±25% | 4.10 |
| **MEDIUM & LARGE BEADS .043" to .088" Dia.** | | |
| 25A2 | 500 ±20% | $4.70 |
| 31A2 | 1,000 ±20% | 3.60 |
| 32A12 | 2,000 ±20% | 2.70 |
| 32A13 | 2,000 ±20% | 2.80 |
| 35A1 | 5,000 ±20% | 3.60 |
| 41A2 | 10,000 ±20% | 3.60 |
| 43A4 | 30,000 ±20% | 3.60 |
| 45A2 | 50,000 ±20% | 3.60 |
| 47A1 | 71,000 ±30% | 3.25 |
| 51A2 | 100,000 ±15% | 2.70 |
| 52A1 | 170,000 ±50% | 1.65 |
| 55A2 | 500,000 ±20% | 4.00 |
| 61A2 | 1 Meg. ±25% | 4.00 |
| **GLASS THERMISTOR PROBES ½" to 2" Long** | | |
| 31A11 | 1,000 ±20% | $4.20 |
| 32A1 | 2,000 ±20% | 2.75 |
| 32A11 | 2,000 ±20% | 3.00 |
| 34A3 | 3,500 ±30% | 2.90 |
| 35A11 | 5,000 ±20% | 4.20 |
| 41A1 | 10,000 ±20% | 4.20 |
| 43A11 | 30,000 ±20% | 4.20 |
| 45A1 | 50,000 ±20% | 4.20 |
| 51A1 | 100,000 ±20% | 2.85 |
| 51A11 | 100,000 ±20% | 3.00 |
| 55A11 | 500,000 ±20% | 4.60 |
| 61A1 | 1 Meg. ±25% | 4.60 |
| **GLASS THERMISTOR RODS & BULBS** | | |
| 32A3 | 2,000 ±25% | $7.20 |
| 37A1 | 7,000 ±20% | 5.00 |
| 44A1 | 35,000 ±20% | 2.10 |
| 45B2 | 50,000 ±40% | 3.00 |
| 46A2 | 60,500 ±29% | 2.50 |
| 49A1 | 85,000 ±25% | 2.10 |
| 65A1 | 5.4 Meg. ±32% | 6.00 |
| 71A2 | 12 Meg. ±20% | 6.00 |
| **MATCHED PAIRS OF THERMISTOR BEADS** | | |
| A33 | 2,000 ±25% | $15.00 |
| A111 | 2,000 ±25% | 18.00 |
| A140 | 8,000 ±10% | 15.00 |
| **DISC THERMISTORS .1" to 1.0" Dia.** | | |
| 05E1 | 5 ±10% | $2.00 |
| 13E1 | 25 ±10% | 2.00 |
| 15D1 | 50 ±10% | 2.00 |
| 21D2 | 100 ±10% | 1.15 |
| 21E2 | 100 ±10% | 1.15 |
| 23D7 | 295 ±10% | 1.15 |
| 23E3 | 310 ±10% | 1.50 |
| 25E2 | 500 ±10% | 1.75 |
| 27D1 | 725 ± 5% | 6.65 |
| 28D1 | 760 ± 5% | 6.65 |
| 31D4 | 1,000 ±10% | 1.15 |
| 31D7 | 1,200 ±10% | 1.50 |
| 33D2 | 3,000 ±10% | 1.15 |
| 35D2 | 5,000 ±10% | 1.45 |
| 41D2 | 10,000 ±10% | 1.45 |
| **WASHER THERMISTORS .770" Dia.** | | |
| 11X1 | 10 ±10% | $1.85 |
| 14X2 | 38 ±10% | 1.85 |
| 21W1 | 100 ±10% | 1.85 |
| 21W4 | 130 ±10% | 1.85 |
| 22W2 | 180 ±10% | 1.85 |
| 22X1 | 150 ±10% | 2.40 |
| 23W1 | 315 ±10% | 1.85 |
| 24W1 | 415 ±10% | 1.85 |
| **ROD THERMISTORS .5" to 1.6" Long** | | |
| 33S1 | 3,150 ±10% | $1.80 |
| 36S1 | 6,300 ±10% | 1.80 |
| 38S1 | 8,000 ±10% | 1.80 |
| 41S1 | 10,000 ±10% | 1.80 |
| 41S2 | 10,000 ±10% | 1.80 |
| 43R1 | 31,500 ±10% | 1.80 |
| 45R1 | 50,000 ±10% | 1.80 |
| 51R2 | 100,000 ±10% | 2.00 |
| **VARISTORS** | | |
| 023L1 | 1.5V min. @ 1 ma. | $ .75 |
| 023W1 | 9.09V to 12.3V @ 25 ma. | 2.00 |
| 063L1 | 4.6V min. @ 1 ma. | .50 |
| 114W4 | 16.0V to 24.0V @ 15 ma. | 1.50 |
| 143W1 | 13.2V to 20.3V @ 50 μa. | 1.50 |
| 165W2 | 95V to 120V @ 10 ma. | 3.20 |
| **MOUNTING ACCESSORIES** | | |
| A819 | Packing Gland — Probe | $4.00 |
| A815 | Mounting Kit — Washer | 1.25 |
| A816 | Mounting Kit — Washer | 1.50 |

## VECO TAP-A-THERMS

The VECO Tap-A-Therm is a versatile, single thermistor unit with a multiplicity of tapped resistance values.

Now available in the following ranges at 25°C:

| VECO NO. | RESISTANCE RANGE (OHMS) | NET PRICE |
|---|---|---|
| T1001 | 200 to 1200 | $6.80 |
| T1002 | 300 to 1800 | $6.80 |
| T1003 | 1,000 to 6,000 | $6.80 |
| T1004 | 100 to 2,400 | $8.60 |
| T1005 | 150 to 3,600 | $8.60 |
| T1006 | 500 to 12,000 | $8.60 |
| T2001 | 5,000 to 50,000 | $8.60 |
| T3001 | 1,000 to 10,000 | $7.15 |
| T3002 | 10,000 to 100,000 | $7.15 |

## VECO EXPERIMENTORS' KITS

Designed to acquaint the experimentor, technician, engineer, designer, etc., with a variety of VECO thermistor and varistor applications. Each kit includes forms showing typical circuitry and specific characteristics of units in kit.

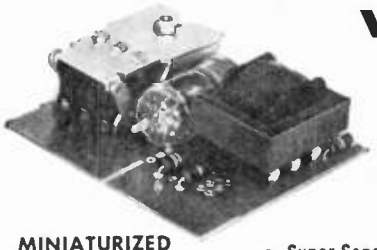
M-168 Experimentors' Kit, 7 units;
a $15.00 value for $5.00 net, postpaid.

M-168A Experimentors' Kit, 10 units;
a $22.00 value for $10.00 net, postpaid.

## VECO COMPACTROL

(Pat. Applied For)

***An Ultra-Sensitive ELECTRONIC CONTROL***



**MINIATURIZED**
**PRINTED CIRCUIT**
**PLUG-IN TYPE**
**SELF-CONTAINED**

**Input,** ¼ microwatt to operate.
**Output,** 1 to 3 poles, each 5 amps at 250 volts a. c.

### APPLICATIONS:

- Super-Sensitive relay
- Automation
- Touch Control
- Intruder Alarm
- Temperature Control
- Time Delay Relay
- Photo-Electric Device
- Safety Device

| Veco Type No. (with case) | Internal Bias | Relay Contacts Poles | V.A.C. | Amps | Net Price |
|---|---|---|---|---|---|
| HB1C | A. C. | 1 | 230 | 5 | $29.00 |
| HB2C | A. C. | 2 | 230 | 5 | $31.00 |
| HB3C | A. C. | 3 | 230 | 5 | $33.00 |

All the above models require 115 V.A.C., 60 C.P.S., 2.8 watts.

D.C. Bias types available.

Descriptive Folder Available

## *VICTORY ENGINEERING CORPORATION*

VECO THERMISTOR AND VARISTOR DATA BOOK containing historical background, technical data, typical circuitry, curves, and other valuable information, price $1.00.

Ask your jobber for the new Technical Catalog of VECO Products covering over 250 VECO stock items.

An interesting informative series entitled "Meet the VECO Thermistor" available.

***PRICES SUBJECT TO CHANGE WITHOUT NOTICE***



World Radio History

# VITREOUS ENAMELED RESISTORS

## Fixed Wire-Wound Types

### C5 SERIES — 5 WATT

DIMENSIONS ..... 3/16 x 3/16 x 1"
TERMINALS ..... Pigtail type leads 1½"
MAXIMUM RESISTANCE ..... 10,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 2240 | $ .45 | 600 | 91 | $ .45 |
| 2 | 1580 | .45 | 700 | 84 | .45 |
| 3 | 1290 | .45 | 750 | 81 | .45 |
| 4 | 1110 | .45 | 800 | 79 | .45 |
| 5 | 1000 | .45 | 900 | 74 | .45 |
| 10 | 707 | .45 | 1000 | 70 | .48 |
| 15 | 575 | .45 | 1100 | 67 | .48 |
| 20 | 500 | .45 | 1200 | 64 | .48 |
| 25 | 447 | .45 | 1250 | 63 | .48 |
| 30 | 408 | .45 | 1500 | 57 | .48 |
| 35 | 374 | .45 | 1750 | 53 | .48 |
| 40 | 346 | .45 | 2000 | 50 | .48 |
| 50 | 316 | .45 | 2250 | 47 | .48 |
| 75 | 258 | .45 | 2500 | 44 | .48 |
| 100 | 222 | .45 | 3000 | 41 | .48 |
| 125 | 200 | .45 | 4000 | 35 | .48 |
| 150 | 182 | .45 | 4500 | 33 | .48 |
| 200 | 158 | .45 | 5000 | 31 | .48 |
| 225 | 149 | .45 | 6000 | 29 | .51 |
| 250 | 141 | .45 | 7000 | 27 | .51 |
| 300 | 129 | .45 | 7500 | 26 | .51 |
| 350 | 119 | .45 | 8000 | 25 | .51 |
| 400 | 111 | .45 | 9000 | 23 | .51 |
| 500 | 100 | .45 | 10000 | 22 | .51 |

### C10 SERIES — 10 WATT

DIMENSIONS ..... 3/16 x 3/16 x 1¾"
TERMINALS ..... Pigtail type leads 1½"
MAXIMUM RESISTANCE ..... 50,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 3150 | $ .48 | 1500 | 79 | $ .54 |
| 2 | 2230 | .48 | 1750 | 74 | .54 |
| 3 | 1825 | .48 | 2000 | 69 | .54 |
| 5 | 1415 | .48 | 2250 | 64 | .54 |
| 7.5 | 1155 | .48 | 2500 | 61 | .54 |
| 10 | 1000 | .48 | 3000 | 58 | .54 |
| 15 | 815 | .48 | 3500 | 53 | .54 |
| 20 | 707 | .48 | 4000 | 50 | .54 |
| 25 | 630 | .48 | 4500 | 47 | .54 |
| 50 | 447 | .48 | 5000 | 44 | .54 |
| 75 | 365 | .48 | 6000 | 41 | .60 |
| 100 | 315 | .48 | 7000 | 38 | .60 |
| 150 | 258 | .48 | 7500 | 36 | .60 |
| 200 | 223 | .48 | 8000 | 35 | .60 |
| 225 | 212 | .48 | 8500 | 34 | .60 |
| 250 | 200 | .48 | 9000 | 33 | .60 |
| 300 | 182 | .48 | 10000 | 32 | .60 |
| 350 | 169 | .48 | 12000 | 29 | .66 |
| 400 | 158 | .48 | 12500 | 28 | .66 |
| 450 | 150 | .48 | 13500 | 27 | .66 |
| 500 | 141 | .48 | 15000 | 25 | .66 |
| 600 | 129 | .48 | 16000 | 25 | .66 |
| 700 | 119 | .48 | 17500 | 24 | .66 |
| 750 | 115 | .48 | 18000 | 23 | .66 |
| 800 | 111 | .48 | 20000 | 22 | .66 |
| 900 | 105 | .48 | 22500 | 21 | .72 |
| 1000 | 100 | .48 | 25000 | 20 | .72 |
| 1100 | 95 | .54 | 30000 | 18 | .81 |
| 1200 | 91 | .54 | 40000 | 15 | .81 |
| 1250 | 89 | .54 | 45000 | 15 | .81 |
| | | | 50000 | 14 | .81 |

### C20 or E20 SERIES — 20 WATT

DIMENSIONS ..... 7/16 x 5/16 x 2"
TERMINALS ..... Pigtail type leads 1½"
(C20)
Solder lug type terminal; hole diameter .1718"
(E20)
MOUNTING BRACKET ..... B-33; Centers 2¾"
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 2000 | $ .63 | 2500 | 89 | $ .66 |
| 10 | 1414 | .63 | 3000 | 81 | .66 |
| 15 | 1153 | .63 | 4000 | 70 | .66 |
| 20 | 1000 | .63 | 5000 | 63 | .66 |
| 25 | 894 | .63 | 6000 | 57 | .72 |
| 40 | 707 | .63 | 7000 | 53 | .72 |
| 50 | 633 | .63 | 7500 | 51 | .72 |
| 60 | 574 | .63 | 8000 | 50 | .72 |
| 75 | 517 | .63 | 10000 | 45 | .72 |
| 100 | 448 | .63 | 12500 | 40 | .78 |
| 125 | 400 | .63 | 15000 | 36 | .78 |
| 150 | 365 | .63 | 20000 | 32 | .78 |
| 200 | 316 | .63 | 25000 | 28 | .90 |
| 250 | 283 | .63 | 30000 | 26 | .90 |
| 300 | 258 | .63 | 35000 | 24 | .90 |
| 350 | 238 | .63 | 40000 | 22 | .90 |
| 400 | 223 | .63 | 45000 | 21 | 1.05 |
| 500 | 200 | .63 | 50000 | 20 | 1.05 |
| 600 | 182 | .63 | 55000 | 18 | 1.05 |
| 700 | 169 | .63 | 60000 | 16 | 1.05 |
| 750 | 163 | .63 | 65000 | 15 | 1.20 |
| 800 | 158 | .63 | 70000 | 14 | 1.20 |
| 1000 | 141 | .63 | 75000 | 13 | 1.20 |
| 1100 | 134 | .66 | 80000 | 12 | 1.20 |
| 1250 | 126 | .66 | 90000 | 11 | 1.38 |
| 1500 | 115 | .66 | 95000 | 10.5 | 1.38 |
| 2000 | 100 | .66 | 100000 | 10 | 1.38 |

### E25 SERIES — 25 WATT

DIMENSIONS ..... 9/16 x 5/16 x 2"
TERMINALS ..... Solder lug type
MOUNTING BRACKET ..... B-33; Centers 2¾"
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 5000 | $ .66 | 2500 | 100 | $ .75 |
| 3 | 2890 | .66 | 3000 | 91 | .75 |
| 5 | 2240 | .66 | 3500 | 84 | .75 |
| 10 | 1580 | .66 | 4000 | 79 | .75 |
| 15 | 1290 | .66 | 5000 | 71 | .75 |
| 25 | 1000 | .66 | 6000 | 64 | .75 |
| 50 | 707 | .66 | 7500 | 57 | .75 |
| 75 | 575 | .66 | 10000 | 50 | .75 |
| 100 | 500 | .66 | 12000 | 46 | .75 |
| 150 | 400 | .66 | 15000 | 41 | .78 |
| 200 | 353 | .66 | 20000 | 35 | .78 |
| 250 | 316 | .66 | 25000 | 32 | .90 |
| 300 | 288 | .66 | 30000 | 29 | .90 |
| 400 | 250 | .66 | 35000 | 27 | 1.02 |
| 500 | 224 | .66 | 40000 | 25 | 1.02 |
| 750 | 182 | .66 | 50000 | 20 | 1.20 |
| 1000 | 158 | .66 | 60000 | 16 | 1.20 |
| 1250 | 141 | .69 | 70000 | 14 | 1.38 |
| 1500 | 129 | .69 | 80000 | 12 | 1.38 |
| 2000 | 112 | .69 | 100000 | 10 | 1.38 |

### E50 SERIES — 50 WATT

DIMENSIONS ..... 9/16 x 5/16 x 4"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 250,000 ohms
MOUNTING BRACKET ..... B-33; Centers 4¾"

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 3165 | $1.08 | 8000 | 79 | $1.26 |
| 10 | 2230 | 1.08 | 10000 | 71 | 1.26 |
| 25 | 1414 | 1.08 | 12000 | 65 | 1.38 |
| 50 | 1000 | 1.08 | 12500 | 63 | 1.38 |
| 100 | 707 | 1.08 | 15000 | 57 | 1.38 |
| 200 | 500 | 1.08 | 20000 | 50 | 1.38 |
| 250 | 440 | 1.08 | 25000 | 45 | 1.53 |
| 500 | 300 | 1.08 | 30000 | 41 | 1.53 |
| 750 | 250 | 1.08 | 40000 | 35 | 1.53 |
| 1000 | 215 | 1.08 | 50000 | 32 | 1.71 |
| 1500 | 180 | 1.14 | 60000 | 29 | 1.71 |
| 2000 | 155 | 1.14 | 75000 | 26 | 1.92 |
| 2500 | 140 | 1.14 | 100000 | 19 | 2.10 |
| 3000 | 125 | 1.14 | 125000 | 15 | 2.22 |
| 4000 | 110 | 1.14 | 150000 | 13 | 2.31 |
| 5000 | 100 | 1.14 | 175000 | 11 | 2.40 |
| 6000 | 90 | 1.26 | 200000 | 9 | 2.49 |
| 7000 | 85 | 1.26 | 225000 | 8 | 2.79 |
| 7500 | 80 | 1.26 | 250000 | 7 | 2.79 |

### E75 SERIES — 75 WATT

DIMENSIONS ..... 9/16 x 5/16 x 6"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms
MOUNTING BRACKET ..... B-33; Centers 6¾"

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 8650 | $1.32 | 2500 | 171 | $1.38 |
| 2 | 6120 | 1.32 | 3000 | 160 | 1.38 |
| 3 | 5010 | 1.32 | 4000 | 135 | 1.38 |
| 4 | 4340 | 1.32 | 5000 | 121 | 1.38 |
| 5 | 3870 | 1.32 | 6000 | 111 | 1.50 |
| 10 | 2740 | 1.32 | 7500 | 100 | 1.50 |
| 25 | 1730 | 1.32 | 8000 | 96 | 1.50 |
| 50 | 1220 | 1.32 | 10000 | 86 | 1.50 |
| 100 | 865 | 1.32 | 12000 | 80 | 1.62 |
| 150 | 705 | 1.32 | 12500 | 78 | 1.62 |
| 200 | 610 | 1.32 | 15000 | 70 | 1.62 |
| 250 | 550 | 1.32 | 20000 | 61 | 1.62 |
| 300 | 500 | 1.32 | 25000 | 55 | 1.83 |
| 400 | 430 | 1.32 | 30000 | 50 | 1.83 |
| 500 | 385 | 1.32 | 35000 | 46 | 1.83 |
| 750 | 318 | 1.32 | 40000 | 43 | 1.83 |
| 800 | 305 | 1.32 | 45000 | 41 | 1.95 |
| 1000 | 270 | 1.32 | 50000 | 39 | 1.95 |
| 1500 | 225 | 1.38 | 75000 | 31 | 2.13 |
| 2000 | 192 | 1.38 | 100000 | 27 | 2.37 |

### E100 SERIES — 100 WATT

DIMENSIONS ..... ¾ x ½ x 6½"
TERMINALS ..... Solder lug type
MOUNTING BRACKET ..... B-34; Centers 7⅜"
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 10000 | $1.59 | 2000 | 222 | $1.68 |
| 2 | 7070 | 1.59 | 2500 | 200 | 1.68 |
| 3 | 5770 | 1.59 | 3000 | 181 | 1.68 |
| 4 | 5000 | 1.59 | 5000 | 141 | 1.68 |
| 5 | 4470 | 1.59 | 7500 | 114 | 1.80 |
| 10 | 3160 | 1.59 | 10000 | 100 | 1.80 |
| 25 | 2000 | 1.59 | 15000 | 81 | 1.98 |
| 50 | 1414 | 1.59 | 20000 | 70 | 1.98 |
| 75 | 1153 | 1.59 | 25000 | 63 | 2.10 |
| 100 | 1000 | 1.59 | 30000 | 58 | 2.10 |
| 150 | 816 | 1.59 | 40000 | 50 | 2.10 |
| 250 | 632 | 1.59 | 50000 | 45 | 2.22 |
| 500 | 447 | 1.59 | 60000 | 41 | 2.22 |
| 750 | 365 | 1.59 | 75000 | 36 | 2.37 |
| 1000 | 316 | 1.59 | 100000 | 32 | 2.52 |
| 1500 | 257 | 1.68 | | | |

### E160 SERIES — 160 WATT

DIMENSIONS ..... 1⅛ x ¾ x 8½"
TERMINALS ..... Solder lug type
MOUNTING BRACKET ..... B-35; Centers 9⅝"
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 12650 | $2.75 | 3500 | 215 | $2.01 |
| 2 | 8940 | 2.75 | 4000 | 200 | 2.01 |
| 3 | 7300 | 2.75 | 4500 | 185 | 2.01 |
| 4 | 6320 | 2.75 | 5000 | 180 | 2.01 |
| 5 | 5660 | 2.75 | 7500 | 145 | 2.16 |
| 10 | 4000 | 1.98 | 10000 | 125 | 2.16 |
| 25 | 2530 | 1.98 | 15000 | 105 | 2.34 |
| 50 | 1788 | 1.98 | 20000 | 90 | 2.34 |
| 75 | 1460 | 1.98 | 25000 | 80 | 2.40 |
| 100 | 1260 | 1.98 | 30000 | 73 | 2.40 |
| 200 | 900 | 1.98 | 35000 | 68 | 2.40 |
| 500 | 570 | 1.98 | 40000 | 64 | 2.40 |
| 1000 | 400 | 1.98 | 50000 | 57 | 2.49 |
| 1500 | 330 | 2.01 | 60000 | 52 | 2.49 |
| 2000 | 280 | 2.01 | 70000 | 48 | 2.64 |
| 2500 | 250 | 2.01 | 80000 | 45 | 2.82 |
| 3000 | 230 | 2.01 | 100000 | 40 | 2.82 |

### E200 SERIES — 200 WATT

DIMENSIONS ..... 1⅛ x ¾ x 10½"
TERMINALS ..... Solder lug type
MOUNTING BRACKET ..... B-35; Centers 11⅜"
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 14140 | $3.00 | 3500 | 240 | $2.16 |
| 2 | 10000 | 3.00 | 4000 | 225 | 2.16 |
| 3 | 8160 | 3.00 | 4500 | 210 | 2.34 |
| 4 | 7070 | 3.00 | 5000 | 200 | 2.34 |
| 5 | 6310 | 3.00 | | | |
| 10 | 4470 | 2.13 | 7500 | 165 | 2.34 |
| 25 | 2830 | 2.13 | 10000 | 140 | 2.34 |
| 50 | 2000 | 2.13 | 15000 | 115 | 2.49 |
| 75 | 1635 | 2.13 | 20000 | 100 | 2.49 |
| 100 | 1400 | 2.13 | 25000 | 90 | 2.58 |
| 250 | 900 | 2.13 | 30000 | 82 | 2.58 |
| 500 | 630 | 2.13 | 35000 | 76 | 2.58 |
| 1000 | 450 | 2.13 | 40000 | 71 | 2.58 |
| 1500 | 365 | 2.16 | 50000 | 63 | 2.64 |
| 2000 | 315 | 2.16 | 60000 | 58 | 2.64 |
| 2500 | 280 | 2.16 | 75000 | 52 | 2.82 |
| 3000 | 260 | 2.16 | 100000 | 45 | 3.00 |

ORDER BY SERIES NUMBER AND RESISTANCE REQUIRED.



Net

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World Radio History

# LECTROHM

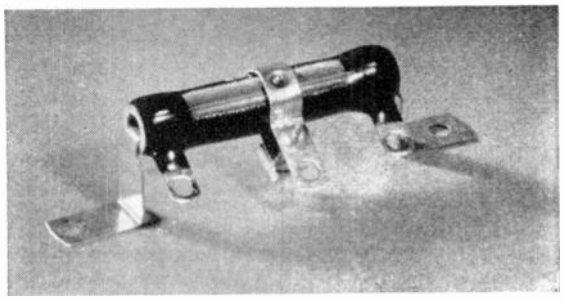
INCORPORATED • CHICAGO 30, ILLINOIS

## VITREOUS ENAMELED RESISTORS

### FIXED AND ADJUSTABLE WIRE-WOUND TYPES

Years ahead in manufacturing techniques, LECTROHM Resistors offer absolutely top quality at consistently lower prices. New winding methods and improved enameling processes are the result of continuing research.

Your wire-wound resistor requirements, whether in small or large quantities, are given immediate attention. Large factory stocks of standard types are maintained for your convenience. Special types to fit particular applications are provided quickly and at low cost.



## Adjustable Wire-Wound Types

### D10 SERIES — 10 WATT

DIMENSIONS ..... 5/16 x 3/16 x 1¾"
MOUNTING BRACKET ..... B-32; Centers 2¼"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 10,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 3150 | $ .96 | 750 | 115 | $ .96 |
| 2 | 2230 | .96 | 800 | 111 | .96 |
| 3 | 1825 | .96 | 1000 | 100 | .96 |
| 5 | 1415 | .96 | 1250 | 89 | 1.02 |
| 7.5 | 1155 | .96 | 1500 | 79 | 1.02 |
| 10 | 1000 | .96 | 2000 | 69 | 1.02 |
| 15 | 815 | .96 | 2250 | 64 | 1.02 |
| 20 | 707 | .96 | 2500 | 61 | 1.02 |
| 25 | 630 | .96 | 3000 | 58 | 1.02 |
| 50 | 447 | .96 | 3500 | 53 | 1.02 |
| 75 | 365 | .96 | 4000 | 50 | 1.02 |
| 100 | 315 | .96 | 4500 | 47 | 1.02 |
| 150 | 258 | .96 | 5000 | 45 | 1.02 |
| 200 | 223 | .96 | 6000 | 41 | 1.08 |
| 250 | 200 | .96 | 7000 | 38 | 1.08 |
| 300 | 182 | .96 | 7500 | 36 | 1.08 |
| 350 | 169 | .96 | 8000 | 35 | 1.08 |
| 400 | 158 | .96 | 8500 | 34 | 1.08 |
| 500 | 141 | .96 | 9000 | 33 | 1.08 |
| 600 | 129 | .96 | 10000 | 31 | 1.08 |

### D25 SERIES — 25 WATT

DIMENSIONS ..... 9/16 x 5/16 x 2"
MOUNTING BRACKET ..... B-33; Centers 2¾"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 25,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 1 | 5000 | $1.23 | 1250 | 141 | $1.26 |
| 2 | 3535 | 1.23 | 1500 | 129 | 1.26 |
| 3 | 2890 | 1.23 | 2000 | 112 | 1.26 |
| 5 | 2240 | 1.23 | 2500 | 100 | 1.26 |
| 7.5 | 1825 | 1.23 | 3000 | 91 | 1.26 |
| 10 | 1580 | 1.23 | 3500 | 84 | 1.26 |
| 15 | 1290 | 1.23 | 4000 | 79 | 1.26 |
| 20 | 1117 | 1.23 | 4500 | 74 | 1.26 |
| 25 | 1000 | 1.23 | 5000 | 71 | 1.26 |
| 50 | 707 | 1.23 | 6000 | 64 | 1.32 |
| 75 | 575 | 1.23 | 7000 | 60 | 1.32 |
| 100 | 500 | 1.23 | 7500 | 57 | 1.32 |
| 150 | 400 | 1.23 | 8000 | 55 | 1.32 |
| 200 | 353 | 1.23 | 8500 | 54 | 1.32 |
| 250 | 316 | 1.23 | 9000 | 52 | 1.32 |
| 300 | 288 | 1.23 | 10000 | 50 | 1.32 |
| 400 | 250 | 1.23 | 12000 | 46 | 1.38 |
| 500 | 224 | 1.23 | 15000 | 41 | 1.38 |
| 750 | 182 | 1.23 | 20000 | 35 | 1.38 |
| 300 | 177 | 1.23 | 25000 | 32 | 1.50 |
| 1000 | 158 | 1.23 | | | |

### D50 SERIES — 50 WATT

DIMENSIONS ..... 9/16 x 5/16 x 4"
MOUNTING BRACKET ..... B-33; Centers 4¾"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 3160 | $1.56 | 3000 | 129 | $1.62 |
| 10 | 2230 | 1.56 | 4000 | 112 | 1.62 |
| 25 | 1410 | 1.56 | 5000 | 100 | 1.62 |
| 50 | 1000 | 1.56 | 7500 | 81 | 1.74 |
| 75 | 816 | 1.56 | 10000 | 70 | 1.74 |
| 100 | 707 | 1.56 | 12000 | 64 | 1.86 |
| 150 | 577 | 1.56 | 15000 | 57 | 1.86 |
| 200 | 500 | 1.56 | 20000 | 50 | 1.86 |
| 250 | 447 | 1.56 | 25000 | 44 | 2.04 |
| 300 | 408 | 1.56 | 30000 | 41 | 2.04 |
| 400 | 354 | 1.56 | 40000 | 35 | 2.04 |
| 500 | 316 | 1.56 | 50000 | 32 | 2.16 |
| 750 | 258 | 1.56 | 60000 | 29 | 2.16 |
| 1000 | 224 | 1.56 | 75000 | 26 | 2.43 |
| 1500 | 182 | 1.62 | 80000 | 24 | 2.43 |
| 2000 | 158 | 1.62 | 100000 | 19 | 2.58 |
| 2500 | 141 | 1.62 | | | |

### D75 SERIES — 75 WATT

DIMENSIONS ..... 9/16 x 5/16 x 6"
MOUNTING BRACKET ..... B-33; Centers 6¾"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 3870 | $1.80 | 3500 | 146 | $1.86 |
| 10 | 2740 | 1.80 | 5000 | 121 | 1.86 |
| 15 | 2236 | 1.80 | 7500 | 100 | 1.98 |
| 25 | 1730 | 1.80 | 10000 | 86 | 1.98 |
| 50 | 1220 | 1.80 | 15000 | 70 | 2.10 |
| 100 | 865 | 1.80 | 20000 | 61 | 2.34 |
| 250 | 550 | 1.80 | 25000 | 55 | 2.34 |
| 300 | 500 | 1.80 | 30000 | 50 | 2.34 |
| 400 | 430 | 1.80 | 40000 | 43 | 2.34 |
| 500 | 385 | 1.80 | 50000 | 39 | 2.40 |
| 750 | 318 | 1.80 | 60000 | 35 | 2.40 |
| 1000 | 270 | 1.80 | 75000 | 31 | 2.64 |
| 1500 | 225 | 1.86 | 80000 | 30 | 2.64 |
| 2000 | 192 | 1.86 | 100000 | 27 | 2.85 |
| 2500 | 171 | 1.86 | | | |

### D100 SERIES — 100 WATT

DIMENSIONS ..... ¾ x ½ x 6½"
MOUNTING BRACKET ..... B-34; Centers 7⅜"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 4470 | $2.37 | 2500 | 200 | $2.43 |
| 10 | 3162 | 2.37 | 3000 | 180 | 2.43 |
| 25 | 2000 | 2.37 | 5000 | 140 | 2.43 |
| 50 | 1414 | 2.37 | 7500 | 115 | 2.55 |
| 75 | 1155 | 2.37 | 10000 | 100 | 2.55 |
| 100 | 1000 | 2.37 | 15000 | 80 | 2.70 |
| 150 | 815 | 2.37 | 20000 | 70 | 2.70 |
| 250 | 632 | 2.37 | 25000 | 63 | 2.88 |
| 500 | 447 | 2.37 | 30000 | 58 | 2.88 |
| 750 | 365 | 2.37 | 40000 | 50 | 2.88 |
| 1000 | 315 | 2.37 | 50000 | 45 | 3.00 |
| 1250 | 280 | 2.43 | 60000 | 41 | 3.00 |
| 1500 | 250 | 2.43 | 75000 | 36 | 3.12 |
| 2000 | 220 | 2.43 | 100000 | 32 | 3.27 |

### D160 SERIES — 160 WATT

DIMENSIONS ..... 1⅛ x ¾ x 8½"
MOUNTING BRACKET ..... B-35; Centers 9⅜"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 5660 | $3.51 | 4500 | 185 | $2.76 |
| 10 | 4000 | 2.73 | 5000 | 180 | 2.76 |
| 25 | 2530 | 2.73 | 7500 | 145 | 2.94 |
| 50 | 1788 | 2.73 | 10000 | 125 | 2.94 |
| 75 | 1460 | 2.73 | 15000 | 105 | 3.09 |
| 100 | 1260 | 2.73 | 20000 | 90 | 3.09 |
| 200 | 900 | 2.73 | 25000 | 80 | 3.18 |
| 500 | 570 | 2.73 | 30000 | 73 | 3.18 |
| 1000 | 400 | 2.73 | 35000 | 68 | 3.18 |
| 1500 | 330 | 2.76 | 40000 | 64 | 3.18 |
| 2000 | 280 | 2.76 | 50000 | 57 | 3.24 |
| 2500 | 250 | 2.76 | 60000 | 52 | 3.24 |
| 3000 | 230 | 2.76 | 70000 | 48 | 3.42 |
| 3500 | 215 | 2.76 | 80000 | 45 | 3.60 |
| 4000 | 200 | 2.76 | 100000 | 40 | 3.60 |

### D200 SERIES — 200 WATT

DIMENSIONS ..... 1⅛ x ¾ x 10½"
MOUNTING BRACKET ..... B-35; Centers 11⅜"
TERMINALS ..... Solder lug type
MAXIMUM RESISTANCE ..... 100,000 ohms

| Res. Ohms | Max. M.A. | Net Price | Res. Ohms | Max. M.A. | Net Price |
|---|---|---|---|---|---|
| 5 | 6310 | $3.75 | 4500 | 210 | $2.94 |
| 10 | 4470 | 2.88 | 5000 | 200 | 2.94 |
| 25 | 2830 | 2.88 | 7500 | 165 | 3.12 |
| 50 | 2000 | 2.88 | 10000 | 140 | 3.12 |
| 75 | 1635 | 2.88 | 15000 | 115 | 3.24 |
| 100 | 1400 | 2.88 | 20000 | 100 | 3.24 |
| 250 | 900 | 2.88 | 25000 | 90 | 3.30 |
| 500 | 630 | 2.88 | 30000 | 82 | 3.30 |
| 1000 | 450 | 2.88 | 35000 | 76 | 3.30 |
| 1500 | 365 | 2.94 | 40000 | 71 | 3.30 |
| 2000 | 315 | 2.94 | 50000 | 63 | 3.42 |
| 2500 | 280 | 2.94 | 60000 | 58 | 3.57 |
| 3000 | 260 | 2.94 | 75000 | 52 | 3.57 |
| 3500 | 240 | 2.94 | 100000 | 45 | 3.75 |
| 4000 | 225 | 2.94 | | | |

Order by series number and resistance required.

Mounting brackets and one band are furnished with all adjustable types.

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World Radio History

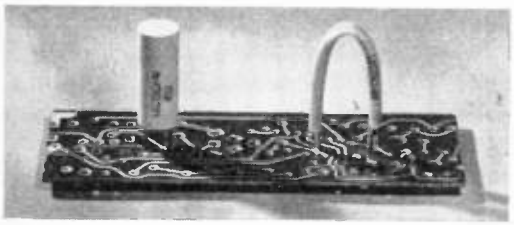
# LECTROHM

INCORPORATED • CHICAGO 30, ILLINOIS

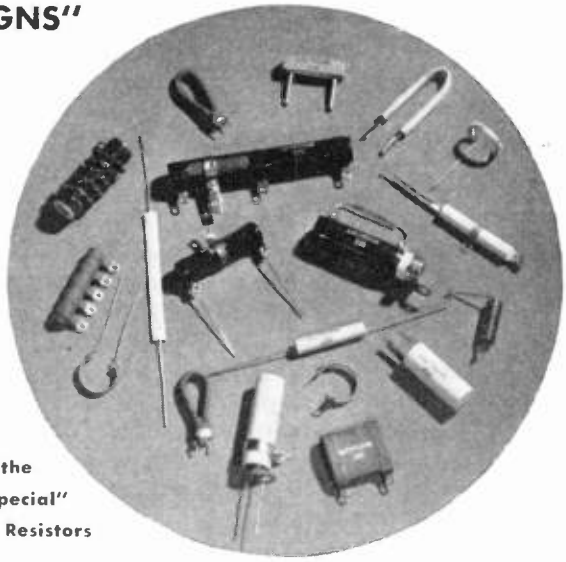
## LECTROHM IS CREATING NEW DESIGNS AND MATERIALS IN WIRE WOUND RESISTORS FOR NEW ASSEMBLY METHODS

In addition to supplying the electronics industry with superior vitreous enameled wire-wound power resistors in the familiar sizes and ratings, LECTROHM is producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power resistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.

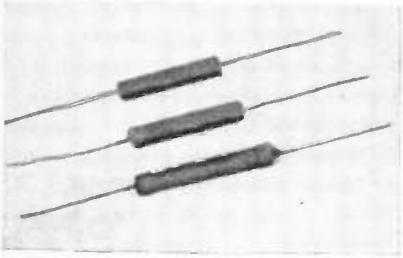
## LECTROHM LEADS IN "SPECIAL DESIGNS"



Printed Circuit Upright — Printed Circuit Flexible



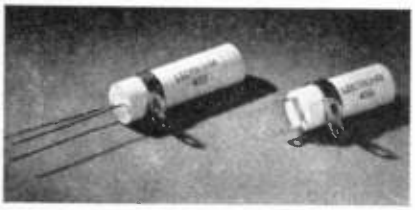
Some of the many "Special" Lectrohm Resistors



### LECTROHM AXIAL LEAD WIREWOUNDS

For added convenience in mounting in many types of assembly.

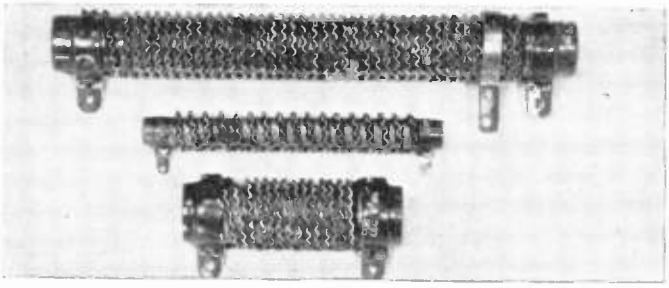
3 to 10 watts. 10 to 50,000 Ohms.



### LECTROHM ABOVE-CHASSIS TYPE

More efficient use of space designed to eliminate heat beneath the chassis. Lectrohm engineers will create resistors to fit your available space.

5 to 25 watts. 10 to 15,000 Ohms.



### RIB-ON-EDGE LECTROHM (STANDARD SIZES AND VALUES)

155 to 420 watts. .06 to 22 Ohms.

### VITREOUS ENAMELED LECTROHM FERRULE TYPE (STANDARD SIZES AND VALUES)

13 to 190 watts. To 100,000 Ohms.



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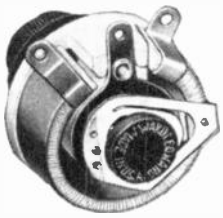
World Radio History

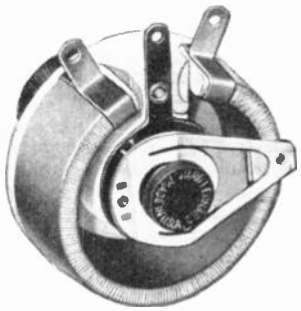
# *Vitrohm*
## RING RHEOSTATS

# WARD LEONARD



TYPE 25R

TYPE 50R



## 25-Watt — 50-Watt

The Ward Leonard 25-watt (Type 25R) and 50-watt (Type 50R) Type Rheostats are especially suited for use in electronic and electrical circuits where gradual and positive resistance change is essential. Balanced contact arms, self-lubricating metal graphite contact shoes, and no backlash in the drive shaft combine to assure uniform contact pressure and smooth operation.

Standard shaft length for back-of-board mounting on ¼" panel.

**25 WATTS — TYPE 25R**

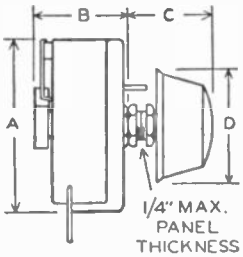
Dimensions: A-1 9/16" B-1⅛" C-1" D-1½"

| Current M.A. | Approx. No. of Steps | List Price |
|---|---|---|
| 5000 | 32 | $7.70 |
| 3540 | 32 | 6.85 |
| 2880 | 51 | 6.85 |
| * | * | * |
| 2040 | 85 | 6.85 |
| 1770 | 95 | 6.85 |
| 1580 | 95 | 6.85 |
| 1280 | 102 | 6.85 |
| 1000 | 102 | 6.85 |
| 840 | 102 | 6.85 |
| 707 | 97 | 6.85 |
| 574 | 129 | 6.85 |
| 500 | 162 | 6.85 |
| 407 | 190 | 6.85 |
| 316 | 200 | 6.85 |
| 267 | 220 | 6.85 |
| 223 | 245 | 6.85 |
| 181 | 292 | 6.85 |
| 158 | 315 | 7.70 |
| 128 | 369 | 7.70 |
| 100 | 388 | 7.70 |
| 84 | 388 | 8.10 |
| 70 | 595 | 8.10 |
| * | * | * |
| * | * | * |

**50 WATTS — TYPE 50R**

Dimensions: A-2 5/16" B-1⅛" C-1" D-1½"

| Ohms | Current M.A. | Approx. No. of Steps | List Price |
|---|---|---|---|
| 1 | 7070 | 45 | $8.60 |
| 2 | 5000 | 56 | 8.60 |
| 3 | * | * | * |
| 4 | 3540 | 56 | 7.70 |
| 6 | 2880 | 94 | 7.70 |
| 8 | 2500 | 94 | 7.70 |
| 10 | 2230 | 94 | 7.70 |
| 15 | 1810 | 113 | 7.70 |
| 25 | 1415 | 144 | 7.70 |
| 35 | 1190 | 144 | 7.70 |
| 50 | 1000 | 180 | 7.70 |
| 75 | 812 | 144 | 7.70 |
| 100 | 707 | 216 | 7.70 |
| 150 | 574 | 252 | 7.70 |
| 250 | 447 | 245 | 7.70 |
| 350 | 374 | 288 | 7.70 |
| 500 | 316 | 324 | 7.70 |
| 750 | 256 | 373 | 8.10 |
| 1000 | 223 | 390 | 8.10 |
| 1500 | 181 | 396 | 8.10 |
| 2500 | 141 | 547 | 8.10 |
| 3500 | 119 | 547 | 8.60 |
| 5000 | 100 | 786 | 8.60 |
| 7500 | 81 | 905 | 8.60 |
| 10000 | 70 | 947 | 8.60 |



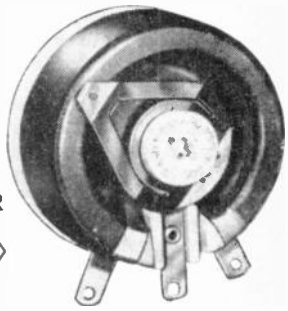

**DIMENSION SKETCH**

SEE DIMENSIONS HEADING EACH TABLE

The Ring Rheostats shown on this page are standard values and sizes carried in stock at our factory and by our Distributors. Information concerning Rheostats of special construction available on request.

## 100-Watt — 150-Watt

The Ward Leonard 100-watt (Type 100R) and 150-watt (Type 150R) Ring Type Rheostats are of sturdy construction for electrical applications, such as control of fractional h.p. motors, rectifiers, voltage regulators, and some electronic circuits, such as filament and battery control.



TYPE 100R

**100 WATTS — TYPE 100R**

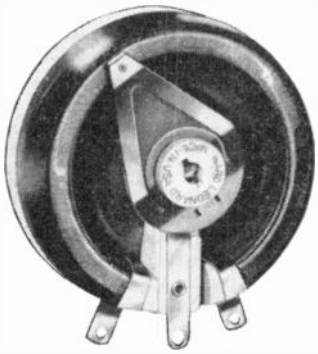
Dimensions: A-3 3/32" B-1½" C-1" D-1½"

| Current M.A. | Approx No. of Steps | Price List |
|---|---|---|
| 10000 | 30 | $12.90 |
| 7070 | 56 | 12.90 |
| 5740 | 66 | 12.90 |
| 4470 | 56 | 12.90 |
| 3640 | 66 | 12.05 |
| 3160 | 104 | 12.05 |
| 2560 | 113 | 12.05 |
| 2000 | 144 | 12.05 |
| 1415 | 180 | 12.05 |
| 1150 | 180 | 12.05 |
| 1000 | 216 | 12.05 |
| 707 | 252 | 12.05 |
| 574 | 252 | 12.05 |
| 500 | 252 | 12.05 |
| 447 | 324 | 12.05 |
| 364 | 396 | 12.05 |
| 316 | 410 | 12.90 |
| 223 | 410 | 12.90 |
| 200 | 410 | 12.90 |
| 141 | 685 | 13.70 |
| 115 | 820 | 14.60 |
| 100 | 820 | 15.40 |

**150 WATTS — TYPE 150R**

Dimensions: A-4" B-1¾" C-1" D-1½"

| Ohms | Current M.A. | Approx. No. of Steps | List Price |
|---|---|---|---|
| 1 | 12240 | 39 | $16.30 |
| 2 | 8660 | 39 | 16.30 |
| 3 | 7070 | 70 | 16.30 |
| 5 | 5470 | 73 | 16.30 |
| 7.5 | 4470 | 70 | 16.30 |
| 10 | 3870 | 70 | 15.40 |
| 15 | 3160 | 120 | 15.40 |
| 25 | 2440 | 152 | 15.40 |
| 50 | 1730 | 190 | 15.40 |
| 75 | 1415 | 228 | 15.40 |
| 100 | 1224 | 228 | 15.40 |
| 200 | 866 | 265 | 15.40 |
| 300 | 707 | 303 | 15.40 |
| 400 | 612 | 342 | 15.40 |
| 500 | 547 | 342 | 15.40 |
| 750 | 447 | 418 | 16.30 |
| 1000 | 387 | 432 | 16.30 |
| 2000 | 273 | 575 | 17.20 |
| 2500 | 244 | 456 | 17.20 |
| 5000 | 173 | 865 | 18.90 |
| 7500 | 141 | 1000 | 18.90 |
| 10000 | 122 | 1000 | 20.60 |



TYPE 150R

**For Correct Current Control Use Ward Leonard**

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World Radio History

# *Vitrohm* RESISTORS

Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

# WARD LEONARD

### 5 WATTS — Size—1" x 5/16" — TYPE 5F

| Ohms | M.A. | List Price | Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|---|---|---|
| 1 | 2230 | $0.75 | 100 | 223 | $0.75 | 1250 | 63 | $0.80 |
| 1.5 | 1820 | .75 | 125 | 200 | .75 | 1500 | 57 | .80 |
| 2 | 1580 | .75 | 150 | 182 | .75 | 1750 | 53 | .80 |
| 3 | 1290 | .75 | 200 | 158 | .75 | 2000 | 50 | .80 |
| 4 | 1117 | .75 | 250 | 141 | .75 | 2250 | 47 | .80 |
| 5 | 1000 | .75 | 300 | 129 | .75 | 2500 | 45 | .80 |
| 7.5 | 811 | .75 | 350 | 119 | .75 | 3000 | 40 | .80 |
| 10 | 707 | .75 | 400 | 112 | .75 | 3500 | 37 | .80 |
| 12 | 644 | .75 | 450 | 105 | .75 | 4000 | 35 | .80 |
| 15 | 577 | .75 | 500 | 100 | .75 | 4500 | 33 | .80 |
| 20 | 500 | .75 | 600 | 91 | .75 | 5000 | 31 | .80 |
| 25 | 450 | .75 | 700 | 84 | .75 | 6000 | 28 | .85 |
| 30 | 408 | .75 | 750 | 81 | .75 | 7000 | 26 | .85 |
| 35 | 378 | .75 | 800 | 79 | .75 | 7500 | 25 | .85 |
| 40 | 353 | .75 | 900 | 74 | .75 | 8000 | 25 | .85 |
| 50 | 316 | .75 | 1000 | 70 | .75 | 9000 | 23 | .85 |
| 75 | 257 | .75 | 1100 | 67 | .80 | 10000 | 22 | .85 |
| | | | 1200 | 64 | .80 | | | |

### 10 WATTS — Type 10F-*Fixed* — Type 10A-*Adj.*

Size—1 3/4" x 5/16" Mtg. Centers—2 1/8"

| Ohms | M.A. | List Price Fixed | List Price Adj. | Ohms | M.A. | List Price Fixed | List Price Adj. |
|---|---|---|---|---|---|---|---|
| 1 | 3160 | $0.80 | $1.60 | 1200 | 91 | $0.90 | * |
| 1.5 | 2580 | .80 | * | 1250 | 89 | .90 | $1.70 |
| 2 | 2235 | .80 | 1.60 | 1500 | 81 | .90 | 1.70 |
| 3 | 1825 | .80 | 1.60 | 1750 | 75 | .90 | * |
| 4 | 1580 | .80 | * | 2000 | 70 | .90 | 1.70 |
| 5 | 1415 | .80 | 1.60 | 2250 | 66 | .90 | * |
| 7.5 | 1155 | .80 | 1.60 | 2500 | 63 | .90 | 1.70 |
| 10 | 1000 | .80 | 1.60 | 3000 | 58 | .90 | 1.70 |
| 12 | 913 | .80 | * | 3500 | 53 | .90 | 1.70 |
| 15 | 815 | .80 | 1.60 | 4000 | 50 | .90 | 1.70 |
| 20 | 707 | .80 | 1.60 | 4500 | 47 | .90 | 1.70 |
| 25 | 630 | .80 | 1.60 | 5000 | 45 | .90 | 1.70 |
| 30 | 577 | .80 | * | 6000 | 41 | 1.00 | 1.80 |
| 35 | 534 | .80 | * | 7000 | 38 | 1.00 | 1.80 |
| 40 | 500 | .80 | * | 7500 | 36 | 1.00 | 1.80 |
| 50 | 450 | .80 | 1.60 | 8000 | 35 | 1.00 | 1.80 |
| 75 | 365 | .80 | 1.60 | 8500 | 34 | 1.00 | 1.80 |
| 100 | 316 | .80 | 1.60 | 9000 | 33 | 1.00 | 1.80 |
| 125 | 283 | .80 | * | 10000 | 32 | 1.00 | 1.80 |
| 150 | 258 | .80 | 1.60 | 11000 | 30 | 1.10 | * |
| 200 | 224 | .80 | 1.60 | 12000 | 29 | 1.10 | * |
| 225 | 211 | .80 | * | 12500 | 28 | 1.10 | * |
| 250 | 200 | .80 | 1.60 | 13500 | 27 | 1.10 | * |
| 300 | 182 | .80 | 1.60 | 15000 | 25.5 | 1.10 | * |
| 350 | 169 | .80 | 1.60 | 16000 | 25 | 1.10 | * |
| 400 | 158 | .80 | 1.60 | 17500 | 24 | 1.10 | * |
| 450 | 149 | .80 | * | 18000 | 23 | 1.10 | * |
| 500 | 142 | .80 | 1.60 | 20000 | 22 | 1.10 | * |
| 600 | 129 | .80 | 1.60 | 22500 | 21 | 1.20 | * |
| 700 | 120 | .80 | * | 25000 | 20 | 1.20 | * |
| 750 | 115 | .80 | 1.60 | 30000 | 18 | 1.20 | * |
| 800 | 112 | .80 | 1.60 | 35000 | 17 | 1.20 | * |
| 900 | 105 | .80 | * | 40000 | 16 | 1.20 | * |
| 1000 | 100 | .80 | 1.60 | 45000 | 15 | 1.35 | * |
| 1100 | 95 | .90 | * | 50000 | 14 | 1.35 | * |

### 20 WATTS — TYPE 20F

Size—2" x 9/16" Mtg. Centers 2 5/8"

| Ohms | M.A. | List Price | Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|---|---|---|
| 1 | 4480 | $1.05 | 850 | 153 | $1.05 | 8000 | 50 | $1.20 |
| 3 | 2580 | 1.05 | 1000 | 141 | 1.05 | 10000 | 45 | 1.20 |
| 5 | 2000 | 1.05 | 1200 | 130 | 1.10 | 12500 | 40 | 1.30 |
| 10 | 1410 | 1.05 | 1250 | 125 | 1.10 | 15000 | 36 | 1.30 |
| 15 | 1150 | 1.05 | 1500 | 115 | 1.10 | 20000 | 32 | 1.30 |
| 25 | 900 | 1.05 | 1750 | 107 | 1.10 | 25000 | 28 | 1.50 |
| 50 | 630 | 1.05 | 1850 | 104 | 1.10 | 30000 | 26 | 1.50 |
| 75 | 517 | 1.05 | 2000 | 100 | 1.10 | 35000 | 24 | 1.50 |
| 100 | 450 | 1.05 | 2250 | 94 | 1.10 | 40000 | 22 | 1.50 |
| 150 | 365 | 1.05 | 2400 | 91 | 1.10 | 45000 | 21 | 1.75 |
| 175 | 340 | 1.05 | 2500 | 90 | 1.10 | 50000 | 20 | 1.75 |
| 200 | 320 | 1.05 | 2750 | 85 | 1.10 | 55000 | 18 | 1.75 |
| 250 | 285 | 1.05 | 3000 | 81 | 1.10 | 60000 | 16 | 1.75 |
| 300 | 258 | 1.05 | 3500 | 76 | 1.10 | 65000 | 15 | 2.00 |
| 350 | 240 | 1.05 | 4000 | 70 | 1.10 | 70000 | 14 | 2.00 |
| 400 | 224 | 1.05 | 4500 | 67 | 1.10 | 75000 | 13 | 2.00 |
| 500 | 200 | 1.05 | 5000 | 63 | 1.10 | 80000 | 12 | 2.00 |
| 650 | 175 | 1.05 | 6000 | 57 | 1.20 | 85000 | 11.5 | 2.30 |
| 700 | 169 | 1.05 | 7000 | 53 | 1.20 | 90000 | 11 | 2.30 |
| 750 | 163 | 1.05 | 7500 | 51 | 1.20 | 95000 | 10.5 | 2.30 |
| 800 | 155 | 1.05 | | | | 100000 | 10 | 2.30 |

Types 5F, 10F, and 20F. Furnished with wire terminal leads. Brackets supplied on request.

Type 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Order by Type Number and Resistance Value.

Asterisks (*) in Tables Indicate that Resistors are not Stock Items.

## ADJUSTABLE BANDS

Screw Driver Type

| Size of Resistor | Cat. No. | Price |
|---|---|---|
| 10 Watts | 507-685 | $0.30 |
| 25 Watts | 507-686 | .30 |
| 50 Watts | 507-688 | .30 |
| 80 Watts | 507-688 | .30 |
| 100 Watts | 507-690 | .45 |
| 160 Watts | 507-690 | .45 |
| 200 Watts | 507-690 | .45 |

Bakelite Knob Type

| | | |
|---|---|---|
| 25 Watts | 507-691 | $0.40 |
| 50 Watts | 507-693 | .40 |
| 80 Watts | 507-693 | .40 |
| 100 Watts | 507-695 | .50 |
| 160 Watts | 507-695 | .50 |
| 200 Watts | 507-695 | .50 |

### 80 WATTS — TYPE 80A

Size—6 1/2" x 3/4" Mtg. Centers—7 1/4"

| Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|
| 1 | 8940 | $3.90 | 3000 | 161 | $3.10 |
| 2 | 6320 | 3.90 | 3500 | 151 | 3.10 |
| 3 | 5160 | 3.00 | 4000 | 141 | 3.10 |
| 4 | 4470 | 3.00 | 4500 | 133 | 3.10 |
| 5 | 4000 | 3.00 | 5000 | 126 | 3.10 |
| 10 | 2830 | 3.00 | 6000 | 115 | 3.30 |
| 15 | 2310 | 3.00 | 7000 | 107 | 3.30 |
| 25 | 1790 | 3.00 | 7500 | 103 | 3.30 |
| 50 | 1260 | 3.00 | 8000 | 100 | 3.30 |
| 75 | 1030 | 3.00 | 9000 | 94 | 3.30 |
| 100 | 894 | 3.00 | 10000 | 89 | 3.30 |
| 200 | 632 | 3.00 | 15000 | 73 | 3.50 |
| 250 | 565 | 3.00 | 20000 | 63 | 3.50 |
| 300 | 515 | 3.00 | 25000 | 57 | 3.90 |
| 400 | 447 | 3.00 | 30000 | 51 | 3.90 |
| 500 | 400 | 3.00 | 35000 | 48 | 3.90 |
| 750 | 325 | 3.00 | 40000 | 45 | 3.90 |
| 800 | 316 | 3.00 | 45000 | 41 | 4.00 |
| 1000 | 282 | 3.00 | 50000 | 40 | 4.00 |
| 1250 | 253 | 3.10 | 60000 | 36 | 4.00 |
| 1500 | 231 | 3.10 | 70000 | 33 | 4.40 |
| 2000 | 200 | 3.10 | 80000 | 31 | 4.40 |
| 2250 | 188 | 3.10 | 100000 | 28 | 4.75 |
| 2500 | 178 | 3.10 | | | |

**HEAVY DUTY RESISTORS**
Types 25F, 50F, 100F, 160F, 200F

Furnished with lug terminals and mounting brackets.

### 25 WATTS — Type 25F-*Fixed* — Type 25A-*Adj.*

Size—2" x 5/8" Mtg. Centers—2 5/8"

| Ohms | M.A. | List Price Fixed | List Price Adj. | Ohms | M.A. | List Price Fixed | List Price Adj. |
|---|---|---|---|---|---|---|---|
| 1 | 5000 | $1.10 | $2.05 | 2500 | 100 | $1.15 | $2.10 |
| 2 | 3535 | 1.10 | 2.05 | 3000 | 90 | 1.15 | 2.10 |
| 3 | 2890 | 1.10 | 2.05 | 3500 | 85 | 1.15 | 2.10 |
| 4 | 2500 | 1.10 | * | 4000 | 80 | 1.15 | 2.10 |
| 5 | 2230 | 1.10 | 2.05 | 4500 | 74 | * | 2.10 |
| 7.5 | 1825 | * | 2.05 | 5000 | 70 | 1.15 | 2.10 |
| 10 | 1580 | 1.10 | 2.05 | 6000 | 65 | 1.25 | 2.20 |
| 15 | 1290 | 1.10 | 2.05 | 7000 | 60 | * | 2.20 |
| 20 | 1115 | * | 2.05 | 7500 | 58 | 1.25 | 2.20 |
| 25 | 1000 | 1.10 | 2.05 | 8000 | 56 | * | 2.20 |
| 50 | 710 | 1.10 | 2.05 | 8500 | 54 | 1.25 | 2.20 |
| 75 | 580 | 1.10 | 2.05 | 9000 | 52 | * | 2.20 |
| 100 | 500 | 1.10 | 2.05 | 10000 | 50 | 1.25 | 2.20 |
| 150 | 410 | 1.10 | 2.05 | 12000 | 46 | 1.30 | 2.30 |
| 200 | 354 | 1.10 | 2.05 | 15000 | 41 | 1.30 | 2.30 |
| 250 | 315 | 1.10 | 2.05 | 20000 | 34 | 1.30 | 2.30 |
| 300 | 289 | 1.10 | 2.05 | 25000 | 32 | 1.50 | 2.50 |
| 400 | 250 | 1.10 | 2.05 | 30000 | 29 | 1.50 | * |
| 500 | 224 | 1.10 | 2.05 | 35000 | 27 | 1.50 | * |
| 750 | 182 | 1.10 | 2.05 | 40000 | 25 | 1.50 | * |
| 800 | 177 | 1.10 | 2.05 | 50000 | 20 | 1.70 | * |
| 850 | 170 | 1.10 | 2.05 | 60000 | 17 | 1.70 | * |
| 1000 | 158 | 1.10 | 2.05 | 70000 | 14 | 2.00 | * |
| 1250 | 140 | 1.15 | 2.10 | 75000 | 13 | 2.00 | * |
| 1500 | 129 | 1.15 | 2.10 | 80000 | 12 | 2.00 | * |
| 2000 | 112 | 1.15 | 2.10 | 100000 | 10 | 2.30 | * |
| 2250 | 105 | * | 2.10 | | | | |

### 50 WATTS — Type 50F-*Fixed* — Type 50A-*Adj.*

Size—4 1/2" x 3/4" Mtg. Centers—5 1/4"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 7070 | $2.50 | $3.30 | 5000 | 100 | $1.90 | $2.70 |
| 2 | 5000 | 1.80 | 2.60 | 6000 | 91 | 2.10 | 2.90 |
| 3 | 4080 | 1.80 | 2.60 | 7000 | 85 | * | 2.90 |
| 4 | 3535 | 1.80 | 2.60 | 7500 | 82 | 2.10 | 2.90 |
| 5 | 3160 | 1.80 | 2.60 | 8000 | 79 | 2.10 | 2.90 |
| 10 | 2235 | 1.80 | 2.60 | 9000 | 75 | * | 2.90 |
| 25 | 1415 | 1.80 | 2.60 | 10000 | 71 | 2.10 | 2.90 |
| 50 | 1000 | 1.80 | 2.60 | 12000 | 65 | 2.30 | 3.10 |
| 75 | 815 | 1.80 | 2.60 | 12500 | 63 | 2.30 | * |
| 100 | 707 | 1.80 | 2.60 | 15000 | 58 | 2.30 | 3.10 |
| 150 | 575 | 1.80 | 2.60 | 20000 | 50 | 2.30 | 3.10 |
| 200 | 500 | 1.80 | 2.60 | 25000 | 45 | 2.55 | 3.40 |
| 250 | 445 | 1.80 | 2.60 | 30000 | 41 | 2.55 | 3.40 |
| 300 | 408 | 1.80 | 2.60 | 35000 | 38 | 2.55 | * |
| 400 | 353 | 1.80 | 2.60 | 40000 | 35 | 2.55 | 3.40 |
| 500 | 316 | 1.80 | 2.60 | 45000 | 33 | 2.85 | * |
| 750 | 258 | 1.80 | 2.60 | 50000 | 32 | 2.85 | 3.60 |
| 800 | 250 | 1.80 | 2.60 | 60000 | 29 | * | 3.60 |
| 1000 | 224 | 1.80 | 2.60 | 75000 | 23 | 3.20 | 4.05 |
| 1250 | 200 | * | 2.70 | 80000 | 21 | * | 4.05 |
| 1500 | 180 | 1.90 | 2.70 | 100000 | 17 | 3.50 | 4.30 |
| 2000 | 160 | 1.90 | 2.70 | 125000 | 14 | 3.70 | * |
| 2250 | 150 | * | 2.70 | 150000 | 12 | 3.85 | * |
| 2500 | 141 | 1.90 | 2.70 | 175000 | 10 | 4.00 | * |
| 3000 | 130 | 1.90 | 2.70 | 200000 | 9 | 4.15 | * |
| 3500 | 120 | * | 2.70 | 225000 | 8 | 4.65 | * |
| 4000 | 110 | 1.90 | 2.70 | 250000 | 7 | 4.65 | * |
| 4500 | 105 | * | 2.70 | | | | |

### 100 WATTS — Type 100F-*Fixed* — Type 100A-*Adj.*

Size—6 1/2" x 1 1/8" Mtg. Centers—7 1/4"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 10000 | $3.70 | $5.00 | 2500 | 200 | $2.80 | $4.05 |
| 2 | 7070 | 3.70 | 5.00 | 3000 | 180 | 2.80 | 4.05 |
| 3 | 5770 | 3.70 | 5.00 | 3500 | 170 | 2.80 | * |
| 4 | 5000 | 2.65 | 3.95 | 4000 | 158 | 2.80 | 4.05 |
| 5 | 4470 | 2.65 | 3.95 | 4500 | 150 | 2.80 | 4.05 |
| 10 | 3160 | 2.65 | 3.95 | 5000 | 141 | 2.80 | 4.05 |
| 25 | 2000 | 2.65 | 3.95 | 6000 | 130 | * | 4.25 |
| 50 | 1410 | 2.65 | 3.95 | 7500 | 115 | 3.00 | 4.25 |
| 75 | 1150 | 2.65 | * | 10000 | 100 | 3.00 | 4.25 |
| 100 | 1000 | 2.65 | 3.95 | 15000 | 80 | 3.30 | 4.50 |
| 125 | 895 | 2.65 | * | 20000 | 70 | 3.30 | 4.50 |
| 150 | 815 | 2.65 | * | 25000 | 63 | 3.50 | 4.80 |
| 200 | 707 | * | 3.95 | 30000 | 58 | 3.50 | 4.80 |
| 250 | 630 | 2.65 | 3.95 | 35000 | 54 | 3.50 | * |
| 400 | 500 | * | 3.95 | 40000 | 50 | 3.50 | 4.80 |
| 500 | 447 | 2.65 | 3.95 | 50000 | 45 | 3.70 | 5.00 |
| 750 | 365 | 2.65 | 3.95 | 60000 | 41 | 3.70 | 5.00 |
| 1000 | 316 | 2.65 | 3.95 | 70000 | 38 | 3.95 | * |
| 1250 | 285 | 2.80 | * | 75000 | 36 | 3.95 | 5.20 |
| 1500 | 260 | 2.80 | 4.05 | 100000 | 32 | 4.20 | 5.45 |
| 2000 | 225 | 2.80 | 4.05 | | | | |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# *Vitrohm* RESISTORS

Order by Type Number and Resistance Value

Asterisks (*) in Tables Indicate that Resistors are not Stock Items.

# WARD LEONARD

## AXIOHMS

Vitreous enameled wire-wound resistors with 1½" tinned copper leads for self-mounting.

The same fine materials used in the manufacture of Ward Leonard Vitrohm Resistors are used in making Axiohms.

Order by Type Number and Resistance Value.

### 160 WATTS Type 160F–*Fixed* Type 160A–*Adj.*

Size—8½" x 1⅛" Mtg. Centers—9¼"

| Ohms | M.A. | List Price Fixed | List Price Adj. | Ohms | M.A. | List Price Fixed | List Price Adj. |
|---|---|---|---|---|---|---|---|
| 1 | 12650 | $4.60 | $5.85 | 2500 | 252 | $3.35 | $4.60 |
| 2 | 8940 | 4.60 | 5.85 | 3000 | 230 | 3.35 | 4.60 |
| 3 | 7300 | 4.60 | 5.85 | 3500 | 215 | 3.35 | 4.60 |
| 4 | 6320 | 4.60 | 5.85 | 4000 | 200 | 3.35 | 4.60 |
| 5 | 5650 | 4.60 | 5.85 | 4500 | 185 | 3.35 | 4.60 |
| 10 | 4000 | 3.30 | 4.55 | 5000 | 178 | 3.35 | 4.60 |
| 15 | 3265 | 3.30 | 4.55 | 7500 | 146 | 3.60 | 4.90 |
| 25 | 2525 | 3.30 | 4.55 | 10000 | 126 | 3.60 | 4.90 |
| 50 | 1785 | 3.30 | 4.55 | 15000 | 105 | 3.90 | 5.15 |
| 75 | 1460 | 3.30 | * | 20000 | 90 | 3.90 | 5.15 |
| 100 | 1265 | 3.30 | 4.55 | 25000 | 80 | 4.00 | 5.30 |
| 150 | 1035 | 3.30 | * | 30000 | 73 | 4.00 | 5.30 |
| 200 | 894 | 3.30 | 4.55 | 35000 | 68 | 4.00 | * |
| 250 | 800 | 3.30 | 4.55 | 40000 | 64 | 4.00 | 5.30 |
| 500 | 565 | 3.30 | 4.55 | 50000 | 57 | 4.15 | 5.40 |
| 750 | 460 | 3.30 | * | 60000 | 52 | 4.15 | 5.40 |
| 1000 | 400 | 3.30 | 4.55 | 75000 | 46 | 4.40 | 5.70 |
| 1500 | 326 | 3.35 | 4.60 | 80000 | 45 | 4.40 | 5.70 |
| 2000 | 280 | 3.35 | 4.60 | 100000 | 40 | 4.70 | 6.00 |

### 200 WATTS Type 200F–*Fixed* Type 200A–*Adj.*

Size—10½" x 1⅛" Mtg. Centers—11¼"

| Ohms | M.A. | List Price Fixed | List Price Adj. | Ohms | M.A. | List Price Fixed | List Price Adj. |
|---|---|---|---|---|---|---|---|
| 1 | 14140 | $5.00 | $6.25 | 3500 | 240 | $3.60 | $4.90 |
| 2 | 10000 | 5.00 | 6.25 | 4000 | 225 | 3.60 | 4.90 |
| 3 | 8162 | 5.00 | 6.25 | 4500 | 210 | 3.60 | 4.90 |
| 4 | 7070 | 5.00 | 6.25 | 5000 | 200 | 3.60 | 4.90 |
| 5 | 6320 | 5.00 | 6.25 | 7500 | 163 | 3.90 | 5.20 |
| 10 | 4470 | 3.55 | 4.80 | 10000 | 141 | 3.90 | 5.20 |
| 25 | 2825 | 3.55 | 4.80 | 15000 | 115 | 4.15 | 5.40 |
| 50 | 2000 | 3.55 | 4.80 | 20000 | 100 | 4.15 | 5.40 |
| 75 | 1630 | 3.55 | * | 25000 | 90 | 4.30 | 5.50 |
| 100 | 1414 | 3.55 | 4.80 | 30000 | 82 | 4.30 | 5.50 |
| 150 | 1150 | 3.55 | * | 35000 | 76 | 4.30 | * |
| 250 | 900 | 3.55 | 4.80 | 40000 | 71 | 4.30 | 5.50 |
| 500 | 632 | 3.55 | 4.80 | 50000 | 63 | 4.40 | 5.70 |
| 750 | 515 | 3.55 | * | 60000 | 58 | 4.40 | 5.70 |
| 1000 | 447 | 3.55 | 4.80 | 75000 | 52 | 4.70 | 5.95 |
| 1500 | 365 | 3.60 | 4.90 | 100000 | 45 | 5.00 | 6.25 |
| 2000 | 315 | 3.60 | 4.90 | 125000 | 40 | * | 6.25 |
| 2500 | 282 | 3.60 | 4.90 | 150000 | 35 | * | 6.25 |
| 3000 | 260 | 3.60 | 4.90 | | | | |

### 3 WATTS — Size—½" x 3/16" — TYPE 3X

| Ohms | M.A | List Price | Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|---|---|---|
| 1 | 1732 | $0.85 | 100 | 173 | $0.85 | 1100 | 52 | $0.90 |
| 1.5 | 1414 | .85 | 125 | 155 | .85 | 1200 | 50 | .90 |
| 2 | 1[illegible]5 | .85 | 150 | 141 | .85 | 1250 | 4[illegible] | .90 |
| 3 | 1000 | .85 | 200 | 122 | .85 | 1500 | 45 | .90 |
| 4 | 866 | .85 | 225 | 115 | .85 | 1750 | 41 | .90 |
| 5 | 7[illegible]5 | .85 | 250 | 110 | .85 | 2000 | 3[illegible] | .90 |
| 7.5 | 6[illegible]2 | .85 | 300 | 100 | .85 | 2250 | 37 | .90 |
| 10 | 548 | .85 | 350 | 93 | .85 | 2500 | 35 | .90 |
| 12 | 500 | .85 | 400 | 87 | .85 | 3000 | 32 | .90 |
| 15 | 447 | .85 | 450 | 82 | .85 | 3500 | 29 | .90 |
| 20 | 387 | .85 | 500 | 77 | .85 | 4000 | 27 | .90 |
| 25 | 346 | .85 | 600 | 71 | .85 | 4500 | 26 | .90 |
| 30 | 316 | .85 | 700 | 66 | .85 | 5000 | 25 | .90 |
| 35 | 293 | .85 | 750 | 63 | .85 | 6000 | 22 | .95 |
| 40 | 274 | .85 | 800 | 61 | .85 | 6500 | 21 | .95 |
| 50 | 245 | .85 | 900 | 58 | .85 | | | |
| 75 | 200 | .85 | 1000 | 55 | .85 | | | |

### 5 WATTS — Size—1" x 11/32" — TYPE 5X

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 2230 | $0.90 | 125 | 200 | $0.90 | 1250 | 63 | $0.95 |
| 1.5 | 1820 | .90 | 150 | 18[illegible] | .90 | 1500 | 57 | .95 |
| 2 | 1580 | .90 | 200 | 158 | .90 | 1750 | 53 | .95 |
| 3 | 1290 | .90 | 225 | 148 | .90 | 2000 | 50 | .95 |
| 4 | 1117 | .90 | 250 | 141 | .90 | 2250 | 47 | .95 |
| 5 | 1000 | .90 | 300 | 129 | .90 | 2500 | 45 | .95 |
| 7.5 | 811 | .90 | 350 | 119 | .90 | 3000 | 40 | .95 |
| 10 | 707 | .90 | 400 | 112 | .90 | 3500 | 37 | .95 |
| 12 | 644 | .90 | 450 | 105 | .90 | 4000 | 35 | .95 |
| 15 | 577 | .90 | 500 | 100 | .90 | 4500 | 33 | .95 |
| 20 | 500 | .90 | 600 | 91 | .90 | 5000 | 31 | .95 |
| 25 | 450 | .90 | 700 | 84 | .90 | 6000 | 28 | 1.00 |
| 30 | 408 | .90 | 750 | 81 | .90 | 7000 | 26 | 1.00 |
| 35 | 378 | .90 | 800 | 79 | .90 | 7500 | 25 | 1.00 |
| 40 | 353 | .90 | 900 | 74 | .90 | 8000 | 25 | 1.00 |
| 50 | 316 | .90 | 1000 | 70 | .90 | 9000 | 23 | 1.00 |
| 75 | 257 | .90 | 1100 | 67 | .95 | 10000 | 22 | 1.00 |
| 100 | 223 | .90 | 1200 | 64 | .95 | | | |

### 10 WATTS — Size—1¾" x 11/32" — TYPE 10X

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 3160 | $1.00 | 300 | 182 | $1.00 | 6000 | 41 | $1.20 |
| 1.5 | 2580 | 1.00 | 350 | 169 | 1.00 | 7000 | 38 | 1.20 |
| 2 | 2235 | 1.00 | 400 | 158 | 1.00 | 7500 | 36 | 1.20 |
| 3 | 1825 | 1.00 | 450 | 149 | 1.00 | 8000 | 35 | 1.20 |
| 4 | 1580 | 1.00 | 500 | 142 | 1.00 | 8500 | 34 | 1.20 |
| 5 | 1415 | 1.00 | 600 | 129 | 1.00 | 9000 | 33 | 1.20 |
| 7.5 | 1155 | 1.00 | 700 | 120 | 1.00 | 10000 | 32 | 1.20 |
| 10 | 1000 | 1.00 | 750 | 115 | 1.00 | 11000 | 30 | 1.35 |
| 12 | 913 | 1.00 | 800 | 112 | 1.00 | 12000 | 29 | 1.35 |
| 15 | 815 | 1.00 | 900 | 105 | 1.00 | 12500 | 28 | 1.35 |
| 20 | 707 | 1.00 | 1000 | 100 | 1.00 | 13500 | 27 | 1.35 |
| 25 | 630 | 1.00 | 1100 | 95 | 1.05 | 15000 | 25.5 | 1.35 |
| 30 | 577 | 1.00 | 1200 | 91 | 1.05 | 16000 | 25 | 1.35 |
| 35 | 534 | 1.00 | 1250 | 89 | 1.05 | 17500 | 24 | 1.35 |
| 40 | 500 | 1.00 | 1500 | 81 | 1.05 | 18000 | 23 | 1.35 |
| 50 | 450 | 1.00 | 1750 | 75 | 1.05 | 20000 | 22 | 1.35 |
| 75 | 365 | 1.00 | 2000 | 70 | 1.05 | 22500 | 21 | 1.40 |
| 100 | 316 | 1.00 | 2250 | 66 | 1.05 | 25000 | 20 | 1.40 |
| 125 | 283 | 1.00 | 2500 | 63 | 1.05 | 30000 | 18 | 1.40 |
| 150 | 258 | 1.00 | 3000 | 58 | 1.05 | 35000 | 17 | 1.40 |
| 200 | 224 | 1.00 | 3500 | 53 | 1.05 | 40000 | 16 | 1.40 |
| 225 | 211 | 1.00 | 4000 | 50 | 1.05 | 45000 | 15 | 1.60 |
| 250 | 200 | 1.00 | 4500 | 47 | 1.05 | 50000 | 14 | 1.60 |
| | | | 5000 | 45 | 1.05 | | | |

## STRIPOHMS

Order by Type Number and Resistance Value

Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mounting brackets. Particularly suited for applications where space is limited. Specially adapted to stacking for networks.

**The "Ministrip" is smaller in size than the standard Stripohm. May be stacked by using 1/32" washers. Rated at 20 watts.**

**NEW!**

### MINISTRIP

### 20 WATTS • TYPE 20S

2" long—Mtg. Centers 2 5/16" Width 7/16"

| Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|
| 1 | 4480 | $1.45 | 1500 | 115 | $1.45 |
| 3 | 2580 | 1.45 | 2000 | 100 | 1.45 |
| 5 | 2000 | 1.45 | 2500 | 90 | 1.45 |
| 10 | 1410 | 1.45 | 3000 | 81 | 1.50 |
| 15 | 1150 | 1.45 | 3500 | 76 | 1.50 |
| 25 | 900 | 1.45 | 4000 | 70 | 1.50 |
| 50 | 630 | 1.45 | 5000 | 63 | 1.50 |
| 100 | 450 | 1.45 | 7500 | 51 | 1.60 |
| 150 | 365 | 1.45 | 10000 | 45 | 1.70 |
| 200 | 320 | 1.45 | 15000 | 36 | 1.75 |
| 250 | 285 | 1.45 | 20000 | 32 | 1.85 |
| 400 | 224 | 1.45 | 25000 | 28 | 1.90 |
| 500 | 200 | 1.45 | 30000 | 26 | 2.00 |
| 750 | 163 | 1.45 | 35000 | 24 | 2.00 |
| 1000 | 141 | 1.45 | 40000 | 22 | 2.10 |
| 1250 | 125 | 1.45 | 50000 | 20 | 2.10 |

### 30 WATTS • TYPE 30S

1¼" long—Mtg. Centers 2"

| | | | | | |
|---|---|---|---|---|---|
| 1 | 5480 | $2.00 | 500 | 244 | $2.00 |
| 3 | 3160 | 2.00 | 750 | 200 | 2.00 |
| 5 | 2450 | 2.00 | 1000 | 173 | 2.00 |
| 10 | 1730 | 2.00 | 1250 | 154 | 2.00 |
| 15 | 1420 | 2.00 | 1500 | 142 | 2.00 |
| 25 | 1095 | 2.00 | 2000 | 122 | 2.00 |
| 50 | 774 | 2.00 | 2500 | 109 | 2.00 |
| 100 | 547 | 2.00 | 3000 | 100 | 2.20 |
| 150 | 447 | 2.00 | 3500 | 92 | 2.20 |
| 200 | 387 | 2.00 | 4000 | 86 | 2.20 |
| 250 | 346 | 2.00 | 5000 | 77 | 2.20 |
| 400 | 273 | 2.00 | | | |

### 40 WATTS • TYPE 40S

2" long—Mtg. Centers 2¾"

| | | | | | |
|---|---|---|---|---|---|
| 1 | 6320 | $2.10 | 750 | 230 | $2.10 |
| 3 | 3650 | 2.10 | 1000 | 200 | 2.10 |
| 5 | 2830 | 2.10 | 1250 | 180 | 2.10 |
| 10 | 2000 | 2.10 | 1500 | 163 | 2.10 |
| 15 | 1630 | 2.10 | 2000 | 141 | 2.10 |
| 25 | 1270 | 2.10 | 2500 | 126 | 2.10 |
| 50 | 894 | 2.10 | 3000 | 114 | 2.25 |
| 100 | 632 | 2.10 | 3500 | 106 | 2.25 |
| 150 | 510 | 2.10 | 4000 | 100 | 2.25 |
| 200 | 447 | 2.10 | 5000 | 88 | 2.25 |
| 250 | 400 | 2.10 | 7500 | 73 | 2.55 |
| 400 | 315 | 2.10 | 10000 | 63 | 2.55 |
| 500 | 283 | 2.10 | 15000 | 51 | 2.65 |

### 55 WATTS • TYPE 55S

3½" long—Mtg. Centers 4¼"

| Ohms | M.A. | List Price | Ohms | M.A. | List Price |
|---|---|---|---|---|---|
| 1 | 7420 | $2.45 | 1250 | 209 | $2.45 |
| 3 | 4280 | 2.45 | 1500 | 191 | 2.45 |
| 5 | 3320 | 2.45 | 2000 | 165 | 2.45 |
| 10 | 2350 | 2.45 | 2500 | 148 | 2.45 |
| 15 | 1910 | 2.45 | 3000 | 135 | 2.60 |
| 25 | 1480 | 2.45 | 3500 | 129 | 2.60 |
| 50 | 1050 | 2.45 | 4000 | 117 | 2.60 |
| 100 | 741 | 2.45 | 5000 | 104 | 2.60 |
| 150 | 604 | 2.45 | 7500 | 84 | 2.85 |
| 200 | 522 | 2.45 | 10000 | 74 | 2.85 |
| 250 | 469 | 2.45 | 15000 | 60 | 3.00 |
| 400 | 370 | 2.45 | 20000 | 52 | 3.10 |
| 500 | 331 | 2.45 | 25000 | 47 | 3.30 |
| 750 | 270 | 2.45 | 30000 | 42 | 3.40 |
| 1000 | 234 | 2.45 | | | |

### 65 WATTS • TYPE 65S

4¾" long—Mtg. Centers 5½"

| | | | | | |
|---|---|---|---|---|---|
| 1 | 8060 | $2.80 | 1500 | 208 | $2.80 |
| 3 | 4650 | 2.80 | 2000 | 180 | 2.80 |
| 5 | 3610 | 2.80 | 2500 | 161 | 2.80 |
| 10 | 2550 | 2.80 | 3000 | 146 | 2.90 |
| 15 | 2080 | 2.80 | 3500 | 136 | 2.90 |
| 25 | 1610 | 2.80 | 4000 | 127 | 2.90 |
| 50 | 1140 | 2.80 | 5000 | 114 | 2.90 |
| 100 | 806 | 2.80 | 7500 | 92 | 3.20 |
| 150 | 658 | 2.80 | 10000 | 82 | 3.20 |
| 200 | 570 | 2.80 | 15000 | 65 | 3.30 |
| 250 | 509 | 2.80 | 20000 | 57 | 3.45 |
| 400 | 403 | 2.80 | 25000 | 51 | 3.60 |
| 500 | 360 | 2.80 | 30000 | 46 | 3.80 |
| 750 | 294 | 2.80 | 35000 | 43 | 3.80 |
| 1000 | 254 | 2.80 | 40000 | 40 | 3.95 |
| 1250 | 228 | 2.80 | 50000 | 36 | 3.95 |

### 75 WATTS TYPE 75S

6" long

Mtg. Centers 6¾"

| Ohms | M.A. | List Price |
|---|---|---|
| 1 | 8660 | $3.00 |
| 3 | 5000 | 3.00 |
| 5 | 3870 | 3.00 |
| 10 | 2740 | 3.00 |
| 15 | 2235 | 3.00 |
| 25 | 1730 | 3.00 |
| 50 | 1220 | 3.00 |
| 100 | 866 | 3.00 |
| 150 | 707 | 3.00 |
| 200 | 612 | 3.00 |
| 250 | 550 | 3.00 |
| 400 | 433 | 3.00 |
| 500 | 387 | 3.00 |
| 750 | 315 | 3.00 |
| 1000 | 274 | 3.00 |
| 1250 | 245 | 3.00 |
| 1500 | 224 | 3.00 |
| 2000 | 193 | 3.00 |
| 2500 | 173 | 3.00 |
| 3000 | 158 | 3.20 |
| 3500 | 146 | 3.20 |
| 4000 | 137 | 3.20 |
| 5000 | 122 | 3.20 |
| 7500 | 100 | 3.45 |
| 10000 | 87 | 3.45 |
| 15000 | 71 | 3.55 |
| 20000 | 61 | 3.70 |
| 25000 | 55 | 3.90 |
| 30000 | 50 | 4.00 |
| 35000 | 46 | 4.00 |
| 40000 | 43 | 4.15 |
| 50000 | 37 | 4.15 |
| 60000 | 35 | 4.35 |
| 65000 | 33 | 4.35 |

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***



World Radio History

# VITREOUS ENAMELED RHEOSTATS

## CLOSE CONTROL RHEOSTATS

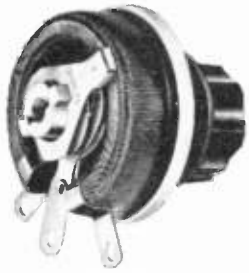
### Underwriters' Laboratories Reexamination Service Listed

Eleven sizes in wirewound, vitreous enameled rheostats are stocked by Ohmite distributors all over the country and at the Ohmite factory. This selection, the most extensive available to industry, covers a range from 12½ to 1000 watts, in ratings that meet the major portion of design, production and emergency needs. Ratings of 12½, 25, 50, 75, 100, 150, 225, 300, 500, 750 and 1000 watts are standard.

FEATURES OF CONSTRUCTION: Ohmite rheostats are designed to produce permanently smooth, close control. The construction is all ceramic and metal; there is nothing to smoke, char, shrink, or shift. All models have insulated shafts with provision to keep the rheostat from turning on the panel. The resistance wire is wound over a solid ceramic core. Each turn is a separate resistance step and is locked against shifting by vitreous enamel. The core and base are also bonded by vitreous enamel. The pivoted universal-action-mounted contact brush is of copper-graphite or silver-graphite on the heavier current rheostats. It rides upon a large flat surface and assures perfect contact without wear on the wire. Pressure at the contact and at the center lead are independent. Ohmite Rheostat Models H, J, K, L, and N, all marked Series A, are listed under the Underwriters' Laboratories Reexamination Service.

RATING: The current carrying capacities shown in the tables are for use in *free air;* when units are enclosed, these currents should be reduced possibly as much as 30% to 50%, depending upon the degree of ventilation. The rated current will cause the rheostat to dissipate its rated wattage when the full resistance is in the circuit.

*Model "E"*



*Models "J", "G" and "K"*

## MODEL "E" — 12.5 WATT

Diameter 7/8"—Depth behind panel 11/16"—Shaft 1/8" Diameter. Rotation 300°—Mounting for panels up to 1/8" by means of 1/4"-32 Bushing and Hex. Nut—Non-turn lug requires 1/8" hole 1/4" below center of shaft—Stock No. 5151 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0101 | 1 | 3.53 | $4.62 | 0113 | 125 | .32 | $4.11 |
| 0102 | 2 | 2.50 | 4.11 | 0114 | 175 | .27 | 4.11 |
| 0103 | 3 | 2.04 | 4.11 | 0115 | 250 | .22 | 4.11 |
| 0104 | 6 | 1.44 | 4.11 | 0116 | 350 | .19 | 4.11 |
| 0105 | 8 | 1.25 | 4.11 | 0117 | 500 | .16 | 4.11 |
| 0106 | 10 | 1.12 | 4.11 | 0118 | 750 | .13 | 4.11 |
| 0107 | 15 | .91 | 4.11 | 0119 | 1,000 | .11 | 4.62 |
| 0108 | 25 | .71 | 4.11 | 0120 | 1,500 | .091 | 4.62 |
| 0109 | 35 | .60 | 4.11 | 0121 | 2,500 | .071 | 4.62 |
| 0110 | 50 | .50 | 4.11 | 0122 | 3,500 | .060 | 4.86 |
| 0111 | 75 | .41 | 4.11 | 0123 | 5,000 | .050 | 4.86 |
| 0112 | 100 | .35 | 4.11 | | | | |

## MODEL "J", Series A — 50 WATT

Diameter 2 5/16"—Depth behind panel 1 3/8"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0308 | 0.5 | 10.000 | $5.16 | 0321 | 150 | .575 | $4.62 |
| 0309 | 1 | 7.070 | 5.16 | 0322 | 225 | .470 | 4.62 |
| 0310 | 2 | 5.000 | 5.16 | 0323 | 300 | .408 | 4.62 |
| 0311 | 4 | 3.530 | 4.62 | 0324 | 500 | .316 | 4.62 |
| 0312 | 6 | 2.880 | 4.62 | 0325 | 800 | .250 | 4.86 |
| 0313 | 8 | 2.500 | 4.62 | 0326 | 1,000 | .224 | 4.86 |
| 0314 | 12 | 2.040 | 4.62 | 0327 | 1,600 | .176 | 4.86 |
| 0315 | 16 | 1.760 | 4.62 | 0328 | 2,500 | .141 | 4.86 |
| 0316 | 22 | 1.500 | 4.62 | 0329 | 3,500 | .119 | 5.16 |
| 0317 | 35 | 1.190 | 4.62 | 0330 | 5,000 | .100 | 5.16 |
| 0318 | 50 | 1.000 | 4.62 | 0331 | 8,000 | .079 | 5.16 |
| 0319 | 80 | .790 | 4.62 | 0332 | 10,000 | .070 | 5.16 |
| 0320 | 125 | .630 | | | | | |

## MODEL "H", Series A — 25 WATT

Diameter 1 5/16"—Depth behind panel 1 3/8"—Shaft 1/4" diameter. Rotation 295°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0140 | 1 | 5.000 | $4.62 | 0152 | 125 | .445 | $4.11 |
| 0141 | 2 | 3.540 | 4.11 | 0153 | 175 | .375 | 4.11 |
| 0142 | 3 | 2.880 | 4.11 | 0154 | 250 | .316 | 4.11 |
| 0143 | 6 | 2.040 | 4.11 | 0155 | 350 | .267 | 4.11 |
| 0144 | 8 | 1.770 | 4.11 | 0156 | 500 | .222 | 4.11 |
| 0145 | 10 | 1.580 | 4.11 | 0157 | 750 | .182 | 4.11 |
| 0146 | 15 | 1.290 | 4.11 | 0158 | 1,000 | .155 | 4.62 |
| 0147 | 25 | 1.000 | 4.11 | 0159 | 1,500 | .129 | 4.62 |
| 0148 | 35 | .845 | 4.11 | 0160 | 2,500 | .100 | 4.62 |
| 0149 | 50 | .707 | 4.11 | 0161 | 3,500 | .084 | 4.86 |
| 0150 | 75 | .575 | 4.11 | 0162 | 5,000 | .070 | 4.86 |
| 0151 | 100 | .500 | 4.11 | | | | |

## MODEL "G" — 75 WATT

Diameter 2 3/4"—Depth behind panel 1 3/4"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 3/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 1100 | 0.5 | 12.300 | $6.96 | 1112 | 200 | .612 | $6.42 |
| 1101 | 1 | 8.660 | 6.96 | 1113 | 300 | .500 | 6.42 |
| 1102 | 2 | 6.120 | 6.96 | 1114 | 400 | .433 | 6.42 |
| 1103 | 3 | 5.000 | 6.96 | 1115 | 500 | .388 | 6.42 |
| 1104 | 5 | 3.880 | 6.42 | 1116 | 750 | .316 | 6.96 |
| 1105 | 7.5 | 3.160 | 6.42 | 1117 | 1,000 | .274 | 6.96 |
| 1106 | 10 | 2.740 | 6.42 | 1118 | 1,500 | .224 | 6.96 |
| 1107 | 16 | 2.170 | 6.42 | 1119 | 2,000 | .194 | 6.96 |
| 1108 | 25 | 1.730 | 6.42 | 1120 | 2,500 | .173 | 6.96 |
| 1109 | 50 | 1.230 | 6.42 | 1121 | 5,000 | .123 | 7.44 |
| 1110 | 75 | 1.000 | 6.42 | 1122 | 7,500 | .100 | 7.98 |
| 1111 | 100 | .866 | 6.42 | 1123 | 10,000 | .087 | 7.98 |



Net

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World Radio History

# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

## VITREOUS ENAMELED RHEOSTATS

### MODEL "K", Series A — 100 WATT

Diameter 3⅛"—Depth behind panel 1¾"—Shaft ¼" Diameter. Rotation 300°—Mounting for panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut—Non-turn lug requires ⅜" hole ½" below center of shaft—Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0440 | 0.5 | 14.100 | $7.74 | 0452 | 200 | .707 | $7.23 |
| 0441 | 1 | 10.000 | 7.74 | 0453 | 300 | .575 | 7.23 |
| 0442 | 2 | 7.070 | 7.74 | 0454 | 400 | .500 | 7.23 |
| 0443 | 3 | 5.750 | 7.74 | 0455 | 500 | .447 | 7.23 |
| 0444 | 5 | 4.470 | 7.74 | 0456 | 750 | .365 | 7.23 |
| 0445 | 7.5 | 3.650 | 7.23 | 0457 | 1,000 | .316 | 7.74 |
| 0446 | 10 | 3.160 | 7.23 | 0458 | 1,500 | .258 | 7.74 |
| 0447 | 16 | 2.500 | 7.23 | 0459 | 2,000 | .224 | 7.74 |
| 0448 | 25 | 2.000 | 7.23 | 0460 | 2,500 | .200 | 7.74 |
| 0449 | 50 | 1.410 | 7.23 | 0461 | 5,000 | .141 | 8.22 |
| 0450 | 75 | 1.150 | 7.23 | 0462 | 7,500 | .115 | 8.76 |
| 0451 | 100 | 1.000 | 7.23 | 0463 | 10,000 | .100 | 9.24 |

### MODEL "L", Series A — 150 WATT

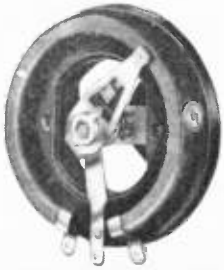
Diameter 4"—Depth behind panel 2"—Shaft ¼" Diameter. Rotation 300°—Mounting for panels up to ¼", ⅜"-32 Bushing and Hex. Nut or two 10-32 x ¾" flat head screws, mounting centers ⅞" each side of center of shaft on line perpendicular to center terminal.—Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0524 | 0.5 | 17.300 | $9.78 | 0537 | 150 | 1.000 | $ 9.24 |
| 0525 | 1 | 12.300 | 9.78 | 0538 | 200 | .865 | 9.24 |
| 0526 | 2 | 8.650 | 9.78 | 0539 | 250 | .775 | 9.24 |
| 0527 | 3 | 7.070 | 9.78 | 0540 | 350 | .655 | 9.24 |
| 0528 | 5 | 5.480 | 9.78 | 0541 | 500 | .548 | 9.24 |
| 0529 | 7.5 | 4.470 | 9.78 | 0542 | 750 | .447 | 9.78 |
| 0530 | 10 | 3.880 | 9.24 | 0543 | 1,250 | .346 | 9.78 |
| 0531 | 15 | 3.613 | 9.24 | 0544 | 1,800 | .288 | 10.32 |
| 0532 | 25 | 2.450 | 9.24 | 0545 | 2,250 | .259 | 10.32 |
| 0533 | 35 | 2.070 | 9.24 | 0546 | 3,000 | .224 | 10.32 |
| 0534 | 50 | 1.735 | 9.24 | 0547 | 4,500 | .182 | 10.80 |
| 0535 | 75 | 1.415 | 9.24 | 0548 | 7,500 | .141 | 11.34 |
| 0536 | 100 | 1.225 | 9.24 | 0549 | 10,000 | .122 | 12.36 |

### MODEL "P" — 225 WATT

Diameter 5"—Depth behind panel 2⅛"—Shaft ⅜" Diameter. Rotation 310°—Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers ⅞" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 1250 | 1 | 15.000 | $12.84 | 1261 | 100 | 1.500 | $12.84 |
| 1251 | 2 | 10.600 | 12.84 | 1262 | 150 | 1.220 | 12.84 |
| 1252 | 3 | 8.660 | 12.84 | 1263 | 200 | 1.060 | 12.84 |
| 1253 | 4 | 7.500 | 12.84 | 1264 | 300 | .866 | 12.84 |
| 1254 | 5 | 6.710 | 12.84 | 1265 | 400 | .750 | 12.84 |
| 1255 | 7.5 | 5.490 | 12.84 | 1266 | 700 | .567 | 12.84 |
| 1256 | 10 | 4.740 | 12.84 | 1267 | 900 | .500 | 12.84 |
| 1257 | 15 | 3.870 | 12.84 | 1268 | 1,200 | .433 | 12.84 |
| 1258 | 25 | 3.000 | 12.84 | 1269 | 1,500 | .387 | 12.84 |
| 1259 | 50 | 2.120 | 12.84 | 1270 | 1,750 | .358 | 12.84 |
| 1260 | 75 | 1.730 | 12.84 | 1271 | 2,500 | .300 | 12.84 |



*Models "N" and "R"*
*("P", "T" and "U" Similar)*

### MODEL "N", Series A — 300 WATT

Diameter 6"—Depth behind panel 2⅜"—Shaft ⅜" Diameter. Rotation 315°—Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers 1⅞" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0650 | 1 | 17.320 | $13.92 | 0661 | 100 | 1.730 | $13.92 |
| 0651 | 2 | 12.240 | 13.92 | 0662 | 150 | 1.410 | 13.92 |
| 0652 | 3 | 10.000 | 13.92 | 0663 | 200 | 1.220 | 13.92 |
| 0653 | 4 | 8.660 | 13.92 | 0664 | 300 | 1.000 | 13.92 |
| 0654 | 5 | 7.750 | 13.92 | 0665 | 400 | .866 | 13.92 |
| 0655 | 7.5 | 6.320 | 13.92 | 0666 | 700 | .655 | 13.92 |
| 0656 | 10 | 5.480 | 13.92 | 0667 | 900 | .578 | 13.92 |
| 0657 | 15 | 4.470 | 13.92 | 0668 | 1,200 | .500 | 13.92 |
| 0658 | 25 | 3.160 | 13.92 | 0669 | 1,500 | .447 | 13.92 |
| 0659 | 50 | 2.450 | 13.92 | 0670 | 1,750 | .414 | 13.92 |
| 0660 | 75 | 2.000 | 13.92 | 0671 | 2,500 | .346 | 13.92 |

### MODEL "R" — 500 WATT

Diameter 8"—Depth behind panel 2⅛"—Shaft ⅜" Diameter. Rotation 325°—Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers 1½" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 0849 | 1.0 | 22.300 | $20.10 | 0872 | 50 | 3.160 | $20.10 |
| 0850 | 1.5 | 18.200 | 20.10 | 0861 | 80 | 2.520 | 20.10 |
| 0851 | 2 | 15.800 | 20.10 | 0862 | 125 | 2.000 | 20.10 |
| 0852 | 2.5 | 14.100 | 20.10 | 0863 | 175 | 1.690 | 20.10 |
| 0853 | 3 | 12.900 | 20.10 | 0864 | 250 | 1.410 | 20.10 |
| 0854 | 4 | 11.200 | 20.10 | 0865 | 325 | 1.240 | 20.10 |
| 0855 | 5 | 10.000 | 20.10 | 0866 | 500 | 1.000 | 20.10 |
| 0856 | 8 | 7.900 | 20.10 | 0867 | 750 | .817 | 20.10 |
| 0857 | 12.5 | 6.300 | 20.10 | 0868 | 1,000 | .707 | 20.10 |
| 0858 | 16 | 5.600 | 20.10 | 0869 | 1,500 | .577 | 20.10 |
| 0859 | 25 | 4.470 | 20.10 | 0870 | 2,000 | .500 | 20.10 |
| 0860 | 40 | 3.540 | 20.10 | 0871 | 2,500 | .447 | 20.10 |

### MODEL "T" — 750 WATT

Diameter 10"—Depth behind panel 3"—Shaft ⅜" Diameter. Rotation 330°—Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers 1⅞" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 1300 | 1 | 27.400 | $28.38 | 1312 | 50 | 3.870 | $28.38 |
| 1301 | 1.5 | 22.300 | 28.38 | 1313 | 80 | 3.060 | 28.38 |
| 1302 | 2 | 19.400 | 28.38 | 1314 | 100 | 2.740 | 28.38 |
| 1303 | 2.5 | 17.300 | 28.38 | 1315 | 160 | 2.170 | 28.38 |
| 1304 | 3 | 15.800 | 28.38 | 1316 | 200 | 1.940 | 28.38 |
| 1305 | 4 | 13.600 | 28.38 | 1317 | 300 | 1.580 | 28.38 |
| 1306 | 5 | 12.200 | 28.38 | 1318 | 400 | 1.370 | 28.38 |
| 1307 | 8 | 9.650 | 28.38 | 1319 | 600 | 1.117 | 28.38 |
| 1308 | 10 | 8.650 | 28.38 | 1320 | 750 | 1.000 | 28.38 |
| 1309 | 12.5 | 7.750 | 28.38 | 1321 | 1,200 | .791 | 28.38 |
| 1310 | 16 | 6.820 | 28.38 | 1322 | 1,800 | .646 | 28.38 |
| 1311 | 25 | 5.470 | 28.38 | 1323 | 2,500 | .547 | 28.38 |

### MODEL "U" — 1000 WATT

Diameter 12" — Depth behind panel 3" — Shaft ⅜" Diameter. Rotation 335°—Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers 3" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total Ohms | Max. Amps. | Net Price | Stock No. | Total Ohms | Max. Amps. | Net Price |
|---|---|---|---|---|---|---|---|
| 1450 | 1 | 31.600 | $33.15 | 1462 | 50 | 4.470 | $33.15 |
| 1451 | 1.5 | 25.800 | 33.15 | 1463 | 75 | 3.650 | 33.15 |
| 1452 | 2 | 22.400 | 33.15 | 1464 | 100 | 3.160 | 33.15 |
| 1453 | 2.5 | 20.000 | 33.15 | 1465 | 175 | 2.390 | 33.15 |
| 1454 | 3 | 18.300 | 33.15 | 1466 | 225 | 2.110 | 33.15 |
| 1455 | 4 | 15.800 | 33.15 | 1467 | 300 | 1.830 | 33.15 |
| 1456 | 5 | 14.100 | 33.15 | 1468 | 400 | 1.580 | 33.15 |
| 1457 | 8 | 11.200 | 33.15 | 1469 | 500 | 1.410 | 33.15 |
| 1458 | 10 | 10.000 | 33.15 | 1470 | 750 | 1.150 | 33.15 |
| 1459 | 12.5 | 8.950 | 33.15 | 1471 | 1,000 | 1.000 | 33.15 |
| 1460 | 16 | 7.900 | 33.15 | 1472 | 1,500 | .816 | 33.15 |
| 1461 | 25 | 6.330 | 33.15 | 1473 | 2,500 | .633 | 33.15 |

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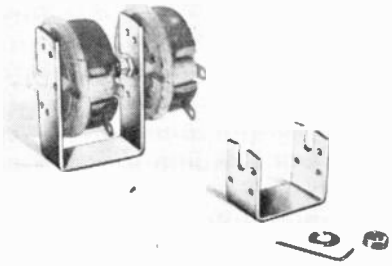
World Radio History

# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

## RHEOSTAT TANDEM COUPLING KITS



Inexpensive kits assemble standard Ohmite Model G, H, J, K, L or E (miniature) rheostats. Each kit consists of a steel "U" frame, a coupling with set screw, mica washer, Allen wrench and assembly instructions. Rheostat shafts are joined by the coupling which is fastened to the shaft of the rear unit. Projections on the coupling fit a recess in the rear hub of the front unit. Stock No. 6533 kit, mounts Model G, K or L units but accommodates Models H or J in the rear position. Stock No. 6532 unit mounts Models H or J but accommodates Models G, K or L in the rear position. Stock No. 6591 kit assembles only Model E (miniature) rheostats.

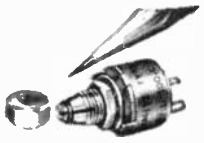
Stock No. 6532 — Max Panel 1/8" ..... **Net Price $1.83**
Stock No. 6533 — Max Panel 5/32" ..... **Net Price 2.28**
Stock No. 6591 — Max Panel 1/16" ..... **Net Price 1.83**

## BLACK BAKELITE KNOBS

| Stock No. | Description | Knob Dia. | Hole Dia. | Net Price |
|---|---|---|---|---|
| 5102 | Bar Knob, 2¼" long | | ¼" | $ .33 |
| 5103 | Bar Knob, 1¼" long | | ¼" | .15 |
| 5104 | Handwheel with Pointer | 3¼" | ⅜" | 1.53 |
| 5105 | Handwheel without Pointer | 3¼" | ⅜" | 1.20 |
| 5106 | Handwheel with Pointer | 3¼" | ¼" | 1.53 |
| 5107 | Handwheel without Pointer | 3¼" | ¼" | 1.20 |
| 5109 | Finger-Grip with Pointer | 1⅝" | ¼" | .60 |
| 5110 | Finger-Grip without Pointer | 1⅝" | ¼" | .45 |
| 5111 | Finger-Grip with Pointer | 2⅜" | ¼" | .84 |
| 5112 | Finger-Grip without Pointer | 2⅜" | ¼" | .72 |
| *5115 | Bar Knob, 4¾" long | | ⅜" | 3.09 |
| 5116 | Bar Knob, 1½" long | | ¼" | .33 |
| 5150 | Skirted Finger-Grip | 1½" | ¼" | .18 |
| 5151 | Finger-Grip | ¾" | ⅛" | .18 |

*Requires pin and tapped hole in shaft.

## MOLDED COMPOSITION POTENTIOMETERS — 2 WATT AND 1/2 WATT MINIATURE



*Miniature Type AS*

Exceptional reliability along with small size for rated wattage, is provided in Ohmite's molded composition potentiometers. Type AB units, 1 3/32" in diameter and rated two watts at 70°C ambient, are available in a number of styles and find universal application as rheostats or potentiometers in industrial, military or other high quality electronic devices. Type AS is a new Miniature Potentiometer for miniature or lightweight assemblies. Although only ½" in diameter, it is rated for continuous duty at ½ watt at 70°C ambient. Because of their molded composition elements, these units outlast and outperform film type units. Noise level is exceedingly low and units will pass ARMY-NAVY salt spray test, Specification QQ-M-151. Single control Type AB units extend ⅝" behind panel; dual control 1 17/64". Type AS Miniature unit extends 11/16" behind panel. A SPST switch for Type AB units is available.

*CU*
*CA*
*CB*

*CLU*

*CCU*

### STOCK VALUES AND STOCK NUMBERS

| Total Resistance ±10% Except as Noted *±20% | TYPE AB—2 WATT: Single Unit, 2" Shaft: Style CU Linear | Style CA CW Log. | Style CB CCW Log. | Locking: Style CLU Linear | Dual: Style CCU Linear | TYPE AS ½ Watt Min. Locking Linear |
|---|---|---|---|---|---|---|
| 50 | CU 5001 | | | CLU 5001 | Resistance Shown is for Each Unit | |
| 100 | CU 1011 | | | CLU 1011 | | 3601 |
| 250 | CU 2511 | | | CLU 2511 | | 3602 |
| 500 | CU 5011 | | | CLU 5011 | | 3603 |
| 1,000 | CU 1021 | | | CLU 1021 | | 3604 |
| 2,500 | CU 2521 | | | CLU 2521 | | 3605 |
| 5,000 | CU 5021 | | | CLU 5021 | | 3606 |
| 10,000 | CU 1031 | | CB 1031 | CLU 1031 | CCU 1031 | 3607 |
| 25,000 | CU 2531 | | CB 2531 | CLU 2531 | CCU 2531 | 3608 |
| 50,000 | CU 5031 | | CB 5031 | CLU 5031 | CCU 5031 | 3609 |
| .10 meg. | CU 1041 | CA 1041 | | CLU 1041 | CCU 1041 | 3610 |
| .25 meg. | CU 2541 | CA 2541 | | CLU 2541 | CCU 2541 | 3611 |
| .5 meg. | CU 5041 | CA 5041 | | CLU 5041 | CCU 5041 | 3612 |
| 1.0 meg.* | CU 1052 | CA 1052 | | CLU 1052 | CCU 1052 | 3613 |
| 2.5 meg.* | CU 2552 | CA 2552 | | CLU 2552 | | 3614 |
| 5.0 meg.* | CU 5052 | | | CLU 5052 | | 3615 |

CU ..... **Net Price $1.95**
CA and CB ..... **Net Price 2.25**
CLU ..... **Net Price 2.55**
CCU ..... **Net Price 5.85**
CS-1 Switch only for above units, supplied unmounted ..... **Net Price .66**
Type AS Miniature Potentiometer ..... **Net Price 5.10**



Net

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World Radio History

# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

## OHMITE VITREOUS ENAMELED FIXED AND DIVIDOHM® RESISTORS

These all-welded construction resistors have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. Units are wire-wound on ceramic cores and protected by Ohmite Vitreous Enamel. Furnished with mounting brackets and on DIVIDOHM with one adjustable lug.

### 25 WATT FIXED RESISTOR

Core: 2" x 3/16" – Mounting Centers 2¾"

| | | Fixed Resist. | | Adj. Resist. | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Net Price | Stock No. | Net Price |
| 1 | 5.00 | 0200J | $0.66 | 0360 | $1.23 |
| 2 | 3.54 | 0200K | .66 | 0360B | 1.23 |
| 3 | 2.88 | 0200L | .66 | 0361 | 1.23 |
| 5 | 2.24 | 0200A | .66 | 0362 | 1.23 |
| 7.5 | 1.82 | | | 0362B | 1.23 |
| 10 | 1.58 | 0200B | .66 | 0363 | 1.23 |
| 15 | 1.29 | 0200R | .66 | 0364 | 1.23 |
| 20 | 1.12 | | | 0364B | 1.23 |
| 25 | 1.00 | 0200C | .66 | 0365 | 1.23 |
| 50 | .71 | 0200D | .66 | 0366 | 1.23 |
| 75 | .58 | 0200E | .66 | 0367 | 1.23 |
| 100 | .50 | 0200F | .66 | 0368 | 1.23 |
| 150 | .41 | 0200G | .66 | 0369 | 1.23 |
| 200 | .35 | 0200H | .66 | 0370 | 1.23 |
| 250 | .32 | 0201 | .66 | 0371 | 1.23 |
| 300 | .29 | | | 0371B | 1.23 |
| 400 | .25 | | | 0371C | 1.23 |
| 500 | .22 | 0202 | .66 | 0372 | 1.23 |
| 750 | .18 | 0203 | .66 | 0373 | 1.23 |
| 800 | .17 | 0204 | .66 | 0374 | 1.23 |
| 1,000 | .16 | 0205 | .66 | 0375 | 1.23 |
| 1,250 | .14 | | | 0375B | 1.26 |
| 1,500 | .13 | 0206 | .69 | 0376 | 1.26 |
| 2,000 | .12 | 0207 | .69 | 0377 | 1.26 |
| 2,250 | .11 | | | 0377B | 1.26 |
| 2,500 | .10 | 0208 | .69 | 0378 | 1.26 |
| 3,000 | .091 | 0209 | .69 | 0379 | 1.26 |
| 3,500 | .084 | 0210 | .69 | 0380 | 1.26 |
| 4,000 | .079 | 0211 | .69 | 0381 | 1.26 |
| 4,500 | .074 | | | 0381B | 1.26 |
| 5,000 | .070 | 0212 | .69 | 0382 | 1.26 |
| 6,000 | .064 | 0213 | .75 | 0383 | 1.32 |
| 7,000 | .060 | | | 0383B | 1.32 |
| 7,200 | .059 | | | 0383C | 1.32 |
| 7,500 | .057 | 0214 | .75 | 0384 | 1.32 |
| 8,000 | .055 | | | 0384B | 1.32 |
| 9,000 | .052 | | | 0384C | 1.32 |
| 10,000 | .050 | 0215 | .75 | 0385 | 1.32 |
| 12,000 | .042 | 0216 | .78 | 0386 | 1.38 |
| 15,000 | .036 | 0217 | .78 | 0387 | 1.38 |
| 20,000 | .031 | 0218 | .78 | 0388 | 1.38 |
| 25,000 | .028 | 0219 | .90 | 0389 | 1.50 |
| 40,000 | .022 | 0222 | .90 | | |
| 50,000 | .020 | 0224 | 1.02 | | |
| 100,000 | .010 | 0229 | 1.38 | | |

### 50 WATT FIXED RESISTOR

Core: 4" x 3/16" – Mounting Centers 4¾"

| | | Fixed Resist. | | Adj. Resist. | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Net Price | Stock No. | Net Price |
| 5 | 3.16 | 0400A | $1.08 | 0560 | $1.56 |
| 10 | 2.23 | 0400B | 1.08 | 0561 | 1.56 |
| 25 | 1.41 | 0400C | 1.08 | 0562 | 1.56 |
| 50 | 1.00 | 0400D | 1.08 | 0563 | 1.56 |
| 75 | .82 | 0400E | 1.08 | 0564 | 1.56 |
| 100 | .71 | 0400F | 1.08 | 0565 | 1.56 |
| 150 | .58 | 0400G | 1.08 | 0566 | 1.56 |
| 200 | .50 | 0400H | 1.08 | 0567 | 1.56 |
| 250 | .45 | 0401 | 1.08 | 0568 | 1.56 |
| 300 | .41 | | | 0568B | 1.56 |
| 400 | .35 | | | 0568C | 1.56 |
| 500 | .32 | 0402 | 1.08 | 0569 | 1.56 |
| 750 | .26 | 0403 | 1.08 | 0570 | 1.56 |
| 1,000 | .22 | 0405 | 1.08 | 0572 | 1.56 |
| 1,250 | .20 | | | 0572B | 1.62 |
| 1,500 | .18 | 0406 | 1.14 | 0573 | 1.62 |
| 2,000 | .16 | 0407 | 1.14 | 0574 | 1.62 |
| 2,500 | .14 | 0408 | 1.14 | 0575 | 1.62 |
| 3,000 | .13 | 0409 | 1.14 | 0576 | 1.62 |
| 3,500 | .12 | | | 0576B | 1.62 |
| 4,000 | .11 | 0410 | 1.14 | 0577 | 1.62 |
| 4,500 | .10 | | | 0577B | 1.62 |
| 5,000 | .10 | 0411 | 1.14 | 0578 | 1.62 |
| 6,000 | .091 | | | 0578B | 1.74 |
| 7,000 | .084 | | | 0578C | 1.74 |
| 7,500 | .081 | 0412 | 1.26 | 0579 | 1.74 |
| 8,000 | .079 | 0413 | 1.26 | 0580 | 1.74 |
| 9,000 | .074 | | | 0580B | 1.74 |
| 10,000 | .071 | 0414 | 1.26 | 0581 | 1.74 |
| 12,000 | .064 | 0415 | 1.38 | 0582 | 1.86 |
| 15,000 | .057 | 0416 | 1.38 | 0583 | 1.86 |
| 20,000 | .050 | 0417 | 1.38 | 0584 | 1.86 |
| 25,000 | .045 | 0418 | 1.53 | 0585 | 2.04 |
| 30,000 | .036 | | | 0586 | 2.04 |
| 35,000 | .032 | 0419 | 1.53 | | |
| 40,000 | .029 | | | 0587 | 2.04 |
| 50,000 | .026 | 0420 | 1.71 | 0588 | 2.16 |
| 60,000 | .024 | | | 0589 | 2.16 |
| 75,000 | .021 | 0421 | 1.92 | | |
| 80,000 | .021 | | | 0590 | 2.43 |
| 100,000 | .018 | 0422 | 2.10 | 0591 | 2.58 |

### 75 WATT SIZE — Dividohm

Core: 6" x 3/16" – Mounting Centers 6¾"

| Adjustable Res. | | | Adjustable Res. | | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Res. Ohms | Max. Amps. | Stock No. |
| 5 | 3.87 | 0769 | 5,000 | .12 | 0783 |
| 10 | 2.74 | 0770 | 6,000 | .11 | 0783B |
| 15 | 2.24 | 0771 | 7,000 | .10 | 0783C |
| 25 | 1.73 | 0772 | 7,500 | .10 | 0784 |
| 50 | 1.22 | 0773 | 8,000 | .096 | 0784B |
| 100 | .86 | 0774 | 9,000 | .091 | 0784C |
| 200 | .61 | 0774B | 10,000 | .086 | 0785 |
| 250 | .55 | 0775 | 12,000 | .079 | 0785B |
| 300 | .50 | 0775B | 15,000 | .070 | 0786 |
| 400 | .43 | 0775C | 20,000 | .061 | 0787 |
| 500 | .39 | 0776 | 25,000 | .054 | 0788 |
| 750 | .32 | 0777 | 30,000 | .050 | 0789 |
| 1,000 | .27 | 0778 | 35,000 | .046 | 0790 |
| 1,250 | .24 | 0778B | 40,000 | .043 | 0791 |
| 1,500 | .22 | 0779 | 45,000 | .035 | 0792 |
| 2,000 | .19 | 0780 | 50,000 | .033 | 0793 |
| 2,500 | .17 | 0781 | 60,000 | .030 | 0794 |
| 3,000 | .16 | 0781B | 80,000 | .026 | 0795 |
| 3,500 | .15 | 0782 | 100,000 | .023 | 0796 |
| 4,000 | .14 | 0782B | | | |

| | |
|---|---|
| **Net Price**, 5 thru 1,000 ohms | $1.80 |
| **Net Price**, 1,250 thru 5,000 ohms | 1.86 |
| **Net Price**, 6,000 thru 10,000 ohms | 1.98 |
| **Net Price**, 12,000 thru 20,000 ohms | 2.10 |
| **Net Price**, 25,000 thru 40,000 ohms | 2.34 |
| **Net Price**, 45,000 thru 60,000 ohms | 2.40 |
| **Net Price**, 80,000 ohms | 2.64 |
| **Net Price**, 100,000 ohms | 2.85 |

### 100 WATT FIXED RESISTOR

Core: 6½" x ¾" – Mounting Centers 7⅜"

| | | Fixed Resist. | | Adj. Resist. | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Net Price | Stock No. | Net Price |
| 5 | 4.47 | 0600A | $1.59 | 0956 | $2.37 |
| 10 | 3.16 | 0600B | 1.59 | 0957 | 2.37 |
| 25 | 2.00 | 0601 | 1.59 | 0958 | 2.37 |
| 50 | 1.41 | 0602 | 1.59 | 0959 | 2.37 |
| 75 | 1.15 | 0603 | 1.59 | | |
| 100 | 1.00 | 0604 | 1.59 | 0960 | 2.37 |
| 150 | .816 | 0605 | 1.59 | | |
| 250 | .63 | 0606 | 1.59 | 0960B | 2.37 |
| 500 | .45 | 0607 | 1.59 | 0961 | 2.37 |
| 750 | .365 | 0608 | 1.59 | | |
| 1,000 | .32 | 0609 | 1.59 | 0962 | 2.37 |
| 1,500 | .26 | 0610 | 1.68 | 0962B | 2.43 |
| 2,000 | .223 | 0611 | 1.68 | | |
| 2,500 | .20 | 0612 | 1.68 | 0963 | 2.43 |
| 3,000 | .18 | 0613 | 1.68 | | |
| 5,000 | .14 | 0614 | 1.68 | 0964 | 2.43 |
| 7,500 | .115 | 0615 | 1.80 | | |
| 10,000 | .10 | 0616 | 1.80 | 0965 | 2.55 |
| 15,000 | .081 | 0617 | 1.98 | 0966 | 2.70 |
| 20,000 | .071 | 0618 | 1.98 | 0967 | 2.70 |
| 25,000 | .063 | 0619 | 2.10 | 0968 | 2.88 |
| 30,000 | .058 | 0620 | 2.10 | 0969 | 2.88 |
| 40,000 | .050 | 0621 | 2.10 | 0970 | 2.88 |
| 50,000 | .045 | 0622 | 2.22 | 0971 | 3.00 |
| 60,000 | .041 | 0623 | 2.22 | | |
| 75,000 | .032 | 0624 | 2.37 | 0972 | 3.12 |
| 100,000 | .028 | 0625 | 2.52 | 0973 | 3.27 |

### 160 WATT FIXED RESISTOR

Core: 8½" x 1⅛" – Mounting Centers 9⅜"

| | | Fixed Resist. | | Adj. Resist. | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Net Price | Stock No. | Net Price |
| 5 | 5.66 | 0700A | $2.76 | 1156 | $3.51 |
| 10 | 4.00 | 0700B | 1.98 | 1157 | 2.73 |
| 25 | 2.53 | 0701 | 1.98 | 1158 | 2.73 |
| 50 | 1.79 | 0702 | 1.98 | 1159 | 2.73 |
| 75 | 1.46 | 0703 | 1.98 | | |
| 100 | 1.26 | 0704 | 1.98 | 1160 | 2.73 |
| 150 | 1.03 | 0705 | 1.98 | | |
| 250 | .80 | 0706 | 1.98 | 1160B | 2.73 |
| 500 | .57 | 0707 | 1.98 | 1161 | 2.73 |
| 750 | .46 | 0708 | 1.98 | | |
| 1,000 | .40 | 0709 | 1.98 | 1162 | 2.73 |
| 1,500 | .33 | 0710 | 2.01 | 1162B | 2.76 |
| 2,000 | .28 | 0711 | 2.01 | | |
| 2,500 | .25 | 0712 | 2.01 | 1163 | 2.76 |
| 3,000 | .23 | 0713 | 2.01 | | |
| 5,000 | .18 | 0714 | 2.01 | 1164 | 2.76 |
| 7,500 | .15 | 0715 | 2.16 | | |
| 10,000 | .13 | 0716 | 2.16 | 1165 | 2.94 |
| 15,000 | .10 | 0717 | 2.34 | 1166 | 3.09 |
| 20,000 | .089 | 0718 | 2.34 | 1167 | 3.09 |
| 25,000 | .080 | 0719 | 2.40 | 1168 | 3.18 |
| 30,000 | .073 | 0720 | 2.40 | 1169 | 3.18 |
| 40,000 | .063 | 0721 | 2.40 | 1170 | 3.18 |
| 50,000 | .057 | 0722 | 2.49 | 1171 | 3.24 |
| 60,000 | .051 | 0723 | 2.49 | | |
| 75,000 | .046 | 0724 | 2.64 | 1172 | 3.42 |
| 100,000 | .040 | 0725 | 2.82 | 1173 | 3.60 |

### 200 WATT FIXED RESISTOR

Core: 10½" x 1⅛" – Mounting Centers 11⅜"

| | | Fixed Resist. | | Adj. Resist. | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps. | Stock No. | Net Price | Stock No. | Net Price |
| 5 | 6.32 | 0900A | $3.00 | 1356 | $3.75 |
| 10 | 4.47 | 0900B | 2.13 | 1357 | 2.88 |
| 25 | 2.83 | 0901 | 2.13 | 1358 | 2.88 |
| 50 | 2.00 | 0902 | 2.13 | 1359 | 2.88 |
| 75 | 1.64 | 0903 | 2.13 | | |
| 100 | 1.41 | 0904 | 2.13 | 1360 | 2.88 |
| 150 | 1.15 | 0905 | 2.13 | | |
| 250 | .89 | 0906 | 2.13 | 1360B | 2.88 |
| 500 | .63 | 0907 | 2.13 | 1361 | 2.88 |
| 750 | .52 | 0908 | 2.13 | | |
| 1,000 | .45 | 0909 | 2.13 | 1362 | 2.88 |
| 1,500 | .37 | 0910 | 2.16 | 1362B | 2.94 |
| 2,000 | .32 | 0911 | 2.16 | | |
| 2,500 | .28 | 0912 | 2.16 | 1363 | 2.94 |
| 3,000 | .258 | 0913 | 2.16 | | |
| 5,000 | .20 | 0914 | 2.16 | 1364 | 2.94 |
| 7,500 | .16 | 0915 | 2.34 | | |
| 10,000 | .14 | 0916 | 2.34 | 1365 | 3.12 |
| 15,000 | .12 | 0917 | 2.49 | 1366 | 3.24 |
| 20,000 | .10 | 0918 | 2.49 | 1367 | 3.24 |
| 25,000 | .089 | 0919 | 2.58 | 1368 | 3.30 |
| 30,000 | .082 | 0920 | 2.58 | 1369 | 3.30 |
| 40,000 | .071 | 0921 | 2.58 | 1370 | 3.30 |
| 50,000 | .063 | 0922 | 2.64 | 1371 | 3.42 |
| 60,000 | .058 | 0923 | 2.64 | | |
| 75,000 | .052 | 0924 | 2.82 | 1372 | 3.57 |
| 100,000 | .045 | 0925 | 3.00 | 1373 | 3.75 |

### ADJUSTABLE LUGS

| Bakelite Knob | | | Screw Driver Type | | |
|---|---|---|---|---|---|
| Res. Dia. | Stock No. | Net Price | Res. Dia. | Stock No. | Net Price |
| 9/16" | 0359 | $0.24 | 5/16" | 1058 | $0.18 |
| ¾" | 1959 | .30 | 9/16" | 0358 | .18 |
| 1⅛" | 2159 | .30 | ¾" | 1958 | .27 |
| | | | 1⅛" | 2158 | .27 |

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World Radio History

# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

## OHMITE® STOCK AXIAL-LEAD RESISTORS

Ohmite axial-lead, vitreous-enameled resistors are compact, wire-wound units available in *three stock sizes:* 3-Watt ($\frac{3}{8}$" x ¼"), 5-Watt ($1\frac{1}{16}$" x $\frac{11}{32}$"), and 10-watt ($1\frac{15}{16}$" x $\frac{13}{32}$") . . . The resistance wire and terminal lead are both welded to the end cap, utilizing the patented Ohmite welding technique. All have 1½" tinned wire leads, are simple to mount, and occupy small space.

Axial-lead resistors are especially suited for printed circuits, terminal board, and point-to-point wiring applications.

The standard resistance tolerance is ±5%, 50 ohms and higher; tolerance below 50 ohms is ±10%.

| Ohms | Ohms | Ohms | Ohms |
|---|---|---|---|
| 1.0 | 125 | 1,200 | 9,000 |
| 1.5 | 150 | 1,250 | 10,000 |
| 2.0 | 200 | 1,500 | †11,000 |
| 3.0 | 225 | 1,750 | †12,000 |
| 4.0 | 250 | 2,000 | *12,500 |
| 5.0 | 300 | 2,250 | †13,500 |
| 7.5 | 350 | 2,500 | *15,000 |
| 10 | 400 | 3,000 | †16,000 |
| 12 | 450 | 3,500 | *17,500 |
| 15 | 500 | 4,000 | *18,000 |
| 20 | 600 | 4,500 | *20,000 |
| 25 | 700 | 5,000 | *22,500 |
| 30 | 750 | 6,000 | *25,000 |
| 35 | 800 | 7,000 | †30,000 |
| 40 | 900 | 7,500 | †35,000 |
| 50 | 1,000 | 8,000 | †40,000 |
| 75 | 1,100 | †8,500 | †45,000 |
| 100 | | | †50,000 |

*5 and 10-watt size only.
†10-watt size only.

### 3-WATT SIZE

**Net Price,** 1 thru 1,000 ohms. . . . . **$0.51**
**Net Price,** 1,100 thru 5,000 ohms. . . . . **.54**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.57**

### 5-WATT SIZE

**Net Price,** 1 thru 1,000 ohms . . . . . **$0.54**
**Net Price,** 1,100 thru 5,000 ohms. . . . . **.57**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.60**
**Net Price,** 12,500 thru 20,000 ohms. . . . . **.72**
**Net Price,** 22,500 and 25,000 ohms . . . . . **.75**

### 10-WATT SIZE

**Net Price,** 1 thru 1,000 ohms. . . . . **$0.60**
**Net Price,** 1,100 thru 5,000 ohms. . . . . **.63**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.72**
**Net Price,** 11,000 thru 20,000 ohms. . . . . **.81**
**Net Price,** 22,500 thru 40,000 ohms. . . . . **.84**
**Net Price,** 45,000 and 50,000 ohms. . . . . **.96**

## *Popular* OHMITE "BROWN DEVIL"® RESISTORS

### 5 Watt—1" x 5/16" Core Size

| Ohms | Amps | Ohms | Amps | Ohms | Amps |
|---|---|---|---|---|---|
| 1 | 2.23 | 200 | .160 | 2,250 | .047 |
| 1.5 | 1.82 | 225 | .150 | 2,500 | .045 |
| 2 | 1.58 | 250 | .140 | 3,000 | .041 |
| 3 | 1.29 | 300 | .130 | 3,500 | .037 |
| 4 | 1.12 | 350 | .120 | 4,000 | .035 |
| 5 | 1.00 | 400 | .110 | 4,500 | .033 |
| 7.5 | .810 | 450 | .100 | 5,000 | .032 |
| 10 | .710 | 500 | .100 | 6,000 | .029 |
| 12 | .640 | 600 | .091 | 7,000 | .027 |
| 15 | .580 | 700 | .084 | 7,500 | .026 |
| 20 | .500 | 750 | .082 | 8,000 | .025 |
| 25 | .450 | 800 | .079 | 9,000 | .024 |
| 30 | .410 | 900 | .074 | 10,000 | .022 |
| 35 | .380 | 1,000 | .070 | 12,500 | .020 |
| 40 | .350 | 1,100 | .067 | 15,000 | .018 |
| 50 | .320 | 1,200 | .064 | 17,500 | .017 |
| 75 | .260 | 1,250 | .063 | 20,000 | .016 |
| 100 | .220 | 1,500 | .057 | 22,500 | .014 |
| 125 | .200 | 1,750 | .053 | 25,000 | .013 |
| 150 | .180 | 2,000 | .050 | | |

**Net Price,** 1 thru 1,000 ohms. . . . **$0.45**
**Net Price,** 1,100 thru 5,000 ohms. . . . . **.48**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.51**
**Net Price,** 12,500 and 15,000 ohms . . . . **.54**
**Net Price,** 17,500 and 20,000 ohms . . . . **.57**
**Net Price,** 22,500 and 25,000 ohms . . . . **.60**

### 10 Watt—1¾" x 5/16" Core Size

| Ohms | Amps | Ohms | Amps | Ohms | Amps |
|---|---|---|---|---|---|
| 0.5 | 4.47 | 300 | .18 | 5,000 | .045 |
| 1 | 3.16 | 350 | .17 | 6,000 | .041 |
| 2 | 2.24 | 400 | .16 | 7,000 | .038 |
| 3 | 1.83 | 450 | .15 | 7,500 | .036 |
| 4 | 1.58 | 500 | .14 | 8,000 | .035 |
| 5 | 1.41 | 600 | .13 | 8,500 | .034 |
| 7.5 | 1.16 | 700 | .12 | 10,000 | .032 |
| 10 | 1.00 | 750 | .12 | 11,000 | .030 |
| 12 | .91 | 800 | .11 | 12,000 | .029 |
| 15 | .82 | 900 | .11 | 12,500 | .028 |
| 20 | .71 | 1,000 | .10 | 13,500 | .027 |
| 25 | .63 | 1,100 | .095 | 15,000 | .026 |
| 30 | .58 | 1,200 | .091 | 16,000 | .025 |
| 35 | .53 | 1,250 | .089 | 17,500 | .024 |
| 40 | .50 | 1,500 | .081 | 18,000 | .023 |
| 50 | .45 | 1,750 | .075 | 20,000 | .022 |
| 75 | .37 | 2,000 | .071 | 22,500 | .021 |
| 100 | .32 | 2,250 | .066 | 25,000 | .020 |
| 125 | .28 | 2,500 | .063 | 30,000 | .018 |
| 150 | .26 | 3,000 | .057 | 35,000 | .017 |
| 200 | .22 | 3,500 | .053 | 40,000 | .016 |
| 225 | .21 | 4,000 | .050 | 45,000 | .015 |
| 250 | .20 | 4,500 | .047 | 50,000 | .014 |

**Net Price,** 0.5 thru 1,000 ohms. . . . . **$0.48**
**Net Price,** 1,100 thru 5,000 ohms. . . . . **.54**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.60**
**Net Price,** 11,000 thru 20,000 ohms. . . . . **.66**
**Net Price,** 22,500 and 25,000 ohms . . . . **.72**
**Net Price,** 30,000 thru 50,000 ohms. . . . . **.81**

### WITH WELDED TERMINALS

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. These all-welded construction units have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units can be conveniently mounted by means of their 1½" tinned wire leads.

### 20 Watt—2" x 7/16" Core Size

| Ohms | Amps | Ohms | Amps | Ohms | Amps |
|---|---|---|---|---|---|
| 0.5 | 6.32 | 800 | .15 | 10,000 | .043 |
| 1.0 | 4.47 | 850 | .15 | 12,500 | .035 |
| 2.0 | 3.16 | 1,000 | .14 | 15,000 | .032 |
| 3.0 | 2.58 | 1,200 | .13 | 20,000 | .027 |
| 4.0 | 2.24 | 1,250 | .12 | 25,000 | .024 |
| 5 | 2.00 | 1,500 | .12 | 30,000 | .022 |
| 10 | 1.41 | 1,750 | .11 | 35,000 | .021 |
| 25 | .89 | 2,000 | .10 | 40,000 | .019 |
| 50 | .63 | 2,250 | .094 | 45,000 | .018 |
| 75 | .52 | 2,500 | .089 | 50,000 | .017 |
| 100 | .45 | 2,750 | .085 | 55,000 | .016 |
| 150 | .36 | 3,000 | .081 | 60,000 | .016 |
| 200 | .32 | 3,500 | .075 | 65,000 | .015 |
| 250 | .28 | 4,000 | .070 | 70,000 | .014 |
| 300 | .26 | 4,500 | .066 | 75,000 | .013 |
| 350 | .24 | 5,000 | .063 | 80,000 | .012 |
| 400 | .22 | 6,000 | .057 | 85,000 | .012 |
| 500 | .20 | 7,000 | .053 | 90,000 | .011 |
| 650 | .18 | 7,500 | .051 | 95,000 | .010 |
| 700 | .17 | 8,000 | .050 | 100,000 | .010 |
| 750 | .16 | 9,000 | .047 | | |

**Net Price,** 0.5 thru 1,000 ohms. . . . . **$0.63**
**Net Price,** 1,200 thru 5,000 ohms. . . . . **.66**
**Net Price,** 6,000 thru 10,000 ohms. . . . . **.72**
**Net Price,** 12,500 thru 20,000 ohms. . . . . **.78**
**Net Price,** 25,000 thru 40,000 ohms. . . . . **.90**
**Net Price,** 45,000 thru 60,000 ohms. . . . . **1.05**
**Net Price,** 65,000 thru 80,000 ohms. . . . . **1.20**
**Net Price,** 85,000 thru 100,000 ohms. . . . **1.38**

## 10 WATT DIVIDOHM® ADJUSTABLE RESISTORS

Core: 1¾" x $\frac{5}{16}$" — Mounting Centers 2¼"

| Adjustable Res. | | | Adjustable Res. | | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps | Stock No. | Res. Ohms | Max. Amps | Stock No. |
| 1 | 3.16 | 1001 | 75 | .37 | 1011 |
| 2 | 2.24 | 1002 | 100 | .32 | 1012 |
| 3 | 1.83 | 1003 | 150 | .26 | 1013 |
| 5 | 1.41 | 1004 | 200 | .22 | 1014 |
| 7.5 | 1.16 | 1005 | 250 | .20 | 1015 |
| 10 | 1.00 | 1006 | 300 | .18 | 1016 |
| 15 | .82 | 1007 | 350 | .17 | 1017 |
| 20 | .71 | 1008 | 400 | .16 | 1018 |
| 25 | .63 | 1009 | 500 | .14 | 1019 |
| 50 | .45 | 1010 | 600 | .13 | 1020 |

| Adjustable Res. | | | Adjustable Res. | | |
|---|---|---|---|---|---|
| Res. Ohms | Max. Amps | Stock No. | Res. Ohms | Max. Amps | Stock No. |
| 750 | .12 | 1021 | 4,000 | .050 | 1031 |
| 800 | .11 | 1022 | 4,500 | .047 | 1032 |
| 1,000 | .10 | 1023 | 5,000 | .045 | 1033 |
| 1,250 | .089 | 1024 | 6,000 | .041 | 1034 |
| 1,500 | .081 | 1025 | 7,000 | .038 | 1035 |
| 2,000 | .071 | 1026 | 7,500 | .036 | 1036 |
| 2,250 | .066 | 1027 | 8,000 | .035 | 1037 |
| 2,500 | .063 | 1028 | 8,500 | .034 | 1038 |
| 3,000 | .057 | 1029 | 9,000 | .033 | 1039 |
| 3,500 | .053 | 1030 | 10,000 | .032 | 1040 |

**Net Price,** 1 thru 1,000 ohms. . . . **$0.96**
**Net Price,** 1,250 thru 5,000 ohms. . . . . **1.02**
**Net Price,** 6,000 thru 10,000 ohms. . . . **1.08**



Net

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World Radio History

# OHMITE®

**RESISTORS • RHEOSTATS • TAP SWITCHES**
**RELAYS • TANTALUM CAPACITORS**
**VARIABLE TRANSFORMERS • RF CHOKES**

## LITTLE DEVIL® RESISTOR ASSORTMENTS FOR SERVICE USE

Serviceman's assortments of 150 Ohmite "Little Devil," ½-watt, or 125, 1-watt or 2-watt insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors alone—the cabinet is furnished without extra cost! Cabinet is only 9" long, 4¾" high, and 5¼" deep.

| Assortment | Stock No | Quantity of Resistors | Wattages | Net Price |
|---|---|---|---|---|
| SERVICE ±10% tolerance (40 resistance values) | CAB-10 | 150 | ½ watt | $18.00 |
| | CAB-2 | 125 | 1 watt | 22.50 |
| | CAB-3 | 125 | 2 watt | 30.00 |

## NEW OHM'S LAW CALCULATOR

Redesigned! This new, improved version of the famous Ohmite Ohm's Law Calculator — popular the world over with servicemen, engineers and students — now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With one setting of the slide the calculator gives the answer to any Ohm's Law problem—reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.

Ohm's Law Calculator (Cardboard) ..... **Net Price $0.25**
Ohm's Law Calculator (Plastic) ..... **Net Price 1.50**

## LITTLE DEVIL COLOR CODER

Here is a handy little device that makes it easy to determine the resistance and tolerance values of EIA color coded composition resistors. Just turn the color wheels until the color corresponds to the color band on the resistor and read the resistance value directly in ohms in the windows.

**Little Devil Color Coder** ..... **Net Price $ .10**

## OHMITE FUSE RESISTOR

**FR-7.5**
**Net Price $0.39**

Designed for replacement in all television receivers, the FR-7.5 Fuse Resistor is provided with 1½" tinned lead wires for easy installation directly in the TV circuit. May also be soldered to the plug-in terminal strip which is provided. 7.5 ohms.

## OHMITE "LITTLE DEVIL"® RESISTORS

Ohmite "LITTLE DEVILS" are full ½ watt, 1 watt and 2 watt insulated composition resistors and can be used at their full wattage ratings at 70° C. (158° F.) ambient temperature. They meet requirements of specification MIL-R-11A.

"LITTLE DEVILS" are available from stock with ±5% or ±10% tolerance. The standard EIA values, 10 ohms to 22 megohms can be furnished. In the 1 watt size, ±10% tolerance values as low as 2.7 ohms are available from stock.

**Stocked in EIA Values ±5% or ±10% Tolerance**

(Figures in bold type are ±10% EIA values. All values except (*) available in ±5% tolerance.)

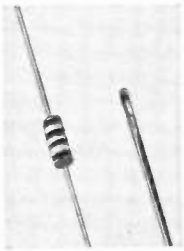
| Ohms | Ohms | Ohms | Ohms | Megs. |
|---|---|---|---|---|
| *2.7 | 110 | 2,400 | 51,000 | 1.1 |
| *3.3 | 120 | 2,700 | 56,000 | 1.2 |
| *3.9 | 130 | 3,000 | 62,000 | 1.3 |
| *4.7 | 150 | 3,300 | 68,000 | 1.5 |
| *5.6 | 160 | 3,600 | 75,000 | 1.6 |
| *6.8 | 180 | 3,900 | 82,000 | 1.8 |
| *8.2 | 200 | 4,300 | 91,000 | 2.0 |
| 10 | 220 | 4,700 | MEGS | 2.2 |
| 11 | 240 | 5,100 | 0.1 | 2.4 |
| 12 | 270 | 5,600 | 0.11 | 2.7 |
| 13 | 300 | 6,200 | 0.12 | 3.0 |
| 15 | 330 | 6,800 | 0.13 | 3.3 |
| 16 | 360 | 7,500 | 0.15 | 3.6 |
| 18 | 390 | 8,200 | 0.16 | 3.9 |
| 20 | 430 | 9,100 | 0.18 | 4.3 |
| 22 | 470 | 10,000 | 0.20 | 4.7 |
| 24 | 510 | 11,000 | 0.22 | 5.1 |
| 27 | 560 | 12,000 | 0.24 | 5.6 |
| 30 | 620 | 13,000 | 0.27 | 6.2 |
| 33 | 680 | 15,000 | 0.30 | 6.8 |
| 36 | 750 | 16,000 | 0.33 | 7.5 |
| 39 | 820 | 18,000 | 0.36 | 8.2 |
| 43 | 910 | 20,000 | 0.39 | 9.1 |
| 47 | 1,000 | 22,000 | 0.43 | 10.0 |
| 51 | 1,100 | 24,000 | 0.47 | 11.0 |
| 56 | 1,200 | 27,000 | 0.51 | 12.0 |
| 62 | 1,300 | 30,000 | 0.56 | 13.0 |
| 68 | 1,500 | 33,000 | 0.62 | 15.0 |
| 75 | 1,600 | 36,000 | 0.68 | 16.0 |
| 82 | 1,800 | 39,000 | 0.75 | 18.0 |
| 91 | 2,000 | 43,000 | 0.82 | 20.0 |
| 100 | 2,200 | 47,000 | 0.91 | 22.0 |
| | | | 1.0 | |

*1 Watt Size Only. ±10% tolerance.

| | TYPE | | |
|---|---|---|---|
| Watt | ½ | 1 | 2 |
| Size Lgth. | 3/8" | 9/16" | 11/16" |
| Size Diam. | 9/64" | 7/32" | 5/16" |
| Max. Volts | 350 | 500 | 750 |
| Net Price ±10% | 12c | 18c 10 Ohms & up | 24c |
| Net Price ±5% | 24c | 36c 10 Ohms & up | 48c |

***Net Price** ..... **36c**

## SUBMINIATURE "LITTLE DEVIL®" 1/10 WATT COMPOSITION RESISTORS



**Little Devil with Ordinary Needle**

These tiny resistors were designed especially for applications where small size is paramount — such as in miniature transistor circuit apparatus. Ohmite subminiature "LITTLE DEVILS" are available in ±10% EIA resistance values from 10 ohms to 1.0 megohm. Table above shows ± 10% values in bold face type. The new 1/10 watt "LITTLE DEVILS" are only 0.140" long by 0.067" diameter. The one inch lead wires are molded solidly into the resistance material which insures a mechanically strong construction and produces a permanent, reliable electrical contact. Each resistor is EIA Color Coded to show resistance value and tolerance. Specifications: Maximum Continuous Rated Voltage — 150 RMS or DC; Maximum Continuous Rated Wattage at 70° C.Ambient — 0.1 Watt; Insulation Strength — 200 Volts DC.

**Net Price** ..... **$0.24**

**For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.**

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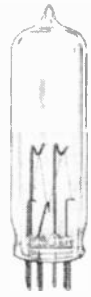
World Radio History

# AUTOMATIC AMPERITE REGULATOR

## BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

STANDARD



MINIATURE

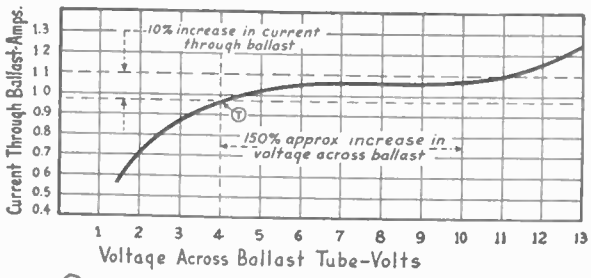
### AUTOMATIC REGULATION

### What It Is!

The *AMPERITE Ballast-Regulating Tube* is an automatic "rheostat" designed to keep the current in a circuit at a definite value, for example, 0.5 amps. Should the supply voltage increase, this Ballast-Regulating Tube will automatically increase in resistance to take up the increase in supply voltage.

Being a constant current device, the AMPERITE Ballast-Regulating Tube can be used only to regulate a constant load—fixed wattage. Thermostatic relays can sometimes be included in these regulators to reduce initial surge.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.




**Characteristic curve of a typical Amperite. Approximate curve of any other Amperite can be obtained by multiplying or dividing the current or voltage scale by any number.**

**POPULAR TYPES OF BALLAST TUBES**
**List $3.00**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D6-1E | 1H20 | *3T4 | 4A10 | 6-3 | 7-4 | 9-4A | 12-4 |
| *D6T4 | 1H22 | *3T4A | 4-12 | 6-4 | **7TF4 | 9-7 | 12-7 |
| **D6TK7 | **2TK7 | **3TF4A | 4H3 | 6-4A | 7A10 | 9-8 | 12A10 |
| **D6TF10 | 2A10 | **3TF4 | 4H4 | 6-4B | 7-11 | 9A10 | 12-11 |
| **D6TF30 | 2A12 | **3TFV4 | 4H1C | *6T4 | **7HTF2 | 10T1 | 13-4 |
| D7-20 | 2A20 | 3V4 | **4HTF4 | *6T4F | **7HTF3 | **10TF2 | 15-2 |
| D7H4 | *2HT2 | 3-7 | **4HTF7 | **6TF4 | **7HTF4 | 10-3 | 15-4 |
| *D7HT4 | 2H4 | **3TF7 | 4H10 | 6-7 | 7H4 | 10-4A | 16-4 |
| *D7HT11 | *2HT4 | 3A10 | 4H11 | **6TF7 | 7H4B | 10-4B | 17-3 |
| 1A10 | **2HTF4 | 3-11 | 5E1 | 6-8B | 7H7 | 10-4C | 20-3 |
| **1TF10 | 2H10 | 3H11 | **5TF2 | 6A10 | 7H11 | 10-4D | 20-4 |
| 1-15 | 3-2 | *3T11 | 5-4 | 6-11 | **8TF2 | 10-4E | 22-4 |
| *1HT2 | **3TF2 | 3TF11 | **5TF4 | 6-12 | 8-3B | 10A10 | 24-3 |
| *1HT4 | **3TK2 | **3TF12 | 5A10 | 6-13 | 8-4 | 10A12 | 34-2 |
| 1H10 | 3-4 | 3-14 | 5-11 | 6A15 | 8A10 | 10-25 | 35-4 |
| **1HTF10 | 3H-1-7 | 3-16 | 5-16 | 6-36 | **9TF2 | 11-3 | 40-6E |
| *1HT11 | 3H4 | 3A20 | 5H3 | 6H4 | 9-3 | 11-4 | 41-7E |
| **1HTF11 | **3HTF4 | 3H-25 | 5H4 | **6HTF4 | 9-4 | 11A10 | 55-1 |
| | | 3-38A | 5H10 | 6H6 | | 11-11 | 55-4 |
| | | 3-50A | 5H11 | | | | |

*T denotes T5½ bulb-7 pin miniature, e.g., 3T4.
**TF denotes T6½ bulb-9 pin miniature, e.g., 3TF4.
Base Wiring: Octal, 7 and 9 pin miniature—prongs 2-7.

### ADVANTAGES

Light . . . Compact . . . No Moving Parts (Will withstand vibrations of 10G min.) (Not affected by altitude or humidity changes) . . . Can Be Changed as Easily as a Radio Tube . . . Operates Equally Well on AC or DC . . . Inexpensive.

### CAPACITIES AVAILABLE

Current values of 60 ma. to 5 amps; threshold voltage 0.4 to 30 V. Maximum dissipation per AMPERITE 60w per tube (ST19 bulb). Any number of AMPERITES with the same voltage range can be operated in parallel. AMPERITES should not be used in series.

### AGEING

AMPERITE Ballast Tubes may change approximately up to 3% in current if aged for 4 to 8 hours, at maximum voltage. They will change very little thereafter.

### LIFE EXPECTANCY

| | |
|---|---|
| Average life if operated as recommended | 2000 Hours |
| If operated continuously at maximum voltage | 1000 Hours |
| If operated continuously at 80% maximum voltage | 5000 Hours |
| If filament is operated below glow point | 5000 Hours up |

In operation, the *Amperite* filament starts to glow at one point; as the voltage is increased, the glow spreads over the entire filament. Like incandescent lamps, turning *Amperite* on and off reduces its life, especially if operating near its maximum voltage.

### TIME LAG CHARACTERISTICS

Time lag encountered in an *Amperite Ballast Tube* depends upon the wattage consumed by the ballast and the size of the bulb. Where the wattage is small for the size of the bulb, the action can be made practically instantaneous — less than 1 second. In such cases the bulb will remain at practically ambient temperature. When the wattage is high enough to heat the bulb to a temperature uncomfortable to the hand (160°F) the lag might be as much as several minutes for final readings—but normally reaches within 10% of final readings within a few seconds.

### AMPERITE NUMBERING SYSTEM

In general, the AMPERITE number approximately dénotes the current—voltage threshold value. For example:

| | | | | | |
|---|---|---|---|---|---|
| AMPERITE NUMBER | 3-4 | 3H4 | 10-7 | 12-11 | 12H11 |
| THRESHOLD CURRENT | 0.3 | 0.35 | 1.0 | 1.2 | 1.25 |
| THRESHOLD VOLTAGE | 4.0 | 4.0 | 7.0 | 11.0 | 11.0 |

**We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.**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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

World Radio History

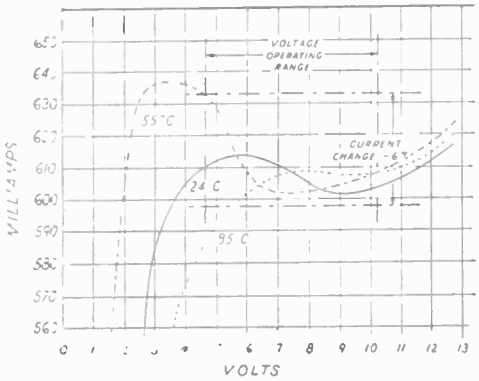
# AUTOMATIC AMPERITE REGULATOR

## BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

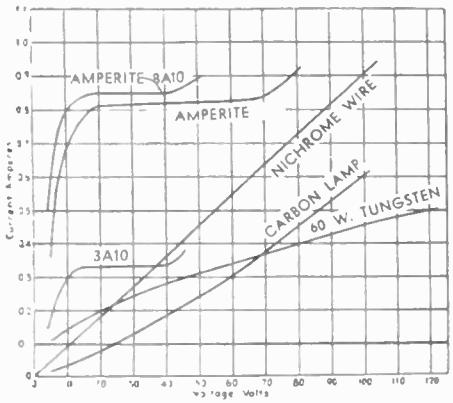
### AMBIENT EFFECTS

Ambient temperature variation of —50° to +70°C will change the current value of an *Amperite* approximately 2% on regulating portion of curve shown directly below. Being hermetically sealed the *Amperite* is not affected by altitude or humidity changes

**We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.**




*Amperite* Ballast-Type 6-4 current voltage characteristic under ambient conditions of —55°, 24°, and 85°C. The percentage change with ambient is approximately the same with all type *Amperite* ballasts

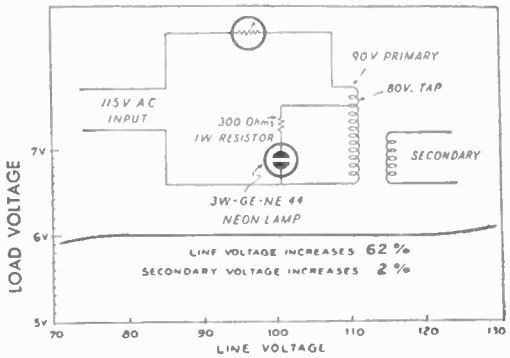



This diagram illustrates far superior regulating characteristics of the Amperite Ballast-Regulating Tube.

***STANDARD SIZES** available for various wattage consumption . . . For good regulation, a bulb should not be required to dissipate more than 50% of maximum wattage.*

### BATTERY CHARGING AND DISCHARGING

*Amperite Ballast Tubes* are very successfully used for keeping the current constant in charging and discharging batteries. Any number of *Amperites* of the same voltage range can be placed in parallel in order to obtain the proper current. The current can be kept to ± 1%. Advise voltage variation and currents desired.




**On 115V supplies ± 1% regulation can be obtained by shunting the load or transformer primary with a G.E. 3W—NE-44 Neon Lamp. 1 G.E. 3W—NE-44 Neon Lamp should be used for each 50 watts of load. This is the cheapest and most compact method of obtaining ± 1% regulation. The *Amperite* is not affected by frequency changes.**

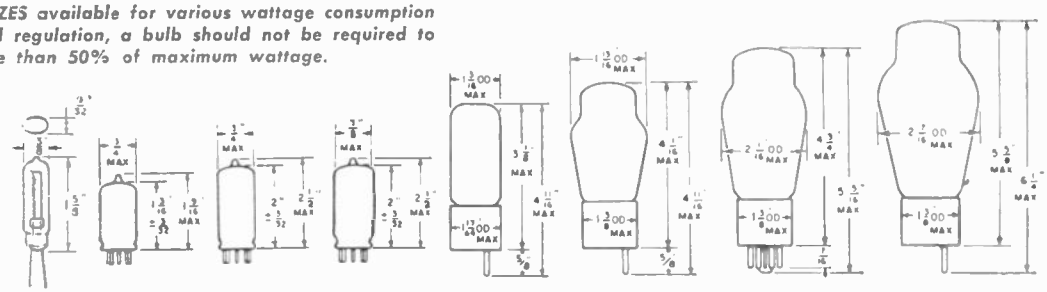
### POWER SUPPLIES

**We strongly recommend, for any particular application, to fill and return one of our special problem sheets (ASP 343) and permit us to recommend the most suitable AMPERITE.**

| Power Supply | Dry Cells | 6 Volts | 12 Volts | 26 Volts | 115 Volts |
|---|---|---|---|---|---|
| Supply Variation | 2.2-3.0V | 5.5-7.5V | 10.0-14.0V | 22.0-30.0V | 105-125V |
| Desired on Load | 1.8-2.0V | 3.9-4.1V | 6.1- 6.4V | 17.5-18.5V | 90- 95V |
| Required on AMPERITE | 0.4-1.0V | 1.6-3.4V | 3.9- 7.6V | 4.5-11.5V | 15- 30V |
| Current Variation | .29-.32a | .29-.31a | .29-.32a | .29-.32a | .29-.32a |

The above chart shows the maximum load voltage for the given supply to obtain ± 2% regulation on load. Better regulation is obtainable by increasing the voltage across the **AMPERITE**. In general, the higher the percent of the supply voltage taken by the **AMPERITE**, the better the regulation.

**We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.**



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Size | SUB MINIL | T5½S | T5½L | T6½L | T9 | ST-14 | ST-16 | ST-19 |
| Max Watts | 2W | 3 | 5 | 5 | 12 | 20 | 30 | 60 |
| Wt. per Tube | 2 gms | 7 gms | 8 gms | 8 gms | 1 oz. | 2⅛ oz | 2½ oz | 2¾ oz |

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World Radio History

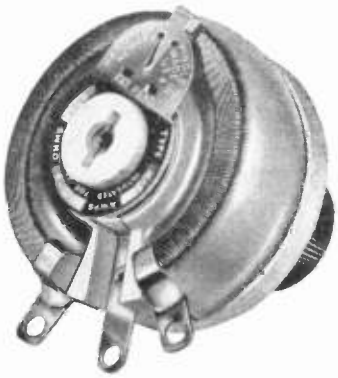
# HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

## VITREOUS ENAMELED RHEOSTATS

### Insulated shafts and mounting bushings

**Type A-25** — Will withstand rugged treatment under the most adverse conditions. It has unusually smooth mechanical operation. The terminals, made of strong corrosion resistant alloy, are permanently welded to the winding form. The wound ring is made an integral part of the refractory base by vitreous enamel. The phosphor bronze actuating arm, with its graphite brush, gives smoothest action and excellent electrical control. Shafts are insulated. Three terminals permit either potentiometer or rheostat use; and our new high temperature gray enamel gives an added safety factor.



**Types H-50, H-100, H-150** — These are our newest rheostats and they will give longer service and greater protection. They are designed for use under extremes of humidity and abnormal atmospheric conditions. The unique "buss bar" type brush *automatically adjusts tension* for complete, continuous contact. It eliminates backlash and prevents binding. It assures perfect contact with the entire winding surface. Our new high-temperature gray enamel bonding gives you an increased safety factor and better overall service. These improved rheostats are designed to comply with current standards of: (a) Military Specifications MIL R-22. (b) RETMA. (c) N.E.M.A. (d) "listed by Underwriters Laboratories, Inc."

### TABLES OF SIZES AND RATINGS OF RHEOSTATS

**TYPE A-25 — 25 WATT RHEOSTAT**

| Stock No. | Total Ohms | Max. Amps. | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0201 | 0.50 | 7.06 | 17 | $8.13 |
| 0202 | 0.75 | 5.77 | 17 | 8.13 |
| 0203 | 1.0 | 5.00 | 17 | 7.70 |
| 0204 | 1.5 | 4.08 | 34 | 7.70 |
| 0205 | 2.5 | 3.16 | 34 | 6.84 |
| 0206 | 5.0 | 2.22 | 34 | 6.84 |
| 0207 | 7.5 | 1.82 | 34 | 6.84 |
| 0208 | 10 | 1.58 | 90 | 6.84 |
| 0209 | 15 | 1.29 | 90 | 6.84 |
| 0210 | 25 | 1.00 | 100 | 6.84 |
| 0211 | 50 | 0.706 | 100 | 6.84 |
| 0212 | 75 | 0.577 | 135 | 6.84 |
| 0213 | 100 | 0.500 | 112 | 6.84 |
| 0214 | 150 | 0.408 | 146 | 6.84 |
| 0215 | 250 | 0.316 | 146 | 6.84 |
| 0216 | 500 | 0.222 | 180 | 6.84 |
| 0217 | 750 | 0.182 | 214 | 6.84 |
| 0218 | 1000 | 0.158 | 248 | 7.70 |
| 0219 | 1500 | 0.129 | 292 | 7.70 |

*Thru all or any part of winding.
Diameter of base: 1 [illegible]".
Depth behind panel: 1 [illegible]".
Mounting: Single hole for 3/8" bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 285 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Terminals: Holes for No. 4 screw.

**TYPE H-50 — 50 WATT RHEOSTAT**

| Stock No. | Total Ohms | Max. Amps. | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0301 | 0.50 | 10.0 | 25 | $8.59 |
| 0302 | 0.75 | 8.16 | 25 | 8.59 |
| 0303 | 1.0 | 7.06 | 52 | 8.59 |
| 0304 | 1.5 | 5.77 | 52 | 8.59 |
| 0305 | 2.5 | 4.48 | 52 | 7.70 |
| 0306 | 5.0 | 3.16 | 52 | 7.70 |
| 0307 | 7.5 | 2.58 | 52 | 7.70 |
| 0308 | 10 | 2.22 | 98 | 7.70 |
| 0309 | 15 | 1.82 | 98 | 7.70 |
| 0310 | 25 | 1.41 | 98 | 7.70 |
| 0311 | 50 | 1.00 | 129 | 7.70 |
| 0312 | 75 | 0.816 | 153 | 7.70 |
| 0313 | 100 | 0.706 | 157 | 7.70 |
| 0314 | 150 | 0.577 | 187 | 7.70 |
| 0315 | 250 | 0.448 | 258 | 7.70 |
| 0316 | 500 | 0.316 | 308 | 7.70 |
| 0317 | 750 | 0.258 | 294 | 8.10 |
| 0318 | 1000 | 0.222 | 390 | 8.10 |
| 0319 | 1500 | 0.182 | 364 | 8.10 |
| 0320 | 2500 | 0.141 | 485 | 8.10 |
| 0321 | 5000 | 0.100 | 590 | 8.59 |
| 0322 | 7500 | 0.082 | 714 | 8.59 |
| 0323 | 10000 | 0.070 | 750 | 8.59 |

*Thru all or any part of winding.
Diameter of base: 2 3/8".
Depth behind panel: 1 [illegible]".
Mounting: Single hole for 3/8"-32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

**TYPE H-100 — 100 WATT RHEOSTAT**

| Stock No. | Total Ohms | Max. Amps. | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0401 | 0.50 | 14.2 | 30 | $12.87 |
| 0402 | 0.75 | 11.6 | 30 | 12.87 |
| 0403 | 1.0 | 10.0 | 30 | 12.87 |
| 0404 | 1.5 | 8.16 | 30 | 12.87 |
| 0405 | 2.5 | 6.34 | 54 | 12.87 |
| 0406 | 5.0 | 4.48 | 54 | 12.87 |
| 0407 | 7.5 | 3.66 | 54 | 12.05 |
| 0408 | 10 | 3.16 | 54 | 12.05 |
| 0409 | 15 | 2.58 | 112 | 12.05 |
| 0410 | 25 | 2.00 | 108 | 12.05 |
| 0411 | 50 | 1.42 | 127 | 12.05 |
| 0412 | 75 | 1.16 | 151 | 12.05 |
| 0413 | 100 | 1.00 | 160 | 12.05 |
| 0514 | 150 | 0.816 | 190 | 12.05 |
| 0415 | 250 | 0.634 | 250 | 12.05 |
| 0416 | 500 | 0.448 | 302 | 12.05 |
| 0417 | 750 | 0.366 | 303 | 12.05 |
| 0418 | 1000 | 0.316 | 317 | 12.87 |
| 0419 | 1500 | 0.258 | 375 | 12.87 |
| 0420 | 2500 | 0.200 | 494 | 12.87 |
| 0421 | 5000 | 0.141 | 640 | 13.70 |
| 0422 | 7500 | 0.115 | 760 | 14.60 |
| 0423 | 10000 | 0.100 | 740 | 15.40 |

*Thru all or any part of winding.
Diameter of base: 3 1/8".
Depth behind panel: 1 [illegible]".
Mounting: Single hole for 3/8"-32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

**TYPE H-150 — 150 WATT RHEOSTAT**

| Stock No. | Total Ohms | Max. Amps. | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0501 | 0.50 | 17.30 | 26 | $16.30 |
| 0502 | 0.75 | 14.10 | 30 | 16.30 |
| 0503 | 1.00 | 12.25 | 40 | 16.30 |
| 0504 | 1.5 | 10.00 | 37 | 16.30 |
| 0505 | 2.5 | 7.75 | 39 | 16.30 |
| 0506 | 5.0 | 5.48 | 79 | 16.30 |
| 0507 | 7.5 | 4.47 | 75 | 16.30 |
| 0508 | 10 | 3.88 | 77 | 15.40 |
| 0509 | 15 | 3.16 | 151 | 15.40 |
| 0510 | 25 | 2.45 | 151 | 15.40 |
| 0511 | 50 | 1.73 | 192 | 15.40 |
| 0512 | 75 | 1.41 | 224 | 15.40 |
| 0513 | 100 | 1.22 | 204 | 15.40 |
| 0514 | 150 | 1.00 | 280 | 15.40 |
| 0515 | 250 | 0.775 | 252 | 15.40 |
| 0516 | 500 | 0.548 | 362 | 15.40 |
| 0517 | 750 | 0.447 | 378 | 16.30 |
| 0518 | 1000 | 0.388 | 398 | 16.30 |
| 0519 | 1500 | 0.316 | 483 | 17.17 |
| 0520 | 2500 | 0.245 | 635 | 17.17 |
| 0521 | 5000 | 0.173 | 790 | 18.00 |
| 0522 | 7500 | 0.141 | 940 | 18.89 |
| 0523 | 10000 | 0.122 | 1020 | 20.59 |

*Thru all or any part of winding.
Diameter of base: 4".
Depth behind panel: 1 3/32".
Mounting: Two holes as shown 10-32 x 5/8" screws furnished.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: For single hole mounting supplied on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

RATING—current ratings shown for all Rheostats are for use in free air. When units are enclosed values should be reduced about 50%.

Data on non-stock Rheostats—special shafts and bushings; values intermediate to those listed; tapered windings; tandem assemblies, etc., furnished upon request.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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

## FIXED VITREOUS ENAMELED RESISTORS
### WITH MOUNTING BRACKETS

Five stock sizes fill a great variety of applications.

Ratings are in accordance with NEMA standards, being based on a temperature rise of 300° C. in free air.

Data on types, sizes and values not listed herein, and for resistors with intermediate taps, special mountings, etc., furnished upon request.

### TABLE OF RATINGS

**25 WATT SIZE — Type 2B-35**
2" Long x ⅝" O.D.
Mounting Centers 2½"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 1001 | 5 | 2225 | $ .97 |
| 1002 | 10 | 1580 | .97 |
| 1003 | 25 | 1000 | .97 |
| 1004 | 50 | 700 | .97 |
| 1005 | 75 | 575 | .97 |
| 1006 | 100 | 500 | .97 |
| 1007 | 150 | 410 | .97 |
| 1008 | 200 | 353 | .97 |
| 1009 | 250 | 316 | .97 |
| 1010 | 500 | 224 | .97 |
| 1011 | 750 | 182 | .97 |
| 1012 | 1000 | 158 | .97 |
| 1013 | 1500 | 129 | 1.03 |
| 1014 | 2000 | 112 | 1.03 |
| 1015 | 2500 | 100 | 1.03 |
| 1016 | 3000 | 91 | 1.03 |
| 1017 | 3500 | 85 | 1.03 |
| 1018 | 4000 | 79 | 1.03 |
| 1019 | 5000 | 71 | 1.03 |
| 1020 | 6000 | 64 | 1.14 |
| 1021 | 7500 | 57 | 1.14 |
| 1022 | 10000 | 50 | 1.14 |
| 1023 | 12000 | 44 | 1.19 |
| 1024 | 15000 | 40 | 1.19 |
| 1025 | 20000 | 26 | 1.19 |
| 1026 | 25000 | 23 | 1.36 |

**40 WATT SIZE — Type 3½L-35**
3½" Long x ¾" O.D.
Mounting Centers 4"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 2001 | 5 | 2830 | $1.20 |
| 2002 | 10 | 2000 | 1.20 |
| 2003 | 25 | 1260 | 1.20 |
| 2004 | 50 | 895 | 1.20 |
| 2005 | 75 | 730 | 1.20 |
| 2006 | 100 | 635 | 1.20 |
| 2007 | 150 | 518 | 1.20 |
| 2008 | 200 | 448 | 1.20 |
| 2009 | 250 | 400 | 1.20 |
| 2010 | 500 | 283 | 1.20 |
| 2011 | 750 | 230 | 1.20 |
| 2012 | 1000 | 200 | 1.20 |
| 2013 | 1500 | 163 | 1.30 |
| 2014 | 2000 | 140 | 1.30 |
| 2015 | 2500 | 125 | 1.30 |
| 2016 | 3000 | 115 | 1.30 |
| 2017 | 4000 | 100 | 1.30 |
| 2018 | 5000 | 90 | 1.30 |
| 2019 | 7500 | 73 | 1.43 |
| 2020 | 10000 | 63 | 1.43 |
| 2021 | 12500 | 56 | 1.65 |
| 2022 | 15000 | 52 | 1.65 |
| 2023 | 20000 | 45 | 1.65 |
| 2024 | 25000 | 40 | 1.87 |
| 2025 | 35000 | 33 | 1.87 |
| 2026 | 50000 | 28 | 2.20 |

**80 WATT SIZE — Type 6½L-35**
6½" Long x ¾" O.D.
Mounting Centers 7"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 3001 | 5 | 4000 | $1.73 |
| 3002 | 10 | 2830 | 1.73 |
| 3003 | 25 | 1790 | 1.73 |
| 3004 | 50 | 1260 | 1.73 |
| 3005 | 75 | 1030 | 1.73 |
| 3006 | 100 | 890 | 1.73 |
| 3007 | 250 | 565 | 1.73 |
| 3008 | 500 | 400 | 1.73 |
| 3009 | 1000 | 283 | 1.73 |
| 3010 | 1500 | 231 | 1.80 |
| 3011 | 2000 | 200 | 1.80 |
| 3012 | 2500 | 179 | 1.80 |
| 3013 | 3000 | 163 | 1.80 |
| 3014 | 4000 | 141 | 1.80 |
| 3015 | 5000 | 126 | 1.80 |
| 3016 | 7500 | 103 | 2.03 |
| 3017 | 10000 | 89 | 2.03 |
| 3018 | 15000 | 73 | 2.13 |
| 3019 | 20000 | 63 | 2.13 |
| 3020 | 25000 | 56 | 2.18 |
| 3021 | 30000 | 52 | 2.18 |
| 3022 | 35000 | 48 | 2.18 |
| 3023 | 40000 | 45 | 2.18 |
| 3024 | 50000 | 40 | 2.27 |
| 3025 | 60000 | 36 | 2.27 |
| 3026 | 75000 | 32 | 2.37 |

**160 WATT SIZE — Type 8½F-35**
8½" Long x 1⅛" O.D.
Mounting Centers 9⅜"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 4001 | 5 | 5660 | $4.16 |
| 4002 | 10 | 4000 | 2.98 |
| 4003 | 25 | 2530 | 2.98 |
| 4004 | 50 | 1788 | 2.98 |
| 4005 | 75 | 1460 | 2.98 |
| 4006 | 100 | 1260 | 2.98 |
| 4007 | 150 | 1030 | 2.98 |
| 4008 | 250 | 800 | 2.98 |
| 4009 | 500 | 566 | 2.98 |
| 4010 | 750 | 461 | 2.98 |
| 4011 | 1000 | 400 | 2.98 |
| 4012 | 1500 | 326 | 3.04 |
| 4013 | 2000 | 282 | 3.04 |
| 4014 | 2500 | 253 | 3.04 |
| 4015 | 3000 | 231 | 3.04 |
| 4016 | 5000 | 179 | 3.04 |
| 4017 | 7500 | 146 | 3.30 |
| 4018 | 10000 | 126 | 3.30 |
| 4019 | 15000 | 105 | 3.54 |
| 4020 | 20000 | 89 | 3.54 |
| 4021 | 25000 | 80 | 3.64 |
| 4022 | 30000 | 73 | 3.64 |
| 4023 | 40000 | 63 | 3.64 |
| 4024 | 50000 | 56 | 3.76 |
| 4025 | 75000 | 46 | 4.03 |
| 4026 | 100000 | 40 | 4.26 |

**200 WATT SIZE — Type 10½F-35**
10½" Long x 1⅛" O.D.
Mounting Centers 11⅜"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 5001 | 5 | 6310 | $4.53 |
| 5002 | 10 | 4470 | 3.22 |
| 5003 | 25 | 2830 | 3.22 |
| 5004 | 50 | 2000 | 3.22 |
| 5005 | 75 | 1635 | 3.22 |
| 5006 | 100 | 1414 | 3.22 |
| 5007 | 150 | 1155 | 3.22 |
| 5008 | 250 | 895 | 3.22 |
| 5009 | 500 | 632 | 3.22 |
| 5010 | 750 | 515 | 3.22 |
| 5011 | 1000 | 447 | 3.22 |
| 5012 | 1500 | 365 | 3.30 |
| 5013 | 2000 | 315 | 3.30 |
| 5014 | 2500 | 283 | 3.30 |
| 5015 | 3000 | 258 | 3.30 |
| 5016 | 5000 | 200 | 3.30 |
| 5017 | 7500 | 163 | 3.53 |
| 5018 | 10000 | 140 | 3.53 |
| 5019 | 15000 | 115 | 3.77 |
| 5020 | 20000 | 100 | 3.77 |
| 5021 | 25000 | 90 | 3.90 |
| 5022 | 30000 | 81 | 3.90 |
| 5023 | 40000 | 70 | 3.90 |
| 5024 | 50000 | 63 | 4.03 |
| 5025 | 75000 | 51 | 4.25 |
| 5026 | 100000 | 44 | 4.53 |

## ADJUSTABLE VITREOUS ENAMELED RESISTORS
### WITH MOUNTING BRACKETS

Embodying features originated by Hardwick, Hindle, Inc., resulting in a Resistor possessing the many advantages of Vitreous Enamel Construction, plus an adjustable feature.

The winding is closely and evenly spaced, assuring ample insulation between turns. Where the winding appears exposed in the track, its underside is tightly embedded in the enamel, the upper surface only being exposed for contact with the adjustable band.

All sizes of Adjustable Resistors listed herein are furnished complete with mounting brackets and with one adjustable contact band.

### TABLE OF RATINGS

**25 WATT SIZE — Type K-25**
2" Long x ⅝" O.D.
Mount. Centers 2½"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 6001 | 1 | 5000 | $1.87 |
| 6002 | 2 | 3540 | 1.87 |
| 6003 | 3 | 2890 | 1.87 |
| 6004 | 5 | 2240 | 1.87 |
| 6005 | 10 | 1580 | 1.87 |
| 6006 | 20 | 1140 | 1.87 |
| 6007 | 25 | 1000 | 1.87 |
| 6008 | 50 | 700 | 1.87 |
| 6009 | 75 | 550 | 1.87 |
| 6010 | 100 | 500 | 1.87 |
| 6011 | 200 | 350 | 1.87 |
| 6012 | 300 | 289 | 1.87 |
| 6013 | 400 | 250 | 1.87 |
| 6014 | 500 | 224 | 1.87 |
| 6015 | 750 | 182 | 1.87 |
| 6016 | 800 | 177 | 1.87 |
| 6017 | 1000 | 158 | 1.87 |
| 6018 | 1250 | 141 | 1.88 |
| 6019 | 1500 | 129 | 1.88 |
| 6020 | 2000 | 112 | 1.88 |
| 6021 | 2500 | 100 | 1.88 |
| 6022 | 3000 | 91 | 1.88 |
| 6023 | 3500 | 84 | 1.88 |
| 6024 | 4000 | 79 | 1.88 |
| 6025 | 5000 | 70 | 1.88 |
| 6026 | 6000 | 64 | 2.03 |
| 6027 | 7000 | 60 | 2.03 |
| 6028 | 8000 | 56 | 2.03 |
| 6029 | 10000 | 50 | 2.03 |
| 6030 | 15000 | 40 | 2.08 |
| 6031 | 20000 | 35 | 2.08 |
| 6032 | 25000 | 31 | 2.28 |

**50 WATT SIZE — Type K-50**
4½" Long x ⅝" O.D.
Mount. Centers 5"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 7001 | 5 | 3160 | $2.37 |
| 7002 | 10 | 2240 | 2.37 |
| 7003 | 25 | 1420 | 2.37 |
| 7004 | 50 | 1000 | 2.37 |
| 7005 | 75 | 815 | 2.37 |
| 7006 | 100 | 700 | 2.37 |
| 7007 | 200 | 500 | 2.37 |
| 7008 | 250 | 447 | 2.37 |
| 7009 | 300 | 406 | 2.37 |
| 7010 | 400 | 350 | 2.37 |
| 7011 | 500 | 316 | 2.37 |
| 7012 | 750 | 258 | 2.37 |
| 7013 | 800 | 250 | 2.37 |
| 7014 | 1000 | 224 | 2.37 |
| 7015 | 1500 | 183 | 2.47 |
| 7016 | 2000 | 158 | 2.47 |
| 7017 | 2500 | 141 | 2.47 |
| 7018 | 3000 | 129 | 2.47 |
| 7019 | 4000 | 112 | 2.47 |
| 7020 | 5000 | 100 | 2.47 |
| 7021 | 6000 | 91 | 2.63 |
| 7022 | 7000 | 84 | 2.63 |
| 7023 | 7500 | 81 | 2.63 |
| 7024 | 8000 | 79 | 2.63 |
| 7025 | 9000 | 74 | 2.63 |
| 7026 | 10000 | 70 | 2.63 |
| 7027 | 12000 | 64 | 2.83 |
| 7028 | 15000 | 57 | 2.83 |
| 7029 | 20000 | 48 | 2.83 |
| 7030 | 25000 | 43 | 3.08 |
| 7031 | 30000 | 41 | 3.08 |
| 7032 | 40000 | 35 | 3.08 |
| 7033 | 50000 | 30 | 3.30 |

**75 WATT SIZE — Type K-75**
6" Long x ⅝" O.D.
Mount. Centers 6½"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 8001 | 5 | 3870 | $2.75 |
| 8002 | 10 | 2730 | 2.75 |
| 8003 | 15 | 2230 | 2.75 |
| 8004 | 25 | 1730 | 2.75 |
| 8005 | 50 | 1220 | 2.75 |
| 8006 | 100 | 865 | 2.75 |
| 8007 | 200 | 612 | 2.75 |
| 8008 | 300 | 500 | 2.75 |
| 8009 | 400 | 424 | 2.75 |
| 8010 | 500 | 387 | 2.75 |
| 8011 | 750 | 316 | 2.75 |
| 8012 | 1000 | 274 | 2.75 |
| 8013 | 1500 | 223 | 2.83 |
| 8014 | 2000 | 193 | 2.83 |
| 8015 | 2500 | 173 | 2.83 |
| 8016 | 3000 | 158 | 2.83 |
| 8017 | 4000 | 137 | 2.83 |
| 8018 | 5000 | 122 | 2.83 |
| 8019 | 6000 | 112 | 3.00 |
| 8020 | 7000 | 103 | 3.00 |
| 8021 | 7500 | 100 | 3.00 |
| 8022 | 10000 | 86 | 3.00 |
| 8023 | 15000 | 70 | 3.20 |
| 8024 | 20000 | 61 | 3.20 |
| 8025 | 25000 | 55 | 3.53 |
| 8026 | 30000 | 50 | 3.53 |
| 8027 | 40000 | 43 | 3.53 |
| 8028 | 50000 | 39 | 3.62 |
| 8029 | 60000 | 35 | 3.62 |
| 8030 | 80000 | 30 | 3.97 |
| 8031 | 100000 | 25 | 4.33 |

**100 WATT SIZE — Type K-100**
6½" Long x 1⅛" O.D.
Mount. Centers 7⅜"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 9001 | 5 | 4470 | $3.58 |
| 9002 | 10 | 3160 | 3.58 |
| 9003 | 25 | 2000 | 3.58 |
| 9004 | 50 | 1414 | 3.58 |
| 9005 | 100 | 1000 | 3.58 |
| 9006 | 250 | 630 | 3.58 |
| 9007 | 500 | 445 | 3.58 |
| 9008 | 1000 | 316 | 3.58 |
| 9009 | 1500 | 257 | 3.67 |
| 9010 | 2500 | 200 | 3.67 |
| 9011 | 5000 | 140 | 3.67 |
| 9012 | 10000 | 100 | 3.87 |
| 9013 | 15000 | 81 | 4.12 |
| 9014 | 20000 | 70 | 4.12 |
| 9015 | 25000 | 63 | 4.37 |
| 9016 | 30000 | 57 | 4.37 |
| 9017 | 40000 | 50 | 4.37 |
| 9018 | 50000 | 44 | 4.53 |
| 9019 | 75000 | 36 | 4.75 |
| 9020 | 100000 | 31 | 4.95 |

**160 WATT SIZE — Type K-160**
8½" Long x 1⅛" O.D.
Mount. Centers 9⅜"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 9030 | 5 | 5660 | $5.33 |
| 9031 | 10 | 4000 | 4.14 |
| 9032 | 25 | 2530 | 4.14 |
| 9033 | 50 | 1788 | 4.14 |
| 9034 | 100 | 1266 | 4.14 |
| 9035 | 250 | 800 | 4.14 |
| 9036 | 500 | 566 | 4.14 |
| 9037 | 1000 | 400 | 4.14 |
| 9038 | 1500 | 335 | 4.19 |
| 9039 | 2500 | 253 | 4.19 |
| 9040 | 5000 | 179 | 4.19 |
| 9041 | 10000 | 126 | 4.44 |
| 9042 | 15000 | 105 | 4.69 |
| 9043 | 20000 | 89 | 4.69 |
| 9044 | 25000 | 80 | 4.81 |
| 9045 | 30000 | 73 | 4.81 |
| 9046 | 40000 | 63 | 4.81 |
| 9047 | 50000 | 56 | 4.94 |
| 9048 | 75000 | 46 | 5.17 |
| 9049 | 100000 | 40 | 5.44 |

**200 WATT SIZE — Type K-200**
10½" Long x 1⅛" O.D.
Mount. Centers 11⅜"

| Stock No. | Ohms | Max. Milli-Amps. | List Price |
|---|---|---|---|
| 9060 | 5 | 6310 | $5.67 |
| 9061 | 10 | 4470 | 4.37 |
| 9062 | 25 | 2830 | 4.37 |
| 9063 | 50 | 2000 | 4.37 |
| 9064 | 100 | 1414 | 4.37 |
| 9065 | 250 | 890 | 4.37 |
| 9066 | 500 | 632 | 4.37 |
| 9067 | 1000 | 445 | 4.37 |
| 9068 | 2500 | 280 | 4.45 |
| 9069 | 5000 | 200 | 4.45 |
| 9070 | 10000 | 140 | 4.70 |
| 9071 | 15000 | 115 | 4.92 |
| 9072 | 20000 | 100 | 4.92 |
| 9073 | 25000 | 90 | 5.03 |
| 9074 | 30000 | 81 | 5.03 |
| 9075 | 40000 | 70 | 5.03 |
| 9076 | 50000 | 63 | 5.17 |
| 9077 | 75000 | 51 | 5.42 |
| 9078 | 100000 | 44 | 5.67 |

### ADJUSTABLE CONTACT BANDS

| SCREW TYPE | Diameter of Resistor | Stock No. | List Prices |
|---|---|---|---|
| BAKELITE TYPE KNOB | ⅝" | 1791-6 | $ .25 |
| | 1⅛" | 1793-4 | .42 |
| | ⅝" | 1791-6-X | .36 |
| | 1⅛" | 1793-4-X | .47 |

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World Radio History

# HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

## BLUE RIBBON RESISTORS

Blue Ribbon resistors differ from tubular resistors in that they are wound on an elliptical core. An aluminum bar through the center insures more even distribution of heat, avoiding hot spots.

Our gray enamel eliminates crazing which results in failure of the resistive element due to moisture penetration from humidity, salt and other severe atmospheric conditions.

Mounting studs—corrosion and rust resistant—peened to the ends of the thru-bar conduct heat to the mounting surface. You can stack two or more units. Our method of fastening the tube to the thru-bar prevents loosening.

In comparison with tubular units of equivalent wattage rating these resistors offer outstanding advantages: • Higher wattage rating per unit space requirement. • Reduction in space requirement. • Simple sturdy mounting, single or stacked. • Light weight. • Lower inductance.

Designed for and manufactured in accordance with JAN-R-26A specifications.

### TABLE OF RATINGS

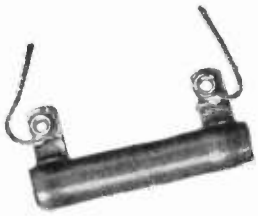
| TYPE 1¼" B 30 Watt Rating* Mounting Centers 2" | | | | TYPE 2" B 40 Watt Rating* Mounting Centers 2¾" | | | | TYPE 3½" B 55 Watt Rating* Mounting Centers 4¼" | | | | TYPE 6" B 75 Watt Rating* Mounting Centers 6¾" | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price |
| B101 | 5 | 2450 | $1.92 | B201 | 5 | 2830 | $2.01 | B301 | 5 | 3320 | $2.32 | B601 | 5 | 3880 | $2.88 |
| B102 | 10 | 1730 | 1.92 | B202 | 10 | 2000 | 2.01 | B302 | 10 | 2350 | 2.32 | B602 | 10 | 2750 | 2.88 |
| B103 | 15 | 1410 | 1.92 | B203 | 15 | 1640 | 2.01 | B303 | 15 | 1920 | 2.32 | B603 | 15 | 2240 | 2.88 |
| B104 | 25 | 1090 | 1.92 | B204 | 25 | 1260 | 2.01 | B304 | 25 | 1480 | 2.32 | B604 | 25 | 1730 | 2.88 |
| B105 | 50 | 770 | 1.92 | B205 | 50 | 890 | 2.01 | B305 | 50 | 1050 | 2.32 | B605 | 50 | 1220 | 2.88 |
| B106 | 100 | 550 | 1.92 | B206 | 100 | 630 | 2.01 | B306 | 100 | 740 | 2.32 | B606 | 100 | 860 | 2.88 |
| B107 | 150 | 440 | 1.92 | B207 | 150 | 510 | 2.01 | B307 | 150 | 600 | 2.32 | B607 | 150 | 710 | 2.88 |
| B108 | 250 | 340 | 1.92 | B208 | 250 | 400 | 2.01 | B308 | 250 | 470 | 2.32 | B608 | 250 | 550 | 2.88 |
| B109 | 500 | 245 | 1.92 | B209 | 500 | 283 | 2.01 | B309 | 500 | 332 | 2.32 | B609 | 500 | 388 | 2.88 |
| B110 | 1000 | 173 | 1.92 | B210 | 1000 | 200 | 2.01 | B310 | 1000 | 235 | 2.32 | B610 | 1000 | 275 | 2.88 |
| B111 | 1500 | 141 | 1.92 | B211 | 1500 | 164 | 2.01 | B311 | 1500 | 192 | 2.32 | B611 | 1500 | 224 | 2.88 |
| B112 | 2500 | 109 | 1.92 | B212 | 2500 | 126 | 2.01 | B312 | 2500 | 148 | 2.32 | B612 | 2500 | 173 | 2.88 |
| B113 | 5000 | 77 | 2.06 | B213 | 5000 | 89 | 2.15 | B313 | 5000 | 105 | 2.45 | B613 | 5000 | 122 | 3.02 |
| B114 | 10000 | 55 | 2.10 | B214 | 10000 | 63 | 2.42 | B314 | 10000 | 74 | 2.72 | B614 | 10000 | 86 | 3.26 |
| | | | | B215 | 15000 | 51 | 2.52 | B315 | 15000 | 60 | 2.83 | B615 | 15000 | 71 | 3.38 |
| | | | | | | | | B316 | 25000 | 47 | 3.10 | B616 | 25000 | 55 | 3.67 |
| | | | | | | | | | | | | B617 | 50000 | 39 | 4.12 |

*This rating based on a maximum temperature rise of 300 degrees C. with the Resistor mounted horizontally on a 10" x 10" x .040" steel plate supported horizontally ½" above a wooden surface.

When Resistors are mounted on a non-metallic base the nominal watt rating should be reduced by approximately 15%.

## 10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS

Designed for radio service and replacement use—conservatively rated—wound upon Steatite Tube—combination lug and pigtail terminal connections. Vitreous



enamel insulation, insures proof against moisture. 10 watt and 20 watt sizes, in the range of resistance values shown.

### TABLE OF RATINGS

| 10 WATT 1¾" Long x 5/16" O.D. | | | | | | | | 20 WATT 2" Long x ½" O.D. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price | Stock No. | Ohms | Max. Milli-Amps. | List Price |
| A101 | 1 | 3160 | $ .75 | A116 | 750 | 115 | $ .75 | A201 | 5 | 2000 | $ .95 | A216 | 2000 | 100 | $ .97 |
| A102 | 3 | 1825 | .75 | A117 | 1000 | 100 | .75 | A202 | 10 | 1415 | .95 | A217 | 2500 | 89 | .97 |
| A103 | 5 | 1415 | .75 | A118 | 1250 | 89 | .80 | A203 | 25 | 895 | .95 | A218 | 3000 | 81 | .97 |
| A104 | 7.5 | 1150 | .75 | A119 | 1500 | 81 | .80 | A204 | 50 | 633 | .95 | A219 | 4000 | 71 | .97 |
| A105 | 10 | 1000 | .75 | A120 | 2000 | 70 | .80 | A205 | 75 | 517 | .95 | A220 | 5000 | 63 | .97 |
| A106 | 15 | 815 | .75 | A121 | 2500 | 63 | .80 | A206 | 100 | 447 | .95 | A221 | 6000 | 57 | 1.12 |
| A107 | 25 | 630 | .75 | A122 | 3000 | 58 | .80 | A207 | 150 | 375 | .95 | A222 | 7500 | 51 | 1.12 |
| A108 | 50 | 450 | .75 | A123 | 4000 | 50 | .80 | A208 | 200 | 316 | .95 | A223 | 10000 | 44 | 1.12 |
| A109 | 75 | 365 | .75 | A124 | 5000 | 45 | .80 | A209 | 250 | 282 | .95 | A224 | 12500 | 40 | 1.20 |
| A110 | 100 | 315 | .75 | A125 | 7500 | 36 | .92 | A210 | 400 | 224 | .95 | A225 | 15000 | 37 | 1.20 |
| A111 | 150 | 260 | .75 | A126 | 10000 | 31 | .92 | A211 | 500 | 200 | .95 | A226 | 25000 | 15 | 1.37 |
| A112 | 200 | 225 | .75 | A127 | 12500 | 16 | 1.03 | A212 | 750 | 163 | .95 | A227 | 35000 | 13 | 1.37 |
| A113 | 250 | 200 | .75 | A128 | 15000 | 14 | 1.03 | A213 | 1000 | 141 | .95 | A228 | 40000 | 12 | 1.37 |
| A114 | 400 | 158 | .75 | A129 | 20000 | 12 | 1.03 | A214 | 1250 | 126 | .97 | A229 | 50000 | 11 | 1.58 |
| A115 | 500 | 142 | .75 | A130 | 25000 | 11 | 1.08 | A215 | 1500 | 115 | .97 | | | | |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

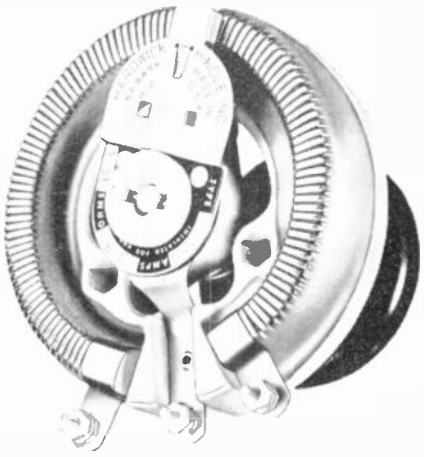
# HARDWICK-HINDLE INC.

NEWARK • NEW JERSEY

### TYPE H-225
### 225 WATT RHEOSTAT

| Stock No. | Ohms | Max. Amps.* | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0530 | 1 | 15.00 | 55 | |
| 0531 | 1.5 | 12.30 | 55 | |
| 0532 | 2 | 10.60 | 55 | |
| 0533 | 2.5 | 9.50 | 55 | |
| 0534 | 3 | 8.66 | 55 | |
| 0535 | 4 | 7.50 | 55 | |
| 0536 | 5 | 6.71 | 55 | |
| 0537 | 7.5 | 5.49 | 115 | |
| 0538 | 10 | 4.74 | 115 | |
| 0539 | 15 | 3.87 | 115 | |
| 0540 | 25 | 3.00 | 115 | |
| 0541 | 50 | 2.12 | 256 | |
| 0542 | 75 | 1.73 | 306 | |
| 0543 | 100 | 1.50 | 315 | |
| 0544 | 150 | 1.22 | 385 | $21.40 |
| 0545 | 200 | 1.06 | 357 | |
| 0546 | 250 | .950 | 350 | |
| 0547 | 300 | .866 | 335 | |
| 0548 | 400 | .750 | 448 | |
| 0549 | 500 | .671 | 450 | |
| 0550 | 700 | .567 | 495 | |
| 0551 | 750 | .549 | 533 | |
| 0552 | 900 | .500 | 500 | |
| 0553 | 1,000 | .474 | 555 | |
| 0554 | 1,200 | .433 | 526 | |
| 0555 | 1,500 | .387 | 630 | |
| 0556 | 1,750 | .358 | 620 | |
| 0557 | 2,500 | .300 | 670 | |

Through all or any part of winding.



a. **High temperature enamel**—bonds the wire to core and the core to base to afford greater safety factor where overloaded conditions are demanded.

b. **Bus-bar construction** gives minimum resistance and ample safety under maximum current requirements. Made of alloy materials to fit wire size and current requirements of various resistance values and also to give minimum wear on wire.

c. **Constant pressure contact arm**—This patented feature is made of high carbon spring steel to insure uniform pressure of contact brush on both collector ring and winding surface and to eliminate troublesome contact resistance.

d. **Tripod Mounting Frame**—Alloy casting designed to give greater safety factor under shock and vibration.

### TYPE H-300
### 300 WATT RHEOSTAT

| Stock No. | Ohms | Max. Amps.* | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0601 | 1 | 17.25 | 49 | |
| 0602 | 1.5 | 14.15 | 47 | |
| 0603 | 2 | 12.24 | 49 | |
| 0604 | 2.5 | 10.95 | 70 | |
| 0605 | 3 | 10.00 | 73 | |
| 0606 | 4 | 8.66 | 70 | |
| 0607 | 5 | 7.75 | 66 | |
| 0608 | 7.5 | 6.32 | 71 | |
| 0609 | 10 | 5.48 | 136 | |
| 0610 | 15 | 4.47 | 144 | |
| 0611 | 25 | 3.46 | 145 | |
| 0612 | 50 | 2.45 | 245 | |
| 0613 | 75 | 2.00 | 260 | |
| 0614 | 100 | 1.73 | 327 | $23.20 |
| 0615 | 150 | 1.41 | 394 | |
| 0616 | 200 | 1.22 | 420 | |
| 0617 | 250 | 1.09 | 525 | |
| 0618 | 300 | 1.00 | 420 | |
| 0619 | 400 | .866 | 440 | |
| 0620 | 500 | .775 | 440 | |
| 0621 | 700 | .655 | 502 | |
| 0622 | 750 | .633 | 540 | |
| 0623 | 900 | .578 | 521 | |
| 0624 | 1,000 | .548 | 580 | |
| 0625 | 1,200 | .500 | 690 | |
| 0626 | 1,500 | .449 | 680 | |
| 0627 | 1,750 | .414 | 790 | |
| 0628 | 2,500 | .346 | 862 | |

* Through all or any part of winding.

### TYPE H-500
### 500 WATT RHEOSTAT

| Stock No | Ohms | Max Amps.* | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0701 | 1 | 22.3 | 70 | |
| 0702 | 1.5 | 18.2 | 64 | |
| 0703 | 2 | 15.8 | 68 | |
| 0704 | 2.5 | 14.1 | 67 | |
| 0705 | 3 | 12.9 | 65 | |
| 0706 | 4 | 11.2 | 96 | |
| 0707 | 5 | 10.0 | 96 | |
| 0708 | 7.5 | 8.17 | 98 | |
| 0709 | 8 | 7.90 | 97 | |
| 0710 | 10 | 7.07 | 105 | |
| 0711 | 12.5 | 6.30 | 103 | |
| 0712 | 15 | 5.77 | 202 | |
| 0713 | 16 | 5.60 | 192 | |
| 0714 | 25 | 4.47 | 195 | |
| 0715 | 40 | 3.54 | 205 | $33.50 |
| 0716 | 50 | 3.16 | 200 | |
| 0717 | 75 | 2.58 | 395 | |
| 0718 | 80 | 2.52 | 382 | |
| 0719 | 100 | 2.23 | 450 | |
| 0720 | 125 | 2.00 | 505 | |
| 0721 | 150 | 1.82 | 544 | |
| 0722 | 175 | 1.69 | 500 | |
| 0723 | 250 | 1.41 | 570 | |
| 0724 | 325 | 1.24 | 515 | |
| 0725 | 500 | 1.00 | 620 | |
| 0726 | 750 | .817 | 740 | |
| 0727 | 1,000 | .707 | 780 | |
| 0728 | 1,500 | .577 | 940 | |
| 0729 | 2,000 | .500 | 986 | |
| 0730 | 2,500 | .447 | 940 | |

* Through all or any part of winding.

### TYPE H-750
### 750 WATT RHEOSTAT

| Stock No. | Ohms | Max. Amps.* | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0801 | 1 | 27.4 | 85 | |
| 0802 | 1.5 | 22.3 | 85 | |
| 0803 | 2 | 19.4 | 81 | |
| 0804 | 2.5 | 17.3 | 87 | |
| 0805 | 3 | 15.8 | 83 | |
| 0806 | 4 | 13.6 | 87 | |
| 0807 | 5 | 12.2 | 122 | |
| 0808 | 7.5 | 10.0 | 129 | |
| 0809 | 8 | 9.65 | 122 | |
| 0810 | 10 | 8.65 | 121 | |
| 0811 | 12.5 | 7.75 | 120 | |
| 0812 | 15 | 7.07 | 127 | |
| 0813 | 16 | 6.82 | 120 | |
| 0814 | 25 | 5.47 | 240 | |
| 0815 | 50 | 3.87 | 238 | |
| 0816 | 75 | 3.19 | 250 | $47.30 |
| 0817 | 80 | 3.06 | 266 | |
| 0818 | 100 | 2.74 | 265 | |
| 0818 | 150 | 2.23 | 500 | |
| 0820 | 160 | 2.17 | 485 | |
| 0821 | 200 | 1.94 | 472 | |
| 0822 | 250 | 1.73 | 470 | |
| 0823 | 300 | 1.58 | 500 | |
| 0824 | 400 | 1.37 | 472 | |
| 0825 | 500 | 1.22 | 565 | |
| 0826 | 600 | 1.12 | 677 | |
| 0827 | 750 | 1.00 | 670 | |
| 0828 | 1,000 | .865 | 715 | |
| 0829 | 1,200 | .791 | 860 | |
| 0830 | 1,500 | .707 | 840 | |
| 0831 | 1,800 | .646 | 1,020 | |
| 0832 | 2,500 | .547 | 1,085 | |

* Through all or any part of winding.

### TYPE H-1000
### 1000 WATT RHEOSTAT

| Stock No. | Ohms | Max. Amps.* | Approx. No. Steps | List Price |
|---|---|---|---|---|
| 0901 | 1 | 31.60 | 81 | |
| 0902 | 1.5 | 25.80 | 84 | |
| 0903 | 2 | 22.40 | 109 | |
| 0904 | 2.5 | 20.00 | 105 | |
| 0905 | 3 | 18.30 | 113 | |
| 0906 | 4 | 15.80 | 106 | |
| 0907 | 5 | 14.10 | 105 | |
| 0908 | 7.5 | 11.50 | 158 | |
| 0909 | 8 | 11.20 | 168 | |
| 0910 | 10 | 10.00 | 166 | |
| 0911 | 12.5 | 8.95 | 165 | |
| 0912 | 15 | 8.16 | 156 | |
| 0913 | 16 | 7.90 | 166 | |
| 0914 | 25 | 6.33 | 160 | $55.25 |
| 0915 | 50 | 4.47 | 331 | |
| 0916 | 75 | 3.65 | 303 | |
| 0917 | 100 | 3.16 | 320 | |
| 0918 | 150 | 2.58 | 306 | |
| 0919 | 175 | 2.39 | 645 | |
| 0920 | 225 | 2.11 | 585 | |
| 0921 | 250 | 2.00 | 640 | |
| 0922 | 300 | 1.83 | 605 | |
| 0923 | 400 | 1.58 | 640 | |
| 0924 | 500 | 1.41 | 635 | |
| 0925 | 750 | 1.15 | 820 | |
| 0926 | 1,000 | 1.00 | 862 | |
| 0927 | 1,500 | .816 | 1,030 | |
| 0928 | 2,500 | .633 | 1,300 | |

* Through all or any part of winding.

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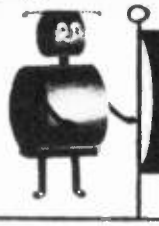
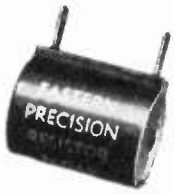
World Radio History

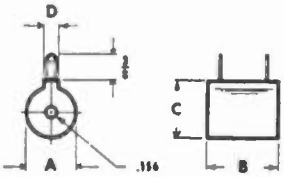


# EASTERN PRECISION RESISTOR CORP.

EPR

## "N-CAP" Series — ENCAPSULATED LUG TYPE



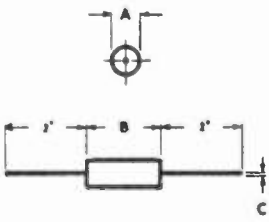




| EPR STYLE | A | B | C* | D | MIL EQUIV. | MIL WATT | COMM WATT | MIL MAX RES. | MAX COMM RES. |
|---|---|---|---|---|---|---|---|---|---|
| N-109E | 1/2" | 1/2" | | | RB-09 | .125 | .25 | 250K | 1.5M |
| * N-109 | 9/16" | 1/2" | 11/16" | 3/16" | | | .25 | | 2.5M |
| N-110E | 5/8" | 1/2" | | | RB-15 | .25 | .5 | 400K | 3M |
| N-110 | 5/8" | 1/2" | 3/4" | 3/16" | | | .5 | | 3M |
| N-111E | 9/16" | 19/32" | | | RB-16 | .33 | .66 | 750K | 4M |
| N-111 | 3/4" | 11/16" | 7/8" | 3/16" | | | .66 | | 5M |
| N-112E | 5/8" | 1" | | | RB-17 | .5 | 1 | 1 MEG | 5M |
| N-112A | 13/16" | 1" | 27/32" | 5/16" | | | 1 | | 8M |
| N-113E | 11/16" | 1-1/4" | | | RB-18 | .75 | 1.5 | 3 MEG | 10M |
| N-113 | 7/8" | 1-1/4" | 1" | 3/16" | | | 1.5 | | 10M |
| N-114E | 7/8" | 2-1/8" | | | RB-19 | 1.0 | 2 | 6 MEG | 15M |
| N-114 | 1-1/16" | 2-1/8" | 1-3/16" | 1/4" | | | 2 | | 20M |

"N-CAPS" are manufactured to surpass the requirements of MIL-R-93 characteristic "A". Wound on plastic bobbins and totally encapsulated in the same material these resistors represent the optimum in precision wire wound resistors.

* Clearance for a #2 screw

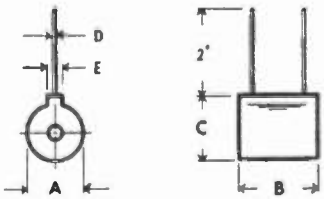
## "NS" Series — ENCAPSULATED AXIAL LEAD TYPE




| EPR STYLE | A | B | C (AWG) | MIL WATT | COMM WATT | MIL EQUIV. | MIL MAX RES. | MAX COMM RES. |
|---|---|---|---|---|---|---|---|---|
| NS-6AV | .150" | 3/8" | #24 | | .2 | | | 150K |
| NS-6AV-SP | 3/16" | 1/2" | #24 a | | .25 | | | 400K |
| NS-6AWE | 1/4" | 5/16" | #22 | .125 | .25 | RB-56 | 125K | 400K |
| NS-6AWM | 1/4" | 1/2" | #20 | .15 | .3 | RB-55 | 225K | 500K |
| NS-6AWG | 1/4" | 5/8" | #22 | | .4 | | | 650K |
| NS-6AH | 7/16" | 1/2" | #20 | | .4 | | | 1.4 MEG |
| NS-6AW | 1/4" | 3/4" | #20 | .25 | .5 | RB-54 | 330K | 800K |
| NS-6AF | 3/8" | 3/4" | #20 | .33 | .6 | RB-53 | 750K | 2.0 MEG |
| NS-6A | 3/8" | 1" | #20 | .4 | .8 | RB-52 | 1 MEG | 3 MEG |
| NS-6B | 1/2" | 1" | #20 | | 1 | | | 5 MEG |
| NS-6C | 1/2" | 1-3/4" | #20 | | 1.75 | | | 8 MEG |
| NS-6D | 1/2" | 2" | #20 | | 2 | | | 10 MEG |
| NSH-2A | 1/2" | 1/2" | #20 | | .5 | | | 1.5 M |
| NSH-2B | 1/2" | 5/8" | #20 | | .6 | | | 1.7 M |
| NSH-2D | 1/2" | 1-1/2" | #20 | | 1.5 | | | 7 MEG |

Wound on plastic bobbins and encapsulated to meet the requirements of characteristic "A" of MIL-R-93 specification. Suitable where point to point wiring is indicated "NS" series resistors are adaptable to automation assembly.

## "NM" Series — ENCAPSULATED RADIAL LEAD TYPE




| EPR STYLE | MAX RES. | WATT | A | B | C | D (AWG) | E |
|---|---|---|---|---|---|---|---|
| NM-2 | 130 K | .125 | 1/4" | 1/4" | 11/32" | #24 | 3/32" |
| NM-3 | 360 K | .17 | 1/4" | 7/16" | 5/16" | #22 | 3/32" |
| NM-4 | 1 meg | .25 | 1/4" | 3/4" | 5/16" | #22 | 3/32" |
| NM-5 | 1.5 meg | .33 | 1/4" | 1" | 5/16" | #22 | 3/32" |
| NM-6 | 720 K | .25 | 5/16" | 7/16" | 3/8" | #22 | 1/8" |
| NM-7 | 1.8 meg | .33 | 5/16" | 3/4" | 3/8" | #22 | 1/8" |
| NM-10 | 480 K | .25 | 3/8" | 5/16" | 19/32" | #22 | 5/32" |
| NM-12 | 1.9 meg | .5 | 3/8" | 5/8" | 1/2" | #22 | 1/8" |

"NM" series resistors are encapsulated to the requirements of MIL-R-93 characteristic "A". Sub-miniature in size these resistors are designed to meet the specifications of critical applications wherein space and stability is a prime factor.



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World Radio History

# ENCAPSULATED PRECISION WIRE WOUND RESISTORS

EPR

## PRICE LIST

### EPR STYLES

N-109, N-110, N-111, N-112A
ALL "NS"-AXIAL LEAD STYLES
ALL "NM"-RADIAL LEAD STYLES

| RESISTANCE VALUES | LIST PRICE |
|---|---|
| 25 Ohms | 3.25 |
| 100 Ohms | 2.10 |
| 5,000 Ohms | 2.10 |
| 10,000 Ohms | 2.15 |
| 15,000 Ohms | 2.20 |
| 30,000 Ohms | 2.45 |
| 50,000 Ohms | 2.50 |
| 75,000 Ohms | 3.00 |
| 100,000 Ohms | 3.30 |
| 125,000 Ohms | 3.80 |
| 150,000 Ohms | 4.20 |
| 200,000 Ohms | 4.65 |
| 250,000 Ohms | 5.15 |
| 300,000 Ohms | 5.40 |
| 400,000 Ohms | 6.00 |
| 500,000 Ohms | 6.75 |
| 600,000 Ohms | 7.35 |
| 700,000 Ohms | 8.05 |
| 750,000 Ohms | 8.50 |
| 900,000 Ohms | 9.10 |
| 1 Meg | 9.55 |
| 1.5 Meg | 12.40 |
| 2 Meg | 15.20 |

### EPR STYLES

N-113

| RESISTANCE VALUES | LIST PRICE |
|---|---|
| 25 Ohms | 4.10 |
| 100 Ohms | 2.60 |
| 5,000 Ohms | 2.60 |
| 10,000 Ohms | 2.75 |
| 15,000 Ohms | 2.95 |
| 30,000 Ohms | 3.10 |
| 50,000 Ohms | 3.30 |
| 75,000 Ohms | 3.60 |
| 100,000 Ohms | 4.15 |
| 125,000 Ohms | 4.50 |
| 150,000 Ohms | 5.00 |
| 200,000 Ohms | 5.55 |
| 250,000 Ohms | 6.25 |
| 300,000 Ohms | 6.85 |
| 400,000 Ohms | 7.50 |
| 500,000 Ohms | 8.30 |
| 600,000 Ohms | 9.00 |
| 700,000 Ohms | 9.65 |
| 750,000 Ohms | 10.15 |
| 900,000 Ohms | 10.70 |
| 1 Meg | 11.25 |
| 1.5 Meg | 13.25 |
| 2 Meg | 16.95 |

### EPR STYLES

N-114

| RESISTANCE VALUES | LIST PRICE |
|---|---|
| 25 Ohms | 5.25 |
| 100 Ohms | 3.55 |
| 5,000 Ohms | 3.55 |
| 10,000 Ohms | 3.55 |
| 15,000 Ohms | 3.60 |
| 30,000 Ohms | 3.90 |
| 50,000 Ohms | 4.25 |
| 75,000 Ohms | 4.80 |
| 100,000 Ohms | 5.05 |
| 125,000 Ohms | 5.50 |
| 150,000 Ohms | 6.00 |
| 200,000 Ohms | 6.50 |
| 250,000 Ohms | 6.90 |
| 300,000 Ohms | 7.00 |
| 400,000 Ohms | 8.00 |
| 500,000 Ohms | 8.85 |
| 600,000 Ohms | 9.50 |
| 700,000 Ohms | 9.95 |
| 750,000 Ohms | 10.25 |
| 900,000 Ohms | 11.00 |
| 1 Meg | 12.10 |
| 1.5 Meg | 16.65 |
| 2 Meg | 20.75 |

| STANDARD TOLERANCE | SPECIAL TOLERANCE | PRICING |
|---|---|---|
| ± 1% | ± .5% | Add 5% to Listed Prices |
| | ± .25% | Add 10% to Listed Prices |
| | ± .10% | Add 25% to Listed Prices |
| | ± .05% | Add 50% to Listed Prices |
| | ± .01% | Add 300% to Listed Prices |

FOR PRICE OF VALUES NOT LISTED, USE NEXT HIGHER LISTED VALUE.

EASTERN PRECISION RESISTOR CORP Brooklyn • New York

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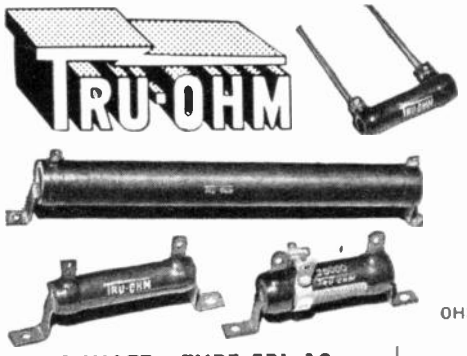
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History



# VITREOUS ENAMELED RESISTORS

● FIXED ● ADJUSTABLE ● TRU-RIB

Our new, modern plant occupies 80,000 square feet devoted to producing the finest power rheostats and wire wound resistors available. If you need a rheostat or resistor, whether it be right from stock or to your specifications, we assure you of courteous service, prompt delivery and quality merchandise.

## 10 WATT—TYPE FRL-10

FIXED

| OHMS | MILLIAMPS | VOLTS |
|---|---|---|
| 1 | 3160 | 3.1 |
| 1.5 | 2580 | 3.8 |
| 2 | 2230 | 4.4 |
| 3 | 1820 | 5.4 |
| 4 | 1580 | 6.3 |
| 5 | 1410 | 7.0 |
| 7.5 | 1150 | 8.6 |
| 10 | 1000 | 10 |
| 12 | 914 | 11 |
| 15 | 816 | 12 |
| 20 | 707 | 14 |
| 25 | 631 | 16 |
| 30 | 577 | 17 |
| 35 | 535 | 19 |
| 40 | 500 | 20 |
| 50 | 447 | 22 |
| 75 | 365 | 27 |
| 100 | 316 | 31 |
| 125 | 283 | 35 |
| 150 | 254 | 38 |
| 200 | 223 | 44 |
| 225 | 211 | 47 |
| 250 | 200 | 50 |
| 300 | 182 | 54 |
| 350 | 169 | 59 |
| 400 | 158 | 63 |
| 450 | 149 | 67 |
| 500 | 141 | 70 |
| 600 | 129 | 77 |
| 700 | 120 | 84 |
| 750 | 115 | 86 |
| 800 | 112 | 89 |
| 900 | 105 | 94 |
| 1000 | 100 | 100 |
| 1100 | 95 | 104 |
| 1200 | 91 | 109 |
| 1250 | 89 | 111 |
| 1500 | 82 | 123 |
| 1750 | 76 | 133 |
| 2000 | 71 | 142 |
| 2250 | 67 | 151 |
| 2500 | 63 | 158 |
| 3000 | 57 | 171 |
| 3500 | 53 | 185 |
| 4000 | 50 | 200 |
| 4500 | 47 | 212 |
| 5000 | 45 | 225 |
| 6000 | 41 | 246 |
| 7000 | 38 | 266 |
| 7500 | 36 | 270 |
| 8000 | 35 | 280 |
| 8500 | 34 | 289 |
| 9000 | 33 | 297 |
| 10,000 | 30 | 300 |
| 11,000 | 27 | 300 |
| 12,000 | 25 | 300 |
| 12,500 | 24 | 300 |
| 13,500 | 22 | 300 |
| 14,300 | 21 | 300 |
| 15,000 | 20 | 300 |
| 16,000 | 19 | 300 |
| 17,500 | 17 | 300 |
| 18,000 | 16 | 300 |

## 25 WATT—TYPE FR-25

FIXED

| OHMS | 100% RATING VOLTS | 100% RATING AMPS | 50% RATING AMPS |
|---|---|---|---|
| 1 | 5.0 | 5.000 | 3.535 |
| 2 | 7.0 | 3.535 | 2.500 |
| 3 | 8.6 | 2.885 | 2.040 |
| 4 | 10 | 2.500 | 1.770 |
| 5 | 11 | 2.236 | 1.580 |
| 10 | 15 | 1.580 | 1.118 |
| 15 | 19 | 1.291 | .914 |
| 25 | 25 | 1.000 | .707 |
| 50 | 35 | .707 | .500 |
| 75 | 43 | .577 | .408 |
| 100 | 50 | .500 | .353 |
| 150 | 61 | .408 | .289 |
| 200 | 70 | .353 | .250 |
| 250 | 79 | .316 | .223 |
| 300 | 86 | .289 | .204 |
| 400 | 100 | .250 | .177 |
| 500 | 111 | .223 | .158 |
| 750 | 136 | .182 | .129 |
| 800 | 141 | .177 | .125 |
| 850 | 145 | .171 | .121 |
| 1000 | 158 | .158 | .111 |
| 1250 | 176 | .141 | .100 |
| 1500 | 193 | .129 | .091 |
| 2000 | 222 | .111 | .079 |
| 2500 | 250 | .100 | .070 |
| 3000 | 273 | .091 | .064 |
| 3500 | 294 | .084 | .058 |
| 4000 | 316 | .079 | .056 |
| 5000 | 350 | .070 | .050 |
| 6000 | 384 | .064 | .045 |
| 7500 | 427 | .057 | .040 |
| 10,000 | 500 | .050 | .035 |
| 12,000 | 505 | .042 | .029 |
| 15,000 | 510 | .034 | .024 |
| 20,000 | 520 | .026 | .018 |
| 25,000 | 530 | .022 | .014 |
| 30,000 | 540 | .018 | .012 |
| 35,000 | 550 | .016 | .010 |
| 40,000 | 560 | .014 | .009 |
| 50,000 | 585 | .012 | .008 |
| 60,000 | 610 | .010 | .007 |
| 70,000 | 630 | .009 | .006 |
| 75,000 | 635 | .008 | .005 |
| 80,000 | 640 | .008 | .005 |
| 100,000 | 700 | .007 | .005 |

Free air rating to 10,000 Ohms at 25 Watts

## 10 WATT—TYPE AR-10

ADJUSTABLE

| OHMS | 100% RATING VOLTS | 100% RATING AMPS | 50% RATING AMPS |
|---|---|---|---|
| 1 | 3.1 | 3.160 | 2.230 |
| 2 | 4.4 | 2.230 | 1.580 |
| 3 | 5.4 | 1.820 | 1.290 |
| 5 | 7.0 | 1.410 | 1.000 |
| 7.5 | 8.6 | 1.150 | .816 |
| 10 | 10 | 1.000 | .707 |
| 15 | 12 | .816 | .576 |
| 20 | 14 | .707 | .500 |
| 25 | 16 | .631 | .447 |
| 50 | 22 | .447 | .316 |
| 75 | 27 | .365 | .258 |
| 100 | 31 | .316 | .223 |
| 150 | 38 | .254 | .182 |
| 200 | 44 | .223 | .158 |
| 250 | 50 | .200 | .141 |
| 300 | 54 | .182 | .129 |
| 350 | 59 | .169 | .119 |

## 10 WATT *(Continued)*

| | | | |
|---|---|---|---|
| 400 | 63 | .158 | .112 |
| 500 | 70 | .141 | .100 |
| 600 | 77 | .129 | .091 |
| 750 | 86 | .115 | .081 |
| 800 | 89 | .112 | .079 |
| 1000 | 100 | .100 | .071 |
| 1250 | 111 | .089 | .063 |
| 1500 | 123 | .082 | .058 |
| 2000 | 142 | .071 | .050 |
| 2250 | 151 | .067 | .047 |
| 2500 | 158 | .063 | .045 |
| 3000 | 171 | .057 | .041 |
| 3500 | 185 | .053 | .038 |
| 4000 | 200 | .050 | .035 |
| 4500 | 212 | .047 | .033 |
| 5000 | 225 | .045 | .032 |
| 6000 | 246 | .041 | .029 |
| 7000 | 226 | .038 | .027 |
| 7500 | 270 | .036 | .026 |
| 8000 | 280 | .035 | .025 |
| 8500 | 289 | .034 | .024 |
| 9000 | 297 | .033 | .023 |
| 10,000 | 300 | .030 | .022 |

## 25 WATT—TYPE AR-25

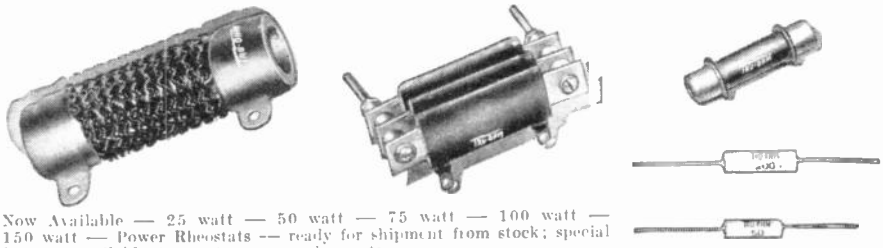
ADJUSTABLE

| OHMS | 100% RATING VOLTS | 100% RATING AMPS | 50% RATING AMPS |
|---|---|---|---|
| 1 | 5.0 | 5.000 | 3.535 |
| 2 | 7.0 | 3.535 | 2.500 |
| 3 | 8.6 | 2.885 | 2.040 |
| 5 | 11 | 2.236 | 1.580 |
| 7.5 | 13 | 1.825 | 1.290 |
| 10 | 15 | 1.580 | 1.118 |
| 15 | 19 | 1.291 | .914 |
| 20 | 22 | 1.117 | .790 |
| 25 | 25 | 1.000 | .707 |
| 50 | 35 | .707 | .500 |
| 75 | 43 | .577 | .408 |
| 100 | 50 | .500 | .353 |
| 150 | 61 | .408 | .289 |
| 200 | 70 | .353 | .250 |
| 250 | 79 | .316 | .223 |
| 300 | 86 | .289 | .204 |
| 400 | 100 | .250 | .177 |
| 500 | 111 | .223 | .158 |
| 750 | 136 | .182 | .129 |
| 800 | 141 | .177 | .125 |
| 850 | 145 | .171 | .121 |
| 1000 | 158 | .158 | .111 |
| 1250 | 176 | .141 | .100 |
| 1500 | 193 | .129 | .091 |
| 2000 | 222 | .111 | .079 |
| 2250 | 236 | .105 | .074 |
| 2500 | 250 | .100 | .070 |
| 3000 | 273 | .091 | .064 |
| 3500 | 294 | .084 | .058 |
| 4000 | 316 | .079 | .056 |
| 4500 | 332 | .074 | .052 |
| 5000 | 350 | .070 | .050 |
| 6000 | 384 | .064 | .045 |
| 7000 | 420 | .060 | .042 |
| 7200 | 425 | .059 | .041 |
| 7500 | 427 | .057 | .040 |
| 8000 | 440 | .055 | .039 |
| 9000 | 468 | .052 | .037 |
| 10,000 | 500 | .050 | .035 |
| 12,000 | 505 | .042 | .029 |
| 15,000 | 510 | .034 | .024 |
| 20,000 | 520 | .026 | .018 |
| 25,000 | 530 | .022 | .014 |

***You are guaranteed to receive 24 hour delivery as we maintain jobber stock items!***

**TRU-OHM RESISTORS meet MIL-R-26C Specifications!**

## SPECIAL RESISTORS



Now Available — 25 watt — 50 watt — 75 watt — 100 watt — 150 watt — Power Rheostats — ready for shipment from stock; special features available to meet your requirements.

**Mfd. by TRU-OHM PRODUCTS, DIVISION OF MODEL ENG. & MFG. INC. • General Sales Office: Chicago 18, Ill.**



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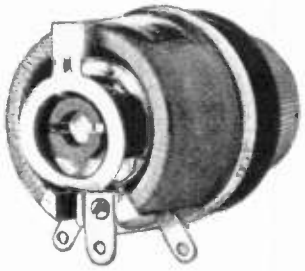
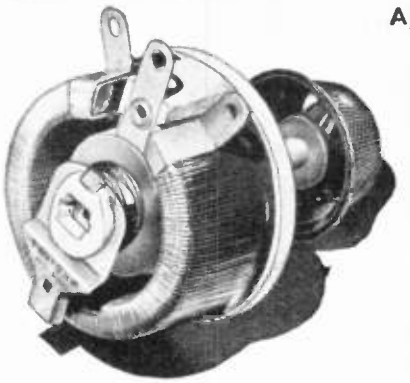
World Radio History

# POWER RHEOSTATS

**Manufactured to meet MIL-R-22 Specifications**

Approved





## TYPE R-25 — 25 WATTS

| Cat. No. | Resistance | Max. Amps. | Approx. Steps |
|---|---|---|---|
| 100 | 1 | 5.000 | 26 |
| 101 | 2 | 3.540 | 28 |
| 102 | 3 | 2.880 | 44 |
| 103 | 6 | 2.040 | 50 |
| 104 | 8 | 1.770 | 54 |
| 105 | 10 | 1.580 | 60 |
| 106 | 15 | 1.290 | 78 |
| 107 | 25 | 1.000 | 80 |
| 108 | 35 | .845 | 100 |
| 109 | 50 | .707 | 105 |
| 110 | 75 | .575 | 120 |
| 111 | 100 | .500 | 140 |
| 112 | 125 | .445 | 145 |
| 113 | 175 | .375 | 153 |
| 114 | 250 | .316 | 170 |
| 115 | 350 | .267 | 180 |
| 116 | 500 | .222 | 215 |
| 117 | 750 | .182 | 230 |
| 118 | 1000 | .155 | 270 |
| 119 | 1500 | .129 | 325 |
| 120 | 2500 | .100 | 410 |
| 121 | 3500 | .084 | 440 |
| 122 | 5000 | .070 | 480 |

## TYPE R-50 — 50 WATTS

| Cat. No. | Resistance | Max. Amps. | Approx. Steps |
|---|---|---|---|
| 200 | 0.5 | 10.000 | 22 |
| 201 | 1 | 7.070 | 36 |
| 202 | 2 | 5.000 | 38 |
| 203 | 4 | 3.540 | 38 |
| 204 | 6 | 2.880 | 75 |
| 205 | 8 | 2.500 | 70 |
| 206 | 12 | 2.040 | 80 |
| 207 | 16 | 1.760 | 90 |
| 208 | 22 | 1.500 | 95 |
| 209 | 35 | 1.190 | 120 |
| 210 | 50 | 1.100 | 120 |
| 211 | 80 | .790 | 135 |
| 212 | 125 | .630 | 185 |
| 213 | 150 | .574 | 175 |
| 214 | 225 | .470 | 215 |
| 215 | 300 | .408 | 225 |
| 216 | 500 | .316 | 295 |
| 217 | 800 | .250 | 360 |
| 218 | 1000 | .223 | 375 |
| 219 | 1600 | .176 | 465 |
| 220 | 2500 | .141 | 560 |
| 221 | 3500 | .119 | 585 |
| 222 | 5000 | .100 | 600 |
| 223 | 8000 | .079 | 710 |
| 224 | 10,000 | .070 | 720 |

### CONSTRUCTION

The TRU-OHM power rheostat will provide smooth variation of resistance under the most severe operating conditions. The all ceramic-metal construction insures dependable service even at extreme operating temperatures. An extra deep core, on which the resistance wire is toroidally wound, means a more conservative power rating.

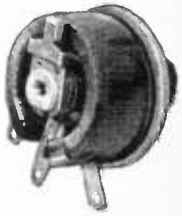
Types R-50, 75, 100 and 150 have an exclusive torsion spring assembly which provides uniform pressure of the contact brush against the winding at all times. Current flows from the brush through a flexible shunt wire to a large size slip ring. Positive, low-wear contact is maintained against the center terminal by an adequate compression spring. Back lash in the rotating assembly is reduced to a minimum by means of the design. A positive stop is provided at the extremes of rotation entirely independent at the contact arm assembly.

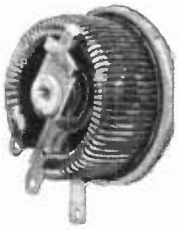
### SPECIAL FEATURES

TRU-OHM rheostats are available with many extras such as off positions, screw driver control, shaft assemblies for special mounting conditions, etc. Prompt engineering service is available for all special requirements. Knobs furnished upon request.

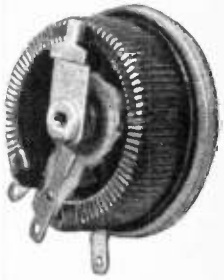
***Also ready for Immediate Shipment***

TYPE R-75 →
75 Watts





← TYPE R-100
100 Watts



TYPE R-150 →
150 Watts

*You are guaranteed to receive 24 hour delivery as we maintain jobber stock items!*

**Mfd. by TRU-OHM PRODUCTS DIVISION OF MODEL ENG. & MFG. INC.**
**General Sales Office: Chicago 18, Ill.**

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World Radio History

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω ®

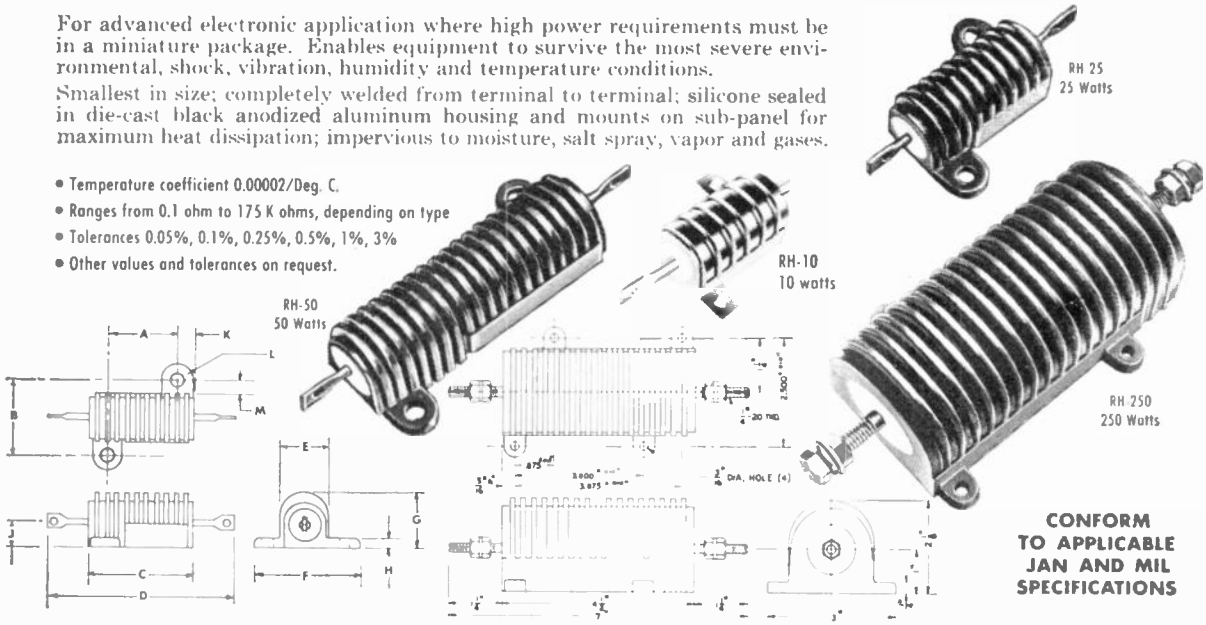
# TYPE RH MINIATURE WIRE WOUND RESISTORS

## every desirable characteristic

For advanced electronic application where high power requirements must be in a miniature package. Enables equipment to survive the most severe environmental, shock, vibration, humidity and temperature conditions.

Smallest in size; completely welded from terminal to terminal; silicone sealed in die-cast black anodized aluminum housing and mounts on sub-panel for maximum heat dissipation; impervious to moisture, salt spray, vapor and gases.

- Temperature coefficient 0.00002/Deg. C.
- Ranges from 0.1 ohm to 175 K ohms, depending on type
- Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%
- Other values and tolerances on request.




**CONFORM TO APPLICABLE JAN AND MIL SPECIFICATIONS**

| TYPE | DIMENSIONS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | M | WEIGHT |
| RH-10 | .562 ± .005 | .625 ± .005 | 3/4 ± 1/32 | 1-3/8 ± 1/16 | 7/16 ± 1/32 | 3/4 ± 1/32 | 13/32 ± 1/32 | 3/32 ± 1/64 | 13/64 ± 1/64 | .093 ± .010 | .093 ± .005 | 3/32 ± 1/64 | 5.5 Grams |
| RH-25 | .719 ± .005 | .781 ± .005 | 1-1/16 ± 1/32 | 1-15/16 ± 1/16 | 9/16 ± 1/32 | 1-3/32 ± 1/32 | 9/16 ± 1/32 | 3/32 ± 1/64 | 1/4 ± 1/64 | .171 ± .010 | .125 ± .005 | 1/8 ± 1/64 | 11.8 Grams |
| RH-50 | 1.563 ± .005 | .844 ± .005 | 1-31/32 ± 1/32 | 2-25/32 ± 1/16 | 5/8 ± 1/32 | 1-5/32 ± 1/32 | 5/8 ± 1/32 | 3/32 ± 1/64 | 9/32 ± 1/64 | .196 ± .010 | .125 ± .005 | 1/8 ± 1/64 | 24.5 Grams |

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω ®

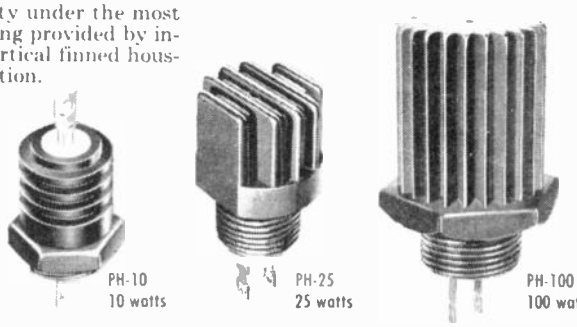
# TYPE PH

## POWER HOUSE

## Miniature Wire Wound Resistors

PH types combine high power rating with subminiature design, have completely welded construction from terminal to terminal, and are silicone sealed for absolute protection against moisture, shock and salt spray. Ruggedized construction assures dependability under the most extreme conditions. Vertical single hole panel mounting provided by integral threaded base and lock nut. Black anodized vertical finned housing provides protective covering and high heat dissipation.

- Temperature coefficient 0.00002/Deg. C.
- Ranges from 0.1 ohm to 60K ohms, depending on type
- Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%
- Other values and tolerances on request.





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World Radio History

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω

# TYPES RS and RLS

## MINIATURE WIRE WOUND RESISTORS

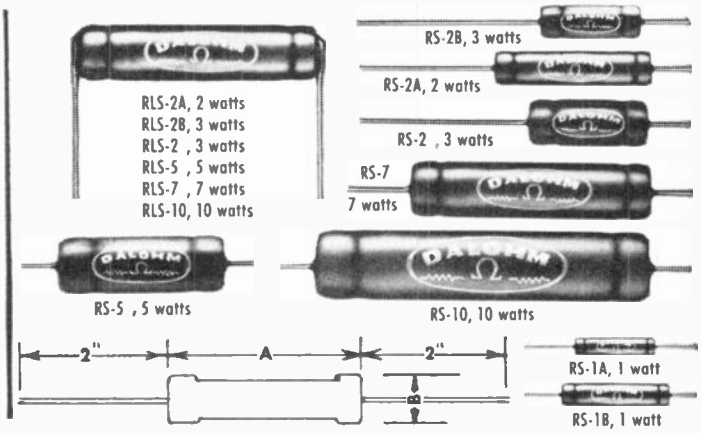
### every desirable characteristic

For all applications where the equipment must survive the most severe environmental, shock, and vibration conditions.

Smallest in size; completely welded from terminal to terminal; silicone sealed, offering high di-electric strength, maximum heat dissipation and maximum resistance to abrasion; impervious to moisture, salt spray, and gases.

Type RS supplied with axial leads;
Type RLS with radial leads—especially designed for printed circuit applications.

- **Temperature coefficient 0.00002/Deg. C**
- **Ranges from 0.05 ohm to 175,000 ohms, depending on type**
- **Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%**




| Type | Dim. A | Dim. B | Max. Res. Value |
|---|---|---|---|
| RS-1A | 13/32" ±1/16" | 3/32" ± 1/32" | 7,500 Ohms |
| RS-1B | 17/32" ±1/16" | 3/32" ±1/32" | 10,000 Ohms |
| RS-2 A RLS-2 A | 13/16" ±1/16" | 3/16" ±1/32" | 28,000 Ohms |
| RS-2 B RLS-2 B | 9/16" ±1/16" | 3/16" ±1/32" | 20,000 Ohms |

| Type | Dim. A | Dim. B | Max. Res. Value |
|---|---|---|---|
| RS-2 RLS-2 | 5/8" ±1/16" | 1/4" ±1/32" | 30,000 Ohms |
| RS-5 RLS-5 | 7/8" ±1/16" | 5/16" ±1/32" | 60,000 Ohms |
| RS-7 RLS-7 | 1-7/32" ±1/16" | 5/16" ±1/32" | 90,000 Ohms |
| RS-10 RLS-10 | 1-25/32" ±1/16" | 3/8" ±1/32" | 175,000 Ohms |

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

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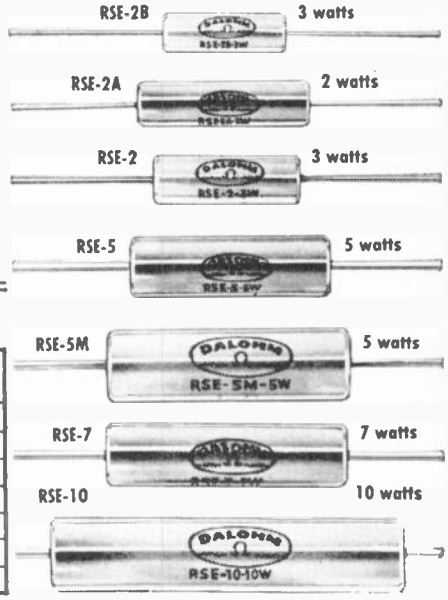
# TYPE RSE

## RUGGEDIZED MINIATURE WIRE WOUND RESISTORS

Designed for trouble-free performance under the most exacting conditions of shock and vibration. Smallest in size; completely welded from terminal to terminal; sealed in silicone and housed in bright nickel plated brass tubing. (Suggested mounting clip: Atlas E-E Corp.) Impervious to moisture, salt spray, vapor and gases.

- **Temperature coefficient 0.00002/Deg. C**
- **Ranges from .5 ohm to 175,000 ohms depending on type**
- **Tolerances 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%**




| Type | Wattage Rating | Dim. A (inches) | Dim. B (inches) | Dim. C (inches) | Dim. D | Max. Res. | Min. Res. | MIL R-26-C |
|---|---|---|---|---|---|---|---|---|
| RSE-2 A | 2 | 15/16 ±1/32 | .220 ±.005 | 1-7/16 ±⅛ | .032 | 28 K | .5 Ohms | No |
| RSE-2 B | 3 | 11/16 ±1/32 | .220 ±.005 | 1-7/16 ±⅛ | .032 | 20 K | .5 Ohms | No |
| RSE-2 | 3 | 13/16 ±1/32 | .260 ±.005 | 1⅞ ±⅛ | .040 | 30 K | 2 Ohms | No |
| RSE-5 | 5 | 1-5/64 ±1/32 | .330 ±.005 | 1⅞ ±⅛ | .040 | 60 K | 5 Ohms | No |
| RSE-5 M | 5 | 1⅜ ±1/32 | .395 ±.005 | 1⅞ ±⅛ | .040 | 100 K | 5 Ohms | RW 55 |
| RSE-7 | 7 | 1-23/64 ±1/32 | .330 ±.005 | 1⅞ ±⅛ | .040 | 90 K | 7 Ohms | No |
| RSE-10 | 10 | 1-61/64 ±1/32 | .395 ±.005 | 1⅞ ±⅛ | .040 | 175 K | 10 Ohms | RW 56 |

RS, RLS and RSE RESISTORS CONFORM TO APPLICABLE JAN and MIL SPECIFICATIONS

Your request for samples and quotations cordially invited. EXPORT DEPT: Pan-Mar Corp., 1270 Broadway, New York

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World Radio History

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

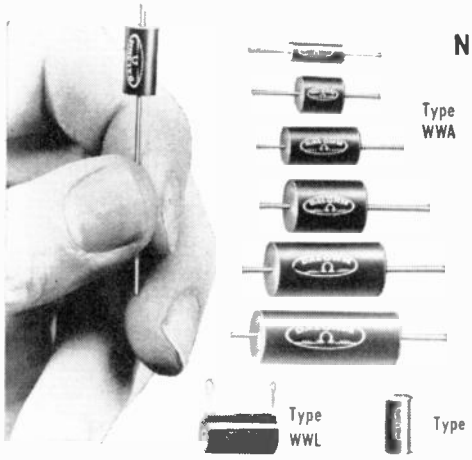
DALOHM Ω ®

# WIRE WOUND ENCAPSULATED PRECISION RESISTORS

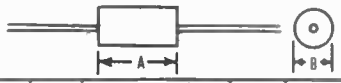
## SURPASS MIL-R-93A

Completely impervious to penetrating effects of salt spray, humidity, moisture, and corrosive gases and vapors. Dalohm's new encapsulating material has very high di-electric strength. All materials are carefully selected for coefficient of expansion characteristics, thereby eliminating the possibility of distorted wiring and shorted turns which are quite common in similar types of resistors. Type WW resistors are all non-inductive, pi-wound.

- Resistance range 0.1 ohm to 5 megohms
- Tolerances .05%, .1%, .25%, .5% and 1%
- Powered at .1 watt to 2.5 watts, depending on size, type and tolerance
- Temperature coefficient 0.00002/Deg. C
- Terminals: WWL-lugs; WWA-axial leads; WWP, parellel leads; WWR-radial leads




## NEW SUB-MINIATURE SIZES



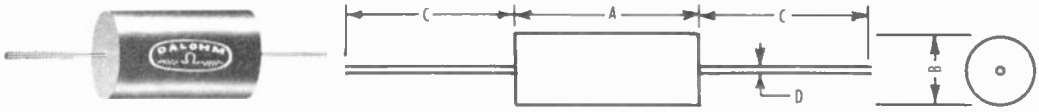

| Types | A | B | Max. Res. | Min. Res. | Stand. Tol. | Watts at 85° C for 20° C Rise | Watts at 85° C for 40° C Rise | Mil. Spec. | Max. Mil. Res. | Max. Mil. Wattage |
|---|---|---|---|---|---|---|---|---|---|---|
| WWA-13 | ⅜ | ⅛ | 50K | 10 Ohms | 1% | .1 W | .2 W | No | No | No |
| WWA-22 | ¼ | ¼ | 150K | 10 Ohms | 1% | .15 W | .3 W | RB-56 | .125 Meg | .125 W |
| WWA-24 | ½ | ¼ | 300K | 10 Ohms | 1% | .2 W | .4 W | RB-55 | .225 Meg | .15 W |
| WWA-26 | ¾ | ¼ | 400K | 10 Ohms | 1% | .25 W | .5 W | RB-54 | 33 Meg | .25 W |
| WWA-34 | ½ | ⅜ | 500K | 10 Ohms | 1% | .25 W | .5 W | No | No | No |
| WWA-36 | ¾ | ⅜ | 750K | 10 Ohms | 1% | .3 W | .6 W | RB-53 | .75 Meg | .3 W |
| WWA-38 | 1 | ⅜ | 1 Meg. | 10 Ohms | 1% | .4 W | .8 W | RB-52 | 1 Meg | .4 W |

| Type | A | B | Max. Res. | Min. Res. | Stand. Tol. | Watts at 85° C for 20° C Rise | Watts at 85° C for 40° C Rise |
|---|---|---|---|---|---|---|---|
| WWL and WWR 23 | ⅜ | ¼ | 75K | 10 Ohms | 1% | .15 W | .3 W |
| WWL and WWR 24 | ½ | ¼ | 100K | 10 Ohms | 1% | .2 W | .4 W |
| WWL and WWR 34 | ½ | ⅜ | 350K | 10 Ohms | 1% | .25 W | .5 W |
| WWL and WWR 36 | ¾ | ⅜ | 550K | 10 Ohms | 1% | .3 W | .6 W |
| WWL and WWR 38 | 1 | ⅜ | 750K | 10 Ohms | 1% | .4 W | .8 W |

| Type | A | B | Max. Res. | Min. Res. | Stand. Tol. | Watts at 85° C for 20° C Rise | Watts at 85° C for 40° C Rise |
|---|---|---|---|---|---|---|---|
| WWP-22 | ¼ | ¼ | 150K | 10 Ohms | 1% | .15 W | .3 W |
| WWP-24 | ½ | ¼ | 300K | 10 Ohms | 1% | .2 W | .4 W |
| WWP-34 | ½ | ⅜ | 500K | 10 Ohms | 1% | 25 W | .5 W |
| WWP-36 | ¾ | ⅜ | 750K | 10 Ohms | 1% | .3 W | .6 W |
| WWP-38 | 1 | ⅜ | 1 Meg | 10 Ohms | 1% | 4 W | .8 W |

## STANDARD SIZES

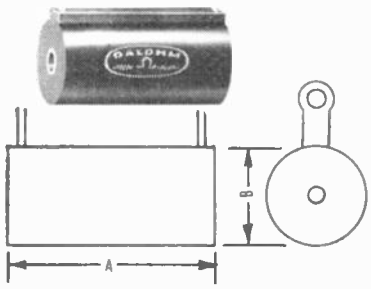
| Type | A | B | C | D | Res. Range | *Stand. Tol. | Wattage at 85° C for 20° Rise | Wattage at 85° C for 40° Rise | Max Working Voltage | Max. Military Resistance |
|---|---|---|---|---|---|---|---|---|---|---|
| WWA and WWL 44 | ½ ± 1/32 | ½ · 1/32 | 1⅞ ± ⅛ | .040 | .1 Ohm to 700K Ohms | 1% | .5 | 1.0 | 250 Volts | 150K Ohms |
| WWA and WWL 45 | ⅝ ± 1/32 | ½ · 1/32 | 1⅞ ± ⅛ | .040 | .1 Ohm to 1 Megohm | 1% | .5 | 1.0 | 350 Volts | 250K Ohms |
| WWA and WWL 48 | 1 ± 1/32 | ½ ± 1/32 | 1⅞ ± ⅛ | .040 | .1 Ohm to 2 Megohm | 1% | .75 | 1.5 | 700 Volts | 500K Ohms |
| WWA and WWL 4-12 | 1½ ± 1/32 | ½ ± 1/32 | 1⅞ ± ⅛ | .040 | .1 Ohm to 4 Megohm | 1% | .875 | 1.75 | 1050 Volts | 850K Ohms |
| WWA and WWL 4-16 | 2 ± 1/32 | ½ · 1/32 | 1⅞ ± ⅛ | .040 | .1 Ohm to 5 Megohm | 1% | 1.0 | 2.0 | 1400 Volts | 1.25 Megohms |




*Also available in tolerances of .5%, .25% and .1%

WWA

WWL




| TYPE | A | B | Res. Range | Standard Tolerance | Wattage | Max. Working Voltage | MIL. TYPE |
|---|---|---|---|---|---|---|---|
| WW-RB-09 | ½ · 1/32 | 9/16 · 1/32 | .1 Ohm to .25 Megohm | 1% | 125 W | 250 V | RB-09 |
| WW-RB-15 | 15/32 · 1/32 | ⅛ · 1/32 | .1 Ohm to .4 Megohm | 1% | 25 W | 300 V | RB-15 |
| WW RB-16 | 11/16 · 1/32 | ⅛ · 1/32 | .1 Ohm to .75 Megohm | 1% | 33 W | 300 V | RB-16 |
| WW-RB-17 | 1 · 1/32 | ⅛ · 1/32 | .1 Ohm to 1 Megohm | 1% | 5 W | 600 V | RB-17 |
| WW-RB-18 | 1¼ · 1/32 | ¾ · 1/32 | 1 Ohm to 3 Megohm | 1% | 75 W | 600 V | RB-18 |
| WW-RB-19 | 2⅛ · 1/32 | ⅞ · 1/32 | .1 Ohm to 6 Megohm | 1% | 1 W | 900 V | RB-19 |

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World Radio History

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

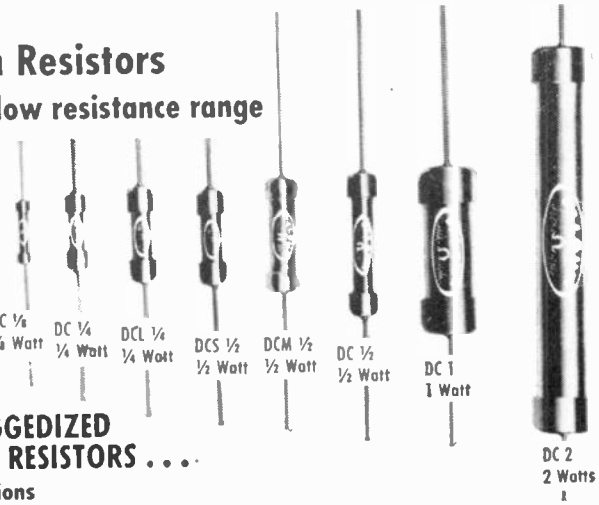
DALOHM Ω

# DEPOSITED CARBON RESISTORS and HERMETIC SEALED RUGGEDIZED DEPOSITED CARBON RESISTORS

## TYPE DC Deposited Carbon Resistors

### for exceptional accuracy in any high-low resistance range

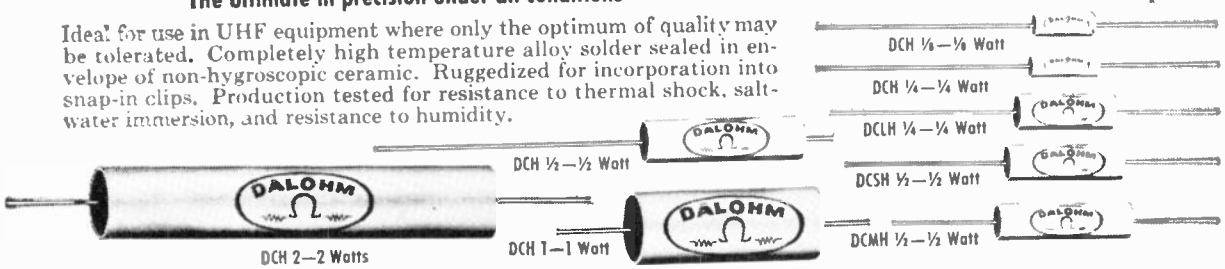
Manufactured under the most rigid quality control standards to deliver matchless performance and economy. Dalohm Type DC resistors now supplied with an improved coating material which incorporates extreme toughness, low temperature cycling, humidity resistance, and high temperature characteristics.




## TYPE DCH HERMETIC SEAL RUGGEDIZED DEPOSITED CARBON RESISTORS . . .

### The ultimate in precision under all conditions

Ideal for use in UHF equipment where only the optimum of quality may be tolerated. Completely high temperature alloy solder sealed in envelope of non-hygroscopic ceramic. Ruggedized for incorporation into snap-in clips. Production tested for resistance to thermal shock, salt-water immersion, and resistance to humidity.




## CHARACTERISTICS

- TEMPERATURE COEFFICIENT—Will vary slightly with type and resistance value. Variation will run from 140 to 500 parts per million per Degree C.
- VOLTAGE COEFFICIENT—Less than 0.002% per volt with average about 0.0012%.
- DEVIATION UNDER LOAD—High stability is experienced when operated continuously at full wattage. A change of less than 0.1% takes place after 100 hours of operation at 125 Degrees Ambient (½ watt resistor dissipating 0.1 watt).
- HUMIDITY CHARACTERISTICS—
- TOLERANCE—Supplied with 1% tolerance. (Other tolerances available.)

| Type | DIMENSIONS | | | STANDARD RESISTANCE RANGE | MAX. WEIGHT (Grams) | CONFORMS TO MIL-R-10509B |
|---|---|---|---|---|---|---|
| | A | B | C | | | |
| DC-⅛ | 9/32 ± 1/64 | 1½ ± ⅛ | 3/32 ± 1/64 | 10 Ohms to 500 K Ohms | 0.2 grams | NO |
| DC-¼ | 13/32 ± 1/64 | 1½ ± ⅛ | 3/32 ± 1/64 | 10 Ohms to 1 Megohm | 0.22 grams | RN10 |
| DCL-¼ | 17/32 ± 1/64 | 1½ ± ⅛ | 3/32 ± 1/64 | 10 Ohms to 1.5 Megohm | 1.0 grams | NO |
| DCS-½ | ½ ± 1/16 | 1½ ± ⅛ | 3/16 ± 1/32 | 10 Ohms to 5 Megohm | 0.7 grams | RN20 |
| DCM-½ | 11/16 ± 1/16 | 1½ ± ⅛ | 3/16 ± 1/32 | 10 Ohms to 5 Megohm | 0.9 grams | NO |
| DC-½ | 13/16 ± 1/16 | 1½ ± ⅛ | 3/16 ± 1/32 | 10 Ohms to 5 Megohm | 1.1 grams | NO |
| DC-1 | 15/16 ± 1/16 | 1½ ± ⅛ | 5/16 ± 1/32 | 10 Ohms to 10 Megohm | 2.5 grams | RN25 |
| DC-2 | 2-1/16 ± 1/16 | 1½ ± ⅛ | 5/16 ± 1/32 | 10 Ohms to 50 Megohm | 5.0 grams | RN30 |
| DCH-⅛ | 9/32 ± 1/32 | 1½ ± ⅛ | .155 ± .010 | 10 Ohms to 500 K Ohms | .4 grams | NO |
| DCH-¼ | 7/16 ± 1/32 | 1½ ± ⅛ | .155 ± .010 | 10 Ohms to 1 Megohm | .6 grams | RN60 |
| DCLH-¼ | 39/64 ± 1/32 | 1½ ± ⅛ | .175 ± .010 | 10 Ohms to 2 Megohms | .7 grams | RN65 |
| DCSH-½ | 21/32 ± 1/32 | 1½ ± ⅛ | .250 ± .010 | 1 Ohm to 2 Megohms | 1.6 grams | NO |
| DCMH-½ | ¾ ± 1/32 | 1½ ± ⅛ | .250 ± .010 | 1 Ohm to 5 Megohms | 1.95 grams | RN70 |
| DCH-½ | ⅞ ± 1/32 | 1½ ± ⅛ | .250 ± .010 | 1 Ohm to 5 Megohms | 2.3 grams | NO |
| DCH-1 | 1-3/32 ± 1/32 | 1½ ± ⅛ | .400 ± .010 | 1 Ohm to 10 Megohms | 5.2 grams | RN75 |
| DCH-2 | 2¼ ± 1/32 | 1½ ± ⅛ | .400 ± .010 | 5 Ohms to 50 Megohms | 10.2 grams | RN80 |

Other values available on request.

**CONFORM TO APPLICABLE JAN & MIL SPECIFICATIONS**

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DALE PRODUCTS INC.
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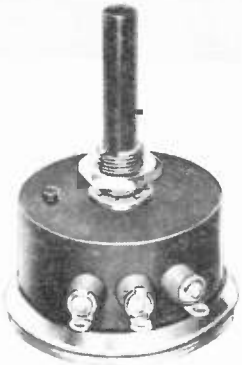
DALOHM Ω ®

# POTENTIOMETERS

## A10-W
## TRIMMER POTENTIOMETERS
### High temperature, Humidity proof, Ruggedized, Wire wound

Designed to provide highest performance under ever-increased MIL SPEC requirements with peak demands in moisture and vibration tests.

- Rated at 1 watt, derated to 0 @ 150 degree C.
- Resistance range 10 to 30K ohms; selection of standard values; standard tolerance 5%; other resistance values and tolerances on request.
- Finest adjustment provided by extended winding surface.
- Unique safety clutch.
- High heat resistance housing.
- Holds set resistance values.



## DP-12
## MIL-E-TRIZED POTENTIOMETERS

**MILITARY TYPE RA-30 BUILT TO SURPASS MIL-R-19A**

- Hermetically sealed-moisture proof; completely protected against tropical damp, arctic cold, shock, vibration, salt-laden air, ultra high altitude.
- Resistance range 100 ohms to 40K ohms; standard tolerance 5%; others on request.
- Temperature range — 55 degrees C to 125 degrees C, Minimum rotational life 25,000 mechanical cycles.
- Excellent linearity and precision resolution; sensitive shaft adjustment.
- Rated at .4 watt, derated to 0 at 125° C.

DALE PRODUCTS INC.
Columbus, Nebr., U.S.A.

DALOHM Ω ®

# COLLET FITTING KNOBS

## TYPE K INDUSTRIAL KNOBS for hard use at high/low temperatures

- Precision cast of thermo-setting plastic in easy grip shapes; knobs fit concentrically on shafts and can be positioned easily and accurately
- Five sizes—5/8", 1-1/16", 1 3/4", 2 1/4", 3". Collets interchangeable for shafts 1/8" to 3/8".
- Standard escutcheons, pointers and indicators available.

## TYPE MILITARY STYLE KNOBS

- Incorporation of collet-fitting design into military style knobs offers the ultimate in airborne and other military knobs applications. Precision made of tough, fungus-proof thermoplastic. All metal parts corrosion resistant
- Maximum locking pressure on shaft eliminates any slippage from vibration or torque
- Designed for flatted shafts
- Complete selection of skirts available . Marking of skirts can be to your specific requirements.

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# Thank You!

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1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

**The** *Radio-Electronic* **MASTER**

World Radio History

# BIRACO PLASTIC TUBING

**UL APPROVED FOR 105° C. OPERATION — MEETS MIL-I-631C SPECS.**

A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1).

### BIRACO TUBING

Put up on convenient 100' Spools or Coils.

| Cat. No. | B & S Gauge Size No. | Approx. I.D. | Lgth. Spool |
|---|---|---|---|
| 308BC.. | 24... | .022"... | 100' |
| 311BC.. | 22... | .027"... | 100' |
| 313BC.. | 20... | .034"... | 100' |
| 314BC.. | 18... | .042"... | 100' |
| 315BC.. | 16... | .053"... | 100' |
| 316BC.. | 14... | .066"... | 100' |
| 317BC.. | 12... | .085"... | 100' |
| 325BC.. | 10... | .106"... | 100' |
| 318BC.. | 8... | .135"... | 100' |
| 326BC.. | 6... | .166"... | 100' |
| 319BC.. | 4... | .208"... | 100' |
| 320BC.. | 2... | .263"... | 100' |
| 321BC. | 5/16"... | .3125"... | 100' |
| 322BC.. | 3/8"... | .375"... | 100' |
| 323BC.. | 1/2"... | .500"... | 100' |
| 324BC.. | 5/8"... | .625"... | 100' |
| *327BC.. | 3/4"... | .750"... | 100' |
| *360BC.. | 7/8"... | .875"... | 100' |
| *361BC.. | 1"... | 1.000"... | 100' |
| *362BC.. | 1 1/4"... | 1.250"... | 50' |
| *363BC.. | 1 1/2"... | 1.500"... | 50' |
| *328BC.. | 1 3/4"... | 1.750"... | 100' |
| *329BC.. | 2"... | 2.000"... | 50' |
| *364BC.. | 2 1/4"... | 2.250"... | 100' |
| *365BC.. | 2 1/2"... | 2.500"... | 100' |

### SPECIAL SPOOLS BIRACO TUBING

| Cat. No.'s 36" Lgths. | Cat. No.'s Spec. Spools | B & S Gauge Size No. | Approx. I.D. | Lgth. Spool |
|---|---|---|---|---|
| ..... | 308B... | 24.... | .022"... | 25' |
| ..... | 311B... | 22.... | .027"... | 25' |
| 313... | 313B... | 20.... | .034"... | 25' |
| 314... | 314B... | 18.... | .042"... | 25' |
| 315... | 315B... | 16.... | .053"... | 25' |
| 316... | 316B... | 14.... | .066"... | 25' |
| 317... | 317B... | 12.... | .085"... | 15' |
| 325... | 325B... | 10 | .106"... | 15' |
| 318... | 318B... | 8.... | .135"... | 15' |
| 326... | 326B... | 6.... | .166"... | 15' |
| 319... | 319B... | 4.... | .208"... | 10 |
| 320... | 320B... | 2.... | .263"... | 10' |
| 321... | —— | 5/16... | .3125"... | — |
| 322... | —— | 3/8... | .375"... | — |
| 323... | —— | 1/2... | .500"... | — |
| 324... | —— | 5/8... | .625"... | — |

Standard package 36" lengths 25 each color:

**COLORS AVAILABLE FROM STOCK:**
Black, Red, Green, White, Yellow, Blue, Brown, Orange, Clear.

*Cat. Nos. 360BC, 361BC, 362BC, 363BC, 364BC, 328BC, 329BC, 365BC available in Black and Clear from stock.

### DIMENSIONAL TOLERANCES OF BIRACO

| Size | Approx. I.D., Inches | ASTM Tolerances, Ins. | Wall Thickness, Inches |
|---|---|---|---|
| 24... | .022.. | .020 — .027.. | .012±.002 |
| 22... | .027.. | .025 — .032.. | .012±.002 |
| 20... | .034.. | .032 — .039.. | .016±.003 |
| 18... | .042.. | .040 — .049.. | .016±.003 |
| 16... | .053.. | .051 — .061.. | .016±.003 |
| 14... | .066.. | .064 — .072.. | .016±.003 |
| 12... | .085.. | .081 — .089.. | .016±.003 |
| 10... | .106.. | .102 — .112.. | .016±.003 |
| 8... | .133.. | .129 — .141.. | .020±.003 |
| 6... | .166.. | .162 — .178.. | .020±.003 |
| 4... | .208.. | .204 — .224.. | .020±.003 |
| 2... | .263.. | .258 — .278.. | .020±.003 |
| 5/16... | .315.. | .3125— .334.. | .025±.003 |
| 3/8... | .375.. | .375 — .399.. | .025±.003 |
| 1/2... | .500.. | .500 — .524.. | .025±.003 |
| 5/8... | .625.. | .625 — .655.. | .030±.005 |
| 3/4"... | .750.. | .750 — .786.. | .035±.005 |
| 7/8... | .875.. | .875 — .911.. | .035±.005 |
| 1"... | 1.000.. | 1.000 —1.036.. | .035±.005 |
| 1 1/4"... | 1.250.. | 1.250 —1.286.. | .040±.005 |
| 1 1/2"... | 1.500.. | 1.500 —1.536.. | .045±.005 |
| 1 3/4"... | 1.750.. | 1.812 —1.750.. | .055±.008 |
| 2"... | 2.000.. | 2.000 —2.070.. | .060±.010 |
| 2 1/4"... | 2.250.. | 2.250 —2.330.. | .065±.010 |
| 2 1/2"... | 2.500.. | 2.500 —2.590.. | .070±.010 |

### TABLE OF PHYSICAL & ELECTRICAL PROPERTIES

**BIRACO TUBING**

Tensile Strength—2500 Psi (Minimum Average)

Flammability—Non-Flammable

Ultimate Elongation—340%

Recommended for Temperatures to—105° C.

Cold Bend— -40° C.

Dielectric Strength .020" Wall—800 V/Mil

Varnish Baking—Good

Water Absorption

Weight Increase (1 Week)—0.1%

Oil Resistance—Indefinitely flexible when immersed in oil

**ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS**

**YOUR PRIME SOURCE IN VINYL SLEEVING & TUBING FOR THE AIRCRAFT, ELECTRICAL AND ELECTRONIC FIELD**

# BIRFLEX VINYL COATED FIBERGLASS TUBING

**(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS.**

Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. The plastic compound provides the highest electrical properties, heat stability (130° C.), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.

### SPECIAL SPOOLS VINYL COATED FIBERGLASS

| Cat. No. | B & S Gauge Size | Apx. I.D. | Lgth. Spool |
|---|---|---|---|
| 291V | 20 | .034 | 25' |
| 293V | 18 | .042 | 25' |
| 294V | 16 | .053 | 25' |
| 295V | 14 | .066 | 25' |
| 300V | 12 | .085 | 25' |
| 307V | 10 | .106 | 20' |
| 301V | 8 | .135 | 15' |
| 302V | 6 | .166 | 10' |
| 305V | 4 | .208 | 10' |
| 306V | 2 | .263 | 10' |

### *VINYL COATED FIBERGLASS

**30" Lengths**

| Cat. No. | B & S Gauge Size | Apx. I.D. |
|---|---|---|
| 291.... | 20.... | .034 |
| 293.... | 18.... | .042 |
| 294.... | 16.... | .053 |
| 295.... | 14.... | .066 |
| 300.... | 12.... | .085 |
| 307.... | 10.... | .106 |
| 301.... | 8.... | .135 |
| 302.... | 6.... | .166 |
| 297.... | 3/16.... | .208 |
| 298.... | 1/4.... | .263 |

**36" Lengths**

| | | |
|---|---|---|
| *303... | 5/16... | .3125 |
| *304... | 3/8... | .375 |
| *299... | 1/2... | .500 |
| *296... | 5/8... | .625 |

### *VINYL COATED FIBERGLASS

Put up on convenient 100' Spools or Coils.

| Cat. No. | B & S Gauge Size | Apx. I.D. | Lgth. Spool |
|---|---|---|---|
| 289VC | 24 | .022 | 100' |
| 290VC | 22 | .027 | 100' |
| 291VC | 20 | .034 | 100' |
| 293VC | 18 | .042 | 100' |
| 294VC | 16 | .053 | 100' |
| 295VC | 14 | .066 | 100' |
| 300VC | 12 | .085 | 100' |
| 307VC | 10 | .106 | 100' |
| 301VC | 8 | .135 | 100' |
| 302VC | 6 | .166 | 100' |
| 305VC | 4 | .208 | 100' |
| 306VC | 2 | .263 | 100' |
| *303VC | 5/16 | .3125 | 100' |
| *304VC | 3/8 | .375 | 100' |
| *299VC | 1/2 | .500 | 100' |
| *296VC | 5/8 | .625 | 100' |

### DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

| Size | Apx. I.D. | N.E.M.A. Tolerances Inches |
|---|---|---|
| 24 | .022 | .020-.027 |
| 22 | .027 | .025-.032 |
| 20 | .034 | .032-.039 |
| 18 | .042 | .040-.049 |
| 16 | .053 | .051-.061 |
| 14 | .066 | .064-.072 |
| 12 | .085 | .081-.089 |
| 10 | .106 | .102-.112 |
| 8 | .133 | .129-.141 |
| 6 | .166 | .162-.178 |
| 5/16, 4 | .208 | .204-.224 |
| 1/4, 2 | .263 | .258-.278 |
| 3/16 | .3125 | .312-.328 |
| 3/8 | .375 | .375-.399 |
| 1/2 | .500 | .500-.524 |
| 5/8 | .625 | .625-.655 |

### PHYSICAL & ELECTRICAL PROPERTIES BIRFLEX VINYL COATED FIBERGLASS

Class B
Grade B-1
Dielectric Strength.....4000 V.
Temperature Rating.....130° C.
Low Temp. Flexibility.....—30° C.
Non-Flammable
Ins. Resistance.....Over 1,000,000 MEGS.
Corrosion Resistance .....Excellent
Oil Resistance .....Good

**COLORS:**
Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

### Additional Sizes Available

Other types of Biraco, Birflex, Birflon Tubing and sleeving available. Write for new Comprehensive Catalog on Tubing and Sleeving.

**ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS**



See Pages S-1208 and S-1209 for Birnbach Prices

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World Radio History

# Birnbach

## NEW THIN WALL BIRFLON T-500
### TEFLON* SPAGHETTI TUBING

BIRNBACH

Birflon T-500 Tubing is extruded from DuPont Tetrafluoroethylene Resin. Used in electronic and electrical equipment for connection of components. Its flexibility, ease of handling has established it as the best and most popular insulation sheathing. This high temperature Class C insulation does not melt and flow as the conventional thermoplastic materials. Birflon T-500 Teflon has unique electrical chemical and mechanical properties unmatched by any other type tubing for use in applications requiring high frequencies and high temperatures. Because of Teflon's continuous service temperature of 250 C., which is more than 100 C. above other materials, the soldering technique is simplified since "Teflon" is not harmed by the hot barrel of the soldering iron — therefore, the assembly of aircraft, missile and electronic communication equipment is greatly speeded up. Thin Wall flexible Teflon Tubing can be processed easily into flexible and rigid printed circuits. As a thin, flexible insulation, it permits miniaturization and compactness of design never before possible.

### TABLE OF PROPERTIES

| Test | ASTM Method | Result |
|---|---|---|
| Tensil Strength 73 F | D638-52T | 1500-3000 Lb. Sq. In. |
| Elongation, 73 F | D638-52T | 100-200% |
| Deformation Under Load — 122 F. | | |
| 1200 Lb/Sq In 24 Hrs | D621-51 | 4-8% |
| 2000 Lb/Sq In, 24 Hrs | D621-51 | 25% |
| Hardness Durometer | D676-49T | D50-D65 |
| Heat Distortion Temp., 66 Lb. Sq. In. | D648B-45T | 250°F. |
| Dielectric Strength, .080 | D149-44 | 400-500 V/MIL |
| Surface Arc-Resistance | D495-48T | Sec. |
| Volume Resistivity | D257-52T | $10^{15}$ Ohm-CM |
| Surface Resistivity, 100% RH | D257-52T | $3.6 \times 10^{6}$ Megohms |
| Dielectric Constant, 60 to 10[illegible] Cycles | D150-54T | 2.00 |
| Power Factor, 60 to 10[illegible] Cycles | D150-54T | 0.0003 |
| Specific Gravity | D792-50 | 2.1-2.2 |

### Thin Wall Birflon T-500 Teflon* Tubing Dimensional Specifications

| AWG Size | Nom. O.D. | Nom. I.D. | Nom. Wall Thickness | AWG Size | Nom. O.D. | Nom. I.D. | Nom. Wall Thickness |
|---|---|---|---|---|---|---|---|
| 32 | .028 | .016 | .0085" | 6 | .196" | .166" | .015" |
| 30 | .030 | .012 | .009" | 4 | .238" | .208" | .015" |
| 28 | .033 | .015 | .009" | 2 | .293" | .263" | .015" |
| 26 | .038 | .018 | .010" | 0 | .360" | .330" | .015" |
| 24 | .042 | .022 | .010" | 3/8" | .430" | .390" | .020" |
| 22 | .047 | .027 | .010" | 7/16" | .493" | .453" | .020" |
| 20 | .058 | .034 | .012" | 1/2" | .565" | .515" | .025" |
| 18 | .066 | .042 | .012" | 9/16" | .633" | .583" | .025" |
| 16 | .077 | .053 | .012" | 5/8" | .700" | .640" | .030" |
| 14 | .090" | .066 | .012" | 3/4" | .825" | .765" | .030" |
| 12 | .109 | .085 | .012" | 7/8" | .950" | .895" | .030" |
| 10 | .130 | .106 | .012" | 1" | 1.085" | 1.025" | .030" |
| 8 | .162" | .132 | .015" | 1⅛" | 1.210" | 1.150" | .030" |
| | | | | 1¼" | 1.335" | 1.275" | .030" |

Tolerance — Nos. 32 thru 0 — ± .003" on Wall
Tolerance — Nos. ⅜ thru 1¼" — .020" on I.D., .006" on Wall

### ADDITIONAL ADVANTAGES OF BIRFLON T-500 TEFLON*

- **ELECTRICAL:** Low power factor, low dielectric constant, high volume and surface resistivity, good dielectric strength (500 to 1000 volts/MIL) constant over wide ranges of temperatures and frequencies. Dielectric constant of 2.0 and dissipation factor of 0.0002 are lowest of any solid dielectric.
- **THERMAL:** No change of electrical properties with temperature (25 C. to 250 C.) or frequency (60 CPS to 100 MC). Class C insulation — capable of continuous service at temperatures to 250° C. Has color stability.
- **TOUGHNESS AND FLEXIBILITY:** Has high impact strength. Is tough and flexible over the broad temperature range of —90° C. to 250 C. Service range —320 F. to 500° F.
- **CHEMICAL INERTNESS:** Completely inert to all chemicals and solvents except molten alkali metals and fluorine at elevated temperatures and pressures. Non-corrosive to all metals.
- **MOISTURE ABSORBTION:** Zero moisture absorption. Completely sun and weather resistant.
- **NON-FLAMMABLE**
- **FUNGI RESISTANCE:** Inert to all fungi growths.
- **SIZES:** Birflon T-500 Teflon Tubing available in sizes to fit B & S gauge wires. Thin wall available from stock, in sizes No. 32 thru 1¼" I.D. Additional sizes and wall thicknesses made to order.

**NOTE: When cutting Teflon Tubing, use single edge razor blade for clean unpinched cut.**

"Teflon"* DuPont Trade Name for Tetrafluoroethylene Resin

**NO EXTRA CHARGE FOR SOLID COLORS**
**SMALL PIECE CUTTING AVAILABLE TO ORDER**
**STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, white.**

Nos. 8020 thru 8029 available in Natural.
Additional Colors, Sizes Made To Order
**Tracer Colors Available**
**We Invite Your Inquiries For Your Special Requirements**
**WIRE — CABLE — TUBING DIVISION**

## NEW THIN WALL BIRFLON T-500 TEFLON* SPAGHETTI TUBING

| Cat. No. | Spool or Coil Put-Up | B & S Size No. |
|---|---|---|
| 8013 | *1000' | 32 |
| 8013 | 500' | 32 |
| 8013 | 100' | 32 |
| 8014 | *1000' | 30 |
| 8014 | 500' | 30 |
| 8014 | 100' | 30 |
| 8015 | *1000' | 28 |
| 8015 | 500' | 28 |
| 8015 | 100' | 28 |
| 8016 | *1000' | 26 |
| 8016 | 500' | 26 |
| 8016 | 100' | 26 |
| 8000 | *1000' | 24 |
| 8000 | 500' | 24 |
| 8000 | 100' | 24 |
| 8000 | 50' | 24 |
| 8000 | 25' | 24 |
| 8001 | *1000' | 22 |
| 8001 | 500' | 22 |
| 8001 | 100' | 22 |
| 8001 | 50' | 22 |
| 8001 | 25' | 22 |
| 8002 | *1000' | 20 |
| 8002 | 500' | 20 |
| 8002 | 100' | 20 |
| 8002 | 50' | 20 |
| 8002 | 25' | 20 |
| 8003 | *1000' | 18 |
| 8003 | 500' | 18 |
| 8003 | 100' | 18 |
| 8003 | 50' | 18 |
| 8003 | 25' | 18 |
| 8004 | *1000' | 16 |
| 8004 | 500' | 16 |
| 8004 | 100' | 16 |
| 8004 | 50' | 16 |
| 8004 | 25' | 16 |
| 8005 | 1000' | 14 |
| 8005 | * 500' | 14 |
| 8005 | 100' | 14 |
| 8005 | 50' | 14 |
| 8005 | 25' | 14 |
| 8006 | 1000' | 12 |
| 8006 | * 500' | 12 |
| 8006 | 100' | 12 |
| 8006 | 50' | 12 |
| 8006 | 25' | 12 |
| 8007 | 1000' | 10 |
| 8007 | * 500' | 10 |
| 8007 | 100' | 10 |
| 8007 | 50' | 10 |
| 8007 | 25' | 10 |
| 8008 | 1000' | 8 |
| 8008 | * 500' | 8 |
| 8008 | 100' | 8 |
| 8008 | 50' | 8 |
| 8008 | 25' | 8 |
| 8009 | 1000' | 6 |
| 8009 | * 500' | 6 |
| 8009 | 100' | 6 |
| 8009 | 50' | 6 |
| 8009 | 25' | 6 |
| 8010 | 1000' | 4 |
| 8010 | 500' | 4 |
| 8010 | * 100' | 4 |
| 8010 | 50' | 4 |
| 8010 | 25' | 4 |
| 8011 | 1000' | 2 |
| 8011 | 500' | 2 |
| 8011 | * 100' | 2 |
| 8011 | 50' | 2 |
| 8011 | 25' | 2 |
| 8012 | 1000' | 0 |
| 8012 | 500' | 0 |
| 8012 | * 100' | 0 |
| 8012 | 50' | 0 |
| 8012 | 25' | 0 |
| 8020 | 1000' | 3/8" |
| 8020 | 500' | 3/8" |
| 8020 | * 100' | 3/8" |
| 8020 | 50' | 3/8" |
| 8021 | 1000' | 7/16" |
| 8021 | 500' | 7/16" |
| 8021 | * 100' | 7/16" |
| 8021 | 50' | 7/16" |
| 8022 | 1000' | 1/2" |
| 8022 | 500' | 1/2" |
| 8022 | * 100' | 1/2" |
| 8022 | 50' | 1/2" |
| 8022 | 25' | 1/2" |
| 8023 | 1000' | 9/16" |
| 8023 | 500' | 9/16" |
| 8023 | * 100' | 9/16" |
| 8023 | 50' | 9/16" |
| 8023 | 25' | 9/16" |
| 8024 | 1000' | 5/8" |
| 8024 | 500' | 5/8" |
| 8024 | * 100' | 5/8" |
| 8024 | 50' | 5/8" |
| 8024 | 25' | 5/8" |
| 8025 | 1000' | 3/4" |
| 8025 | 500' | 3/4" |
| 8025 | * 100' | 3/4" |
| 8025 | 50' | 3/4" |
| 8025 | 25' | 3/4" |
| 8026 | 1000' | 7/8" |
| 8026 | 500' | 7/8" |
| 8026 | * 100' | 7/8" |
| 8026 | 50' | 7/8" |
| 8026 | 25' | 7/8" |
| 8027 | 1000' | 1" |
| 8027 | 500' | 1" |
| 8027 | * 100' | 1" |
| 8027 | 50' | 1" |
| 8027 | 25' | 1" |
| 8028 | 1000' | 1⅛" |
| 8028 | 500' | 1⅛" |
| 8028 | * 100' | 1⅛" |
| 8028 | 50' | 1⅛" |
| 8028 | 25' | 1⅛" |
| 8029 | 1000' | 1¼" |
| 8029 | 500' | 1¼" |
| 8029 | * 100' | 1¼" |
| 8029 | 50' | 1¼" |
| 8029 | 25' | 1¼" |

*PREFERRED PUT-UP

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See Pages S-1208 and S-1209 for Birnbach Prices



World Radio History

# BIRFLON EXTRUDED & SPIRAL WRAPPED TEFLON* HOOK-UP WIRE

## SPECIFICATION MIL-W-16878B — TYPE E—600 VOLT

### HIGH TEMPERATURE RATING —90° TO +250°C (TYPE EE-1000V AVAILABLE)

Chemically inert, non-flammable, excellent flexibility, easy stripping, high dielectric strength, unaffected by fungus. Exceeds Class H insulation requirements. Unaffected by high or low temperature. Outstanding for its dependability and long life under all operating conditions indoors or outdoors. Teflon permits miniaturization and compactness in electronic designs of sub-miniature components, computers, UHF equip., slip ring assemblies, leads to hermetically sealed and potted components, telemetering equip. and guided missiles.

Description: single conductor silver plated copper wire concentrically stranded and insulated with extruded or Spiral Wrapped Teflon insulation.

| Cat. Nos. Extruded | Cat. Nos. Wrapped | Spool | Size AWG | Mil Type Designation | Strand | Nom. Insul. | Volt Rating | Diameter Over Insulation Max. |
|---|---|---|---|---|---|---|---|---|
| 8532 | 8552 | 1000' | 32 | E-32 | 7/40 | .010" | 600 | .033" |
| 8532-1 | 8552-1 | 100' | 32 | E-32 | 7/40 | .010" | 600 | .033" |
| 8530 | 8550- | 1000' | 30 | E-30 | 7/38 | .010" | 600 | .036" |
| 8530-1 | 8550-1 | 100' | 30 | E-30 | 7/38 | .010" | 600 | .036" |
| 8528 | 8548 | 1000' | 28 | E-28 | 7/36 | .010" | 600 | .039" |
| 8528-1 | 8548-1 | 100' | 28 | E-28 | 7/36 | .010" | 600 | .039" |
| 8526 | 8546 | 1000' | 26 | E-26 | 7/34 | .010" | 600 | .043" |
| 8526-1 | 8546-1 | 100' | 26 | E-26 | 7/34 | .010" | 600 | .043" |
| 8524 | 8544 | 1000' | 24 | E-24 | 19/36 | .010" | 600 | .048" |
| 8524-1 | 8544-1 | 100' | 24 | E-24 | 19/36 | .010" | 600 | .048" |
| 8522 | 8542 | 1000' | 22 | E-22 | 19/34 | .010" | 600 | .054" |
| 8522-1 | 8542-1 | 100' | 22 | E-22 | 19/34 | .010" | 600 | .054" |
| 8520 | 8540 | 1000' | 20 | E-20 | 19/32 | .010" | 600 | .062" |
| 8520-1 | 8540-1 | 100' | 20 | E-20 | 19/32 | .010" | 600 | .062" |
| 8518 | 8538 | 1000' | 18 | E-18 | 19/30 | .010" | 600 | .074" |
| 8518-1 | 8538-1 | 100' | 18 | E-18 | 19/30 | .010" | 600 | .074" |
| 8516 | 8536 | 1000' | 16 | E-16 | 19/29 | .010" | 600 | .087" |
| 8516-1 | 8536-1 | 100' | 16 | E-16 | 19/29 | .010" | 600 | .087" |
| 8514 | 8534 | 1000' | 14 | E-14 | 19/27 | .010" | 600 | .097" |
| 8514-1 | 8534-1 | 100' | 14 | E-14 | 19/27 | .010" | 600 | .097" |

*Duponts Tetrafluoroethylene Resin. Cat. No's 8534 thru 8552 available Per MIL-W-7139A TEFLON AIRCRAFT SPEC.

Colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White. Additional special custom constructions available to order. Wrapped extruded with or without shielding, glass braid, nylon braid, silicone and in miniature multi-conductors. Price and delivery on request.

## TEFLON* CABLES—Shielded and Unshielded

DESCRIPTION: One or more conductors, each conductor stranded silver plated concentrically stranded copper, type E extruded or spiral wrapped insulation. When shielded, a closely woven silver plated copper shield is braided over conductor(s). When braided, a Teflon* impregnated fiberglass or nylon yarn is woven over the conductor(s) or shield.

| 1 Cond. | Size and Stranding | | Outer Covering | BIRNBACH CAT NUMBERS 2 Cond. | 3 Cond. | 4 Cond. | 5 Cond. |
|---|---|---|---|---|---|---|---|
| 8704 | #24 | 19/36 | Shield | 8704/2 | 8704/3 | 8704/4 | 8704/5 |
| 8705 | #24 | 19/36 | Braid | 8705/2 | 8705/3 | 8705/4 | 8705/5 |
| 8706 | #24 | 19/36 | Shield & Braid | 8706/2 | 8706/3 | 8706/4 | 8706/5 |
| 8707 | #22 | 19/34 | Shield | 8707/2 | 8707/3 | 8707/4 | 8707/5 |
| 8708 | #22 | 19/34 | Braid | 8708/2 | 8708/3 | 8708/4 | 8708/5 |
| 8709 | #22 | 19/34 | Shield & Braid | 8709/2 | 8709/3 | 8709/4 | 8709/5 |
| 8710 | #20 | 19/32 | Shield | 8710/2 | 8710/3 | 8710/4 | 8710/5 |
| 8711 | #20 | 19/32 | Braid | 8711/2 | 8711/3 | 8711/4 | 8711/5 |
| 8712 | #20 | 19/32 | Shield & Braid | 8712/2 | 8712/3 | 8712/4 | 8712/5 |

ADDITIONAL VARIATIONS OF THE ABOVE ARE AVAILABLE TO ORDER MULTI-CONDUCTOR COLOR CODE: 1-WHITE, 2-BLACK, 3-RED, 4-GREEN, 5-YELLOW

# AIRCRAFT PLASTIC HOOK-UP WIRE

## SPECIFICATIONS MIL-W-5086A and MIL-C-7078A (105°C Rating) — NYLON JACKET

No. 7351

Used where a single conductor, 600 volt insulated wire, is required. This aircraft electrical wire is resistant to effects of salt water, oils, aircraft engine fuels, alcohol, fungus, heat, cold, salt water, abrasion, meets -65°F temperature test.

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket overall. Color: White.

No. 7371

### MIL-W-5086A UNSHIELDED (Supersedes AN-J-C-48A)

| Cat. No. | Spool | Size AWG | Mil Type Designation | Specif. Type | Conductor Stranded | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7351 | 1000' | 22 | AN-22 | No. 1 | 19/34 | 600 | .080" |
| 7353 | 1000' | 20 | AN-20 | No. 1 | 19/32 | 600 | .090" |
| 7355 | 1000' | 18 | AN-18 | No. 1 | 19/30 | 600 | .104" |
| 7357 | 1000' | 16 | AN-16 | No. 1 | 19/29 | 600 | .118" |
| 7359 | 1000' | 14 | AN-14 | No. 1 | 19/27 | 600 | .135" |
| 7361 | 1000' | 12 | AN-12 | No. 1 | 19/25 | 600 | .154" |
| 7362 | 1000' | 10 | AN-10 | No. 1 | 49/27 | 600 | .180" |
| 7363 | 1000' | 8 | AN-8 | No. 1 | 133/29 | 600 | .240" |
| †7364 | 1000' | 6 | AN-6 | No. 2 | 133/27 | 600 | .297" |
| †7365 | 1000' | 4 | AN-4 | No. 2 | 133/25 | 600 | .355" |
| †7365/2 | 1000' | 2 | AN-2 | No. 2 | 665/30 | 600 | .412" |
| †7365/0 | 1000' | 0 | AN-0 | No. 2 | 1045/30 | 600 | .518" |
| †7365/00 | 1000' | 00 | AN-00 | No. 2 | 1330/30 | 600 | .588" |

†Nylon lacquered glass braid over plastic insulation.

### MIL-C-7078A SHIELDED (Supersedes An-C-168)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7371 | 1000' | 22 | AN-22 | No. 1 | 19/34 | 600 | .100" |
| 7372 | 1000' | 20 | AN-20 | No. 1 | 19/32 | 600 | .110" |
| 7373 | 1000' | 18 | AN-18 | No. 1 | 19/30 | 600 | .124" |
| 7374 | 1000' | 16 | AN-16 | No. 1 | 19/29 | 600 | .139" |
| 7375 | 1000' | 14 | AN-14 | No. 1 | 19/27 | 600 | .158" |
| 7376 | 1000' | 12 | AN-12 | No. 1 | 19/25 | 600 | .177" |

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield.

ALL WIRE ON THIS PAGE CAN BE CUT AND STRIPPED TO YOUR SPECIFICATION



See Pages S-1208 and S-1209 for Birnbach Prices

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World Radio History

# PLASTIC HOOK-UP WIRE

## SPECIFICATION MIL-W-16878B — TYPE B — HIGH TEMPERATURE

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: One conductor stranded tinned copper with rated -55°C to +105°C high temperature thermoplastic light wall insulation.

| Cat. No. | Spool | Size AWG | Mil-W-16878B Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7190 | 1000' | 32 | B-32 | 7/40 | .010" | 600 | .028" |
| 7191 | 1000' | 30 | B-30 | 7/38 | .010" | 600 | .030" |
| 7192 | 1000' | 28 | B-28 | 7/36 | .010" | 600 | .033" |
| 7193 | 1000' | 26 | B-26 | 7/34 | .010" | 600 | .037" |
| 7194 | 1000' | 24 | B-24 | 7/32 | .010" | 600 | .043" |
| 7195 | 1000' | 22 | B-22 | 7/30 | .010" | 600 | .048" |
| 7196 | 1000' | 20 | B-20 | 7/28 | .010" | 600 | .057" |
| 7197 | 1000' | 18 | B-18 | 7/26 | .010" | 600 | .067" |
| 7198 | 1000' | 16 | B-16 | 19/29 | .010" | 600 | .077" |

STOCK COLORS: Black, White, Red, Yellow, Brown, Green, Blue, Gray, Orange, Purple, White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet

Mil-W-16878B Type B also available with nylon jacket.

## SPECIFICATION MIL-W-16878B — TYPE C — HIGH TEMPERATURE

DESCRIPTION: One Conductor Similar To Type B—Heavier Wall Hi-Temp Thermoplastic Insulation

| Cat. No. | Spool | Size AWG | Mil-W-16878B Type Designation | Minimum Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7170 | 1000' | 24 | C-24 | 7/32 | .016" | 1000 | .058" |
| 7171 | 1000' | 22 | C-22 | 7/30 | .016" | 1000 | .064" |
| 7172 | 1000' | 20 | C-20 | 7/28 | .016" | 1000 | .073" |
| 7173 | 1000' | 18 | C-18 | 7/26 | .016" | 1000 | .085" |
| 7174 | 1000' | 16 | C-16 | 19/29 | .016" | 1000 | .095" |
| 7175 | 1000' | 14 | C-14 | 19/27 | .016" | 1000 | .109" |

STOCK COLORS: BLACK, RED, BROWN, BLUE, ORANGE, WHITE, YELLOW, GREEN, GRAY, PURPLE.
ALSO AVAILABLE IN TRACER COLORS, NYLON JACKET. ADDITIONAL TYPES AVAILABLE TO ORDER.

## SPECIFICATION MIL-W-16878B — TYPE D — HIGH TEMPERATURE

DESCRIPTION: One Conductor Stranded Similar To Type C—Heavier Wall Hi-Temp Thermoplastic Insulation.

| Cat. No. | Spool | Size AWG | Mil-W-16878B Type Designation | Cond. Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7180 | 1000' | 24 | D-24 | 7/32 | .032" | 3000 | .084" |
| 7181 | 1000' | 22 | D-22 | 7/30 | .032" | 3000 | .089" |
| 7182 | 1000' | 20 | D-20 | 10/30 | .032" | 3000 | .097" |
| 7183 | 1000' | 18 | D-18 | 16/30 | .032" | 3000 | .107" |
| 7184 | 1000' | 16 | D-16 | 26/30 | .032" | 3000 | .116" |
| 7185 | 1000' | 14 | D-14 | 41/30 | .032" | 3000 | .130" |
| 7186 | 1000' | 12 | D-12 | 65/30 | .040" | 2000 | .163" |
| 7187 | 1000' | 10 | D-10 | 105/30 | .040" | 3000 | .182" |
| 7188 | 1000' | 8 | D- 8 | 133/29 | .040" | 3000 | .247" |
| 7189 | 1000' | 6 | D- 6 | 133/27 | .040" | 3000 | .291" |

MIL-W-16878B Type D Available with Nylon Jacket.

# SHIELDED PLASTIC HOOK-UP WIRE

## SPECIFICATION MIL-W-76A — TYPE MW (Medium Wall) — SHIELDED

### (Supersedes Jan-C-76 Type SRIR Shielded)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and tinned copper shielded braid overall.

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Minimum Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7074 | 1000' | 24 | MW-C 24(16)S | 16/30 | .015" | 1000 | .074" |
| 7074-1 | 100' | 24 | MW-C 24(16)S | 16/30 | .015" | 1000 | .074" |
| 7072 | 1000' | 22 | MW-C 22(7)S | 7/30 | .017" | 1000 | .084" |
| 7072-1 | 100' | 22 | MW-C 22(7)S | 7/30 | .017" | 1000 | .084" |
| 7070 | 1000' | 20 | MW-C 20(10)S | 10/30 | .017" | 1000 | .094" |
| 7070-1 | 100' | 20 | MW-C 20(10)S | 10/30 | .017" | 1000 | .094" |
| 7068 | 1000' | 18 | MW-C 18(16)S | 16/30 | .017" | 1000 | .106" |
| 7068-1 | 100' | 18 | MW-C 18(16)S | 16/30 | .017" | 1000 | .106" |
| 7067 | 1000' | 16 | MW-C 16(26)S | 26/30 | .017" | 1000 | .121" |
| 7067-1 | 100' | 16 | MW-C 16(26)S | 26/30 | .017" | 1000 | .121" |
| *7066 | 1000' | 14 | MW-C 14(41)S | 41/30 | .017" | 1000 | .137" |
| *7065 | 1000' | 12 | MW-C 12(65)S | 65/30 | .017" | 1000 | .155" |

STOCK COLORS: (Underneath Shield) Black, White, Red, Yellow, Brown, Green, Blue, Gray
*Nos. 7066, 7065, available from stock in Black, White or Red.

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.

Also, multiconductor can be formed to order twisted, shielded, with or without plastic Jacket overall.

*TEFLON — DuPont Reg. TM for Tetrafluorethylene

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See Pages S-1208 and S-1209 for Birnbach Prices



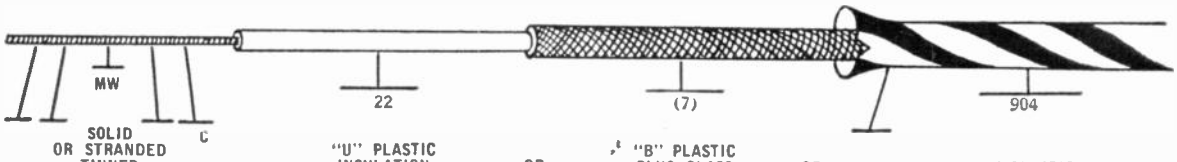
World Radio History

# Birnbach

## GOV'T SPEC. HOOK-UP WIRE

### SPECIFICATION MIL-W-76A TYPES MW, LW, HW, GLASS BRAID

## EXAMPLE SPEC. MIL-W-76A TYPE CODE DESIGNATION




| MW | C | 22 | (7) | J | 904 |
|---|---|---|---|---|---|
| TYPE OF WIRE | SOLID OR STRANDED TINNED COPPER CONDUCTOR COPPER | "U" PLASTIC INSULATION ONLY AWG SIZE | OR "B" PLASTIC PLUS GLASS BRAID LACQUERED MIN. STRANDS | OR CONSTRUCTION COVERING OVER WIRE | "J" PLASTIC PLUS NYLON JACKET COLORS: 0 BLACK, 1 BROWN, 2 RED, 3 ORANGE, 4 YELLOW, 5 GREEN, 6 BLUE, 7 VIOLET, 8 GRAY, 9 WHITE |

*COLOR CODE — The first digit indicates the body color and successive digits indicate tracer color or colors. The maximum number of stripes or tracers shall be three.

## PLASTIC HOOK-UP WIRE

### SPECIFICATION MIL-W-76A TYPE MW (MEDIUM WALL) PLASTIC HOOK-UP WIRE TYPE MW 1000 VOLTS (FUNGUS PROOF) SUPERSEDES JAN-C-76 TYPE SRIR

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| | | | STRANDED | | | | |
| 7024 | 1000' | 24 | MW-C 24(16)U | 16/36 | .015" | 1000 | .055" |
| 7024-I | 100' | 21 | MW-C 24(16)U | 16/36 | .015" | 1000 | .055" |
| 7024-S | 1000' | 24 | MW-C 24(16)U | 16 36 | .015" | 1000 | .055" |
| 7024-IS | 100' | 21 | MW-C 24(16)U | 16 36 | .015" | 1000 | .055" |
| 7001 | 1000' | 22 | MW-C 22(7)U | 7 30 | .017" | 1000 | .066" |
| 7001-I | 100' | 22 | MW-C 22(7)U | 7 30 | .017" | 1000 | .066" |
| *†7001-S | 1000' | 22 | MW-C 22(7)U | 7 30 | .017" | 1000 | .066" |
| *†7001-IS | 100' | 22 | MW-C 22(7)U | 7 30 | .017" | 1000 | .066" |
| 7003 | 1000' | 20 | MW-C 20(10)U | 10 30 | .017" | 1000 | .074" |
| 7003-I | 100' | 20 | MW-C 20(10)U | 10 30 | .017" | 1000 | .074" |
| *†7003-S | 1000' | 20 | MW-C 20(10)U | 10 30 | .017" | 1000 | .074" |
| *†7003-IS | 100' | 20 | MW-C 20(10)U | 10 30 | .017" | 1000 | .074" |
| 7005 | 1000' | 18 | MW-C 18(16)U | 16 30 | .017" | 1000 | .085" |
| 7005-I | 100' | 18 | MW-C 18(16)U | 16 30 | .017" | 1000 | .085" |
| *7005-S | 1000' | 18 | MW-C 18(16)U | 16 30 | .017" | 1000 | .085" |
| *7005-IS | 100' | 18 | MW-C 18(16)U | 16 30 | .017" | 1000 | .085" |
| 7007 | 1000' | 16 | MW-C 16(26)U | 26 30 | .017" | 1000 | .098" |
| 7007-I | 100' | 16 | MW-C 16(26)U | 26 30 | .017" | 1000 | .098" |
| 7009 | 1000' | 14 | MW-C 14(41)U | 41 30 | .017" | 1000 | .114" |
| 7009-I | 100' | 14 | MW-C 14(41)U | 41 30 | .017" | 1000 | .114" |
| 7011 | 1000' | 12 | MW-C 12(65)U | 65 30 | .017" | 1000 | .132" |
| 7011-I | 100' | 12 | MW-C 12(65)U | 65/30 | .017" | 1000 | .132" |
| | | | SOLID | | | | |
| 7000 | 1000' | 22 | MW-C 22(1)U | 1 | .017" | 1000 | .061" |
| 7000-I | 100' | 22 | MW-C 22(1)U | 1 | .017" | 1000 | .061" |
| 7002 | 1000' | 20 | MW-C 20(1)U | 1 | .017" | 1000 | .068" |
| 7002-I | 100' | 20 | MW-C 20(1)U | 1 | .017" | 1000 | .068" |
| 7004 | 1000' | 18 | MW-C 18(1)U | 1 | .017" | 1000 | .075" |
| 7004-I | 100' | 18 | MW-C 18(1)U | 1 | .017" | 1000 | .075" |

**STOCK COLORS:** White, Yellow, Lt. Blue, Black, Violet (purple), Blue, Brown, Lt. Green, Pink, Red, Green, Tan, Orange, Gray (slate).

***SINGLE SPIRAL TRACER COLORS AVAILABLE:**

White Black — White Orange — White Blue
White/Brown — White/Yellow — White, Purple
White Red — White Green — White Gray

**†DOUBLE SPIRAL TRACER COLORS AVAILABLE:**

White Black Red — White/Black Blue — White Black/Gray
White Black Green — White Black Brown — White Black Purple
White Black Yellow — White Black Orange

Additional spiral tracer combination available, to order, for all numbers.

### SPECIFICATION MIL-W-76A TYPE MW (Medium Wall)—NYLON JACKET 1000 VOLT (Fungus Proof) (Supersedes Jan-C-76 Types SRIR and WL Nylon Jacket)

**DESCRIPTION:** One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7224 | 1000' | 24 | MW-C 24(16)J | 16 36 | .015" | 1000 | .068" |
| 7224-1 | 100' | 24 | MW-C 24(24)J | 16 36 | .015" | 1000 | .068" |
| *7222 | 1000' | 22 | MW-C 22(7)J | 7/30 | .017" | 1000 | .075" |
| *7222-1 | 100' | 22 | MW-C 22(7)J | 7 30 | .017" | 1000 | .075" |
| *7220 | 1000' | 20 | MW-C 20(10)J | 10 30 | .017" | 1000 | .087" |
| *7220-1 | 100' | 20 | MW-C 20(10)J | 10 30 | .017" | 1000 | .087" |
| *7218 | 1000' | 18 | MW-C 18(16)J | 16 30 | .017" | 1000 | .100" |
| *7218-1 | 100' | 18 | MW-C 18(16)J | 16 30 | .017" | 1000 | .100" |
| 7216 | 1000' | 16 | MW-C 16(26)J | 26 30 | .017" | 1000 | .112" |
| 7216-1 | 100' | 16 | MW-C 16(26)J | 26 30 | .017" | 1000 | .112" |
| 7214 | 1000' | 14 | MW-C 14(41)J | 41 30 | .017" | 1000 | .122" |
| 7214-1 | 100' | 14 | MW-C 14(41)J | 41 30 | .017" | 1000 | .122" |
| 7212 | 1000' | 12 | MW-C 12(65)J | 65 30 | .017" | 1000 | .140" |
| 7212-1 | 100' | 12 | MW-C 12(65)J | 65 30 | .017" | 1000 | .140" |
| 7210 | 1000' | 10 | HW-C 10(105)J | 105 30 | .045" | 600 | .240" |
| 7210-1 | 100' | 10 | HW-C 10(105)J | 105 30 | .045" | 600 | .240" |

**STOCK COLORS:** White, Orange, Purple, Black, Yellow, Gray, Brown, Green, Red, Blue

White/Black — White/Red — White/Yellow — White Blue — White Gray — White Black/Yellow — White/Black/Green — White/Black/Brown
White/Brown — White/Orange — White Green — White Purple — White/Black/Red — White/Black/Blue — White/Black/Orange — White/Black/Gray

*In addition Nos. 7218, 7220, 7222, available in Red/Black and Black White. Nos. 7212, 7210 available solid colors only.

**ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.**

Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.



See Pages S-1208 and S-1209 for Birnbach Prices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World Radio History

# PLASTIC HOOK-UP WIRE

## SPECIFICATION MIL-W-76A TYPE LW (Light Wall) TYPE LW — 300 VOLTS

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation.

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7330 | 1000' | 30 | LW-C 30(7)U | 7/28 | .010" | 300 | .033" |
| 7330-1 | 100' | 30 | LW-C 30(7)U | 7/28 | .010" | 300 | .033" |
| 7328 | 1000' | 28 | LW-C 28(7)U | 7/36 | .010" | 300 | .035" |
| 7328-1 | 100' | 28 | LW-C 28(7)U | 7/36 | .010" | 300 | .035" |
| 7326 | 1000' | 26 | LW-C 26(10)U | 10/36 | .010" | 300 | .040" |
| 7326-1 | 100' | 26 | LW-C 26(10)U | 10/36 | .010" | 300 | .040" |

STOCK COLORS: Black, Brown, Red, White, Green, Orange, Yellow, Gray, Blue, Purple
Additional sizes, colors available to order.

## SPECIFICATION MIL-W-76A TYPE HW (Heavy Wall) — 2500 VOLTS (Fungus Proof) (SUPERSEDES Jan-C-76 Type SRHV)

DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger wall of primary thermoplastic insulation to take 2500 V RMS.

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7322 | 1000' | 22 | HW-C 22(7)U | 7/30 | .033" | 2500 | .105" |
| 7322-1 | 100' | 22 | HW-C 22(7)U | 7/30 | .033" | 2500 | .105" |
| 7320 | 1000' | 20 | HW-C 20(10)U | 10/30 | .033" | 2500 | .112" |
| 7320-1 | 100' | 20 | HW-C 20(10)U | 10/30 | .033" | 2500 | .112" |
| 7318 | 1000' | 18 | HW-C 18(16)U | 16/30 | .033" | 2500 | .122" |
| 7318-1 | 100' | 18 | HW-C 18(16)U | 16/30 | .033" | 2500 | .122" |
| 7316 | 1000' | 16 | HW-C 16(26)U | 26/30 | .033" | 2500 | .135" |
| 7316-1 | 100' | 16 | HW-C 16(26)U | 26/30 | .033" | 2500 | .135" |
| 7314 | 1000' | 14 | HW-C 14(41)U | 41/30 | .045" | 2500 | .175" |
| 7314-1 | 100' | 14 | HW-C 14(41)U | 41/30 | .045" | 2500 | .175" |
| 7312 | 1000' | 12 | HW-C 12(65)U | 65/30 | .045" | 2500 | .195" |
| 7312-1 | 100' | 12 | HW-C 12(65)U | 65/30 | .045" | 2500 | .195" |
| *7013 | 1000' | 10 | HW-C 10(105)U | 105/30 | .045" | 600 | .217" |
| *7013-1 | 100' | 10 | HW-C 10(105)U | 105/30 | .045" | 600 | .217" |
| *7015 | 1000' | 8 | HW-C 8(133)U | 133/29 | .045" | 600 | .268" |
| *7015-1 | 100' | 8 | HW-C 8(133)U | 133/29 | .045" | 600 | .268" |
| *7017 | 1000' | 6 | HW-C 6(133)U | 133/27 | .045" | 600 | .315" |
| *7017-1 | 100' | 6 | HW-C 6(133)U | 133/27 | .045" | 600 | .315" |

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray
*Nos. 7013, 7015, 7017, available stock colors: Black, White, Red. Additional sizes, colors available to order.

## SPECIFICATION MIL-W-76A TYPE MW (Medium Wall) — GLASS BRAID 1000 VOLTS (Supersedes Jan-C-76 Types SRIR and WL Glass Braid)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7022 | 1000' | 22 | MW-C 22(7)B | 7/30 | .017" | 1000 | .079" |
| 7022-1 | 100' | 22 | MW-C 22(7)B | 7/30 | .017" | 1000 | .079" |
| 7020 | 1000' | 20 | MW-C 20(10)B | 10/30 | .017" | 1000 | .084" |
| 7020-1 | 100' | 20 | MW-C 20(10)B | 10/30 | .017" | 1000 | .084" |
| 7018 | 1000' | 18 | MW-C 18(16)B | 16/30 | .017" | 1000 | .100" |
| 7018-1 | 100' | 18 | MW-C 18(16)B | 16/30 | .017" | 1000 | .100" |
| 7016 | 1000' | 16 | MW-C 16(26)B | 26/30 | .017" | 1000 | .116" |
| 7016-1 | 100' | 16 | MW-C 16(26)B | 26/30 | .017" | 1000 | .116" |
| *7014 | 1000' | 14 | MW-C 14(41)B | 41/30 | .017" | 1000 | .129" |
| *7014-1 | 100' | 14 | MW-C 14(41)B | 41/30 | .017" | 1000 | .129" |
| *7012 | 1000' | 12 | MW-C 12(65)B | 65/30 | .017" | 1000 | .149" |
| *7012-1 | 100' | 12 | MW-C 12(65)B | 65/30 | .017" | 1000 | .149" |

STOCK COLORS:

| | | | | |
|---|---|---|---|---|
| White | Yellow | White/Brown | White Red | |
| Black | Green | White/Black | White/Gray | White/Black/Green |
| Brown | Blue | White/Orange | White/Purple | White/Black/Orange |
| Red | Purple | White/Yellow | White/Black/Red | White/Black/Brown |
| Orange | Gray | White/Green | White/Black/Yellow | White/Black Gray |
| | | White/Blue | White/Black/Blue | |

*Nos. 7014, 7012, available stock in solid colors.

## TYPE HW (Heavy Wall) — GLASS BRAID (Supersedes Jan-C-76 Type SRHV — Glass Braid)

| Cat. No. | Spool | Size AWG | Mil-W-76A Type Designation | Conductor Strand | Nom. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7010 | 1000' | 10 | HW-C 10(105)B | 105/30 | .045" | 600 | .237" |
| 7010-1 | 100' | 10 | HW-C 10(105)B | 105/30 | .045" | 600 | .237" |
| 7008 | 1000' | 8 | HW-C 8(133)B | 133/29 | .045" | 600 | .293" |
| 7008-1 | 100' | 8 | HW-C 8(133)B | 133/29 | .045" | 600 | .293" |
| 7006 | 1000' | 6 | HW-C 6(133)B | 133/27 | .045" | 600 | .340" |
| 7006-1 | 100' | 6 | HW-C 6(133)B | 133/27 | .045" | 600 | .340" |

STOCK COLORS: White, Black

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.
Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

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World Radio History

# Birnbach

## HIGH VOLTAGE, SILICONE HOOK-UP WIRE
### KEL-F HOOK-UP, CATHODE RAY, 105° UL

## 200° C. BIRSIL SILICONE RUBBER HOOK-UP LEAD WIRE 600 VOLT

This Birsil Silicone Rubber Hook up lead wire withstands extreme temperature range and flexibility from —104° C. to +400° F. with retention of physical properties and is highly resistant to flex cracking at temperature extremes; fungus resistant; corona resistant; engineered for high-heat and hi-frequency applications; low power factor; acid-alkali-oil resistant; low dielectric constant; insulation approaching mica. Approved by U. L. but consumer must apply for Underwriter's Laboratories approval for individual product.

| Cat. No. | Spool | Size AWG | Strand | Nom. Ins. Wall | Volt Rating | Breakdown Voltage AC | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 7622 | 1000′ | 22 | 7/30 | 1/32″ | 600 | 11,500 | .105″ |
| 7622-1 | 100′ | 22 | 7/30 | 1/32″ | 600 | 11,500 | .105″ |
| 7620 | 1000′ | 20 | 10/30 | 1/32″ | 600 | 18,000 | .121″ |
| 7620-1 | 100′ | 20 | 10/30 | 1/32″ | 600 | 18,000 | .121″ |
| 7618 | 1000′ | 18 | 16/30 | 1/32″ | 600 | 21,000 | .128″ |
| 7618-1 | 100′ | 18 | 16/30 | 1/32″ | 600 | 21,000 | .128″ |
| 7616 | 1000′ | 16 | 26/30 | 1/32″ | 600 | 20,000 | .144″ |
| 7616-1 | 100′ | 16 | 26/30 | 1/32″ | 600 | 20,000 | .144″ |
| 7614 | 1000′ | 14 | 41/30 | 1/32″ | 600 | 15,500 | .165″ |
| 7614-1 | 100′ | 14 | 41/30 | 1/32″ | 600 | 15,500 | .165″ |
| 7612 | 1000′ | 12 | 65/30 | 1/32″ | 600 | 14,500 | .185″ |
| 7612-1 | 100′ | 12 | 65/30 | 1/32″ | 600 | 14,500 | .185″ |
| 7610 | 1000′ | 10 | 65/28 | 3/64″ | 600 | 20,000 | .240″ |
| 7610-1 | 100′ | 10 | 65/28 | 3/64″ | 600 | 20,000 | .240″ |

Additional sizes and colors available to order.

**DESCRIPTION:**
One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered. Color: White.

## BIRFLENE* KEL-F HOOK-UP WIRE
### —125° C. to +175° C. MEETS MIL-W-12349-SPEC

**PERFORMANCE SPECIFICATIONS:**
**Continuous:** 60° to +175° C. **Operating Voltage:** 1000 volts RMS. **Spark Test:** 7500 volts. **Dielectric Strength:** 5000 volts at 60° C. for 1 minute. **Insulation Resistance:** Greater than 5000 Meg Ohms/1000 Ft. at 60° C. **Moisture Absorption:** Nil. **Flammability:** Non flammable. **Resistance to Chemicals:** All solvents and acids. **Aging:** Outdoor, 1 year; no detectable change.

| Cat. No. | Spool | Size AWG | Strand | Nom. Ins. Wall | Nom. O.D. |
|---|---|---|---|---|---|
| 7130 | 1000′ | 30 | 7/38 | .006″ | .029″ |
| 7130-1 | 100′ | 30 | 7/38 | .006″ | .029″ |
| 7128 | 1000′ | 28 | 7/36 | .006″ | .032″ |
| 7128-1 | 100′ | 28 | 7/36 | .006″ | .032″ |
| 7126 | 1000′ | 26 | 7/34 | .008″ | .037″ |
| 7126-1 | 100′ | 26 | 7/34 | .008″ | .037″ |
| 7124 | 1000′ | 24 | 7/32 | .008″ | .043″ |
| 7124-1 | 100′ | 24 | 7/32 | .008″ | .043″ |
| 7122 | 1000′ | 22 | 7/30 | .008″ | .050″ |
| 7122-1 | 100′ | 22 | 7/30 | .008″ | .050″ |
| 7120 | 1000′ | 20 | 7/28 | .010″ | .060″ |
| 7120-1 | 100′ | 20 | 7/28 | .010″ | .060″ |
| 7118 | 1000′ | 18 | 16/30 | .010″ | .070″ |
| 7118-1 | 100′ | 18 | 16/30 | .010″ | .070″ |
| 7116 | 1000′ | 16 | 19/29 | .010″ | .079″ |
| 7116-1 | 100′ | 16 | 19/29 | .010″ | .079″ |

**DESCRIPTION:**
One conductor silver plated copper stranded, insulation — Monochlorotrifluoroethylene (Birflene Kel-F).

**COLORS:** White, Red, Green, Gray, Black, Orange, Dk. Blue, Lt. Blue, Brown, Yellow, Purple

Available in Spiral Tracers.

*Made with Kellogg Co. Kel F or Baloelite Co. Fluorothene.

## HI-VOLTAGE and CATHODE RAY CABLE

Used for 10,000, 20,000, 40,000, 60,000 volt applications as for cathode ray tubes in TV receivers, oscilloscopes and other electronic devices. Has dielectric constant of 2.7 and power factor of .002. Shielded Hi-Voltage type used to shield RF radiation in X-Ray, diathermy, medical equipment, and in transmitters.

| Cat. No. | Spool | Size AWG | Strand | Nom. Ins. Wall | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|
| **UNSHIELDED** | | | | | | |
| 7402 | 1000′ | 20 | 10/30 | .047″ | 10,000 | .125″ |
| 7402-1 | 100′ | 20 | 10/30 | .047″ | 10,000 | .125″ |
| 7412 | 1000′ | 20 | 10/30 | .068″ | 20,000 | .169″ |
| 7412-1 | 100′ | 20 | 10/30 | .068″ | 20,000 | .169″ |
| 7418 | 1000′ | 18 | 16/30 | .047″ | 10,000 | .135″ |
| 7418-1 | 100′ | 18 | 16/30 | .047″ | 10,000 | .135″ |
| 7428 | 1000′ | 18 | 16/30 | .069″ | 20,000 | .179″ |
| 7428-1 | 100′ | 18 | 16/30 | .069″ | 20,000 | .179″ |
| 7448 | 1000′ | 18 | 16/30 | .095″ | 40,000 | .231″ |
| 7448-1 | 100′ | 18 | 16/30 | .095″ | 40,000 | .231″ |
| 7449 | 1000′ | 18 | 16/30 | .123″ | 60,000 | .285″ |
| 7449-1 | 100′ | 18 | 16/30 | .123″ | 60,000 | .285″ |
| **SHIELDED** | | | | | | |
| 7458 | 1000′ | 18 | 16/30 | .095″ | 40,000 | .256″ |
| 7458-1 | 100′ | 18 | 16/30 | .095″ | 40,000 | .256″ |

**DESCRIPTION:**
One conductor stranded copper tinned rulan (Lame retarding type) polyethylene insulation. Available in White. Temp. Rating: 105 C

**Shielded:** Same as above with tinned copper braided shield overall.

Special constructions available to order.

## PLASTIC INSULATED HOOK-UP WIRE

Designed for the chassis, sub-chassis wiring of radio and television receivers and transmitters inside or outside the chassis. UL approved for 105° C. (221° F.) operating temperature.

### 105° C. — 600 VOLT RATING UL APPROVED

| Cat. No. | Spool | AWG | Stranding | Nom. Wall | Volt. Breakdown | DC Ins. Res. Megs./Ft. | Max. O.D. |
|---|---|---|---|---|---|---|---|
| 7201 | 1000′ | 22 | 7/30 | .032″ | 18000 | 5000 | .100″ |
| 7201-1 | 100′ | 22 | 7/30 | .032″ | 18000 | 5000 | .100″ |
| 7203 | 1000′ | 20 | 10/30 | .032″ | 18000 | 5000 | .104″ |
| 7203-1 | 100′ | 20 | 10/30 | .032″ | 18000 | 5000 | .104″ |
| 7205 | 1000′ | 18 | 16/30 | .032″ | 18000 | 5000 | .112″ |
| 7205-1 | 100′ | 18 | 16/30 | .032″ | 18000 | 5000 | .112″ |
| 7207 | 1000′ | 16 | 26/30 | .032″ | 18000 | 5000 | .129″ |
| 7207-1 | 100′ | 16 | 26/30 | .032″ | 18000 | 5000 | .129″ |
| 7202 | 1000′ | 22 | Solid | .032″ | 18000 | 5000 | .095″ |
| 7202-1 | 100′ | 22 | Solid | .032″ | 18000 | 5000 | .095″ |
| 7204 | 1000′ | 20 | Solid | .032″ | 18000 | 5000 | .102″ |
| 7204-1 | 100′ | 20 | Solid | .032″ | 18000 | 5000 | .102″ |

**DESCRIPTION:**
One Conductor stranded annealed copper tinned, plastic insulation.

COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple

**ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.**
Also multi conductors can be formed to order twisted, shielded with or without plastic jacket overall.


**See Pages S-1208 and S-1209 for Birnbach Prices**
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World Radio History

# MINIATURIZATION HOOK-UP WIRE and CABLE

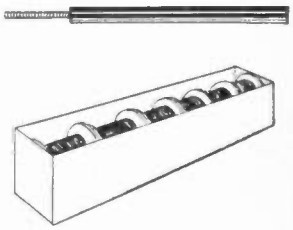
## HIGH TEMPERATURE 105°C. — UNSHIELDED — ONE CONDUCTOR

Used in miniaturized equipment Phono-pickup lead computers transistor circuits, electro-medical and electro therapeutic apparatus, instrumentation projects, miniaturization programs, where fine sizes are required with high operating temperature.

For "Lab" requirements Miniaturization Hook-Up Wire and Cable assortments—WRITE for information.

| Cat. No | Spool | No. of Cond. | Size AWG | Conductor Strand | Nom. Wall | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7534 | 1000′ | 1 | 34 | 4/40 | .010″ | .027″ |
| 7534-500 | 500′ | 1 | 34 | 4/40 | .010″ | .027″ |
| 7532 | 1000′ | 1 | 32 | 7/40 | .010″ | .029″ |
| 7532-500 | 500′ | 1 | 32 | 7/40 | .010″ | .029″ |
| 7530 | 1000′ | 1 | 30 | 7/38 | .010″ | .030″ |
| 7530-500 | 500′ | 1 | 30 | 7/38 | .010″ | .030″ |
| 7529 | 1000′ | 1 | 29 | 5/36 | .010″ | .030″ |
| 7529-500 | 500′ | 1 | 29 | 5/36 | .010″ | .030″ |
| 7528- | 1000′ | 1 | 28 | 7/36 | .010″ | .035″ |
| 7528-500 | 500′ | 1 | 28 | 7/36 | .010″ | .035″ |
| 7527 | 1000′ | 1 | 27 | 7/35 | .010″ | .037″ |
| 7527-500 | 500′ | 1 | 27 | 7/35 | .010″ | .037″ |
| 7526 | 1000′ | 1 | 26 | 10/36 | .010″ | .038″ |
| 7526-500 | 500′ | 1 | 26 | 10/36 | .010″ | .038″ |
| 7524 | 1000′ | 1 | 24 | 16/36 | .015″ | .055″ |
| 7524-500 | 500′ | 1 | 24 | 16/36 | .015″ | .055″ |

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple



DESCRIPTION:

One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation overall.

## SUB-MINIATURE — MULTI-CONDUCTOR CABLE — (Super Flexible)

DESCRIPTION: Multi-Cond. tinned copper stranded 105° C high temperature P.V.C. thermoplastic insulation. When jacketed clear P.V.C. thermoplastic used over cabled wire.

### NO OUTER JACKET

| Cat. No. | Spool | No. of Cond. | Size AWG | Cond. Strand | Nom. Wall | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7652 | 1000′ | 2 | 30 | 7/38 | .010″ | .059″ |
| 7652 | 500′ | 2 | 30 | 7/38 | .010″ | .059″ |
| 7653 | 1000′ | 3 | 30 | 7/38 | .010″ | .065″ |
| 7653 | 500′ | 3 | 30 | 7/38 | .010″ | .065″ |
| 7654 | 1000′ | 4 | 30 | 7/38 | .010″ | .072″ |
| 7654 | 500′ | 4 | 30 | 7/38 | .010″ | .072″ |

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

### CLEAR VINYL JACKET OVERALL

| Cat. No. | Spool | No. of Cond. | Size AWG | Cond. Strand | Nom. Wall Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7668 | 1000′ | 2 | 28 | 7/36 | .010″ | .079″ |
| 7668 | 500′ | 2 | 28 | 7/36 | .010″ | .079″ |
| 7669 | 1000′ | 3 | 28 | 7/36 | .010″ | .086″ |
| 7669 | 500′ | 3 | 28 | 7/36 | .010″ | .086″ |
| 7670 | 1000′ | 4 | 28 | 7/36 | .010″ | .095″ |
| 7670 | 500′ | 4 | 28 | 7/36 | .010″ | .095″ |

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

## SUB-MINIATURE — SHIELDED HOOK-UP WIRE — (Super Flexible)

| Cat. No | Spool | No. of Cond. | Size AWG | Conductor Strand | Nom. Wall | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7538 | 1000′ | 1 | 30 | 7/38 | .010″ | .053″ |
| 7538 | 500′ | 1 | 30 | 7/38 | .010″ | .053″ |
| 7535 | 1000′ | 1 | 28 | 7/36 | .010″ | .058″ |
| 7535 | 500′ | 1 | 28 | 7/36 | .010″ | .058″ |
| 7537 | 1000′ | 1 | 26 | 10/36 | .010″ | .061″ |
| 7537 | 500′ | 1 | 26 | 10/36 | .010″ | .061″ |
| 7536 | 1000′ | 1 | 24 | 16/36 | .015″ | .075″ |
| 7536 | 500′ | 1 | 24 | 16/36 | .015″ | .075″ |

STOCK COLOR: White (under shield)

DESCRIPTION:

One or multi-conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation and tinned copper shielded braid overall.

## SUB-MINIATURE — MULTI-CONDUCTOR CABLE SHIELDED — (Super Flexible)

DESCRIPTION: Multi-conductor, tinned copper stranded 105° C high temperature P.V.C. thermoplastic insulation, tinned copper shield. When jacketed clear P.V.C. Thermoplastic jacket used over tinner copper shield.

### SHIELDED NO OUTER JACKET

| Cat. No. | Spool | No. of Cond. | Size AWG | Cond. Strand | Nom. Wall | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7542 | 1000′ | 2 | 24 | 16/36 | .015″ | .114″ |
| 7542/3 | 1000′ | 3 | 24 | 16/36 | .015″ | .123″ |
| 7542/4 | 1000′ | 4 | 24 | 16/36 | .015″ | .144″ |

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

### SHIELDED CLEAR VINYL JACKET OVERALL

| Cat. No. | Spool | No. of Cond. | Size AWG | Cond. Strand | Nom. Wall Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|
| 7552 | 1000′ | 2 | 28 | 7/36 | .010″ | .157″ |
| 7552/3 | 1000′ | 3 | 28 | 7/36 | .010″ | .145″ |
| 7552/4 | 1000′ | 4 | 28 | 7/36 | .010″ | .163″ |

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

**ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.**

Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

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World Radio History

# Birnbach

## PLASTIC and RUBBER MICROPHONE CABLE
## MULTI-CONDUCTOR — ARMORED CABLE

## PLASTIC MICROPHONE CABLE

Designed to stand up under physical abuse and is resistant to oil, moisture and aging for long life. These cables have low capacitance, high insulation resistance and low attenuation at audio frequencies. Will not stain or mark.

#1839 is used for high impedance microphone, lapel, contact, crystal, ribbon, velocity and Hi-Fi interconnecting cable.
#1840 is used for high impedance lapel microphones.
#1841 is used for crystal, ribbon and other impedance microphones.

Above recommended for Hi-Fi installations because of low loss and low capacitance.

### PLASTIC — ONE-CONDUCTOR MICROPHONE CABLE

**DESCRIPTION:**
**Single Conductor Stranded**
3 strands #33 copper tinned, and 4 strands #33 (steel-tinned 1840 and 1841) cellulose yarn braid. Polyethylene insulation, tinned copper shielded braid, with chrome vinyl plastic jacket overall.

Nos. 1839. 1940. 1841

| Cat. No. | Spool | Cond. | Size No. Awg. | Stranding | Nom. Cap./Ft. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 1839 | 500' | 1 | 20 | 26 34 | 39MMF | .175" |
| 1840 | 500' | 1 | 25 | 7 33* | 34MMF | .144" |
| 1841 | 500' | 1 | 25 | 7 33* | 25MMF | .200" |

*3X33 Copper, 4X33 Steel (All tinned)

### SPIRAL SHIELDED MICROPHONE CABLE

Constructed with tinned copper spiral wrapped concentric shield. Extremely flexible, smaller size.

| Cat. No. | Spool | Cond. | Size No. Awg. | Stranding | Nom. Cap./Ft. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 1835 | 500' | 1 | 25 | 7/33 | 25MMF | .159" |
| 1836 | 500' | 1 | 25 | 7/33 | 33MMF | .125" |

### PLASTIC — MULTI-CONDUCTOR MICROPHONE CABLE

Used with carbon and all low impedance microphones.

**DESCRIPTION:**
Each conductor tinned copper, Polyethylene insulation — color coded tinned copper braid shield, chrome vinyl jacket overall.

No. 1842

| Cat. No. | Spool | Cond. | Size No. Awg. | Stranding | Nom. Cap./Ft. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 1842 | 500' | 2 | 22 | 16 34 | 31MMF | .231" |
| 1843 | 500' | 3 | 20 | 26 34 | 39MMF | .295" |
| 1844 | 500' | 4 | 20 | 26 34 | 43MMF | .320" |
| 1845 | 500' | 5 | 20 | 26 34 | 48MMF | .345" |
| 1846 | 500' | 6 | 20 | 26 34 | 54MMF | .370" |

COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow, 6—Blue

## SHIELDED MULTI-CONDUCTOR CABLE

Used indoors for permanent or portable work to prevent interference pickup on P.A. systems, recording equipment, photo electric circuits, etc.

### TINNED COPPER SHIELD OVERALL

**DESCRIPTION:**
Each Conductor #20 10/30 Stranded Tinned Copper, 1/64" rubber wall, waxed cotton braid color coded, twisted conductors, tinned copper shield overall No. 1972 with cotton braid overall.

Nos. 972 to 978

| Cat. No. | Spool | Conds. | Size AWG | Strand | Insul. | Cap/Ft. Bet. Cond. & Shield | Cap/Ft. Bet. Conds. | Nom. O.D. |
|---|---|---|---|---|---|---|---|---|
| 972 | 100' | 2 | 20 | 10 30 | 1 64 | 65 Mmf | 43 Mmf | .215" |
| 973 | 100' | 3 | 20 | 10/30 | 1 64 | 68 Mmf | 55 Mmf | .220" |
| 974 | 100' | 4 | 20 | 10 30 | 1 64 | 69 Mmf | 57 Mmf | .250" |
| 975 | 100' | 5 | 20 | 10/30 | 1 64 | 70 Mmf | 58 Mmf | .280" |
| 976 | 100' | 6 | 20 | 10 30 | 1 64 | 71 Mmf | 60 Mmf | .290" |
| 977 | 100' | 7 | 20 | 10 30 | 1 64 | 72 Mmf | 62 Mmf | .315" |
| 978 | 100' | 8 | 20 | 10/30 | 1 64 | 74 Mmf | 65 Mmf | .350" |
| 1972 | 100' | 2 | 20 | 10 30 | 1/64 | 65 Mmf | 43 Mmf | .225" |

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Brown, 6—Yellow, 7—Blue, 8—Orange

## ARMORED INDUSTRIAL CABLE

Used for P.A. systems on speaker extensions, oil burner installations, auto wiring, etc.

Two Conductors Parallel #18 16/30 Stranded Tinned Copper, rubber insulation, lacquered cotton braid color coded, spiral galvanized steel armor overall.

| Cat. No | Spool | Size AWG | Strand | O.D. |
|---|---|---|---|---|
| 1111 | 250' | 18 | 16 30 | .155" x .240" |
| 1112 | 500' | 18 | 16 30 | .155" x .240" |
| 1113 | 1000' | 18 | 16 30 | .155" x .240" |

## RUBBER MICROPHONE CABLE

### Especially Designed for Heavy Studio Use

### RUBBER CRYSTAL MICROPHONE CABLE

Designed for long service life and low loss. Use with crystal, ribbon, dynamic and velocity microphones and photoelectric cells. Birnbach #1870 is used widely for lapel microphones and phono pick ups.

**DESCRIPTION:**
**Single Conductor, 26 Strands**
#34 extra flexible tinned copper, special low loss rubber compound, tinned copper braid shield, cotton wrap, tough black rubber jacket overall.

No 870
No 872

| Cat. No. | Spool | Cond. | Size No. Awg. | Stranding | Nom. Cap./Ft. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 870 | 100' | 1 | 20 | 26 34 | 40 Mmf | .175" |
| 1870 | 250' | 1 | 20 | 26 34 | 40 Mmf | .175" |
| 872 | 100' | 1 | 20 | 26 34 | 30 Mmf | .245" |
| 1872 | 250' | 1 | 20 | 26 34 | 30 Mmf | .245" |

### RUBBER MICROPHONE CABLE

**DESCRIPTION:**
**Each Conductor, extra flexible stranded** tinned copper, insulated with a .022" wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap, tinned copper braided shield, cotton wrap with tough weatherproof black rubber jacket overall.

Nos. 772 to 778

Used for indoor and outdoor crystal, carbon and condenser microphones and for public address systems.

| Cat. No. | Spool | Cond. | Size Awg. | Strand. | Nom. Cap. Between 1-Cond. & Shield | Nom. Cap. Between 1-Cond. & Others Connected to Shield | Nom. Cap. Between 1-Cond. & Others | Nom. O.D. |
|---|---|---|---|---|---|---|---|---|
| 772 | 100' | 2 | 20 | 26 34 | 65 Mmf | 68 Mmf | 43 Mmf | .280" |
| 1772 | 250' | 2 | 20 | 26 34 | 65 Mmf | 68 Mmf | 43 Mmf | .280" |
| 772/18 | 100' | 2 | 18 | 41 34 | 70 Mmf | 73 Mmf | 48 Mmf | .300" |
| 773 | 100' | 3 | 20 | 26 34 | 68 Mmf | 72 Mmf | 55 Mmf | .290" |
| 1773 | 250' | 3 | 20 | 26/34 | 68 Mmf | 72 Mmf | 55 Mmf | .290" |
| 773/18 | 100' | 3 | 18 | 41 34 | 68 Mmf | 72 Mmf | 55 Mmf | .350" |
| 774 | 100' | 4 | 20 | 26/34 | 68 Mmf | 74 Mmf | 57 Mmf | .300" |
| 1774 | 250' | 4 | 20 | 26 34 | 68 Mmf | 74 Mmf | 57 Mmf | .300" |
| 774/18 | 250' | 4 | 18 | 41 34 | 68 Mmf | 74 Mmf | 57 Mmf | .335" |
| 775 | 100' | 5 | 20 | 26 34 | 70 Mmf | 76 Mmf | 58 Mmf | .330" |
| 1775 | 250' | 5 | 20 | 26 34 | 70 Mmf | 76 Mmf | 58 Mmf | .330" |
| 776 | 100' | 6 | 20 | 26 34 | 71 Mmf | 80 Mmf | 60 Mmf | .350" |
| 1776 | 250' | 6 | 20 | 26/34 | 71 Mmf | 80 Mmf | 60 Mmf | .350" |
| 777 | 100' | 7 | 20 | 26 34 | 72 Mmf | 85 Mmf | 62 Mmf | .365" |
| 1777 | 250' | 7 | 20 | 26 34 | 72 Mmf | 85 Mmf | 62 Mmf | .365" |
| 778 | 100' | 8 | 20 | 26 34 | 74 Mmf | 90 Mmf | 65 Mmf | .390" |

For longer lengths and alternate put ups—Specify.

### MICROPHONE CABLE COLOR CODE CHART

| | | | |
|---|---|---|---|
| 1—Black | 3—Red | 5—Yellow | 7—Brown |
| 2—White | 4—Green | 6—Blue | 8—Orange |

## 2 CONDUCTOR SHIELDED

### (Twisted Pair)

Used for transmission line, P. A. and sound systems, school, hospital sound installations, industrial paging systems, broadcast and audio cable, paging and jack panel wiring.

**DESCRIPTION:**
Each conductor copper tinned, plastic insulation, color coded twisted, tinned copper shield overall.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Insul. | NOM O.D. |
|---|---|---|---|---|---|---|
| 826/30 | 500' | 2 | 30 | 7 x 38 | .010" | .085" |
| 826/28 | 500' | 2 | 28 | 7 x 36 | .010" | .090" |
| 826/26 | 500' | 2 | 26 | 7 x 34 | .010" | .100" |
| 826 | 500' | 2 | 24 | 16 x 36 | .015" | .120" |
| 825 | 500' | 2 | 22 | 7 x 30 | .017" | .140" |
| 972S | 500' | 2 | 20 | 10 x 30 | .017" | .155" |
| 827 | 500' | 2 | 18 | 6 x 30 | .017" | .180" |
| 828 | 500' | 2 | 16 | 20 x 30 | .020" | .210" |
| 829 | 500' | 2 | 14 | 41 x 30 | .020" | .245" |
| 830 | 500' | 2 | 12 | 6 x 30 | .025" | .295" |

### 3 CONDUCTOR SHIELDED

| | | | | | | |
|---|---|---|---|---|---|---|
| 973S | 500' | 3 | 20 | 10 x 30 | .017" | .192" |

### 2 CONDUCTOR SHIELDED WAXED COTTON BRAID OVER SHIELD

| | | | | | | |
|---|---|---|---|---|---|---|
| 972B | 500' | 2 | 20 | 10 x 30 | .017" | .180" |

COLOR CODE: 1—Black, 2—Red, 3—White

**FOR LONGER LENGTHS AND ALTERNATE PUT-UPS—SPECIFY.**


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World Radio History

# PLASTIC INTERCOMMUNICATING CABLES

## TWISTED PAIRS—SOLID CONDUCTORS

Used in connecting Intercommunicating and Sound Systems, Telephones, Annunciators, Nurses Hospital Call Systems, Electronic Computers, Guided Missiles.

**DESCRIPTION:**

**Each Conductor #22 Solid Copper Tinned, .010" Wall Vinyl Plastic Insulation,** conductors color coded, twisted pairs cabled, tubed gray Vinyl plastic jacket overall. Suitable for outdoor installations.

No. 4701 to 4729

| Cat. No. | Spool | Pairs | Cond. | Size No. AWG | Nom. Jkt. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 4701 | 500' | 1 | 2 | 22 Solid | .020" | .145" |
| 4702 | 500' | 2 | 4 | 22 Solid | .020" | .205" |
| 4703 | 500' | 3 | 6 | 22 Solid | .020" | .215" |
| 4706 | 500' | 6 | 12 | 22 Solid | .020" | .250" |
| 4709 | 500' | 9 | 18 | 22 Solid | .020" | .310" |
| 4711 | 500' | 11 | 22 | 22 Solid | .020" | .350" |
| 4711/13 | 500' | 13 | 26 | 22 Solid | .025" | .385" |
| 4715 | 500' | 15 | 30 | 22 Solid | .025" | .390" |
| 4716 | 500' | 16 | 32 | 22 Solid | .025" | .405" |
| 4727 | 500' | 27 | 54 | 22 Solid | .035" | .495" |
| 4727/31 | 500' | 31 | 62 | 22 Solid | .035" | .555" |
| 4727/41 | 500' | 41 | 82 | 22 Solid | .035" | .630" |
| 4729 | 500' | 51 | 102 | 22 Solid | .045" | .650" |
| 4729/76 | 500' | 76 | 152 | 22 Solid | .070" | .970" |
| 4729/101 | 500' | 101 | 202 | 22 Solid | .080" | 1.140" |

For longer lengths and alternate put-ups—Specify.

## TWISTED PAIRS—STRANDED CONDUCTORS

**DESCRIPTION:**

**Each Conductor #22 7/30 Stranded Tinned Copper, .010" Vinyl plastic** insulation, twisted pairs cabled, conductors color coded, tubed gray Vinyl plastic jacket overall.

No. 4731 to 4747

| Cat. No. | Spool | Pairs | Cond. | Size No. AWG | Strand | Nom. O.D. |
|---|---|---|---|---|---|---|
| 4731 | 500' | 1 | 2 | 22 | 7/30 | .145" |
| 4732 | 500' | 2 | 4 | 22 | 7 30 | .210' |
| 4733 | 500' | 3 | 6 | 22 | 7 30 | .225' |
| 4734 | 500' | 4 | 8 | 22 | 7 30 | .235" |
| 4735 | 500' | 5 | 10 | 22 | 7 30 | .245" |
| 4736 | 500' | 6 | 12 | 22 | 7/30 | .270" |
| 4739 | 500' | 9 | 18 | 22 | 7 30 | .325" |
| 4745 | 500' | 15 | 30 | 22 | 7 30 | .455" |
| 4747 | 500' | 27 | 54 | 22 | 7 30 | .570' |

For longer lengths and alternate put-ups—Specify.

### COLOR CODE CHART FOR PAIRED INTERCOMMUNICATING CABLES

| Pair No. | Color |
|---|---|
| 1 | Black with Red |
| 2 | Black with White |
| 3 | Black with Green |
| 4 | Black with Blue |
| 5 | Black with Brown |
| 6 | Black with Yellow |
| 7 | Black with Orange |
| 8 | Red with Green |
| 9 | Red with White |
| 10 | Red with Blue |
| 11 | Red with Yellow |
| 12 | Red with Brown |
| 13 | Red with Orange |
| 14 | Green with Blue |
| 15 | Green with White |
| 16 | Green with Brown |
| 17 | Green with Orange |
| 18 | Green with Yellow |
| 19 | White with Blue |
| 20 | White with Brown |
| 21 | White with Orange |
| 22 | White with Yellow |
| 23 | Blue with Brown |
| 24 | Blue with Orange |
| 25 | Blue with Yellow |
| 26 | Brown with Orange |
| 27 | Brown with Yellow |
| 28 | Purple with White |
| 29 | Purple with White |
| 30 | Purple with Green |
| 31 | Purple with Blue |
| 32 | Purple with Brown |
| 33 | Purple with Yellow |
| 34 | Purple with Orange |
| 35 | Purple with Slate |
| 36 | Purple with Black |
| 37 | Slate with Red |
| 38 | Slate with White |
| 39 | Slate with Green |
| 40 | Slate with Blue |
| 41 | Slate with Brown |
| 42 | Slate with Yellow |
| 43 | Slate with Orange |
| 44 | Slate with Black |
| 45 | White/Black with Red |
| 46 | White/Black with Green |
| 47 | White/Black with Blue |
| 48 | White/Black with Brown |
| 49 | White/Black with Yellow |
| 50 | White/Black w. Orange |
| 51 | White/Black with Purple |

# SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

**Plastic Jacketed—with Spiral wrapped copper shield**

Designed for P. A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.

**DESCRIPTION:**

Each conductor copper tinned, 1/64 plastic insulation, color coded, twisted, spiral wrapped tinned copper shield, gray plastic jacket overall.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. Jacket | O.D. |
|---|---|---|---|---|---|---|---|
| 941 | 500' | 2 | 22 | 7 30 | .017" | .020" | .171" |
| 941/1 | 500' | 1 | 22 | 7 30 | .017" | .020" | .120" |
| 942 | 500' | 2 | 20 | 10 30 | .017" | .020" | .190" |
| 943 | 500' | 3 | 20 | 10 30 | .017" | .020" | .208" |
| 944 | 500' | 4 | 20 | 10 30 | .017" | .020" | .222" |
| 947 | 500' | 2 | 18 | 16 30 | .017" | .020" | .230" |
| 948 | 500' | 2 | 16 | 26 30 | .017" | .020" | .250" |

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green

# PLASTIC INTER-COM CABLE

## 4 CONDUCTORS (2 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a shielded twisted pair is indicated in order to eliminate cross talk.

**DESCRIPTION:**

**No. 925** — 4 conductors #22 7/30 stranded tinned copper, vinyl plastic insulation color coded, tinned copper shield over one pair (2 cond.) One pair (2 cond.) unshielded. Tubed gray vinyl jacket overall.

COLOR CODE: Black/white shielded — Black/red unshielded

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. Jacket | O.D. |
|---|---|---|---|---|---|---|---|
| 925 | 500' | 4 | 22 | 7 30 | .016" | .020" | .310" |

## 3 CONDUCTORS (1 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a single shielded conductor is indicated in order to eliminate cross talk.

**DESCRIPTION:**

**No. 924** — 3 conductors #22 7/30 stranded tinned copper, vinyl, plastic insulation color coded, tinned copper shield over one conductor, tubed gray vinyl jacket overall.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. Jacket | O.D. |
|---|---|---|---|---|---|---|---|
| 924 | 500' | 3 | 22 | 7 30 | .016" | .020' | .205" |

COLOR CODE: Black/red unshielded — White shielded

# SHIELDED BROADCAST AUDIO CABLE

Designed to provide maximum performance on all equipment. Conductors twisted correctly assures quiet, clear operation which eliminates interference and cross talk. Used by Broadcast studios, for P. A. and sound systems, rack wiring, etc.

**DESCRIPTION:**

No. 938
CBS, ABC TYPE

**#938—#22 Solid Tinned Copper Conductor,** enameled, heavy cellulose acetate yarn wrap, cotton braid waxed; cabled with #22 AWG solid tinned copper wire laid parallel to twisted pair under tinned copper braid shield; tubed-on Vinyl plastic jacket overall.

No. 939

**#939—#22-7/30 Stranded Tinned Copper,** plastic insulation, color coded, twisted, copper braid shield, tubed-on Vinyl plastic jacket overall.

No. 940

**#940—2 Conductors #22** solid plastic insulation, color coded, twisted with #22 AWG solid tinned copper ground wire under tinned copper shield with vinyl plastic jacket overall.

**#940/1** same construction as **#940** however with tinned copper spiral wrapped shield.

Nos. 822 and 824

**#822 and #824** have solid enameled copper wire, cotton wrap, cotton braid waxed twisted pair, bare copper braid overall.

| Cat. No. | Spool | Conds. | AWG Size No. | Strand | O.D. Nom. |
|---|---|---|---|---|---|
| 938 | 500' | 2 | 22 | Solid | .210" |
| 939 | 500' | 2 | 22 | 7 30 | .160" |
| 940 | 500' | 2 | 22 | Solid | .150" |
| 940/1 | 500' | 2 | 22 | Solid | .115" |
| 822 | 500' | 2 | 22 | Solid | .125" |
| 824 | 500' | 2 | 19 | Solid | .115" |

COLOR CODE: Black and Red

For longer lengths and alternate put-ups—Specify.

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World Radio History

# Birnbach

**RUBBER JACKETED CABLE — JUKE BOX CABLE, SERVICE CORDS ANTENNA, COAXIAL, TV, DIATHERMY.**

## RUBBER JACKETED MULTI-CONDUCTOR CABLE
### (NOT SHIELDED)

Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speakers, interconnecting cable for all electronic uses.

DESCRIPTION:
Each conductor, extra flexible stranded tinned copper, insulated with a .022" wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap with tough weatherproof black rubber jacket overall.

COLOR CODE CHART

| | | | |
|---|---|---|---|
| 1—Black | 3—Red | 5—Yellow | 7—Brown |
| 2—White | 4—Green | 6—Blue | 8—Orange |

| Cat. No. | Spool | Cond. | Size No. AWG | Strand | Cap. Bet. 1 Cond. & Others | Nom. O.D. |
|---|---|---|---|---|---|---|
| 788 | 100' | 2 | 20 | 26/34 | 40 Mmf | .275" |
| 789 | 250' | 2 | 20 | 26/34 | 40 Mmf | .275" |
| 790 | 100' | 3 | 20 | 26/34 | 50 Mmf | .285" |
| 791 | 250' | 3 | 20 | 26/34 | 50 Mmf | .285" |
| 792 | 100' | 4 | 20 | 26/34 | 53 Mmf | .305" |
| 793 | 250' | 4 | 20 | 26/34 | 53 Mmf | .305" |
| 794 | 100' | 5 | 20 | 26/34 | 56 Mmf | .335" |
| 795 | 250' | 5 | 20 | 26/34 | 56 Mmf | .335" |
| 796 | 100' | 6 | 20 | 26/34 | 58 Mmf | .355" |
| 797 | 250' | 6 | 20 | 26/34 | 58 Mmf | .355" |
| 798 | 100' | 7 | 20 | 26/34 | 60 Mmf | .370" |
| 749 | 100' | 8 | 20 | 26/34 | 63 Mmf | .395" |

For longer lengths and alternate put-ups—Specify.

## RIP-STRIP LAMP CORD
### TYPE SP-1 (POSJ-64) — UL APPROVED
### TYPE SPT-1 (POT) — UL APPROVED

All purpose approved cords SP-1 (rubber) SPT-1 (Plastic) for line cord on lamps, radios, clocks, small electronic instruments and appliances.

DESCRIPTION:
Two Conductors Parallel, #18—41/34 Extra Flexible Copper, rubber or plastic jacket slit for easy separation.

| Cat. No. | Spool | Cond. | Size AWG | Strand | Insul. Type | UL Tpe | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 570 | 100' | 2 | 18 | 41/34 | Rubber | SP-1 (POSJ) | .130" x .235" |
| 572 | 250' | 2 | 18 | 41/34 | Rubber | SP-1 (POSJ) | .130" x .235" |
| 573 | 500' | 2 | 18 | 41/34 | Rubber | SP-1 (POSJ) | .130" x .235" |
| 569 | 500' | 2 | 18 | 41/34 | Plastic | SPT-1 (POT) | .130" x .235" |

Colors: (Rubber) Brown, Black, White.
(Plastic) Brown, Black, Ivory, Gray, Pink, Light Blue, Yellow, Green.

## HEAVY DUTY SERVICE CORD—UL APPROVED

Used for heavy duty replacement on refrigerators, washing machines, machinery, tools and electronic devices.

DESCRIPTION:
Two Conductors, Stranded Bare Copper, cotton serve, rubber insulation, jute filler, cotton wrap, tough rubber jacket overall, molded rubber plug one end, free end stripped and tinned for easy attachment—Hanked.

No. 346 Same as above with extra ground lead.

| Cat. No. | Length Ft. | Conds. | Size AWG | Type | Strand | O.D. | Std. Pkg. |
|---|---|---|---|---|---|---|---|
| 348 | 8 | 2 | 16 | S.J. | 65/34 | .325" | 25 |
| 346 | 8 | 3 | 16 | S.J. | 65/34 | .355" | 25 |
| 309 | 9 | 2 | 18 | S.V. | 41/34 | .250" | 25 |
| 312 | 12 | 2 | 18 | S.V. | 41/34 | .250" | 25 |

## TV POWER SUPPLY CORD—UL APPROVED

Used extensively as replacement of damaged or worn out TV cords.

DESCRIPTION:
Six Foot Rip Strip TV U.L. Approved Safety Cord. 2 cond. No. 18 SP-1 (POSJ) brown rubber cord with molded male plug and TV molded-on connector on other end.

| Cat. No. | | | Std. Pkg. |
|---|---|---|---|
| 815 | Television Power Supply Cord | 6 Feet | 100 |

## SERVICE LINE CORDS—UL APPROVED

An all purpose approved power supply cord for radios, record players, lamps, and small appliances.

DESCRIPTION:
Two Conductors Rubber Parallel SP-1 (POSJ) with Molded-on Male Plug, double brass blades, conductor end stripped and tinned, hanked. Available in Black and Brown.

| Cat. No. | Lgth. Ft. | Conds. | Size No. AWG | Strand | Nom. O.D. | Std. Pkge. |
|---|---|---|---|---|---|---|
| 816 | 6 | 2 | 18 | 41/34 | .130" x .235" | 100 |
| 817 | 7½ | 2 | 18 | 41/34 | .130" x .235" | 100 |
| 819 | 10 | 2 | 18 | 41/34 | .130" x .235" | 50 |

## RUBBER & NEOPRENE SERVICE CORD
### (HEAVY DUTY) — UL APPROVED

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved. Neoprene construction recommended for equipment exposed to oil, acids, outdoor use, direct burial, etc.

DESCRIPTION:
Each Conductor Stranded Bare Copper, cotton serve, rubber insulation, color coded, conductors twisted, jute fillers, cotton wrap, tough rubber jacket overall.

| Cat. No. | U/L Type | Cat. No. | U/L Type | Std. Put-ups | Size No. Conds. | AWG. | Strand | Amp Rating | Volt Rating | Nom. O.D. |
|---|---|---|---|---|---|---|---|---|---|---|
| 701 | SV | 690 | SVO | 250' | 2 | 18 | 41/34 | 7 | 300 | .250" |
| 574 | SJ | 691 | SJO | 250' | 2 | 18 | 41/34 | 7 | 300 | .300" |
| 575 | SJ | 692 | SJO | 250' | 3 | 18 | 41/34 | 7 | 300 | .330" |
| 575/4 | SJ | 692/4 | SJO | 250' | 4 | 18 | 41/34 | 7 | 300 | .360" |
| 578 | SJ | 693 | SJO | 250' | 2 | 16 | 65/34 | 10 | 300 | .325" |
| 578/3 | SJ | 693/3 | SJO | 250' | 3 | 16 | 65/34 | 10 | 300 | .365" |
| 578/4 | SJ | 693/4 | SJO | 250' | 4 | 16 | 65/34 | 10 | 300 | .395" |
| 702 | S | 694 | SO | 250' | 2 | 18 | 41/34 | 7 | 600 | .390" |
| 702/3 | S | 694/3 | SO | 250' | 3 | 18 | 41/34 | 7 | 600 | .405" |
| 702/4 | S | 694/4 | SO | 250' | 4 | 18 | 41/34 | 7 | 600 | .435" |
| 703 | S | 695 | SO | 250' | 2 | 16 | 65/34 | 10 | 600 | .410" |
| 703/3 | S | 695/3 | SO | 250' | 3 | 16 | 65/34 | 10 | 600 | .420" |
| 703/4 | S | 695/4 | SO | 250' | 4 | 16 | 65/34 | 10 | 600 | .485" |
| 704 | S | 696 | SO | 250' | 2 | 14 | 41/30 | 15 | 600 | .540" |
| 704/3 | S | 696/3 | SO | 250' | 3 | 14 | 41/30 | 15 | 600 | .560" |
| 704/4 | S | 696/4 | SO | 250' | 4 | 14 | 41/30 | 15 | 600 | .605" |
| 705 | S | 697 | SO | 250' | 2 | 12 | 65/30 | 20 | 600 | .605" |
| 705/3 | S | 697/3 | SO | 250' | 3 | 12 | 65/30 | 20 | 600 | .635" |
| 705/4 | S | 697/4 | SO | 250' | 4 | 12 | 65/30 | 20 | 600 | .665" |
| 706 | S | 698 | SO | 250' | 2 | 10 | 103/30 | 25 | 600 | .640" |
| 706/3 | S | 698/3 | SO | 250' | 3 | 10 | 103/30 | 25 | 600 | .690" |
| 706/4 | S | 698/4 | SO | 250' | 4 | 10 | 103/30 | 25 | 600 | .745" |

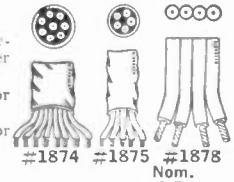
Additional Conductors Available

COLOR CODE: 1—White, 2—Black, 3—Green, 4—Red.

## ANTENNA CONTROL ROTOR CABLE

Developed for remote control of television antenna rotators.

DESCRIPTION:
#1874—4 Conductors flat parallel polyethylene plastic insulation — One outer conductor tinned, balance bare copper.
#1875 — 5 Conductors twisted, color coded. Vinyl plastic jacket overall.
#1878 — 8 Conductors twisted, color coded. Vinyl plastic jacket overall.




| Cat. No. | Spool | Cond. | Size AWG | Strand | Nom. O.D. |
|---|---|---|---|---|---|
| 1874 | 1000' | 4 | 20 | 7/28 | .072" x .390" |
| 1874A | 500' | 4 | 20 | 7/28 | .072" x .390" |
| 1875 | 1000' | 5 | 20 | 7/28 | .180" |
| 1875A | 500' | 5 | 20 | 7/28 | .180" |
| 1878 | 1000' | 8 | 22 | 7/30 | .205" |
| 1878A | 500' | 8 | 22 | 7/30 | .205" |

COLOR CODE CHART FOR #1875, #1878

| | | | |
|---|---|---|---|
| 1—Black | 3—Red | 5—Yellow | 7—Brown |
| 2—White | 4—Green | 6—Blue | 8—Orange |

## RG/U COAXIAL TRANSMISSION CABLE

DESCRIPTION: One and Two Conductor, Polyethylene plastic insulation, copper braid shield, plastic jacket overall.

| Cat. No. | Spool | Type | Nom. Imped. | Nom. Mmfd./Ft. | Size AWG | Strand | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 901 | 500' | RG-8/U | 52 | 29.5 | 13 | 7/21 Bare | .405" |
| 902 | 500' | RG-9/U | 51 | 30 | 13 | 7/21S | .420" |
| 903 | 500' | RG-11/U | 75 | 20.5 | 18 | 7/26 Tinned | .405" |
| 904F | 500' | RG-11/U | 75 | 16.5 | 15 | Solid | .405" |
| 904DS | 500' | RG-11/U | 75 | 20.5 | 18 | 7/26 T | .470" |
| 904DSF | 500' | RG-11/U | 75 | 16.5 | 15 | Solid | .470" |
| 912 | 500' | RG-22/U | 95.0 | 16.0 | 18 | 2 Cond. 7/.0152 | .405" |
| 907 | 1000' | RG-29/U | 53.5 | 28.5 | 20 | Solid | .174" |
| 909 | 1000' | RG-54A/U | 58 | 26.5 | 18 | 7/.0152" | .250" |
| 905 | 1000' | RG-58A/U | 50 | 29.0 | 20 | 19/.0068 Tinned | .195" |
| 906 | 1000' | RG-58/U | 53.5 | 28.5 | 20 | Solid | .195" |
| 910 | 1000' | RG-59/U | 73 | 21.0 | 22 | Solid Copperweld | .242" |
| 914 | 1000' | RG-62/U | 93 | 13.5 | 22 | Solid | .242" |
| 916 | 1000' | RG-108A/U | 78 | 23.5 | 20 | 2 Cond. 7/28T | .235" |

Additional RG numbers available including double shields, non-contaminating jackets—all conforming to MIL-C-17B specifications. Also, "TEFLON" dielectrics available for hi. temp. miniaturization.
No. 904F is RG-11/U with Poly-cell foam; No. 904 DSF has double shield Poly-cell dielectric constant of 1.50 solid Polyethylene 2.25.

## DIATHERMY CABLE

| Cat. No. | Spool | Size AWG | Strand | Ins. | Nom. O.D. |
|---|---|---|---|---|---|
| 756 | 100' | 14 | 104/34 | 3/64" | .300" |
| 757 | 1000' | 14 | 104/34 | 3/64" | .300" |


See Pages S-1208 and S-1209 for Birnbach Prices
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World Radio History

# Birnbach — SHIELDED — MULTI — TWO WIRE SPEAKER CABLE TWISTED PAIR CABLES

## SHIELDED TWO WIRE SPEAKER CABLE

Used extensively for master control sound systems, photo electric circuits, P.A. systems, etc.

DESCRIPTION:
#972A—2 Cond. #18-16/30 Tinned Copper, 1/32" wall special low capacity rubber, color coded, twisted, paper wrap, closely woven tinned copper shield overall.
#1972A—Similar to #972A with a waxed cotton braid over shield.

No. 972A

**TINNED SHIELD OVERALL**

| Cat. No. | Spool | Cond. | Size AWG | Strand | Insul. | Cap/Ft. Bet. Cond. & Shield | Cap/Ft. Bet. Conds. | O.D. |
|---|---|---|---|---|---|---|---|---|
| 972A | 500' | 2 | 18 | 16/30 | 1/32 | 65 | 43 | .250" |

**WAXED COTTON BRAID OVER SHIELD**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1972A | 500' | 2 | 18 | 16/30 | 1/32 | 65 | 43 | .275" |

COLOR CODE: Black and Red
For longer lengths and alternate put-ups—Specify.

## Multi-Conductor Industrial Cable

### PLASTIC JACKET OVERALL

DESCRIPTION:
#18 solid tinned copper plastic insulation, color coded, twisted conductors. Gray vinyl jacket overall. Used for inter-com systems, speaker cable, alarm, signal, P. A. systems, thermostats, remote control circuits. Suitable for outdoor installations.

| Cat. No. | Spool | Conds. | Size AWG | Nom. Insul. | Nom. Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|
| 4752 | 500' | 2 | 18 solid | .017" | .020" | .185" |
| 4753 | 500' | 3 | 18 solid | .017" | .020" | .190" |
| 4754 | 500' | 4 | 18 solid | .017" | .020" | .235" |
| 4755 | 500' | 5 | 18 solid | .017" | .020" | .240" |
| 4756 | 500' | 6 | 18 solid | .017" | .020" | .275" |

COLOR CODE:
1—Black, 2—Red, 3—White, 4—Green, 5—Orange, 6—Blue

## UNSHIELDED AUDIO CABLE
## Stranded and Solid Cond. (2 & 3)

Widely used for connecting sound and inter-com systems, audio hookups, indoor and outdoors. Telephones, telemetering connections. For Baby Sitter Intercoms.

### FOR INDOOR USE Without Outer Jacket

DESCRIPTION:
Stranded & Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted.

| Cat. No. | Spool | Conds. | Size AWG | Nom. Insul. | Nom. O.D. |
|---|---|---|---|---|---|
| 931 | 1000' | 2 | 22 Solid | .016" | .100" |
| 933 | 1000' | 3 | 22 Solid | .016" | .115" |
| 981 | 1000' | 2 | 20 Solid | .016" | .120" |
| 983 | 1000' | 3 | 20 Solid | .016" | .140" |
| 985 | 1000' | 2 | 18 Solid | .016" | .145" |
| 987 | 1000' | 3 | 18 Solid | .016" | .155" |
| 989 | 1000' | 2 | 16 Solid | .016" | .175" |
| 989/3 | 1000' | 3 | 16 Solid | .016" | .190" |
| 990 | 1000' | 2 | 22 Stranded 7/30 | .016" | .125" |
| 990/3 | 1000' | 3 | 22 Stranded 7/30 | .016" | .140" |
| 991 | 1000' | 2 | 20 Stranded 10/30 | .016" | .145" |
| 991/3 | 1000' | 3 | 20 Stranded 10/30 | .016" | .160" |
| 992 | 1000' | 2 | 18 Stranded 16/30 | .016" | .165" |
| 992/3 | 1000' | 3 | 18 Stranded 16/30 | .016" | .180" |
| 993 | 1000' | 2 | 16 Stranded 26/30 | .016" | .190" |
| 993/3 | 1000' | 3 | 16 Stranded 26/30 | .016" | .210" |
| 994 | 1000' | 2 | 14 Stranded 41/30 | .016" | .220" |
| 994/3 | 1000' | 3 | 14 Stranded 41/30 | .016" | .240" |
| 995 | 1000' | 2 | 12 Stranded 65/30 | .016" | .250" |
| 995/3 | 1000' | 3 | 12 Stranded 65/30 | .016" | .275" |

### FOR OUTDOOR USE With Plastic Jacket Overall

DESCRIPTION:
Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted with weatherproof plastic jacket overall.

| Cat. No. | Spool | Conds. | Size AWG | Nom. Insul. | Nom. Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|
| 932 | 1000' | 2 | 22 solid | .016" | .020" | .125" |
| 934 | 1000' | 3 | 22 solid | .016" | .020" | .130" |
| 982 | 1000' | 2 | 20 solid | .016" | .020" | .170" |
| 984 | 1000' | 3 | 20 solid | .016" | .020" | .180" |
| 986 | 1000' | 2 | 18 solid | .016" | .020" | .185" |
| 988 | 1000' | 3 | 18 solid | .016" | .020" | .190" |

For longer lengths and alternate put-ups—Specify.
COLOR CODE: 1—Brown 2—Tan 3—Gray

## MULTI-CONDUCTOR FLEXIBLE CABLE

### RUBBER INSULATED — Cotton Braid Overall

DESCRIPTION:
Each Conductor, #20 — 10/30 Tinned Copper Stranded, 1/64" low capacity rubber, cotton braid color coded, conductors twisted, closely woven brown cotton braid overall.
Used for multiple circuit hookups, connecting speakers, remote control units, analyzers, etc.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Ins. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 172 | 100' | 2 | 20 | 10/30 | 1/64" | .205" |
| 173 | 100' | 3 | 20 | 10/30 | 1/64" | .245" |
| 174 | 100' | 4 | 20 | 10/30 | 1/64" | .265" |
| 175 | 100' | 5 | 20 | 10/30 | 1/64" | .290" |
| 176 | 100' | 6 | 20 | 10/30 | 1/64" | .310" |
| 177 | 100' | 7 | 20 | 10/30 | 1/64" | .325" |
| 178 | 100' | 8 | 20 | 10/30 | 1/64" | .360" |
| 179 | 100' | 9 | 20 | 10/30 | 1/64" | .395" |
| 180 | 100' | 10 | 20 | 10/30 | 1/64" | .425" |
| 182 | 100' | 12 | 20 | 10/30 | 1/64" | .440" |

COLOR CODE:

| | | |
|---|---|---|
| 1—Black | 5—Orange | 9—White/Black Tracer |
| 2—White | 6—Blue | 10—Red/Black Tracer |
| 3—Red | 7—Brown | 11—Green/Black Tracer |
| 4—Green | 8—Yellow | 12—Orange/Black Tracer |

### MULTI-CONDUCTOR FLEXIBLE CABLE
### Plastic Jacket Overall

DESCRIPTION:
Each conductor #22 7/30 tinned copper stranded 1/64" thermoplastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Used for signal, P.A. systems. Electronic computer cable, suitable for outdoor use.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 156 | 500' | 2 | 22 | 7/30 | .010" | .020" | .140" |
| 157 | 500' | 3 | 22 | 7/30 | .010" | .020" | .145" |
| 158 | 500' | 4 | 22 | 7/30 | .010" | .020" | .170" |
| 159 | 500' | 5 | 22 | 7/30 | .010" | .020" | .175" |
| 160 | 500' | 6 | 22 | 7/30 | .010" | .020" | .185" |
| 161 | 500' | 7 | 22 | 7/30 | .010" | .020" | .190" |
| 162 | 250' | 8 | 22 | 7/30 | .010" | .020" | .200" |
| 163 | 250' | 9 | 22 | 7/30 | .010" | .020" | .225" |
| 164 | 250' | 10 | 22 | 7/30 | .010" | .020" | .235" |
| 165 | 250' | 12 | 22 | 7/30 | .010" | .020" | .255" |
| 165/15 | 250' | 15 | 22 | 7/30 | .010" | .020" | .280" |

For longer lengths and alternate put-ups—Specify.

COLOR CODE:
1—Black 2—Red 3—White 4—Green 5—Orange 6—Blue 7—Brown 8—Yellow 9—Violet 10—Slate 11—Pink 12—Tan 13—Red/Green 14—Red/Yellow 15—Red/Black

### THERMO-PLASTIC INSULATED — Cotton Braid Overall

Each Conductor #22 — 7/30 Tinned Copper Stranded, 1/64" Thermoplastic insulation, color coded, conductors twisted, closely woven brown cotton braid overall.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Ins. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 263 | 100' | 3 | 22 | 7/30 | 1/64" | .160" |
| 264 | 100' | 4 | 22 | 7/30 | 1/64" | .170" |
| 265 | 100' | 5 | 22 | 7/30 | 1/64" | .195" |
| 266 | 100' | 6 | 22 | 7/30 | 1/64" | .210" |
| 267 | 100' | 7 | 22 | 7/30 | 1/64" | .230" |
| 268 | 100' | 8 | 22 | 7/30 | 1/64" | .245" |
| 269 | 100' | 9 | 22 | 7/30 | 1/64" | .260" |
| 270 | 100' | 10 | 22 | 7/30 | 1/64" | .295" |
| 272 | 100' | 12 | 22 | 7/30 | 1/64" | .325" |

For longer lengths and alternate put-ups—Specify.
COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green, 5—Orange, 6—Blue, 7—Brown, 8—Yellow, 9—Purple, 10—Pink, 11—Gray, 12—Dk. Blue

## TWISTED PAIR TRANSMISSION CABLE

### WEATHERPROOF BRAID

DESCRIPTION:
No. 952—Two Conductors, #22-7/30 Tinned Copper Stranded, special low loss rubber insulation, color coded, twisted conductors, cotton braid overall with rugged weatherproof finish.

No. 919, 920—Two Conductors, #18-16/30 Tinned Copper Stranded, same construction as above.

Used for low loss transmission coupling between antenna and receiver as doubled twisted lead-in wire for inter-com. setup.

| Cat. No. | Spool | Size AWG | Strand | Insul. | Nom. O.D. |
|---|---|---|---|---|---|
| 952 | 500' | 22 | 7/32 | 1/32" | .180" |
| 919 | 500' | 18 | 16/30 | 1/32" | .195" |
| 920 | 1000' | 18 | 16/30 | 1/32" | .195" |

For longer lengths and alternate put-ups—Specify.

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See Pages S-1208 and S-1209 for Birnbach Prices



World Radio History

# Birnbach

**KINKLESS TEST LEAD WIRE — SHIELDED CABLE**
**PHONO PICKUP WIRE — SERVICE and POWER CORDS**

## KINKLESS TEST LEAD WIRE

Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments, wherever extreme flexibility and limpness is required. Has excellent dielectric properties.

DESCRIPTION:

Nos. 61, 62—#20—41/36 extra flexible annealed tinned copper, stranded.

COLORS: Red, Black

Nos. 66, 67—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/64" special low capacity rubber, wax finish.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Puncture Voltage | Nom. O.D. |
|---|---|---|---|---|---|---|
| 61 | 100' | 20 | 41/36 | 3/64" | 20,000 Volts | .137" |
| 62 | 500' | 20 | 41/36 | 3/64" | 20,000 Volts | .137" |
| 66 | 100' | 18 | 65/36 | 3/64" | 22,000 Volts | .145" |
| 67 | 500' | 18 | 65/36 | 3/64" | 22,000 Volts | .145" |

Types WS-16/U Black, WS-17/U Red, per MIL-W-13169 Specification available same construction as Birnbach #67 except compound per specification.

### HEAVY DUTY HI-VOLTAGE TYPE

DESCRIPTION:

Nos. 68, 69—#18—65/36 extra flexible annealed tinned copper; stranded; paper serve; 5/64" special low capacity rubber, wax finish.

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Puncture Voltage | Nom. O.D. |
|---|---|---|---|---|---|---|
| 68 | 100' | 18 | 65/36 | 5/64" | 29,000 Volts | .210" |
| 69 | 500' | 18 | 65/36 | 5/64" | 29,000 Volts | .210" |

For longer lengths and alternate put-ups—Specify.

## SHIELDED PHONO WIRE

Used where small diameter, limpness and extreme flexibility is necessary as for phono pickup arms and grid wire.

DESCRIPTION:

#1822—Single Conductor #22-7/30 Tinned Copper Strands, Vinyl plastic insulation, close tinned copper shield braided overall.

#1824—Single Conductor #24-16/36 Extremely Flexible Tinned Copper Strands, special plastic insulation, close tinned copper shield braided overall.

#1825—Same construction as #1824 except with fine cotton braid overall.

See Page 11 for miniature and subminiature shielded wires suitable for wiring phono arm from cartridge to amplifier.

### TINNED COPPER SHIELD OVERALL

| Cat. No. | Spool | Strand | Cond. | Size AWG | Insul. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 1824 | 500' | 1 | 24 | 16/36 | .010" | .080" |
| 1824M | 1000' | 1 | 24 | 16/36 | .010" | .080" |
| 1822 | 100' | 1 | 22 | 7/30 | .010" | .080" |
| 1822B | 500' | 1 | 22 | 7/30 | .015" | .090" |
| 1822C | 1000' | 1 | 22 | 7/30 | .015" | .090" |

### COTTON BRAID OVER SHIELD

| | | | | | | |
|---|---|---|---|---|---|---|
| 1825 | 500' | 1 | 24 | 16/36 | .010" | .095" |
| 1825M | 1000' | 1 | 24 | 16/36 | .010" | .095" |

For longer lengths and alternate put-ups—Specify.

## SHIELDED GRID LEAD WIRE

Used to reduce loss in grid lead use, also to reduce interference caused by motors, high tension wires, X-ray machines, etc.

DESCRIPTION:

#820—Single Conductor #20—10/30, #818—16/30 Stranded Tinned Copper, low loss rubber insulation, cotton braid lacquered, closely woven tinned copper shield overall.

| Cat. No. | Spool | Size AWG | Strand | Ins. Under Shield | Cap./Ft. Mmf. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 820 | 100' | 20 | 10/30 | .085" | 70 | .140" |
| 818 | 100' | 18 | 16/30 | .085" | 75 | .150" |

For longer lengths and alternate put-ups—Specify.

## 7MM HIGH TENSION CABLE

Used as hi voltage leads in electronic equipment and instruments, photo electric cell leads, automotive, etc.

DESCRIPTION:

#1600 — Unshielded One Conductor #16-19/29 stranded tinned copper wire, rubber insulation, cotton braid highly lacquered.

No. 1600

DESCRIPTION:

#781 — Shielded Same construction as #1600 plus a closely woven tinned copper shield overall.

No. 781

| Cat. No | Spool | Size AWG | Strand | Insul. | Nom. O.D. |
|---|---|---|---|---|---|
| 1600 | 100' | 16 | 19/29 | 3/32" | .275" |
| 781 | 100' | 16 | 19/29 | 3/32" | .295" |

Used for auto and aircraft ignition systems where grounding is required for elimination of interference.

For longer lengths and alternate put-ups—specify.

## HI VOLTAGE LACQUERED WIRE

Used as primary wiring as for automobiles, tail, dashboard, horn, etc. Instrument leads, high voltage and primary voltage requirements.

DESCRIPTION:

One Conductor tinned copper annealed stranded, rubber insulation, highly lacquered braid, oil, heat, and moisture resistant.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Puncture V. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 2818 | 100' | 18 | 16/30 | .022" | 9500 | .117" |
| 2816 | 100' | 16 | 19/29 | .022" | 9500 | .127" |
| 2814 | 100' | 14 | 19/27 | .022" | 9500 | .148" |
| 2812 | 100' | 12 | 19/25 | .027" | 9500 | .171" |
| 2810 | 100' | 10 | 19/23 | .031" | 9500 | .202" |

For longer lengths and alternate put-ups—Specify.

## LACQUERED HOOK-UP WIRE

Used in transformers, amplifiers, hook-ups, leads, etc. Strips easily for soldering.

DESCRIPTION:

No. 3462—#20-10/30 Single Conductor stranded tinned copper, low loss free stripping rubber insulation, cotton braid highly lacquered.

No. 3600—#18-16/30 Single Conductor stranded tinned copper, 1/32" low loss free stripping rubber insulation, rayon braid highly lacquered.

| Cat. No. | Spool | Size AWG | Strand | Insul. | Punct. Volt. | DC Ins. Res./Ft. Meg. | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 3461 | 100' | 20 | 10/30 | 1/64" | 7000 | 390 | .090" |
| 3462 | 500' | 20 | 10/30 | 1/64" | 7000 | 390 | .090" |
| 3460 | 100' | 18 | 16/30 | 1/32" | 9000 | 460 | .125" |
| 3600 | 500' | 18 | 16/30 | 1/32" | 9000 | 460 | .125" |

COLORS: Black, Red, Green, Yellow, Brown, Blue, White

For longer lengths and alternate put-ups—Specify.

## SHIELDED HOOK-UP & LEAD-IN WIRE

Used to prevent and reduce interference caused by motors, hi-tension cables, X-ray machines and various units radiating electrical impulses. Useful in grid circuits.

### TINNED COPPER SHIELD OVER RUBBER INSULATION

DESCRIPTION:

Single Conductor, Tinned Copper Stranded, low loss rubber insulation, closely woven tinned copper shield overall.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Cap./Ft. Mmf. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 810 | 500' | 20 | 10/30 | .015" | 105 | .095" |
| 803 | 250' | 18 | 16/30 | .015" | 125 | .125" |
| 802 | 250' | 16 | 26/30 | .031" | 90 | .145" |

### TINNED COPPER SHIELD OVER LACQUERED BRAID

DESCRIPTION:

Single Conductor, Tinned Copper Stranded, low loss Vinyl insulation, highly lacquered braid, closely woven tinned copper shield overall.

| Cat. No. | Spool | Size AWG | Strand | Nom. O.D. |
|---|---|---|---|---|
| 831 | 1000' | 22 | 7/30 | .105" |
| 832 | 1000' | 20 | 10/30 | .110" |
| 833 | 1000' | 18 | 16/30 | .145" |
| 834 | 1000' | 16 | 26/30 | .160" |
| 835 | 1000' | 14 | 41/30 | .180" |

For longer lengths and alternate put-ups—Specify.

## JUKE BOX SPEAKER CABLE

Small, compact diameter. Useful. Practical. Ideal for rear auto speaker extension cable.

DESCRIPTION:

Composed of 7 strand #32-1 Bare—copper conductor, 1 tinned copper conductor, 2 conductors parallel chrome vinyl plastic insulation.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. O.D. |
|---|---|---|---|---|---|---|
| 4500 | 1000' | 2 | 24 | 7/32 | .015" | .058" x .115" |

## JUKE BOX CONTROL CABLE

Used as replacement cable in Juke Boxes.

DESCRIPTION:

Two Conductors #16 stranded vinyl insulation tinned copper, color coded green-orange. One conductor #20 stranded tinned copper, vinyl insulation. Color coded Blue, 3 conductors cable with .020" chrome vinyl plastic jacket overall.

| Cat. No. | Spool | Conds. | Size AWG | Strand | Nom. Insul. | Nom. Jacket | Nom. O.D. |
|---|---|---|---|---|---|---|---|
| 4510 | 500' | 3 | 2—#16 | 26/30 | .020" | .020" | .240" |
| | | | 1—#20 | 10/30 | .020" | | |



See Pages S-1208 and S-1209 for Birnbach Prices

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World Radio History

# PUSHBACK — HEAVY FORMVAR — MAGNET WIRE
# PLAIN ENAMEL — DCC — DNC — SOLID TINNED

*Birnbach*

## BIRNBACH DOUBLE BRAID SLIPBACK HOOK-UP WIRE

Has a double cotton braid over the conductor, brightly color coded, saturated with paraffin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. Has high dielectric strength and will withstand all climatic changes without breakdown.

COLORS: Black, Red, Blue, Yellow, Green, White, Brown, Orange.

### SOLID

| Cat. No. | Put-Up | Size | Strands | Puncture V. 60-cy. AC | O.D. |
|---|---|---|---|---|---|
| 380 | 100' Spool | 20 | Solid | 2000 | .090" |
| 382 | 100' Spool | 18 | Solid | 2100 | .098" |
| 384 | 100' Coil | 16 | Solid | 2100 | .108" |
| 386 | 100' Spool | 14 | Solid | 2100 | .122" |
| 388 | 100' Spool | 12 | Solid | 2200 | .135" |
| 580 | 1000' Spool | 20 | Solid | 2000 | .090" |
| 582 | 1000' Spool | 18 | Solid | 2100 | .098" |
| 584 | 1000' Spool | 16 | Solid | 2100 | .108" |
| 586 | 1000' Spool | 14 | Solid | 2100 | .122" |
| 588 | 1000' Spool | 12 | Solid | 2200 | .135" |

### STRANDED

| Cat. No. | Put-Up | Size | Strands | Puncture V. 60-cy. AC | O.D. |
|---|---|---|---|---|---|
| 381 | 100' Spool | 20 | 10/30 | 2100 | .093" |
| 383 | 100' Spool | 18 | 16/30 | 2200 | .103" |
| 385 | 100' Spool | 16 | 26/30 | 2200 | .118" |
| 387 | 100' Spool | 14 | 41/30 | 2200 | .135" |
| 389 | 100' Spool | 12 | 65/30 | 2300 | .155" |
| 581 | 1000' Spool | 20 | 10/30 | 2100 | .093" |
| 583 | 1000' Spool | 18 | 16/30 | 2200 | .103" |
| 585 | 1000' Spool | 16 | 26/30 | 2200 | .118" |
| 587 | 1000' Spool | 14 | 41/30 | 2200 | .135" |
| 589 | 1000' Spool | 12 | 65/30 | 2300 | .155" |

## BIRNBACH BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin. Pushes back easily.

### SOLID

| Cat. No. | Put-Up | Size | Strands | Puncture V. 60-cy. AC | O.D. |
|---|---|---|---|---|---|
| 72 | 100' Spool | 22 | Solid | 1500 | .060" |
| 76 | 1000' Spool | 22 | Solid | 1500 | .060" |
| 84 | 100' Spool | 20 | Solid | 1500 | .065" |
| 86 | 100' Spool | 18 | Solid | 1500 | .075" |
| 92 | 1000' Spool | 20 | Solid | 1500 | .065" |
| 94 | 1000' Spool | 18 | Solid | 1500 | .075" |

### STRANDED

| Cat. No. | Put-Up | Size | Strands | Puncture V. 60-cy. AC | O.D. |
|---|---|---|---|---|---|
| 73 | 100' Spool | 22 | 7/30 | 1500 | .065" |
| 77 | 1000' Spool | 22 | 7/30 | 1500 | .065" |
| 85 | 100' Spool | 20 | 10/30 | 1500 | .070" |
| 87 | 100' Spool | 18 | 16/30 | 1500 | .080" |
| 93 | 1000' Spool | 20 | 10/30 | 1500 | .070" |
| 95 | 1000' Spool | 18 | 16/30 | 1500 | .080" |

ALL BIRNBACH MAGNET WIRES PER MIL-W-583A SPECIFICATIONS

## HEAVY FORMVAR, PLAIN ENAMEL, DOUBLE COTTON, DOUBLE NYLON, SOLID TINNED MAGNET WIRE

### HEAVY FORMVAR

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

| ¼ lb. SPOOL Size B&S | Ft. | ½ lb. SPOOL Size B&S | Ft. | 1 lb. SPOOL Size B&S | Ft. |
|---|---|---|---|---|---|
| 10 | 8 | 10 | 16 | 10 | 32 |
| 12 | 12 | 12 | 25 | 12 | 50 |
| 14 | 20 | 14 | 39 | 14 | 78 |
| 16 | 31 | 16 | 62 | 16 | 124 |
| 18 | 49 | 18 | 99 | 18 | 198 |
| 20 | 78 | 20 | 156 | 20 | 313 |
| 22 | 125 | 22 | 250 | 22 | 501 |
| 24 | 200 | 24 | 399 | 24 | 798 |
| 26 | 300 | 26 | 600 | 26 | 1200 |
| 28 | 500 | 28 | 1000 | 28 | 1999 |
| 30 | 800 | 30 | 1600 | 30 | 3200 |
| 32 | 1225 | 32 | 2450 | 32 | 4900 |
| 34 | 1988 | 34 | 3975 | 34 | 7950 |
| 36 | 3200 | 36 | 6400 | 36 | 12800 |
| 38 | 5050 | 38 | 10100 | 38 | 20200 |
| 40 | 7975 | 40 | 15850 | 40 | 31700 |
| 42 | 12375 | 42 | 24750 | 42 | 49500 |
| 44 | 14500 | 44 | 29000 | 44 | 58000 |

### PLAIN ENAMEL

| ¼ lb. SPOOL Size B&S | Ft. | ½ lb. SPOOL Size B&S | Ft. | 1 lb. SPOOL Size B&S | Ft. |
|---|---|---|---|---|---|
| 10 | 8 | 10 | 16 | 10 | 32 |
| 12 | 12 | 12 | 25 | 12 | 50 |
| 14 | 20 | 14 | 40 | 14 | 80 |
| 16 | 32 | 16 | 63 | 16 | 126 |
| 18 | 50 | 18 | 100 | 18 | 201 |
| 20 | 80 | 20 | 160 | 20 | 320 |
| 22 | 127 | 22 | 254 | 22 | 508 |
| 24 | 201 | 24 | 403 | 24 | 806 |
| 26 | 320 | 26 | 640 | 26 | 1280 |
| 28 | 507 | 28 | 1015 | 28 | 2030 |
| 30 | 805 | 30 | 1610 | 30 | 3220 |
| 32 | 1282 | 32 | 2564 | 32 | 5128 |
| 34 | 2037 | 34 | 4075 | 34 | 8150 |
| 36 | 3221 | 36 | 6443 | 36 | 12887 |
| 38 | 5132 | 38 | 10246 | 38 | 20492 |
| 40 | 8143 | 40 | 16286 | 40 | 32573 |
| 42 | 12803 | 42 | 25605 | 42 | 51211 |
| 44 | 20455 | 44 | 40910 | 44 | 81819 |

### DOUBLE NYLON

| ¼ lb. SPOOL Size B&S | Ft. | ½ lb. SPOOL Size B&S | Ft. | 1 lb. SPOOL Size B&S | Ft. |
|---|---|---|---|---|---|
| 12 | 12 | 12 | 24 | 12 | 49 |
| 14 | 19 | 14 | 39 | 14 | 78 |
| 16 | 31 | 16 | 62 | 16 | 125 |
| 18 | 49 | 18 | 99 | 18 | 198 |
| 20 | 78 | 20 | 157 | 20 | 314 |
| 22 | 123 | 22 | 247 | 22 | 495 |
| 24 | 195 | 24 | 390 | 24 | 781 |
| 26 | 303 | 26 | 606 | 26 | 1212 |
| 28 | 478 | 28 | 956 | 28 | 1912 |
| 30 | 739 | 30 | 1479 | 30 | 2958 |
| 32 | 1136 | 32 | 2272 | 32 | 4545 |
| 34 | 1712 | 34 | 3424 | 34 | 6849 |
| 36 | 2551 | 36 | 5102 | 36 | 10204 |
| 38 | 3770 | 38 | 7541 | 38 | 15082 |
| 40 | 5040 | 40 | 10080 | 40 | 20161 |

### DOUBLE COTTON

| ¼ lb. SPOOL Size B&S | Ft. | ½ lb. SPOOL Size B&S | Ft. | 1 lb. SPOOL Size B&S | Ft. |
|---|---|---|---|---|---|
| 10 | 8 | 10 | 16 | 10 | 31 |
| 12 | 12 | 12 | 24 | 12 | 49 |
| 14 | 19 | 14 | 39 | 14 | 78 |
| 16 | 31 | 16 | 62 | 16 | 123 |
| 18 | 48 | 18 | 97 | 18 | 194 |
| 20 | 78 | 20 | 157 | 20 | 304 |
| 22 | 119 | 22 | 238 | 22 | 477 |
| 24 | 134 | 24 | 269 | 24 | 538 |
| 26 | 284 | 26 | 568 | 26 | 1136 |
| 28 | 435 | 28 | 871 | 28 | 1742 |
| 30 | 641 | 30 | 1284 | 30 | 2569 |
| 32 | 976 | 32 | 1953 | 32 | 3906 |
| 34 | 1365 | 34 | 2735 | 34 | 5470 |
| 36 | 1827 | 36 | 3654 | 36 | 7309 |
| 38 | 2738 | 38 | 5476 | 38 | 10952 |
| 40 | 3405 | 40 | 6811 | 40 | 13623 |

### SOLID TINNED (Soft Drawn)

| ¼ lb. SPOOL Size B&S | Ft. | ½ lb. SPOOL Size B&S | Ft. | 1 lb. SPOOL Size B&S | Ft. |
|---|---|---|---|---|---|
| 10 | 8 | 10 | 16 | 10 | 32 |
| 12 | 12 | 12 | 25 | 12 | 50 |
| 14 | 20 | 14 | 40 | 14 | 80 |
| 16 | 32 | 16 | 63 | 16 | 126 |
| 18 | 50 | 18 | 100 | 18 | 201 |
| 20 | 80 | 20 | 160 | 20 | 320 |
| 22 | 127 | 22 | 254 | 22 | 508 |
| 24 | 201 | 24 | 403 | 24 | 806 |
| 26 | 320 | 26 | 640 | 26 | 1280 |
| 28 | 507 | 28 | 1015 | 28 | 2030 |
| 30 | 805 | 30 | 1610 | 30 | 3220 |
| 32 | 1282 | 32 | 2564 | 32 | 5128 |
| 34 | 2037 | 34 | 4075 | 34 | 8150 |
| 36 | 3221 | 36 | 6443 | 36 | 12887 |
| 38 | 5132 | 38 | 10246 | 38 | 20492 |
| 40 | 8143 | 40 | 16286 | 40 | 32573 |

ALL SOLID TINNED COPPER AVAILABLE IN 1000 FT. SPOOLS
BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

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See Pages S-1208 and S-1209 for Birnbach Prices



World Radio History

# Birnbach — COPPERWELD ENAMEL, TINNED AND BARE COPPER BUS BAR, BRAIDED TINNED COPPER SHIELDING

## TINNED COPPER WIRE — BUS BAR

**Pure Electrolytic, Copper, annealed, tinned for quick soldering**

MIL—W—3861 type B, ASTM—B—33 specifications

| Cat. No. | Put-Up | Size AWG | Area Circular Mils | O.D. |
|---|---|---|---|---|
| 1433/4 | 100' Coil | 4 | 41,740 | .204" |
| 1433/6 | 100' Coil | 6 | 26,250 | .162" |
| 1432 | 100' Coil | 8 | 16,510 | .129" |
| 1402 | 100' Coil | 10 | 10,380 | .102" |
| 1403 | 1000' Spool | 10 | 10,380 | .102" |
| 1406 | 100' Coil | 12 | 6,530 | .082" |
| 1407 | 1000' Spool | 12 | 6,530 | .082" |
| 1410 | 100' Coil | 14 | 4,107 | .065" |
| 1411 | 1000' Spool | 14 | 4,107 | .065" |
| 1414 | 100' Coil | 16 | 2,583 | .051" |
| 1415 | 1000' Spool | 16 | 2,583 | .051" |
| 1418 | 100' Coil | 18 | 1,624 | .040" |
| 1419 | 1000' Spool | 18 | 1,624 | .040" |
| 1422 | 100' Coil | 20 | 1,022 | .032" |
| 1423 | 1000' Spool | 20 | 1,022 | .032" |
| 1434 | 1000' Spool | 22 | 624.4 | .025" |
| 1424 | 1000' Spool | 24 | 404.0 | .020" |
| 1426 | 1000' Spool | 26 | 254.1 | .016" |
| 1428 | 1000' Spool | 28 | 159.8 | .013" |
| 1430 | 1000' Spool | 30 | 100.5 | .010" |

See Magnet Wire Section For Additional Sizes

## BUS BAR WIRE (Hard Drawn)

MIL—W—3861 type B, ASTM—B—33 specifications

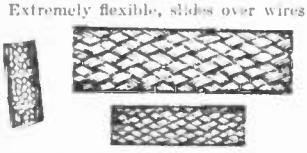
For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

| Cat. No. | No. | | |
|---|---|---|---|
| 2010 | 10 | Round | Tinned |
| 2012 | 12 | Square | Tinned |
| 2013 | 12 | Round | Tinned |
| 2014 | 14 | Square | Tinned |
| 2015 | 14 | Round | Tinned |
| 2016 | 16 | Round | Tinned |
| 2018 | 18 | Round | Tinned |

(100 to Std. Package)

## TINNED COPPER SHIELDING

Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.



**SHIELDING PER QQ—B—575 AVAILABLE TO ORDER**

DESCRIPTION:

No. 853 thru 856/2—Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and Rolled Flat.

No. 860—Composed of extremely flexible fine soft annealed copper wires closely woven, braided and Rolled Flat.

### TINNED

| Cat. No. | Size & No. of Wires | Inside Diam. Flattened | Spool |
|---|---|---|---|
| 853 | 12 x 2/36 | 1/32" | 1000' |
| 854 | 12 x 2/36 | 3/64" | 1000' |
| 855 | 16 x 3/36 | 1/16" | 50' |
| 858 | 24 x 5/36 | 1/8" | 50' |
| 859 | 30 x 4/36 | 3/16" | 50' |
| 863 | 24 x 10/36 | 1/4" | 50' |
| 864 | 48 x 4/34 | 3/8" | 50' |
| 868 | 48 x 7/36 | 1/2" | 50' |
| 865 | 48 x 11/36 | 5/8" | 50' |
| 865/1 | 48 x 11/36 | 3/4" | 50' |
| 857 | 48 x 19/36 | 25/32" | 50' |
| 856 | 48 x 19/36 | 1" | 50' |
| 856/1 | 48 x 19/36 | 1-3/8" | 50' |
| 856/2 | 48 x 19/36 | 1-1/2" | 50' |

### BARE

| | | | |
|---|---|---|---|
| 860 | 24 x 10/36 | 1/4" | 50' |

For longer lengths and alternate put-ups—Specify.

## COPPER WIRE—SOLID—STRANDED

### STRANDED TINNED COPPER WIRE

| Cat. No. | Put-Up | Size AWG | Strand | O.D. |
|---|---|---|---|---|
| 495 | 100' Coil | 12 | 7/20 | .102" |
| 1671 | 100' Coil | 14 | 7/22 | .076" |
| 1638 | 1000' Spool | 14 | 7/22 | .076" |
| 1674 | 100' Coil | 15 | 7/23 | .069" |
| 1633 | 1000' Spool | 15 | 7/23 | .069" |
| 1628 | 1000' Spool | 16 | 7/24 | .062" |

=1671 meets H4.4—1940 type W—I

### COIL LEAD, JUMPER CABLE

PURE ELECTROLYTIC, COPPER, annealed, tinned for quick soldering
MIL—W—3861 Type B, ASTM—B—33 Specifications

| Cat. No. | Class Description | Put-Up | Size AWG | Strand | O.D. |
|---|---|---|---|---|---|
| 1622 | K | 1000' Spool | 22 | 7/30 | .030" |
| 1620 | K | 1000' Spool | 20 | 10/30 | .037" |
| 1618 | K | 1000' Spool | 18 | 16/30 | .045" |

### BARE COPPER WIRE (Soft Drawn)

QQ—W—341A specifications

| Cat. No. | Put-Up | Size AWG | Area Circular Mills | O.D. |
|---|---|---|---|---|
| 1560 | 100' Coil | 8 | 16,510 | .1285" |
| 1562 | 100' Coil | 10 | 10,380 | .102" |
| 1563 | 1000' Spool | 10 | 10,380 | .102" |
| 1566 | 100' Coil | 12 | 6,530 | .081" |
| 1567 | 1000' Spool | 12 | 6,550 | .081" |
| 1570 | 100' Coil | 14 | 4,107 | .064" |
| 1571 | 1000' Spool | 14 | 4,107 | .064" |
| 1574 | 100' Coil | 16 | 2,583 | .051" |
| 1575 | 1000' Spool | 16 | 2,583 | .051" |

### SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

| Cat. No. | Put-Up | Size AWG | Strand | Breaking Strength | O.D. |
|---|---|---|---|---|---|
| 529* | 100' | 4 | 7/12 | 3670 lbs. | .210" |
| 528* | 100' | 6 | 7/14 | 2140 lbs. | .190" |
| 527 | 100' | 8 | 7/16 | 1600 lbs. | .150" |
| 499 | 100' | 10 | 7/18 | 1000 lbs. | .122" |
| 524 | 100' | 12 | 7/20 | 650 lbs. | .100" |
| 526 | 100' | 14 | 7/22 | 420 lbs. | .075" |

=528 and =499 meets MIL—W—13074; =524 meets MIL—W—13276

For longer lengths and alternate put-ups—Specify.

* 1000 feet on deposit reels

### COPPERWELD ENAMEL ANTENNA WIRE

Used where high tensile strength is required as for short wave and transmitting aerials. Has low R.F. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities.

| Cat. No. | Put-Up | Size AWG | Tensile Strength | O.D. |
|---|---|---|---|---|
| 710-100 | 100' Spool | 10 | 1130 lbs. | .103" |
| 710-250 | 250' Spool | 10 | 1130 lbs. | .103" |
| 710-500 | 500' Spool | 10 | 1130 lbs. | .103" |
| 710-1000 | 1000' Spool | 10 | 1130 lbs. | .103" |
| 710-2500 | 2500' Spool | 10 | 1130 lbs. | .103" |
| 712-100 | 100' Coil | 12 | 720 lbs. | .082" |
| 712-250 | 250' Coil | 12 | 720 lbs. | .082" |
| 712-500 | 500' Spool | 12 | 720 lbs. | .082" |
| 712-1000 | 1000' Spool | 12 | 720 lbs. | .082" |
| 712-2500 | 2500' Spool | 12 | 720 lbs. | .082" |
| 714-100 | 100' Coil | 14 | 400 lbs. | .065" |
| 714-250 | 250' Spool | 14 | 400 lbs. | .065" |
| 714-500 | 500' Spool | 14 | 400 lbs. | .065" |
| 714-1000 | 1000' Spool | 14 | 400 lbs. | .065" |
| 714-2500 | 2500' Spool | 14 | 400 lbs. | .065" |

### SOLID ENAMEL COPPER WIRE

| Cat. No. | Put-Up | Size AWG | O.D. |
|---|---|---|---|
| 497 | 100' Coil | 10 | .103" |
| 1497 | 1000' Spool | 10 | .103" |
| 492 | 100' Coil | 12 | .083" |
| 492A | 150' Coil | 12 | .083" |
| 492B | 200' Coil | 12 | .083" |
| 1492 | 1000' Spool | 12 | .083" |
| 490 | 100' Coil | 14 | .066" |
| 490A | 150' Coil | 14 | .066" |
| 490B | 200' Coil | 14 | .066" |
| 1490 | 1000' Spool | 14 | .066" |

### STRANDED BARE COPPER WIRE

| Cat. No. | Put-Up | Size AWG | Strand | O.D. |
|---|---|---|---|---|
| 493 | 100' Coil | 12 | 7/20 | .100" |
| 1670 | 100' Coil | 14 | 7/22 | .075" |
| 1639 | 1000' Spool | 14 | 7/22 | .075" |
| 1673 | 100' Spool | 15 | 7/23 | .068" |
| 1634 | 1000' Spool | 15 | 7/23 | .068" |
| 1680 | 100' Coil | 16 | 7/24 | .060" |
| 1647 | 1000' Spool | 16 | 7/24 | .060" |
| 681 | 100' Coil | 18 | 7/26 | .050" |
| 1648 | 1000' Spool | 18 | 7/26 | .050" |
| 700 | 100' Coil | 19 | 7/27 | .041" |
| 1741 | 1000' Spool | 19 | 7/27 | .041" |



See Pages S-1208 and S-1209 for Birnbach Prices

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World Radio History

# Birnbach

RETRACTILE KINKLESS CORD • CORD SETS
COMMUNICATION CORD • LACING CORD • NYLON CABLE CLAMPS

## BIRNBACH COILED RETRACTILE (KINKLESS) CORD AND CORD SETS

This series of Birnbach Coiled Kinkless Retractile Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recovery" properties. These Retractile cords extend approximately six times its retracted length, returning to its exact original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents.

### RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description: 12" coil—stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 OD. Colors: Red, Black.

| Cat. No. | | | Std. Pkge. |
|---|---|---|---|
| 64..12" | Retracted—Approx. | 6' Extended | 6 |
| 65..24" | Retracted—Approx. | 12' Extended | 6 |

## RETRACTILE (KINKLESS) POWER CORD RUBBER, NEOPRENE AND PLASTIC

DESCRIPTION 2 conductor UL approved, retractile (kinkless) power cords supplied in 36" long mandrel lengths, which customer cuts to desired length.

| CAT. No. | RETRACTED Length | APPROX. Length Extended | Conds. | SIZE AWG | UL TYPE | STRAND | AMP. RATING | VOLT. RATING | NOM O.D. |
|---|---|---|---|---|---|---|---|---|---|
| 885 | 36" | 18 FT. | 2 | 18 | SV | 41/34 | 7 | 300 | .250" |
| 886 | 36" | 18 FT. | 2 | 18 | SVO | 41/34 | 7 | 300 | .250" |
| 887 | 36" | 18 FT. | 2 | 18 | SVT | 41/34 | 7 | 300 | .250" |
| 888 | 36" | 18 FT. | 2 | 18 | SJ | 41/34 | 7 | 300 | .310" |
| 889 | 36" | 18 FT. | 2 | 18 | SJO | 41/34 | 7 | 300 | .310" |
| 890 | 36" | 18 FT. | 2 | 18 | SJT | 41/34 | 7 | 300 | .310" |
| 891 | 36" | 18 FT. | 2 | 16 | SJ | 65/34 | 10 | 300 | .330" |

COLOR CODING: 1-Black 2-White

## RETRACTILE (KINKLESS) POWER CORD SETS

Excellent for portable use. All mobile equipment and office equipment wherever the device application is synonymous with repetitive movement. The "Answer" to most tough hazard problems.

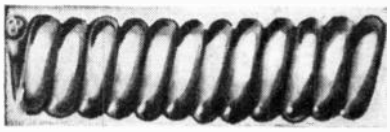
DESCRIPTION: 2 conductors SV and SJ retractile kinkless rubber service cord sets with molded male plug one end; other end stripped and tinned ready for application.

| CAT. No. | Retracted Length | Approx. Length extended | Conds. | Size AWG | UL Type | Strand | Std. Pkg. |
|---|---|---|---|---|---|---|---|
| 880 | 18" | 9 FT. | 2 | 18 | SV | 41/34 | 10 |
| 881 | 18" | 9 FT. | 2 | 18 | SJ | 41/34 | 10 |
| 882 | 18" | 9 FT. | 2 | 16 | SJ | 65/34 | 10 |

COLOR CODING: 1—BLACK, 2—WHITE

## RETRACTILE COILED COMMUNICATION CORD

DESCRIPTION: Multi-Conductors stranded communications cord #23 AWG rubber covered 18 ft. lengths can be cut to exact requirements.

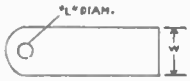


| CAT No. | Retracted Length | Approx. Length extended | Conds. | Size AWG | Strand | OD | Std. Pkgs. |
|---|---|---|---|---|---|---|---|
| 875 | 36" | 18 FT. | 2 | 23 | 21/36 | 200" | 10 |
| 876 | 36" | 18 FT. | 3 | 23 | 21/36 | 210" | 10 |
| 877 | 36" | 18 FT. | 4 | 23 | 21 36 | 240" | 10 |
| 878 | 36" | 18 FT. | 5 | 23 | 21/36 | 285" | 10 |

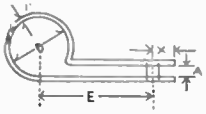
COLOR CODING: 1—BLACK, 2—WHITE, 3—RED, 4—GREEN, 5—BLUE

## NYLON CABLE CLAMPS

### MADE OF DUPONT NYLON FORMULA FM 10001




Fungus Resistant




Used as a clamp, strain relief, clip hanger, fastener, strap, these nylon cable clamps are light and tough. Have smooth, non-abrasive surfaces, rounded edges will not chafe conductors or cause shorts or grounds in cable. Insoluble in solvents, oils, gasoline, alcohol, hydraulic fluids, alkalies, acids. Temperature resistant from -60°F to +300°F. Do not support combustion. Moisture and heat resistant. Inside matte finish surfaces prevent slippage under vibration and are self aligning when tightened by screw. Snaps onto cable. Meets MIL specs. Fungus resistant.

| CAT. NO. | PUT-UP | TO FIT SIZE | D | E | W | T | L | X | A |
|---|---|---|---|---|---|---|---|---|---|
| 725 | 100 | 1/8" | .125 | .316 | 3/8 | .050 | .177 | .227 | .062 |
| 726 | 100 | 3/16" | .187 | .378 | 3/8 | .050 | .177 | .227 | .062 |
| 727 | 100 | 1/4" | .250 | .409 | 3/8 | .050 | .177 | .227 | .062 |
| 728 | 100 | 5/16" | .312 | .441 | 3/8 | .050 | .177 | .227 | .062 |
| 729 | 100 | 3/8" | .375 | .471 | 3/8 | .050 | .177 | .227 | .062 |
| 730 | 100 | 7/16" | .437 | .519 | 3/8 | .050 | .177 | .227 | .062 |
| 731 | 100 | 1/2" | .500 | .550 | 3/8 | .050 | .177 | .227 | .062 |
| 732 | 100 | 5/8" | .625 | .634 | 1/2 | .060 | .177 | .227 | .062 |
| 733 | 100 | 3/4" | .750 | .718 | 1/2 | .060 | .177 | .227 | .062 |
| 734 | 100 | 7/8" | .875 | .760 | 1/2 | .060 | .177 | .227 | .062 |
| 735 | 100 | 1" | 1.000 | .802 | 1/2 | .060 | .177 | .227 | .062 |
| 736 | 100 | 1 1/8" | 1.125 | .968 | 1/2 | .062 | .204 | .250 | .125 |
| 737 | 100 | 1 1/4" | 1.250 | 1.156 | 1/2 | .062 | .204 | .250 | .125 |
| 738 | 100 | 1 1/2" | 1.500 | 1.188 | 5/8 | .070 | .204 | .250 | .125 |

### NYLON LACING CORD

This nylon lacing cord manufactured to meet Spec. MIL-T-713A Type P, Composition P, Classes 3, 2, and 1. Available in 1 lb. tubes.

Cat. No. 1070 70 lb. Test
Class 1 ..... 550 Yds.
Cat. No. 1071 48 lb. Test
Class 2 ..... 750 Yds.
Cat. No. 1072 32 lb. Test
Class 3 ..... 1100 Yds.

### LINEN LACING CORD

This linen lacing cord is made from pure flax, waxed and mildew-proofed. The twelve, eight and six ply cord meet Spec. MIL-T-713A Type N Classes 1, 2, and 3, respectively.

| | | 4 oz. tube Cat. No. | Yds. | 8 oz. tube Cat. No. | Yds. | 1 lb. tube Cat. No. | Yds. |
|---|---|---|---|---|---|---|---|
| | 4 ply.....20 lb. test | 1073 | 210 | 1074 | 425 | 1075 | 850 |
| Class 3 — | 6 ply.....42 lb. test | 1076 | 150 | 1077 | 300 | 1078 | 600 |
| Class 2 — | 8 ply.....56 lb. test | 1082 | 115 | 1083 | 235 | 1084 | 470 |
| | 9 ply.....60 lb. test | 1079 | 100 | 1080 | 200 | 1081 | 400 |
| Class 1 — | 12 ply.....77 lb. test | 1085 | 75 | 1086 | 150 | 1087 | 300 |

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**See Pages S-1208 and S-1209 for Birnbach Prices**



World Radio History

# Birnbach PRICE LIST

SEE BIRNBACH PAGES
L-585 THRU L-587, S-1192 THRU S-1209, U-1448 THRU U-1459
NUMERICALLY ARRANGED BY CATALOG NUMBER

| Cat. No. | Sug. List Price |
|---|---|
| 61-C | $4.00 Ea. |
| 62-E | 17.50 Ea. |
| 64 | 1.40 Ea. |
| 65 | 2.50/Ea. |
| 66-C | 4.50/Ea. |
| 67-E | 25.50 Ea. |
| 68-C | 7.50/Ea. |
| 69-E | 35.00 Ea. |
| 72-C | 2.60/Ea. |
| 73-C | 1.05 Ea. |
| 76-M | 23.65/Ea. |
| 77-M | 26.70/Ea. |
| 84-C | 3.05/Ea. |
| 85-C | 1.35/Ea. |
| 86-C | 3.65/Ea. |
| 87-C | 4.00/Ea. |
| 92-M | 26.65 Ea. |
| 93-M | 29.75/Ea. |
| 94-M | 32.15 Ea. |
| 95-M | 36.30/Ea. |
| 156-E | 18.00/Ea. |
| 157-E | 25.00/Ea. |
| 158-E | 32.50 Ea. |
| 159-E | 41.25 Ea. |
| 160-E | 50.00 Ea. |
| 161-E | 55.00/Ea. |
| 162-D | 30.00/Ea. |
| 163-D | 35.00/Ea. |
| 164-D | 40.00 Ea. |
| 165-D 250' | 47.50/Ea. |
| 165/15-D | 60.00 Ea. |
| 172-C | 8.50 Ea. |
| 172-E | 42.50/Ea. |
| 172-M | 85.00/Ea. |
| 173-C | 11.75/Ea. |
| 173-E | 58.75 Ea. |
| 173-M | 117.50/Ea. |
| 174-C | 16.00/Ea. |
| 174-E | 80.00/Ea. |
| 174-M | 160.00/Ea. |
| 175-C | 18.75/Ea. |
| 175-E | 93.75/Ea. |
| 175-M | 187.50/Ea. |
| 176-C | 21.00/Ea. |
| 176-E | 105.00 Ea. |
| 176-M | 210.00/Ea. |
| 177-C | 28.50/Ea. |
| 178-C | 32.50/Ea. |
| 179-C | 37.50/Ea. |
| 180-C | 40.00/Ea. |
| 182-C | 48.00/Ea. |
| 263-C | 9.00/Ea. |
| 263-E | 44.50/Ea. |
| 263-M | 89.00 Ea. |
| 264-C | 11.60/Ea. |
| 264-E | 57.50/Ea. |
| 264-M | 115.00 Ea. |
| 265-C | 14.00/Ea. |
| 265-E | 69.50/Ea. |
| 265-M | 139.00/Ea. |
| 266-C | 16.50 Ea. |
| 266-E | 81.00/Ea. |
| 266-M | 162.00/Ea. |
| 267-C | 18.50 Ea. |
| 267-E | 91.00/Ea. |
| 267-M | 182.00 Ea. |
| 268-C | 20.50/Ea. |
| 268-E | 102.00/Ea. |
| 268-M | 204.00/Ea. |
| 269-C | 23.75/Ea. |
| 269-E | 118.25/Ea. |
| 269-M | 236.50/Ea. |
| 270-C | 26.25/Ea. |
| 270-E | 130.75/Ea. |
| 270-M | 261.50/Ea. |
| 272-C | 32.55/Ea. |
| 289-VC-C | 6.00/Ea. |
| 290-VC-C | 6.00/Ea. |
| 291 | .22/Ea. |
| 291-V 25' | 1.90/Ea. |
| 291-VC-C | 6.60/Ea. |
| 293 | .22/Ea. |
| 293-V 25' | 1.95/Ea. |
| 293-VC-C | 7.05/Ea. |
| 294 | .22/Ea. |
| 294-V 25' | 2.00/Ea. |
| 294-VC-C | 7.50/Ea. |
| 295 | .22/Ea. |
| 295-V 25' | 2.05/Ea. |
| 295-VC-C | 7.75/Ea. |
| 296 | 2.10/Ea. |
| 296-VC-C | 60.00/Ea. |
| 297 | .48/Ea. |
| 298 | .55 Ea. |
| 299 | 1.75 Ea. |
| 299-VC-C | 50.00 Ea. |
| 300 | .22/Ea. |
| 30-V 25' | 2.15/Ea. |
| 300-VC-C | 8.35/Ea. |
| 301 | .40/Ea. |
| 301-V 15' | 1.95/Ea. |
| 301-VC-C | 11.00 Ea. |
| 302 | .45/Ea. |
| 302-V 10' | 1.55/Ea. |
| 302-VC-C | 13.20/Ea. |
| 303 | .75/Ea. |
| 303-VC-C | 25.00/Ea. |
| 304 | .90/Ea. |
| 304-VC-C | 30.00 Ea. |
| 305-V 10' | 1.55/Ea. |
| 305-VC-C | 14.25/Ea. |
| 306-V 10' | 1.85/Ea. |
| 306-VC-C | 18.25 Ea. |
| 307 | .90/Ea. |
| 307-V 20' | 1.85/Ea. |
| 307-VC-C | 9.00/Ea. |
| 308-B 25' | .75/Ea. |
| 308-BC-C | 2.75 Ea. |
| 309 | 1.70/Ea. |
| 311-B 25' | .75/Ea. |
| 311-BC-C | 2.75/Ea. |
| 312 | 2.00/Ea. |
| 313 | .17/Ea. |
| 313-B 25' | .75/Ea. |
| 314-B 25' | .75/Ea. |
| 313-BC-C | 2.75/Ea. |
| 314 | .17/Ea. |
| 314-BC-C | 2.75/Ea. |
| 315 | .18/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 315-B 25' | .75/Ea. |
| 315-BC-C | 2.75 Ea. |
| 316 10' | .19 Ea. |
| 316-B 25' | .80/Ea. |
| 316-BC-C | 3.00/Ea. |
| 317 | .19/Ea. |
| 317-B 25' | .80/Ea. |
| 317-BC-C | 9.00/Ea. |
| 318 10' | .40/Ea. |
| 318-B 15' | .75/Ea. |
| 318-BC-C | 4.70/Ea. |
| 319 | .45/Ea. |
| 319-B 10' | .75/Ea. |
| 319-BC-C | 6.75/Ea. |
| 320 | .50/Ea. |
| 320-B 10' | .75/Ea. |
| 320-BC-C | 6.75/Ea. |
| 321 | .60/Ea. |
| 321-BC-C | 8.50/Ea. |
| 322 | .65/Ea. |
| 322-BC-C | 14.00/Ea. |
| 323 | 1.00/Ea. |
| 323-BC-C | 22.50/Ea. |
| 324 | 1.10/Ea. |
| 324-BC-C | 27.50/Ea. |
| 325 | .35/Ea. |
| 325-B 15' | .75/Ea. |
| 325-BC-C | 4.40/Ea. |
| 326 | .40/Ea. |
| 326-B 15' | .75/Ea. |
| 326-BC-C | 5.00/Ea. |
| 327-BC-C | 26.75/Ea. |
| 328-BC-C | 80.00/Ea. |
| 329-BC-C | 108.25/Ea. |
| 346 | 3.00/Ea. |
| 348 | 2.00/Ea. |
| 360-BC-C | 32.50/Ea. |
| 361-BC-C | 35.00 Ea. |
| 362-BC 50' | 22.50 Ea. |
| 363-BC 50' | 30.00/Ea. |
| 364-BC-C | 127.50/Ea. |
| 365-BC-C | 138.00/Ea. |
| 380-C | 3.46/Ea. |
| 381-C | 3.85/Ea. |
| 382-C | 3.85/Ea. |
| 383-C | 4.25/Ea. |
| 384-C | 4.75/Ea. |
| 385-C | 5.25/Ea. |
| 386-C | 6.40/Ea. |
| 387-C | 7.60/Ea. |
| 388-C | 10.30/Ea. |
| 389-C | 10.90/Ea. |
| 490-C | 3.15/Ea. |
| 490-M | 31.50/Ea. |
| 490-A 15' | 4.72/Ea. |
| 490-B 200' | 6.30/Ea. |
| 492-C | 4.60/Ea. |
| 492-M | 46.00/Ea. |
| 492-A 150' | 6.90 Ea. |
| 492-B 200' | 9.20/Ea. |
| 493-C | 4.50/Ea. |
| 493-M | 45.00/Ea. |
| 495-C | 5.00/Ea. |
| 495-M | 50.00/Ea. |
| 497-C | 7.95/Ea. |
| 497-M | 79.00/Ea. |
| 499-C | 13.25/Ea. |
| 499-M | 126.00/Ea. |
| 524-C | 9.00/Ea. |
| 524-M | 85.00/Ea. |
| 526-C | 6.75/Ea. |
| 526-M | 61.90/Ea. |
| 527-C | 19.75/Ea. |
| 527-M | 192.00/Ea. |
| 528-C | 29.50/Ea. |
| 528-M | 290.00/Ea. |
| 529-C | 46.90/Ea. |
| 529-M | 444.50/Ea. |
| 569-E | 21.00/Ea. |
| 570-C | 5.60/Ea. |
| 572-D | 13.00/Ea. |
| 573-E | 25.00/Ea. |
| 574-D | 25.25/Ea. |
| 575-D | 36.00/Ea. |
| 575 4-D | 63.70/Ea. |
| 578-D | 34.00/Ea. |
| 578 3-D | 46.50/Ea. |
| 578 4-D | 73.50/Ea. |
| 580-M | 32.00/Ea. |
| 581-M | 35.20/Ea. |
| 582-M | 37.00/Ea. |
| 583-M | 39.60/Ea. |
| 584-M | 42.35/Ea. |
| 585-M | 53.35/Ea. |
| 586-M | 53.35/Ea. |
| 587-M | 60.50/Ea. |
| 588-M | 96.00/Ea. |
| 589-M | 106.50/Ea. |
| 681-C | 1.45/Ea. |
| 690-D | 27.00/Ea. |
| 691-D | 32.50/Ea. |
| 692-D | 45.00 Ea. |
| 692 4-D | 69.50 Ea. |
| 693-D | 41.75/Ea. |
| 693 3-D | 52.50/Ea. |
| 693 4-D | 82.00/Ea. |
| 694-D | 52.50/Ea. |
| 694 3-D | 62.50 Ea. |
| 694 4-D | 95.00 Ea. |
| 695-D | 59.00 Ea. |
| 695 3-D | 75.90/Ea. |
| 695 4-D | 114.00/Ea. |
| 696-D | 85.00/Ea. |
| 696 3-D | 122.60/Ea. |
| 696 4-D | 173.50/Ea. |
| 697-D | 122.50/Ea. |
| 697 3-D | 152.50/Ea. |
| 697 4-D | 220.00/Ea. |
| 698-D | 162.50/Ea. |
| 698 3-D | 227.50/Ea. |
| 698 4-D | 274.00/Ea. |
| 700-C | 1.25/Ea. |
| 701-D | 21.00/Ea. |
| 702-D | 44.00/Ea. |
| 702 3-D | 62.00/Ea. |
| 702 4-D | 85.00/Ea. |
| 703-D | 50.00/Ea. |
| 703 3-D | 75.00/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 703 4-D | 100.00 Ea. |
| 704-D | 79.50 Ea. |
| 704 3-D | 117.50 Ea. |
| 704 4-D | 170.00/Ea. |
| 705-D | 112.50/Ea. |
| 705/3-D | 160.00/Ea. |
| 705 4-D | 200.00/Ea. |
| 706-D | 158.00 Ea. |
| 706 3-D | 210.00 Ea. |
| 706 4-D | 245.00 Ea. |
| 710-C | 9.79 Ea. |
| 710-D | 24.20/Ea. |
| 710-E | 48.40/Ea. |
| 710-M | 92.40/Ea. |
| 710-F | 226.88 Ea. |
| 712-C | 6.35/Ea. |
| 712-D | 15.20/Ea. |
| 712-E | 30.36/Ea. |
| 712-M | 59.05 Ea. |
| 712-F | 146.75/Ea. |
| 714-C | 3.85/Ea. |
| 714-D | 9.45/Ea. |
| 714-E | 18.90/Ea. |
| 714-M | 36.70/Ea. |
| 714-F | 89.80 Ea. |
| 725-100 | 6.50/Ea. |
| 725-500 | 29.25/Ea. |
| 725-1000 | 58.00 Ea. |
| 726-100 | 7.50 Ea. |
| 726-500 | 33.75 Ea. |
| 726-1000 | 67.00/Ea. |
| 727-100 | 8.50/Ea. |
| 727-500 | 38.25/Ea. |
| 727-1000 | 76.00/Ea. |
| 728-100 | 8.95/Ea. |
| 728-500 | 40.25/Ea. |
| 728-1000 | 80.00/Ea. |
| 729-100 | 9.35/Ea. |
| 729-500 | 42.00/Ea. |
| 729-1000 | 84.00/Ea. |
| 730-100 | 9.90/Ea. |
| 730-500 | 45.00/Ea. |
| 730-1000 | 90.00/Ea. |
| 731-100 | 10.50/Ea. |
| 731-500 | 47.50/Ea. |
| 731-1000 | 95.00/Ea. |
| 732-100 | 14.00/Ea. |
| 732-500 | 63.00/Ea. |
| 732-1000 | 125.00/Ea. |
| 733-100 | 15.00/Ea. |
| 733-500 | 67.50/Ea. |
| 733-1000 | 135.00/Ea. |
| 734-100 | 16.00/Ea. |
| 734-500 | 72.00/Ea. |
| 734-1000 | 144.00/Ea. |
| 735-100 | 17.50/Ea. |
| 735-500 | 78.75/Ea. |
| 735-1000 | 157.50/Ea. |
| 736-100 | 20.00/Ea. |
| 736-500 | 90.00/Ea. |
| 736-1000 | 180.00 Ea. |
| 737-100 | 32.00/Ea. |
| 737-500 | 140.00/Ea. |
| 737-1000 | 280.00/Ea. |
| 738-100 | 48.00/Ea. |
| 738-500 | 215.00/Ea. |
| 738-1000 | 430.00/Ea. |
| 749-C | 34.50/Ea. |
| 749-E | 165.00/Ea. |
| 749-M | 330.00/Ea. |
| 756-C | 22.50/Ea. |
| 756-E | 110.00/Ea. |
| 757-M | 210.00/Ea. |
| 772-C | 14.75/Ea. |
| 772-D | 35.75/Ea. |
| 772-E | 71.25/Ea. |
| 772-M | 142.50/Ea. |
| 772/18-C | 20.00/Ea. |
| 772/18-D | 49.00 Ea. |
| 772/18-E | 95.00/Ea. |
| 772/18-M | 190.00/Ea. |
| 773-C | 17.00/Ea. |
| 773-D | 42.50/Ea. |
| 773-E | 83.50/Ea. |
| 773-M | 167.00/Ea. |
| 773 18-C | 31.25/Ea. |
| 773/18-D | 76.50/Ea. |
| 773/18-E | 150.00/Ea. |
| 773/18-M | 300.00/Ea. |
| 774-C | 21.00/Ea. |
| 774-D | 49.50/Ea. |
| 774-E | 97.50/Ea. |
| 774-M | 195.00/Ea. |
| 774 18-C | 34.50/Ea. |
| 774/18-D | 85.00/Ea. |
| 774 18-E | 170.00/Ea. |
| 774/18-M | 338.00/Ea. |
| 775-C | 26.00/Ea. |
| 775-D | 60.00/Ea. |
| 775-E | 120.00/Ea. |
| 775-M | 240.00/Ea. |
| 776-C | 31.00/Ea. |
| 776-D | 73.00/Ea. |
| 776-E | 145.00/Ea. |
| 776-M | 290.00/Ea. |
| 777-C | 34.00/Ea. |
| 777-D | 80.00/Ea. |
| 777-E | 159.50 Ea. |
| 777-M | 319.00 Ea. |
| 778-C | 40.00 Ea. |
| 778-D | 97.50 Ea. |
| 778-E | 195.00/Ea. |
| 778-M | 385.00/Ea. |
| 781-C | 23.50/Ea. |
| 788-C | 12.50/Ea. |
| 788-D | 30.50 Ea. |
| 788-E | 60.00 Ea. |
| 788-M | 120.00 Ea. |
| 789-D | 30.50/Ea. |
| 790-C | 14.25/Ea. |
| 790-D | 35.25 Ea. |
| 790-E | 69.00 Ea. |
| 790-M | 138.00 Ea. |
| 791-D | 35.25 Ea. |
| 792-C | 17.40/Ea. |
| 792-D | 42.50 Ea. |
| 792-E | ♦83.50/Ea. |
| 792-M | 167.00 Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 793-D | 42.50/Ea. |
| 794-C | 20.65 Ea. |
| 794-D | 50.65 Ea. |
| 794-E | 100.00 Ea. |
| 794-M | 200.00 Ea. |
| 795-D | 50.65/Ea. |
| 796-C | 26.50/Ea. |
| 796-D | 63.00 Ea. |
| 796-E | 125.00 Ea. |
| 796-M | 248.50 Ea. |
| 797-D | 63.00/Ea. |
| 798-C | 32.50/Ea. |
| 798-D | 79.40/Ea. |
| 798-E | 156.25/Ea. |
| 798-M | 312.50 Ea. |
| 802-D | 26.40 Ea. |
| 803-D | 22.00/Ea. |
| 810-E | 39.00/Ea. |
| 815 | .84/Ea. |
| 816 | .57/Ea. |
| 817 | .72/Ea. |
| 818-C | 14.60/Ea. |
| 818-E | 73.00 Ea. |
| 818-M | 146.00 Ea. |
| 819 | .75/Ea. |
| 820-C | 12.65/Ea. |
| 820-E | 63.25/Ea. |
| 820-M | 126.50/Ea. |
| 822-E | 44.00 Ea. |
| 824-E | 52.25/Ea. |
| 825-E | 31.60/Ea. |
| 826-M | 75.00/Ea. |
| 826 30-E | 44.00/Ea. |
| 826/28-E | 42.50/Ea. |
| 826/26-E | 40.00/Ea. |
| 827-E | 50.00/Ea. |
| 828-E | 74.00/Ea. |
| 829-E | 91.00 Ea. |
| 830-E | 160.00/Ea. |
| 831-C | 7.25/Ea. |
| 831-E | 35.00/Ea. |
| 831-M | 70.00/Ea. |
| 832-C | 8.00/Ea. |
| 832-E | 38.50/Ea. |
| 832-M | 77.00/Ea. |
| 833-C | 9.00/Ea. |
| 833-E | 43.75/Ea. |
| 833-M | 87.50/Ea. |
| 834-C | 11.00/Ea. |
| 834-E | 52.50/Ea. |
| 834-M | 105.00/Ea. |
| 835-C | 14.00/Ea. |
| 835-E | 66.00/Ea. |
| 835-M | 130.00/Ea. |
| 853-C | 5.25/Ea. |
| 853-E | 25.00/Ea. |
| 853-M | 48.50/Ea. |
| 854-C | 5.25/Ea. |
| 854-E | 25.00/Ea. |
| 854-M | 48.50/Ea. |
| 855-50' | 2.90/Ea. |
| 855-C | 5.50/Ea. |
| 855-E | 25.65/Ea. |
| 855-M | 50.00/Ea. |
| 856-50' | 25.00/Ea. |
| 856-C | 48.50/Ea. |
| 856-E | 241.00/Ea. |
| 856-M | 478.00/Ea. |
| 856/1-50' | 28.00/Ea. |
| 856/1-C | 54.00/Ea. |
| 856/1-E | 265.00/Ea. |
| 856/1-M | 525.00/Ea. |
| 856 2-50' | 47.00/Ea. |
| 856/2-C | 90.50/Ea. |
| 856/2-E | 360.00/Ea. |
| 856/2-M | 710.00/Ea. |
| 857-50' | 24.00/Ea. |
| 857-C | 47.00/Ea. |
| 857-E | 233.00/Ea. |
| 857-M | 463.00 Ea. |
| 858-50' | 3.25/Ea. |
| 858-C | 6.50/Ea. |
| 858-E | 30.50/Ea. |
| 858-M | 61.00/Ea. |
| 859-50' | 3.50/Ea. |
| 859-C | 6.75/Ea. |
| 859-E | 33.00/Ea. |
| 859-M | 64.50/Ea. |
| 860-50' | 4.45/Ea. |
| 860-C | 8.90/Ea. |
| 860-E | 44.25/Ea. |
| 860-M | 88.50/Ea. |
| 863-50' | 5.25/Ea. |
| 863-C | 10.50/Ea. |
| 863-E | 50.00/Ea. |
| 863-M | 100.00/Ea. |
| 864-50' | 8.25/Ea. |
| 864-C | 16.50/Ea. |
| 864-E | 80.00/Ea. |
| 864-M | 160.00/Ea. |
| 865-50' | 11.50/Ea. |
| 865-C | 23.00/Ea. |
| 865-E | 110.00/Ea. |
| 865-M | 220.00/Ea. |
| 865/1-50' | 24.00/Ea. |
| 865/1-C | 46.50/Ea. |
| 865/1-E | 230.00/Ea. |
| 865 1-M | 458.00/Ea. |
| 868-50' | 10.00/Ea. |
| 868-C | 19.75/Ea. |
| 868-E | 96.00/Ea. |
| 868-M | 192.00/Ea. |
| 870-C | 11.00/Ea. |
| 870-D | 26.50/Ea. |
| 870-E | 52.50/Ea. |
| 870-M | 103.00/Ea. |
| 872-C | 13.50/Ea. |
| 872-D | 32.50/Ea. |
| 872-E | 63.75/Ea. |
| 872-M | 127.00/Ea. |
| 875 | 4.50/Ea. |
| 876 | 5.50/Ea. |
| 877 | 6.75/Ea. |
| 878 | 8.00/Ea. |
| 880 | 6.25/Ea. |
| 881 | 7.25/Ea. |
| 882 | 9.00/Ea. |
| 885 | 5.50/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 886 | 6.25/Ea. |
| 887 | 7.25 Ea. |
| 888 | 7.25/Ea. |
| 889 | 9.00/Ea. |
| 890 | 9.50/Ea. |
| 891 | 8.35/Ea. |
| 901-E | 135.00 Ea. |
| 902-E | 200.00 Ea. |
| 903-E | 125.00/Ea. |
| 904F-E | 130.00 Ea. |
| 904DSF-E | 210.00 Ea. |
| 904DS-E | 200.00/Ea. |
| 905-M | 97.25/Ea. |
| 906-M | 97.00/Ea. |
| 907-M | 110.00/Ea. |
| 909-M | 167.50 Ea. |
| 910-M | 97.00 Ea. |
| 912-E | 210.00/Ea. |
| 914-M | 150.00/Ea. |
| 916-M | 200.00/Ea. |
| 919-E | 42.50/Ea. |
| 920-M | 85.00 Ea. |
| 924-C | 8.50/Ea. |
| 924-E | 40.00 Ea. |
| 924-M | 79.00 Ea. |
| 925-C | 11.25/Ea. |
| 925-E | 53.00/Ea. |
| 925-M | 105.00/Ea. |
| 931-E | 11.00/Ea. |
| 931-M | 21.00/Ea. |
| 932-E | 17.50/Ea. |
| 932-M | 35.00/Ea. |
| 933-E | 18.75/Ea. |
| 933-M | 37.50/Ea. |
| 934-E | 23.50/Ea. |
| 934-M | 47.00/Ea. |
| 938-C | 11.50/Ea. |
| 938-E | 48.80/Ea. |
| 938-M | 97.35/Ea. |
| 939-C | 9.25/Ea. |
| 939-E | 42.50/Ea. |
| 939-M | 87.50/Ea. |
| 940-E | 44.50/Ea. |
| 940/1-E | 35.00/Ea. |
| 941-E | 35.00/Ea. |
| 941/1-E | 29.50/Ea. |
| 942-E | 36.50/Ea. |
| 943-E | 51.50/Ea. |
| 944-E | 77.00/Ea. |
| 947-E | 52.50/Ea. |
| 948-E | 72.50/Ea. |
| 952-E | 32.50/Ea. |
| 972-C | 15.75/Ea. |
| 972A-C | 15.50/Ea. |
| 972A-E | 76.00/Ea. |
| 972A-M | 150.00/Ea. |
| 972B-C | 15.25/Ea. |
| 972B-E | 75.50/Ea. |
| 972B-M | 150.00/Ea. |
| 972S-C | 12.50/Ea. |
| 972S-E | 55.00/Ea. |
| 972S-M | 110.00/Ea. |
| 973-C | 16.00/Ea. |
| 973S-C | 14.00/Ea. |
| 973S-E | 66.00/Ea. |
| 973S-M | 132.00/Ea. |
| 974-C | 20.00/Ea. |
| 975-C | 27.50/Ea. |
| 976-C | 30.25/Ea. |
| 977-C | 36.85/Ea. |
| 978-C | 41.25/Ea. |
| 981-M | 32.75/Ea. |
| 982-M | 42.50/Ea. |
| 983-M | 49.50/Ea. |
| 984-M | 64.50/Ea. |
| 985-M | 42.50/Ea. |
| 986-M | 53.00/Ea. |
| 987-M | 63.50/Ea. |
| 988-M | 74.50/Ea. |
| 989-M | 67.50/Ea. |
| 989/3-M | 89.50/Ea. |
| 990-M | 27.50/Ea. |
| 990/3-M | 41.00 Ea. |
| 991-M | 36.50 Ea. |
| 991/3-M | 63.50/Ea. |
| 992-M | 49.00/Ea. |
| 992/3-M | 75.00/Ea. |
| 993-M | 72.50/Ea. |
| 993/3-M | 110.00 Ea. |
| 994-M | 109.00 Ea. |
| 994/3-M | 160.00/Ea. |
| 995-M | 155.00/Ea. |
| 995 3-M | 240.00/Ea. |
| 1070 | 15.00 Ea. |
| 1071 | 15.00/Ea. |
| 1072 | 16.00/Ea. |
| 1073 | 2.95/Ea. |
| 1074 | 5.15/Ea. |
| 1075 | 9.75/Ea. |
| 1076 | 2.75/Ea. |
| 1077 | 4.75/Ea. |
| 1078 | 9.00/Ea. |
| 1079 | 2.95/Ea. |
| 1080 | 4.75/Ea. |
| 1081 | 9.00/Ea. |
| 1082 | 2.95/Ea. |
| 1083 | 4.75/Ea. |
| 1084 | 9.00/Ea. |
| 1085 | 2.95 Ea. |
| 1086 | 4.75/Ea. |
| 1087 | 9.00/Ea. |
| 1111-D | 37.50/Ea. |
| 1112-E | 75.00/Ea. |
| 1113-M | 145.00 Ea. |
| 1402-C | 7.90/Ea. |
| 1403-M | 72.50/Ea. |
| 1406-C | 4.25 Ea. |
| 1407-M | 40.00/Ea. |
| 1410-C | 2.90/Ea. |
| 1411-M | 26.25 Ea. |
| 1414-C | 2.00/Ea. |
| 1415-M | 17.75/Ea. |
| 1418-C | 1.55 Ea. |
| 1419-M | 13.25 Ea. |
| 1422-C | 1.10 Ea. |
| 1423-M | 8.30/Ea. |
| 1424-M | 6.00/Ea. |
| 1426-M | 5.80 Ea. |

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| 1428-M | 5.60 Ea. |
| 1430-M | 5.25 Ea. |
| 1433-C | 12.00 Ea. |
| 1433-M | 112.50 Ea. |
| 1433/4-C | 30.00 Ea. |
| 1433/4-M | 290.00/Ea. |
| 1433/6-C | 19.00/Ea. |
| 1433/6-M | 185.00/Ea. |
| 1434-M | 6.25 Ea. |
| 1490-M | 31.50 Ea. |
| 1492-M | 46.00 Ea. |
| 1497-M | 79.00 Ea. |
| 1560-C | 14.85/Ea. |
| 1560-M | 148.50/Ea. |
| 1562-C | 7.65/Ea. |
| 1563-M | 70.00/Ea. |
| 1566-C | 4.85/Ea. |
| 1567-M | 46.00/Ea. |
| 1570-C | 3.30/Ea. |
| 1571-M | 30.00/Ea. |
| 1574-C | 2.15/Ea. |
| 1575-M | 19.30/Ea. |
| 1600-C | 14.75/Ea. |
| 1600-M | 147.00 Ea. |
| 1618-M | 15.75/Ea. |
| 1620-M | 10.40/Ea. |
| 1622-M | 8.25/Ea. |
| 1628-M | 21.50/Ea. |
| 1633-M | 27.00/Ea. |
| 1634-M | 22.50 Ea. |
| 1638-M | 33.50 Ea. |
| 1639-M | 27.25 Ea. |
| 1647-M | 47.15/Ea. |
| 1648-M | 15.25/Ea. |
| 1670-C | 3.00/Ea. |
| 1671-C | 3.60/Ea. |
| 1673-C | 2.35/Ea. |
| 1674-C | 2.75/Ea. |
| 1680-C | 1.90/Ea. |
| 1741-M | 12.50/Ea. |
| 1772-D | 35.75/Ea. |
| 1773-D | 42.50/Ea. |
| 1774-D | 49.50/Ea. |
| 1775-D | 60.00/Ea. |
| 1776-D | 73.00/Ea. |
| 1777-D | 80.00/Ea. |
| 1822-C | 7.10/Ea. |
| 1822B-E | 31.50/Ea. |
| 1822C-M | 58.80/Ea. |
| 1824-C | 5.75/Ea. |
| 1824-E | 27.50/Ea. |
| 1824M-M | 54.00/Ea. |
| 1825-C | 6.00/Ea. |
| 1825-E | 29.00/Ea. |
| 1825M-M | 56.50/Ea. |
| 1835-E | 32.00/Ea. |
| 1836-E | 23.50/Ea. |
| 1839-E | 45.00/Ea. |
| 1839-M | 90.00/Ea. |
| 1840-C | 7.00/Ea. |
| 1840-E | 33.40/Ea. |
| 1840-M | 66.75/Ea. |
| 1841-C | 9.25/Ea. |
| 1841-E | 44.00/Ea. |
| 1841-M | 88.00/Ea. |
| 1842-C | 13.00/Ea. |
| 1842-E | 63.00/Ea. |
| 1842-M | 126.00/Ea. |
| 1843-C | 17.50/Ea. |
| 1843-E | 82.50/Ea. |
| 1843-M | 165.00/Ea. |
| 1844-C | 17.00/Ea. |
| 1844-E | 84.00/Ea. |
| 1844-M | 167.00/Ea. |
| 1845-E | 110.00/Ea. |
| 1845-M | 215.00/Ea. |
| 1846-E | 150.00/Ea. |
| 1846-M | 300.00/Ea. |
| 1870-D | 26.50/Ea. |
| 1872-D | 32.50/Ea. |
| 1874-M | 69.00/Ea. |
| 1874A-E | 36.10/Ea. |
| 1875-M | 86.10/Ea. |
| 1875A-E | 45.00/Ea. |
| 1878-M | 111.00/Ea. |
| 1878A-E | 58.35/Ea. |
| 1972-C | 13.90/Ea. |
| 1972-D | 31.00/Ea. |
| 1972-E | 61.25/Ea. |
| 1972-M | 132.00/Ea. |
| 1972A-C | 15.00/Ea. |
| 1972A-E | 75.00/Ea. |
| 1972A-M | 150.00/Ea. |
| 2010 | 15.30/Ea. |
| 2012 | 12.70 Ea. |
| 2013 | 10.90/Ea. |
| 2014 | 9.90/Ea. |
| 2015 | 8.10/Ea. |
| 2016 | 6.60/Ea. |
| 2018 | 6.25/Ea. |
| 2810-C | 15.68/Ea. |
| 2810-E | 78.25/Ea. |
| 2812-C | 10.50/Ea. |
| 2812-E | 52.00/Ea. |
| 2814-C | 7.30/Ea. |
| 2814-E | 36.00/Ea. |
| 2816-C | 6.05/Ea. |
| 2816-E | 30.00/Ea. |
| 2818-C | 5.00/Ea. |
| 2818-E | 24.50/Ea. |
| 3460-C | 5.23/Ea. |
| 3461-C | 3.85/Ea. |
| 3462-E | 18.15/Ea. |
| 3600-E | 24.75/Ea. |
| 4500-M | 16.50/Ea. |
| 4510-E | 50.00/Ea. |
| 4701-C | 4.00/Ea. |
| 4701-E | 17.50/Ea. |
| 4701-M | 32.50/Ea. |
| 4702-C | 6.00/Ea. |
| 4702-E | 25.00/Ea. |
| 4702-M | 50.00/Ea. |
| 4703-C | 8.00/Ea. |
| 4703-E | 35.00/Ea. |
| 4703-M | 70.00 Ea. |
| 4706-C | 14.00/Ea. |
| 4706-E | 70.00/Ea. |
| 4706-M | 137.50/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 4709-C | 22.50/Ea. |
| 4709-E | 100.00/Ea. |
| 4709-M | 200.00/Ea. |
| 4711-C | 26.25 Ea. |
| 4711-E | 125.00/Ea. |
| 4711-M | 235.00/Ea. |
| 4711/13E | 126.25/Ea. |
| 4715-C | 30.00/Ea. |
| 4715-E | 145.00/Ea. |
| 4715-M | 290.00/Ea. |
| 4716-C | 32.40/Ea. |
| 4716-E | 160.00/Ea. |
| 4716-M | 320.00/Ea. |
| 4727-C | 51.75/Ea. |
| 4727-E | 258.75/Ea. |
| 4727-M | 515.00/Ea. |
| 4727-E | 365.00/Ea. |
| 4727/41E | 485.00/Ea. |
| 4729-E | 790.00/Ea. |
| 4729/76E | 1320.00/Ea. |
| 4729/101-E | 1675.00/Ea. |
| 4731-C | 425.00/Ea. |
| 4731-E | 17.75/Ea. |
| 4731-M | 35.25/Ea. |
| 4732-C | 8.10/Ea. |
| 4732-E | 37.50/Ea. |
| 4732-M | 75.00/Ea. |
| 4733-C | 10.60/Ea. |
| 4733-E | 50.00/Ea. |
| 4733-M | 100.00/Ea. |
| 4734-C | 13.50/Ea. |
| 4734-E | 62.50/Ea. |
| 4734-M | 125.00/Ea. |
| 4735-C | 16.00/Ea. |
| 4735-E | 76.25/Ea. |
| 4735-M | 152.50/Ea. |
| 4736-C | 20.00/Ea. |
| 4736-E | 90.00/Ea. |
| 4736-M | 180.00/Ea. |
| 4739-C | 26.00/Ea. |
| 4739-E | 126.00/Ea. |
| 4739-M | 252.50/Ea. |
| 4745-C | 36.00/Ea. |
| 4745-E | 175.00/Ea. |
| 4745-M | 350.00/Ea. |
| 4747-C | 72.50/Ea. |
| 4747-E | 350.00/Ea. |
| 4747-M | 700.00/Ea. |
| 4752-C | 6.25/Ea. |
| 4752-E | 27.50/Ea. |
| 4752-M | 55.00/Ea. |
| 4753-C | 8.00/Ea. |
| 4753-E | 38.50/Ea. |
| 4753-M | 77.00/Ea. |
| 4754-C | 10.75/Ea. |
| 4754-E | 51.00/Ea. |
| 4754-M | 100.00/Ea. |
| 4755-C | 13.50/Ea. |
| 4755-E | 65.00/Ea. |
| 4755-M | 130.00/Ea. |
| 4756-C | 16.00/Ea. |
| 4756-E | 76.00/Ea. |
| 4756-M | 152.00/Ea. |
| 7000-1000'-M | 10.60/Ea. |
| 7000-1-100'-C | 1.33/Ea. |
| 7001-1000'-M | 13.30/Ea. |
| 7001-1-C | 1.59/Ea. |
| 7001-S-M | 15.15/Ea. |
| 7001-IS-C | 1.72/Ea. |
| 7002-M | 14.15/Ea. |
| 7002-1-C | 1.70/Ea. |
| 7003-M | 17.30/Ea. |
| 7003-1-C | 2.00/Ea. |
| 7003-S-M | 19.15/Ea. |
| 7003-IS-C | 2.12/Ea. |
| 7004-M | 20.00/Ea. |
| 7004-1-C | 2.30/Ea. |
| 7005-M | 24.40/Ea. |
| 7005-1-C | 2.72/Ea. |
| 7005-S-M | 26.25/Ea. |
| 7005-IS-C | 2.83/Ea. |
| 7006-M | 490.50/Ea. |
| 7006-1-C | 50.00/Ea. |
| 7007-M | 35.80/Ea. |
| 7007-1-C | 3.85/Ea. |
| 7008-M | 349.50/Ea. |
| 7008-1-C | 35.00/Ea. |
| 7009-M | 54.00/Ea. |
| 7009-1-C | 5.65/Ea. |
| 7010-M | 202.75/Ea. |
| 7010-1-C | 20.90/Ea. |
| 7011-M | 90.00/Ea. |
| 7011-1-C | 9.25/Ea. |
| 7012-M | 133.15/Ea. |
| 7012-1-C | 13.97/Ea. |
| 7013-M | 182.25/Ea. |
| 7013-1-C | 18.80/Ea. |
| 7014-1000'-M | 85.00/Ea. |
| 7014-1-C | 8.60/Ea. |
| 7015-M | 320.00/Ea. |
| 7015-1-C | 32.50/Ea. |
| 7016-M | 55.45/Ea. |
| 7016-1-C | 5.75/Ea. |
| 7017-M | 449.00/Ea. |
| 7017-1-C | 45.00/Ea. |
| 7018-M | 40.70/Ea. |
| 7018-1-C | 4.30/Ea. |
| 7020-M | 32.20/Ea. |
| 7020-1-C | 3.45/Ea. |
| 7022-M | 26.50/Ea. |
| 7022-1-C | 2.90/Ea. |
| 7024-M | 15.00/Ea. |
| 7024-1-C | 1.70/Ea. |
| 7024-S-M | 17.00/Ea. |
| 7024-IS-C | 2.00/Ea. |
| 7065-M | 165.00/Ea. |
| 7065-1-C | 17.50/Ea. |
| 7066-M | 115.00/Ea. |
| 7066-1-C | 11.55/Ea. |
| 7067-M | 85.00/Ea. |
| 7067-1-C | 8.90/Ea. |
| 7068-M | 70.00/Ea. |

C = 100 ft. — D = 250 ft — E = 500 ft. — M = 1000 ft. — F = 2500 ft.

**ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**



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**TRADE DISCOUNT APPLIES TO LIST PRICES ONLY**

World Radio History

# Birnbach PRICE LIST NUMERICALLY ARRANGED BY CATALOG NUMBER

| Cat. No. | Sug. List Price |
|---|---|
| 7068-1-C | 7.90/Ea. |
| 7070-M | 58.50/Ea. |
| 7070-1-C | 6.65/Ea. |
| 7072-M | 50.00/Ea. |
| 7072-1-C | 6.00/Ea. |
| 7074-M | 40.50/Ea. |
| 7074-1-C | 5.50/Ea. |
| 7116-M | 280.00/Ea. |
| 7116-1-C | 31.00/Ea. |
| 7118-M | 225.00/Ea. |
| 7118-1-C | 25.00/Ea. |
| 7120-M | 185.00/Ea. |
| 7120-1-C | 20.50/Ea. |
| 7122-M | 125.00/Ea. |
| 7122-1-C | 13.75/Ea. |
| 7124-M | 110.00/Ea. |
| 7124-1-C | 12.10/Ea. |
| 7126-M | 100.00/Ea. |
| 7126-1-C | 11.00/Ea. |
| 7128-M | 75.00/Ea. |
| 7128-1-C | 8.50/Ea. |
| 7130-M | 74.00/Ea. |
| 7130-1-C | 8.40/Ea. |
| 7170-M | 13.90/Ea. |
| 7170-1-C | 1.60/Ea. |
| 7171-M | 16.00/Ea. |
| 7171-1-C | 1.85/Ea. |
| 7172-M | 20.00/Ea. |
| 7172-1-C | 2.30/Ea. |
| 7173-M | 27.75/Ea. |
| 7173-C | 3.00/Ea. |
| 7174-M | 33.50/Ea. |
| 7174-1-C | 3.65/Ea. |
| 7175-M | 52.75/Ea. |
| 7175-1-C | 5.55/Ea. |
| 7180-M | 20.00/Ea. |
| 7180-1-C | 2.40/Ea. |
| 7181-M | 24.50/Ea. |
| 7181-1-C | 2.70/Ea. |
| 7182-M | 29.50/Ea. |
| 7182-1-C | 3.20/Ea. |
| 7183-M | 35.00/Ea. |
| 7183-1-C | 4.00/Ea. |
| 7184-M | 42.50/Ea. |
| 7184-1-C | 4.50/Ea. |
| 7185-M | 64.00/Ea. |
| 7185-1-C | 6.90/Ea. |
| 7186-M | 97.00/Ea. |
| 7187-M | 125.00/Ea. |
| 7188-M | 250.00/Ea. |
| 7189-M | 340.00/Ea. |
| 7190-M | 15.00/Ea. |
| 7190-1-C | 1.75/Ea. |
| 7191-1-M | 13.50/Ea. |
| 7191-1-C | 1.45/Ea. |
| 7193-1000'-M | 13.00/Ea. |
| 7193-1-C | 1.50/Ea. |
| 7194-M | 13.25/Ea. |
| 7194-1-C | 1.60/Ea. |
| 7195-M | 14.50/Ea. |
| 7195-1-C | 1.70/Ea. |
| 7196-M | 19.00/Ea. |
| 7196-C | 2.15/Ea. |
| 7197-M | 25.00/Ea. |
| 7197-1-C | 2.75/Ea. |
| 7198-M | 32.50/Ea. |
| 7198-1-C | 3.50/Ea. |
| 7201-M | 26.50/Ea. |
| 7201-1-C | 3.10/Ea. |
| 7202-M | 23.75/Ea. |
| 7202-1-C | 2.75/Ea. |
| 7203-M | 30.25/Ea. |
| 7203-1-C | 3.65/Ea. |
| 7204-M | 26.75/Ea. |
| 7204-1-C | 3.15/Ea. |
| 7205-M | 39.25/Ea. |
| 7205-1-C | 4.60/Ea. |
| 7207-M | 52.75/Ea. |
| 7207-1-C | 6.00/Ea. |
| 7210-M | 175.00/Ea. |
| 7210-1-C | 20.50/Ea. |
| 7212-M | 117.00/Ea. |
| 7212-1-C | 12.10/Ea. |
| 7214-M | 73.50/Ea. |
| 7214-1-C | 8.00/Ea. |
| 7216-M | 50.50/Ea. |
| 7216-1-C | 6.00/Ea. |
| 7218-M | 39.50/Ea. |
| 7218-1-C | 4.50/Ea. |
| 7220-M | 30.00/Ea. |
| 7220-1-C | 3.50/Ea. |
| 7222-M | 25.00/Ea. |
| 7222-1-C | 2.75/Ea. |
| 7224-M | 29.00/Ea. |
| 7224-1-C | 3.25/Ea. |
| 7312-M | 118.25/Ea. |
| 7312-1-C | 12.65/Ea. |
| 7314-M | 90.00/Ea. |
| 7314-1-C | 9.50/Ea. |
| 7316-M | 57.50/Ea. |
| 7316-1-C | 6.00/Ea. |
| 7318-M | 40.00/Ea. |
| 7318-1-C | 4.35/Ea. |
| 7320-M | 31.50/Ea. |
| 7320-1-C | 3.35/Ea. |
| 7322-M | 26.25/Ea. |
| 7322-1-C | 2.85/Ea. |
| 7326-M | 15.25/Ea. |
| 7326-1-C | 2.20/Ea. |
| 7328-M | 14.65/Ea. |
| 7328-1-C | 1.90/Ea. |
| 7330-M | 14.25/Ea. |
| 7330-1-C | 1.75/Ea. |
| 7351-M | 36.75/Ea. |
| 7351-1-C | 3.75/Ea. |
| 7353-M | 40.00/Ea. |
| 7353-1-C | 4.15/Ea. |
| 7355-M | 46.00/Ea. |
| 7355-1-C | 4.85/Ea. |
| 7357-M | 65.00/Ea. |
| 7357-1-C | 6.80/Ea. |
| 7359-M | 85.00/Ea. |
| 7359-1-C | 9.40/Ea. |
| 7361-M | 112.50/Ea. |
| 7361-1-C | 11.50/Ea. |
| 7362-M | 160.00/Ea. |
| 7362-1-C | 17.50/Ea. |
| 7363-M | 260.00/Ea. |
| 7363-1-C | 28.50/Ea. |
| 7364-M | 400.00/Ea. |
| 7365-M | 625.00/Ea. |
| 7365/2-M | 1000.00/Ea. |
| 7365/0-1000' | 1500.00/Ea. |
| 7365/00-1000' | 2000.00/Ea. |
| 7371-M | 75.00/Ea. |
| 7371-1-100'-C | 8.25/Ea. |
| 7372-1000'-M | 85.00/Ea. |
| 7372-1-100'-C | 9.00/Ea. |
| 7373-1000'-M | 92.50/Ea. |
| 7373-1-100'-C | 9.50/Ea. |
| 7374-1000'-M | 138.90/Ea. |
| 7374-1-100'-C | 14.50/Ea. |
| 7375-1000'-M | 162.50/Ea. |
| 7376-1000'-M | 195.00/Ea. |
| 7389 | 235.00/Ea. |
| 7398-1M | 31.00/Ea. |
| 7398-2M | 165.90/Ea. |
| 7398-3M | 43.00/Ea. |
| 7400 | 625.00/Ea. |
| 7400-D | 45.00/Ea. |
| 7402-M | 37.50/Ea. |
| 7402-1-C | 3.95/Ea. |
| 7412-M | 57.00/Ea. |
| 7412-1-C | 6.00/Ea. |
| 7418-M | 60.50/Ea. |
| 7418-1-C | 6.70/Ea. |
| 7428-M | 93.50/Ea. |
| 7428-1-C | 9.90/Ea. |
| 7448-M | 112.50/Ea. |
| 7448-1-C | 11.50/Ea. |
| 7449-M | 135.00/Ea. |
| 7449-1-C | 17.50/Ea. |
| 7458-M | 210.00/Ea. |
| 7458-1-C | 22.00/Ea. |
| 7524-M | 14.50/Ea. |
| 7524-E | 7.50/Ea. |
| 7526-M | 13.50/Ea. |
| 7526-E | 7.00/Ea. |
| 7527-M | 13.00/Ea. |
| 7527-E | 6.75/Ea. |
| 7528-M | 12.50/Ea. |
| 7528-E | 6.50/Ea. |
| 7529-M | 18.00/Ea. |
| 7529-E | 9.50/Ea. |
| 7530-M | 12.00/Ea. |
| 7530-E | 6.25/Ea. |
| 7532-M | 15.00/Ea. |
| 7532-E | 7.75/Ea. |
| 7534-M | 18.00/Ea. |
| 7534-E | 9.50/Ea. |
| 7535-M | 60.00/Ea. |
| 7535-E | 30.50/Ea. |
| 7536-M | 65.00/Ea. |
| 7536-E | 33.25/Ea. |
| 7537-M | 62.50/Ea. |
| 7537-E | 32.00/Ea. |
| 7538-M | 59.00/Ea. |
| 7538-E | 30.00/Ea. |
| 7542-M | 70.00/Ea. |
| 7542/3-M | 87.50/Ea. |
| 7542/4-M | 105.00/Ea. |
| 7552-M | 76.50/Ea. |
| 7552/3-M | 97.50/Ea. |
| 7552/4-M | 116.00/Ea. |
| 7610-M | 550.00/Ea. |
| 7610-1-C | 60.00/Ea. |
| 7612-M | 320.00/Ea. |
| 7612-1-C | 35.00/Ea. |
| 7614-M | 250.00/Ea. |
| 7614-1-C | 27.50/Ea. |
| 7616-M | 195.00/Ea. |
| 7616-1-C | 22.50/Ea. |
| 7618-M | 165.00/Ea. |
| 7618-1-C | 17.50/Ea. |
| 7620-M | 142.50/Ea. |
| 7620-1-C | 15.75/Ea. |
| 7622-M | 125.00/Ea. |
| 7622-1-C | 13.50/Ea. |
| 7652-M | 37.00/Ea. |
| 7652-E | 18.00/Ea. |
| 7653-M | 65.00/Ea. |
| 7653-E | 33.00/Ea. |
| 7654-M | 85.00/Ea. |
| 7654-E | 43.00/Ea. |
| 7668-M | 35.00/Ea. |
| 7668-500'-E | 17.75/Ea. |
| 7669-M | 50.00/Ea. |
| 7669-E | 25.00/Ea. |
| 7670-M | 60.00/Ea. |
| 7670-E | 30.00 Ea. |
| 8000-M | 159.00/Ea. |
| 8000-E | 80.00/Ea. |
| 8000-C | 16.00/Ea. |
| 8000-50' | 10.00/Ea. |
| 8000-25' | 6.00/Ea. |
| 8000-M | 178.00/Ea. |
| 8001-E | 93.00/Ea. |
| 8001-C | 20.00/Ea. |
| 8001-50' | 11.00/Ea. |
| 8001-25' | 6.50/Ea. |
| 8002-M | 265.00/Ea. |
| 8002-E | 136.50/Ea. |
| 8002-C | 28.50/Ea. |
| 8002-50' | 15.00/Ea. |
| 8002-25' | 8.00/Ea. |
| 8003-M | 325.00/Ea. |
| 8003-E | 165.00/Ea. |
| 8003-C | 35.75/Ea. |
| 8003-50' | 19.00/Ea. |
| 8003-25' | 10.00/Ea. |
| 8004-M | 365.00/Ea. |
| 8004-E | 185.00/Ea. |
| 8004-C | 40.00/Ea. |
| 8004-50' | 22.00/Ea. |
| 8004-25' | 13.00/Ea. |
| 8005-M | 407.50/Ea. |
| 8005-E | 209.00/Ea. |
| 8005-C | 48.00/Ea. |
| 8005-50' | 27.20/Ea. |
| 8005-25' | 15.50/Ea. |
| 8006-M | 475.00/Ea. |
| 8006-E | 242.00/Ea. |
| 8006-C | 57.00/Ea. |
| 8006-50' | 32.00/Ea. |
| 8006-25' | 18.00/Ea. |
| 8007-M | 625.00/Ea. |
| 8007-E | 317.50/Ea. |
| 8007-C | 66.00/Ea. |
| 8007-50' | 36.75/Ea. |
| 8007-25' | 20.50/Ea. |
| 8008-M | 1045.10/Ea. |
| 8008-E | 527.50/Ea. |
| 8008-C | 106.00/Ea. |
| 8008-50' | 61.50/Ea. |
| 8008-25' | 32.50/Ea. |
| 8009-M | 1240.00/Ea. |
| 8009-E | 625.00/Ea. |
| 8009-C | 125.00/Ea. |
| 8009-50' | 74.00/Ea. |
| 8009-25' | 40.00/Ea. |
| 8010-1000'-M | 1490.00/Ea. |
| 8010-E | 750.00/Ea. |
| 8010-C | 150.00/Ea. |
| 8010-50' | 88.50/Ea. |
| 8010-25' | 46.50/Ea. |
| 8011-M | 1800.00/Ea. |
| 8011-E | 907.50/Ea. |
| 8011-C | 181.50/Ea. |
| 8011-50' | 106.50/Ea. |
| 8011-25' | 56.00/Ea. |
| 8012-M | 2250.00/Ea. |
| 8012-E | 1130.00/Ea. |
| 8012-C | 226.00/Ea. |
| 8012-50' | 124.25/Ea. |
| 8012-25' | 65.00/Ea. |
| 8013-M | 155.50/Ea. |
| 8013-E | 80.55/Ea. |
| 8013-C | 17.00/Ea. |
| 8014-M | 155.50/Ea. |
| 8014-E | 80.55/Ea. |
| 8014-C | 17.00/Ea. |
| 8015-M | 163.90/Ea. |
| 8015-E | 85.00/Ea. |
| 8015-C | 18.00/Ea. |
| 8016-M | 167.50/Ea. |
| 8016-E | 87.50/Ea. |
| 8016-C | 18.50/Ea. |
| 8020-M | 3000.00/Ea. |
| 8020-E | 1500.00/Ea. |
| 8020-C | 310.00/Ea. |
| 8020-50' | 165.00/Ea. |
| 8021-M | 3500.00/Ea. |
| 8021-E | 1750.00/Ea. |
| 8021-C | 360.00/Ea. |
| 8021-50' | 190.00/Ea. |
| 8022-M | 4750.00/Ea. |
| 8022-E | 2375.00/Ea. |
| 8022-C | 485.00/Ea. |
| 8022-50' | 252.50/Ea. |
| 8022-25' | 127.50/Ea. |
| 8023-M | 5500.00/Ea. |
| 8023-E | 2750.00/Ea. |
| 8023-C | 560.00/Ea. |
| 8023-50' | 290.00/Ea. |
| 8023-25' | 146.50/Ea. |
| 8024-M | 6800.00/Ea. |
| 8024-E | 3400.00/Ea. |
| 8024-C | 690.00/Ea. |
| 8024-50' | 355.00/Ea. |
| 8024-25' | 178.50/Ea. |
| 8025-M | 8100.00/Ea. |
| 8025-E | 4050.00/Ea. |
| 8025-C | 820.00/Ea. |
| 8025-50' | 420.00/Ea. |
| 8025-25' | 211.50/Ea. |
| 8026-M | 8675.00/Ea. |
| 8026-E | 4337.50/Ea. |
| 8026-C | 877.50/Ea. |
| 8026-50' | 448.75/Ea. |
| 8026-25' | 225.50/Ea. |
| 8027-M | 11250.00/Ea. |
| 8027-E | 5625.00/Ea. |
| 8027-C | 1135.00/Ea. |
| 8027-50' | 577.75/Ea. |
| 8027-25' | 290.00/Ea. |
| 8028-M | 11650.00/Ea. |
| 8028-E | 5825.00/Ea. |
| 8028-C | 1175.00/Ea. |
| 8028-50' | 597.50/Ea. |
| 8028-25' | 300.00/Ea. |
| 8029-M | 12900.00/Ea. |
| 8029-500'-E | 6450.00/Ea. |
| 8029-100'-C | 1300.00/Ea. |
| 8029-50' | 660.00/Ea. |
| 8029-25' | 331.50/Ea. |
| 8514-M | 425.00/Ea. |
| 8514-1-C | 51.00/Ea. |
| 8516-M | 348.50/Ea. |
| 8516-1-C | 41.75/Ea. |
| 8518-M | 266.00/Ea. |
| 8518-1-C | 31.90/Ea. |
| 8520-M | 221.00/Ea. |
| 8520-1-C | 26.50/Ea. |
| 8522-M | 172.50/Ea. |
| 8522-1-C | 20.60/Ea. |
| 8524-M | 148.25/Ea. |
| 8524-1-C | 17.75/Ea. |
| 8526-M | 133.25/Ea. |
| 8526-1-C | 16.00/Ea. |
| 8528-M | 130.00/Ea. |
| 8528-1-C | 15.50/Ea. |
| 8530-M | 125.00/Ea. |
| 8530-1-C | 15.00/Ea. |
| 8532-M | 127.00/Ea. |
| 8532-1-100'-C | 15.25/Ea. |
| 8534-M | 600.00/Ea. |
| 8534-1-C | 65.00/Ea. |
| 8536-M | 500.00/Ea. |
| 8536-1-C | 55.00/Ea. |
| 8538-M | 375.00/Ea. |
| 8538-1-C | 40.00/Ea. |
| 8540-M | 320.00/Ea. |
| 8540-1-C | 35.00/Ea. |
| 8542-M | 260.00/Ea. |
| 8542-1-C | 28.50/Ea. |
| 8544-M | 225.00/Ea. |
| 8544-1-C | 24.00/Ea. |
| 8546-M | 175.00/Ea. |
| 8546-1-C | 20.50/Ea. |
| 8548-M | 155.00/Ea. |
| 8548-1-C | 18.00/Ea. |
| 8550-M | 145.00/Ea. |
| 8550-1-C | 17.50/Ea. |
| 8552-M | 145.00/Ea. |
| 8552-1-C | 17.50/Ea. |
| 8704-M | 272.50/Ea. |
| 8704/2-M | 575.00/Ea. |
| 8704/3-M | 825.00/Ea. |
| 8704/4-M | 1070.00/Ea. |
| 8704/5-M | 1390.00/Ea. |
| 8705/1-M | 330.00/Ea. |
| 8705/2-M | 600.00/Ea. |
| 8705/3-M | 905.00/Ea. |
| 8705/4-M | 1180.00/Ea. |
| 8705/5-M | 1490.00/Ea. |
| 8706-M | 439.50/Ea. |
| 8706/2-M | 712.50/Ea. |
| 8706/3-M | 1095.00/Ea. |
| 8706/4-M | 1260.00/Ea. |
| 8706/5-M | 1550.00/Ea. |
| 8707-M | 300.00/Ea. |
| 8707/2-M | 630.00/Ea. |
| 8707/3-M | 877.50/Ea. |
| 8707/4-M | 1208.00/Ea. |
| 8707/5-M | 1527.50/Ea. |
| 8708-M | 355.00/Ea. |
| 8708/2-M | 660.00/Ea. |
| 8708/3-M | 985.00/Ea. |
| 8708/4-M | 1320.00/Ea. |
| 8708/5-M | 1655.00/Ea. |
| 8709-M | 465.00/Ea. |
| 8709/2-M | 798.00/Ea. |
| 8709/3-M | 1205.00/Ea. |
| 8709/4-M | 1510.00/Ea. |
| 8709/5-M | 1815.00/Ea. |
| 8710-M | 365.00/Ea. |
| 8710/2-M | 767.50/Ea. |
| 8710/3-M | 1090.00/Ea. |
| 8710/4-M | 1425.00/Ea. |
| 8710/5-M | 1785.00/Ea. |
| 8711-M | 438.00/Ea. |
| 8711/2-M | 820.00/Ea. |
| 8711/3-M | 1210.00/Ea. |
| 8711/4-M | 1520.00/Ea. |
| 8711/5-M | 1865.00/Ea. |
| 8712-M | 550.00/Ea. |
| 8712/2-M | 905.00/Ea. |
| 8712/3-M | 1400.00/Ea. |
| 8712/4-M | 1757.50/Ea. |
| 8712/5-M | 2120.00/Ea. |

### HF HEAVY FORMVAR MAGNET WIRE

#### ¼ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 8 | $ .88 |
| 12 | 12 | .89 |
| 14 | 20 | .90 |
| 16 | 31 | .91 |
| 18 | 49 | .95 |
| 20 | 78 | .98 |
| 22 | 125 | 1.00 |
| 24 | 200 | 1.05 |
| 26 | 300 | 1.10 |
| 28 | 500 | 1.20 |
| 30 | 800 | 1.25 |
| 32 | 1225 | 1.50 |
| 34 | 1988 | 1.70 |
| 36 | 3200 | 1.95 |
| 38 | 5050 | 2.35 |
| 40 | 7975 | 3.05 |
| 42 | 12375 | 4.00 |
| 44 | 14500 | 6.95 |

#### ½ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 16 | $1.45 |
| 12 | 25 | 1.46 |
| 14 | 39 | 1.47 |
| 16 | 62 | 1.50 |
| 18 | 99 | 1.68 |
| 20 | 156 | 1.78 |
| 22 | 250 | 1.80 |
| 24 | 399 | 1.90 |
| 26 | 600 | 2.10 |
| 28 | 1000 | 2.30 |
| 30 | 1600 | 2.40 |
| 32 | 2450 | 2.90 |
| 34 | 3975 | 3.25 |
| 36 | 6400 | 3.80 |
| 38 | 10100 | 4.40 |
| 40 | 15850 | 5.80 |
| 42 | 24750 | 7.70 |
| 44 | 29000 | 13.25 |

#### 1 Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 32 | $2.68 |
| 12 | 50 | 2.69 |
| 14 | 78 | 2.70 |
| 16 | 124 | 2.75 |
| 18 | 198 | 3.00 |
| 20 | 313 | 3.15 |
| 22 | 501 | 3.40 |
| 24 | 798 | 3.60 |
| 26 | 1200 | 3.90 |
| 28 | 1999 | 4.25 |
| 30 | 3200 | 4.50 |
| 32 | 4900 | 5.50 |
| 34 | 7950 | 6.25 |
| 36 | 13800 | 7.25 |
| 38 | 20200 | 8.50 |
| 40 | 31700 | 11.25 |
| 42 | 49500 | 14.50 |
| 44 | 58000 | 25.25 |

### PE PLAIN ENAMEL MAGNET WIRE

#### ¼ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 8 | $ .68 |
| 12 | 12 | .69 |
| 14 | 20 | .70 |
| 16 | 32 | .71 |
| 18 | 50 | .72 |
| 20 | 80 | .73 |
| 22 | 127 | .79 |
| 24 | 201 | .79 |
| 26 | 320 | .82 |
| 28 | 507 | .87 |
| 30 | 805 | .89 |
| 32 | 1282 | .94 |
| 34 | 2037 | 1.00 |
| 36 | 3221 | 1.10 |
| 38 | 5132 | 1.30 |
| 40 | 8143 | 1.70 |
| 42 | 12803 | 4.00 |
| 44 | 20455 | 5.65 |

#### ½ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 16 | $1.25 |
| 12 | 25 | 1.26 |
| 14 | 40 | 1.27 |
| 16 | 63 | 1.28 |
| 18 | 100 | 1.28 |
| 20 | 160 | 1.30 |
| 22 | 254 | 1.35 |
| 24 | 403 | 1.40 |
| 26 | 640 | 1.45 |
| 28 | 1015 | 1.55 |
| 30 | 1610 | 1.60 |
| 32 | 2564 | 1.70 |
| 34 | 4075 | 1.85 |
| 36 | 6443 | 2.05 |
| 38 | 10246 | 2.60 |
| 40 | 16286 | 3.40 |
| 42 | 25605 | 7.65 |
| 44 | 40910 | 10.90 |

#### 1 Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 32 | $2.34 |
| 12 | 50 | 2.35 |
| 14 | 80 | 2.36 |
| 16 | 80 | 2.36 |
| 18 | 201 | 2.38 |
| 20 | 320 | 2.50 |
| 22 | 508 | 2.65 |
| 24 | 806 | 2.70 |
| 26 | 1280 | 2.85 |
| 28 | 2030 | 3.00 |
| 30 | 3220 | 3.10 |
| 32 | 5128 | 3.30 |
| 34 | 8150 | 3.60 |
| 36 | 12887 | 4.10 |
| 38 | 20492 | 4.95 |
| 40 | 32573 | 6.75 |
| 42 | 51211 | 15.00 |
| 44 | 81819 | 22.50 |

### DNC DOUBLE NYLON MAGNET WIRE

#### ¼ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 12 | 12 | $1.32 |
| 14 | 19 | 1.38 |
| 16 | 31 | 1.56 |
| 18 | 49 | 1.68 |
| 20 | 78 | 1.92 |
| 22 | 129 | 2.22 |
| 24 | 195 | 2.40 |
| 26 | 303 | 2.88 |
| 28 | 478 | 3.12 |
| 30 | 759 | 3.72 |
| 32 | 1136 | 4.68 |
| 34 | 1712 | 6.48 |
| 36 | 2551 | 10.80 |
| 38 | 3770 | 15.00 |
| 40 | 5040 | 26.64 |

#### ½ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 12 | 24 | $2.52 |
| 14 | 39 | 2.58 |
| 16 | 62 | 2.88 |
| 18 | 99 | 3.18 |
| 20 | 157 | 3.66 |
| 22 | 247 | 4.08 |
| 24 | 390 | 4.56 |
| 26 | 606 | 5.52 |
| 28 | 956 | 6.00 |
| 30 | 1479 | 7.08 |
| 32 | 2272 | 9.00 |
| 34 | 3424 | 12.72 |
| 36 | 5102 | 21.00 |
| 38 | 7541 | 29.10 |
| 40 | 10080 | 50.60 |

#### 1 Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 12 | 49 | $4.80 |
| 14 | 78 | 4.92 |
| 16 | 125 | 5.10 |
| 18 | 198 | 5.58 |
| 20 | 315 | 6.60 |
| 22 | 495 | 7.20 |
| 24 | 781 | 9.00 |
| 26 | 1212 | 11.10 |
| 28 | 1912 | 12.00 |
| 30 | 2958 | 13.80 |
| 32 | 4545 | 17.88 |
| 34 | 6849 | 24.96 |
| 36 | 10204 | 40.80 |
| 38 | 15082 | 55.80 |
| 40 | 20161 | 98.40 |

### DCC DOUBLE COTTON MAGNET WIRE

#### ¼ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 8 | $1.01 |
| 12 | 12 | 1.01 |
| 14 | 19 | 1.03 |
| 16 | 31 | 1.09 |
| 18 | 48 | 1.18 |
| 20 | 78 | 1.34 |
| 22 | 110 | 1.50 |
| 24 | 154 | 1.66 |
| 26 | 284 | 1.88 |
| 28 | 455 | 2.16 |
| 30 | 641 | 2.64 |
| 32 | 976 | 3.18 |
| 34 | 1365 | 4.68 |
| 36 | 1827 | 5.46 |
| 38 | 2738 | 9.60 |
| 40 | 3403 | 13.80 |

#### ½ Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 16 | $1.60 |
| 12 | 24 | 1.60 |
| 14 | 39 | 1.62 |
| 16 | 62 | 1.70 |
| 18 | 97 | 1.90 |
| 20 | 157 | 2.30 |
| 22 | 220 | 2.64 |
| 24 | 235 | 2.82 |
| 26 | 568 | 3.30 |
| 28 | 871 | 4.20 |
| 30 | 1284 | 5.04 |
| 32 | 1953 | 6.00 |
| 34 | 2735 | 8.70 |
| 36 | 3654 | 10.46 |
| 38 | 5476 | 15.71 |
| 40 | 6811 | 23.52 |

#### 1 Lb. Spools

| Size | Ft. | List Price Each |
|---|---|---|
| 10 | 31 | $2.80 |
| 12 | 49 | 2.80 |
| 14 | 78 | 3.00 |
| 16 | 129 | 3.25 |
| 18 | 194 | 3.60 |
| 20 | 304 | 4.28 |
| 22 | 477 | 4.98 |
| 24 | 538 | 5.52 |
| 26 | 1136 | 6.30 |
| 28 | 1742 | 7.80 |
| 30 | 2569 | 9.30 |
| 32 | 3906 | 11.40 |
| 34 | 5470 | 16.20 |
| 36 | 7309 | 19.65 |
| 38 | 10952 | 29.40 |
| 40 | 13623 | 43.68 |

C = 100 ft. — D = 250 ft. — E = 500 ft. — M = 1000 ft. — F = 2500 ft.

**NOTE: FOR STRIPED VINYL SPIRAL TRACERS, ADD $1.88 TO LIST PRICE PER 1000'.**

**Where wire is shipped on returnable spools or reels a deposit covering same will be required. No credit will be allowed for returnable reels and spools unless returned prepaid within 12 months from date of shipment. All deposit spools and reels are billed separately on invoice and not included in price of materials sold.**

***ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE***

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World Radio History

# MIL-W-76A—Plastic Wire

## TYPE MW—UNCOVERED PLASTIC

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded or solid tinned copper, thermoplastic insulation.

*** STOCK COLORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—LIGHT BLUE
7—BROWN
8—ORANGE
9—GRAY (slate)
10—VIOLET (purple)
11—TAN
12—PINK
13—DARK BLUE
14—WHITE/BLACK
15—WHITE/RED
16—WHITE/GREEN
17—WHITE/YELLOW
18—WHITE/BLUE
19—WHITE/BROWN
20—WHITE/ORANGE
21—WHITE/GRAY
22—WHITE/VIOLET
23—WHITE/BLACK/RED
24—WHITE/BLACK/GREEN
25—WHITE/BLACK/YELLOW
26—WHITE/BLACK/BLUE
27—WHITE/BLACK/BROWN
28—WHITE/BLACK/ORANGE
29—WHITE/BLACK/GRAY
30—WHITE/BLACK/VIOLET

**NOTE:** Available with heavy (double) tinning for use with high frequency induction soldering equipment.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| | | | STRANDED | | | |
| 1550 | MW-C 24( 7)U | 24 | 7/32 | .016" | .059" | 1 thru 30 |
| 1551 | MW-C 22( 7)U | 22 | 7/30 | .016" | .064" | 1 thru 30 |
| 1553 | MW-C 20(10)U | 20 | 10/30 | .016" | .073" | 1 thru 30 |
| 1555 | MW-C 18(16)U | 18 | 16/30 | .016" | .084" | 1 thru 30 |
| 1557 | MW-C 16(26)U | 16 | 26/30 | .016" | .095" | 1 thru 30 |
| 1559 | MW-C 14(41)U | 14 | 41/30 | .016" | .110" | 1 thru 30 |
| 1560 | MW-C 12(65)U | 12 | 65/30 | .016" | .125" | 1 thru 30 |
| | | | SOLID | | | |
| 1561 | MW-C 22( 1)U | 22 | 1 | .016" | .060" | 1 thru 30 |
| 1563 | MW-C 20( 1)U | 20 | 1 | .016" | .066" | 1 thru 30 |
| 1565 | MW-C 18( 1)U | 18 | 1 | .016" | .074" | 1 thru 30 |
| 1567 | MW-C 16( 1)U | 16 | 1 | .016" | .083" | 1 thru 30 |

# MIL-W-76A—Plastic Wire

## TYPE MW—SHIELDED

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded tinned copper, thermoplastic insulation, tinned copper shield overall.

*** STOCK COLORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1350 | MW-C 24( 7)S | 24 | 7/32 | .016" | .075" | 1 thru 10 |
| 1351 | MW-C 22( 7)S | 22 | 7/30 | .016" | .085" | 1 thru 10 |
| 1352 | MW-C 20(10)S | 20 | 10/30 | .016" | .095" | 1 thru 10 |
| 1353 | MW-C 18(16)S | 18 | 16/30 | .016" | .105" | 1 thru 10 |
| 1354 | MW-C 16(26)S | 16 | 26/30 | .016" | .120" | 1 thru 10 |
| 1355 | MW-C 14(41)S | 14 | 41/30 | .016" | .135" | 1 thru 3 |
| 1356 | MW-C 12(65)S | 12 | 65/30 | .016" | .155" | 1 thru 3 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1550 thru 1567—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■ Nos. 1350 thru 1356—Change of conductor color code



See Page S-1232 for Alpha Prices

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World Radio History

# MIL-W-76A—Plastic Wire

## TYPE MW—SHIELDED—NYLON JACKET

MEDIUM WALL 1000 Volt Rating ■STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

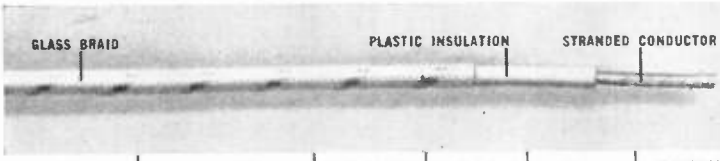
**DESCRIPTION:**
Single conductor stranded tinned copper, white thermoplastic insulation, braided tinned copper shield, clear nylon jacket overall.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL JACKET | NOMINAL O.D. |
|---|---|---|---|---|---|---|
| 1371 | MW-C 22( 7)SJ | 22 | 7/30 | .016" | .007" | .100" |
| 1372 | MW-C 20(10)SJ | 20 | 10/30 | .016" | .007" | .110" |
| 1373 | MW-C 18(16)SJ | 18 | 16/30 | .016" | .007" | .120" |
| 1374 | MW-C 16(26)SJ | 16 | 26/30 | .016" | .008" | .135" |

# MIL-W-76A—Plastic Wire

## TYPE MW—GLASS BRAID

MEDIUM WALL 1000 Volt Rating ■STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.




**DESCRIPTION:**
Single conductor stranded tinned copper, thermoplastic insulation, lacquered glass braid overall.

*** STOCK COLORS**

1—WHITE
2—WHITE/BLACK
3—WHITE/RED
4—WHITE/GREEN
5—WHITE/YELLOW
6—WHITE/BLUE
7—WHITE/BROWN
8—WHITE/ORANGE
9—WHITE/GRAY
10—WHITE/VIOLET
11—BLACK
12—RED
13—GREEN
14—YELLOW
15—BLUE
16—BROWN
17—ORANGE
18—GRAY
19—VIOLET

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1590 | MW-C 22( 7)B | 22 | 7/30 | .016" | .080" | 1 thru 19 |
| 1591 | MW-C 20( 10)B | 20 | 10/30 | .016" | .090" | 1 thru 19 |
| 1592 | MW-C 18( 16)B | 18 | 16/30 | .016" | .100" | 1 thru 19 |
| 1593 | MW-C 16( 26)B | 16 | 26/30 | .016" | .115" | 1 thru 19 |
| 1594 | MW-C 14( 41)B | 14 | 41/30 | .016" | .125" | 1 thru 10 |
| 1595 | MW-C 12( 65)B | 12 | 65/30 | .016" | .140" | 1 thru 10 |

# MIL-W-76A—Plastic Wire

## TYPE MW—GLASS BRAID—SHIELDED

MEDIUM WALL 1000 Volt Rating ■STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded tinned copper, white thermoplastic insulation, lacquered glass braid, tinned copper shield overall.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. |
|---|---|---|---|---|---|
| 1361 | MW-C 22( 7)BS | 22 | 7/30 | .016" | .095" |
| 1362 | MW-C 20( 10)BS | 20 | 10/30 | .016" | .108" |
| 1363 | MW-C 18( 16)BS | 18 | 16/30 | .016" | .124" |
| 1364 | MW-C 16( 26)BS | 16 | 26/30 | .016" | .133" |
| 1365 | MW-C 14( 41)BS | 14 | 41/30 | .016" | .144" |
| 1366 | MW-C 12( 65)BS | 12 | 65/30 | .016" | .168" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

- ■Nos. 1371 thru 1374—Twisting of wires to form a multi-conductor cable
- ■Nos. 1590 thru 1595—Twisting of wires to form a multi-conductor cable Overall copper shield
- ■Nos. 1361 thru 1366—Change of conductor color code

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World Radio History

# MIL-W-76A—Plastic Wire

## TYPE MW—NYLON JACKET

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded tinned copper, medium wall thermoplastic insulation, clear nylon jacket overall.

* STOCK COLORS
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET
11—WHITE/BLACK
12—WHITE/RED
13—WHITE/GREEN
14—WHITE/YELLOW
15—WHITE/BLUE
16—WHITE/BROWN
17—WHITE/ORANGE
18—WHITE/GRAY
19—WHITE/VIOLET

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1504 | MW-C 22( 7)J | 22 | 7/30 | .016" | .075" | 1 thru 19 |
| 1505 | MW-C 20(10)J | 20 | 10/30 | .016" | .090" | 1 thru 19 |
| 1506 | MW-C 18(16)J | 18 | 16/30 | .016" | .103" | 1 thru 19 |
| 1507 | MW-C 16(26)J | 16 | 26/30 | .016" | .115" | 1 thru 19 |
| 1508 | MW-C 14(41)J | 14 | 41/30 | .016" | .125" | 1 thru 6 |
| 1509 | MW-C 12(65)J | 12 | 65/30 | .016" | .140" | 1 thru 3 |

# MIL-W-76A—Plastic Wire

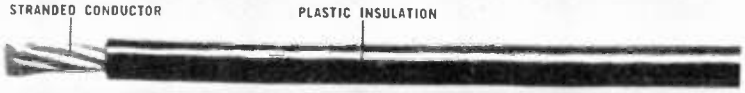
## TYPE HW—UNCOVERED PLASTIC

HEAVY WALL ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded tinned copper, heavy wall thermoplastic insulation.

* STOCK COLORS
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—LIGHT BLUE
7—BROWN
8—ORANGE
9—GRAY (Slate)
10—VIOLET (Purple)

**NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.**




| ALPHA NO. | TYPE DESIGNATION | COND. SIZE | COND. STRAND | WALL THICKNESS | VOLTAGE RATING | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|---|
| 1571 | HW-C 22( 7)U | 22 | 7/30 | .032" | 2500 | .103" | 1 thru 10 |
| 1573 | HW-C 20( 10)U | 20 | 10/30 | .032" | 2500 | .108" | 1 thru 10 |
| 1575 | HW-C 18( 16)U | 18 | 16/30 | .032" | 2500 | .120" | 1 thru 10 |
| 1577 | HW-C 16( 26)U | 16 | 26/30 | .032" | 2500 | .134" | 1 thru 3 |
| 1579 | HW-C 14( 41)U | 14 | 41/30 | .045" | 600 | 170" | 1 thru 3 |
| 1651 | HW-C 12( 65)U | 12 | 65/30 | .045" | 600 | 190" | 1 thru 3 |
| 1653 | HW-C 10(105)U | 10 | 105/30 | .045" | 600 | .215" | 1 thru 3 |
| 1655 | HW-C 8(133)U | 8 | 133/29 | .045" | 600 | .265" | 1 thru 3 |
| 1657 | HW-C 6(133)U | 6 | 133/27 | .045" | 600 | .310" | 1 thru 3 |

# MIL-W-76A—Plastic Wire

## TYPE HW—GLASS BRAID

HEAVY WALL 600 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**
Single conductor stranded tinned copper, heavy wall thermoplastic insulation, lacquered glass braid overall.

* STOCK COLORS
1—WHITE
2—WHITE/BLACK
3—WHITE/RED

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1598 | HW-C 10(105)B | 10 | 105/30 | .045" | .235" | 1 thru 3 |
| 1599 | HW-C 8(133)B | 8 | 133/29 | .045" | .290" | 1 thru 3 |
| 1599/6 | HW-C 6(133)B | 6 | 133/27 | .045" | .340" | thru 3 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

- Nos. 1504 thru 1509—Change of conductor color code
  Twisting of wires to form a multi-conductor cable
  Overall copper shield
- Nos. 1571 thru 1657—Change of conductor color code
- Nos. 1598 thru 1599/6—Twisting of wires to form a multi-conductor cable
  Overall copper shield



See Page S-1232 for Alpha Prices

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World Radio History

# MIL-W-76A—Plastic Wire

## TYPE LW—UNCOVERED PLASTIC

LIGHT WALL 300 Volt Rating ■STANDARD SPOOL PUT-UP 100 FT., 500 FT., 1000 FT.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1685 | LW-C 30/7/U | 30 | 7/38 | .010" | .033" | 1 thru 19 |
| 1686 | LW-C 28/7/U | 28 | 7/36 | .010" | .035" | 1 thru 19 |
| 1687 | LW-C 26/7/U | 26 | 7/34 | .010" | .039" | 1 thru 19 |
| 1688 | LW-C 24/7/U | 24 | 7/32 | .010" | .044" | 1 thru 19 |
| 1689 | LW-C 22/7/U | 22 | 7/30 | .010" | .049" | 1 thru 19 |
| 1690 | LW-C 20/7/U | 20 | 7/28 | .010" | .060" | 1 thru 19 |

**DESCRIPTION:**
Single conductor stranded tinned copper, light wall thermoplastic insulation.

*** STOCK COLORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—LIGHT BLUE
7—BROWN
8—ORANGE
9—GRAY (Slate)
10—VIOLET (Purple)
11—WHITE/BLACK
12—WHITE/RED
13—WHITE/GREEN
14—WHITE/YELLOW
15—WHITE/BLUE
16—WHITE/BROWN
17—WHITE/ORANGE
18—WHITE/GRAY
19—WHITE/VIOLET

**NOTE:** Available with heavy (double) tinning for use with high frequency induction soldering equipment.

# MIL-W-76A—Plastic Wire

## TYPE LW—NYLON JACKET

LIGHT WALL 300 Volt Rating ■STANDARD SPOOL PUT-UP 100 FT., 500 FT., 1000 FT.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1675 | LW-C 30/7/J | 30 | 7/38 | .010" | .036" | 1 thru 19 |
| 1676 | LW-C 28/7/J | 28 | 7/36 | .010" | .039" | 1 thru 19 |
| 1677 | LW-C 26/7/J | 26 | 7/34 | .010" | .042" | 1 thru 19 |
| 1678 | LW-C 24/7/J | 24 | 7/32 | .010" | .047" | 1 thru 19 |
| 1679 | LW-C 22/7/J | 22 | 7/30 | .010" | .053" | 1 thru 19 |
| 1680 | LW-C 20/7/J | 20 | 7/28 | .010" | .065" | 1 thru 19 |

**DESCRIPTION:**
Single conductor stranded tinned copper, light wall thermoplastic insulation, clear nylon jacket overall.

*** STOCK COLORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—LIGHT BLUE
7—BROWN
8—ORANGE
9—GRAY (Slate)
10—VIOLET (Purple)
11—WHITE/BLACK
12—WHITE/RED
13—WHITE/GREEN
14—WHITE/YELLOW
15—WHITE/BLUE
16—WHITE/BROWN
17—WHITE/ORANGE
18—WHITE/GRAY
19—WHITE/VIOLET

**NOTE:** Available with heavy (double) tinning for use with high frequency induction soldering equipment.

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1685 thru 1690—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■ Nos. 1675 thru 1680—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

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See Page S-1232 for Alpha Prices



World Radio History

# MIL-W-16878B—Plastic Wire

## TYPE B—UNCOVERED PLASTIC

600 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

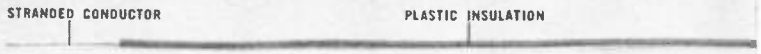
**DESCRIPTION:**

Type B—Single conductor stranded tinned copper, .010" vinyl thermoplastic insulation. 100°C.

*** STOCK COLORS**

1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET
11—WHITE/BLACK
12—WHITE/RED
13—WHITE/GREEN
14—WHITE/YELLOW
15—WHITE/BLUE
16—WHITE/BROWN
17—WHITE/ORANGE
18—WHITE/GRAY
19—WHITE/VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1850 | B-32 | 32 | 7/40 | .010" | .028" | 1 thru 19 |
| 1851 | B-30 | 30 | 7/38 | .010" | .032" | 1 thru 19 |
| 1852 | B-28 | 28 | 7/36 | .010" | .035" | 1 thru 19 |
| 1853 | B-26 | 26 | 7/34 | .010" | .038" | 1 thru 19 |
| 1854 | B-24 | 24 | 7/32 | .010" | .043" | 1 thru 19 |
| 1855 | B-22 | 22 | 7/30 | .010" | .049" | 1 thru 19 |
| 1856 | B-20 | 20 | 7/28 | .010" | .060" | 1 thru 19 |
| 1857 | B-18 | 18 | 7/26 | .010" | .071" | 1 thru 19 |
| 1858 | B-16 | 16 | 19/29 | .010" | .081" | 1 thru 19 |

# MIL-W-16878B—Plastic Wire

## TYPE B—NYLON JACKET

600 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

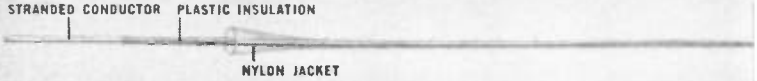
**DESCRIPTION:**

Type B—Nylon—Same as above except clear nylon jacket overall. 110°C.

*** STOCK COLORS**

1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET
11—WHITE/BLACK
12—WHITE/RED
13—WHITE/GREEN
14—WHITE/YELLOW
15—WHITE/BLUE
16—WHITE/BROWN
17—WHITE/ORANGE
18—WHITE/GRAY
19—WHITE/VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1860 | B-32 | 32 | 7/40 | .010" | .032" | 1 thru 19 |
| 1861 | B-30 | 30 | 7/38 | .010" | .036" | 1 thru 19 |
| 1862 | B-28 | 28 | 7/36 | .010" | .039" | 1 thru 19 |
| 1863 | B-26 | 26 | 7/34 | .010" | .042" | 1 thru 19 |
| 1864 | B-24 | 24 | 7/32 | .010" | .047" | 1 thru 19 |
| 1865 | B-22 | 22 | 7/30 | .010" | .053" | 1 thru 19 |
| 1866 | B-20 | 20 | 7/28 | .010" | .065" | 1 thru 19 |
| 1867 | B-18 | 18 | 7/26 | .010" | .075" | 1 thru 19 |
| 1868 | B-16 | 16 | 19/29 | .010" | .085 | 1 thru 19 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1850 thru 1858—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■ Nos. 1860 thru 1868—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield



See Page S-1232 for Alpha Prices

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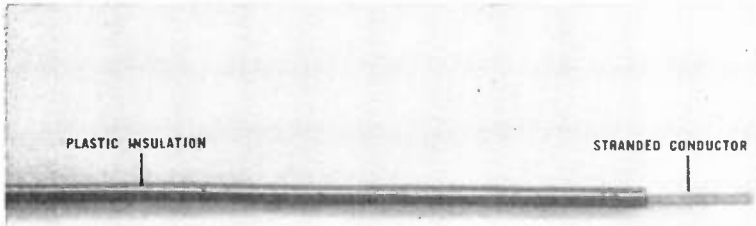
World Radio History

# MIL-W-16878B—Plastic Wire

## TYPE C—UNCOVERED PLASTIC

1000 Volt Rating ■STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1830 | C-24 | 24 | 7/32 | .016" | .058" | 1 thru 10 |
| 1831 | C-22 | 22 | 7/30 | .016" | .064" | 1 thru 19 |
| 1832 | C-20 | 20 | 7/28 | .016" | .072" | 1 thru 19 |
| 1833 | C-18 | 18 | 7/26 | .016" | .082" | 1 thru 19 |
| 1834 | C-16 | 16 | 19/29 | .016" | .091" | 1 thru 10 |
| 1835 | C-14 | 14 | 19/27 | .016" | .105" | 1 thru 10 |

**DESCRIPTION:**

Type C—Single conductor stranded tinned copper, .016" vinyl thermoplastic insulation 100°C.

* STOCK COLORS
1—WHITE
2—WHITE BLACK
3—WHITE RED
4—WHITE GREEN
5—WHITE YELLOW
6—WHITE BLUE
7—WHITE BROWN
8—WHITE ORANGE
9—WHITE GRAY
10—WHITE VIOLET
11—BLACK
12—RED
13—GREEN
14—YELLOW
15—BLUE
16—BROWN
17—ORANGE
18—GRAY
19—VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

# MIL-W-16878B—Plastic Wire

## TYPE C—NYLON JACKET

1000 Volt Rating ■STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1840 | C-24 | 24 | 7/32 | .016" | .065" | 1 thru 10 |
| 1841 | C-22 | 22 | 7/30 | .016" | .072" | 1 thru 19 |
| 1842 | C-20 | 20 | 7/28 | .016" | .079" | 1 thru 19 |
| 1843 | C-18 | 18 | 7/26 | .016" | .090" | 1 thru 19 |
| 1844 | C-16 | 16 | 19/29 | .016" | .099" | 1 thru 10 |
| 1845 | C-14 | 14 | 19/27 | .016" | .114" | 1 thru 10 |

**DESCRIPTION:**

Type C—Nylon—Same as above except clear nylon jacket overall 110°C.

* STOCK COLORS
1—WHITE
2—WHITE BLACK
3—WHITE RED
4—WHITE GREEN
5—WHITE YELLOW
6—WHITE BLUE
7—WHITE BROWN
8—WHITE ORANGE
9—WHITE GRAY
10—WHITE VIOLET
11—BLACK
12—RED
13—GREEN
14—YELLOW
15—BLUE
16—BROWN
17—ORANGE
18—GRAY
19—VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■Nos. 1830 thru 1835—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■Nos. 1840 thru 1845—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

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World Radio History

# MIL-W-16878B—Plastic Wire

## TYPE D—UNCOVERED PLASTIC

3000 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT

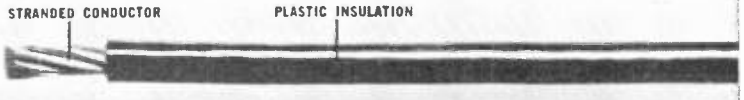
**DESCRIPTION:**

Type D—Single conductor stranded tinned copper, .032" vinyl thermoplastic insulation. 100°C.

*** STOCK COLORS**

1—WHITE
2—WHITE/BLACK
3—WHITE/RED
4—WHITE/GREEN
5—WHITE/YELLOW
6—WHITE/BLUE
7—WHITE/BROWN
8—WHITE/ORANGE
9—WHITE/GRAY
10—WHITE/VIOLET
11—BLACK
12—RED
13—GREEN
14—YELLOW
15—BLUE
16—BROWN
17—ORANGE
18—GRAY
19—VIOLET

**NOTE:** Available with heavy (double) tinning for use with high frequency induction soldering equipment.




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1870 | D-24 | 24 | 7/32 | .032" | .085" | 1 thru 10 |
| 1871 | D-22 | 22 | 7/30 | .032" | .110" | 1 thru 19 |
| 1872 | D-20 | 20 | 7/28 | .032" | .092" | 1 thru 19 |
| 1873 | D-18 | 18 | 7/26 | .032" | .100" | 1 thru 19 |
| 1874 | D-16 | 16 | 19/29 | .032" | .116" | 1 thru 10 |
| 1875 | D-14 | 14 | 19/27 | .032" | .130" | 1 thru 10 |
| 1876 | D-12 | 12 | 19/25 | .032" | .163" | 1 thru 10 |
| 1877 | D-10 | 10 | 37/25 | .032" | .182" | 1 thru 10 |
| 1878 | D- 8 | 8 | 133/29 | .032" | .245" | 1 thru 10 |
| 1879 | D- 6 | 6 | 133/27 | .032" | .290" | 1 thru 10 |

# MIL-W-16878B—Plastic Wire

## TYPE D—NYLON JACKET

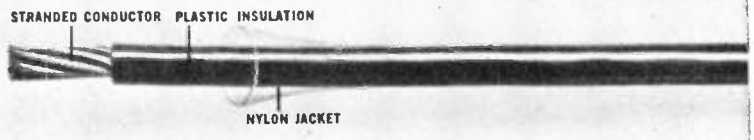
3000 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

**DESCRIPTION:**

Type D—Nylon—Same as above except clear nylon jacket overall. 110°C.

*** STOCK COLORS**

1—WHITE
2—WHITE/BLACK
3—WHITE/RED
4—WHITE/GREEN
5—WHITE/YELLOW
6—WHITE/BLUE
7—WHITE/BROWN
8—WHITE/ORANGE
9—WHITE/GRAY
10—WHITE/VIOLET
11—BLACK
12—RED
13—GREEN
14—YELLOW
15—BLUE
16—BROWN
17—ORANGE
18—GRAY
19—VIOLET




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1880 | D-24 | 24 | 7/32 | .032" | .089" | 1 thru 10 |
| 1881 | D-22 | 22 | 7/30 | .032" | .120" | 1 thru 19 |
| 1882 | D-20 | 20 | 7/28 | .032" | .100" | 1 thru 19 |
| 1883 | D-18 | 18 | 7/26 | .032" | .110" | 1 thru 19 |
| 1884 | D-16 | 16 | 19/29 | .032" | .129" | 1 thru 10 |
| 1885 | D-14 | 14 | 19/27 | .032" | .143" | 1 thru 10 |
| 1886 | D-12 | 12 | 19/25 | .032" | .180" | 1 thru 10 |
| 1887 | D-10 | 10 | 37/25 | .032" | .200" | 1 thru 10 |
| 1888 | D- 8 | 8 | 133/29 | .032" | .270" | 1 thru 10 |
| 1889 | D- 6 | 6 | 133/27 | .032" | .315" | 1 thru 10 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1870 thru 1879—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■ Nos. 1880 thru 1889—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield



See Page S-1232 for Alpha Prices

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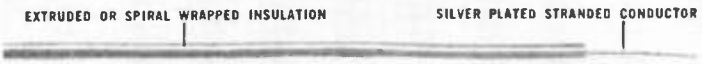
# MIL-W-16878B—Teflon* Wire 200°C

## TYPE E—EXTRUDED & SPIRAL WRAPPED

600 Volt Rating ■ STANDARD PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




| ALPHA NUMBERS EXTRUDED | WRAPPED | TYPE DESIGNATION | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|---|
| 2851 | 2881 | E-30 | 30 | 7/38 | .010" | .032" | 1 thru 10 |
| 2852 | 2882 | E-28 | 28 | 7/36 | .010" | .036" | 1 thru 10 |
| 2853 | 2883 | E-26 | 26 | 7/34 | .010" | .040" | 1 thru 10 |
| 2854 | 2884 | E-24 | 24 | 19/36 | .010" | .045" | 1 thru 10 |
| 2855 | 2885 | E-22 | 22 | 19/34 | .010" | .051" | 1 thru 10 |
| 2856 | 2886 | E-20 | 20 | 19/32 | .010" | .059" | 1 thru 10 |
| 2857 | 2887 | E-18 | 18 | 19/30 | .010" | .070" | 1 thru 10 |
| 2858 | 2888 | E-16 | 16 | 19/29 | .010" | .083" | 1 thru 10 |
| 2859 | 2889 | E-14 | 14 | 19/27 | .010" | .097" | 1 thru 6 |

**APPLICATIONS:**
Guided missiles. Telemetering equipment. Leads to hermetically sealed and potted components. Slip-ring assemblies. U.H.F. apparatus. Computers. Sub-miniaturized equipment.

**DESCRIPTION:**
Single conductor stranded silver plated copper, extruded or spiral wrapped Teflon insulation.

**CHARACTERISTICS:**
Excellent dielectric properties. Heat resistance—capable of continuous service at 260°C. Tough and flexible at temperatures to —90°C. Chemical inertness. Outdoor durability.

*** STOCK COLORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET

# MIL-W-16878B—Teflon* Wire 200°C

## TEFLON CABLES—SHIELDED & UNSHIELDED

■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

| SIZE AND STRANDING | OUTER COVERING | ALPHA NUMBERS 1 COND. | 2 COND. | 3 COND. | 4 COND. |
|---|---|---|---|---|---|
| #24—19/36 | Shield | 2809 | 2809/2 | 2809/3 | 2809/4 |
| #24—19/36 | Braid | 2810 | 2810/2 | 2810/3 | 2810/4 |
| #24—19/36 | Shield & Braid | 2811 | 2811/2 | 2811/3 | 2811/4 |
| #22—19/34 | Shield | 2812 | 2812/2 | 2812/3 | 2812/4 |
| #22—19/34 | Braid | 2813 | 2813/2 | 2813/3 | 2813/4 |
| #22—19/34 | Shield & Braid | 2814 | 2814/2 | 2814/3 | 2814/4 |
| #20—19/32 | Shield | 2815 | 2815/2 | 2815/3 | 2815/4 |
| #20—19/32 | Braid | 2816 | 2816/2 | 2816/3 | 2816/4 |
| #20—19/32 | Shield & Braid | 2817 | 2817/2 | 2817/3 | 2817/4 |

■ The wide variety of wire and cables available using high-temperature Teflon wire makes it impossible to completely list all of the constructions that Alpha can furnish. Additional variations of the items listed above are listed below. Write for further information.

* DU PONT'S TETRAFLUOROETHYLENE RESIN

**DESCRIPTION:**
Each conductor stranded silver plated copper, Type E .010" extruded Teflon insulation per MIL-W-16878B. 600 volt rating. When shielded, a closely woven silver-plated copper shield is braided over the conductor(s). When braided, a Teflon* impregnated Fiberglass yarn is woven over the conductor(s) or shield.

**STOCK COLORS OF SINGLE CONDUCTOR ITEMS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—GRAY
10—VIOLET

**COLORS OF CONDUCTORS OF MULTI-CONDUCTOR ITEMS**
1—WHITE
2—BLACK
3—RED
4—GREEN

## OVER 4,000 ITEMS AVAILABLE FROM STOCK

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 2851 thru 2859 and Nos. 2881 thru 2889—Silicone Rubber Hook-Up Wire Covered by Specification MIL-W-16878B Type FF and MIL-W-8777A; Teflon Aircraft Wire per Specification MIL-W-7139A

■ Nos. 2809 thru 2817/4—Heavier wall thickness (Type EE)
Other sizes and strandings—Increased number of conductors
Conductors twisted with no outer covering
Other types of shields
Other types of textile braids—Various overall jackets

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See Page S-1232 for Alpha Prices



World Radio History

# MIL-W-16878B

## TYPE N—NYLON WIRE

75 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

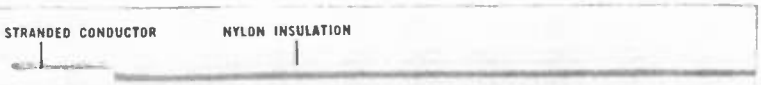
**APPLICATIONS:**

Suitable for low voltage wiring or in equipment where there is no heat, flame or moisture problem. The small outside diameter makes this wire especially suitable for installations requiring a large number of wires in a small space.

**DESCRIPTION:**

Single conductor stranded tinned copper, thin wall nylon insulation, 80°C.

* STOCK COLORS
1—WHITE
2—WHITE/BLACK
3—WHITE/RED
4—WHITE/GREEN
5—WHITE/YELLOW
6—WHITE/BLUE
7—WHITE/BROWN
8—WHITE/ORANGE
9—WHITE/GRAY
10—WHITE/VIOLET




| ALPHA NO. | TYPE DESIGNATION | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | NOMINAL O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1810 | N-32 | 32 | 7/40 | .006" | .021" | 1 thru 10 |
| 1811 | N-30 | 30 | 7/38 | .006" | .024" | 1 thru 10 |
| 1812 | N-28 | 28 | 7/36 | .006" | .027" | 1 thru 10 |
| 1813 | N-26 | 26 | 7/34 | .006" | .031" | 1 thru 10 |
| 1814 | N-24 | 24 | 7/32 | .006" | .036" | 1 thru 10 |
| 1815 | N-22 | 22 | 7/30 | .006" | .042" | 1 thru 10 |
| 1816 | N-20 | 20 | 7/28 | .006" | .050" | 1 thru 10 |

# MIL-W-5086A & MIL-C-7078A

## AIRCRAFT HOOK-UP WIRE

■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

**APPLICATIONS:**

Use wherever a single conductor, 600 volt insulated, aircraft electrical wire is needed. Resistant to: abrasion, moisture, cold, heat, flame, fungus, oil, salt water.

**DESCRIPTION:**

**MIL-W-5086A — Type 1** — Single conductor stranded tinned copper, white plastic insulation, nylon jacket overall.

**MIL-W-5086A — Type 2** — Single conductor stranded tinned copper, white plastic insulation, nylon lacquered glass braid overall.

**MIL-C-7078A** — Single conductor stranded tinned copper, white plastic insulation, nylon jacket, braided tinned copper shield overall.

| ALPHA NO. | MIL TYPE DESIGNATION | SPECIFICATION TYPE | CONDUCTOR SIZE | CONDUCTOR STRAND | VOLTAGE RATING | NOM. O.D. |
|---|---|---|---|---|---|---|
| **UNSHIELDED** (MIL-W-5086A) | | | | | | |
| 1381 | AN-22 | NO. 1 | 22 | 19/34 | 600 | .075" |
| 1382 | AN-20 | NO. 1 | 20 | 19/32 | 600 | .080" |
| 1383 | AN-18 | NO. 1 | 18 | 19/30 | 600 | .090" |
| 1384 | AN-16 | NO. 1 | 16 | 19/29 | 600 | .105" |
| 1385 | AN-14 | NO. 1 | 14 | 19/27 | 600 | .125" |
| 1386 | AN-12 | NO. 1 | 12 | 19/25 | 600 | .140" |
| 1387 | AN-10 | NO. 1 | 10 | 37/25 | 600 | .180" |
| 1388 | AN-8 | NO. 1 | 8 | 133/29 | 600 | .240" |
| 1389 | AN-6 | NO. 2 | 6 | 133/27 | 600 | .289" |
| 1389/4 | AN-4 | NO. 2 | 4 | 133/25 | 600 | .370" |
| 1389/2 | AN-2 | NO. 2 | 2 | 646/30 | 600 | .412" |
| 1389/0 | AN-0 | NO. 2 | 0 | 1045/30 | 600 | .538" |
| 1389/00 | AN-00 | NO. 2 | 00 | 1330/30 | 600 | .557" |
| **SHIELDED** (MIL-C-7078A) | | | | | | |
| 1391 | AN-22 | NO. 1 | 22 | 19/34 | 600 | .100" |
| 1392 | AN-20 | NO. 1 | 20 | 19/32 | 600 | .110" |
| 1393 | AN-18 | NO. 1 | 18 | 19/30 | 600 | .125" |
| 1394 | AN-16 | NO. 1 | 16 | 19/29 | 600 | .140" |
| 1395 | AN-14 | NO. 1 | 14 | 19/27 | 600 | .155" |
| 1396 | AN-12 | NO. 1 | 12 | 19/25 | 600 | .165" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1810 thru 1816—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield

■ Nos. 1381 thru 1396—Change of conductor color code
Twisting of wires to form a multi-conductor cable
Overall copper shield



See Page S-1232 for Alpha Prices

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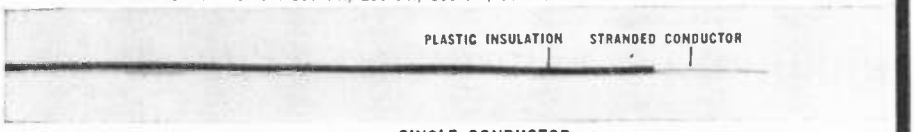
World Radio History

# Sub-Miniature Wire & Cable 105°C

## UNSHIELDED CONSTRUCTIONS

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.




**SINGLE CONDUCTOR**

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|---|
| 1605 | 1 | 32 | 7/40 | .010" | — | .028" | 1 thru 19 |
| 1606 | 1 | 30 | 7/38 | .010" | — | .032" | 1 thru 19 |
| 1607 | 1 | 28 | 7/36 | .010" | — | .035" | 1 thru 19 |
| 1609 | 1 | 26 | 7/34 | .010" | — | .038" | 1 thru 19 |
| 1610 | 1 | 24 | 16/36 | .016" | — | .056" | 1 thru 19 |
| **MULTI-CONDUCTOR (no jacket overall)** COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN | | | | | | | |
| 2606 | 2 | 30 | 7/38 | .010" | — | .061" | — |
| 3606 | 3 | 30 | 7/38 | .010" | — | .067" | — |
| 4606 | 4 | 30 | 7/38 | .010" | — | .075" | — |
| **MULTI-CONDUCTOR (plastic jacket overall)** COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN | | | | | | | |
| 2607 | 2 | 28 | 7/36 | .010" | .010" | .120" | — |
| 3607 | 3 | 28 | 7/36 | .010" | .010" | .125" | — |
| 4607 | 4 | 28 | 7/36 | .010" | .010" | .130" | — |

**APPLICATIONS:**
Wherever a fine hook-up wire is required for: instrumentation projects, electro-medical apparatus, computers, transistor circuits, photo-electric cell circuits, sub-miniaturization programs, strain gauges, slip ring assemblies.

**DESCRIPTION:**
Single or multi-conductor stranded tinned copper, 105°C high temperature vinyl thermoplastic insulation.
When jacketed, a clear vinyl thermoplastic jacket is over cabled conductors.

**NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.**

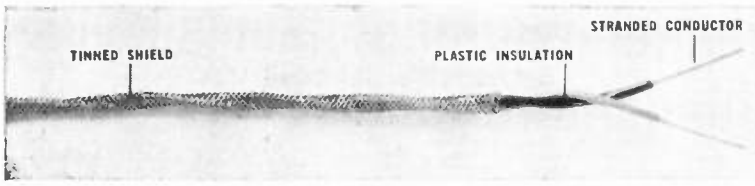
*** STOCK COLORS**

| | |
|---|---|
| 1—WHITE | 11—WHITE/BLACK |
| 2—BLACK | 12—WHITE/RED |
| 3—RED | 13—WHITE/GREEN |
| 4—GREEN | 14—WHITE/YELLOW |
| 5—YELLOW | 15—WHITE/BLUE |
| 6—BLUE | 16—WHITE/BROWN |
| 7—BROWN | 17—WHITE/ORANGE |
| 8—ORANGE | 18—WHITE/GRAY |
| 9—GRAY | 19—WHITE/VIOLET |
| 10—VIOLET | |

# Sub-Miniature Wire & Cable 105°C

## SHIELDED CONSTRUCTIONS

■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.




**DESCRIPTION:**
Single or multi-conductor stranded tinned copper, 105°C high temperature vinyl thermoplastic insulation, tinned copper shield.
When jacketed, a clear vinyl thermoplastic jacket is over tinned copper shield.

**SINGLE CONDUCTOR (no jacket overall)** COLOR CODE OF CONDUCTOR:-WHITE.

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1332 | 1 | 30 | 7/38 | .010" | — | .047" |
| 1334 | 1 | 28 | 7/36 | .010" | — | .048" |
| 1336 | 1 | 26 | 7/34 | .010" | — | .050" |
| 1337 | 1 | 24 | 16/36 | .016" | — | .075" |
| **MULTI-CONDUCTOR (no jacket overall)** COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN | | | | | | |
| 2337 | 2 | 24 | 16/36 | .016" | — | .125" |
| 3337 | 3 | 24 | 16/36 | .016" | — | .135" |
| 4337 | 4 | 24 | 16/36 | .016" | — | .145" |
| **MULTI-CONDUCTOR (plastic jacket overall)** COLOR CODE OF CONDUCTORS: 1—BLACK, 2—RED, 3—WHITE, 4—GREEN | | | | | | |
| 2334 | 2 | 28 | 7/36 | .010" | .010" | .125" |
| 3334 | 3 | 28 | 7/36 | .010" | .010" | .130" |
| 4334 | 4 | 28 | 7/36 | .010" | .010" | .135" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALL WIRE ON THIS PAGE MAY BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**

■ Nos. 1605 thru 1610 — Change of conductor color code
and Cables having increased number of conductors
Nos. 2606 thru 4606 — Overall textile braid

■ Nos. 1332 thru 1337 — Change of conductor color code
and Cables having increased number of conductors
Nos. 2337 thru 4337 — Overall textile braid

ALPHA WIRE CORPORATION

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See Page S-1232 for Alpha Prices



World Radio History

# ALPHLEX® Tubing & Sleeving

## 105°C EXTRUDED PLASTIC TUBING (PVC)

### STANDARD PACKAGING

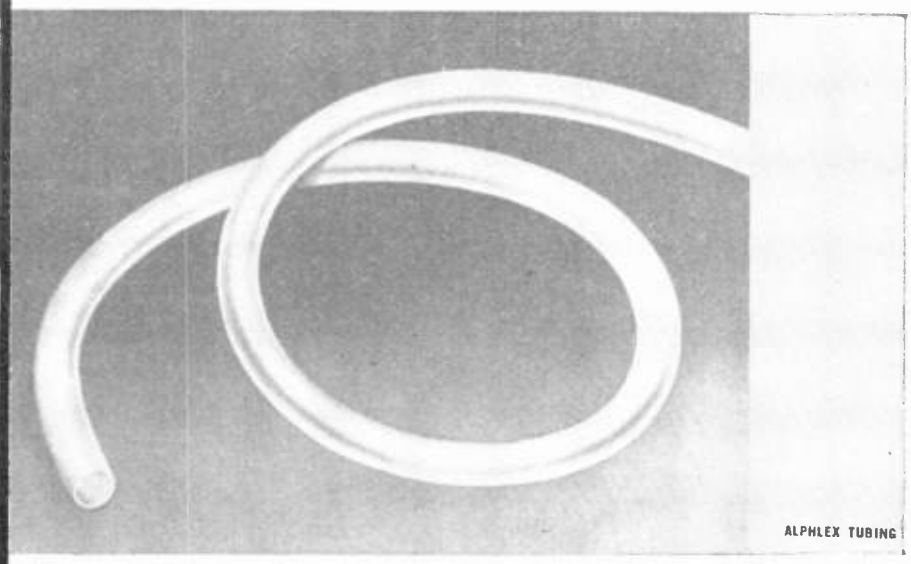
| SIZE | PUT-UP |
|---|---|
| No. 24 to No. 15 | 1000 ft.<br>500 ft.<br>100 ft.<br>50 ft. |
| No. 14 to No. 5 | 500 ft.<br>100 ft.<br>25 ft. |
| No. 4 to 3/8" | 250 ft.<br>100 ft.<br>25 ft. |
| 7/16" to 5/8" | 100 ft.<br>50 ft.<br>25 ft. |
| 3/4" and larger | 50 ft.<br>25 ft. |

Small lengths cut to order

### ELECTRICAL & PHYSICAL CHARACTERISTICS

Dielectric Strength — 800V/Mil
Temperature Rating — 105°C.
Low Temperature Flexibility — —30°C.
Flammability — Non-Flammable
Tensile Strength — 2500 PSI
Ultimate Elongation — 300%
Insulation Resistance — over 1,000,000 megs
Corrosion Resistance — Excellent
Oil Resistance — Flexibility indefinite

* STOCK COLORS
1—CLEAR
2—BLACK
3—RED
4—YELLOW
5—GREEN
6—BLUE
7—BROWN
8—WHITE
9—ORANGE



ALPHLEX TUBING

■ **ALPHLEX PVC-105** Plastic Tubing is designed and manufactured specifically for electronic, aircraft and electrical applications involving temperatures as high as 105°C. It conforms to Specifications **MIL-I-631C, ASTM-D876, ASTM-D922** and is approved by **Underwriters' Laboratories.**

■ PVC-105's exceptional integration of desirable qualities endows it with excellent versatility and durability. Its dielectric strength is high and remains unaffected by increasing temperature throughout its range. It displays high resistance to the agents of heat, oil, chemicals, corrosion, fungi and even abrasion with no loss in tensile strength, non-flammability—or flexibility.

■ Under all the above adverse conditions, PVC-105 will retain its ability to hug and protect irregular-shaped objects, will "snake" beautifully, and will always be easy to handle.

■ To achieve this combination of advantages, special care is taken in the making of PVC-105. It is compounded with only first-grade quality non-migratory resinous type plasticizers. From laboratory to production line, from raw material to finished product, strict quality control prevails. Behind it are the same engineering and production know-how that have made the name Alpha famous in the electronic industry for over thirty-five years.

| ALPHLEX NO. | SIZE | WALL THICKNESS | NOM. I.D. | * STOCK COLORS | ALPHLEX NO. | SIZE | WALL THICKNESS | NOM. I.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|---|---|---|
| PVC-105-24 | 24 | .012" | .022" | 1 thru 9 | PVC-105-2 | 2 | .020" | .263" | 1 thru 6 |
| PVC-105-22 | 22 | .012" | .027" | 1 thru 9 | PVC-105-1 | 1 | .020" | .294" | 1, 2 |
| PVC-105-20 | 20 | .016" | .034" | 1 thru 9 | PVC-105-5/16" | 5/16" | .025" | .312" | 1, 2 |
| PVC-105-19 | 19 | .016" | .038" | 1 thru 9 | PVC-105-0 | 0 | .020" | .330" | 1, 2 |
| PVC-105-18 | 18 | .016" | .042" | 1 thru 9 | PVC-105-3/8" | 3/8" | .025" | .375" | 1, 2 |
| PVC-105-17 | 17 | .016" | .047" | 1 thru 9 | PVC-105-7/16" | 7/16" | .025" | .438" | 1, 2 |
| PVC-105-16 | 16 | .016" | .053" | 1 thru 9 | PVC-105-1/2" | 1/2" | .025" | .500" | 1, 2 |
| PVC-105-15 | 15 | .016" | .059" | 1 thru 9 | PVC-105-9/16" | 9/16" | .030" | .562" | 1, 2 |
| PVC-105-14 | 14 | .016" | .066" | 1 thru 9 | PVC-105-5/8" | 5/8" | .030" | .625" | 1, 2 |
| PVC-105-13 | 13 | .016" | .076" | 1 thru 9 | PVC-105-3/4" | 3/4" | .035" | .750" | 1, 2 |
| PVC-105-12 | 12 | .016" | .085" | 1 thru 9 | PVC-105-7/8" | 7/8" | .035" | .875" | 1, 2 |
| PVC-105-11 | 11 | .016" | .095" | 1 thru 6 | PVC-105-1" | 1" | .035" | 1.000" | 1, 2 |
| PVC-105-10 | 10 | .016" | .106" | 1 thru 6 | PVC-105-1-1/8" | 1-1/8" | .035" | 1.125" | 1, 2 |
| PVC-105-9 | 9 | .016" | .118" | 1 thru 6 | PVC-105-1-1/4" | 1-1/4" | .040" | 1.250" | 1, 2 |
| PVC-105-8 | 8 | .020" | .133" | 1 thru 6 | PVC-105-1-3/8" | 1-3/8" | .040" | 1.375" | 1, 2 |
| PVC-105-7 | 7 | .020" | .148" | 1 thru 6 | PVC-105-1-1/2" | 1-1/2" | .045" | 1.500" | 1, 2 |
| PVC-105-6 | 6 | .020" | .166" | 1 thru 6 | PVC-105-1-3/4" | 1-3/4" | .055" | 1.750" | 1, 2 |
| PVC-105-5 | 5 | .020" | .186" | 1 thru 6 | PVC-105-2" | 2" | .060" | 2.000" | 1, 2 |
| PVC-105-4 | 4 | .020" | .208" | 1 thru 6 | PVC-105-2-1/4" | 2-1/4" | .065" | 2.250" | 1, 2 |
| PVC-105-3 | 3 | .020" | .234" | 1 thru 6 | PVC-105-2-1/2" | 2-1/2" | .070" | 2.500" | 1, 2 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

■ This tubing may be ordered cut to your specifications and marked with either combinations of letters and/or numbers. For detailed information see center fold.



See Page S-1232 for Alpha Prices

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World Radio History

# ALPHLEX® Tubing & Sleeving

## PLASTIC IMPREGNATED FIBERGLASS (PIF)

■ **ALPHLEX PIF-130** is a Class B insulation combining the advantages of an inorganic fiberglass base sleeving with the most desirable characteristics of a heat-resistant, very flexible plastic insulation. The plastic compound is formulated to provide the maximum in electrical characteristics, heat stability (130°C), flexibility and toughness. This tubing and sleeving conforms to the performance requirements of Specifications **MIL-I-3190, NEMA VS1, ASTM D372.**

| ALPHLEX NO. | SIZE | NOM. I.D. | * STOCK COLORS |
|---|---|---|---|
| PIF-130-24 | 24 | .022" | 1 thru 4 |
| PIF-130-22 | 22 | .027" | 1 thru 4 |
| PIF-130-20 | 20 | .034" | 1 thru 4 |
| PIF-130-19 | 19 | .038" | 1 thru 4 |
| PIF-130-18 | 18 | .042" | 1 thru 4 |
| PIF-130-17 | 17 | .047" | 1 thru 4 |
| PIF-130-16 | 16 | .053" | 1 thru 4 |
| PIF-130-15 | 15 | .059" | 1 thru 4 |
| PIF-130-14 | 14 | .066" | 1 thru 4 |
| PIF-130-13 | 13 | .076" | 1 thru 4 |
| PIF-130-12 | 12 | .085" | 1 thru 4 |
| PIF-130-11 | 11 | .095" | 1 thru 4 |
| PIF-130-10 | 10 | .106" | 1 thru 4 |
| PIF-130-9 | 9 | .118" | 1 thru 4 |
| PIF-130-8 | 8 | .133" | 1 thru 4 |

| ALPHLEX NO. | SIZE | NOM. I.D. | * STOCK COLORS |
|---|---|---|---|
| PIF-130-7 | 7 | .148" | 1 thru 4 |
| PIF-130-6 | 6 | .166" | 1 thru 4 |
| PIF-130-5 | 5 | .186" | 1 thru 4 |
| PIF-130-4 | 4 | .208" | 1 thru 4 |
| PIF-130-3 | 3 | .234" | 1 thru 4 |
| PIF-130-2 | 2 | .263" | 1 thru 4 |
| PIF-130-1 | 1 | .294" | 1 thru 3 |
| PIF-130-0 | 0 | .330" | 1 thru 3 |
| PIF-130-3/8" | 3/8" | .375" | 1 thru 3 |
| PIF-130-7/16" | 7/16" | .438" | 1 thru 3 |
| PIF-130-1/2" | 1/2" | .500" | 1 thru 3 |
| PIF-130-5/8" | 5/8" | .625" | 1 thru 3 |
| PIF-130-3/4" | 3/4" | .750" | 1 thru 3 |
| PIF-130-7/8" | 7/8" | .875" | 1 thru 3 |
| PIF-130-1" | 1" | 1.000" | 1 thru 3 |

**STANDARD PACKAGING**

| SIZE | PUT-UP |
|---|---|
| No. 24 to No. 15 | 1000 ft.<br>500 ft.<br>100 ft.<br>50 ft. |
| No. 14 to No. 5 | 500 ft.<br>100 ft.<br>25 ft. |
| No. 4 to 3/8" | 250 ft.<br>100 ft.<br>25 ft. |
| 7/16" to 5/8" | 100 ft.<br>50 ft.<br>25 ft. |
| 3/4" and larger | 50 ft.<br>25 ft. |

Small lengths cut to order

**ELECTRICAL & PHYSICAL CHARACTERISTICS**

| | |
|---|---|
| Class | B |
| Grade | B-1 |
| Dielectric Strength | 4000V |
| Temperature Rating | 130°C. |
| Low Temperature Flexibility | —30°C. |
| Flammability | Non-Flammable |
| Insulation Resistance | over 1,000,000 megs. |
| Oil Resistance | Good |
| Corrosion Resistance | Excellent |

* STOCK COLORS
1—BLACK
2—RED
3—YELLOW
4—GREEN

# Braided Tinned Copper

## SHIELDING

■ STANDARD PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

| ALPHA NO. | APPROX. I.D. | NO. OF CARRIERS | NO. OF ENDS | SIZE OF STRANDS | TOTAL STRANDS | AWG EQUIVALENT |
|---|---|---|---|---|---|---|
| 1221 | .025" | 8 | 1 | 36 | 8 | 26 |
| 1222 | 1/32" | 16 | 1 | 36 | 16 | 24 |
| 1223 | 3/64" | 24 | 1 | 36 | 24 | 23 |
| 1224 | 3/32" | 16 | 3 | 36 | 48 | 19 |
| 2229 | 7/64" | 24 | 3 | 36 | 72 | 18 |
| 1229 | 1/8" | 24 | 3 | 36 | 72 | 18 |
| 1230 | 3/16" | 24 | 5 | 36 | 120 | 15 |
| 1231 | 1/4" | 24 | 7 | 36 | 168 | 14 |
| 1232 | 3/8" | 48 | 6 | 36 | 288 | 11 |
| 1233/2 | 1/2" | 48 | 8 | 36 | 384 | 10 |

## BONDING STRAP

| ALPHA NO. | APPROX. I.D. | SIZE OF STRANDS |
|---|---|---|
| 1233 | 5/8" | 36 |
| 1234 | 3/4" | 36 |
| 2234 | 25/32" | 36 |
| 1235 | 1" | 36 |
| 1239 | 1-3/8" | 36 |

**APPLICATIONS:**
Shielding insulated wire and cable. Bonding and ground straps. For applications requiring extreme flexibility such as pigtails, component leads, connecting moving parts, etc.

**DESCRIPTION:**
Very fine soft annealed tinned copper wires braided and rolled flat.

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**
■ Nos. 1221 thru 1233/2—Shielding per Specification QQ-B-575 available on special order.
■ Nos. 1233 thru 1239—Shielding per Specification QQ-B-575 available on special order.

ALPHA WIRE CORPORATION

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**See Page S-1232 for Alpha Prices**



World Radio History

# Shielded Multi-Conductor Cable

## RUBBER JACKET

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

**APPLICATIONS:**

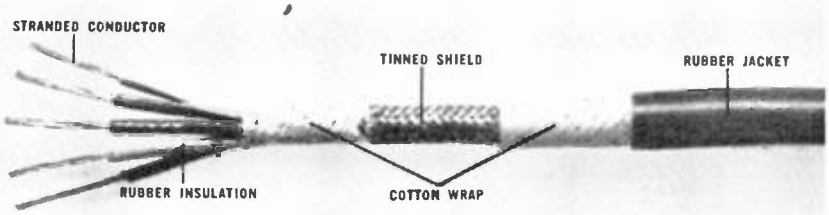
Shielded electronic power cable. Control circuits. Video and audio interconnecting cable. Broadcast and heavy duty studio use.

**DESCRIPTION:**

Each conductor stranded tinned copper, rubber insulation, color coded, conductors twisted, cotton wrap, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—WHITE
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—PURPLE
10—SLATE




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1253 | 5 | 20 | 26/34 | .020" | .035" | .340" |
| 1254 | 6 | 20 | 26/34 | .020" | .035" | .365" |
| 1254/18 | 6 | 18 | 41/34 | .020" | .035" | .430" |
| 1255 | 7 | 20 | 26/34 | .020" | .035" | .405" |
| 1255/8 | 8 | 20 | 26/34 | .020" | .035" | .415" |
| 1255/10 | 10 | 20 | 26/34 | .020" | .035" | .440" |

# Shielded Multi-Conductor Cable

## NEOPRENE JACKET

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

**APPLICATIONS:**

Shielded microphone and electronic power cable. Control circuits. Video and audio inter-connecting cable. Broadcast and heavy duty studio use.

**DESCRIPTION:**

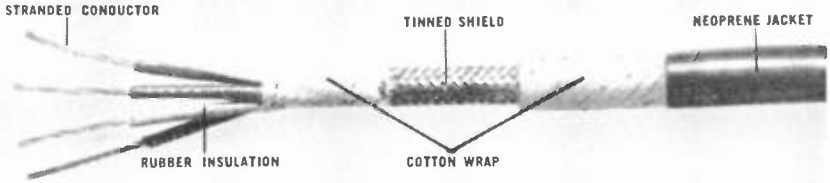
Each conductor stranded tinned copper, rubber insulation, color coded, braided tinned copper shield, cotton wrap, tough black neoprene rubber jacket overall.

**CHARACTERISTICS:**

Oil and acid resistant. Suitable for outdoor use and direct burial. Will resist aging and rough usage.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—WHITE
3—RED
4—GREEN
5—YELLOW
6—BLUE




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1449 | 1 | 18 | 41/34 | .040" | .030" | .250" |
| 1450 | 2 | 18 | 41/34 | .020" | .035" | .305" |
| 1451 | 3 | 18 | 41/34 | .020" | .035" | .325" |
| 1452 | 4 | 18 | 41/34 | .020" | .035" | .335" |
| 1454 | 6 | 18 | 41/34 | .020" | .035" | .430" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**

■ Nos. 1253 thru 1255/10—Change of jacket color
■ Nos. 1449 thru 1454— Change of jacket color



See Page S-1232 for Alpha Prices

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World Radio History

# Shielded Microphone Cable

## PLASTIC TYPE

■ STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | * CAPACITY NOM. FT. | TYPE OF SHIELD | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|---|---|
| 1702 | 1 | 26 | 3/34 tinned copper<br>4/34 steel | .016" | 38 mmf. | Spiral Wrapped | .020" | .125" |
| 1703 | 1 | 24 | 10/34 | .016" | 35 mmf. | Braided | .030" | .145" |
| 1704 | 1 | 24 | 10/34 | .040" | 23 mmf. | Braided | .030" | .200" |
| 1706 | 1 | 20 | 26/34 | .030" | 36 mmf. | Braided | .030" | .175" |
| 1710 | 2 | 22 | 16/34 | .025" | 31 mmf. | Braided | .030" | .235" |
| 1713 | 3 | 20 | 26/34 | .025" | 34 mmf. | Braided | .035" | .295" |
| 1715 | 4 | 20 | 26/34 | .025" | 36 mmf. | Braided | .035" | .320" |
| 1716 | 5 | 20 | 26/34 | .025" | 45 mmf. | Braided | .035" | .350" |
| 1717 | 6 | 20 | 26/34 | .025" | 45 mmf. | Braided | .035" | .375" |

* Between one conductor and remaining conductors connected to shield.

**APPLICATIONS: 1702-1706**
All high impedance microphones —Lapel, Ribbon, Velocity, Crystal, Contact. Hi-Fi interconnecting cables.

**APPLICATIONS: 1710-1717**
All low impedance microphones—Carbon, Condenser, Dynamic.

**DESCRIPTION:**
Each conductor stranded tinned copper, polyethylene insulation, color coded, braided or spiral wrapped tinned copper shield, chrome colored vinyl plastic jacket overall. Where multi-conductors, conductors are twisted, cushioned with jute fillers, cotton wrap under tinned copper shield.

**CHARACTERISTICS:**
Oil and moisture resistant. Flexible. Will not stain or mark. Will resist aging and rough usage.
Capacitance—Low
Insulation Resistance—High
Attenuation—Low

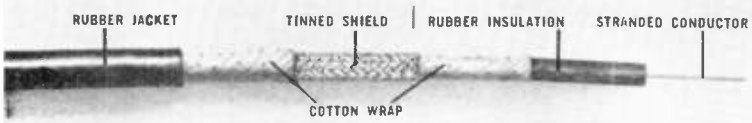
**1702-1706**
**COLOR CODE OF CONDUCTOR**
WHITE

**1710-1717**
**COLOR CODE OF CONDUCTORS**
1—WHITE
2—BLACK
3—RED
4—GREEN
5—YELLOW
6—BLUE

# Shielded Microphone Cable

## RUBBER TYPE

■ STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | * CAPACITY NOM. FT. | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|---|
| 1248 | 1 | 20 | 26/34 | .025" | 40 mmf. | .030" | .175" |
| 1249 | 1 | 20 | 26/34 | .040" | 30 mmf. | .030" | .245" |
| 1249/18 | 1 | 18 | 41/34 | .040" | 45 mmf. | .030" | .250" |
| 1250 | 2 | 20 | 26/34 | .020" | 70 mmf. | .035" | .275" |
| 1250/18 | 2 | 18 | 41/34 | .020" | 75 mmf. | .035" | .305" |
| 1251 | 3 | 20 | 26/34 | .020" | 80 mmf. | .035" | .285" |
| 1251/18 | 3 | 18 | 41/34 | .020" | 85 mmf. | .035" | .325" |
| 1252 | 4 | 20 | 26/34 | .020" | 90 mmf. | .035" | .305" |
| 1252/18 | 4 | 18 | 41/34 | .020" | 64 mmf. | .035" | .335" |

* Between one conductor and remaining conductors connected to shield.

**APPLICATIONS: 1248-1249/18**
All high impedance microphones. Broadcast and heavy duty studio use.

**APPLICATIONS: 1250-1252/18**
All low impedance microphones. Broadcast and heavy duty studio use.

**DESCRIPTION:**
Each conductor stranded tinned copper, rubber insulation, color coded, braided tinned copper shield, cotton wrap, tough black rubber jacket overall. It is extremely flexible and specially designed for heavy studio use.

**1248-1249/18**
**COLOR CODE OF CONDUCTOR**
BLACK

**1250-1252/18**
**COLOR CODE OF CONDUCTORS**
1—BLACK
2—WHITE
3—RED
4—GREEN

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**

■ Nos. 1702 thru 1717— Change of jacket color
■ Nos. 1248 thru 1252/18— Change of jacket color

ALPHA WIRE CORPORATION

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See Page S-1232 for Alpha Prices



World Radio History

# Shielded Audio Cable

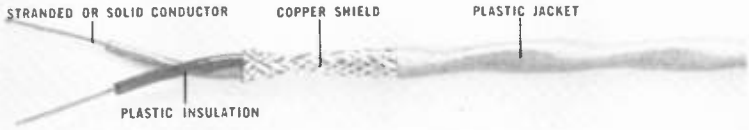
## 2 CONDUCTOR—PLASTIC JACKET

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

**DESCRIPTION:**

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, braided copper shield, gray vinyl plastic jacket overall. Suitable for outdoor installations.

**COLOR CODE OF CONDUCTORS**
1—BLACK, 2—RED.




### STRANDED CONDUCTORS

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1736 | 2 | 22 | 7/30 | .016" | .020" | .185" |
| 1741 | 2 | 20 | 10/30 | .016" | .020" | .200" |
| 1746 | 2 | 18 | 16/30 | .016" | .020" | .240" |

### SOLID CONDUCTORS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1775* | 2 | 22 Solid | 1 | .016" | .020" | .175" |
| 1779 | 2 | 20 Solid | 1 | .016" | .020" | .210" |
| 1783 | 2 | 18 Solid | 1 | .016" | .020" | .220" |

* Supersedes 9775. Now with 22 AWG solid tinned copper ground wire under braided copper shield.

# Shielded Audio Cable

## 2 CONDUCTOR—NO OUTER JACKET

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

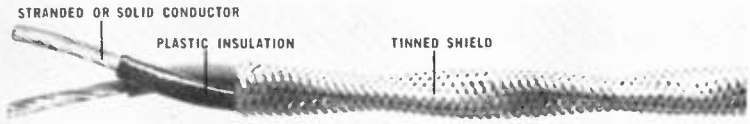
**APPLICATIONS:**

For public address and sound systems. Transmission line. Industrial paging and call systems. Recording equipment. Hospital and school sound installations. Broadcast and audio cable. Rack and panel wiring.

**DESCRIPTION:**

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, braided tinned copper shield overall.

**COLOR CODE OF CONDUCTORS**
1—BLACK, 2—RED.




### STRANDED CONDUCTORS

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOM. O.D. |
|---|---|---|---|---|---|
| 1261/30 | 2 | 30 | 7/38 | .010" | .085" |
| 1261/28 | 2 | 28 | 7/36 | .010" | .090" |
| 1261/26 | 2 | 26 | 7/34 | .010" | .095" |
| 1261 | 2 | 24 | 16/36 | .016" | .125" |
| 1256/22V | 2 | 22 | 7/30 | .016" | .140" |
| 1256V | 2 | 20 | 10/30 | .016" | .155" |
| 1259V* | 2 | 18 | 16/30 | .016" | .170" |
| 1260V | 2 | 16 | 26/30 | .020" | .210" |
| 1260/14 | 2 | 14 | 41/30 | .020" | .225" |
| 1260/12 | 2 | 12 | 65/30 | .025" | .295" |

### SOLID CONDUCTORS

| | | | | | |
|---|---|---|---|---|---|
| 1267/22V | 2 | 22 Solid | 1 | .016" | .135" |
| 1267V | 2 | 20 Solid | 1 | .016" | .145" |
| 1267/18V | 2 | 18 Solid | 1 | .016" | .170" |

* 22 AWG solid tinned copper ground wire under braided copper shield.

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**

- Nos. 1736 thru 1783— Change of jacket color
- Nos. 1261/30 thru 1267/18V— Change of conductor color code; Increased number of conductors; Overall textile braid



See Page S-1232 for Alpha Prices

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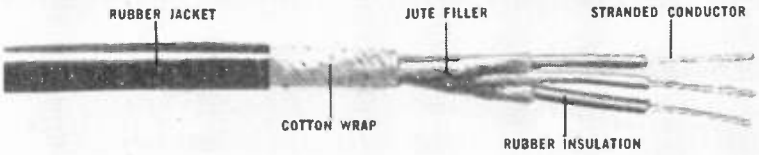
World Radio History

# Unshielded Rubber Cable

## MULTI-CONDUCTOR

■STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1244 | 2 | 20 | 26/34 | .020" | .035" | .280" |
| 1245 | 3 | 20 | 26/34 | .020" | .035" | .285" |
| 1246 | 4 | 20 | 26/34 | .020" | .035" | .300" |
| 1247 | 5 | 20 | 26/34 | .020" | .035" | .340" |
| 1247/6 | 6 | 20 | 26/34 | .020" | .035" | .360" |
| 1247/7 | 7 | 20 | 26/34 | .020" | .035" | .380" |
| 1247/8 | 8 | 20 | 26/34 | .020" | .035" | .400" |
| 1247/10 | 10 | 20 | 26/34 | .020" | .035" | .440" |

**APPLICATIONS:**

Inter-rack connecting cable. Recording studio and broadcast. Remote control circuits. Rough usage electronic power cable. P.A. systems. Multiple speaker cable.

**DESCRIPTION:**

Each conductor 20 AWG stranded tinned copper, rubber insulation, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall. It is extremely flexible and especially designed for heavy studio use.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—WHITE
3—RED
4—GREEN
5—YELLOW
6—BLUE
7—BROWN
8—ORANGE
9—PURPLE
10—SLATE

# Shielded Plastic Jacketed Cable

## SPIRAL WRAPPED

■STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 2254 | 2 | 22 | 7/30 | .016" | .020" | .175" |
| 2255 | 2 | 22 | 1 | .016" | .020" | .170" |
| 2156 | 1 | 20 | 10/30 | .016" | .020" | .130" |
| 2256 | 2 | 20 | 10/30 | .016" | .020" | .195" |
| 3256 | 3 | 20 | 10/30 | .016" | .020" | .210" |
| 4256 | 4 | 20 | 10/30 | .016" | .020" | .225" |
| 2258 | 2 | 18 | 16/30 | .016" | .020" | .230" |
| 2260 | 2 | 16 | 26/30 | .016" | .020" | .250" |

**APPLICATIONS:**

For public address and sound systems. Recording Studios. Amateur radio transmitters. Paging and call systems.

**DESCRIPTION:**

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, spiral wrapped copper shield, gray vinyl plastic jacket overall.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—RED
3—WHITE
4—GREEN

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■Nos. 1244 thru 1247/10—Change of jacket color
■Nos. 2254 thru 2260— Change of jacket color

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See Page S-1232 for Alpha Prices



World Radio History

# Multi-Conductor Audio Cable

## OUTER PLASTIC JACKET

■STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

**APPLICATIONS:**

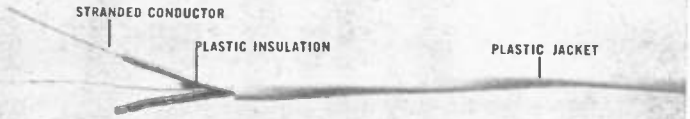
Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Signal systems. Electronic computer cable.

**DESCRIPTION:**

Each conductor 22 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—RED
3—WHITE
4—GREEN
5—ORANGE
6—BLUE
7—BROWN
8—YELLOW
9—PURPLE
10—SLATE
11—PINK
12—TAN
13—RED/GREEN
14—RED/YELLOW
15—RED/BLACK




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1172 | 2 | 22 | 7/30 | .010" | .020" | .140" |
| 1173 | 3 | 22 | 7/30 | .010" | .020" | .145" |
| 1174 | 4 | 22 | 7/30 | .010" | .020" | .170" |
| 1175 | 5 | 22 | 7/30 | .010" | .020" | .175" |
| 1176 | 6 | 22 | 7/30 | .010" | .020" | .185" |
| 1177 | 7 | 22 | 7/30 | .010" | .020" | .190" |
| 1178 | 8 | 22 | 7/30 | .010" | .020" | .200" |
| 1179 | 9 | 22 | 7/30 | .010" | .020" | .225" |
| 1180 | 10 | 22 | 7/30 | .010" | .020" | .235" |
| 1181 | 12 | 22 | 7/30 | .010" | .020" | .255" |
| 1181/15 | 15 | 22 | 7/30 | .010" | .020" | .280" |

# Multi-Conductor Audio Cable

## OUTER COTTON BRAID

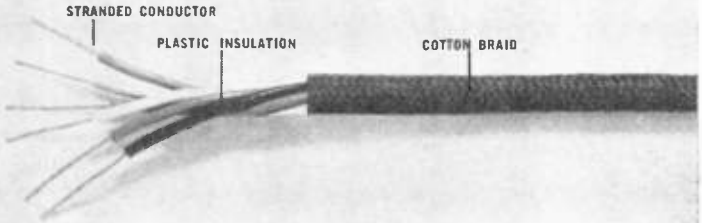
■STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 ST., 500 FT., 1000 FT.

**DESCRIPTION:**

Each conductor 20 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, brown cotton braid overall.

**COLOR CODE OF CONDUCTORS**

1—BLACK
2—RED
3—WHITE
4—GREEN
5—ORANGE
6—BLUE
7—BROWN
8—YELLOW
9—PURPLE
10—SLATE
11—PINK
12—TAN
13—WHITE/BLACK
14—WHITE/RED
15—WHITE/GREEN
16—WHITE/ORANGE
17—WHITE/BLUE
18—WHITE/BROWN
19—WHITE/YELLOW
20—WHITE/PURPLE




| ALPHA NO. | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOM. O.D. |
|---|---|---|---|---|---|
| 1182 | 2 | 20 | 10/30 | .016" | .165" |
| 1183 | 3 | 20 | 10/30 | .016" | .170" |
| 1184 | 4 | 20 | 10/30 | .016" | .195" |
| 1185 | 5 | 20 | 10/30 | .016" | .220" |
| 1186 | 6 | 20 | 10/30 | .016" | .230" |
| 1187 | 7 | 20 | 10/30 | .016" | .240" |
| 1188 | 8 | 20 | 10/30 | .016" | .285" |
| 1189 | 9 | 20 | 10/30 | .016" | .295" |
| 1190 | 10 | 20 | 10/30 | .016" | .300" |
| 1192 | 12 | 20 | 10/30 | .016" | .315" |
| 1192/15 | 15 | 20 | 10/30 | .016" | .330" |
| 1192/20 | 20 | 20 | 10/30 | .016" | .371" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALPHA WIRE CORPORATION

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■Nos 1172 thru 1181/15—Change of jacket color

■Nos. 1182 thru 1192/20—Change of number of conductors
Change of conductor color code
Other type of textile braid
Copper shield overall instead of textile braid



See Page S-1232 for Alpha Prices

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World Radio History

# Unshielded Audio Cable

## 2 AND 3 CONDUCTOR—PLASTIC JACKET

■ STANDARD SPOOL PUT-UP 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

| ALPHA NO. | NO. OF COND | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|
| 1793 | 2 | 22 Solid | 1 | .010" | .020" | .130" |
| 1794 | 3 | 22 Solid | 1 | .010" | .020" | .140" |
| 1795 | 2 | 20 Solid | 1 | .016" | .020" | .160" |
| 1796 | 3 | 20 Solid | 1 | .016" | .020" | .175" |
| 1797 | 2 | 18 Solid | 1 | .016" | .020" | .190" |
| 1798 | 3 | 18 Solid | 1 | .016" | .020" | .210" |
| 1893 | 2 | 22 Stranded | 7/30 | .010" | .020" | .135" |
| 1894 | 3 | 22 Stranded | 7/30 | .010" | .020" | .145" |
| 1895 | 2 | 20 Stranded | 10/30 | .016" | .020" | .180" |
| 1896 | 3 | 20 Stranded | 10/30 | .016" | .020" | .190" |
| 1897 | 2 | 18 Stranded | 16/30 | .016" | .020" | .200" |
| 1898 | 3 | 18 Stranded | 16/30 | .016" | .020" | .210" |

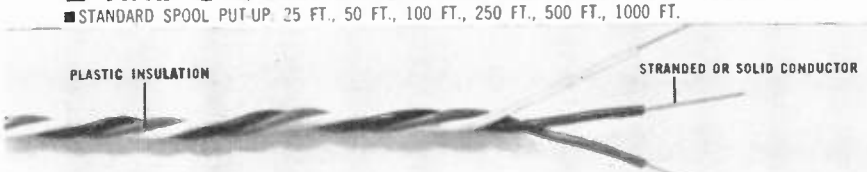
**DESCRIPTION:**
Each conductor tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

**COLOR CODE OF CONDUCTORS**
1—BLACK
2—RED
3—WHITE

# Unshielded Audio Cable

## 2 AND 3 CONDUCTOR—NO OUTER JACKET

■ STANDARD SPOOL PUT-UP 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




| ALPHA NO. | NO. OF COND | COND. SIZE | COND. STRAND | WALL THICKNESS | NOM. O.D. |
|---|---|---|---|---|---|
| 9269 | 2 | 22 Solid | 1 | .016" | .100" |
| 9270 | 3 | 22 Solid | 1 | .016" | .115" |
| 9271 | 2 | 20 Solid | 1 | .016" | .120" |
| 9272 | 3 | 20 Solid | 1 | .016" | .135" |
| 9273 | 2 | 18 Solid | 1 | .016" | .145" |
| 9274 | 3 | 18 Solid | 1 | .016" | .155" |
| 9275 | 2 | 16 Solid | 1 | .016" | .175" |
| 9276 | 3 | 16 Solid | 1 | .016" | .190" |
| 9169 | 2 | 22 Stranded | 7/30 | .016" | .125" |
| 9170 | 3 | 22 Stranded | 7/30 | .016" | .140" |
| 9171 | 2 | 20 Stranded | 10/30 | .016" | .145" |
| 9172 | 3 | 20 Stranded | 10/30 | .016" | .160" |
| 9173 | 2 | 18 Stranded | 16/30 | .016" | .165" |
| 9174 | 3 | 18 Stranded | 16/30 | .016" | .180" |
| 9175 | 2 | 16 Stranded | 26/30 | .016" | .190" |
| 9176 | 3 | 16 Stranded | 26/30 | .016" | .210" |
| 9177 | 2 | 14 Stranded | 41/30 | .016" | .220" |
| 9178 | 3 | 14 Stranded | 41/30 | .016" | .240" |
| 9179 | 2 | 12 Stranded | 65/30 | .016" | .250" |
| 9180 | 3 | 12 Stranded | 65/30 | .016" | .275" |

**APPLICATIONS:**
Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

**DESCRIPTION:**
Each conductor tinned copper, plastic insulation, color coded, conductors twisted.

**COLOR CODE OF CONDUCTORS**
1—BROWN
2—TAN
3—GRAY

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1793 thru 1898—Change of jacket color
■ Nos. 9269 thru 9180—Change of conductor color code
Overall copper shield and/or textile braid

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See Page S-1232 for Alpha Prices



World Radio History

first and only complete line of...

# STEREO Wire

IMMEDIATE DELIVERY

ALPHA electronics WIRE

the jobber-minded line . . .

The industry's first and only complete line of stereo wire for all stereo cartridges (ceramic, magnetic, crystal) and tone arms

The line consists of 7 constructions of extremely flexible, light-weight, miniature cables having 2, 3 and 4 conductors, with and without shielding, all designed for the extremely low hum and noise pickup so important to the finest stereo equipment. There is an ALPHA stereo wire type for all original equipment as well as for converting existing monaural to stereo

| ALPHA NO. | DESCRIPTION | NOMINAL OUTSIDE DIAMETER |
|---|---|---|
| 1100 | 2 conductors, twisted | .047" |
| 1101 | 3 conductors, twisted | .053" |
| 1102 | 4 conductors, twisted | .061" |
| 1105 | 2 conductors, twisted, shield overall | .055" |
| 1106 | 3 conductors, twisted, shield overall | .061" |
| 1107 | 4 conductors, twisted, shield overall | .068" |
| 1110 | 2 individually shielded, twisted conductors | .053" |

■ Each of the above conductors composed of #32-7/40 tinned copper, 10 mil 105°C plastic insulation. Conductors cabled with ¼" lay for extreme flexibility. When shielded, 40 AWG tinned copper used for maximum flexibility and minimum weight and diameter.

Conductor Color Code: 1—Black, 2—Red, 3—White, 4—Green

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

## Uninsulated Tinned Copper

### SOLID WIRE

■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

**APPLICATIONS:**
Winding of coils. Antennas. Point to point wiring.

**DESCRIPTION:**
Pure electrolytic solid copper properly annealed and tinned for quick soldering.

SPECIFICATION MIL-W-3861 TYPE S & ASTM-B-33

| ALPHA NO. | CONDUCTOR SIZE | CIRCULAR MIL AREA | NOMINAL O.D. |
|---|---|---|---|
| 299/7 | 38 AWG | 15.72 | .004" |
| 299/6 | 36 AWG | 25.00 | .005" |
| 299/5 | 34 AWG | 39.75 | .006" |
| 299/4 | 32 AWG | 63.21 | .008" |
| 299/3 | 30 AWG | 100.5 | .010" |
| 299/2 | 28 AWG | 159.8 | .013" |
| 299/1 | 26 AWG | 254.1 | .016" |
| 299 | 24 AWG | 404.0 | .020" |
| 298 | 22 AWG | 642.4 | .025" |
| 297 | 20 AWG | 1022 | .033" |
| 296 | 18 AWG | 1642 | .040" |
| 295 | 16 AWG | 2583 | .051" |
| 286 | 14 AWG | 4107 | .065" |
| 289 | 12 AWG | 6530 | .082" |
| 292 | 10 AWG | 10380 | .103" |
| 292/8 | 8 AWG | 16510 | .129" |
| 292/6 | 6 AWG | 26250 | .162" |



See Page S-1232 for Alpha Prices

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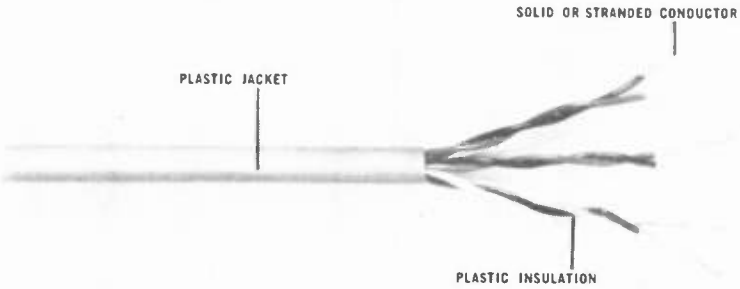
# Plastic Intercom Cable

■STANDARD PUT-UP 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




**APPLICATIONS:**

Balanced intercom systems. Annunciators. Telephones. "Nurses call" systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles.

**DESCRIPTION:**

Each conductor 22 AWG tinned copper, plastic insulation, conductors color coded, twisted into pairs, gray vinyl plastic jacket overall. Suitable for outdoor installations.

| PAIR NO. | COLOR COMBINATION |
|---|---|
| 1 | BLACK PAIRED WITH RED |
| 2 | BLACK PAIRED WITH WHITE |
| 3 | BLACK PAIRED WITH GREEN |
| 4 | BLACK PAIRED WITH BLUE |
| 5 | BLACK PAIRED WITH BROWN |
| 6 | BLACK PAIRED WITH YELLOW |
| 7 | BLACK PAIRED WITH ORANGE |
| 8 | RED PAIRED WITH GREEN |
| 9 | RED PAIRED WITH WHITE |
| 10 | RED PAIRED WITH BLUE |
| 11 | RED PAIRED WITH YELLOW |
| 12 | RED PAIRED WITH BROWN |
| 13 | RED PAIRED WITH ORANGE |
| 14 | GREEN PAIRED WITH BLUE |
| 15 | GREEN PAIRED WITH WHITE |
| 16 | GREEN PAIRED WITH BROWN |
| 17 | GREEN PAIRED WITH ORANGE |
| 18 | GREEN PAIRED WITH YELLOW |
| 19 | WHITE PAIRED WITH BLUE |
| 20 | WHITE PAIRED WITH BROWN |
| 21 | WHITE PAIRED WITH ORANGE |
| 22 | WHITE PAIRED WITH YELLOW |
| 23 | BLUE PAIRED WITH BROWN |
| 24 | BLUE PAIRED WITH ORANGE |
| 25 | BLUE PAIRED WITH YELLOW |
| 26 | BROWN PAIRED WITH ORANGE |
| 27 | BROWN PAIRED WITH YELLOW |
| 28 | PURPLE PAIRED WITH RED |
| 29 | PURPLE PAIRED WITH WHITE |
| 30 | PURPLE PAIRED WITH GREEN |
| 31 | PURPLE PAIRED WITH BLUE |
| 32 | PURPLE PAIRED WITH BROWN |
| 33 | PURPLE PAIRED WITH YELLOW |
| 34 | PURPLE PAIRED WITH ORANGE |
| 35 | PURPLE PAIRED WITH SLATE |
| 36 | PURPLE PAIRED WITH BLACK |
| 37 | SLATE PAIRED WITH RED |
| 38 | SLATE PAIRED WITH WHITE |
| 39 | SLATE PAIRED WITH GREEN |
| 40 | SLATE PAIRED WITH BLUE |
| 41 | SLATE PAIRED WITH BROWN |
| 42 | SLATE PAIRED WITH YELLOW |
| 43 | SLATE PAIRED WITH ORANGE |
| 44 | SLATE PAIRED WITH BLACK |
| 45 | WHITE/BLACK PAIRED W. RED |
| 46 | WHITE/BLACK PAIRED W. BLUE |
| 47 | WHITE/BLACK PAIRED W. BLUE |
| 48 | WHITE/BLACK PAIRED W. BROWN |
| 49 | WHITE/BLACK PAIRED W. YELLOW |
| 50 | WHITE/BLACK PAIRED W. ORANGE |
| 51 | WHITE/BLACK PAIRED W. PURPLE |

* Bare copper conductors. Write for color code of individual conductors.

**SOLID CONDUCTORS**

| ALPHA NO. | NO. OF PAIRS | NO. OF COND. | COND. SIZE | COND. STRAND | WALL THICKNESS | NOMINAL JACKET | NOM. O.D. |
|---|---|---|---|---|---|---|---|
| 1300 | 1 | 2 | 22 Solid | 1 | .010" | .020" | .115" |
| 1302 | 2 | 4 | 22 Solid | 1 | .010" | .020" | .185" |
| 1304 | 3 | 6 | 22 Solid | 1 | .010" | .020" | .210" |
| 1307 | 6 | 12 | 22 Solid | 1 | .010" | .020" | .315" |
| 1307/7 | 7 | 14 | 22 Solid | 1 | .010" | .020" | .325" |
| 1307/9 | 9 | 18 | 22 Solid | 1 | .010" | .020" | .350" |
| 1308/11 | 11 | 22 | 22 Solid | 1 | .010" | .020" | .360" |
| 1309 | 13 | 26 | 22 Solid | 1 | .010" | .025" | .385" |
| 1309/15 | 15 | 30 | 22 Solid | 1 | .010" | .025" | .400" |
| 1310 | 16 | 32 | 22 Solid | 1 | .010" | .025" | .420" |
| 1313 | 27 | 54 | 22 Solid | 1 | .010" | .035" | .530" |
| 1313/31 | 31 | 62 | 22 Solid | 1 | .010" | .035" | .555" |
| 1313/41 | 41 | 82 | 22 Solid | 1 | .010" | .035" | .630" |
| 1314 | 51 | 102 | 22 Solid | 1 | .010" | .045" | .770" |
| 1315* | 76 | 152 | 22 Solid | 1 | .010" | .070" | .970" |
| 1315/101* | 101 | 202 | 22 Solid | 1 | .010" | .080" | 1.140" |

**STRANDED CONDUCTORS**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1316 | 1 | 2 | 22 | 7/30 | .010" | .020" | .145" |
| 1317 | 2 | 4 | 22 | 7/30 | .010" | .020" | .210" |
| 1318 | 3 | 6 | 22 | 7/30 | .010" | .020" | .225" |
| 1319 | 4 | 8 | 22 | 7/30 | .010" | .020" | .260" |
| 1320 | 5 | 10 | 22 | 7/30 | .010" | .020" | .300" |
| 1322 | 6 | 12 | 22 | 7/30 | .010" | .020" | .320" |
| 1323 | 9 | 18 | 22 | 7/30 | .010" | .020" | .355" |
| 1327 | 15 | 30 | 22 | 7/30 | .010" | .025" | .460" |
| 1329 | 27 | 54 | 22 | 7/30 | .010" | .035" | .590" |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

**AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:**

■Nos. 1300 thru 1329—Change of jacket color

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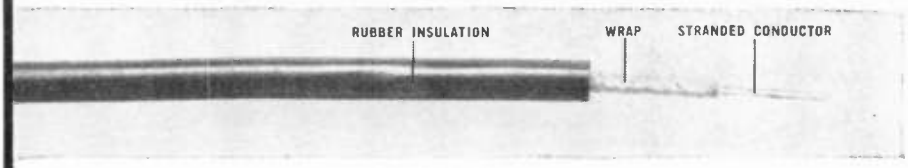
See Page S-1232 for Alpha Prices



World Radio History

# Test Lead Wire

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.




**APPLICATIONS:**
As test leads in analyzers, oscillators, multi-meters, and all other types of testing apparatus or wherever an Extra Flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

**DESCRIPTION:**
Single conductor extra flexible tinned soft annealed copper, concentric strand, wrap, rubber insulation, satin finish.

* STOCK COLORS
1—BLACK
2—RED
3—GREEN
4—YELLOW

STANDARD TYPE

| ALPHA NO. | COND. SIZE | COND. STRAND | WALL THICKNESS | VOLTAGE BREAKDOWN | NOM. O.D. | * STOCK COLORS |
|---|---|---|---|---|---|---|
| 1632 | 20 | 41/36 | .040" | 5,000 ‡ | .125" | 1 and 2 |
| 1634 * | 20 | 41/36 | .044" | 8,500 ‡ | .135" | 1 and 2 |
| 1635 | 20 | 41/36 | .047" | 10,000 ‡ | .140" | 1 thru 4 |
| 1636 | 18 | 65/36 | .047" | 12,000 ‡ | .150" | 1 thru 3 |
| * Supersedes 9635 | | | | | | ‡ 60 CYCLES |
| HEAVY DUTY TYPE | | | | | | |
| 1638 | 18 | 65/36 | .109" | 22,000 ‡ | .245" | 1 and 2 |
| MILITARY TYPE Specification MIL-W-13169 | | | | | | |
| 1639 | Military Approved Test Lead Wire. Same physical construction as Alpha No. 1636 except compound per MIL-W-13169. ■ Types WS-16/U Black ■ WS-17/U Red ■ WS-18/U Green. | | | | | |

# High Voltage Wire - CATHODE RAY

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

**APPLICATIONS:**
Designed for high-voltage leads for all applications, especially for cathode ray tubes in television receivers and oscilloscopes. Shielded type used to minimize RF radiation in transmitters, X-ray and diathermy equipment.

**DESCRIPTION:**
Single conductor stranded tinned copper, special white polyethylene insulation. When shielded, tinned copper shield overall.

| ALPHA NO. | CONDUCTOR SIZE | CONDUCTOR STRAND | WALL THICKNESS | TYPE | RATING VOLTAGE | NOMINAL O.D. |
|---|---|---|---|---|---|---|
| 1641 | 20 | 10/30 | .047" | Unshielded | 10,000 | 125" |
| 1642 | 20 | 10/30 | .063" | Unshielded | 20,000 | 170" |
| 1645 | 18 | 16/30 | .095" | Unshielded | 40,000 | 230" |
| 1649 | 18 | 16/30 | .095" | Shielded | 40,000 | 260" |

# "ALMAG" Magnet Wire

## SPECIFICATION MIL-W-583A

■ STANDARD PUT-UP: ¼ LB., ½ LB., 1 LB., 5 LB., 10 LB.

**APPLICATIONS:**
Radio and audio frequency coils; transformers; chokes; speaker field coils; tuners; armatures; short wave coils, etc.

**DESCRIPTION:**
**Plain Enamel**—Single conductor round bare copper covered with a continuous insulating film of enamel. Type T per Specification MIL-W-583A 105°C.
**Heavy Formvar**—Single conductor round bare copper, baked film insulation from a varnish based on a vinyl acetal resin. Type T2 per Specification MIL-W-583A 105°C.

* Largest available put-up: 1 lb.
‡ Largest available put-up: 5 lb.

| PLAIN ENAMEL (PE) | | | | | | HEAVY FORMVAR (HF) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ALPHA NO. | NOM. O.D. | SIZE | ALPHA NO. | NOM. O.D. | SIZE | ALPHA NO. | NOM. O.D. | SIZE | ALPHA NO. | NOM. O.D. | SIZE |
| PE-44 | .0023" | 44 * | PE-26 | .0169" | 26 | HF-44 | .0026" | 44 * | HF-26 | .0180" | 26 |
| PE-42 | .0028" | 42 * | PE-24 | .0212" | 24 | HF-42 | .0032" | 42 * | HF-24 | .0224" | 24 |
| PE-40 | .0034" | 40 * | PE-22 | .0266" | 22 | HF-40 | .0038" | 40 * | HF-22 | .0277" | 22 |
| PE-38 | .0044" | 38 ‡ | PE-20 | .0332" | 20 | HF-38 | .0049" | 38 ‡ | HF-20 | .0346" | 20 |
| PE-36 | .0055" | 36 ‡ | PE-18 | .0416" | 18 | HF-36 | .0060" | 36 ‡ | HF-18 | .0432" | 18 |
| PE-34 | .0069" | 34 ‡ | PE-16 | .0522" | 16 | HF-34 | .0075" | 34 ‡ | HF-16 | .0539" | 16 |
| PE-32 | .0087" | 32 | PE-14 | .0657" | 14 | HF-32 | .0095" | 32 | HF-14 | .0673" | 14 |
| PE-30 | .0108" | 30 | PE-12 | .0825" | 12 | HF-30 | .0116" | 30 | HF-12 | .0842" | 12 |
| PE-28 | .0135" | 28 | PE-10 | .1037" | 10 | HF-28 | .0144" | 28 | HF-10 | .1056" | 10 |

**OVER 4,000 ITEMS AVAILABLE FROM STOCK**

ALPHA WIRE CORPORATION
MADE IN U.S.A.

AVAILABLE VARIATIONS OF ABOVE STANDARD ITEMS:

■ Nos. 1632 thru 1639—Change of color
Overall copper shield and/or textile braid

■ Nos. 1641 thru 1649—Change of color
Overall copper shield and/or textile braid


See Page S-1232 for Alpha Prices
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World Radio History

# THE QUALITY TEST LEAD LINE

All ALPHA test lead wire used is the same as supplied to leading test equipment manufacturers for over 20 years having the following high quality features:

**LENGTH** — full 50 inches for added convenience

**CONDUCTOR SIZE** — #18 gauge for extra strength and higher current carrying capacity

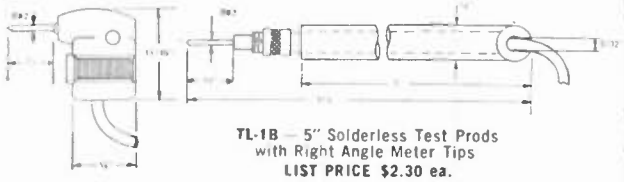
**FLEXIBILITY** — extremely flexible fine soft copper stranding (65/#36 AWG)

**INSULATION** — heavy duty, high dielectric rubber, .047" wall thickness

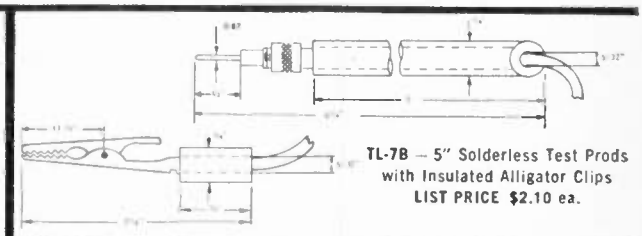
**HANDLES** — Tenite #2 used for greater strength and durability

**VOLTAGE BREAKDOWN** — better than 12,000 volts at 60 cycles

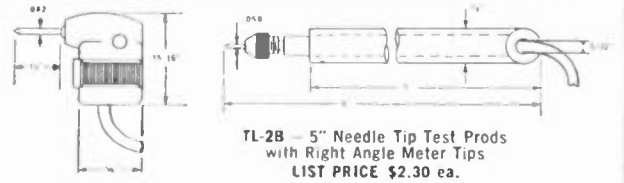
**NOMINAL OUTSIDE DIAMETER** — .150" for safety, rugged use and longer life



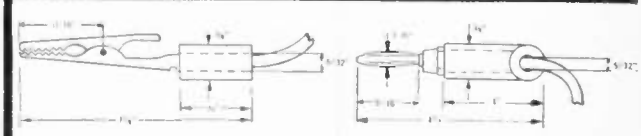
**TL-1B** — 5" Solderless Test Prods with Right Angle Meter Tips
**LIST PRICE $2.30 ea.**



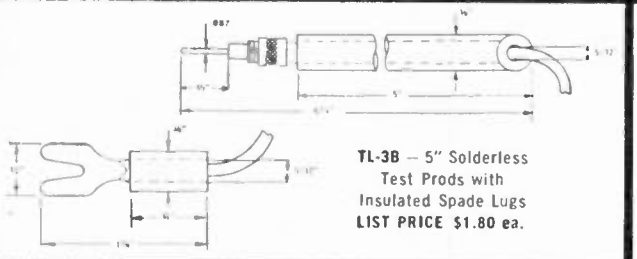
**TL-7B** — 5" Solderless Test Prods with Insulated Alligator Clips
**LIST PRICE $2.10 ea.**



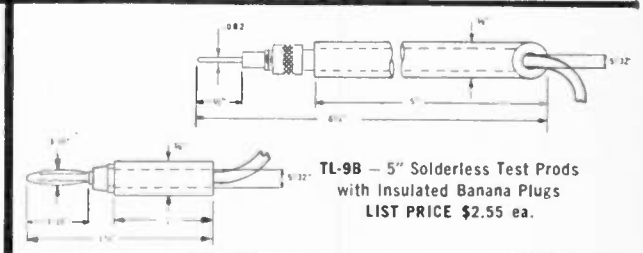
**TL-2B** — 5" Needle Tip Test Prods with Right Angle Meter Tips
**LIST PRICE $2.30 ea.**



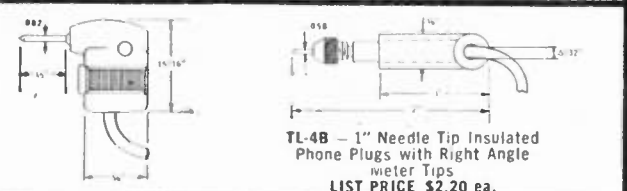
**TL-8B** — Insulated Alligator Clips with Insulated Banana Plugs
**LIST PRICE $1.93 ea.**



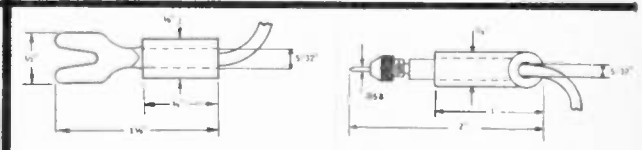
**TL-3B** — 5" Solderless Test Prods with Insulated Spade Lugs
**LIST PRICE $1.80 ea.**



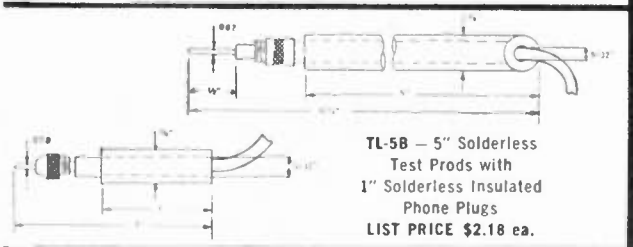
**TL-9B** — 5" Solderless Test Prods with Insulated Banana Plugs
**LIST PRICE $2.55 ea.**



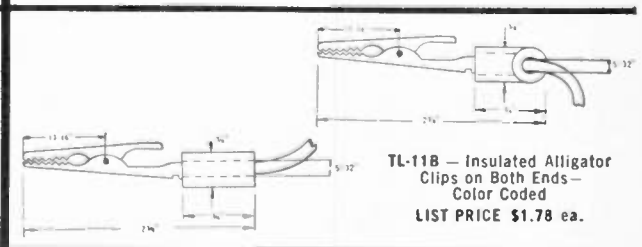
**TL-4B** — 1" Needle Tip Insulated Phone Plugs with Right Angle Meter Tips
**LIST PRICE $2.20 ea.**



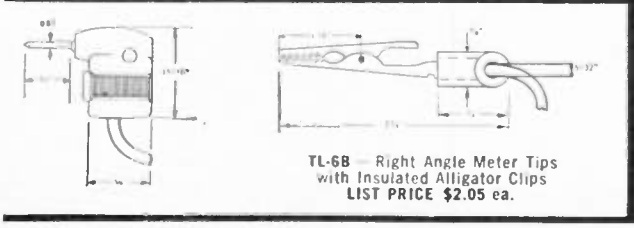
**TL-10B** — 1" Needle Tip Insulated Phone Plugs with Insulated Spade Lugs
**LIST PRICE $1.70 ea.**



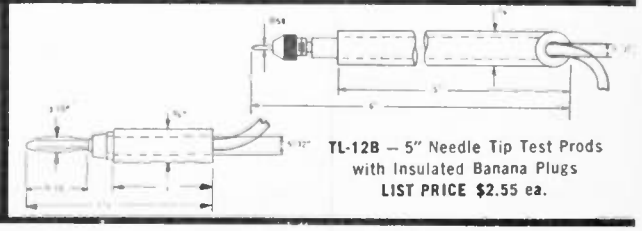
**TL-5B** — 5" Solderless Test Prods with 1" Solderless Insulated Phone Plugs
**LIST PRICE $2.18 ea.**



**TL-11B** — Insulated Alligator Clips on Both Ends—Color Coded
**LIST PRICE $1.78 ea.**



**TL-6B** — Right Angle Meter Tips with Insulated Alligator Clips
**LIST PRICE $2.05 ea.**



**TL-12B** — 5" Needle Tip Test Prods with Insulated Banana Plugs
**LIST PRICE $2.55 ea.**

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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**



World Radio History

# ALPHA WIRE • PRICE LIST

| ALPHA No. | List Price Per 1000 Ft. |
|---|---|
| 286 | 26.13 |
| 289 | 39.38 |
| 292 | 72.50 |
| 292/6 | 180.00 |
| 292/8 | 112.50 |
| 295 | 17.50 |
| 296 | 13.00 |
| 297 | 8.25 |
| 298 | 6.25 |
| 299 | 6.00 |
| 299/1 | 5.75 |
| 299/2 | 5.50 |
| 299/3 | 5.25 |
| 299/4 | 5.13 |
| 299/5 | 5.00 |
| *299/6 | 4.88 |
| *299/7 | 4.75 |
| 1172 | 34.63 |
| 1173 | 36.00 |
| 1174 | 47.13 |
| 1175 | 58.75 |
| 1176 | 90.13 |
| 1177 | 101.25 |
| 1178 | 109.88 |
| 1179 | 119.25 |
| 1180 | 137.50 |
| 1181 | 182.50 |
| *1181/15 | 230.00 |
| 1182 | 54.13 |
| 1183 | 76.13 |
| 1184 | 95.25 |
| 1185 | 119.00 |
| 1186 | 145.63 |
| 1187 | 167.25 |
| 1188 | 196.13 |
| 1189 | 217.63 |
| 1190 | 252.38 |
| 1192 | 297.13 |
| *1192/15 | 375.00 |
| *1192/20 | 495.00 |
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| 1224 | 50.00 |
| 1229 | 55.00 |
| 1230 | 64.00 |
| 1231 | 87.88 |
| 1232 | 149.00 |
| 1233 | 200.00 |
| 1233/2 | 190.00 |
| 1234 | 450.00 |
| 1235 | 477.50 |
| 1239 | 525.00 |
| 1244 | 120.00 |
| 1245 | 139.00 |
| 1246 | 167.50 |
| 1247 | 200.00 |
| 1247/6 | 247.50 |
| *1247/7 | 312.75 |
| 1247/8 | 333.75 |
| *1247/10 | 400.00 |
| 1248 | 102.50 |
| 1249 | 127.63 |
| 1249/18 | 154.50 |
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| 1250/18 | 185.88 |
| 1251 | 161.00 |
| 1251/18 | 300.00 |
| 1252 | 188.75 |
| *1252/18 | 332.50 |
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| 1254 | 288.63 |
| 1254/18 | 615.00 |
| 1255 | 308.00 |
| 1255/8 | 375.00 |
| *1255/10 | 497.50 |
| 1256V | 70.00 |
| 1256/22V | 55.25 |
| 1259V | 85.00 |
| 1260V | 135.00 |
| 1260/12 | 315.00 |
| 1260/14 | 175.00 |
| 1261 | 70.00 |
| *1261/26 | 75.00 |
| *1261/28 | 78.25 |
| *1261/30 | 81.25 |
| 1267V | 65.00 |
| 1267/18V | 74.50 |
| 1267/22V | 51.00 |
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| 1304 | 64.93 |
| 1307 | 94.38 |
| *1307/7 | 133.75 |
| 1307/9 | 138.75 |
| 1308/11 | 205.38 |
| 1309 | 252.50 |
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| *1313/41 | 965.00 |
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| 1323 | 197.13 |
| 1327 | 349.88 |
| 1329 | 638.25 |
| 1332 | 57.50 |
| 1334 | 59.50 |
| 1336 | 62.50 |
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| 1351 | 47.50 |
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| 1356 | 155.00 |
| 1361 | 62.50 |
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| *1371 | 62.50 |
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| 1387 | 157.50 |
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| 1389/4 | 577.50 |
| 1389/2 | 895.00 |
| 1389/0 | 1375.00 |
| 1389/00 | 1890.00 |
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| 1507 | 49.13 |
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| 1550 | 11.50 |
| 1551 | 13.25 |
| 1553 | 17.25 |
| 1555 | 24.38 |
| 1557 | 35.75 |
| 1559 | 53.75 |
| 1560 | 90.00 |
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| 1563 | 14.13 |
| 1565 | 20.00 |
| *1567 | 28.50 |
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| 1573 | 27.75 |
| 1575 | 37.25 |
| 1577 | 53.75 |
| 1579 | 87.50 |
| 1590 | 26.50 |
| 1591 | 32.25 |
| 1592 | 40.75 |
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| 1594 | 47.00 |
| 1595 | 133.13 |
| 1598 | 202.50 |
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| *1605 | 14.00 |
| 1606 | 10.88 |
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| 1609 | 11.00 |
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| *1632 | 29.18 |
| *1634 | 27.05 |
| 1635 | 30.25 |
| 1636 | 33.88 |
| 1638 | 51.38 |
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| 1641 | 31.88 |
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| 1690 | 17.38 |
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| *1935/3 | 304.00 |
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| *1936 | 341.52 |
| *1936/3 | 488.52 |
| *1936/4 | 701.52 |
| *1937 | 488.00 |
| *1937/3 | 608.00 |
| *1937/4 | 888.52 |
| *1938 | 654.52 |
| *1938/3 | 911.52 |
| *1938/4 | 1098.52 |
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| 1952 | 93.20 |
| 1952/3 | 136.00 |
| *1952/4 | 255.00 |
| 1953 | 119.32 |
| 1953/3 | 183.00 |
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| 1955 | 200.00 |
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| 1956 | 319.00 |
| 1956/3 | 480.52 |
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| 1957/3 | 646.00 |
| *1957/4 | 807.52 |
| 1958 | 637.52 |
| 1958/3 | 850.00 |
| *1958/4 | 999.00 |
| 2078 | 72.00 |
| 2080 | 50.00 |
| 2082 | 36.25 |
| *2156 | 46.75 |
| 2229 | 52.50 |
| 2234 | 462.50 |
| 2254 | 60.00 |
| 2255 | 53.25 |
| 2256 | 69.25 |
| 2258 | 85.00 |
| *2260 | 138.50 |
| 2334 | 75.00 |
| 2337 | 70.00 |
| 2606 | 25.50 |
| 2607 | 40.00 |
| *2809 | 275.00 |
| *2809/2 | 577.50 |
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| *2810/2 | 605.00 |
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| *2816/2 | 825.00 |
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| *2816/4 | 1525.00 |
| *2817 | 550.00 |
| *2817/2 | 907.50 |
| *2817/3 | 1402.50 |
| *2817/4 | 1760.00 |
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| 2852 | 130.63 |
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| 2854 | 148.13 |
| 2855 | 172.50 |
| 2856 | 221.25 |
| 2857 | 266.25 |
| 2858 | 348.75 |
| *2859 | 423.75 |
| 2881 | 144.38 |
| 2882 | 149.63 |
| 2883 | 168.75 |
| 2884 | 186.38 |
| 2885 | 228.38 |
| 2886 | 267.75 |
| 2887 | 320.25 |
| 2888 | 393.75 |
| *2889 | 497.00 |
| 3256 | 100.50 |
| 3334 | 95.00 |
| 3337 | 87.50 |
| 3606 | 48.00 |
| 3607 | 62.50 |
| 4256 | 152.00 |
| 4334 | 116.25 |
| 4337 | 106.25 |
| 4606 | 67.50 |
| 4607 | 78.75 |
| *9169 | 25.50 |
| *9170 | 38.25 |
| *9171 | 34.00 |
| *9172 | 51.00 |
| *9173 | 46.75 |
| *9174 | 72.50 |
| *9175 | 70.13 |
| *9176 | 105.25 |
| *9177 | 104.13 |
| *9178 | 156.25 |
| *9179 | 148.75 |
| *9180 | 223.13 |
| 9269 | 20.00 |
| 9270 | 30.00 |
| 9271 | 31.50 |
| 9272 | 46.75 |
| 9273 | 41.00 |
| 9274 | 60.75 |
| *9275 | 65.00 |
| *9276 | 87.50 |
| 9635 | Superseded by 1634 |
| 9775 | Superseded by 1775 |

| "ALMAG" Magnet Wire No. | List Price Per Lb. |
|---|---|
| PE-44 | 21.50 |
| PE-42 | 15.03 |
| PE-40 | 6.75 |
| PE-38 | 4.93 |
| PE-36 | 4.05 |
| PE-34 | 3.60 |
| PE-32 | 3.30 |
| PE-30 | 3.08 |
| PE-28 | 3.00 |
| PE-26 | 2.85 |
| PE-24 | 2.68 |
| PE-22 | 2.63 |
| PE-20 | 2.53 |
| PE-18 | 2.38 |
| PE-16 | 2.38 |
| PE-14 | 2.38 |
| PE-12 | 2.38 |
| PE-10 | 2.38 |
| HF-44 | 25.45 |
| HF-42 | 14.65 |
| HF-40 | 11.35 |
| HF-38 | 8.50 |
| HF-36 | 7.43 |
| HF-34 | 6.35 |
| HF-32 | 5.63 |
| HF-30 | 4.68 |
| HF-28 | 4.45 |
| HF-26 | 4.00 |
| HF-24 | 3.70 |
| HF-22 | 3.50 |
| HF-20 | 3.20 |
| HF-18 | 3.05 |
| HF-16 | 2.75 |
| HF-14 | 2.75 |
| HF-12 | 2.75 |
| HF-10 | 2.75 |

| Alphlex Plastic Tubing No. | List Price Per 1000 Ft. |
|---|---|
| PVC-105-24 | 24.00 |
| PVC-105-22 | 24.00 |
| PVC-105-20 | 24.50 |
| PVC-105-19 | 25.00 |
| PVC-105-18 | 25.25 |
| PVC-105-17 | 25.50 |
| PVC-105-16 | 26.75 |
| PVC-105-15 | 27.76 |
| PVC-105-14 | 28.76 |
| PVC-105-13 | 29.50 |
| PVC-105-12 | 31.50 |
| PVC-105-11 | 32.50 |
| PVC-105-10 | 34.50 |
| PVC-105- 9 | 42.76 |
| PVC-105- 8 | 44.26 |
| PVC-105- 7 | 46.76 |
| PVC-105- 6 | 52.26 |
| PVC-105- 5 | 57.00 |
| PVC-105- 4 | 62.52 |
| PVC-105- 3 | 68.00 |
| PVC-105- 2 | 74.00 |
| PVC-105- 1 | 80.52 |
| PVC-105-3/16" | 104.52 |
| PVC-105-0 | 87.52 |
| PVC-105-3/8" | 123.00 |
| PVC-105-7/16" | 139.00 |
| PVC-105-1/2" | 158.80 |
| PVC-105-9/16" | 207.00 |
| PVC-105-5/8" | 222.60 |
| PVC-105-3/4" | 302.60 |
| PVC-105-7/8" | 342.60 |
| PVC-105-1" | 390.00 |
| PVC-105-1 1/8" | 462.60 |
| PVC-105-1 1/4" | 542.60 |
| PVC-105-1 3/8" | 575.00 |
| PVC-105-1 1/2" | 705.00 |
| PVC-105-1 3/4" | 880.00 |
| PVC-105-2" | 1187.60 |
| PVC-105-2 1/4" | 1402.60 |
| PVC-105-2 1/2" | 1652.60 |

| Alphlex Plastic Fibergl. No. | List Price Per 1000 Ft. |
|---|---|
| PIF-130-24 | 70.63 |
| PIF-130-22 | 75.63 |
| PIF-130-20 | 77.13 |
| PIF-130-19 | 77.13 |
| PIF-130-18 | 79.25 |
| PIF-130-17 | 79.25 |
| PIF-130-16 | 82.13 |
| PIF-130-15 | 83.76 |
| PIF-130-14 | 86.26 |
| PIF-130-13 | 90.00 |
| PIF-130-12 | 92.50 |
| PIF-130-11 | 98.76 |
| PIF-130-10 | 105.00 |
| PIF-130- 9 | 110.00 |
| PIF-130- 8 | 116.26 |
| PIF-130- 7 | 122.50 |
| PIF-130- 6 | 132.50 |
| PIF-130- 5 | 146.00 |
| PIF-130- 4 | 157.52 |
| PIF-130- 3 | 176.20 |
| PIF-130- 2 | 200.00 |
| PIF-130- 1 | 227.52 |
| PIF-130-0 | 267.52 |
| PIF-130-3/8" | 333.72 |
| PIF-130-7/16" | 442.52 |
| PIF-130-1/2" | 587.50 |
| PIF-130-5/8" | 724.00 |
| PIF-130-3/4" | 887.60 |
| PIF-130-7/8" | 1092.60 |
| PIF-130-1" | 1309.00 |



*New Item

TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

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World Radio History

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# DELIVERY

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World Radio History

# Belden

# ELECTRONIC WIRES & CABLES

## microphone cables — plastic

All Belden Microphone Cables are exceptionally limp with long flex life, low capacitance, high tensile strength, and high resistance to abrasion.

For Hi-Fi installations, 8401 and 8411 are recommended as connector cords because of their low loss and low capacitance.

Plastic Microphone Cables, because of their non-marking jacket and lightness in weight, are excellent for use in audience participation programs.

Trade Number

### 8411

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
25 A.W.G.

3x33 copper & 4x33 steel stranded tinned conductor
Cellulose yarn braid
Polyethylene plastic insulation
Tinned copper braid shield
Chrome vinyl plastic jacket
.144″ Nom. Diam
Nom. Capacitance — 34 mmf/ft

For high impedance lapel microphones and high fidelity interconnecting cables.

### 8401

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
25 A.W.G.

3x33 copper & 4x33 steel stranded tinned conductor
Cellulose yarn braid
Polyethylene plastic insulation
Tinned copper braid shield
Chrome vinyl plastic jacket
.200″ Nom. Diam
Nom. Capacitance — 25 mmf/ft

For crystal, ribbon, and other high impedance microphones and high fidelity interconnecting cables.

### 8422

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
22 A.W.G.

16x34 stranded tinned copper conductor
Polyethylene plastic insulation
2 conductors cabled with fillers:
Black and White
Rayon braid
Tinned copper braid shield
Chrome vinyl plastic jacket
.231″ Nom. Diam
Nom. Capacitance — 32 mmf ft between one conductor and remaining conductor connected to shield

For all low impedance microphones.

## rubber

Rubber Microphone Cables have high resistance to abrasion and impact. They are limp and lie flat without kinking or looping. Recommended for all stage and studio use.

### 8410

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
25 A.W.G.

3x33 copper & 4x33 copper coated steel stranded tinned conductor
Cellulose yarn braid
Rubber insulation
Rayon braid
Tinned copper braid shield
Rayon wrap
Black rubber jacket
.245″ Nom. Diam
Nom. Capacitance — 33 mmf/ft

For crystal, ribbon, and other high impedance microphones.

### 8412

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
Rubber insulation
2 conductors cabled with fillers: Black and White
Rayon braid
Tinned copper braid shield
Cotton wrap
Black rubber jacket
.968″ Nom Diam
Nom. Capacitance — 68 mmf/ft between one conductor and remaining conductor connected to shield

For all low impedance microphones.

Trade Number

### 8414

50′ Spool
500′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
Rubber insulation
2 conductors cabled with fillers:
Black and White
Spiraled, stranded tinned copper drain wire
Conductive textile served shield
Black rubber jacket
.256″ Nom. Diam

For hand and desk type microphones where exceptional limpness is required.

### 8428

15′ Spool
25′ Spool
50′ Spool
100′ Spool
500′ Spool
18 A.W.G.

41x34 stranded tinned copper conductor
Cotton wrap
Rubber insulation
2 conductors cabled with fillers:
Black and White
Rayon braid
Tinned copper braid shield
Cotton wrap
Black rubber jacket
.295″ Nom Diam
Nom. Capacitance—80 mmf ft between one conductor and remaining conductor connected to shield

Heavy-duty studio cable.

### 8423

15′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
3 conductors cabled: Black, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
Black rubber jacket
.277″ Nom. Diam
Nom. Capacitance—85 mmf ft between one conductor and remaining conductors connected to shield

For all low impedance microphones.

### 8424

15′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
4 conductors cabled: Black, Green, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
Black rubber jacket
.295″ Nom. Diam
Nom. Capacitance—95 mmf ft between one conductor and remaining conductors connected to shield

For all low impedance microphones.

### 8425

15′ Spool
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
5 conductors cabled: Black, Blue, Green, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.323″ Nom. Diam

Interconnecting power cable for all electronic uses.

### 8426

15′ Spool
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
6 conductors cabled: Black, Blue, Brown, Green, Red, White
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.319″ Nom. Diam

Interconnecting power cable for all electronic uses.

### RUBBER PARALLEL CORD

### 8462

100′ Spool
18 A.W.G.

41x34 stranded bare copper conductor
Cotton wrap
2 conductors parallel
Brown rubber insulation and jacket integral
.123″x.223″ Nom. Diam

Underwriters' Type SP-1



(See Price List on Pages S-1250-1251)

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World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## multiple conductor cables

## rubber-jacketed portable cord

For other U.L. approved portable cord see Belden Catalog on Portable Cords.

**8478**

25′ Spool
50′ Spool
100′ Spool
250′ Spool
1000′ Spool
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/32″ rubber insulation
2 conductors cabled with fillers: Black and White
Cotton wrap
1/32″ Black rubber jacket
.299″ Nom. Diam

Underwriters' Type SJ

**8472**

25′ Spool
50′ Spool
100′ Spool
250′ Spool
16 A.W.G.
65x34 stranded bare copper conductor
Cotton wrap
1/32″ rubber insulation
2 conductors cabled with fillers: Black and White
Cotton wrap
1/32″ Black rubber jacket
.325″ Nom. Diam

Underwriters' Type SJ

**8452**

15′ Spool
25′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
2 conductors cabled with fillers: Black and White
Cotton wrap
1/32″ Black rubber jacket
.245″ Nom. Diam

Underwriters' Type SV

**8453**

15′ Spool
50′ Spool
100′ Spool
500′ Spool
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
3 conductors cabled with fillers: Black, Green, White
Cotton wrap
1/32″ Black rubber jacket
.265″ Nom. Diam

**8454**

15′ Spool
50′ Spool
100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
4 conductors cabled: Black, Brown, Red, White
Cotton wrap
1/32″ Black rubber jacket
.265″ Nom. Diam

**8455**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
22 A.W.G.
16x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
18 A.W.G.
41x34 stranded bare copper conductor
Cotton wrap
1/64″ rubber insulation
5 conducters cabled with fillers:
3—22 A.W.G.: Brown, Green, White
2—18 A.W.G.: Black, Red
Cotton wrap
1/32″ Black rubber jacket
.280″ Nom. Diam

Trade Number

Belden shielded and unshielded multiple conductor cables provide dependable service as power supply cords, interconnecting cables on electronic equipment, remote control circuits, special press-to-talk microphone circuits, and a multitude of electronic applications. These cables are designed for long service life, excellent mechanical and electrical characteristics, and uniform quality. Special black rubber jacket has excellent resistance to abrasion and ozone.

## rubber-jacketed shielded cable

Trade Number

**8427**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
7 conductors cabled: Black, Blue, Brown, Green, Red, White, Yellow
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.360″ Nom. Diam

Interconnecting power cable for all electronic uses.

**8418**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
Cotton wrap
.020″ rubber insulation
8 conductors cabled with fillers: Black, Blue, Brown, Green, Orange, Red, White, Yellow
Rayon braid
Tinned copper braid shield
Cotton wrap
.040″ Black rubber jacket
.386″ Nom. Diam

Interconnecting power cable for all electronic uses.

## shielded — plastic jacket (oil and ozone-proof)

***8403**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
.013″ polyethylene insulation
3 conductors cabled: Black, Red, White
Rayon braid
Tinned copper braid shield
Chrome vinyl plastic jacket
.247″ Nom. Diam

For low impedance microphones.

* New item.

***8404**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
.013″ polyethylene insulation
4 conductors cabled: Black, Green, Red, White
Rayon braid
Tinned copper braid shield
Chrome vinyl plastic jacket
.250″ Nom. Diam

For low impedance microphones and strain gauges.

***8405**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

26x34 stranded tinned copper conductor
.013″ polyethylene insulation
5 conductors cabled with fillers: Black, Blue, Green, Red, White
Rayon braid
Tinned copper braid shield
Chrome vinyl plastic jacket
.275″ Nom. Diam

For strain gauges and interconnecting cable.

## intercommunicating and sound system cables

### unshielded

Belden Intercom Cables are outstanding in their performance and dependability. Designed for maximum efficiency, performance, and ease of installation.

Special approved vinyl compounds assure high insulation resistance and best electrical and physical properties. Precision short lay cabling maintains conductor balance, providing quiet circuit free from crosstalk. The outer, free stripping chrome vinyl jacket is waterproof, weather resistant, and is ideal for all types of industrial, home, and office installations. Quick termination, positive color coding, and small diameter effect economies in any installation.

Trade Number

**8740**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.015″ vinyl plastic insulation
1 pair cabled (2 conductors)
Color coded: 1 (See listing Page S-1236)
.020″ tubed chrome vinyl plastic jacket
.140″ Nom. Diam

**8741**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.015″ vinyl plastic insulation
2 pair cabled (4 conductors)
Color coded: 1 through 2 (See listing Pg. S-1236)
.023″ tubed chrome vinyl plastic jacket
.191″ Nom. Diam

**8742**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.015″ vinyl plastic insulation
3 pair cabled (6 conductors)
Color coded: 1 through 3 (See listing Pg. S-1236)
.023″ tubed chrome vinyl plastic jacket
.226″ Nom. Diam

**8743**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
Tinned copper conductor, solid
.010″ vinyl plastic insulation
6 pair cabled (12 conductors)
Color coded: 1 through 6 (See listing Pg. S-1236)
.023″ tubed chrome vinyl plastic jacket
.281″ Nom. Diam

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(See Price List on Pages S-1250-1251)



World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## intercommunicating and sound system cables unshielded

Trade Number

**8744**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

Tinned copper conductor, solid
.010″ vinyl plastic insulation
9 pair cabled
(18 conductors)
Color coded:
1 through 9 (See listing)
.025″ tubed chrome vinyl plastic jacket
.330″ Nom. Diam

**8753**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

Tinned copper conductor, solid
.010″ vinyl plastic insulation
11 pair cabled
(22 conductors)
Color coded:
1 through 11 (See listing)
.030″ tubed chrome vinyl plastic jacket
.370″ Nom. Diam

**8745**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

Tinned copper conductor, solid
.010″ vinyl plastic insulation
15 pair cabled
(30 conductors)
Color coded:
1 through 15 (See listing)
.030″ tubed chrome vinyl plastic jacket
.400″ Nom. Diam

**8746**

PUT-UP:
To Customers' Specified Length
Max. Length 1500 ft.
22 A.W.G.

Tinned copper conductor, solid
.010″ vinyl plastic insulation
27 pair cabled
(54 conductors)
Color coded:
1 through 27 (See listing)
.030″ tubed chrome vinyl plastic jacket
.520″ Nom. Diam

**8747**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
6 pair cabled
(12 conductors)
Color coded:
1 through 6 (See listing)
.023″ tubed chrome vinyl plastic jacket
.316″ Nom. Diam

**8748**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
9 pair cabled
(18 conductors)
Color coded:
1 through 9 (See listing)
.025″ tubed chrome vinyl plastic jacket
.365″ Nom. Diam

### unshielded

Trade Number

**8749**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.
7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
15 pair cabled
(30 conductors)
Color coded:
1 through 15 (See listing)
.030″ tubed chrome vinyl plastic jacket
.470″ Nom. Diam

**8750**

PUT-UP:
To Customers' Specified Length
Max. Length 1500 ft.
22 A.W.G.
7x30 stranded tinned copper conductor
.010″ vinyl plastic insulation
27 pair cabled
(54 conductors)
Color coded:
1 through 27 (See listing)
.030″ tubed chrome vinyl plastic jacket
.565″ Nom. Diam.

The stranded versions of Belden Intercom Cables have the same outstanding features, but because of their flexibility are easier to pull through a conduit having more than the usual number of bends.

### PAIRED INTERCOM CABLES COLOR CODE LISTING

Belden Intercom Cables are color coded for easy identification. In the description of Intercom Cables, color coding of the pairs is identified by the number shown in the following list:

| Pair Number | Color Combination |
|---|---|
| 1 | Black paired with Red |
| 2 | Black paired with White |
| 3 | Black paired with Green |
| 4 | Black paired with Blue |
| 5 | Black paired with Brown |
| 6 | Black paired with Yellow |
| 7 | Black paired with Orange |
| 8 | Red paired with Green |
| 9 | Red paired with White |
| 10 | Red paired with Blue |
| 11 | Red paired with Yellow |
| 12 | Red paired with Brown |
| 13 | Red paired with Orange |
| 14 | Green paired with Blue |
| 15 | Green paired with White |
| 16 | Green paired with Brown |
| 17 | Green paired with Orange |
| 18 | Green paired with Yellow |
| 19 | White paired with Blue |
| 20 | White paired with Brown |
| 21 | White paired with Orange |
| 22 | White paired with Yellow |
| 23 | Blue paired with Brown |
| 24 | Blue paired with Orange |
| 25 | Blue paired with Yellow |
| 26 | Brown paired with Orange |
| 27 | Brown paired with Yellow |

### shielded

**8734**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.015″ vinyl plastic insulation
3 conductors cabled:
Black, Red, White
White conductor, tinned copper braid shield
Black & Red conductors, unshielded
.023″ tubed chrome vinyl plastic jacket
.190″ Nom. Diam
For Station-to-station and Extension Wiring (Shielded)

**8735**

15′ Spool
50′ Spool
100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.015″ vinyl plastic insulation
3 conductors cabled:
Black, Red, White
Tinned copper braid shield
.023″ tubed chrome vinyl plastic jacket
.195″ Nom. Diam

### shielded

The vinyl plastic jacket of Belden Inter-communication System Cables is tubed for greater flexibility and fast, easy stripping.

Trade Number

**8737**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
.023″ tubed chrome vinyl plastic jacket
.166″ Nom. Diam

**8758**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

7x28 stranded tinned copper conductor
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper braid shield
.165″ Nom. Diam

**8759**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

7x28 stranded tinned copper conductor
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
.020″ tubed chrome vinyl plastic jacket
.185″ Nom. Diam

**8738**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

Tinned copper conductor, solid
.015″ vinyl plastic insulation
2 conductors cabled:
Black and Red
Tinned copper braid shield
.130″ Nom. Diam



(See Price List on Pages S-1250-1251)

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World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## intercommunicating and sound system cables

### shielded

### plastic-insulated cable

| Trade Number | 8739 | 8732 | 8443 | 8444 | 8445 |
|---|---|---|---|---|---|
| | 100 Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 25′ Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 25′ Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 25′ Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. |
| | Tinned copper conductor, solid<br>.015″ vinyl plastic insulation<br>2 conductors cabled: Black and Red<br>Tinned copper spiral wrapped shield<br>.023″ tubed chrome vinyl plastic jacket<br>.156″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.015″ polyethylene insulation<br>2 pair cabled: (4 conductors)<br>Color coded: Black and White<br>One pair tinned copper braid shield<br>One pair unshielded<br>.023″ tubed chrome vinyl plastic jacket<br>.174″x.282″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>3 conductors cabled: Black, Green, Red<br>.023″ tubed chrome vinyl plastic jacket<br>.146″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>4 conductors cabled: Black, Green, Red, White<br>.023″ tubed chrome vinyl plastic jacket<br>.164″ Nom. Diam. | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>5 conductors cabled: Black, Brown, Green, Red, White<br>.023″ tubed chrome vinyl plastic jacket<br>.176″ Nom. Diam |

Single conductors cabled, waterproof, weather resistant, outer chrome vinyl jacket. Flexible, lightweight and small in diameter for use in control annunciator and communication circuits.

### plastic-insulated cable

| Trade Number | 8446 | 8447 | 8448 | 8449 |
|---|---|---|---|---|
| | 15 Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 15 Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 15′ Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 15′ Spool<br>100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. |
| | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>18 A.W.G.<br>16x30 stranded tinned copper conductor<br>.018″ vinyl plastic insulation<br>6 conductors cabled:<br>4 — 22 A.W.G.: Brown, Blue, Green, White<br>2 — 18 A.W.G.: Black, Red<br>.023″ tubed chrome vinyl plastic jacket<br>.218″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>18 A.W.G.<br>16x30 stranded tinned copper conductor<br>.018″ vinyl plastic insulation<br>7 conductors cabled:<br>5 — 22 A.W.G.: Blue, Brown, Green, Orange, White<br>2 — 18 A.W.G.: Black, Red<br>.023″ tubed chrome vinyl plastic jacket<br>.236″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>18 A.W.G.<br>16x30 stranded tinned copper conductor<br>.018″ vinyl plastic insulation<br>8 conductors cabled:<br>6 — 22 A.W.G.: Blue, Brown, Green, Orange, White, Yellow<br>2 — 18 A.W.G.: Black, Red<br>.023″ tubed chrome vinyl plastic jacket<br>.241″ Nom. Diam | 7x30 stranded tinned copper conductor<br>.010″ vinyl plastic insulation<br>18 A.W.G.<br>16x30 stranded tinned copper conductor<br>.018″ vinyl plastic insulation<br>9 conductors cabled:<br>7 — 22 A.W.G.: Blue, Brown, Green, Orange, Purple, White, Yellow<br>2 — 18 A.W.G.: Black, Red<br>.023″ tubed chrome vinyl plastic jacket<br>.251″ Nom. Diam |

## p. a. and sound system cables

| Trade Number | 8789 | *8779 | 8790 | *8780 | 8791 |
|---|---|---|---|---|---|
| | 100′ Spool<br>500 Spool<br>1000 Spool<br>18 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>16 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>18 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>16 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>18 A.W.G. |
| | 7x26 stranded tinned copper conductor<br>.020″ vinyl plastic insulation<br>2 conductors cabled: Black and White<br>Tinned copper braid shield<br>.205″ Nom. Diam | 19x29 stranded tinned copper conductor<br>.023″ vinyl plastic insulation<br>2 conductors cabled: Black and White<br>Tinned copper braid shield<br>.225″ Nom. Diam<br>For HiPower, low loss extension speaker lines. | 7x26 stranded tinned copper conductor<br>.020″ vinyl plastic insulation<br>2 conductors cabled: Red and White<br>Tinned copper spiral wrapped shield<br>.025″ tubed chrome vinyl plastic jacket<br>.225″ Nom. Diam<br>For public address and intercommunicating systems in schools, hospitals, and institutions. | 19x29 stranded tinned copper conductor<br>.023″ vinyl plastic insulation<br>2 conductors cabled: Black and White<br>Tinned copper spiral wrapped shield<br>.025″ tubed chrome vinyl plastic jacket<br>.236″ Nom. Diam<br>For HiPower, low loss extension speaker lines. | 7x26 stranded tinned copper conductor<br>.020″ vinyl plastic insulation<br>3 conductors cabled: Black, Red, White<br>Tinned copper spiral wrapped shield<br>.025″ tubed chrome vinyl plastic jacket<br>.230″ Nom. Diam |

* New item

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(See Price List on Pages S-1250-1251)



World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## p. a. and sound system cables

A cable for every service. Designed for maximum dependability, long service life, and freedom from maintenance. A choice of either copper braid or copper wrap shields for maximum shielding. Designed for P. A. system installations in schools, public buildings, churches, and wherever a cable of uniform quality and outstanding service life is required.

Trade Number

**8762**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

7x28 tinned stranded copper conductor
.014″ polyethylene plastic insulation
2 conductors cabled:
Black and White
Spiral wrapped aluminum foil shield
7x28 tinned stranded copper drain wire parallel to twisted pair under shield
.025″ tubed chrome vinyl plastic jacket
.166″ Nom. Diam

For public address and intercommunicating systems in schools, hospitals, and institutions.

**8209**

15′ Spool
50′ Spool
100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

16x30 stranded tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
Paper wrap
Tinned copper braid shield
White cotton braid treated with weather-resistant compound
.258″ Nom. Diam

For long runs in extension speaker installations.

**8208**

15′ Spool
50′ Spool
100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

16x30 stranded tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
Paper wrap
Tinned copper braid shield
.020″ tubed chrome vinyl plastic jacket
.260″ Nom. Diam

For extension speakers.

**8799**

100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

Bare copper conductor, solid
Enameled
Cotton wrap
Cotton braid waxed
2 conductors cabled:
Black and White
Tinned copper braid shield
.165″ Nom. Diam

P.A. Cable Amplifier to Speaker and Broadcast Control Cable.

**8206**

15′ Spool
50′ Spool
100′ Spool
250′ Spool
18 A.W.G.

7x27 stranded tinned copper conductor
.040″ rubber insulation
Tinned copper braid shield
.155″ Nom. Diam

Shielded connector cable.

Trade Number

**8432**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

10x30 stranded tinned copper conductor
.015″ rubber insulation
Cotton braid
Lacquer coating
2 conductors cabled:
Black and Red
Tinned copper braid shield
.225″ Nom. Diam

**8433**

100′ Spool
500′ Spool
20 A.W.G.

10x30 stranded tinned copper conductor
.015″ rubber insulation
Cotton braid
Lacquer coating
3 conductors cabled:
Black, Red, Yellow
Tinned copper braid shield
.250″ Nom. Diam

**8204**

25′ Spool
100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

16x30 stranded tinned copper conductor
Low-loss rubber insulation
2 conductors cabled:
Red and White
White cotton braid treated with weather-resistant compound
.220″ Nom. Diam

For extension speakers.

**8205**

25′ Spool
100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

7x30 stranded tinned copper conductor
Rubber insulation
2 conductors cabled:
Black and Red
Black cotton braid treated with weather-resistant compound
.165″ Nom. Diam

For extension speaker and control circuits.

***8460**

100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

7x26 stranded tinned copper conductor
.020″ vinyl plastic insulation
2 conductors cabled:
Black and White
.175″ Nom. Diam

For extension speaker lines.

Trade Number

***8461**

100′ Spool
500′ Spool
1000′ Spool
18 A.W.G.

7x26 stranded tinned copper conductor
.020″ vinyl plastic insulation
2 conductors cabled:
Black and White
.025″ tubed chrome vinyl plastic jacket
.195″ Nom. Diam

For extension speaker lines.

***8470**

100′ Spool
500′ Spool
1000′ Spool
16 A.W.G.

19x29 stranded tinned copper conductor
.023″ vinyl plastic insulation
2 conductors cabled:
Black and White
.195″ Nom. Diam

For HiPower, low loss extension speaker lines.

***8471**

100′ Spool
500′ Spool
1000′ Spool
16 A.W.G.

19x29 stranded tinned copper conductor
.023″ vinyl plastic insulation
2 conductors cabled:
Black and White
.025″ tubed chrome vinyl plastic jacket
.246″ Nom. Diam

For HiPower, low loss extension speaker lines.

**8486**

1000′ Spool
19 A.W.G.

Bare copper conductor, solid
.015″ vinyl plastic insulation
2 conductors cabled:
Brown and Tan
.025″ tubed chrome vinyl plastic jacket
.162″ Nom. Diam

**8482**

1000′ Spool
19 A.W.G.

Bare copper conductor, solid
.015″ vinyl plastic insulation
2 conductors cabled:
Brown and Tan
.115″ Nom. Diam

* New item.



(See Price List on Pages S-1250-1251)

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World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## p. a. and sound system cables

A cable for every service. Designed for maximum dependability, long service life, and freedom from maintenance. A choice of either copper braid or copper wrap shields for maximum shielding. Designed for P. A. system installations in schools, public buildings, churches, and wherever a cable of uniform quality and outstanding service life is required.

Trade Number

**8492**

1000 Spool
19 A.W.G

Bare copper conductor, solid
.025" vinyl plastic insulation
2 conductors cabled:
One conductor tinned for polarity
.150" Nom. Diam
Colors: Brown or White (both conductors same color)

For sound and alarm systems and speaker extensions.

**8493**

1000' Spool
19 A.W.G.

Bare copper conductor, solid
.025" vinyl plastic insulation
3 conductors cabled:
Polarity Coding: One conductor tinned, second conductor ridge on insulation and third conductor plain
.170" Nom. Diam
Colors: Brown or White (all 3 conductors same color)

For sound and alarm systems and speaker extensions.

**8483**

1000' Spool
19 A.W.G.

Bare copper conductor, solid
.015" vinyl plastic insulation
3 conductors cabled:
Brown, Gray, Tan
.132" Nom. Diam

**8487**

1000' Spool
19 A.W.G.

Bare copper conductor, solid
.015" vinyl plastic insulation
3 conductors cabled:
Brown, Gray, Tan
.023" tubed chrome vinyl plastic jacket
.176" Nom. Diam

For sound system and speaker extensions.

Trade Number

**3792**

500 Spool
1000 Spool
24 A.W.G.

7x32 stranded—1 bare copper conductor and 1 tinned copper conductor
2 conductors parallel
Chrome vinyl plastic insulation
.058" x .115" Nom. Diam

Juke Box Speaker Cable.

**8783**

500' Spool
20 A.W.G.

10x30 stranded tinned copper conductor
.020" vinyl plastic insulation
16 A.W.G.
26x30 stranded tinned copper conductor
.020" vinyl plastic insulation
3 conductors cabled:
1 — 20 A.W.G.: Blue
2 — 16 A.W.G.: Green, Orange
.020" tubed chrome vinyl plastic jacket
.240" Nom. Diam

Juke Box Control Cable.

**8785**

500' Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.015" vinyl plastic insulation
5 conductors cabled:
3 conductors: Black, Green, Red, with over-all tinned copper braid shield
2 conductors: Blue and Yellow twisted pair, unshielded
.020" tubed chrome vinyl plastic jacket
.195"x.300" Nom. Diam

Juke Box Control Cable.

**8786**

500' Spool
22 A.W.G.

7x30 stranded tinned copper conductor
.015" vinyl plastic insulation
2 conductors: Blue and White twisted pair
24 A.W.G.
7x32 stranded tinned copper conductor
.015" vinyl plastic insulation
4 conductors: Black, Green, Red, Yellow, with over-all tinned copper braid shield
.020" tubed chrome vinyl plastic jacket
.195"x.300" Nom. Diam
Type MRVC2 cable for "200" record players.

## broadcast audio cables

Trade Number

**8437**

100' Spool
500' Spool
1000 Spool
22 A.W.G.

Tinned copper conductor, solid
Enameled
Heavy cellulose acetate yarn wrap
Cotton braid waxed
2 conductors cabled:
Black and Red
Tinned copper braid shield
22 A.W.G. tinned solid copper wire parallel to twisted pair under shield
.025" tubed black vinyl plastic jacket
.222" Nom Diam

NBC TYPE

**8435**

100' Spool
500' Spool
1000' Spool
20 A.W.G.

Tinned copper conductor, solid
Enameled
Cotton wrap
Cotton braid waxed
2 conductors cabled:
Blue and Red
Tinned copper braid shield
Cotton wrap
.025" tubed black plastic jacket
.208" Nom. Diam

ABC TYPE

**8436**

100' Spool
500' Spool
1000' Spool
22 A.W.G.

Tinned copper conductor, solid
Heavy cellulose acetate yarn wrap
Cellulose acetate yarn braid
Lacquer coating
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
22 A.W.G. tinned solid copper wire parallel to twisted pair under shield
.020" tubed black plastic jacket
.180" Nom. Diam

Belden Broadcast Audio Cables are designed to meet the most exacting requirements of the industry for trouble-free, dependable service. High insulation resistance, precision cabling of the conductors, and a high percentage of shielding assure a low noise circuit, free from crosstalk. Spiral wrap copper shield plus drain wire plus shield isolation eliminate current loops so often found troublesome in this service.

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(See Price List on Pages S-1250-1251)



World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## broadcast audio cables

NBC TYPE

**8438**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

Tinned copper conductor, solid
Enameled
Cotton wrap
Cotton braid waxed
2 conductors cabled:
Blue and Red
Tinned copper braid shield
.140″ Nom. Diam

ABC TYPE

**8439**

100′ Spool
500′ Spool
1000′ Spool
20 A.W.G.

Tinned copper conductor, solid
Heavy cellulose acetate yarn wrap
Cellulose acetate yarn braid
Lacquer coating
2 conductors cabled:
Black and Red
Tinned copper braid shield
.150″ Nom. Diam

**8440**

100′ Spool
500′ Spool
1000′ Spool
22 A.W.G.

Tinned copper conductor, solid
Enameled
Cotton wrap
Cotton braid waxed
2 conductors cabled:
Black and Red
Tinned copper spiral wrapped shield
22 A.W.G. tinned solid copper wire parallel to twisted pair under shield
.020″ tubed chrome vinyl plastic jacket
.185″ Nom. Diam

Trade Number

Free stripping jackets and fast shield termination reduce installation time and costs to a minimum.

**SOLID ALUMINUM TV GROUNDING WIRE**

***10-50 ft. coils per display**

**8018**

50′ Coils in counter dispenser
500′ Spool
1000′ Spool

8 A.W.G.

Aluminum wire, soft annealed
.128″ Nom. Diam
*10-50 ft. coils in counter dispenser. Coils are connected and may be cut for any 50 ft. multiple — up to 500 ft.

500′ and 1000′ spools are marked at 100′ intervals for easy measuring.

## transmission line cables

**8230 (WELDOHM®)**

50′ Pancake Coils
75′ Pancake Coils
100′ Pancake Coils
500′ Spool
1000′ Spool
20 A.W.G.

7x28 stranded "Weldohm®" annealed copper coated steel wire
2 conductors parallel
Brown polyethylene plastic insulation
.072″x.400″ Nom. Diam
Nom. Attenuation —
1.1 db/100 ft at 100 mc
1.7 db/100 ft at 200 mc
2.2 db/100 ft at 300 mc
2.7 db/100 ft at 400 mc
Nom. Impedance — 300 ohms
Nom. Velocity of propagation — 80%
Nom. Capacitance — 4.4 mmf/ft
Greater service life in TV installations requiring long runs from receiving antennas. Has over 2½ times the flex-life and over 1½ times the breaking strength of the equivalent in copper.

**8225**

50′ Pancake Coils
75′ Pancake Coils
100′ Pancake Coils
500′ Spool
1000′ Spool
20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.058″x.400″ Nom. Diam
Nom. Attenuation —
1.1 db/100 ft at 100 mc
1.7 db/100 ft at 200 mc
2.2 db/100 ft at 300 mc
2.7 db/100 ft at 400 mc
Nom. Impedance — 300 ohms
Nom. Velocity of propagation — 80%
Nom. Capacitance — 4.4 mmf/ft

For use with television and FM receiving antennas. Especially low losses at high frequencies.

**8222**

100′ Spool
500′ Spool
20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.075″x.128″ Nom. Diam
Nom. Attenuation —
7.7 db/100 ft at 100 mc
11.0 db/100 ft at 200 mc
13.6 db/100 ft at 300 mc
15.9 db/100 ft at 400 mc
Nom. Impedance — 72 ohms
Nom. Velocity of propagation — 69%
Nom. Capacitance — 20.3 mmf/ft

For use with receiving antennas at high frequencies.

Trade Number

**8224**

100′ Spool
500′ Spool
20 A.W.G.

7x28 stranded bare copper conductor
2 conductors parallel
Brown polyethylene plastic insulation
.075″x.182″ Nom. Diam
Nom. Attenuation —
2.8 db/100 ft at 100 mc
4.2 db/100 ft at 200 mc
5.4 db/100 ft at 300 mc
6.4 db/100 ft at 400 mc
Nom. Impedance — 150 ohms
Nom. Velocity of propagation — 76%
Nom. Capacitance — 9.0 mmf/ft

For use with receiving antenna, matching transformer, and experimental applications at high frequencies.

**8235**

100′ Spool
500′ Spool
20 A.W.G.

7x28 stranded "Weldohm®" copper coated steel wire
2 conductors parallel
Brown polyethylene plastic insulation
.185″x.520″ Nom. Diam
Nom. Attenuation —
1.1 db/100 ft at 100 mc
1.73 db/100 ft at 200 mc
2.28 db/100 ft at 300 mc
2.74 db/100 ft at 400 mc
3.18 db/100 ft at 500 mc
3.7 db/100 ft at 700 mc
4.5 db/100 ft at 900 mc
Nom. Impedance — 300 ohms
Nom. Velocity of propagation — 77%
Nom. Capacitance — 5.0 mmf/ft
Greater service life in TV installations requiring long runs from receiving antennas. Has over 2½ times the flex-life and over 1½ times the breaking strength of the equivalent in copper.

**8275 (CELLULINE®)**
Pat. No. 2,814,666

50′ Coils in counter dispenser
75′ Coils in counter dispenser
100′ Coils in counter dispenser
500′ Spool
1000′ Spool
20 A.W.G.

7x28 stranded "Weldohm®" annealed copper coated steel wire
2 conductors parallel
Brown polyethylene plastic jacket with inert gas filled unicellular polyethylene core
.300″ Nom. Diam round
.356″ Nom. Diam over conductor insulation
Nom. Attenuation —
1.05 db/100 ft at 100 mc
2.12 db/100 ft at 300 mc
2.9 db/100 ft at 500 mc
3.62 db/100 ft at 700 mc
4.3 db/100 ft at 900 mc
Nom. Impedance — 300 ohms
Nom. Velocity of propagation — 80%
Nom. Capacitance — 4.6 mmf/ft

**8227**

100′ Spool
250′ Spool
500′ Spool
20 A.W.G.

7x28 stranded — 1 bare — 1 tinned copper conductor
Polyethylene plastic insulation
2 conductors cabled:
Polyethylene plastic jacket
Tinned copper braid shield
Black vinyl plastic jacket
.325″ Nom. Diam
Nom. Attenuation —
4.1 db/100 ft at 100 mc
6.4 db/100 ft at 200 mc
8.4 db/100 ft at 300 mc
10.2 db/100 ft at 400 mc
Nom. Impedance — 100 ohms
Nom. Velocity of propagation — 62%
Nom. Capacitance — 15.5 mmf/ft between conductors

For use with television and FM antenna in extremely noisy locations.



(See Price List on Pages S-1250-1251)

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World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## transmission line cables

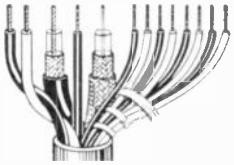
### 75 OHM VIDEO CABLE

For video signal transmission in color and monochrome TV studio applications;

Trade Number *8281

100' Spool
500' Spool
1000' Spool
20 A.W.G.
Bare copper conductor (solid)
Polyethylene plastic insulation.
Tinned copper double braid shield
Polyethylene jacket
.310" Nom. Diam
Nom. Attenuation —
.55 db/100 ft at 7 mc
.8 db/100 ft at 10 mc
1.3 db/100 ft at 20 mc
2.7 db/100 ft at 100 mc
5.1 db/100 ft at 300 mc
6.8 db/100 ft at 500 mc
8.1 db/100 ft at 700 mc
Nom. Impedance — 75 ohms
Nom. Capacitance — 20.7 mmf/ft
Nom. Velocity of propagation — 65.2
This cable provides a high quality carrier of video signal with superior picture definition and eliminates problems of periodicity. Cable is manufactured with rigid control of concentricity and all dimensional tolerances. Center conductor is maintained at same distance from shield through the entire length of cable. 100% Sweep tested.
* New item

### TV EYE CABLE

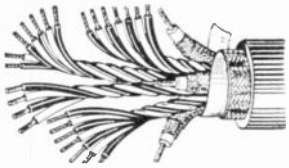


8282

50' Spool
100' Spool
500' Spool
13 conductor TV eye cable

9 Conductors:
22 A.W.G.
7x30 tinned stranded copper conductor
.010" vinyl plastic insulation
Black, Blue, Brown, Green, Orange, Purple, Red, White, Yellow
2 conductors:
18 A.W.G.
16x30 tinned stranded copper conductor
.018" vinyl plastic insulation
2 conductors paired
Black and Red
1 conductor:
RG-58A/U cable (Belden 8259)
1 conductor:
RG-59/U type cable
.040" tubed gray vinyl plastic jacket
.470" Nom. Diam

### TV CAMERA CABLE



8280

PUT-UP:
To customers' specified length. Lengths to 100 feet in coils. 101 Feet to 700 feet on spools. Maximum length 700 feet.

4 Conductors: 18 A.W.G. flexible plastic insulated wires. Color coded: Orange, Blue, Brown, Green.
21 Conductors: 22 A.W.G. flexible plastic insulated wires. Cabled in 3 groups of 7 wires each. Each group color coded.

| (1) | (2) | (3) |
|---|---|---|
| White | White with Black Stripe | White with Red Stripe |
| Black | Black | Black |
| Red | Red | Red |
| Yellow | Yellow | Yellow |
| Green | Green | Green |
| Blue | Blue | Blue |
| Brown | Brown | Brown |

3—Coaxial Cables—Nom. Impedance 51 ohms
Color coded: Black, White, Red
Paper separator
Tinned copper braid shield
Chrome vinyl plastic jacket
.750" Nom. Diam
May be used where RCA cable specification A-8831733 is indicated.

## antenna rotor cables

Trade Number 8464

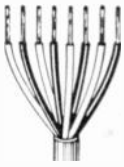
75' Pancake Coils
100' Pancake Coils
500' Spool
1000' Spool
20 A.W.G.
7x28 stranded bare copper conductor
4 conductors parallel
Gray vinyl plastic insulation
One outer conductor tinned for polarity
.070" x .390" Nom. Diam

8484

100' Spool
500' Spool
1000' Spool
20 A.W.G.
7x28 stranded bare copper conductor
.010" vinyl plastic insulation
4 conductors parallel:
Black, Green, Red, and White
.015" tubed chrome vinyl plastic jacket
.170" Nom. Diam

8485

100' Spool
500' Spool
1000' Spool
20 A.W.G.
7x28 stranded bare copper conductor
.010" vinyl plastic insulation
5 conductors parallel:
Black, Green, Red, White, and Yellow
.015" tubed chrome vinyl plastic jacket
.180" Nom. Diam



8488

100' Spool
500' Spool
1000' Spool
22 A.W.G.
7x30 stranded bare copper conductor
.010" vinyl plastic insulation
8 conductors cabled:
Black, Blue, Brown, Green, Orange, Red, White, and Yellow
.020" tubed chrome vinyl plastic jacket
.205" Nom. Diam

### INDOOR AERIAL WIRE (Extra Flexible)

Trade Number 8014

25' Spool
500' Spool
25 A.W.G
13x36 stranded tinned copper conductor
.010" chrome vinyl plastic insulation
.044" Nom. Diam

### STRANDED BARE COPPER AERIAL WIRE

Trade Number 8000

50' Coil
75' Coil
100' Coil
1000' Spool
14 A.W.G.
7x22 stranded bare copper conductor
.076" Nom. Diam

8002

50' Coil
75' Coil
100' Coil
1000' Spool
16 A.W.G.
7x24 stranded bare copper conductor
.060" Nom. Diam

### SOLID FORMVAR (HF) AERIAL WIRE

Trade Number 8008

100' Spool
200' Spool
500' Spool
12 A.W.G.
(HF) Formvar
.084" Nom. Diam

8009

100' Spool
500' Spool
14 A.W.G.
(HF) Formvar
.067" Nom. Diam

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(See Price List on Pages S-1250-1251)



World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## community tv antenna system cables

Belden Community TV Antenna System Cables are designed for lowest losses, longer service life, and maximum dependability.

Quality controlled through every step of manufacturing. No variation from shipment to shipment. The cables are essentially flat with no peaks in attenuation to reduce the signal on either the high or low television channels.

Sweep testing — 8232 and 8233 are 100% sweep tested — other coaxial cables sweep tested upon request.

| | TAP-OFF LEAD-IN RG-59/U | TAP-OFF LEAD-IN (Double Shielded) | SECONDARY LEAD RG-11/U | SECONDARY LEAD (Double Shielded) |
|---|---|---|---|---|
| | | | | |
| Trade Number | 8241 | 8232 | 8238 | 8233 |
| | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>22 A.W.G. | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>1500′ Spool<br>18 A.W.G. | 500′ Spool<br>1000′ Spool<br>1500′ Spool<br>18 A.W.G. |
| | Bare "Copperweld" conductor, solid<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.242″ Nom. Diam<br>Nom. Attenuation —<br>2.70 db/100 ft at 50 mc<br>3.75 db/100 ft at 100 mc<br>5.60 db/100 ft at 200 mc<br>7.10 db/100 ft at 300 mc<br>Nom. Impedance — 73 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance — 21.0 mmf/ft | Bare "Copperweld" conductor, solid<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Polyethylene plastic jacket<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.315″ Nom. Diam<br>Nom. Attenuation —<br>2.70 db/100 ft at 50 mc<br>3.75 db/100 ft at 100 mc<br>5.60 db/100 ft at 200 mc<br>7.10 db/100 ft at 300 mc<br>Nom. Impedance — 73 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance — 21.0 mmf/ft<br>Recommended as alternate for RG-59/U to minimize Line Radiation. | 7x26 stranded tinned copper conductor<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.405″ Nom. Diam<br>Nom. Attenuation —<br>1.30 db/100 ft at 50 mc<br>1.90 db/100 ft at 100 mc<br>2.85 db/100 ft at 200 mc<br>3.65 db/100 ft at 300 mc<br>Nom. Impedance — 75 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance — 20.5 mmf/ft | 7x26 stranded tinned copper conductor<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Polyethylene plastic jacket<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.470″ Nom. Diam<br>Nom. Attenuation —<br>1.30 db/100 ft at 50 mc<br>1.90 db/100 ft at 100 mc<br>2.85 db/100 ft at 200 mc<br>3.65 db/100 ft at 300 mc<br>Nom. Impedance — 75 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance — 20.5 mmf/ft<br>Recommended as alternate for RG-11/U to minimize Line Radiation. |

## tinned copper bus bar wires

| | | | | | | |
|---|---|---|---|---|---|---|
| | | |  |  |  |  |
| Trade Number | 8011 | 8012 | 8013 | 8019 | 8020 | 8021 |
| | 100′ Spool<br>• 1000′ Spool<br>12 A.W.G. | 100′ Spool<br>• 1000′ Spool<br>14 A.W.G. | 100′ Spool<br>• 1000′ Spool<br>16 A.W.G. | 100′ Spool<br>• 1000′ Spool<br>18 A.W.G. | 100′ Spool<br>• 1000′ Spool<br>20 A.W.G. | 100′ Spool<br>• 1000′ Spool<br>22 A.W.G. |
| | Tinned copper wire, solid<br>.080″ Nom. Diam. | Tinned copper wire, solid<br>.064″ Nom. Diam | Tinned copper wire, solid<br>.050″ Nom. Diam | Tinned copper wire, solid<br>.040″ Nom. Diam | Tinned copper wire, solid<br>.032″ Nom. Diam | Tinned copper wire, solid<br>.025″ Nom. Diam |

• New put-up.

## tv power supply (cheater) cord

Trade Number **8874**

6′ Cord — Cartoned
18 A.W.G.
Brown Type SP-1

Extra-flexible all-rubber parallel lamp cord with Belden molded-on all-rubber connector and Belden molded plastic plug.
Underwriters' Flag Type Green Cord Set Label.
Television Power Supply Connector Cord.
Original equipment on most television sets.

NOTE

Request the Belden 1700 series, "Household Electrical Cords" catalog, for complete listing of replacement and extension cord sets.



(See Price List on Pages S-1250-1251)

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World Radio History

## rgu transmission line cables

Belden RGU Cables can be furnished on special order with Type II-A Black Noncontaminating Jacket. Other types will be quoted on request.

| Trade Number | RG-5A/U | RG-8/U | RG-9/U | RG-11/U | RG-22A/U |
|---|---|---|---|---|---|
| | | | | | |
| | **8264** | **8237** | **8242** | **8238** | **8260** |
| | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool<br>1500′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool |
| | 16 A.W.G. | 13 A.W.G. | 13 A.W.G. | 18 A.W.G. | 18 A.W.G. |
| | Silver coated copper conductor, solid<br>Polyethylene plastic insulation<br>Silver coated copper, double braid shield<br>Gray noncontaminating plastic jacket<br>.328″ Nom. Diam<br>Nom. Attenuation —<br>2.40 db/100 ft at 100 mc<br>3.50 db/100 ft at 200 mc<br>5.25 db/100 ft at 400 mc<br>Nom. Impedance — 50 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>29 mmf/ft | 7x21 stranded bare copper conductor<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.405″ Nom. Diam<br>Nom. Attenuation —<br>2.10 db/100 ft at 100 mc<br>3.30 db/100 ft at 200 mc<br>4.50 db/100 ft at 400 mc<br>Nom. Impedance — 52 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>29.5 mmf/ft | 7x21 stranded silver coated copper conductor<br>Polyethylene plastic insulation<br>Silver coated copper braid shield<br>Bare copper braid shield<br>Gray noncontaminating plastic jacket<br>.420″ Nom. Diam<br>Nom. Attenuation —<br>2.10 db/100 ft at 100 mc<br>3.30 db/100 ft at 200 mc<br>4.50 db/100 ft at 400 mc<br>Nom. Impedance — 51 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>30.0 mmf/ft | 7x26 stranded tinned copper conductor<br>Polyethylene plastic insulation<br>Bare copper braid shield<br>Black vinyl plastic jacket<br>.405″ Nom. Diam<br>Nom. Attenuation —<br>1.90 db/100 ft at 100 mc<br>2.85 db/100 ft at 200 mc<br>4.35 db/100 ft at 400 mc<br>Nom. Impedance — 75 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>20.5 mmf/ft | 7x.0152″ stranded bare copper conductor<br>Polyethylene plastic insulation<br>2 conductors cabled<br>Core jacket polyethylene plastic<br>Tinned copper, double braid shield<br>Gray noncontaminating plastic jacket<br>.420″ Nom. Diam<br>Nom. Attenuation —<br>4.00 db/100 ft at 100 mc<br>5.50 db/100 ft at 200 mc<br>8.50 db/100 ft at 400 mc<br>Nom. Impedance — 95 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>16 mmf/ft |

| Trade Number | RG-29/U | RG-54A/U | RG-55/U | RG-58A/U | RG-58/U |
|---|---|---|---|---|---|
| | | | | | |
| | **8244** | **8239** | **8245** | **8259** | **8240** |
| | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool<br>1000′ Spool |
| | 20 A.W.G. | 18 A.W.G. | 20 A.W.G. | 20 A.W.G. | 20 A.W.G. |
| | Bare copper conductor, solid<br>Polyethylene plastic insulation<br>Tinned copper braid shield<br>Clear polyethylene plastic jacket<br>.174″ Nom. Diam<br>Nom. Attenuation —<br>4.10 db/100 ft at 100 mc<br>6.20 db/100 ft at 200 mc<br>9.50 db/100 ft at 400 mc<br>Nom. Impedance —<br>53.5 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>28.5 mmf/ft | 7x.0152″ bare copper conductor stranded<br>Polyethylene plastic insulation<br>Tinned copper braid shield<br>Clear polyethylene plastic jacket<br>.250″ Max. Diam<br>Nom. Attenuation —<br>3.10 db/100 ft at 100 mc<br>4.40 db/100 ft at 200 mc<br>6.70 db/100 ft at 400 mc<br>Nom. Impedance — 58 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>26.5 mmf/ft | Bare copper conductor, solid<br>Polyethylene plastic insulation<br>Tinned copper, double braid shield<br>Clear polyethylene plastic jacket<br>.206″ Max. Diam<br>Nom. Attenuation —<br>4.10 db/100 ft at 100 mc<br>6.20 db/100 ft at 200 mc<br>9.50 db/100 ft at 400 mc<br>Nom. Impedance —<br>53.5 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>28.5 mmf/ft | 19x.0071″ tinned copper conductor stranded<br>Polyethylene plastic insulation<br>Tinned copper braid shield<br>Black vinyl plastic jacket<br>.195″ Nom. Diam<br>Nom. Attenuation —<br>5.30 db/100 ft at 100 mc<br>8.20 db/100 ft at 200 mc<br>12.60 db/100 ft at 400 mc<br>Nom. Impedance — 50 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>29 mmf/ft | Bare copper conductor, solid<br>Polyethylene plastic insulation<br>Tinned copper braid shield<br>Black vinyl plastic jacket<br>.195″ Nom. Diam<br>Nom. Attenuation —<br>4.10 db/100 ft at 100 mc<br>6.20 db/100 ft at 200 mc<br>9.50 db/100 ft at 400 mc<br>Nom. Impedance —<br>53.5 ohms<br>Nom. Velocity of propagation — 66%<br>Nom. Capacitance —<br>28.5 mmf/ft |

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(See Price List on Pages S-1250-1251)



World Radio History

# BELDEN ELECTRONIC WIRES & CABLES

## rgu transmission line cables

RG-59/U

RG-62/U

RG-71/U

Trade Number

**8241**

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Bare "Copperweld" conductor, solid
Polyethylene plastic insulation
Bare copper braid shield
Black vinyl plastic jacket
.242″ Nom. Diam
Nom. Attenuation —
3.75 db/100 ft at 100 mc
5.60 db/100 ft at 200 mc
8.30 db/100 ft at 400 mc
Nom. Impedance — 73 ohms
Nom. Velocity of propagation — 66%
Nom. Capacitance —
21.0 mmf/ft

**8254**

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Bare "Copperweld" conductor, solid
Semi-solid polyethylene plastic insulation
Bare copper braid shield
Black vinyl plastic jacket
.242″ Nom. Diam
Nom. Attenuation —
3.10 db/100 ft at 100 mc
4.40 db/100 ft at 200 mc
6.30 db/100 ft at 400 mc
Nom. Impedance — 93 ohms
Nom. Velocity of propagation — 84%
Nom. Capacitance —
13.5 mmf/ft

**8257**

100′ Spool
500′ Spool
1000′ Spool

22 A.W.G.

Bare "Copperweld" conductor, solid
Semi-solid polyethylene plastic insulation
Tinned copper, double braid shield
Clear polyethylene plastic jacket
.250″ Max. Diam
Nom. Attenuation —
3.10 db/100 ft at 100 mc
4.40 db/100 ft at 200 mc
6.30 db/100 ft at 400 mc
Nom. Impedance — 93 ohms
Nom. Velocity of propagation — 84%
Nom. Capacitance —
13.5 mmf/ft

### URANIUM LOGGING CABLE

**8721**

1200′ to 2500′ Spool
2501′ to 4000′ Spool
4001′ to 6000′ Spool

25 A.W.G.

3x33 copper & 4x33 steel stranded tinned conductor
Cellulose yarn braid
Polyethylene plastic insulation
Tinned copper coated steel braid shield
Chrome vinyl plastic jacket
.205″ Nom. Diam
Nom. Capacitance —
25 mmf/ft
A high tensile strength, low capacitance, small diameter, waterproof cable for use with the deep well probe used in gamma ray logging of underground formations.
Breaking strength 250 lbs.

### MULTIPLE SET ANTENNA CABLE

100% Sweep Tested. A low loss coaxial cable designed for economical installation of multiple TV sets using a master antenna. Fits special tap-off connectors used in these installations.

**8231**

100′ Spool
500′ Spool
1000′ Spool

21 A.W.G.

Tinned copper conductor, solid
Polyethylene plastic insulation
Bare copper braid shield
Black vinyl plastic jacket
.280″ Nom. Diam
Nom. Attenuation —
1.8 db/100 ft at 50 mc
2.2 db/100 ft at 100 mc
3.8 db/100 ft at 200 mc
4.8 db/100 ft at 300 mc
5.9 db/100 ft at 400 mc
Nom. Impedance — 75 ohms
Nom. Capacitance —
20.5 mmf/ft

## Belden workbench hook-up wire dispenser kit

COMPLETE HOOK-UP WIRE ASSORTMENTS FOR

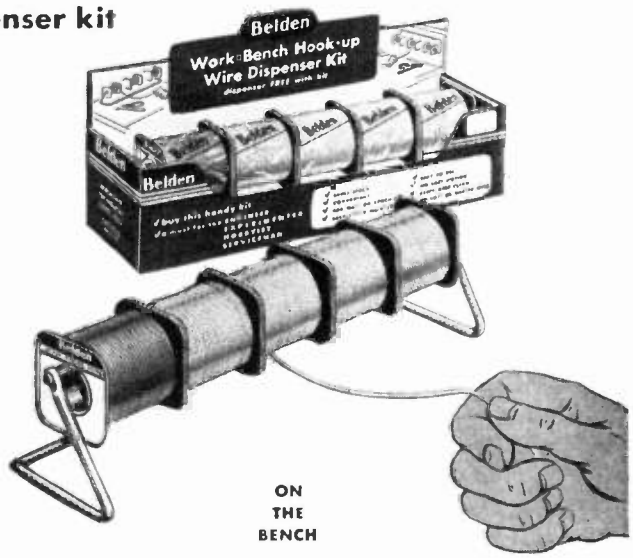
SERVICEMAN . . . HOBBYIST . . .
ENGINEER . . . EXPERIMENTER

14 Wire Combinations in Textile . . . Vinyl . . . Vinyl and Nylon . . . Teflon . . . for Every Need

- Easy-To-Use
- Simplifies Stock Maintenance
- Saves Space
- Keeps Wire Clean and Orderly
- Convenient — Portable — Timesaving

YOU PAY ONLY THE REGULAR PRICE FOR THE WIRE — RACK FREE WITH EACH KIT

ON THE WALL




ON THE BENCH

| KIT NUMBER | CONTENTS |
|---|---|
| 8818 | Eight 25 ft. spools (8941-25) 1 each—black, blue, brown, green, orange, red, white, yellow |
| 8819 | Five 100 ft. spools (8941-100) 1 each—black, blue, green, red, white |
| 8820 | Eight 25 ft. spools (8943-25) 1 each—black, blue, brown, green, orange, red, white, yellow |
| 8821 | Five 100 ft. spools (8943-100) 1 each—black, blue, green, red, white |
| 8822 | Ten 25 ft. spools (8529-25) 1 each—black, brown, gray, green, light blue, orange, red, violet, white, yellow |
| 8823 | Five 100 ft. spools (8529-100) 1 each—black, green, light blue, red, white |
| 8824 | Eight 25 ft. spools (8523-25) 1 each—black, brown, green, light blue, orange, red, white, yellow |

| KIT NUMBER | CONTENTS |
|---|---|
| 8825 | Five 100 ft. spools (8507-100) 1 each—white, white/black stripe, white/green stripe, white/red stripe, white/yellow stripe |
| 8826 | Five 100 ft. spools (8508-100) 1 each—white, white/black stripe, white/green stripe, white/red stripe, white/yellow stripe |
| 8827 | Five 100 ft. spools (8518-100) 1 each—black, green, light blue, red, white |
| 8828 | Ten 25 ft. spools (8302-25) 1 each—black, brown, gray, green, light blue, orange, red, violet, white, yellow |
| 8829 | Ten 25 ft. spools (8305-25) 1 each—black, brown, gray, green, light blue, orange, red, violet, white, yellow |
| 8830 | Ten 25 ft. spools (8306-25) 1 each—black, brown, gray, green, light blue, orange, red, violet, white, yellow |
| 8831 | Ten 25 ft. spools (8307-25) 1 each—black, brown, gray, green, light blue, orange, red, violet, white, yellow |


(See Price List on Pages S-1250-1251)
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World Radio History

## military type lead and hook-up wire

Belden Mil Spec wire regularly exceeds the rigid requirements of Military Specifications. Consistent, high quality of the product is possible because Belden is a basic wire manufacturer. This provides complete control of materials as well as each step of manufacturing from wire drawing to the finished product.

Continuous inspection is made in every operation. The finished wire is then laboratory tested for compliance with the requirements of applicable military specifications by skilled engineers using the most modern test equipment.

The constant surveillance assures the recognized high quality of Belden products, which means the utmost in reliability and performance for all electronic or electrical applications.

### TYPE B
### HIGH TEMPERATURE THERMOPLASTIC INSULATED HOOK-UP WIRE

Military Specification Mil-W-16878 B

THERMOPLASTIC INSULATED — PLAIN
600 Volt 100 C

Type B wire is suitable for general purpose wiring within the specified rating and where excellent resistance to moisture and solvents may be required.

Standard Package 100 feet and 1000 feet

| Code | Military Type | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8500 | B-16 | 16 | 19x29 | .077 | 9 & 14 Thru 22 |
| 8501 | B-18 | 18 | 7x26 | .068 | 9 & 14 Thru 22 |
| 8506 | B-18 | 18 | 19x30 | .070 | 9 & 14 Thru 22 |
| 8502 | B-20 | 20 | 7x28 | .058 | 9 & 14 Thru 22 |
| 8507 | B-20 | 20 | 19x32 | .060 | 9 & 14 Thru 22 |
| 8503 | B-22 | 22 | 7x30 | .050 | 9 & 14 Thru 22 |
| 8508 | B-22 | 22 | 19x34 | .052 | 9 & 14 Thru 22 |
| 8504 | B-24 | 24 | 7x32 | .044 | 9 & 14 Thru 22 |
| 8509 | B-24 | 24 | 19x36 | .045 | 9 & 14 Thru 22 |
| 8505 | B-26 | 26 | 7x34 | .039 | 9 & 14 Thru 22 |

THERMOPLASTIC INSULATED — NYLON JACKET
600 Volt 110 C

Type B with vinyl insulation and nylon jacket can be used to provide exceptional service with added abrasion resistance.

Standard Package 100 feet and 1000 feet

| Code | Military Type | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8510 | B-16 | 16 | 19x29 | .082 | 9 & 14 Thru 22 |
| 8511 | B-18 | 18 | 7x26 | .073 | 9 & 14 Thru 22 |
| 8516 | B-18 | 18 | 19x30 | .075 | 9 & 14 Thru 22 |
| 8512 | B-20 | 20 | 7x28 | .063 | 1 Thru 10 & 14 Thru 22 |
| 8517 | B-20 | 20 | 19x32 | .065 | 1 Thru 10 & 14 Thru 22 |
| 8513 | B-22 | 22 | 7x30 | .055 | 1 Thru 10 & 14 Thru 22 |
| 8518 | B-22 | 22 | 19x34 | .057 | 1 Thru 10 & 14 Thru 22 |
| 8514 | B-24 | 24 | 7x32 | .049 | 1 Thru 10 & 14 Thru 22 |
| 8519 | B-24 | 24 | 19x36 | .050 | 1 Thru 10 & 14 Thru 22 |
| 8515 | B-26 | 26 | 7x34 | .044 | 9 & 14 Thru 22 |

### TYPE EE
### TEFLON INSULATED HOOK-UP WIRE

Military Specification MIL-W-16878 B
1000 Volt 200 C

Type EE hook-up wire is made of silver coated copper wire concentrically stranded and insulated with a .015" wall of extruded Teflon.

Standard Package: 25, 50, 100, 250, 500 and 1000 feet.

| Code | Military Type | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8320 | EE-30 | 30 | 7x38 | .043 | 1 Thru 10 |
| 8321 | EE-28 | 28 | 7x36 | .046 | 1 Thru 10 |
| 8322 | EE-26 | 26 | 7x34 | .050 | 1 Thur 10 |
| 8323 | EE-24 | 24 | 19x36 | .056 | 1 Thru 10 |
| 8324 | EE-24 | 24 | 7x32 | .055 | 1 Thru 10 |
| 8325 | EE-22 | 22 | 7x30 | .061 | 1 Thru 10 |
| 8326 | EE-22 | 22 | 19x34 | .062 | 1 Thru 10 |
| 8327 | EE-20 | 20 | 19x32 | .070 | 1 Thru 10 |
| 8328 | EE-20 | 20 | 10x30 | .070 | 1 Thru 10 |
| 8329 | EE-18 | 18 | 19x30 | .081 | 1 Thru 10 |
| 8330 | EE-16 | 16 | 19x29 | .090 | 1 Thru 10 |

Additional types, color combinations and multiple conductor miniature cable shielded and unshielded available. Price and delivery on request.
"Teflon" Du Pont trade name for Tetrafluoroethylene Resin.

### TYPE E
### TEFLON INSULATED HOOK-UP WIRE

Military Specification MIL-W-16878 B
600 Volt 200 C

Teflon insulated wire is a high temperature wire having a temperature range of minus 260 C to plus 200 C. Its excellent physical and electrical properties are retained over this entire temperature range.

The high abrasion resistance, dielectric strength, and low dissipation factor make it ideal for use as a component lead and connecting wire where the operating environments are most severe.

Teflon has practically universal chemical inertness and is also unaffected by weathering or moisture. Because it will not shrink and is non-flammable, direct application of soldering irons causes no damage to this insulating material.

Type E Hook-Up wire is made of silver coated copper wire concentrically stranded and insulated with a .010" wall of extruded Teflon.

Standard Package: 25, 50, 100, 250, 500 and 1000 feet.

| Code | Military Type | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8300 | E-30 | 30 | 7x38 | .033 | 1 Thru 10 |
| 8301 | E-28 | 28 | 7x36 | .036 | 1 Thru 10 |
| 8302 | E-26 | 26 | 7x34 | .041 | 1 Thru 10 |
| 8303 | E-24 | 24 | 19x36 | .046 | 1 Thru 10 |
| 8304 | E-24 | 24 | 7x32 | .045 | 1 Thru 10 |
| 8305 | E-22 | 22 | 7x30 | .051 | 1 Thru 10 |
| 8306 | E-22 | 22 | 19x34 | .052 | 1 Thru 10 |
| 8307 | E-20 | 20 | 19x32 | .060 | 1 Thru 10 |
| 8308 | E-20 | 20 | 10x30 | .060 | 1 Thru 10 |
| 8309 | E-18 | 18 | 19x30 | .072 | 1 Thru 10 |
| 8310 | E-16 | 16 | 19x29 | .085 | 1 Thru 10 |

### TYPE MW
### THERMOPLASTIC INSULATED HOOK-UP WIRE

Military Specification Mil-W-76 A
(Formerly Type SRIR JAN-C-76)
1000 Volt 80 C

Type MW is an electronic apparatus hook-up wire to MIL-W-76A having an 80 C maximum rating. The extruded vinyl insulation is flame resistant, and is inert to most chemicals, oils and solvents.

Good conductor flexibility and high dielectric strength plus resistance to ozone and sunlight provide high reliability of apparatus and system.

Standard Package: 25, 100 and 1000 feet.

| Code | Military Type | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8522 | MW-C-18-(16)-U | 18 | 16x30 | .081 | 25'-1 Thru 13 100', 1000'-1 Thru 22 |
| 8523 | MW-C-20-(7)-U | 20 | 10x30 | .072 | 25'-1 Thru 13 100', 1000'-1 Thru 30 |
| 8529 | MW-C-20-(1)-U | 20 | Solid | .066 | 25'-1 Thru 13 100', 1000'-1 Thru 22 |
| 8524 | MW-C-22-(7)-U | 22 | 7x30 | .064 | 25'-1 Thru 13 100', 1000'-1 Thru 30 |
| 8530 | MW-C-22-(1)-U | 22 | Solid | .059 | 25'-1 Thru 12 100', 1000'-1 Thru 22 |

### TYPE I
### THERMOPLASTIC INSULATED — NYLON JACKET

Military Specification MIL-5086 A
600 Volt 105 C

Excellent resistance to abrasion, moisture, flame, fungus, aircraft oils and fuels provides maximum reliability in severe service.

Standard Package: 100 and 1000 feet.

| Code | Wire Size | AWG | Stranding | Nom. O.D. (inches) | Stock Colors† |
|---|---|---|---|---|---|
| 8541 | AN-22 | 22 | 19x34 | .068 | 9 |
| 8542 | AN-20 | 20 | 19x32 | .078 | 9 |
| 8543 | AN-18 | 18 | 19x30 | .088 | 9 |
| 8544 | AN-16 | 16 | 19x29 | .098 | 9 |

†Stock Colors. First color in stripe combination is body color and second or third colors are stripes (White/Black/Red)

| | | | | |
|---|---|---|---|---|
| 1 Brown | 7 Violet (purple) | 13 Dark Blue | 19 White/Brown | 25 White/Black/Yellow |
| 2 Red | 8 Gray (slate) | 14 White/Black | 20 White/Orange | 26 White/Black/Blue |
| 3 Orange | 9 White | 15 White/Red | 21 White/Gray | 27 White/Black/Brown |
| 4 Yellow | 10 Black | 16 White/Green | 22 White/Violet | 28 White/Black/Orange |
| 5 Green | 11 Tan | 17 White/Yellow | 23 White/Black/Red | 29 White/Black/Gray |
| 6 Light Blue | 12 Pink | 18 White/Blue | 24 White/Black/Green | 30 White/Black/Violet |

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(See Price List on Pages S-1250-1251)



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## hook-up and lead wires

### cellulose braid lacquered (USED ON R-F CIRCUITS WHERE LOW-LOSS PROPERTIES ARE REQUIRED)

There is a Belden hook-up and lead wire construction for every service requirement — for receivers, transmitters, amplifiers, rectifiers, aircraft radio, geophysical instruments, and all other types of electronic equipment.

| Trade Number | 8941 | 8945 | 8943 | 8947 | 8942 | 8938 |
|---|---|---|---|---|---|---|
| | 25′ Spool<br>100′ Spool<br>1000′ Spool | 25′ Spool<br>100′ Spool<br>1000′ Spool | 25′ Spool<br>100′ Spool<br>1000′ Spool | 25′ Spool<br>100′ Spool<br>1000′ Spool | 100′ Spool<br>1000′ Spool | 100′ Spool<br>500′ Spool |
| | 20 A.W.G. | 18 A.W.G. | 20 A.W.G. | 18 A.W.G. | 16 A.W.G. | 14 A.W.G. |
| | Tinned copper conductor, solid<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Brown, Green, Orange, Red, White, Yellow<br>.072″ Nom. Diam<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts | Tinned copper conductor, solid<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Green, Red, White, Yellow<br>.080″ Nom. Diam<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts | 10x30 tinned copper conductor stranded<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Brown, Green, Orange, Red, White, Yellow<br>.076″ Nom. Diam<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts | 16x30 tinned copper conductor stranded<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Green, Red, White, Yellow<br>.087″ Nom. Diam<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts | 26x30 stranded tinned copper conductor<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Green, Red<br>.099″ Nom. Diam<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts | 41x50 stranded tinned copper conductor<br>Heavy cellulose acetate yarn wrap<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Red<br>.115″ Nom. Diam.<br>Nom. * d-c Ins. Res. —200 megohms/ft<br>Nom. ** breakdown voltage—1000 volts |

### r-f push-back wire (CELLULOSE ACETATE BRAID WAXED)

| Trade Number | 8841 | 8839 | 8844 |
|---|---|---|---|
| | 100′ Spool<br>1000′ Spool | 100′ Spool<br>1000′ Spool | 100′ Spool<br>1000′ Spool |
| | 20 A.W.G. | 20 A.W.G. | 18 A.W.G. |
| | Tinned copper conductor, solid<br>Two cellulose acetate yarn braids waxed<br>Colors: Black, Blue, Green, Red, all with White Tracer<br>.067″ Nom. Diam<br>Nom. *d-c Ins. Res. —1000 megohms/ft<br>Nom. **breakdown voltage — 1000 volts | 16x30 stranded tinned copper conductor<br>Two cellulose acetate yarn braids waxed<br>Colors: Black, Blue, Green, Red, all with White Tracer<br>.072″ Nom. Diam<br>Nom. *d-c Ins. Res. —1000 megohms/ft<br>Nom. **breakdown voltage — 1000 volts | 16x30 stranded tinned copper conductor<br>Two cellulose acetate yarn braids waxed<br>Colors: Black, Blue, Green, Red, all with White Tracer<br>.092″ Nom. Diam<br>Nom. *d-c Ins. Res. —1000 megohms/ft<br>Nom. **breakdown voltage — 1000 volts |

Used on r-f circuits where low-loss properties are required.

### rubber insulated push-back

| Trade Number | 8837 | 8838 | 8833 |
|---|---|---|---|
| | 100′ Spool<br>1000′ Spool | 100′ Spool<br>1000′ Spool | 100′ Spool<br>1000′ Spool |
| | 20 A.W.G. | 20 A.W.G. | 18 A.W.G. |
| | Tinned copper conductor, solid<br>Cotton wrap<br>.010″ unvulcanized rubber insulation<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Green, Red, Yellow<br>.075″ Nom. Diam<br>Nom. *d-c Ins. Res. —2000 megohms/ft<br>Nom. **breakdown voltage — 2000 volts | 10x30 stranded tinned copper conductor<br>Cotton wrap<br>.010″ unvulcanized rubber insulation<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Green, Red, Yellow<br>.081″ Nom. Diam<br>Nom. *d-c Ins. Res. —2000 megohms/ft<br>Nom. **breakdown voltage — 2000 volts | 16x30 stranded tinned copper conductor<br>.031″ rubber insulation<br>Cellulose acetate yarn braid<br>Fungus and flame resistant lacquer coating<br>Colors: Black, Blue, Green, Red, Yellow<br>.125″ Nom. Diam<br>Nom. *d-c Ins. Res. — 10,000 megohms/ft<br>Nom. **breakdown voltage — 8000 volts |

General-use hook-up wire and leads for transformers, speakers, and controls in audio and power circuits.

### thermo-plastic insulated

| Trade Number | 8918 |
|---|---|
| | 250′ Spool<br>1000′ Spool |
| | 18 A.W.G. |
| | 16x30 stranded tinned copper conductor<br>.031″ vinyl thermoplastic insulation<br>Colors: Black, Blue, Green, Red, Yellow<br>.112″ Nom. Diam<br>Nom. *d-c Ins. Res. —5000 megohms/ft.<br>Nom. **breakdown voltage—12,000 volts |

* Measurements for d-c insulation resistance made with a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100F for 24 hours.

** Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.



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## test prod wire

Trade Number

**8899**

10′ Spool
14′ Spool
(7′ Black and 7′ Red)
25′ Spool
100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

65x36 stranded tinned copper conductor
Cotton wrap
.043″ rubber insulation
Colors: Black, Red
.140″ Nom. Diam
Puncture voltage 20,000 volts
Suggested Working Voltage 5000 volts

**8898**

10′ Spool
25′ Spool
100′ Spool
500′ Spool

18 A.W.G.

65x36 stranded tinned copper conductor
Cotton wrap
.088″ rubber insulation
Colors: Black, Red
.230″ Nom. Diam
Puncture voltage 29,000 volts
Suggested Working Voltage 10,000 volts

High-voltage lead wire for use with portable testing equipment, instruments, and other electronic units where excellent dielectric properties of the insulation and extreme flexibility and limpness of the cable are essential considerations.

## SHIELDED HOOK-UP WIRE

**8885**

15′ Spool
25′ Spool
100′ Spool
500′ Spool

20 A.W.G.

10x30 stranded tinned copper conductor
.015″ rubber insulation
Cellulose acetate yarn braid
Fungus and flame resistant lacquer coating
Tinned copper braid shield
.117″ Nom. Diam
Nom. * d-c Ins. Res. — 5000 megohms/ft
Nom. **breakdown voltage — 4000 volts

Used in circuits where shielded grid return is required and to shield a circuit conductor from stray fields.

## HIGH-VOLTAGE AND CATHODE-RAY TUBE LEAD CABLE

**8869**

25′ Spool
100′ Spool

20 A.W.G.

7x28 stranded tinned copper conductor
.035″ flame retardant Rulan polyethylene plastic insulation
Color: White
.108″ Nom. Diam
Puncture voltage 32,000 volts
Temperature rating 100C
Suggested Working Voltage 10,000 volts

**8868**

25′ Spool
100′ Spool

20 A.W.G.

7x28 stranded tinned copper conductor
.065″ flame retardant Rulan polyethylene plastic insulation
Color: White with Red Stripe
.168″ Nom. Diam
Puncture voltage 54,000 volts
Temperature rating 100C
Suggested Working Voltage 20,000 volts

High-voltage leads to cathode-ray tubes in television receivers, oscilloscopes and in power supplies and other applications where a high-voltage cable is required. High dielectric strength, corona resistance, and minimum surface leakage are very important features of these cables.

## LITZ WIRE

Trade Number

**8817**

100′ Spool

5x44 Celenamel conductor
Wrap of Nylon
.008″ Nom. Diam

For rewinding antenna primaries and for hand-wound r-f coils

## LEAD-IN WIRE

**8200**

100′ Spool
500′ Spool
1000′ Spool

18 A.W.G.

7x27″ parallel stranded tinned copper conductor
.010″ Black rubber insulation
.126″ Nom. Diam

## PHONOGRAPH PICKUP ARM CABLE

***8430**

10′ Spool
25′ Spool
250′ Spool

32 A.W.G.

7x40 stranded bare copper conductor
.009″ vinyl plastic insulation
2 conductors cabled
Black, Red
.055″ Nom. Diam

Extremely flexible, light weight, small diameter.

**8431**

10′ Spool
15′ Spool
25′ Spool
100′ Spool
500′ Spool

24 A.W.G.

16x36 stranded tinned copper conductor
.015″ rubber insulation
Tinned copper braid shield
Brown, fine cotton braid
.095″ Nom. Diam

Extreme flexibility, limpness, and high dielectric breakdown are the important features of this cable.

## VOICE COIL LEAD WIRE



**8127**

10′ Spool
25 A.W.G.

32x40 braided bare copper wire
.024″ Nom. Diam

* Measurements for d-c insulation resistance made with a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100F for 24 hours.

** Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

* New item.

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(See Price List on Pages S-1250-1251)



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## aircraft, marine, and auto radio wires

Belden supplies a complete line of aircraft, marine and auto radio and bonding cables. They are designed for outstanding performance and dependability.

| Trade Number | 8833 | 8652 | 8651 | 8650 | 8656 |
|---|---|---|---|---|---|
| | 100′ Spool<br>1000′ Spool | 100′ Spool | 100′ Spool | 100′ Spool | 100′ Spool |
| | 18 A.W.G. | 16 A.W.G. | 14 A.W.G. | 12 A.W.G. | 16 A.W.G. |
| | 16x30 stranded tinned copper conductor<br>Rubber insulation<br>Cellulose acetate yarn braid<br>Lacquer coating<br>Colors: Black, Blue, Green, Red, Yellow<br>.125″ Nom. Diam | 19x29 stranded tinned copper conductor<br>Rubber insulation<br>Cotton braid<br>Lacquer coating<br>Color: Black with one White Tracer<br>.137″ Nom. Diam | 19x27 stranded tinned copper conductor<br>Rubber insulation<br>Cotton braid<br>Lacquer coating<br>Color: Green with two White Tracers<br>.159″ Nom. Diam | 19x25 stranded tinned copper conductor<br>Rubber insulation<br>Cotton braid<br>Lacquer coating<br>Color: Red with three White Tracers<br>.199″ Nom. Diam | 19x29 stranded tinned copper conductor<br>Rubber insulation<br>Cotton braid<br>Blue lacquer coating<br>Tinned copper braid shield<br>.170″ Nom. Diam |
| | Heavy-duty hook-up wire. | Heavy-duty hook-up wire. | Heavy-duty hook-up wire. | Heavy-duty hook-up wire. | Shielded heavy-duty hook-up wire. |

Belden supplies a complete line of auto radio wires and shielding to handle every wire requirement in installation and servicing. In installations of this type, the use of the correct wire is particularly important.

| Trade Number | 8667 | 8665 | 8677 | 8675 | 8673 |
|---|---|---|---|---|---|
| | 100′ Spool | 100′ Spool | 100′ Spool<br>500′ Spool | 100′ Spool<br>500′ Spool | 100′ Spool<br>500′ Spool |
| | 7 MM | 19 A.W.G. | 16 A.W.G. | 14 A.W.G. | 12 A.W.G. |
| | 7x28 stranded tinned copper-clad steel conductor<br>Rubber insulation<br>Cotton braid<br>Lacquer coating<br>Color: Black<br>.280″ Nom. Diam (7m/m) | 7x.013″ stranded stainless steel alloy conductor<br>Rubber insulation<br>Glass yarn web braid<br>Neoprene jacket<br>Tinned copper braid shield<br>Black neoprene jacket<br>.365″ Nom. Diam<br>Nom. Capacitance — 33.0 mmf/ft | 19x29 stranded tinned copper conductor<br>Vinyl plastic insulation<br>One brown and one red conductor parallel<br>Chrome vinyl plastic jacket<br>.164″x.276″ Nom. Diam | 19x27 stranded tinned copper conductor<br>Vinyl plastic insulation<br>One brown and one red conductor parallel<br>Chrome vinyl plastic jacket<br>.189″x.326″ Nom. Diam | 19x25 stranded tinned copper conductor<br>Vinyl plastic insulation<br>One brown and one red conductor parallel<br>Chrome vinyl plastic jacket<br>.214″x.384″ Nom. Diam |
| | High-voltage ignition cable. | 7m/m shielded high-voltage ignition cable. | Duplex weatherproof cable. | Duplex weatherproof cable. | Duplex weatherproof cable. |

## braided tinned copper (FOR SHIELDING AND BONDING)

| Trade Number | 8660 | 8668 | 8661 | 8669 | 8662 |
|---|---|---|---|---|---|
| | 10′ Spool<br>50′ Spool<br>250′ Spool | 10′ Spool<br>50′ Spool<br>250′ Spool | 10′ Spool<br>50′ Spool<br>250′ Spool | 10′ Spool<br>50′ Spool<br>250′ Spool | 10′ Spool<br>50′ Spool<br>250′ Spool |
| | 96x34 braided tinned copper<br>Braided in tubing form<br>1/8″ ID Nom. Diam | 120x34 braided tinned copper<br>Braided in tubing form<br>11/64″ ID Nom. Diam | 192x34 braided tinned copper<br>Braided in tubing form<br>3/8″ ID Nom. Diam | 336x34 braided tinned copper<br>Braided in tubing form<br>1/2″ ID Nom. Diam | 576x34 braided tinned copper<br>Braided in tubing form<br>25/32″ ID Nom. Diam |



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## magnet wire

Nylclad magnet wire combines the most desirable features of Formvar with the well-known toughness and solvent resistance of Nylon enamel.

For difficult and exacting windings, these plus values may represent the difference between low and high rejections.

Nylclad will out-perform all other A.I.E.E., Class A, film-coated wires with respect to: (1) ability to withstand winding abuse and forming operations; (2) resistance to the solvent action of insulating varnishes and all types of thinners; (3) resistance to softening at elevated temperatures; (4) solvent crazing; (5) windability.

### BELDENAMEL (E)

| Size | Turns per Linear Inch | Turns per Square Inch | ¼ Pound Spool Trade No. | ¼ Pound Spool Approx. Length Feet | ½ Pound Spool Trade No. | ½ Pound Spool Approx. Length Feet |
|---|---|---|---|---|---|---|
| 14 | 15.2 | 231 | .... | .... | 8047 | 40 |
| 16 | 19.1 | 365 | .... | .... | 8048 | 63 |
| 18 | 23.9 | 571 | .... | .... | 8049 | 100 |
| 20 | 29.9 | 894 | .... | .... | 8050 | 160 |
| 22 | 37.4 | 1399 | .... | .... | 8051 | 254 |
| 24 | 46.9 | 2200 | .... | .... | 8052 | 404 |
| 26 | 59.0 | 3481 | .... | .... | 8053 | 645 |
| 28 | 73.8 | 5446 | 8040 | 510 | 8054 | 1020 |
| 30 | 92.2 | 8501 | 8041 | 807 | 8055 | 1615 |
| 32 | 114.0 | 12996 | 8042 | 1257 | 8056 | 2515 |
| 34 | 144.0 | 20736 | 8043 | 2030 | 8057 | 4060 |
| 36 | 180.0 | 32400 | 8044 | 3200 | 8058 | 6400 |
| 38 | 225.0 | 50625 | 8045 | 5070 | .... | .... |
| 40 | 290.0 | 84100 | 8046 | 8050 | .... | .... |

### NYLCLAD (HNC)

| Size | Turns per Linear Inch | Turns per Square Inch | ½ Pound Spool Trade No. | ½ Pound Spool Approx. Length Feet | 1 Pound Spool Trade No. | 1 Pound Spool Approx. Length Feet |
|---|---|---|---|---|---|---|
| 14 | 14.9 | 222 | 8059 | 40 | 8073 | 80 |
| 16 | 18.6 | 346 | 8060 | 63 | 8074 | 126 |
| 18 | 23.2 | 538 | 8061 | 100 | 8075 | 199 |
| 20 | 28.9 | 837 | 8062 | 157 | 8076 | 315 |
| 22 | 36.0 | 1296 | 8063 | 250 | 8077 | 501 |
| 24 | 44.7 | 1998 | 8064 | 396 | 8078 | 793 |
| 26 | 55.7 | 3102 | 8065 | 630 | 8079 | 1260 |
| 28 | 69.4 | 4816 | 8066 | 995 | 8080 | 1990 |
| 30 | 86.2 | 7430 | 8067 | 1570 | 8081 | 3140 |
| 32 | 106.0 | 11236 | 8068 | 2440 | 8082 | 4880 |
| 34 | 133.0 | 17689 | 8069 | 3920 | 8083 | 7860 |
| 36 | 167.0 | 27889 | 8070 | 6200 | 8084 | 12400 |
| 38 | 206.0 | 42436 | 8071 | 9700 | 8085 | 19400 |
| 40 | 263.0 | 69169 | 8072 | 16050 | 8086 | 32100 |

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# BELDEN • Price List

| Belden Trade Number | Unit Package and Length | Suggested List Price Each |
|---|---|---|
| 1701B† | | TOP |
| 1701K† | | TOP |
| 1702B† | | TOP |
| 1702K† | | TOP |
| 1704 | | 9.70 |
| 1705B† | | TOP |
| 1705K† | | TOP |
| 1706 | | 2.57 |
| 1707 | | 2.85 |
| 1708 | | 2.49 |
| 1709 | | 2.31 |
| 1716B | | 1.04 |
| 1716K | | 1.15 |
| 1717B | | .87 |
| 1717K | | 1.00 |
| 1725K | | .54 |
| 1728B | | .63 |
| 1728K | | .76 |
| 1735K | | .71 |
| 1735B | | .91 |
| 1736K | | 1.01 |
| 1737B | | .73 |
| 1737K | | .86 |
| 1738B | | .77 |
| 1738K | | .90 |
| 1739B | | .58 |
| 1739K | | .68 |
| 1749B | | .54 |
| 1749K | | .67 |
| 1750B | | 1.00 |
| 1750K | | 1.15 |
| 1751K | | 1.72 |
| 1752K | | 1.44 |
| 1754B | | .71 |
| 1754K | | .86 |
| 1756K | | 1.47 |
| 1765B | | .37 |
| 1766B | | 1.05 |
| 1767K | | 1.58 |
| 1773 | | 3.21 |
| 1774 | | 3.66 |
| 1775 | | 3.90 |
| 1776 | | 4.47 |
| 1777K | | .81 |
| 1783 | | 2.86 |
| 1784 | | 3.15 |
| 1785 | | 3.31 |
| 1786 | | 3.73 |
| 1790K | | 7.72 |
| 1791K | | 5.36 |
| 1792K | | 9.13 |
| 1793 | | 2.52 |
| 1794 | | 3.09 |
| 1795K | | 5.07 |
| 1796 | | 3.55 |
| 8000 | 50′ | 1.38 |
| 8000 | 75′ | 1.88 |
| 8000 | 100′ | 2.38 |
| 8000 | 1000′ | .03′ |
| 8002 | 50′ | 1.00 |
| 8002 | 75′ | 1.25 |
| 8002 | 100′ | 1.63 |
| 8002 | 1000′ | .02′ |
| 8008 | 100′ | 3.90 |
| 8008 | 200′ | 7.25 |
| 8008 | 500′ | .04′ |
| 8009 | 100′ | 2.70 |
| 8009 | 500′ | .03′ |
| 8011 | 100′ | 3.50 |
| 8011 | 1000′¶ | .04′ |
| 8012 | 100′ | 2.45 |
| 8012 | 1000′¶ | .025′ |
| 8013 | 100′ | 1.85 |
| 8013 | 1000′¶ | .02′ |
| 8014 | 25′ | .50 |
| 8014 | 500′ | .02′ |
| 8018 | 50′ | 1.55 |
| 8018 | 500′ | .03′ |
| 8018 | 1000′ | .03′ |
| 8019 | 100′ | 1.45 |
| 8019 | 1000′¶ | .015′ |
| 8020 | 100′ | 1.00 |
| 8020 | 1000′¶ | .015′ |
| 8021 | 100′ | .88 |
| 8021 | 1000′¶ | .015′ |
| 8127 | 10′ | .50 |
| 8200 | 100′ | 2.50 |
| 8200 | 500′ | .025′ |
| 8200 | 1000′ | .025′ |
| 8204 | 25′ | 2.10 |
| 8204 | 100′ | 6.00 |
| 8204 | 500′ | .085′ |
| 8204 | 1000′▲ | .085′ |
| 8205 | 25′ | 1.35 |
| 8205 | 100′ | 4.05 |
| 8205 | 500′ | .055′ |
| 8205 | 1000′▲ | .055′ |
| 8206 | 15′ | 1.20 |
| 8206 | 50′ | 3.25 |
| 8206 | 100′ | 5.75 |
| 8206 | 250′ | .08′ |
| 8208 | 15′ | 1.95 |
| 8208 | 50′ | 5.40 |
| 8208 | 100′ | 9.90 |
| 8208 | 500′ | .13′ |
| 8208 | 1000′▲ | .13′ |
| 8209 | 15′ | 1.85 |
| 8209 | 50′ | 5.15 |
| 8209 | 100′ | 9.50 |
| 8209 | 500′ | .12′ |
| 8209 | 1000′▲ | .12′ |
| 8222 | 100′ | 2.65 |
| 8222 | 500′ | .03′ |
| 8224 | 100′ | 3.40 |
| 8224 | 500′ | .04′ |
| 8225 | 50′ | 1.80 |
| 8225 | 75′ | 2.50 |
| 8225 | 100′ | 3.15 |
| 8225 | 500′ | .035′ |
| 8225 | 1000′ | .035′ |
| 8227 | 100′ | 14.50 |
| 8227 | 250′ | .15′ |
| 8227 | 500′ | .15′ |
| 8230 | 50′ | 1.90 |
| 8230 | 75′ | 2.65 |
| 8230 | 100′ | 3.40 |
| 8230 | 500′ | .04′ |
| 8230 | 1000′ | .04′ |
| 8231 | 100′ | 11.50 |
| 8231 | 500′▲ | .12′ |
| 8231 | 1000′▲ | .12′ |
| 8232 | 100′ | 16.90 |
| 8232 | 500′▲ | .17′ |
| 8232 | 1000′▲ | .17′ |
| 8233 | 500′▲ | .30′ |
| 8233 | 1000′▲ | .30′ |
| 8233 | 1500′▲ | .30′ |
| 8235 | 100′ | 7.00 |
| 8235 | 500′ | .07′ |
| 8237 | 100′ | 22.75 |
| 8237 | 500′▲ | .23′ |
| 8237 | 1000′▲ | .23′ |
| 8238 | 100′ | 21.25 |
| 8238 | 500′▲ | .21′ |
| 8238 | 1000′▲ | .21′ |
| 8238 | 1500′▲ | .21′ |
| 8239 | 100′′ | 14.75 |
| 8239 | 500′▲ | .15′ |
| 8239 | 1000′▲ | .15′ |
| 8240 | 100′ | 9.65 |
| 8240 | 500′▲ | .10′ |
| 8240 | 1000′▲ | .10′ |
| 8241 | 100′ | 10.50 |
| 8241 | 500′▲ | .12′ |
| 8241 | 1000′▲ | .12′ |
| 8242 | 100′ | 47.00 |
| 8242 | 500′▲ | .47′ |
| 8242 | 1000′▲ | .47′ |
| 8244 | 100′ | 10.00 |
| 8244 | 500′▲ | .10′ |
| 8244 | 1000′▲ | .10′ |
| 8245 | 100′ | 16.75 |
| 8245 | 500′▲ | .17′ |
| 8245 | 1000′▲ | .17′ |
| 8254 | 100′ | 12.25 |
| 8254 | 500′▲ | .13′ |
| 8254 | 1000′▲ | .13′ |
| 8257 | 100′ | 19.75 |
| 8257 | 500′▲ | .20′ |
| 8257 | 1000′▲ | .20′ |
| 8259 | 100′ | 9.65 |
| 8259 | 500′▲ | .10′ |
| 8259 | 1000′▲ | .10′ |
| 8260 | 100′ | 43.40 |
| 8260 | 500′▲ | .44′ |
| 8260 | 1000′▲ | .44′ |
| 8264 | 100′ | 38.75 |
| 8264 | 500′▲ | .39′ |
| 8264 | 1000′▲ | .39′ |
| 8275 | 50′ | 3.75 |
| 8275 | 75′ | 5.25 |
| 8275 | 100′ | 6.90 |
| 8275 | 500′ | .08′ |
| 8275 | 1000′ | .08′ |
| 8280● | | 1.00′ |
| 8281* | 100′ | 27.50 |
| 8281* | 500′▲ | .28′ |
| 8281* | 1000′▲ | .28′ |
| 8282 | 50′ | 21.90 |
| 8282 | 100′ | 42.25 |
| 8282 | 500′▲ | .43′ |
| 8401 | 15′′ | 1.38 |
| 8401 | 25′ | 2.00 |
| 8401 | 50′ | 3.90 |
| 8401 | 100′ | 7.15 |
| 8401 | 500′ | .09′ |
| 8403* | 15′ | 2.50 |
| 8403* | 50′ | 6.25 |
| 8403* | 100′ | 12.50 |
| 8403* | 250′ | .17′ |
| 8403* | 500′ | .17′ |
| 8403* | 1000′ | .17′ |
| 8404* | 15′ | 2.90 |
| 8404* | 50′ | 7.50 |
| 8404* | 100′ | 15.00 |
| 8404* | 250′ | .19′ |
| 8404* | 500′ | .19′ |
| 8404* | 1000′ | .19′ |
| 8405* | 15′ | 3.25 |
| 8405* | 50′ | 9.25 |
| 8405* | 100′ | 18.50 |
| 8405* | 250′ | .22′ |
| 8405* | 500′ | .22′ |
| 8405* | 1000′ | .22′ |
| 8410 | 15′ | 2.25 |
| 8410 | 25′ | 3.50 |
| 8410 | 50′ | 6.50 |
| 8410 | 100′ | 12.25 |
| 8410 | 500′ | .15′ |
| 8411 | 15′ | 1.10 |
| 8411 | 25′ | 1.70 |
| 8411 | 50′ | 2.90 |
| 8411 | 100′ | 5.30 |
| 8411 | 500′ | .08′ |
| 8412 | 15′ | 2.40 |
| 8412 | 25′ | 3.90 |
| 8412 | 50′ | 7.15 |
| 8412 | 100′ | 13.75 |
| 8412 | 500′ | .16′ |
| 8414 | 50′ | 5.90 |
| 8414 | 500′ | .12′ |
| 8418 | 15′ | 4.90 |
| 8418 | 50′ | 14.90 |
| 8418 | 100′ | 28.65 |
| 8418 | 250′ | .32′ |
| 8422 | 15′ | 1.80 |
| 8422 | 25′ | 2.80 |
| 8422 | 50′ | 5.25 |
| 8422 | 100′ | 9.50 |
| 8422 | 500′ | .12′ |
| 8423 | 15′ | 2.75 |
| 8423 | 50′ | 8.15 |
| 8423 | 100′ | 15.00 |
| 8423 | 250′ | .18′ |
| 8423 | 500′ | .18′ |
| 8423 | 1000′ | .18′ |
| 8424 | 15′ | 3.15 |
| 8424 | 50′ | 9.15 |
| 8424 | 100′ | 17.50 |
| 8424 | 250′ | .20′ |
| 8424 | 500′ | .20′ |
| 8424 | 1000′ | .20′ |
| 8425 | 15′ | 3.50 |
| 8425 | 50′ | 10.90 |
| 8425 | 100′ | 21.50 |
| 8425 | 250′ | .23′ |
| 8426 | 15′ | 4.50 |
| 8426 | 50′ | 13.40 |
| 8426 | 100′ | 25.75 |
| 8426 | 250′ | .30′ |
| 8427 | 15′ | 4.90 |
| 8427 | 50′ | 14.50 |
| 8427 | 100′ | 28.15 |
| 8427 | 250′ | .32′ |
| 8428 | 15′ | 2.90 |
| 8428 | 25′ | 4.75 |
| 8428 | 50′ | 9.00 |
| 8428 | 100′ | 17.50 |
| 8428 | 500′ | .19′ |
| 8430* | 10′ | .60 |
| 8430* | 25′ | .85 |
| 8430* | 250′ | .06′ |
| 8431 | 10′ | .85 |
| 8431 | 15′ | 1.05 |
| 8431 | 25′ | 1.70 |
| 8431 | 100′ | 5.25 |
| 8431 | 500′ | .08′ |
| 8432 | 100′ | 10.15 |
| 8432 | 500′ | .11′ |
| 8432 | 1000′▲ | .11′ |
| 8433 | 100′ | 12.65 |
| 8433 | 500′▲ | .13′ |
| 8435 | 100′ | 9.40 |
| 8435 | 500′ | .10′ |
| 8435 | 1000′▲ | .10′ |
| 8436 | 100′ | 7.75 |
| 8436 | 500′ | .08′ |
| 8436 | 1000′▲ | .08′ |
| 8437 | 100′ | 8.40 |
| 8437 | 500′ | .09′ |
| 8437 | 1000′▲ | .09′ |
| 8438 | 100′ | 6.90 |
| 8438 | 500′ | .07′ |
| 8438 | 1000′▲ | .07′ |
| 8439 | 100′ | 8.00 |
| 8439 | 500′ | .08′ |
| 8439 | 1000′▲ | .08′ |
| 8440 | 100′ | 7.50 |
| 8440 | 500′ | .08′ |
| 8440 | 1000′▲ | .08′ |
| 8443 | 25′ | 1.40 |
| 8443 | 100′ | 4.15 |
| 8443 | 500′ | .06′ |
| 8443 | 1000′▲ | .06′ |
| 8444 | 25′ | 1.65 |
| 8444 | 100′ | 5.00 |
| 8444 | 500′ | .07′ |
| 8444 | 1000′▲ | .07′ |
| 8445 | 25′ | 1.95 |
| 8445 | 100′ | 6.15 |
| 8445 | 500′ | .08′ |
| 8445 | 1000′▲ | .08′ |
| 8446 | 15′ | 1.75 |
| 8446 | 100′ | 8.90 |
| 8446 | 500′ | .12′ |
| 8446 | 1000′▲ | .12 |
| 8447 | 15′ | 1.90 |
| 8447 | 100′ | 9.90 |
| 8447 | 500′ | .12′ |
| 8447 | 1000′▲ | .12′ |
| 8448 | 15′ | 2.00 |
| 8448 | 100′ | 10.40 |
| 8448 | 500′ | .13′ |
| 8448 | 1000′▲ | .13′ |

All put-ups are one piece per spool except 8661-250, 8662-250 and 8669-250 which are two pieces per spool. All prices subject to change without notice. ¶ New Put-up. ▲ Symbol indicates length may vary ± 10% from length shown; all others are exact lengths as shown.
* New item. § Specify color. ᶜ Solid. ▩ Striped. ● To customer's specified length. † Temporarily out of production.
TOP- Temporarily Out of Production.

ALL PRICES SHOWN ON THIS SHEET ARE LIST PRICE ONLY.



TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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World Radio History

# BELDEN • Price List

| Belden Trade Number | Unit Package and Length | Suggested List Price Each |
|---|---|---|
| 8449 | 15′ | 2.15 |
| 8449 | 100′ | 11.50 |
| 8449 | 500′ | .14′ |
| 8449 | 1000′▲ | .14′ |
| 8452 | 15′ | 1.50 |
| 8452 | 25′ | 2.40 |
| 8452 | 50′ | 4.10 |
| 8452 | 100′ | 7.25 |
| 8452 | 250′ | 17.50 |
| 8452 | 500′ | .10′ |
| 8452 | 1000′ | .10′ |
| 8453 | 15′ | 2.00 |
| 8453 | 50′ | 5.00 |
| 8453 | 100′ | 9.15 |
| 8453 | 500′ | .11′ |
| 8454 | 15′ | 2.05 |
| 8454 | 50′ | 6.00 |
| 8454 | 100′ | 11.15 |
| 8454 | 500′ | .135′ |
| 8454 | 1000′▲ | .135′ |
| 8455 | 15′ | 2.35 |
| 8455 | 50′ | 6.65 |
| 8455 | 100′ | 12.40 |
| 8455 | 250′▲ | .15′ |
| 8460* | 100′ | 4.00 |
| 8460* | 500′ | .04′ |
| 8460* | 1000′▲ | .04′ |
| 8461* | 100′ | 6.75 |
| 8461 | 500′ | .07′ |
| 8461* | 1000′▲ | .07′ |
| 8462 | 100′ | 5.00 |
| 8464 | 75′ | 3.90 |
| 8464 | 100′ | 4.90 |
| 8464 | 500′ | .06′ |
| 8464 | 1000′ | .06′ |
| 8470* | 100′ | 4.75 |
| 8470* | 500′ | .05′ |
| 8470* | 1000′▲ | .05′ |
| 8471* | 100′ | 6.50 |
| 8471* | 500′ | .07′ |
| 8471* | 1000′▲ | .07′ |
| 8472 | 25′ | 3.25 |
| 8472 | 50′ | 5.75 |
| 8472 | 100′ | 10.75 |
| 8472 | 250′▲ | .13′ |
| 8478 | 25′ | 2.75 |
| 8478 | 50′ | 4.75 |
| 8478 | 100′ | 8.75 |
| 8478 | 250′ | .11′ |
| 8478 | 1000′▲ | .11′ |
| 8482 | 1000′▲ | .02′ |
| 8483 | 1000′▲ | .03′ |
| 8484 | 100′ | 5.25 |
| 8484 | 500′ | .06′ |
| 8484 | 1000′▲ | .06′ |
| 8485 | 100′ | 6.00 |
| 8485 | 500′ | .06′ |
| 8485 | 1000′▲ | .06′ |
| 8486 | 1000′▲ | .03′ |
| 8487 | 1000′▲ | .04′ |
| 8488 | 100′ | 7.65 |
| 8488 | 500′ | .08′ |
| 8488 | 1000′▲ | .08′ |
| 8492 | 1000′§▲ | .03′ |
| 8493 | 1000′§▲ | .04′ |
| 8500* | 100′§° | 2.75 |
| 8500* | 1000′§° | .03′ |
| 8500* | 100′§■ | 2.90 |
| 8500* | 1000′§■ | .03′ |
| 8501* | 100′§° | 2.20 |
| 8501* | 1000′§° | .025′ |
| 8501* | 100′§■ | 2.35 |
| 8501* | 1000′§■ | .025′ |
| 8502* | 100′§° | 1.88 |
| 8502* | 1000′§° | .02′ |
| 8502* | 100′§■ | 2.03 |
| 8502* | 1000′§■ | .02′ |
| 8503* | 100′§° | 1.75 |
| 8503* | 1000′§° | .02′ |
| 8503* | 100′§■ | 1.90 |
| 8503* | 1000′§■ | .02′ |
| 8504* | 100′§° | 1.70 |
| 8504* | 100′§° | .02′ |
| 8504* | 100′§■ | 1.85 |
| 8504* | 1000′§■ | .02′ |
| 8505* | 100′§° | 1.68 |
| 8505* | 1000′§° | .02′ |
| 8505* | 100′§■ | 1.83 |
| 8505* | 1000′§■ | .02′ |
| 8510* | 100′§° | 3.30 |
| 8510* | 1000§° | .035′ |
| 8510* | 100′§■ | 3.45 |
| 8510* | 1000′§■ | .035′ |
| 8511* | 100′§° | 2.70 |
| 8511* | 1000′§° | .03′ |
| 8511* | 100′§■ | 2.85 |
| 8511* | 1000′§■ | .03′ |
| 8512* | 100′§° | 2.28 |
| 8512* | 1000′§° | .025′ |
| 8512* | 100′§■ | 2.43 |
| 8512* | 1000′§■ | .025′ |
| 8513* | 100′§° | 2.15 |
| 8513* | 1000′§° | .025′ |
| 8513* | 100′§■ | 2.30 |
| 8513* | 1000′§■ | .025′ |
| 8514* | 100′§° | 2.03 |
| 8514* | 1000′§° | .025′ |
| 8514* | 100′§■ | 2.18 |
| 8514* | 1000′§■ | .025′ |
| 8515* | 100′§° | 2.00 |
| 8515* | 1000′§° | .025′ |
| 8515* | 100′§■ | 2.15 |
| 8515* | 1000′§■ | .025′ |
| 8522 | 25′§° | .73 |
| 8522 | 100′§° | 2.00 |
| 8522 | 1000′§° | .03′ |
| 8522 | 100′§■ | 2.15 |
| 8522 | 1000′§■ | .03′ |
| 8523 | 25′§° | .65 |
| 8523 | 100′§° | 1.75 |
| 8523 | 1000′§° | .03′ |
| 8523 | 100′§■ | 1.90 |
| 8523 | 1000′§■ | .03′ |
| 8524 | 25′§° | .63 |
| 8524 | 100′§° | 1.50 |
| 8524 | 100′§■ | 1.65 |
| 8524* | 1000′ | .025′ |
| 8524 | 1000′§■ | .025′ |
| 8529 | 25′§° | .60 |
| 8529 | 100′§° | 1.50 |
| 8529 | 1000′§° | .025′ |
| 8529 | 100′§■ | 1.65 |
| 8529 | 1000′§■ | .025′ |
| 8530 | 25′§° | .55 |
| 8530 | 100′§° | 1.30 |
| 8530 | 1000′§° | .02′ |
| 8530 | 100′§■ | 1.45 |
| 8530 | 1000′§■ | .02′ |
| 8650 | 100′ | .09′ |
| 8651 | 100′ | .07′ |
| 8652 | 100′ | .06′ |
| 8656 | 100′ | .08′ |
| 8660 | 10′ | .70 |
| 8660 | 50′ | 2.25 |
| 8660 | 250′ | .07′ |
| 8661 | 10′ | .95 |
| 8661 | 50′ | 3.65 |
| 8661 | 250′ | .10′ |
| 8662 | 10′ | 2.40 |
| 8662 | 50′ | 11.00 |
| 8662 | 250′ | .24′ |
| 8665 | 100′ | .26′ |
| 8667 | 100′ | .13′ |
| 8668 | 10′ | .90 |
| 8668 | 50′ | 3.00 |
| 8668 | 250′ | .09 |
| 8669 | 10′ | 1.90 |
| 8669 | 50′ | 8.75 |
| 8669 | 250′ | .19′ |
| 8673 | 100′ | 16.90 |
| 8673 | 500′▲ | .17′ |
| 8675 | 100′ | 12.15 |
| 8675 | 500′▲ | .12′ |
| 8677 | 100′ | 9.15 |
| 8677 | 500′▲ | .09′ |
| 8721 | 1200-2500′ | .12′ |
| 8721 | 2501-4000′ | .12′ |
| 8721 | 4001-6000′ | .12′ |
| 8732 | 100′ | 7.50 |
| 8732 | 500′ | .08′ |
| 8732 | 1000′▲ | .08′ |
| 8734 | 100′ | 6.25 |
| 8734 | 500′ | .07′ |
| 8734 | 1000′▲ | .07′ |
| 8735 | 15′ | 1.45 |
| 8735 | 50′ | 3.80 |
| 8735 | 100′ | 7.15 |
| 8735 | 500′ | .10′ |
| 8735 | 1000′▲ | .10′ |
| 8737 | 100′ | 6.00 |
| 8737 | 500′ | .06′ |
| 8737 | 1000′▲ | .06′ |
| 8738 | 100′ | 4.25 |
| 8738 | 500′ | .05′ |
| 8738 | 1000′▲ | .05′ |
| 8739 | 100′ | 4.90 |
| 8739 | 500′ | .05′ |
| 8739 | 1000′▲ | .05′ |
| 8740 | 100′ | 3.00 |
| 8740 | 500′ | .03′ |
| 8740 | 1000′▲ | .03′ |
| 8741 | 100′ | 4.90 |
| 8741 | 500′ | .05′ |
| 8741 | 1000′▲ | .05′ |
| 8742 | 100′ | 6.50 |
| 8742 | 500′ | .07′ |
| 8742 | 1000′▲ | .07′ |
| 8743 | 100′ | 9.25 |
| 8743 | 500′ | .10′ |
| 8743 | 1000′▲ | .10′ |
| 8744 | 100′ | 13.25 |
| 8744 | 500′ | .13′ |
| 8744 | 1000′▲ | .13′ |
| 8745 | 100′ | 24.15 |
| 8745 | 500′ | .25′ |
| 8745 | 1000′▲ | .25′ |
| 8746● | | .43′ |
| 8747 | 100′ | 12.50 |
| 8747 | 500′ | .13′ |
| 8747 | 1000′▲ | .13′ |
| 8748 | 100′ | 18.00 |
| 8748 | 500′ | .18′ |
| 8748 | 1000′▲ | .18′ |
| 8749 | 100′ | 32.50 |
| 8749 | 500′ | .33′ |
| 8749 | 1000′▲ | .33′ |
| 8750● | | .58′ |
| 8753 | 100′ | 18.50 |
| 8753 | 500′ | .19′ |
| 8753 | 1000′▲ | .19′ |
| 8758 | 100′ | 5.25 |
| 8758 | 500′ | .055′ |
| 8758 | 1000′▲ | .055′ |
| 8759 | 100′ | 6.50 |
| 8759 | 500′ | .07′ |
| 8759 | 1000′▲ | .07′ |
| 8762 | 100′ | 5.50 |
| 8762 | 500′ | .06′ |
| 8762 | 1000′▲ | .06′ |
| 8779* | 100′ | 10.50 |
| 8779* | 500′ | .11′ |
| 8779* | 1000′▲ | .11′ |
| 8780* | 100′ | 10.50 |
| 8780* | 500′ | .11′ |
| 8780* | 1000′▲ | .11′ |
| 8782 | 500′▲ | .02′ |
| 8782 | 1000′▲ | .02′ |
| 8783 | 500′▲ | .07′ |
| 8785 | 500′▲ | .09′ |
| 8786 | 500′▲ | .11′ |
| 8789 | 100′ | 7.50 |
| 8789 | 500′ | .08′ |
| 8789 | 1000′▲ | .08′ |
| 8790 | 100′ | 7.75 |
| 8790 | 500′ | .08′ |
| 8790 | 1000′▲ | .08′ |
| 8791 | 100′ | 9.75 |
| 8791 | 500′ | .10′ |
| 8791 | 1000′▲ | .10′ |
| 8799 | 100′ | 8.25 |
| 8799 | 500′ | .09′ |
| 8799 | 1000′▲ | .09′ |
| 8817 | 100′ | .40′ |
| 8833 | 100′§ | 4.00 |
| 8833 | 1000′§ | .04′ |
| 8837 | 100′§ | 3.00 |
| 8837 | 1000′§ | .03′ |
| 8838 | 100′§ | 3.15 |
| 8838 | 1000′§ | .04′ |
| 8839 | 100′§ | 3.40 |
| 8839 | 1000′§ | .04′ |
| 8841 | 100′§ | 3.40 |
| 8841 | 1000′§ | .04′ |
| 8844 | 100′§ | 3.25 |
| 8844 | 1000′§ | .04′ |
| 8868 | 25′ | 1.70 |
| 8868 | 100′ | .07′ |
| 8869 | 25′ | 1.15 |
| 8869 | 100′ | .05′ |
| 8874 | | 1.05 |
| 8885 | 15′ | 1.00 |
| 8885 | 25′ | 1.65 |
| 8885 | 100′ | 5.00 |
| 8885 | 500′▲ | .07′ |
| 8898 | 10′§ | .95 |
| 8898 | 25′§ | 1.95 |
| 8898 | 100′§ | 5.75 |
| 8898 | 500′§ | .09′ |
| 8899 | 10′§ | .70 |
| 8899 | 14′§ | .93 |
| 8899 | 25′§ | 1.25 |
| 8899 | 100′§ | 3.83 |
| 8899 | 500′§ | .07′ |
| 8899 | 1000′§ | .07′ |
| 8918 | 250′§ | .025′ |
| 8919 | 1000′§ | .025′ |
| 8938 | 100§ | 4.40 |
| 8938 | 500′§ | .05′ |
| 8941 | 25′§ | .80 |
| 8941 | 100′§ | 2.50 |
| 8941 | 1000′§ | .03′ |
| 8942 | 100′§ | 3.50 |
| 8942 | 1000′§ | .04′ |
| 8943 | 25′§ | .80 |
| 8943 | 100′§ | 2.50 |
| 8943 | 1000′§ | .03′ |
| 8945 | 25′§ | .85 |
| 8945 | 100′§ | 2.75 |
| 8945 | 1000′§ | .03′ |
| 8947 | 25′§ | .95 |
| 8947 | 100′§ | 3.00 |
| 8947 | 1000′§ | .04′ |

### BELDENAMEL MAGNET WIRE

| Size | ¼-Lb. Spools List Price | ½-Lb. Spools List Price |
|---|---|---|
| 14 | — | $1.05 |
| 16 | — | 1.03 |
| 18 | — | 1.03 |
| 20 | — | 1.08 |
| 22 | — | 1.13 |
| 24 | — | 1.18 |
| 26 | — | 1.25 |
| 28 | $.78 | 1.30 |
| 30 | .85 | 1.45 |
| 32 | .85 | 1.48 |
| 34 | .93 | 1.60 |
| 36 | 1.08 | 1.88 |
| 38 | 1.35 | — |
| 40 | 1.93 | — |

### HNC NYLCLAD

| Size | ½-Lb. Spools List Price | 1-Lb. Spools List Price |
|---|---|---|
| 14 | $1.03 | $1.95 |
| 16 | 1.03 | 1.95 |
| 18 | 1.05 | 2.00 |
| 20 | 1.10 | 2.08 |
| 22 | 1.15 | 2.18 |
| 24 | 1.20 | 2.30 |
| 26 | 1.30 | 2.53 |
| 28 | 1.43 | 2.75 |
| 30 | 1.58 | 3.08 |
| 32 | 1.65 | 3.25 |
| 34 | 1.88 | 3.75 |
| 36 | 2.20 | 4.25 |
| 38 | 2.88 | 5.95 |
| 40 | 4.45 | 9.35 |

All put-ups are one piece per spool except 8661-250, 8662-250 and 8669-250 which are two pieces per spool. All prices subject to change without notice. ¶ New Put-up. ▲ Symbol indicates length may vary ± 10% from length shown; all others are exact lengths as shown.
* New item. § Specify color. ° Solid. ■ Striped. ● To customer's specified length. † Temporarily out of production.
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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

# HICKORY BRAND
## Electronic Wires and Cables
## *Plastic Insulated and Sheathed*

## COAXIAL CABLES (American Standard RF Cables)

#RG-5 B/U

#RG-59 A/U

#RG-11 A/U

Hickory Brand Coaxial Cables are designed to provide definite characteristics. Polyethylene is used for conductor insulation and assures maximum operating efficiency. These cables are especially adaptable to applications requiring high, very high and ultra-high frequencies including community antenna systems and closed circuit TV. Typical examples of RG/U Cables are shown. Because of the constantly changing requirements for this type of cable, it is suggested that the factory be contacted for any cables not listed herein.

| Army Navy Type No. | Inner Conductor In. | Diameter of Dielectr. In. | Nominal Impedance Ohms | Attenuation DB/100 Ft. 10% 400 Mc | Attenuation DB/100 Ft. 10% 3000 Mc | Nominal Overall Diameter In. |
|---|---|---|---|---|---|---|
| RG-58C/U | .0375" 19 x .0071 | 0.116" | 50 | 14 | 50 | 0.195" |
| RG-55A/U | 0.035" 20 AWG | 0.116" | 50 | 11.7 | 40 | 0.216" |
| RG-58/U | 0.051" 16 AWG | 0.185" | 50 | 6.5 | 24 | 0.332" |
| RG-8A/U | 7 x 21 AWG | 0.285" | 50 | 5.5 | 19 | 0.405" |
| RG-10A/U | 7 x 21 AWG | 0.285" | 50 | 5.5 | 19 | 0.475" |
| RG-14A/U | 0.106" 10 AWG | 0.370" | 50 | 4.3 | 14 | 0.545" |
| RG-74A/U | 0.106" 10 AWG | 0.370" | 50 | 4.3 | 14 | 0.615" |
| RG-17A/U | 0.195" | 0.680" | 50 | 2.5 | 11 | 0.870" |
| RG-18A/U | 0.195" | 0.680" | 50 | 2.5 | 11 | 0.945" |
| RG-19A/U | 0.260" | 0.910" | 50 | 2.3 | — | 1.120" |
| RG-59A/U | 0.023" | 0.146" | 75 | 9 | 30 | 0.242" |
| RG-6A/U | .0285" 21 AWG Copperweld | 0.185" | 75 | 6.5 | 23 | 0.332" |
| RG-11A/U | 7 x 26 AWG | 0.285" | 75 | 5.2 | 18.5 | 0.405" |
| RG-12A/U | 0.016" 7 x 26 AWG | 0.285" | 75 | 5.2 | 18.5 | 0.475" |
| RG-13A/U | 0.016" 7 x 26 AWG | 0.285" | 75 | 5.2 | 18.5 | 0.425" |
| RG-62A/U | 0.0253" 22 AWG | 0.146" | 93 | 8 | — | 0.242" |
| RG-71/U | 0.0253" 22 AWG | 0.146" | 93 | 8 | — | 0.250" |
| RG-63B/U | 0.0253" 22 AWG Copperweld | 0.285" | 125 | 5.5 | — | 0.405" |
| RG-79B/U | 0.0253" 22 AWG Copperweld | 0.285" | 125 | 5.5 | — | 0.475" |

## TV LEAD-IN WIRES

### No. 8225

2 conductors 20 AWG 7 x 20 copper .058" x .400" nom dia.
SPECIFICATIONS: 2 cond. parallel brown polyethylene insulation.
Nom. Attenuation:
1.1 db/100' at 100 m.c.
1.7 db/100' at 200 m.c.
2.2 db/100' at 300 m.c.
2.7 db/100' at 400 m.c.
Impedance—300 ohms
Capacitance—4.4 mmf/ft

LENGTH: 50' coil 75' coil 100' coil 500' spool 1000' spool

### No. 8230

2 conductors 20 AWG 7 x 28 copperweld .072" x .400" nom dia.
SPECIFICATIONS: 2 cond. parallel brown polyethylene insulation.
Nom. Attenuation:
1.1 db/100' at 100 m.c.
1.7 db/100' at 200 m.c.
2.2 db/100' at 300 m.c.
2.7 db/100' at 400 m.c.
Impedance—300 ohms
Capacitance—4.4 mmf/ft

LENGTH: 50' coil 75' coil 100' coil 500' spool 1000' spool

## ANTENNA ROTOR CABLES

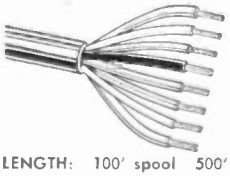
### No. 8465

4 conductors 22 AWG 7 x 30 copper .070" x .390" nom dia.

SPECIFICATIONS: 4 cond. parallel grey vinyl insulation. 1 outer conductor tinned for polarity.

LENGTH: 75' coil 100' coil 500' spool 1000' spool

### No. 8488



8 conductors 22 AWG 7 x 30 copper .205" nom dia.

SPECIFICATIONS: 8 cond. cabled .010 vinyl insulation black, blue, brown, green, orange, red, white and yellow. .020 tubed vinyl jacket.

LENGTH: 100' spool 500' spool 1000' spool

***ALSO AVAILABLE ARE HICKORY BRAND PUBLIC ADDRESS and SOUND SYSTEM CABLES, HOOK-UP AND LEAD WIRES, MICROPHONE CABLES, SHIELDING AND BONDING CABLE AND FLEXIBLE TUBING***

**HICKORY BRAND ELECTRONIC WIRES and CABLES** *are Manufactured by*

**SUPERIOR CABLE CORPORATION • HICKORY, NORTH CAROLINA**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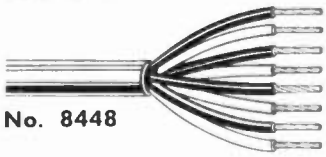
World Radio History

# HICKORY BRAND
## Electronic Wires and Cables
### *Plastic Insulated and Sheathed*

## INTERCOMMUNICATING and SOUND SYSTEM CABLES

No. 8735



No. 8448

No. 8739

Hickory Brand shielded and unshielded intercommunicating and sound system cables provide dependable service as interconnecting cables on electronic equipment, remote control circuits, special press-to-talk microphone circuits, power supply cords and a multitude of electronic applications. These cables are designed for long service life, excellent mechanical and electrical characteristics and uniform quality.

Special vinyl compounds assure high insulation resistance, best electrical and physical properties. Precision short lay cabling maintain conductor balance, provide quiet circuit, free from cross talk. The outer, free stripping vinyl jacket is waterproof, weather resistant and is ideal for all industrial, commercial and home installation. Quick termination, positive color coding and small diameter insure maximum economy in all installations. For balanced intercommunication systems, annuciators, telephones, control circuit cable, electronic computer cable, multiple speaker cable and signal systems.

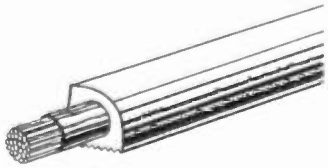
| Cat. No. | No. Conductors | Cond. Type | Ins. | Dia. over Jckt. | Length |
|---|---|---|---|---|---|
| 8737 | 2 (shielded) | 22 (7 x 30) | .015" | .160" | 500'-1000' |
| 8759 | 2 (shielded) | 20 (7 x 28) | .015" | .185" | 500'-1000' |
| 8739 | 2 (shielded) | 22 (solid) | .015" | .150" | 500'-1000' |
| 8735 | 3 (shielded) | 22 (7 x 30) | .015" | .189" | 500'-1000' |
| 8734 | 3 (1 shielded) | 22 (7 x 30) | .015" | .184" | 500'-1000' |
| 8732 | 4 (2 shielded) | 22 (7 x 30) | .015" | --- | 500'-1000' |
| 8738 | 2 (shielded) | 22 (solid) | .015" | --- | 500'-1000' |
| 8740 | 1 pair | 22 (solid) | .015" | .134" | 500'-1000' |
| 8741 | 2 pair | 22 (solid) | .015" | .185" | 500'-1000' |
| 8742 | 3 pair | 22 (solid) | .015" | .220" | 500'-1000' |
| 8743 | 6 pair | 22 (solid) | .010" | .265" | 500'-1000' |
| 8744 | 9 pair | 22 (solid) | .010" | .320" | 500'-1000' |
| 8753 | 11 pair | 22 (solid) | .010" | .360" | 500'-1000' |
| 8745 | 16 pair | 22 (solid) | .010" | .390" | 500'-1000' |
| 8746 | 26 pair | 22 (solid) | .010" | .510" | 500'-1000' |
| 8747 | 6 pair | 22 (7 x 30) | .010" | .310" | 500'-1000' |
| 8748 | 9 pair | 22 (7 x 30) | .010" | .355" | 500'-1000' |
| 8749 | 16 pair | 22 (7 x 30) | .010" | .460" | 500'-1000' |
| 8750 | 26 pair | 22 (7 x 30) | .010" | .555" | 500'-1000' |
| 8442 | 2 conductors | 22 (7 x 30) | .015" | .130" | 500'-1000' |
| 8443 | 3 conductors | 22 (7 x 30) | .015" | .140" | 500'-1000' |
| 8444 | 4 conductors | 22 (7 x 30) | .015" | .158" | 500'-1000' |
| 8445 | 5 conductors | 22 (7 x 30) | .015" | .170" | 500'-1000' |
| 8446 | 6 conductors | 22 (7 x 30) | .015" | .212" | 500'-1000' |
| 8447 | 7 conductors | 22 (7 x 30) | .015" | .230" | 500'-1000' |
| 8448 | 8 conductors | 22 (7 x 30) | .015" | .235" | 500'-1000' |
| 8449 | 9 conductors | 22 (7 x 30) | .015" | .245" | 500'-1000' |

## QUARTER-ROUND CABLE

Shaped polyvinyl chloride jacketed intercommunicating and signal cable enclosing as many as 51 pairs of color coded PVC insulated conductors. Easily installed in any type structure. Eliminates unsightly installation of wire, cable or exposed duct, because QR Cable fits snugly and neatly against floor or wall. Matches decor of room because it comes in six popular colors: Black, Ivory, Green, Brown, Beige and Gray. Installs easily with clip or can be cemented in place. Order length required.

**11, 16, 26, 51 pairs available — 24 AWG**

**11, 16, 26 pairs available — 22 AWG**



**HICKORY BRAND ELECTRONIC WIRES and CABLES *are Manufactured by***

**SUPERIOR CABLE CORPORATION • HICKORY, NORTH CAROLINA**

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World Radio History

CONSOLIDATED

# MAGNET WIRE

**Also available are other sizes and insulations: Sodereze, Thermaleze, Nyform, Nylon, Bondeze, Gripeze, and all others.**

Popular, profitable specialty wire packaged for easy selling in radio-electrical, department, specialty and hardware stores. Wide variety of sizes and insulations. Keeps stock in perfect order, always saleable. Supplied on Spool as shown and in Heavier Weights for whatever weight desired. Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling.

### PLAIN ENAMEL MAGNET WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.45 | $0.75 | $1.39 |
| 15 | .45 | .80 | 1.40 |
| 16 | .50 | .84 | 1.42 |
| 17 | .50 | .87 | 1.44 |
| 18 | .50 | .89 | 1.45 |
| 19 | .55 | .92 | 1.49 |
| 20 | .55 | .94 | 1.50 |
| 21 | .55 | .95 | 1.59 |
| 22 | .55 | .97 | 1.70 |
| 23 | .58 | .99 | 1.75 |
| 24 | .60 | 1.00 | 1.87 |
| 25 | .65 | 1.10 | 1.95 |
| 26 | .65 | 1.10 | 2.03 |
| 27 | .70 | 1.15 | 2.14 |
| 28 | .73 | 1.20 | 2.25 |
| 29 | .75 | 1.25 | 2.30 |
| 30 | .80 | 1.30 | 2.35 |
| 31 | .89 | 1.35 | 2.45 |
| 32 | .90 | 1.40 | 2.50 |
| 33 | .95 | 1.50 | 2.65 |
| 34 | 1.00 | 1.70 | 2.75 |
| 35 | 1.09 | 1.84 | 3.14 |
| 36 | 1.29 | 2.00 | 3.50 |
| 37 | 1.45 | 2.25 | 4.00 |
| 38 | 1.70 | 2.50 | 4.50 |
| 39 | 1.87 | 3.00 | 5.00 |
| 40 | 2.50 | 3.75 | 6.00 |

### HEAVY FORMVAR MAGNET WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.73 | $1.24 | $2.27 |
| 15 | .73 | 1.34 | 2.33 |
| 16 | .84 | 1.39 | 2.35 |
| 17 | .84 | 1.44 | 2.37 |
| 18 | .84 | 1.47 | 2.39 |
| 19 | .92 | 1.52 | 2.45 |
| 20 | .92 | 1.54 | 2.51 |
| 21 | .92 | 1.55 | 2.61 |
| 22 | .92 | 1.60 | 2.80 |
| 23 | .97 | 1.64 | 2.87 |
| 24 | 1.00 | 1.65 | 3.07 |
| 25 | 1.15 | 1.97 | 3.50 |
| 26 | 1.19 | 1.98 | 3.64 |
| 27 | 1.25 | 2.07 | 3.84 |
| 28 | 1.34 | 2.15 | 4.04 |
| 29 | 1.37 | 2.24 | 4.14 |
| 30 | 1.44 | 2.34 | 4.22 |
| 31 | 1.67 | 2.52 | 4.58 |
| 32 | 1.69 | 2.63 | 4.67 |
| 33 | 1.77 | 2.81 | 4.94 |
| 34 | 1.87 | 3.19 | 5.16 |
| 35 | 2.04 | 3.46 | 5.88 |
| 36 | 2.39 | 3.75 | 6.58 |
| 37 | 2.72 | 4.20 | 7.50 |
| 38 | 3.17 | 4.69 | 8.45 |
| 39 | 3.50 | 5.64 | 9.38 |
| 40 | 4.69 | 7.04 | 11.27 |

### SINGLE FORMVAR MAGNET WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.66 | $1.12 | $2.07 |
| 15 | .66 | 1.20 | 2.10 |
| 16 | .75 | 1.25 | 2.14 |
| 17 | .75 | 1.30 | 2.15 |
| 18 | .75 | 1.34 | 2.17 |
| 19 | .83 | 1.39 | 2.23 |
| 20 | .83 | 1.40 | 2.25 |
| 21 | .83 | 1.42 | 2.37 |
| 22 | .83 | 1.45 | 2.56 |
| 23 | .89 | 1.49 | 2.62 |
| 24 | .90 | 1.50 | 2.80 |
| 25 | .97 | 1.65 | 2.92 |
| 26 | .99 | 1.65 | 3.05 |
| 27 | 1.05 | 1.74 | 3.20 |
| 28 | 1.10 | 1.80 | 3.37 |
| 29 | 1.14 | 1.87 | 3.46 |
| 30 | 1.20 | 1.95 | 3.52 |
| 31 | 1.34 | 2.02 | 3.67 |
| 32 | 1.35 | 2.10 | 3.75 |
| 33 | 1.42 | 2.25 | 3.95 |
| 34 | 1.50 | 2.55 | 4.12 |
| 35 | 1.64 | 2.81 | 4.70 |
| 36 | 1.92 | 3.00 | 5.26 |
| 37 | 2.17 | 3.37 | 6.00 |
| 38 | 2.55 | 3.75 | 6.75 |
| 39 | 2.80 | 4.50 | 7.50 |
| 40 | 3.75 | 5.64 | 9.00 |

### DOUBLE COTTON COVERED MAGNET WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.55 | $0.95 | $1.87 |
| 15 | .58 | .98 | 1.90 |
| 16 | .60 | 1.00 | 1.95 |
| 17 | .60 | 1.05 | 2.00 |
| 18 | .60 | 1.10 | 2.05 |
| 19 | .65 | 1.15 | 2.28 |
| 20 | .65 | 1.25 | 2.34 |
| 21 | .77 | 1.34 | 2.50 |
| 22 | .82 | 1.39 | 2.64 |
| 23 | .88 | 1.50 | 2.75 |
| 24 | .94 | 1.60 | 3.00 |
| 25 | .95 | 1.65 | 3.14 |
| 26 | 1.00 | 1.75 | 3.39 |
| 27 | 1.15 | 1.89 | 3.64 |
| 28 | 1.20 | 2.14 | 4.00 |
| 29 | 1.30 | 2.39 | 4.50 |
| 30 | 1.32 | 2.50 | 4.75 |
| 31 | 1.50 | 2.75 | 5.00 |
| 32 | 1.75 | 3.00 | 5.64 |
| 33 | 1.89 | 3.37 | 6.25 |
| 34 | 2.14 | 3.89 | 7.00 |
| 35 | 2.39 | 4.25 | 7.50 |
| 36 | 2.75 | 4.89 | 8.65 |
| 37 | 2.25 | 6.25 | 11.40 |
| 38 | 4.75 | 8.65 | 16.50 |
| 39 | 6.00 | 11.50 | 20.00 |
| 40 | 8.00 | 15.00 | 28.15 |

### BARE COPPER WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.53 | $0.97 | $1.54 |
| 15 | .57 | 1.00 | 1.60 |
| 16 | .60 | 1.10 | 1.83 |
| 17 | .52 | 1.12 | 1.87 |
| 18 | .63 | 1.14 | 1.90 |
| 19 | .65 | 1.17 | 1.95 |
| 20 | .67 | 1.20 | 2.00 |
| 21 | .68 | 1.20 | 2.07 |
| 22 | .70 | 1.24 | 2.14 |
| 23 | .70 | 1.27 | 2.17 |
| 24 | .70 | 1.30 | 2.20 |
| 25 | .72 | 1.30 | 2.20 |
| 26 | .73 | 1.34 | 2.27 |
| 27 | .75 | 1.37 | 2.30 |
| 28 | .77 | 1.40 | 2.40 |
| 29 | .77 | 1.42 | 2.47 |
| 30 | .77 | 1.42 | 2.47 |
| 31 | .77 | 1.44 | 2.53 |
| 32 | .77 | 1.44 | 2.60 |
| 33 | .78 | 1.47 | 2.68 |
| 34 | .80 | 1.50 | 2.77 |
| 35 | .82 | 1.55 | 2.90 |
| 36 | .84 | 1.60 | 3.04 |
| 37 | .92 | 1.75 | 3.22 |
| 38 | 1.00 | 1.90 | 3.40 |
| 39 | 1.02 | 1.97 | 3.45 |
| 40 | 1.04 | 2.04 | 3.50 |

### TINNED COPPER WIRE

| Size | ¼ lb. | ½ lb. | 1 lb. |
|---|---|---|---|
| 14 | $0.67 | $1.13 | $1.75 |
| 15 | .73 | 1.27 | 1.92 |
| 16 | .80 | 1.40 | 2.00 |
| 17 | .84 | 1.44 | 2.03 |
| 18 | .87 | 1.47 | 2.08 |
| 19 | .90 | 1.50 | 2.12 |
| 20 | .94 | 1.53 | 2.17 |
| 21 | .95 | 1.53 | 2.24 |
| 22 | .97 | 1.57 | 2.30 |
| 23 | .98 | 1.58 | 2.34 |
| 24 | 1.00 | 1.60 | 2.37 |
| 25 | 1.00 | 1.60 | 2.37 |
| 26 | 1.00 | 1.60 | 2.37 |
| 27 | 1.05 | 1.67 | 2.64 |
| 28 | 1.10 | 1.75 | 2.90 |
| 29 | 1.13 | 1.84 | 2.94 |
| 30 | 1.17 | 1.92 | 2.97 |
| 31 | 1.20 | 2.00 | 3.04 |
| 32 | 1.24 | 2.09 | 3.10 |
| 33 | 1.27 | 2.17 | 3.19 |
| 34 | 1.30 | 2.25 | 3.27 |
| 35 | 1.32 | 2.30 | 3.40 |
| 36 | 1.34 | 2.34 | 3.54 |
| 37 | 1.36 | 2.42 | 3.72 |
| 38 | 1.38 | 2.50 | 3.90 |
| 39 | 1.39 | 2.50 | 3.95 |
| 40 | 1.40 | 2.67 | 4.00 |

## ANALYZER CABLE

SPECIFICATIONS: Extra flexible tinned copper; rubber covered; color coded; Brown cotton braid overall.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1501 | 8 condr. | 100 ft. | 2-14<br>6-18 | 41 x 30<br>16 x 30 | 1/64 | .300 | $26.30 |
| 1502 | 9 condr. | 100 ft. | 2-14<br>7-18 | 41 x 30<br>16 x 30 | 1/64 | .320 | 27.50 |

## TINNED COPPER SHIELDED CABLE

For radio, auto and electrical work.

SPECIFICATIONS: Extra flexible; tinned copper stranded; cotton serve; live color-coded rubber insulation; cotton serve over all conductors; tinned shielded overall braid.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1471 | 1 condr. | 100 ft. | 18 | 16 x 30 | 1/64 | .110 | $ 6.60 |
| 1472 | 2 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .190 | 8.50 |
| 1473 | 3 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .200 | 11.00 |
| 1474 | 4 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .220 | 14.45 |
| 1475 | 5 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .235 | 17.05 |
| 1476 | 6 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .250 | 21.00 |
| 1477 | 7 condr. | 100 ft. | 20 | 10 x 30 | 1/64 | .265 | 25.30 |

## TEST PROD WIRE

A specially constructed high grade wire for use on laboratory test equipment, bench analyzers, etc. Nos. 1001, 1002, 1003; Size 20, Stranding 41x36, Insulation Thickness .043". Nos. 1006, 1007, 1008, 1009; Size 18, Stranding 65x36, Insulation Thickness .088", Finished O.D. .230"

| No. | Length Package & Color | Specifications | List Price Each |
|---|---|---|---|
| 1001 | 100 ft. Spool Black Red | Extra flexible tinned copper wire with red or black live rubber insulation 5000 Volts | $2.25 |
| 1002 | 250 ft. Spool Black Red | Same as No. 1001 5000 Volts | 5.60 |
| 1003 | 1000 ft. Spool Black Red | Same as No. 1001 5000 Volts | 21.00 |
| 1006 | 100 ft. Spool Black Red | Same as No. 1001 10,000 Volts | $4.30 |
| 1007 | 250 ft. Spool Black Red | Same as No. 1001 10,000 Volts | 10.75 |
| 1008 | 500 ft. Spool Black Red | Same as No. 1001 10,000 Volts | 20.00 |
| 1009 | 1000 ft. Spool Black Red | Same as No. 1001 10,000 Volts | 40.00 |

## FLEXIBLE COTTON BRAIDED CABLE

For speakers, testers, battery hook-up, etc. (longer continuous lengths if desired).

**SPECIFICATIONS:** Tinned flexible copper; cotton sleeve; live colored rubber insulation; bunched individual conductors; heavy brown cotton braid overall; color coded. Length 100 ft.; Size 20; Stranding 10x30; Insulation Thickness 1/64".

| Type No. | Type | Finished O.D. (Inches) | List Price Each | Type No. | Type | Finished O.D. (Inches) | List Price Each |
|---|---|---|---|---|---|---|---|
| 1481 | 1 condr. | .150 | $ 4.15 | 1487 | 7 condr. | .275 | $16.60 |
| 1482 | 2 condr. | .175 | 5.60 | 1488 | 8 condr. | .300 | 22.45 |
| 1483 | 3 condr. | .200 | 7.75 | 1489 | 9 condr. | .310 | 23.25 |
| 1484 | 4 condr. | .275 | 9.65 | 1490 | 10 condr. | .325 | 25.30 |
| 1485 | 5 condr. | .250 | 11.60 | 1494 | 11 condr. | .335 | 27.20 |
| 1486 | 6 condr. | .260 | 14.45 | 1495 | 12 condr. | .350 | 33.80 |

## CONTROL PANEL INTERCOM CABLE

**SPECIFICATIONS:** Tinned copper; vinylite plastic insulation; wire twisted together; closely woven braided tinned copper shield. Length 100 ft.; Size 22; Stranding: Solid; Insulation Thickness .010"

| Type No. | Type | Finished O.D. (Inches) | List Price Each |
|---|---|---|---|
| 1468 | 2 conductors | .110 | $ 5.25 |
| 1469 | 3 conductors | .145 | 6.70 |

## LEAD COVERED CABLE

For freedom from interference, corrosion and dampness.

**SPECIFICATIONS:** Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead sheath. Length 100 ft.; Size: 18; Stranding: Solid; Insulation Thickness: 1/32".

| | | | |
|---|---|---|---|
| 1453 | 2 conductors | .240 x .200 | $21.50 |
| 1454 | 3 conductors | .420 | 37.50 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# Military Types . . . . A ROME CABLE PRODUCT

CONSOLIDATED

## THERMOPLASTIC INSULATED HOOK-UP WIRE
## SPECIFICATION MIL-W-76A (SUPERSEDES JAN. C-76)

This specification has been approved by the Departments of the Army, Navy, and Air Force. Insulation possesses high dielectric strength. Impervious to oils, acids, alkalies, moisture and flame. The following types and colors are available for shipment from stock—
*See other sizes, types and covering over insulated wire.

**SPECIFICATION MIL-W-76A**

**TYPE HW** Single Conductor, Solid or Stranded Conductor as indicated, Tinned Copper, Thermoplastic Insulation. No further covering. (SUPERSEDING SRIR—SPECIFICATION JAN-C-76). Ins. Nom., .016"; Max. R.M.S. Voltage, 1000; Stand. Spool, 1000 ft.

**TYPE MW** Single Conductor, Solid or Stranded Conductor as indicated, Tinned Copper, Thermoplastic Insulation. No further covering. (SUPERSEDING SRHV—SPECIFICATION JAN-C-76). Ins. Nom., .021"; Max. R.M.S. Voltage, 2500 Stand. Spool, 1000 ft.

| CAT. NO. | MIL-W-76A TYPE DESIGNATION | SIZE | STRANDING | O.D. | MAX. COLORS |
|---|---|---|---|---|---|
| 707 | MW-C 22( 1) U | 22 | Solid | .062" | 1 thru 13 |
| 717 | MW-C 20( 1) U | 20 | Solid | .069" | 1 thru 13 |
| 727 | MW-C 18( 1) U | 18 | Solid | .077" | 1 thru 13 |
| 737 | MW-C 22( 7) U | 22 | 7/.010 | .070" | 1 thru 22 |
| 747 | MW-C 20( 7) U | 20 | 7/.0126 | .078" | 1 thru 22 |
| 757 | MW-C 18(16) U | 18 | 19/.0092 | .089" | 1 thru 22 |
| 637 | HW-C 22( 1) U | 22 | Solid | .098" | 1 thru 13 |
| 642 | HW-C 20( 1) U | 20 | Solid | .105" | 1 thru 13 |
| 647 | HW-C 18( 1) U | 18 | Solid | .113" | 1 thru 13 |
| 667 | HW-C 22( 7) U | 22 | 7/.010 | .106" | 1 thru 22 |
| 672 | HW-C 20( 7) U | 20 | 7/.0126 | .114" | 1 thru 22 |
| 677 | HW-C 18(16) U | 18 | 19/.0092 | .125" | 1 thru 22 |

**AVAILABLE COLORS—(COLOR CODE)**
***COVERING OVER INSULATED WIRE**

| | | | Symbol | Type |
|---|---|---|---|---|
| 1—Black (0) | 12—Pink | | U | None |
| 2—Brown (1) | 13—Dark Blue | | J | Jacket (Nylon) |
| 3—Red (2) | 14—White/Black Tr. | (90) | B | *Braid |
| 4—Orange (3) | 15—White/Red | (92) | S | *Shield |
| 5—Yellow (4) | 16—White/Green | (95) | JS | Jacket and Shield (Nylon) |
| 6—Green (5) | 17—White/Yellow | (94) | BS | **Braid and Shield |
| 7—Blue (6) | 18—White/Blue | (96) | SJ | Shield and Outer Jacket (Nylon) |
| 8—Violet (Purple) (7) | 19—White/Brown | (91) | BSJ | Jacket, Shield, Outer Jacket |
| 9—Gray (Slate) (8) | 20—White/Orange | (93) | | **Braid, Shield, Outer Jacket |
| 10—White (9) | 21—White/Gray | (98) | | |
| 11—Tan | | | | |

*Other color combinations and sizes on special production order. *Available on factory order. Spec. MIL-W-76A. Types LW & HF with above coverings. We are also prepared to furnish wires to Military Specifications MIL-W-1687 A—Types B, C, D, E, EE, FF, X. Quoted on request. Write for the Rome Cable Corporation TR-5 catalogue, complete with Military Specifications for Electronic Instrumentation and Sub-Miniature Wires, Multi-Conductor and Co-Axial Cables. Underwriter's Laboratory Approved—Rome High Temp® —Rome Synthinol® —Registered®.

# Rome Synthinol . . . . A ROME CABLE PRODUCT
## THERMOPLASTIC INSULATED HOOK-UP WIRE

U/L Voltage Rating—300 Volts Max. Single and Two-Conductor Twisted Cable: Color Coded

Rome Synthinol is a polyvinyl chloride type of thermoplastic insulation impervious to oils, acids, alkalies, moisture and flame, and possessing unusually high dielectric strength. Colors are of gem-like permanency. Approved by Underwriters' Laboratories where exposed to temperatures not exceeding 80° Centigrade or where exposed to oil at temperatures not exceeding 60° Centigrade with ratings at 300 and 600 volts as indicated below. The Underwriters' approval seal appears on every factory length reel of Rome Synthinol.

Rome Synthinol is specially designed for the chassis and sub-chassis wiring of radio and television receivers and transmitters as well as all other types of electronic equipment. It has physical and electrical characteristics of unusual permanency.

### SPECIFICATIONS

**Conductors:** Annealed tinned solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.
In order to provide maximum flexibility and prevent unraveling of the strands, a short lay stranding is used as follows:
No. 22 Awg. .33" max. No. 30 Awg. .50" max.
**Insulation:** Rome Synthinol—Approved by and conforming to Underwriters' requirements and the performance specifications of A.S.T.M. D 734. Available in solid colors or with a surface applied contrasting colored spiral stripe.

### Typical Test Results

Breakdown Voltage:
1/64" Synthinol ..... over 10000 volts
1/32" Synthinol ..... over 18000 volts
Insulation Resistance:
1/32" Synthinol ..... over 5000 megohms feet

| Cat. No. | Size Awg. | Stranding | Nom. Ins. Thickness | Volts | Max. Dia. Inches | Length | List Price |
|---|---|---|---|---|---|---|---|
| 801 | 22 | Solid | 1/64 | 300 | .065 | 25' Carton | $ 0.39 |
| 803 | 22 | Solid | 1/64 | 300 | .065 | 100' Carton | 1.39 |
| 805 | 22 | Solid | 1/64 | 300 | .065 | 500' Spool | 5.95 |
| 807 | 22 | Solid | 1/64 | 300 | .065 | 1000' Spool | 10.15 |
| 811 | 20 | Solid | 1/64 | 300 | .071 | 25' Carton | .45 |
| 813 | 20 | Solid | 1/64 | 300 | .071 | 100' Carton | 2.00 |
| 815 | 20 | Solid | 1/64 | 300 | .071 | 500' Spool | 6.65 |
| 817 | 20 | Solid | 1/64 | 300 | .071 | 1000' Spool | 13.18 |
| 841 | 18 | Solid | 1/64 | 300 | .080 | 25' Carton | .57 |
| 842 | 18 | Solid | 1/64 | 300 | .080 | 100' Carton | 2.04 |
| 843 | 18 | Solid | 1/64 | 300 | .080 | 500' Spool | 9.22 |
| 844 | 18 | Solid | 1/64 | 300 | .080 | 1000' Spool | 17.37 |
| 821 | 22 | 7 x No. 30 | 1/64 | 300 | .069 | 25' Carton | .45 |
| 823 | 22 | 7 x No. 30 | 1/64 | 300 | .069 | 100' Carton | 2.00 |
| 825 | 22 | 7 x No. 30 | 1/64 | 300 | .069 | 500' Spool | 6.65 |
| 827 | 22 | 7 x No. 30 | 1/64 | 300 | .069 | 1000' Spool | 13.18 |
| 831 | 20 | 10 x No. 30 | 1/64 | 300 | .078 | 25' Carton | .55 |
| 833 | 20 | 10 x No. 30 | 1/64 | 300 | .078 | 100' Carton | 1.84 |
| 835 | 20 | 10 x No. 30 | 1/64 | 300 | .078 | 500' Spool | 8.48 |
| 837 | 20 | 10 x No. 30 | 1/64 | 300 | .078 | 1000' Spool | 15.44 |
| 846 | 18 | 16 x No. 30 | 1/64 | 300 | .085 | 25' Carton | .61 |
| 847 | 18 | 16 x No. 30 | 1/64 | 300 | .085 | 100' Carton | 2.15 |
| 848 | 18 | 16 x No. 30 | 1/64 | 300 | .085 | 500' Spool | 9.72 |
| 849 | 18 | 16 x No. 30 | 1/64 | 300 | .085 | 1000' Spool | 18.59 |
| 851 | 22 | Solid | 1/32 | 600 | .097 | 25' Carton | .51 |
| 852 | 22 | Solid | 1/32 | 600 | .097 | 100' Carton | $51.84 |
| 853 | 22 | Solid | 1/32 | 600 | .097 | 500' Spool | 8.18 |
| 854 | 22 | Solid | 1/32 | 600 | .097 | 1000' Spool | 15.77 |
| 856 | 20 | Solid | 1/32 | 600 | .104 | 25' Carton | .73 |
| 857 | 20 | Solid | 1/32 | 600 | .104 | 100' Carton | 2.35 |
| 858 | 20 | Solid | 1/32 | 600 | .104 | 500' Spool | 9.40 |
| 859 | 20 | Solid | 1/32 | 600 | .104 | 1000' Spool | 17.87 |
| 861 | 18 | Solid | 1/32 | 600 | .112 | 25' Carton | .72 |
| 862 | 18 | Solid | 1/32 | 600 | .112 | 100' Carton | 2.66 |
| 863 | 18 | Solid | 1/32 | 600 | .112 | 500' Spool | 12.27 |
| 864 | 18 | Solid | 1/32 | 600 | .112 | 1000' Spool | 23.52 |
| 866 | 22 | 7 x No. 30 | 1/32 | 600 | .102 | 25' Carton | .66 |
| 867 | 22 | 7 x No. 30 | 1/32 | 600 | .102 | 100' Carton | 3.07 |
| 868 | 22 | 7 x No. 30 | 1/32 | 600 | .102 | 500' Spool | 9.41 |
| 869 | 22 | 7 x No. 30 | 1/32 | 600 | .102 | 1000' Spool | 17.88 |
| 871 | 20 | 10 x No. 30 | 1/32 | 600 | .110 | 25' Carton | .76 |
| 872 | 20 | 10 x No. 30 | 1/32 | 600 | .110 | 100' Carton | 2.72 |
| 873 | 20 | 10 x No. 30 | 1/32 | 600 | .110 | 500' Spool | 10.84 |
| 874 | 20 | 10 x No. 30 | 1/32 | 600 | .110 | 1000' Spool | 20.95 |
| 876 | 18 | 16 x No. 30 | 1/32 | 600 | .119 | 25' Carton | .87 |
| 877 | 18 | 16 x No. 30 | 1/32 | 600 | .119 | 100' Carton | 3.15 |
| 878 | 18 | 16 x No. 30 | 1/32 | 600 | .119 | 500' Spool | 13.08 |
| 879 | 18 | 16 x No. 30 | 1/32 | 600 | .119 | 1000' Spool | 23.38 |
| 881 | 20 | 10 x No. 30 | .025 | 300 | .170 | 100' Coil | 3.86 |
| 882 | 20 2 condr. | 10 x No. 30 | .025 | 300 | .170 | 500' Spool | 17.79 |
| 883 | 20 2 condr. | 10 x No. 30 | .025 | 300 | .170 | 1000' Spool | 35.26 |

COLORS: Black, Brown, Light Blue, Dark Blue, Green, Orange, Pink, Purple, Red, Slate, Tan, White, Yellow.

# Rome Hi-Temp . . . . A ROME CABLE PRODUCT
## RUBBER INSULATED HOOK-UP WIRE

Underwriters' grooved and labeled* for 75°C.—300 volts

The result of extensive laboratory development and proved by a decade of service—Rome Hi-Temp is offered for radio and electronic circuits where resistance to moisture and heat is required.

### SPECIFICATIONS

**Conductors:** Annealed tinned solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.
In order to provide maximum flexibility and prevent unraveling of the strands a short lay stranding is used as follows:
No. 22 Awg. .33 inch max.
No. 20 Awg. .50 inch. max.
**Insulation:** Rome Hi-Temp—a high quality, free-stripping heat-resistant rubber insulation approved by Underwriters' Laboratories.

### Typical Test Results

Breakdown Voltage (1/32" Hi-Temp) ..... 10500 volts
Insulation Resistance ..... Over 10000 megohms feet
*Only factory length reels are furnished with U/L's labels.

| Cat. No. | Size No. | Stranding No. | Length | Insulation Thickness | Diameter | List Price Each |
|---|---|---|---|---|---|---|
| 901 | 22 | Solid | 25 ft. carton | 1/32" | .075" | $0.44 |
| 903 | 22 | Solid | 100 ft. carton | 1/32" | | 1.65 |
| 905 | 22 | Solid | 500 ft. spool | 1/32" | | 6.56 |
| 907 | 22 | Solid | 1000 ft. spool | 1/32" | | 12.70 |
| 911 | 20 | Solid | 25 ft. carton | 1/32" | .086" | .50 |
| 913 | 20 | Solid | 100 ft. carton | 1/32" | | 1.79 |
| 915 | 20 | Solid | 500 ft. spool | 1/32" | | 7.40 |
| 917 | 20 | Solid | 1000 ft. spool | 1/32" | | 14.30 |
| 921 | 22 | 7 x 30 | 25 ft. carton | 1/32" | .085" | .50 |
| 923 | 22 | 7 x 30 | 100 ft. carton | 1/32" | | 1.79 |
| 925 | 22 | 7 x 30 | 500 ft. spool | 1/32" | | 7.40 |
| 927 | 22 | 7 x 30 | 1000 ft. spool | 1/32" | | 14.30 |
| 931 | 20 | 10 x 30 | 25 ft. carton | 1/32" | .090" | .62 |
| 933 | 20 | 10 x 30 | 100 ft. carton | 1/32" | | 2.04 |
| 935 | 20 | 10 x 30 | 500 ft. spool | 1/32" | | 9.07 |
| 937 | 20 | 10 x 30 | 1000 ft. spool | 1/32" | | 16.95 |

U/L Voltage Rating—300 Volts Maximum
Colors: Black, Blue, Brown, Green, Orange, Pink, Red, Slate, White, Yellow

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World Radio History

# INTERCOMMUNICATING AND SOUND SYSTEM CABLES

## PAIRED CONDUCTORS

Size and Stranding: 22 Solid. Specifications and General Applications: Cabled .020" gray vinyl plastic jacket overall.

| No. | Type Condr. | Length Spool | Nominal Diam. (in.) | List Price |
|---|---|---|---|---|
| 5201 | 1 Pr. - 2 | 100 ft. | .145 | $ 2.50 Ea. |
| 5202 | 1 Pr. - 2 | 500 ft. | .145 | 25.00 M |
| 5205 | 2 Pr. - 4 | 100 ft. | .190 | 4.65 Ea. |
| 5206 | 2 Pr. - 4 | 500 ft. | .190 | 46.50 M |
| 5211 | 3 Pr. - 6 | 100 ft. | .230 | 5.90 Ea. |
| 5212 | 3 Pr. - 6 | 500 ft. | .230 | 59.00 M |
| 5221 | 5 Pr. - 10 | 100 ft. | .270 | 8.80 Ea. |
| 5222 | 5 Pr. - 10 | 500 ft. | .270 | 88.00 M |
| 5226 | 6 Pr. - 12 | 100 ft. | .295 | 9.25 Ea. |
| 5227 | 6 Pr. - 12 | 500 ft. | .295 | 92.50 M |
| 5231 | 7 Pr. - 14 | 100 ft. | .280 | 13.30 Ea. |
| 5232 | 7 Pr. - 14 | 500 ft. | .280 | 133.00 M |
| 5236 | 8 Pr. - 16 | 100 ft. | .300 | 13.80 Ea. |
| 5237 | 8 Pr. - 16 | 500 ft. | .300 | 138.00 M |
| 5241 | 9 Pr. - 18 | 100 ft. | .320 | 14.15 Ea. |
| 5242 | 9 Pr. - 18 | 500 ft. | .320 | 141.50 M |
| 5251 | 11 Pr. - 22 | 100 ft. | .350 | 16.50 Ea. |
| 5252 | 11 Pr. - 22 | 500 ft. | .350 | 165.00 M |
| 5271 | 15 Pr. - 30 | 100 ft. | .380 | 22.00 Ea. |
| 5272 | 15 Pr. - 30 | 500 ft. | .380 | 220.00 M |
| 5286 | 27 Pr. - 54 | 100 ft. | .510 | 36.00 Ea. |
| 5287 | 27 Pr. - 54 | 500 ft. | .510 | 360.00 M |

### PAIRED INTERCOMMUNICATING CABLES FOR COLOR CODING

Identification is simple with Consolidated Intercom Cables because they are all color coded as shown in next column.

## MULTIPLE CONDUCTORS

Size and Stranding: 22 - 7 x 30. Specifications and General Applications: Cable, .020". Gray Only. Plastic jacket overall.

| No. | Type Condr. | Length ft. (Spool) | Nom. Diam. (In.) | Color | List Price |
|---|---|---|---|---|---|
| 5401 | 3 | 100 | .140 | Black, green, red | $ 3.00 |
| 5402 | 3 | 500 | .140 | Same as 5401 | 30.00 |
| 5406 | 4 | 100 | .158 | Black, green, red, white | 3.70 |
| 5407 | 4 | 500 | .158 | Same as 5407 | 37.00 |
| 5411 | 5 | 100 | .170 | Black, brown, green, red, white | 4.50 |
| 5412 | 5 | 500 | .170 | Same as 5411 | 45.00 |
| 5416 | 6 | 100 | .212 | Black, blue, brown, green, red, white | 7.15 |
| 5417 | 6 | 500 | .212 | Same as 5416 | 71.50 |
| 5421 | 7 | 100 | .230 | Black, blue, brown, green, orange, red, white | 7.70 |
| 5422 | 7 | 500 | .230 | Same as 5421 | 77.00 |
| 5426 | 8 | 100 | .235 | Black, blue, brown, green, orange, red, white, yellow | 8.25 |
| 5427 | 8 | 500 | .235 | Same as 5426 | 82.50 |
| 5431 | 9 | 100 | .245 | Black, blue, brown, green, orange, purple, red, white, yellow | 9.00 |
| 5432 | 9 | 500 | .245 | Same as 5431 | 90.00 |

## MICROPHONE CABLE

**CONDUCTOR COLOR CHART:** 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown

**Standard Spool Put-up: 100 ft.—250 ft.—500 ft.—1000 ft.**

SHIELDED; Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous length if desired)

| No. | TYPE | SIZE | SPECIAL USE | SPECIFICATIONS | STRANDING | FINISHED O. D. (Inches) | NOMINAL CAPACITY per ft. (mmf) |
|---|---|---|---|---|---|---|---|
| 1458 | 2 conductor | 22 | Low impedance microphones | Tinned copper conductors polyethylene insulation on conductors; black and white. Cabled with fillers closely woven tinned copper shield. Gray vinyl plastic jacket. | 16 x 31 | .231 | 32. |
| 1461 | 1 conductor | 22 | Lapel microphone | Tinned copper polyethylene insulation with a closely woven tinned copper shield. Grey vinyl plastic jacket. | 16 x 31 | .135 | 31. |
| 1457 | 1 conductor | 22 | Crystal, Ribbon and other high impedance microphones | Same as 1461 except heavier polyethylene insulation on conductor. | 16 x 31<br>26 x 31 | .200<br>.175 | 25.<br>40. |
| 1459 | 1 conductor | 20 | Lapel microphone | Tinned Copper Wire, with polyethylene to .087" O.D. with a closely woven tinned copper shielded braid, and a heavy black plastic jacket overall. | 26 x 31 | .210 | 33. |
| 1460 | 1 conductor | 20 | Crystal microphone | Tinned copper, yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall. | 26 x 31 | .280 | 68. |
| 1462 | 2 conductor | 20 | Carbon microphones | Same as 1460; color coded | | | |
| 1456 | 2 conductor | 18 | Heavy duty studio cable | Same as 1460; color coded | 41 x 31 | .295 | 80. |
| 1463 | 3 conductor | 20 | Carbon microphones | Same as 1460; color coded | 26 x 31 | .290 | 85. |
| 1464 | 4 conductor | 20 | Carbon microphones | Same as 1460; color coded | 26 x 31 | .300 | 95. |
| 1465 | 5 conductor | 20 | Carbon microphones | Same as 1460; color coded | 26 x 31 | .340 | |
| 1466 | 6 conductor | 20 | Carbon microphones | Same as 1460; color coded | 26 x 31 | .350 | |
| 1467 | 7 conductor | 20 | Carbon microphones | Same as 1460; color coded | 26 x 31 | .370 | |

## PHONOGRAPH MULTIPLE CABLE

| TYPE No. | LENGTH | SIZE | SPECIAL USE | SPECIFICATIONS | STRANDING | FINISHED O.D. (Inches) | LIST PRICE EACH |
|---|---|---|---|---|---|---|---|
| 5030 | 500 ft. | 2-16<br>28-22 | Connections between commercial electric phonographs (juke boxes) and record selectors. | 1 condr. No. 16 gauge bare copper wire with 1/64" black vinylite insulation. 1 condr. No. 16 gauge solid bare copper wire with 1/64" red vinylite insulation. 14 condrs. No. 22 gauge solid bare copper wire with .010" vinylite insulation, all individually color coded. 14 condrs. No. 22 gauge tinned copper wire with a .010" vinylite insulation, all individually color coded. All condrs. grouped into cable form with a tight, spiral cotton wrapping and with a heavy black vinylite jacket over-all. | Solid | | $382.00 |
| 5103 | 1,000 ft. | 3-22 | Connections for commercial electric phonographs and record selectors. | 3 condrs. No. 22 with 1/64" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered. | 7 x 30 | .125 | 44.25 |
| 5113 | 1,000 ft. | 2-16<br>1-18 | Connections for commercial electric phonographs and record selectors. | | 2-26 x 30<br>1-16 x 30 | .165 | 105.70 |
| 5123 | 1000 ft. | 2-16<br>1-18 | Same as 5030 | Same as 5113, but with silver plastic jacket. | 2-26 x 30<br>1-16 x 30 | .165 | 77.75 |
| 5135 | 1000 ft. | 22<br>5<br>condr. | Same as 5030 | 5 condr. No. 22 with 1/64" thermoplastic insulation; 3 condr. twisted together with a braided tinned copper shield; 2 condr. twisted; all condr. grouped into cable form with a brown cotton braid overall. | 5-7 x 30 | .225 | 99.75 |



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TRADE DISCOUNT APPLIES TO *LIST PRICES* ONLY

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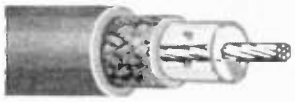
| No. | Type | Length | | | Nominal Diam. (in.) | List Price Each |
|---|---|---|---|---|---|---|
| | | | | | | |
| 4500 | 2 condr. | 500 ft. Spool | 22 / 7x30 | Both conductors bare copper; flexible stranding; conductors parallel; insulated with polyethylene. **USE: Receiving antenna at high frequencies.** | .055 x .400 | $82.00 |
| 4503 | 2 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4500 | .072 x .400 | 28.50 |
| 4504 | 2 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4500 | .080 x .400 | 31.50 |
| 4506 | 2 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4500 | .100 x .400 | 34.50 |
| | | | | | | |
| 4507 | 3 condr. | 500 ft. Spool | 20 / 7x28 | Two bare, one tinned copper conductor; flexible stranding; conductors parallel; polyethylene insulation. **USE: Same as 4501, but third conductor may be used for ground or other purposes.** | .072 x .400 | 32.25 |
| | | | | | | |
| 4508 | 4 condr. | 500 ft. Spool | 22 / 7x30 | Same as 4502 except three conductors bare copper, one conductor tinned. Amber polyethylene plastic insulation overall is semi-transparent for easy conductor identification and is grooved between conductors for ease of separation and stripping. **USE: Rotor Aerials.** | .072 x .345 | 30.75 |
| 4509 | 4 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4508 | .072 x .400 | 33.00 |
| | | | | | | |
| 4516 | 5 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4508 except four conductors bare copper, one conductor tinned copper. **USE: Rotor Aerials.** | .072 x .355 | 40.90 |
| 4517 | 5 condr. | 500 ft. Spool | 20 / 7x28 | Same as 4516 | .090 x .400 | 44.00 |
| | | | | | | |
| 4515 | 4 condr. | 500 ft. Spool | 22 / 7x30 | Tinned copper conductors, .010 thermoplastic insulation over each conductor with jacket overall. **USE: Rotor Aerials.** | .160 | 36.85 |
| | | | | | | |
| 4518 | 5 condr. | 500 ft. Spool | 22 / 7x30 | Same as 4515 | .170 | 45.00 |
| | | | | | | |
| 4521 | 8 condr. | 500 ft. Spool | 22 / 7x30 | Same as 4515 | .205 | 45.00 |

| No. | Type | Length | | | Nominal Diam. (in.) | List Price Each |
|---|---|---|---|---|---|---|
| | | | | | | |
| 4401 | 1 condr. | 100 ft. Spool | 22 solid | Bare copper, solid; black vinyl plastic jacket; bare copper braid shield; polyethylene plastic insulation. | .242 | $ 7.65 |
| 4403 | 1 condr. | 500 ft. Spool | 22 solid | Same as 4401 | .242 | 71.50 |
| | | | | | | |
| 4405 | 1 condr. | 100 ft. Spool | 20 solid | Bare copper, solid; black vinyl plastic jacket; tinned copper braid shield; polyethylene plastic insulation. | .195 | 7.35 |
| 4407 | 1 condr. | 500 ft. Spool | 20 solid | Same as 4405 | .195 | 59.35 |
| | | | |  | | |
| 4415 | 1 condr. | 100 ft. Spool | 13 / 7x21 | Bare copper; flexible stranding; black vinyl plastic jacket; bare copper braid shield; polyethylene plastic insulation. | .405 | 18.50 |
| 4417 | 1 condr. | 500 ft. Spool | 13 / 7x21 | Same as 4415 | .405 | 173.75 |
| | | | | | | |
| 4419 | 1 condr. | 100 ft. Spool | 18 / 7x26 | Tinned copper; flexible stranding; bare copper braid shield; black vinyl plastic jacket; polyethylene plastic insulation. | .405 | 17.35 |
| 4421 | 1 condr. | 500 ft. Spool | 18 / 7x26 | Same as 4419 | .405 | 163.75 |
| | | | | | | |
| 4523 | 2 condr. Heavy | 500 ft. Spool | 18 / 7x26 | Conductors bare copper; flexible stranding; conductors run parallel; polyethylene insulation. **USE: TV and FM receiving antenna. Especially designed for use in TV fringe areas. Also adapted to use with low-power transmitting antenna.** | .350 | 48.00 |
| | | | | | | |
| 4527 | 2 condr. round | 500 ft. Spool | 20 / 7x28 | Copperweld conductors; tubular design protects against exterior hazards. **USE: For UHF and VHF.** | | |

## PHONOGRAPH PICK-UP-ARM CABLE

TYPE NO. 1470

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World Radio History

Columbia

## PERMALINE TV TRANSMISSION LINES

COLUMBIA is first to offer a television transmission line with an insulation so good that it can be GUARANTEED IN WRITING to give a service life far beyond the normal life of brown Polyethylene television lines. PERMALINE is a high molecular weight Polyethylene containing carbon black for maximum resistance to sunlight, which has been proven the chief factor in deterioration of ordinary television lines. The insulation value of 50 Mils of PERMALINE is equal to over 150 Mils of conventional brown Polyethylene.

Electrical characteristics of PERMALINE are very similar to Brown Polyethylene television lines but as there is no deterioration attenuation remains constant instead of increasing as is the case with brown Polyethylene, which becomes brittle and cracks. This is truly the first new development in television transmission lines in ten years.

**25 YEAR WARRANTY**

**80 Mil 20 Ga. Str. PERMALINE — TV Transmission Line**
**.080 x .395**

| Cat. No. | |
|---|---|
| 5050 | 1,000 Ft. Metal Spool |
| 5052 | 500 Ft. Metal Spool |
| 5053 | 100 Ft. Coil in Transparent Bag |
| 5055 | 75 Ft. Coil in Transparent Bag |
| 5057 | 50 Ft. Coil in Transparent Bag |

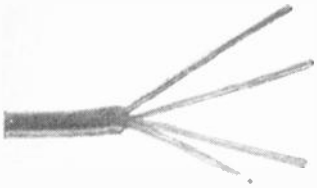
**15 YEAR WARRANTY**

**50 Mil 20 Ga. Str. PERMALINE — TV Transmission Line**
**.050 x .385**

| | |
|---|---|
| 5150 | 1,000 Ft. Metal Spool |
| 5158 | 500 Ft. Metal Spool |
| 5152 | 100 Ft. Coil in Transparent Bag |
| 5154 | 75 Ft. Coil in Transparent Bag |
| 5156 | 50 Ft. Coil in Transparent Bag |

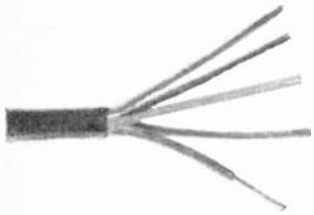
**20 Ga. Str. 4 Cond.**
**7 28 Flat Rotor Cable**
PERMALINE INSULATION
One tinned copper conductor for easy identification.

| Cat. No. | |
|---|---|
| 5062 | 250 FT. SPOOL |
| 5064 | 500 FT. SPOOL |
| 5066 | 1000 FT. SPOOL |



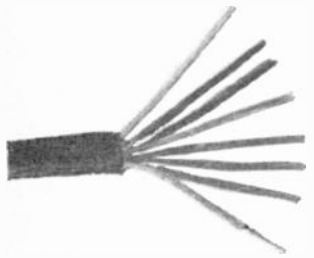
**22 Ga. Str. 4 Cond.**
**Round Rotor Cable**
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

| Cat. No. | |
|---|---|
| 5072 | 250 FT. SPOOL |
| 5074 | 500 FT. SPOOL |
| 5076 | 1000 FT. SPOOL |



**22 Ga. Str. 5 Cond.**
**Round Rotor Cable**
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

| Cat. No. | |
|---|---|
| 5082 | 250 FT. SPOOL |
| 5084 | 500 FT. SPOOL |
| 5086 | 1000 FT. SPOOL |



**22 Ga. Str. 8 Cond.**
**Round Rotor Cable**
Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

| Cat. No. | |
|---|---|
| 5092 | 250 FT. SPOOL |
| 5094 | 500 FT. SPOOL |
| 5096 | 1000 FT. SPOOL |

SPECIAL CABLES WITH THE INSULATION DESCRIBED ON THIS PAGE CAN BE MADE TO SPECIFICATION.

## PERMAFOAM COAXIAL CABLES

Two new coaxial cables widely used for amateur installations and multiple antenna systems. Columbia is first to introduce 52 ohm coaxial cable with a primary insulation of foamed polyethylene to reduce attenuation as much as 25% over cables with a solid dielectric over the center conductor. Both of these new cables have our super smooth non contaminating Permaline polyethylene outer jacket to provide a service life far beyond that obtained with conventional Vinyl insulated cables. Physical sizes of cables are not changed and will accommodate standard fittings.

**RG 58/U 52 OHM IMPEDANCE**
**FOAMED POLY DIELECTRIC PERMALINE JACKET**
7/21 Copper Conductor .405 O.D.
Attenuation 1.5 at 100 M/C 3.4 at 400 M/C

| Cat. No. | | |
|---|---|---|
| 5015C | 100 Ft. Spool | RG 8/U |
| 5015D | 500 Ft. Spool | RG 8/U |
| 5015M | 1000 Ft. Reel | RG 8/U |

**RG 8/U 52 OHM IMPEDANCE**
**FOAMED POLY DIELECTRIC PERMALINE JACKET**
20 Ga. Solid Copper Conductor .195 O.D.
Attenuation 3.1 at 100 M/C 7.1 at 400 M/C

| | |
|---|---|
| 5045C | 100 Ft. Spool |
| 5045D | 500 Ft. Spool |
| 5045M | 1000 Ft. Spool |

## FLEXFOAM ULTRA LOW CAPACITY MICROPHONE CABLES

Another Columbia first is a complete line of microphone cables with capacity as much as 35% lower than the best regular microphone cables available today. This drastic lowering of capacity has been made possible by the use of foamed polyethylene as the inner dielectric instead of solid polyethylene as normally used. This low capacitance means that lengths of microphone cable can be increased as much as 50%. These cables are also ideal for Hi-Fi and high quality sound work because of the extremely low attenuation, particularly at the higher audio-frenquencies. The use of a special flexible vinyl as an outer jacket provides flexibility practically as good as rubber yet has much greater abrasion resistance.

**FLEXFOAM MICROPHONE CABLES**
**FOR CRYSTAL MICROPHONES, HI FI CONNECTING CABLES, HIGH IMPEDANCE MICROPHONES**
.190 O.D. Capacitance 16 MMFD. per Ft.

| Cat. No. | | |
|---|---|---|
| 1389T | 250 Ft. Spoon | Spiral T/C Shield |
| 1389D | 500 Ft. Spoon | Spiral T/C Shield |
| 1399T | 250 Ft. Spool | Braided T/CShield |
| 1399D | 500 Ft. Spool | Braided T/CShield |

**FOR LAPEL MICROPHONES, HI FI CONNECTING CABLES AND OTHER APPLICATIONS REQUIRING SMALL DIAMETER LOW CAPACITANCE CABLES**
.140 O.D. Capacitance 19 MMFD per Ft.

| | | |
|---|---|---|
| 1369T | 250 Ft. Spool | Spiral T/C Shield |
| 1369D | 500 Ft. Spool | Spiral T/C Shield |
| 1379T | 250 Ft. Spool | Braided T/C Shield |
| 1379D | 500 Ft. Spool | Braided T/C Shield |

**WRITE TO YOUR LOCAL PARTS DISTRIBUTOR FOR COMPLETELY ILLUSTRATED COLUMBIA WIRE & SUPPLY CO. CATALOG**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World Radio History

Columbia

## POCKET PAK SPOOL DISPLAY

A very compact display in two square feet of floor space, contains 192 spools of 48 different electronic and hook-up wire items. This attractive display will constantly remind your customer of his wire needs. No need now to spend costly time measuring and pricing small quantities of wire. A complete description of each type is printed on the spool, in addition to the stock number. Full description of all spools on pages 19 and 20 of cat. 107.

## PERMALINE VHF-UHF TELEVISION TRANSMISSION LINE

Since the introduction of this cable in May 1956, it has been proven beyond any doubt that this cable has no equal for reliability over the entire range of VHF and UHF channels under the most adverse conditions, such as salt spray, sunlight, extremes of heat and cold, stress cracking, chemical fumes, whipping in high winds, etc. In many areas throughout the country where other cables have failed due to salt deposits on transmission lines, this cable has given satisfactory reception at all times. Foam polyethylene tubes provide excellent low loss dielectric and require no sealing. 22 gauge solid copperweld conductors mean high tensile strength so necessary where whipping of cable is a problem. Heavy duty jacket of high molecular weight BLACK PERMALINE POLYETHYLENE is a protection against all hazards. We believe this is the finest all-purpose television transmission line available today. Impedance is 270 ohms, nominal attenuation is 3.2 D/B at 500 M/C and 4.6 D/B at 900 M/C. Cable size is approximately .295 x .402.

| CAT. NO. | |
|---|---|
| 5684C | 100 FT. CARTON |
| 5684D | 500 FT. SPOOL |
| 5684M | 1000 FT. REEL |

## PLASTIC MICROPHONE CABLES

Low capacitance cables with durable Flexlife plastic insulation provides resistance to abrasion, moisture and aging. Low loss polyethylene insulation over flexible stranded copper conductors. Grey Flexlife plastic jacket overall.

### LAPEL MICROPHONE CABLE .130 O.D.

Cat. No. 1315.....100 Ft. Spool.....25 Ga.....7/33 Stranding
Cat. No. 1316.....500 Ft. Spool.....25 Ga.....7/33 Stranding

NOMINAL CAPACITANCE 33 MMF PER FT.

### CRYSTAL MICROPHONE CABLE .190 O.D.

Cat. No. 1317.....100 Ft. Spool.....25 Ga.....7/33 Stranding
Cat. No. 1318.....500 Ft. Spool.....25 Ga.....7/33 Stranding

NOMINAL CAPACITANCE 24 MMF PER FT.

### TWO CONDUCTOR PLASTIC MICROPHONE CABLE .230 O.D.

.230 O.D.

Cat. No. 1321.....100 Ft. Spool.....22 Ga.....16/34 Stranding
Cat. No. 1322.....500 Ft. Spool.....22 Ga.....16/34 Stranding

NOMINAL CAPACITANCE 30 MMF PER FT. BETWEEN 1 COND. AND REMAINING COND. CONNECTED TO SHIELD.

## DELUXE TELEVISION SERVICE LITE

This newly designed service lite is one of the finest items in our entire line of television service accessories. Has a 2¼ inch highly polished aluminum reflector and wide opening spring clamp that will permit this lite to be attached almost anywhere inside the television cabinet leaving both hands free to work. Lower part of clamp has rubber covering that will hold firmly wherever it is placed. Comes complete with 7½ watt 110 volt bulb and six foot parallel plastic cord with unbreakable male plug for attaching to baseboard or into service block on our all purpose Television Service Cord. Display cord furnished with orders for 25 or more lites.

Cat. No. 185 ..... DELUXE TELEVISION SERVICE LITE

## COLUMBIA COAXIAL CABLES

| R G No. | Nominal Impedance | Nominal MMFD. Ft. | Wire Size | Overall Jacket | Spool Size | Cat. No. |
|---|---|---|---|---|---|---|
| RG 59 U | 73.0 | 21.0 | 22 C Weld | Black Vinyl .240 O.D. | 100 Ft. | 1100 |
| | | | | | 500 Ft. | 1102 |
| | | | | | 1000 Ft. | 1104 |
| RG 8 U | 52.0 | 29.5 | 7/21 | Black Vinyl .405 O.D. | 100 Ft. | 1150 |
| | | | | | 500 Ft. | 1152 |
| | | | | | 1000 Ft. | 1154 |
| RG 11 U | 75.0 | 20.5 | 7/26 | Black Vinyl .405 O.D. | 100 Ft. | 1156 |
| | | | | | 500 Ft. | 1158 |
| | | | | | 1000 Ft. | 1160 |
| RG 58 U | 53.5 | 28.5 | 20 Ga. | Black Vinyl .195 O.D. | 100 Ft. | 1162 |
| | | | | | 500 Ft. | 1164 |
| | | | | | 1000 Ft. | 1166 |
| RG 58 A/U | 50.0 | 29.0 | 19/.0068 | Black Vinyl .159 O.D. | 100 Ft. | 1174 |
| | | | | | 500 Ft. | 1176 |
| | | | | | 1000 Ft. | 1178 |

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World Radio History

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# Synkote®

## SYMBOL OF THE FINEST and NEWEST DEPENDABLE WIRE and CABLE

**CAA-SIGNAL & CONTROL CABLE**
(Thermoplastic Insulation & Jacket)

**COAXIAL CABLES**
Spec JAN-C-17A & MIL-C-17B
Including Low-Temperature, Non-Contaminating Jackets

**ELECTRONIC JOBBER WIRE & CABLE**
300-ohm Television Lead-In
Rotor Antenna Cable
Double Shielded & Jacketed Coaxial Cable
(Radiation & Contamination Proof)

**ELECTRICAL JOBBER WIRE & CABLE**
Parallel Cord—"SPT-1" & "SPT-2"
Thermostat Cable 2-7 conductors
(Twisted & Thermoplastic Jacketed)
Microphone Cables
Sound & Intercommunication Wire & Cable

**SPECIAL PURPOSE CABLES**
Meteorlogical Survey Cable
Underwater Sound Equipment Cable
Geophysical Cable
Fire Control Wire & Cable
Electronic Computer Wire & Cable
Inside Telephone Cable
Special Design High Frequency Cable

TV twin-leads, coaxial cable, hook-up wire, rotor antenna cable, custom-engineered multi-conductor cable. For prices, samples and technical data, contact your nearest Plastoid representative. (See list in manufacturers' section).

**TEFLON INSULATED WIRE & CABLE**
MIL-W-16878A TYPES "E" & "EE"
Multi-conductor Cables
Teflon Coaxial Cables
MIL-W-7139A

**RADIO AND ELECTRONIC HOOK-UP WIRE**
MIL-W-76A (superseding JAN-C-76)
MIL-W-16878B (types B, C & D, with & without nylon jackets)
Underwriters Laboratory—80°; 90°; 105°
(PVC insulation, nominal walls of .008; .015; .031; .047 & with braided outercovering or extruded nylon jacket)

**AIRCRAFT WIRE & CABLE**
MIL-W-5086A MIL-W-5271A
MIL-C-7078A MIL-W-7072A

**NAVY SHIPBOARD CABLE**
MIL-C-915A & MIL-C-2194B

**REA TELEPHONE CABLE**
(Spec PE-11)

**MULTI PAIR RURAL DISTRIBUTION WIRE**

**TRAFFIC CONTROL CABLES**
(Specs IMSA 19 & 20)

**POWER CONTROL CABLES**
(Specs IPCEA & IMSA)
(Thermoplastic Insulation & Jacket)

**AIRPORT LIGHTING CABLE**

**COMMUNITY TV COAXIAL CABLE**

**PLASTOID Corporation**

**Synkote Insulated Wire and Cable is "Manufactured by the mile-tested by the inch"**

**Plant: HAMBURG, N. J. • Offices: Long Island City, N. Y.**

## HOOK-UP WIRE
## MIL-W-76A

**Specification MIL-W-76A supersedes JAN-C-76.**

**This broader classification covers wider hook up applications for electronic devices and instruments; aircraft radio and radar transmitters and receivers.**

**Temperature rating —40°C +80 C. Synkote insulation offers high dielectric strength, flexibility at high and low temperatures and is impervious to acids and alkalis**

### Type MW

(Medium Wall)

Tinned Copper Conductor
Voltage Rating: 1000 volts
Temperature Rating: —40°C +80°C
Put-Up 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PPS411 | 24 Solid | .052" | 2.5 |
| PPS412 | 24 7x32 | .057" | 2.75 |
| PPS413 | 22 Solid | .057" | 3.25 |
| PPS414 | 22 7x30 | .063" | 3.5 |
| PPS415 | 20 Solid | .064" | 4.5 |
| PPS416 | 20/7x28 | .069" | 5.25 |
| PPS417 | 18 Solid | .072" | 6.5 |
| PPS418 | 18 16x30 | .077" | 6.75 |
| PPS419 | 16 Solid | .083" | 9.75 |
| PPS420 | 16 19x29 | .089" | 10.0 |
| PPS421 | 14 Solid | .096" | 15.0 |
| PPS422 | 14/19x27 | .103" | 15.0 |
| PPS423 | 12 19x25 | .122" | 22.5 |

### Type MW-J

(Medium Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PPS411-J | 24 Solid | .064" | 3.0 |
| PPS412-J | 24/7x32 | .069" | 3.25 |
| PPS413-J | 22 Solid | .069" | 4.0 |
| PPS414-J | 22/7x30 | .075" | 4.5 |
| PPS415-J | 20 Solid | .076" | 5.25 |
| PPS416-J | 20/7x28 | .083" | 5.5 |
| PPS417-J | 18 Solid | .086" | 7.25 |
| PPS418-J | 18/16x30 | .091" | 8.0 |
| PPS419-J | 16 Solid | .097" | 11.0 |
| PPS420-J | 16/19x29 | .101" | 11.25 |
| PPS421-J | 14 Solid | .110" | 16.25 |
| PPS422-J | 14/19x27 | .117" | 16.25 |
| PPS423-J | 12 19x25 | .138" | 24.0 |

### Type MW-B

(Medium Wall—Braided)

Tinned copper conductor
Overall fungus resistant glass braid and flame-proof lacquer
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PPS411-B | 24 Solid | .065" | 4.0 |
| PPS412-B | 24 7x32 | .070" | 4.25 |
| PPS413-B | 22 Solid | .077" | 4.75 |
| PPS414-B | 22 7x30 | .077" | 5.25 |
| PPS415-B | 20 Solid | .077" | 6.25 |
| PPS416-B | 20 7x28 | .083" | 7.0 |
| PPS417-B | 18 Solid | .085" | 8.5 |
| PPS418-B | 18/16x30 | .090" | 8.5 |
| PPS419-B | 16 Solid | .096" | 11.75 |
| PPS420-B | 16/19x29 | .109" | 13.0 |
| PPS421-B | 14 Solid | .109" | 17.0 |
| PPS422-B | 14/19x27 | .116" | 17.0 |
| PPS423-B | 12/19x25 | .135" | 25.0 |

*Larger Packaging Available


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## MIL-W-76A

### Type MW-S

**(Medium Wall—Shielded)**

Tinned copper conductor
Overall tinned copper shield
Voltage Rating: 1000 Volts
Temperature Rating: −40°C +80°C
Put up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8411-8 | 24 Solid | .072" | 5.25 |
| PP8412-8 | 24/7x32 | .077" | 5.75 |
| PP8413-8 | 22 Solid | .077" | 6.25 |
| PP8414-8 | 22 7x30 | .083" | 7.25 |
| PP8415-8 | 20 Solid | .084" | 8.25 |
| PP8416-8 | 20 7x28 | .089" | 9.0 |
| PP8417-8 | 18 Solid | .092" | 10.5 |
| PP8418-8 | 18 16x30 | .097" | 11.25 |
| PP8419-8 | 16 Solid | .103" | 14.5 |
| PP8420-8 | 16 19x29 | .110" | 15.5 |
| PP8421-8 | 14 Solid | .116" | 20.0 |
| PP8422-8 | 14 19x27 | .123" | 21.25 |
| PP8423-8 | 12 19x25 | .142" | 29.25 |

### Type MW-JS

**(Medium Wall—Jacketed and Shielded)**

Tinned copper conductor
Extruded Nylon Jacket
Overall Tinned Copper Shield
Voltage Rating: 1000 Volts
Temperature Rating: −40°C +90°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8411-JS | 24 Solid | .084" | 6.5 |
| PP8412-JS | 24 7x32 | .089" | 7.0 |
| PP8413-JS | 22 Solid | .089" | 7.5 |
| PP8414-JS | 22/7x30 | .095" | 8.5 |
| PP8415-JS | 20 Solid | .095" | 9.25 |
| PP8416-JS | 20 7x28 | .103" | 10.5 |
| PP8417-JS | 18 Solid | .106" | 12.0 |
| PP8418-JS | 18/16x30 | .111" | 12.75 |
| PP8419-JS | 16 Solid | .117" | 17.0 |
| PP8420-JS | 16/19x29 | .121" | 17.5 |
| PP8421-JS | 14 Solid | .130" | 22.25 |
| PP8422-JS | 14/19x27 | .137" | 22.75 |
| PP8423-JS | 12/19x25 | .158" | 32.0 |

### Type HW

**(Heavy Wall)**

Tinned Copper Conductor
Voltage Rating: 2500 volts—22 to 16 sizes
600 volts—14 to 6
Temperature Rating: −40°C +90°C
Put up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8424 | 22 Solid | .087" | 5.25 |
| PP8425 | 22 7x30 | .093" | 5.75 |
| PP8426 | 20 Solid | .091" | 6.75 |
| PP8427 | 20 7x28 | .100" | 7.0 |
| PP8428 | 18 Solid | .102" | 8.75 |
| PP8429 | 18 16x30 | .107" | 9.5 |
| PP8430 | 16 Solid | .113" | 12.75 |
| PP8431 | 16 19x29 | .117" | 13.5 |
| PP8432 | 14 Solid | .134" | 22.0 |
| PP8433 | 14 19x27 | .161" | 22.25 |
| PP8434 | 12 19x25 | .180" | 30.25 |
| PP8435 | 10 37x26 | .202" | 44.5 |
| PP8436 | 8 133x29 | .263" | 73.0 |
| PP8437 | 6 133x27 | .300" | 108.0 |

### Type HW-J

**(Heavy Wall—Nylon Jacket)**

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 2500 volts—24 to 16 sizes
600 volts—14 to 6
Temperature Rating: −40°C +90°C
Put up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8424-J | 22 Solid | .101" | 6.5 |
| PP8425-J | 22 7x30 | .107" | 7.0 |
| PP8426-J | 20 Solid | .108" | 8.0 |
| PP8427-J | 20 7x28 | .113" | 8.5 |
| PP8428-J | 18 Solid | .116" | 10.0 |
| PP8429-J | 18 16x30 | .121" | 11.0 |
| PP8430-J | 16 Solid | .127" | 14.25 |
| PP8431-J | 16/19x29 | .131" | 15.0 |
| PP8432-J | 14 Solid | .170" | 24.0 |
| PP8433-J | 14 19x27 | .175" | 24.5 |
| PP8434-J | 12/19x25 | .196" | 33.5 |
| PP8435-J | 10 37x26 | .224" | 48.5 |
| PP8436-J | 8 133x29 | .288" | 79.0 |
| PP8437-J | 6/133x27 | .326" | 116.0 |

## MIL-W-76A

### Type LW

**(Light Wall)**

Tinned Copper Conductor
Voltage Rating: 300 volts
Temperature Rating: −40°C +80°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8401 | 28 Solid | .033" | 1.0 |
| PP8402 | 28 7x36 | .035" | 1.0 |
| PP8403 | 26 Solid | .036" | 1.25 |
| PP8404 | 26 7x34 | .039" | 1.75 |
| PP8405 | 24 Solid | .040" | 1.75 |
| PP8406 | 24 7x32 | .041" | 2.0 |
| PP8407 | 22 Solid | .046" | 2.5 |
| PP8408 | 22 7x30 | .051" | 3.0 |
| PP8409 | 20 Solid | .052" | 4.0 |
| PP8410 | 20 7x28 | .058" | 4.5 |

### Type LW-J

**(Light Wall—Nylon Jacket)**

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 300 volts
Temperature Rating: −40°C +90°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8401-J | 28 Solid | .039" | 1.0 |
| PP8402-J | 28 7x36 | .041" | 1.25 |
| PP8403-J | 26 Solid | .042" | 1.5 |
| PP8404-J | 26/7x34 | .047" | 1.75 |
| PP8405-J | 24 Solid | .048" | 2.0 |
| PP8406-J | 24 7x32 | .052" | 2.5 |
| PP8407-J | 22 Solid | .054" | 3.0 |
| PP8408-J | 22 7x30 | .059" | 3.5 |
| PP8409-J | 22 Solid | .060" | 4.5 |
| PP8410-J | 20 7x28 | .066" | 5.0 |

## MIL-W-16878-B (Navy)

### Type B

**"Syntherm" electrical high temp. hook-up wire conforms to Navy spec. MIL-W-16878-B. For the internal wiring of meters, panels and electronic equipment.**

Tinned Copper Conductor
Base Color: White Helical striping for color coding.
Voltage Rating: 600 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PP8551 | 30 7x38 | .031" | .75 |
| PP8552 | 28 7x36 | .034" | 1.0 |
| PP8553 | 26 7x34 | .038" | 1.5 |
| PP8554 | 24 7x32 | .043" | 2.0 |
| PP8555 | 22 7x30 | .050" | 3.0 |
| PP8555-19 | 22/19x34 | .050" | 3.25 |
| PP8556 | 20 7x28 | .057" | 4.5 |
| PP8556-19 | 20/19x32 | .057" | 4.75 |
| PP8557 | 18 7x26 | .067" | 7.0 |
| PP8557-19 | 18/19x30 | .067" | 7.5 |
| PP8558 | 16/19x29 | .076" | 9.0 |

### Type B-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White Helical striping for color coding.
Voltage Rating: 600 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PP8551-J | 30 7x38 | .036" | 1.0 |
| PP8552-J | 28 7x36 | .039" | 1.25 |
| PP8553-J | 26 7x34 | .043" | 1.75 |
| PP8554-J | 24 7x32 | .048" | 2.25 |
| PP8555-J | 22 7x30 | .054" | 3.25 |
| PP8555-19-J | 22 19x34 | .054" | 3.5 |
| PP8556-J | 20 7x28 | .062" | 4.75 |
| PP8556-19-J | 20/19x32 | .062" | 5.0 |
| PP8557-J | 18 7x26 | .073" | 7.5 |
| PP8557-19-J | 18/19x30 | .073" | 8.0 |
| PP8558-J | 16/19x29 | .082" | 9.75 |

## MIL-W-16878-B (Navy)

### Type C

Tinned Copper Conductor
Base Color: White, Helical striping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8559 | 24 7x32 | .057" | 2.75 |
| PP8560 | 22/7x30 | .063" | 3.75 |
| PP8560-19 | 22/19x34 | .063" | 4.0 |
| PP8561 | 20 7x28 | .071" | 5.25 |
| PP8561-19 | 20/19x32 | .071" | 5.5 |
| PP8562 | 18 7x26 | .081" | 7.5 |
| PP8562-19 | 18/19x30 | .081" | 8.0 |
| PP8563 | 16/19x29 | .090" | 10.0 |
| PP8564 | 14/19x27 | .104" | 15.0 |

### Type C-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White, Helical striping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|
| PP8559-J | 24 7x32 | .062" | 3.25 |
| PP8560-J | 22 7x30 | .068" | 4.0 |
| PP8560-19J | 22/19x34 | .068" | 4.25 |
| PP8561-J | 20 7x28 | .077" | 6.0 |
| PP8561-19J | 20/19x32 | .077" | 6.25 |
| PP8562-J | 18 7x26 | .087" | 8.5 |
| PP8562-19J | 18/19x30 | .087" | 9.0 |
| PP8563-J | 16/19x29 | .097" | 10.75 |
| PP8564-J | 14/19x27 | .112" | 15.5 |

### Type D

Tinned Copper Conductor
Voltage Rating: 3000 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PP8565 | 24 7x32 | .078" | 4.0 |
| PP8566 | 22 7x30 | .084" | 5.0 |
| PP8566-19 | 22 19x34 | .084" | 5.25 |
| PP8567 | 20 7x28 | .092" | 6.75 |
| PP8567-19 | 20 19x32 | .092" | 7.0 |
| PP8568 | 18 7x26 | .102" | 9.25 |
| PP8568-19 | 18 19x30 | .102" | 9.5 |
| PP8569 | 16 19x29 | .111" | 12.25 |
| PP8570 | 14 19x27 | .125" | 17.0 |
| PP8571 | 12 19x25 | .159" | 27.0 |
| PP8572 | 10 41x26 | .178" | 42.0 |
| PP8573 | 8 133x29 | .244" | 71.0 |
| PP8574 | 6/133x27 | .288" | 110.0 |

### Type D-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 3000 volts
Temperature Rating: −54°C +105°C
Put-up: 1,000 Ft. Spool*

| Plastoid Part | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ± M' |
|---|---|---|---|
| PP8565-J | 24/7x32 | .084" | 4.5 |
| PP8566-J | 22 7x30 | .090" | 5.5 |
| PP8566-19 | 22 19x34 | .090" | 5.75 |
| PP8567-J | 20 7x28 | .099" | 7.5 |
| PP8567-19J | 20 19x32 | .099" | 7.75 |
| PP8568-J | 18 7x26 | .110" | 10.0 |
| PP8568-19J | 18 19x30 | .110" | 10.5 |
| PP8569-J | 16 19x29 | .119" | 13.0 |
| PP8570-J | 14 19x27 | .134" | 18.25 |
| PP8571-J | 12 19x25 | .170" | 29.0 |
| PP8572-J | 10 41x26 | .190" | 45.0 |
| PP8573-J | 8 133x29 | .260" | 75.0 |
| PP8574-J | 6/133x27 | .307" | 115.0 |

## MIL-W-16878-B (Navy)

### Type E-Extruded Teflon

600 Volts
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid color per spec. Also with contrasting helical color coding in single and double combinations.
3. May be supplied in single or multiple conductor cables with or without shields—consisting of silver coated, tinned or bare copper as required.

| Plastoid Part | Spec. Designation | AWG Size & Stranding | Max. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|---|
| PP12003 | E-26 | 26 7x34 | .043" | 2.0 |
| PP12004 | E-24 | 24 7x32 | .048" | 3.0 |
| PP12024 | E-24 | 24/19x36 | .048" | 3.0 |
| PP12005 | E-22 | 22 7x30 | .054" | 4.0 |
| PP12025 | E-22 | 22 19x34 | .054" | 4.0 |
| PP12006 | E-20 | 20 7x28 | .062" | 5.5 |
| PP12026 | E-20 | 20 10x32 | .062" | 5.5 |
| PP12027 | E-18 | 18/19x30 | .074" | 8.0 |
| PP12008 | E-16 | 16/19x29 | .087" | 11.0 |
| PP12009 | E-14 | 14/19x27 | .101" | 15.0 |

### Type EE-Extruded Teflon

1000 Volts
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid colors per spec. Also with contrasting helical color coding in single and double combinations
3. May be supplied in single or multiple conductor cables with or without shields — consisting of silver coated, tinned or bare copper as required.

| Plastoid Part | Spec. Designation | AWG Size & Stranding | Max. O.D. | Approx. Wt. ±/M' |
|---|---|---|---|---|
| PP12015 | EE-26 | 26 7x34 | .053" | 2.5 |
| PP12016 | EE-24 | 24 7x32 | .058" | 3.5 |
| PP12028 | EE-24 | 24 19x36 | .058" | 3.5 |
| PP12017 | EE-22 | 22 7x30 | .064" | 5.0 |
| PP12029 | EE-22 | 22 19x34 | .064" | 5.0 |
| PP12018 | EE-20 | 20 7x28 | .072" | 6.5 |
| PP12030 | EE-20 | 20 19x32 | .072" | 6.5 |
| PP12031 | EE-18 | 18 19x30 | .084" | 10.0 |
| PP12020 | EE-16 | 16 19x29 | .095" | 13.5 |
| PP12021 | EE-14 | 14/19x27 | .113" | 18.0 |

## MIL-W-7139A

### Extruded Teflon

Voltage Rating 600
Temperature Rating 400°F
Conforms to Dept. of Navy Bureau of Aeronautics requirements.
1. Silver Coated Copper Conductor
2. Teflon Insulation
3. Glass Braid 4. Dacron Braid

| Mil. Part No. | Plastoid Part No. | AWG Size & Stranding | Diel. O.D. | Nom. O.D. |
|---|---|---|---|---|
| RM-22 | PP12,051 | 22 19x.0063 | .059 | .088 |
| RM-20 | PP12,052 | 20 19x.0079 | .068 | .098 |
| RM-18 | PP12,053 | 18 19x.0100 | .080 | .110 |
| RM-16 | PP12,054 | 16/19x.0113 | .088 | .118 |
| RM-14 | PP12,055 | 14/19x.0142 | .108 | .138 |
| RM-12 | PP12,056 | 12/19x.0179 | .132 | .162 |

Outer Covering Conforms with Para. 3.2.3 MIL-W-7139A

**MORE**

Synkote

**CABLES ON FOLLOWING PAGES**

*Larger Packaging Available

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World Radio History

# SPECIFY **SYNKOTE** FOR SURE PERFORMANCE

## RG TYPE COAXIAL CABLE–Polyethylene Dielectric

| Military Number RG-/u | Plastoid Part Number | V.P. % | Cap. Mmfd. /ft. | Max. Oper. Volts RMS | Nominal Imp. Ohms | Armor O.D. | Jacket O.D. | Type Jacket | Shields Outer | Shields Inner | Dielect. O.D. | Center Cond. | Applicable Spec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4600 | 65.9 | 28.5 | 3000 | 52.5 | | .332 | I | C | C | .185 | .0508C | JAN-C-17A |
| 5A | 4601 | 65.9 | 29.0 | 3000 | 50.0 | | .328 | II | SC | SC | .185 | .0508SC | JAN-C-17A |
| 5B | 4602 | 65.9 | 29.0 | 3000 | 50.0 | | .328 | IIa | SC | SC | .185 | .0530SC | MIL-C-17B |
| 6 | 4603 | 65.9 | 20.0 | 2700 | 76.0 | | .332 | II | SC | SC | .185 | .0285CW | JAN-C-17A |
| 6A | 4604 | 65.9 | 20.0 | 2700 | 76.0 | | .332 | IIa | SC | SC | .185 | .0285CW | MIL-C-17B |
| 7 | 4605 | 84.0 | 12.5 | 1000 | 97.0 | | .370 | I | | C | .250* | .0359C | JAN-C-17A |
| 8 | 4606 | 65.9 | 29.5 | 5000 | 52.0 | | .405 | I | | C | .285 | 7x .0285C | JAN-C-17A |
| 8A | 4607 | 65.9 | 30.5 | 5000 | 50.0 | | .405 | IIa | | C | .285 | 7x .0296C | MIL-C-17B |
| 9 | 4608 | 65.9 | 30.0 | 5000 | 51.0 | | .420 | II | C | SC | .280 | 7x .0285SC | JAN-C-17A |
| 9A | 4609 | 65.9 | 30.0 | 5000 | 51.0 | | .420 | II | SC | SC | .280 | 7x .0285SC | JAN-C-17A |
| 9B | 4610 | 65.9 | 30.5 | 5000 | 50.0 | | .425 | IIa | SC | SC | .285 | 7x .0296SC | MIL-C-17B |
| 10 | 4611 | 65.9 | 29.5 | 5000 | 52.0 | .475 | .405 | II | | C | .285 | 7x .0285C | JAN-C-17A |
| 10A | 4612 | 65.9 | 30.5 | 5000 | 50.0 | .475 | .405 | IIa | | C | .285 | 7x .0296C | MIL-C-17B |
| 11 | 372 | 65.9 | 20.5 | 5000 | 75.0 | | .405 | I | | C | .285 | 7x .0159TC | JAN-C-17A |
| 11A | 4614 | 65.9 | 20.5 | 5000 | 75.0 | | .405 | IIa | | C | .285 | 7x .0159TC | MIL-C-17B |
| 12 | 4615 | 65.9 | 20.5 | 5000 | 75.0 | .475 | .405 | II | | C | .285 | 7x .0159TC | JAN-C-17A |
| 12A | 4616 | 65.9 | 20.5 | 5000 | 75.0 | .475 | .405 | IIa | | C | .285 | 7x .0159TC | MIL-C-17B |
| 13 | 4617 | 65.9 | 20.5 | 5000 | 75.0 | | .420 | I | C | C | .285 | 7x .0159TC | JAN-C-17A |
| 13A | 4618 | 65.9 | 20.5 | 5000 | 75.0 | | .425 | IIa | C | C | .285 | 7x .0159TC | MIL-C-17B |
| 14 | 4619 | 65.9 | 29.5 | 5000 | 52.0 | | .545 | II | C | C | .370 | 1x .102C | JAN-C-17A |
| 14A | 4620 | 65.9 | 30.5 | 5000 | 50.0 | | .545 | IIa | C | C | .370 | 1x .106C | MIL-C-17B |
| 15 | 4621 | 65.9 | 20.5 | 6000 | 75.0 | | .545 | I | C | C | .370 | 1x .0571CW | JAN-C-17A |
| 21 | 4630 | 65.9 | 29.0 | 2700 | 53.0 | | .332 | II | SC | SC | .185 | 1x .0508N | JAN-C-17A |
| 21A | 4631 | 65.9 | 30.5 | 2700 | 50.0 | | .332 | IIa | SC | SC | .185 | 1x .053N | MIL-C-17B |
| 22 | 4632 | 65.9 | 16.0 | 1000 | 95.0 | | .405 | I | | TC | .285 | Two 7X .0152C | JAN-C-17A |
| 29 | 4635 | 65.9 | 28.5 | 1900 | 53.5 | | .184 | III | | TC | .116 | 1x .032C | JAN-C-17A |
| 35 | 4637 | 65.9 | 20.5 | 10000 | 71.0 | .945 | .870 | II | | C | .680 | 1x .114C | JAN-C-17A |
| 35A | 4638 | 65.9 | 21.5 | 10000 | 75.0 | .945 | .870 | IIa | | C | .680 | 1x .104C | MIL-C-17B |

**LEGEND**

Center Conductor:
C — Bare Copper
SC — Silver Coated Copper
CW — Copperweld
TC — Tinned Copper
N — Nichrome

Shield:
C — Bare Copper
SC — Silver Coated Copper
TC — Tinned Copper

* Semi-solid Dielectric

Jacket Material:
Type I — PVC Black withstands Cold Bend after 20 hrs. at —40°C.
Type II — PVC NEMA Gray non-contaminating — withstands Cold Bend after 20 hrs. at —25°C.
Type IIa — PVC Black non-contaminating withstands Cold Bend after 20 hrs. at —40°C.
Type III — Polyethylene-natural withstands Cold Bend after 20 hrs. at —40°C.

Polyethylene Dielectric per Federal Spec. LP-590 Supersedes MIL-D-3054


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# RG TYPE COAXIAL CABLE–Polyethylene Dielectric *(Continued)*

| Military Number RG-/u | Plastoid Part Number | V.P. % | Cap. Mmfd. /ft. | Max. Oper. Volts RMS | Nominal Imp. Ohms | Armor O.D. | Jacket O.D. | Type Jacket | Shields Outer | Shields Inner | Dielect. O.D. | Center Cond. | Applicable Spec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54A | 4640 | 65.9 | 26.5 | 3000 | 58.0 | | .250 | III | | TC | .178 | 7x .0152C | JAN-C-17A |
| 55 | 4641 | 65.9 | 28.5 | 1900 | 53.5 | | .206 | III | TC | TC | .116 | 1x .0320C | JAN-C-17A |
| 55A | 4684 | 65.9 | 30.5 | 1900 | 50.0 | | .216 | IIa | SC | SC | .116 | 1x .0355C | MIL-C-17B |
| 58 | 4644 | 65.9 | 28.5 | 1900 | 53.5 | | .195 | I | | TC | .116 | 1x .0320C | JAN-C-17A |
| 58A | 4645 | 65.9 | 28.5 | 1900 | 52.0 | | .195 | I | | TC | .116 | 19x .0066TC | JAN-C-17A |
| 58B | 4646 | 65.9 | 28.5 | 1900 | 53.5 | | .195 | IIa | | TC | .116 | 1x .0320C | MIL-C-17B |
| 58C | 4647 | 65.9 | 30.5 | 1900 | 50.0 | | .195 | IIa | | TC | .116 | 19x .0071TC | MIL-C-17B |
| 59 | 423 | 65.9 | 21.0 | 2300 | 73.0 | | .242 | I | | C | .146 | 1x .0253CW | JAN-C-17A |
| 59A | 4649 | 65.9 | 20.5 | 2300 | 75.0 | | .242 | IIa | | C | .146 | 1x .0230CW | MIL-C-17B |
| 62 | 4650 | 84.0 | 13.5 | 750 | 93.0 | | .242 | I | | C | .146* | 1x .0253CW | JAN-C-17A |
| 62A | 4651 | 84.0 | 13.5 | 750 | 93.0 | | .242 | IIa | | C | .146* | 1x .0253CW | MIL-C-17B |
| 63 | 4652 | 84.0 | 10.0 | 1000 | 125.0 | | .405 | I | | C | .285* | 1x .0253CW | JAN-C-17A |
| 63B | 4653 | 84.0 | 10.0 | 1000 | 125.0 | | .405 | IIa | | C | .285* | 1x .0253CW | MIL-C-17B |
| 71 | 4654 | 84.0 | 13.5 | 750 | 93.0 | | .250 | III | TC | TC | .146* | 1x .0253CW | JAN-C-17A |
| 74 | 4655 | 65.9 | 29.5 | 7000 | 52.0 | .615 | .545 | II | C | C | .370 | 1x .102C | JAN-C-17A |
| 74A | 4656 | 65.9 | 30.5 | 7000 | 50.0 | .615 | .545 | IIa | C | C | .370 | 1x .106C | MIL-C-17B |
| 79 | 4657 | 84.0 | 10.0 | 1000 | 125.0 | .475 | .405 | I | | C | .285* | 1x .0253CW | JAN-C-17A |
| 79B | 4658 | 84.0 | 10.0 | 1000 | 125.0 | .475 | .405 | IIa | | C | .285* | 1x .0253CW | MIL-C-17B |
| 83 | 4659 | 65.9 | 44.0 | 2000 | 35.0 | | .405 | I | | C | .240 | 1x .102C | JAN-C-17A |
| 89 | 4660 | 84.0 | 10.0 | 1000 | 125.0 | | .632 | I | | C | .285* | 1x .0253CW | JAN-C-17A |
| 108 | 4661 | | 20.0 | 1000 | 76.0 | | .245 | II | | TC | .079 | Two 7x .012C | JAN-C-17A |
| 108A | 4662 | | 20.0 | 1000 | 76.0 | | .235 | IIa | | TC | .079 | Two 7x .012C | MIL-C-17B |
| 122 | 4671 | 65.9 | 30.5 | 1900 | 50.0 | | .160 | IIa | | TC | .096 | 27x .005TC | MIL-C-17B |
| 164 | 15139 | 65.9 | 20.5 | 10000 | 75.0 | | .870 | IIa | | C | .680 | 1x .1045C | MIL-C-17B |
| 177 | 15142 | 65.9 | 30.5 | 11000 | 50.0 | | .895 | IIa | SC | SC | .680 | 1x .195C | MIL-C-17B |

**LEGEND**

**Center Conductor**
C — Bare Copper
SC — Silver Coated Copper
CW — Copperweld
TC — Tinned Copper
N — Nichrome

**Shield**
C — Bare Copper
SC — Silver Coated Copper
TC — Tinned Copper

★ Semi-solid Dielectric

**Jacket Material**
Type I — PVC Black withstands Cold Bend after 20 hrs. at —40°C
Type II — PVC NEMA Gray non-contaminating — withstands Cold Bend after 20 hrs. at —25°C
Type IIa — PVC Black non-contaminating withstands Cold Bend after 20 hrs. at —40°C
Type III — Polyethylene-natural with stands Cold Bend after 20 hrs. at —40°C

Polyethylene Dielectric per Federal Spec. LP 590 Supersedes MIL-D-3054

"MANUFACTURED BY THE MILE—TESTED BY THE INCH"

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# SPECIFY **SYNKOTE** FOR SURE PERFORMANCE

## RG TYPE COAXIAL CABLE Teflon* Dielectric *(made to specification MIL-C-17B)*

| Military Number RG-/u | Plastoid Part Number | V.P. % | Cap. Mmfd./ft. | Max. Oper. Volts | Nom Imp. Ohms | Armor O.D. | Jacket Outer | Jacket Inner | Teflon Tape Outer | Teflon Tape Inner | Shields Outer | Shields Inner | Dielect. O.D. | Center Cond. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 87A | 4690 | 69.5 | 29.5 | 5000 | 50 | | .430 | | | | SC | SC | .285 | 7x .0312SC |
| 116 | 4677 | 69.5 | 29.5 | 5000 | 50 | .490 | .430 | | | | SC | SC | .285 | 7x .0312SC |
| 117 | 4668 | 69.5 | 29.5 | 7000 | 50 | | .730 | | | | | C | .620 | 1x .190C |
| 118 | 4669 | 69.5 | 29.5 | 7000 | 50 | .795 | .730 | | | | | C | .620 | 1x .190C |
| 119 | 4670 | 69.5 | 29.5 | 6000 | 50 | | .465 | | | | C | C | .332 | 1x .102C |
| 120 | 15127 | 69.5 | 29.5 | 6000 | 50 | .525 | .465 | | | | C | C | .332 | 1x .102C |
| 126 | 15131 | 69.5 | 29.5 | 3000 | 50 | | .280 | | | | | K | .185 | 7x .0203K |
| 140 | 4691 | 69.5 | 20.5 | 2300 | 75 | | | .233 | | | | SC | .146 | 1x .025SCW |
| 141 | 4694 | 69.5 | 29.5 | 1900 | 50 | | | .190 | | | | SC | .116 | 1x .0359SCW* |
| 142 | 4696 | 69.5 | 29.5 | 1900 | 50 | | | .206 | | | SC | SC | .116 | 1x .0359SCW* |
| 143 | 4686 | 69.5 | 29.5 | 3000 | 50 | | .325 | | | | SC | SC | .185 | 1x .0575SCW |
| 144 | 15100 | 69.5 | 20.5 | 5000 | 75 | | .410 | | | | | SC | .285 | 7x .0179SCW |
| 165 | 15101 | 69.5 | 29.5 | 5000 | 50 | | .410 | | | | | SC | .285 | 7x .032SC |
| 166 | 15102 | 69.5 | 29.5 | 5000 | 50 | .460 | .410 | | | | | SC | .285 | 7x .032SC |

*duPont's trade name for Polytetrafluoroethylene

### Teflon Dielectric — made to specification MIL-C-17B — MINIATURE TYPE

| Military Number RG-/u | Plastoid Part Number | V.P. % | Cap. Mmfd./ft. | Max. Oper. Volts | Nom Imp. Ohms | Jacket | Shield | Dielect. O.D. | Center Cond. |
|---|---|---|---|---|---|---|---|---|---|
| 187 | 4695 | 69.5 | 19.5 | 1200 | 75 | Extruded Teflon or Fused Teflon Tape | SC | .060 | 7x .004SCW |
| 188 | 4697 | 69.5 | 29.0 | 1200 | 50 | Extruded Teflon or Fused Teflon Tape | SC | .060 | 7x .0067SCW |
| 195 | 4698 | 69.5 | 15.0 | 1500 | 95 | Extruded Teflon or Fused Teflon Tape | SC | .102 | 7x .004SCW |
| 196 | 4699 | 69.5 | 29.0 | 1000 | 50 | Extruded Teflon or Fused Teflon Tape | SC | .034 | 7x .004SCW |

**LEGEND**

**Center Conductor:**
SC — Silver Coated Copper
C — Bare Copper
K — Karma
SCW — Silver Coated Copperweld

**Shield:**
SC — Silver Coated Copper
C — Bare Copper
K — Karma

**Dielectric:**
Type F-1 — Polytetrafluoroethylene

**Jacket:**
Type V — Fiberglass per MIL-G-1140

*Available with non-magnetic stranded silver plated copper center conductor

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# TEFLON* MINIATURE COAXIAL CABLE

**DESCRIPTION:** Plastoid "Teflon" miniature coaxial cables are about ¼ the outside diameter of comparable RG types, yet provide the same impedance characteristics as standard types. In three widely used impedance ranges (50, 70 and 93 ohms) these "Teflon" miniature cables exhibit stable characteristics when operated up to 200°C and can be used successfully in confined areas and where high ambient temperatures are present. These miniature coaxial cables may be applied with any desired outer coating, and will withstand temperatures up to 250°C, when supplied with an impregnated fiber glass jacket.

**CONSTRUCTION:** Both conductor and braid usually employ silver plated wire. Standard jacket material is "Teflon". Any desired jacketing such as Nylon, Fiberglass, Teflon Coated Fiberglass, KEL-F or other suitable jackets are available to meet unique conditions and specifications.

**APPLICATIONS:** Plastoid "Teflon" miniature coaxial cables are the ultimate in space conservation as compared to standard RG types. Because of their rugged construction, they are an important contribution to such varied applications as aircraft and guided missiles, plants or laboratories where instrument hook-ups are subjected to chemical corrosion or abrasive treatment.

**DESIGN FEATURES:** Plastoid "Teflon" miniature coaxial cables have many advantages, a few of which are: Miniature size with some impedance as comparable RG types; ability to withstand high temperature and corrosive or abrasive conditions; high voltage characteristics and excellent flexibility at temperatures as low as −65°C. The uniform OD of these light weight cables makes it possible to use the same size connector for each of the three impedance ranges.

## TYPICAL CONSTRUCTION

PP15,251

PP15,256

PP15,254

| Plastoid Part Number | Imp. Ohms | Conductor | Diel. | Braid | Jacket* O.D. | Jacket Type | Cap. Mmfd. /ft. | V.P. % |
|---|---|---|---|---|---|---|---|---|
| 12,270 | 50 | 1x.0385 SC | .109 | Silver Copper Double | .167 | Glass Braid, Silicone Saturant | 29.0 | 70 |
| 15,251 | 50 | 1x.011 SCW | .035 | Silver Copper | .063 | Nylon | 29.0 | 70 |
| 15,252 | 50 | 7x.010 SCW | .095 | Silver Copper | .125 | Nylon | 29.0 | 70 |
| 15,253 | 50 | 1x.012 SCW | .036 | Silver Copper | .064 | Nylon | 29.0 | 70 |
| 12,310 | 70 | 7x.004 SCW | .060 | Silver Copper | .095 | Glass Braid, Silicone Saturant | 21.0 | 70 |
| 15,254 | 70 | 7x.0063 SCW | .095 | Silver Copper | .125 | Nylon | 21.0 | 70 |
| 4,692 | 70 | 7x.004 SCW | .070 | Silver Copper | .105 | Glass Braid, Teflon Saturant | 21.0 | 70 |
| 15,255 | 70 | 1x.011 SCW | .056 | Silver Copper | .084 | Nylon | 21.0 | 70 |
| 12,221 | 93 | 7x.004 SCW | .103 | Silver Copper | .131 | Nylon | 16.0 | 70 |
| 12,341 | 93 | 7x.004 SB | .104 | Silver Copper | .138 | Fused Teflon Tape | 16.0 | 70 |
| 15,256 | 93 | 7x.004 SCW | .095 | Silver Copper | .125 | Nylon | 16.0 | 70 |
| 12,279 | 94 | 1x.011 NCW | .096 | Silver Copper | .118 | Nylon | 15.3 | 70 |
| 12,282 | 94 | 1x.011 SCW | .096 | Silver Copper | .122 | Nylon | 15.3 | 70 |
| 12,280 | 94 | 1x.011 SCW | .095 | Silver Copper | .140 | Nylon Braid over PVC | 15.3 | 70 |
| 15,257 | 94 | 1x.011 SCW | .095 | Silver Copper | .140 | Nylon over PVC | 15.3 | 70 |

LEGEND

SCW — Silver Coated Copperweld
SC — Silver Coated Copper

Center Conductor:
SB — Silver Coated Berrylium
NCW — Nickel Coated Copperweld

*Jacket may be altered to meet any special requirements.

*duPont's trade name for Polytetrafluoroethylene

# AIRCRAFT WIRE

## MIL-W-5086A—Type 1

Dated June 18, 1957
Superseding MIL-W-5086—Nov. 30, 1950)

600 Volts Temp Rating—55°C + 105°C
Synkote insulated electrical aircraft wire conforms to Mil. Spec. MIL-W-5086-A

1. Constructional Details
   (a) Concentric stranded tinned copper cond.
   (b) Synthetic resin insulation (105°C)
   (c) Extruded clear nylon jacket
2. Standard Packaging
   AN-22 & AN-20 5,000′ non-returnable reel
   AN-18 & AN-16 3,000′ non-returnable reel
   AN-14 & AN-12 2,000′ non-returnable reel
3. Available with tinned copper shield and/or extruded nylon jacket over shield Identified as Type 1 or Type 2 per spec. MIL-C-7078A
4. Standard Color: White
5. May be furnished in multiple cond combinations—color coded as required.

| Spec. Desig. | AWG Size Stranding | Nom. O.D. | Approx. Wt. ±/M′ |
|---|---|---|---|
| AN-22 | 22/19x34 | .068″ | 4.5 |
| AN-20 | 20/19x32 | .078″ | 6.5 |
| AN-18 | 18/19x30 | .088″ | 8.5 |
| AN-16 | 16/19x29 | .098″ | 10.5 |
| AN-14 | 14/19x27 | .117″ | 16.5 |
| AN-12 | 12/19/25 | .137″ | 24.5 |

For larger sizes, see listing under MIL-W-5086A—Type 2

## MIL-C-7078A—Type 1

(Type 1 per MIL-W-5086A with overall shield)

600 Volts Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded tinned copper cond.
   (b) Synthetic resin insulation (105°C)
   (c) Extruded clear nylon Jacket
   (d) Overall tinned copper shield
2. Stranded Put-Up 1000′/spool or reel. Larger packaging available
3. This construction may be furnished with an overall extruded nylon jacket-recognized as Type 2 per spec. MIL-C-7078A.

| Spec. Desig. | AWG Size Stranding | Nom. O.D. | Approx. Wt. ± M′ |
|---|---|---|---|
| AN-22 | 22/19x34 | .088″ | 10.0 |
| AN-20 | 20/19x32 | .098″ | 12.5 |
| AN-18 | 18/19x30 | .108″ | 15.5 |
| AN-16 | 16/19x29 | .118″ | 18.5 |
| AN-14 | 14/19x27 | .137″ | 25.0 |
| AN-12 | 14/19x25 | .157″ | 34.5 |

## MIL-W-5086A—Type 2

(Dated June 18, 1957
Superseding MIL-W-5086—Nov. 30, 1950)

600 Volts Temp Rating—55°C + 105°C

1. Constructional Detail
   (a) Concentric stranded or rope-lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated
   (d) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon, impregnated with nylon lacquer sizes AN-10 thru AN 4 0.
2. Standard Packaging
   AN-22 & AN-20 5000′ non-returnable reel
   AN-18 & AN-16 3000′ non-returnable reel
   AN-14 & AN-12 2000′ non-returnable reel
   AN-10 1000′ non-returnable reel
   AN-8 thru AN-1 500′ or 1000′ non-returnable reel
   AN-0 thru AN-4 0 500′ non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 through AN 12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple cond combinations—Color coded as required.

| Spec. Desig. | AWG Size Stranding | Nom. O.D. | Approx. Wt. ± M′ |
|---|---|---|---|
| AN-22 | 22/19x34 | .075″ | 5.0 |
| AN-20 | 20/19x32 | .085″ | 7.0 |
| AN-18 | 18/19x30 | .095″ | 9.5 |
| AN-16 | 16/19x29 | .105″ | 12.0 |
| AN-14 | 14/19x27 | .125″ | 18.5 |
| AN-12 | 12/19x25 | .143″ | 26.0 |
| AN-10 | 10/49/27 | .189″ | 44.0 |
| AN-8 | 8/133x29 | .240″ | 70.0 |
| AN-6 | 6/133x27 | .293″ | 110.0 |
| AN-4 | 4/133x25 | .355″ | 165.0 |
| AN-2 | 2/665/30 | .425″ | 250.0 |
| AN-1 | 1/817x30 | .470″ | 305.0 |
| AN-1/0 | 0/1015x30 | .525″ | 400.0 |
| AN-2/0 | 00/1330x30 | .590″ | 500.0 |
| AN-3/0 | 000/1665x30 | .650″ | 620.0 |
| AN-4/0 | 0000/2109x30 | .720″ | 785.0 |

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World Radio History

## AIRCRAFT WIRE

### MIL-C-7078A — Type 2

(Type 2 per MIL-W-5086A with overall shield)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated
   (d) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon impregnated with nylon lacquer, sizes AN-10, AN-8 and AN-6
   (e) Overall tinned copper shield
2. Standard put-up 1000'/spool or reel. Larger packing available.
3. May be furnished with extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A

| Spec. Desig. | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|---|
| AN-22 | 22/19x34 | .085" | 5.5 |
| AN-20 | 20/19x32 | .105" | 13.0 |
| AN-18 | 18/19x30 | .115" | 17.5 |
| AN-16 | 16/19x29 | .125" | 21.0 |
| AN-14 | 14/19x27 | .145" | 28.5 |
| AN-12 | 12/19x25 | .165" | 37.5 |
| AN-10 | 10/19x27 | .210" | 57.0 |
| AN-8 | 8/133x29 | .260" | 91.5 |
| AN-6 | 6/133x27 | .312" | 128.5 |

### MIL-W-5086A — Type 3

(Dated June 18, 1957 superseding MIL-W-5086—Nov. 30, 1950)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
   (b) Synthetic resin insulation
   (c) Glass braid saturated
   (d) Secondary synthetic resin insulation
   (e) Extruded clear nylon jacket sizes AN-22 thru AN-12; braided nylon impregnated with nylon lacquer, sizes AN-10 thru AN 4/0.
2. Standard Package
   AN-22 and AN-20 — 5000' non-returnable reel
   AN-18 and AN-16 — 3000' non-returnable reel
   AN-14 and AN-12 — 2000' non-returnable reel
   AN-10 — 1000' non-returnable reel
   AN-8 thru AN-4 — 500' non-returnable reel
   AN-0 thru AN 4/0 — 500' non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 thru AN-12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple combination cond. — color coded as required.

| Spec. Desig. | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|---|
| AN-22 | 22/19x34 | .085" | 6.0 |
| AN-20 | 20/19x32 | .095" | 7.5 |
| AN-18 | 18/19x30 | .110" | 11.0 |
| AN-16 | 16/19x29 | .125" | 14.0 |
| AN-14 | 14/19x27 | .145" | 20.0 |
| AN-12 | 12/19x25 | .165" | 28.5 |
| AN-10 | 10/19x27 | .195" | 44.0 |
| AN-8 | 8/133x29 | .248" | 70.0 |
| AN-6 | 6/133x27 | .302" | 115.0 |
| AN-4 | 4/133x25 | .360" | 170.0 |
| AN-2 | 2/665x30 | .455" | 250.0 |
| AN-1 | 1/817x30 | .485" | 310.0 |
| AN-1/0 | 0/1045x30 | .555" | 400.0 |
| AN-2/0 | 00/1330x30 | .595" | 500.0 |
| AN-3/0 | 000/1665x30 | .665" | 620.0 |
| AN-4/0 | 0000/2100x30 | .735" | 745.0 |

## AIRCRAFT WIRE

### MIL-C-7078A — Type 3

(Type 3 per MIL-W-5086A with overall shield)

600 Volts
Temp. Rating—55°C + 105°C

1. Constructional Details
   (a) Concentric stranded or rope lay stranded tinned cond. as required per spec.
   (b) Synthetic resin insulation (105°C)
   (c) Glass braid—saturated
   (d) Secondary synthetic resin insulation (105°C)
   (e) Extruded clear nylon jacket AN-22 thru AN-12. Braided nylon impregnated with nylon lacquer, sizes AN-10, AN-8 and AN-6
   (f) Overall tinned copper shield.
2. Standard put-up 1000'/spool or reel. Larger packaging available.
3. May be furnished with overall extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A.

| Spec. Desig. | AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|---|
| AN-22 | 22/19x34 | .110" | 13.0 |
| AN-20 | 20/19x32 | .115" | 14.5 |
| AN-18 | 18/19x30 | .122" | 19.0 |
| AN-16 | 16/19x29 | .135" | 21.0 |
| AN-14 | 14/19x27 | .165" | 30.0 |
| AN-12 | 12/19x25 | .185" | 42.0 |
| AN-10 | 10/105x30 | .213" | 59.5 |
| AN-8 | 8/133x.0113 | .270" | 92.5 |
| AN-6 | 6/133x.0142 | .323" | 133.0 |

## MIL-W-5274A (USAF)

**Synkote insulated aircraft wire to conform to Mil. spec. MIL-W-5274A (USAF). All wires under this classification are approved constructions and are made in strict compliance with the applicable spec.**

### Type 1 — Class A

Tinned copper conductor
Overall extruded nylon jacket
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .085" | 5.0 |
| 20/19x32 | .090" | 6.75 |
| 18/19x30 | .105" | 9.5 |
| 16/19x29 | .125" | 13.5 |
| 14/19x27 | .145" | 19.0 |
| 12/19x25 | .165" | 27.0 |

### Type 1 — Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Extruded nylon jacket
Overall tinned copper shield
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Large packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .105" | 11.0 |
| 20/19x32 | .110" | 13.0 |
| 18/19x30 | .125" | 17.0 |
| 16/19x29 | .145" | 22.5 |
| 14/19x27 | .165" | 28.5 |
| 12/19x25 | .185" | 38.0 |

## AIRCRAFT WIRE

### Type 2 — Class A

Tinned copper conductor
Fungus resistant glass fiber braid
Overall Extruded nylon jacket
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .085" | 5.5 |
| 20/19x32 | .096" | 7.5 |
| 18/19x30 | .110" | 10.5 |
| 16/19x29 | .125" | 13.5 |
| 14/19x27 | .145" | 18.5 |
| 12/19x25 | .165 | 27.0 |

### Type 2 — Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Fungus resistant glass fiber braid
Extruded nylon jacket
Overall tinned copper shield
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .107" | 12.0 |
| 20/19x32 | .116" | 14.0 |
| 18/19x30 | .130" | 18.0 |
| 16/19x29 | .145" | 22.5 |
| 14/19x27 | .165" | 28.0 |
| 12/19x25 | .185" | 37.5 |

### Type 3 — Class A

Tinned copper conductor
Fungus resistant glass fiber braid
Overall Extruded nylon jacket
Color Code: Light Red
Voltage Rating: 3000 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .085" | 5.5 |
| 20/19x32 | .096" | 7.5 |
| 18/19x30 | .109" | 10.0 |
| 16/19x29 | .124" | 13.5 |
| 14/19x27 | .142" | 18.75 |
| 12/19x25 | .157" | 27.0 |

### Type 3 — Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
Fungus resistant glass fiber braid
Extruded nylon jacket
Overall tinned copper shield
Color Code: Light Red
Voltage Rating: 3000 Volts
Temp. Rating—54°C + 100°C
Put-Up: 1,000 Ft. spool
Larger packaging available

| AWG Size & Stranding | Nom. O.D. | Approx. Wt. ≈ M' |
|---|---|---|
| 22/19x34 | .107" | 12.0 |
| 20/19x32 | .116" | 14.0 |
| 18/19x30 | .130" | 18.0 |
| 16/19x29 | .145" | 22.5 |
| 14/19x27 | .165" | 28.0 |
| 12/19x25 | .180" | 37.5 |

## MIL-W-7072A Aluminum

**Synkote insulated aluminum aircraft wire manufactured to conform to Mil. spec. MIL-W-7072A.**

### Type 1

Aluminum conductor
Fungus resistant glass fiber braid
Flame proof saturant and lacquer
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—55°C + 100°C
Put-Up: 500 ft and 1,000 ft. spool

| AWG Size & Spec. Desig. | Cond. Stranding | Nom. O.D. | Approx. Wt. ≈ M |
|---|---|---|---|
| AL-8 | 41x24 | .210" | 31.0 |
| AL-6 | 7x10x24 | .308" | 52.0 |
| AL-4 | 7x15x24 | .366" | 71.0 |
| AL-2 | 7x24x24 | .410" | 101.0 |
| AL-1 | 7x30x24 | .488" | 124.0 |
| AL-1/0 | 19x14x24 | .544" | 150.0 |
| AL-2/0 | 19x18x24 | .597" | 190.0 |
| AL-3/0 | 19x22x24 | .661" | 225.0 |
| AL-4/0 | 19x28x24 | .724" | 275.0 |

### Type 2

Aluminum conductor
Fungus resistant glass fiber braid
Flame proof saturant nylon braid
Flame proof saturant and lacquer
Color Code: White
Voltage Rating: 600 Volts
Temp. Rating—55°C + 100°C
Put-Up:
Sizes 8 thru 2 —1,000 ft. spool
Sizes 1 thru 4/0— 500 ft. spool

| AWG Size & Spec. Desig. | Cond. Stranding | Nom. O.D. | Approx. Wt. ≈ M |
|---|---|---|---|
| AL-8 | 41x24 | .248" | 32.0 |
| AL-6 | 7x10x24 | .312" | 52.0 |
| AL-4 | 7x15x24 | .372" | 71.0 |
| AL-2 | 7x24x24 | .441" | 104.0 |
| AL-1 | 7x30x24 | .492" | 128.0 |
| AL-1/0 | 19x14x24 | .550" | 155.0 |
| AL-2/0 | 19x18x24 | .600" | 195.0 |
| AL-3/0 | 19x22x24 | .668" | 232.0 |
| AL-4/0 | 19x28x24 | .728" | 285.0 |

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## "MIL and JAN-spec" WIRES

WIRES TO GOVERNMENT SPECIFICATION

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## MIL-W-16878 HOOK-UP WIRE

### TYPE B

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 600 volts (working). Colors: All NEMA standard color coding. Tracers available on solid colors.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 30 | NB738U | 22 | NB1934U |
| 28 | NB736U | 20 | NB1932U |
| 27 | NB735U | 18 | NB1930U |
| 26 | NB734U | 16 | NB2630U |
| 24 | NB1936U | | |

### TYPE B NYLON JACKETED

Construction: Tinned copper stranded. Thermoplastic insulation with an extruded nylon jacket overall. Temperature —54C to +105C. Rating 1000 volts (working) Colors: All standard NEMA color coding. Tracers also available on solid colors.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 30 | NB738N | 22 | NB1934N |
| 28 | NB736N | 20 | NB1932N |
| 27 | NB735N | 18 | NB1930N |
| 26 | NB734N | 16 | NB2630N |
| 24 | NB1936N | | |

### TYPE C

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 1000 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 24 | NC1936U | 14 | NC1927U |
| 22 | NC1934U | 12 | NC1925U |
| 20 | NC1932U | 10 | NC4927U |
| 18 | NC1930U | 8 | NC13329U |
| 16 | NC2630U | 6 | NC13327U |

## MIL-W-16878 HOOK-UP WIRE

### TYPE C NYLON JACKETED

Construction: Tinned copper stranded. Thermoplastic insulation with an extruded nylon jacket overall. Temperature —54C to +105C. Rating 1000 volts (working). Colors: All NEMA standard colors. Tracers available on solid colors.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 24 | NC1936N | 18 | NC1930N |
| 22 | NC1934N | 16 | NC2630N |
| 20 | NC1932N | 14 | NC1927N |

### TYPE D

Construction: Tinned copper stranded. Thermoplastic insulation. Temperature —54C to +105C. Rating 3000 volts (working). Colors: All standard NEMA color coding. Tracers on solid colors available.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 24 | ND1936U | 14 | ND1927U |
| 22 | ND1934U | 12 | ND1925U |
| 20 | ND1932U | 10 | ND4927U |
| 18 | ND1930U | 8 | ND13329U |
| 16 | ND2630U | 6 | ND13327U |

### TYPE D NYLON

Construction: Tinned copper stranded. Thermopastic insulation with an extruded nylon jacket overall. Temperature —54C to +105C. Rating 3000 volts (working). Colors: All standard NEMA color coding. Tracers available on solid colors.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 24 | ND1936N | 14 | ND1927N |
| 22 | ND1934N | 12 | ND1925N |
| 20 | ND1932N | 10 | ND4927N |
| 18 | ND1930N | 8 | ND13329N |
| 16 | ND2630N | 6 | ND13327N |

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## TYPE E & EE TEFLON* INSULATED

**Gauges 14 thru 30. Solid colors and up to 3 stripes**

Construction: Silver-coated stranded copper conductor. Extruded teflon insulation. Temperature —65C to +200C. Rating 600 volts (working). Colors: All standard NEMA color coding.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 24 | NE1936U | 18 | NE1930U |
| 22 | NE1934U | 16 | NE2630U |
| 20 | NE1932U | | |

*product of Dupont

# MIL-W-76A

## TYPE MW

Construction: Tinned copper, stranded or solid. Thermoplastic insulation. Temperature —40C to +80C. Rating 1000 volts (working). Colors: All standard NEMA color coding. Tracers also available on solid colors.

| Stranded | | Solid | |
|---|---|---|---|
| Gauge | Catalogue No. | Gauge | Catalogue No. |
| 24 | NMW732U | 22 | NMW221U |
| 22 | NMW730U | 20 | NMW201U |
| 20 | NMW1030U | 18 | NMW181U |
| 18 | NMW1630U | | |
| 16 | NMW2630U | | |
| 14 | NMW1927U | | |
| 12 | NMW1925U | | |

# JAN-C-76

## TYPE SRIR Hook-up Wire

Construction: Tinned copper stranded or solid. Nominal insulation thickness .015" thermoplastic. Rating 1000 volts (working). Temperature —40C to +60C. Colors: All standard NEMA color coding. Tracers available on solid colors.

| Stranded | | Solid | |
|---|---|---|---|
| Gauge | Catalogue No. | Gauge | Catalogue No. |
| 24 | NIR732U | 24 | NIR241U |
| 22 | NIR730U | 22 | NIR221U |
| 20 | NIR1030U | 20 | NIR201U |
| 18 | NIR1630U | 18 | NIR181U |
| 16 | NIR2630U | 16 | NIR161U |
| 14 | NIR1927U | | |
| 12 | NIR1925U | | |
| 10 | NIR4927U | | |
| 8 | NIR13329U | | |
| 6 | NIR13327U | | |

## MIL-W-5086 TYPE I AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a nylon jacket overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 22 | NAN1934N | 14 | NAN1927N |
| 20 | NAN1932N | 12 | NAN1925N |
| 18 | NAN1930N | 10 | NAN4126N |
| 16 | NAN1929N | | |

## MIL-W-5086 TYPE II AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a 100% glass braid and nylon jacket overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 22 | NAN1934GN | 8 | NAN13329GN |
| 20 | NAN1932GN | 6 | NAN13327GN |
| 18 | NAN1930GN | 4 | NAN13325GN |
| 16 | NAN1929GN | 2 | NAN66530GN |
| 14 | NAN1927GN | 1/0 | NAN104530GN |
| 12 | NAN1925GN | 2/0 | NAN133030GN |
| 10 | NAN4126GN | | |

## MIL-C-7078 TYPE I AIRCRAFT WIRE

Construction: Tinned copper stranded. Synthetic resin insulation with a nylon jacket and tinned copper shield overall. Rating 600 volts (working). Temperature —54C to +105C. Color: white. Tracers available on white background.

| Gauge | Catalogue No. | Gauge | Catalogue No. |
|---|---|---|---|
| 22 | NAN1934NS | 14 | NAN1927NS |
| 20 | NAN1932NS | 12 | NAN1925NS |
| 18 | NAN1930NS | 10 | NAN4126NS |
| 16 | NAN1929NS | | |

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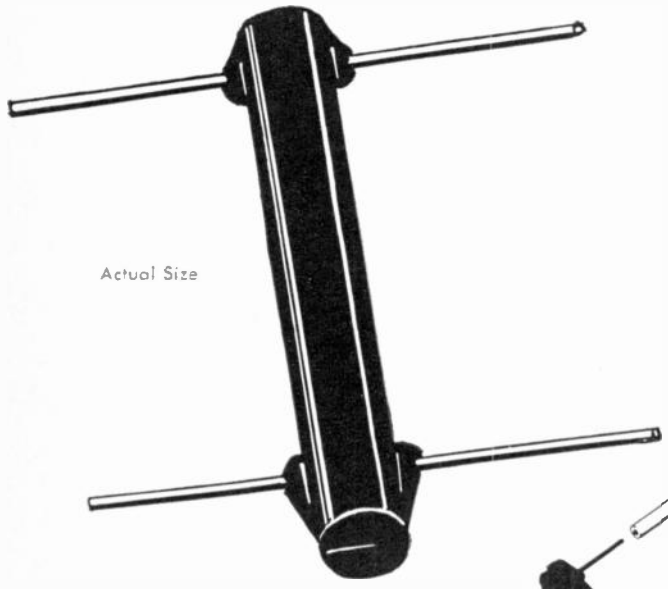
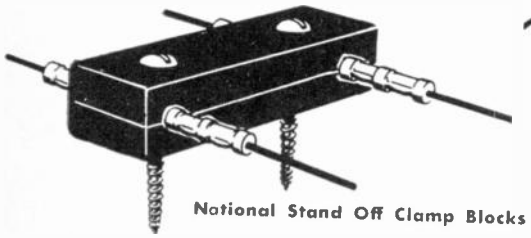



# NATIONAL OPENLINE

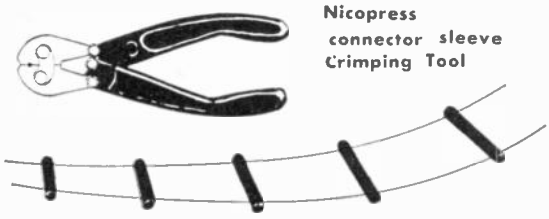
## DESIGNED FOR COMMERCIAL TV DISTRIBUTION SYSTEMS AND RF POWER TRANSMISSION

Specifications: two inch spacing between conductors . . . 12 or 14 ga. copperweld . . . 470 or 500 ohm impedance . . . attenuation: 150 mc 0.25 DB PER 100 FEET, AT 30 mc 0.1 DB per 100 FEET. Velocity factor 0.975 . . . copperweld steel for maximum strength and electrical stability, and to insure permanent uniform performance . . . Spreaders are brown polystyrene, spaced at average five foot intervals, staggered slightly to avoid spurious resonances.



National Stand Off Clamp Blocks

National Connector Sleeves



Nicopress connector sleeve Crimping Tool

CATALOG #N-470-300: TAPERED-LINE impedance matching transformer for 2 inch OPENLINE. Matches 470 ohm line to 300 ohms.

NATIONAL OPENLINE domestic television lead-in. Solid copper, Formvar coated.

Catalog #N-470-1

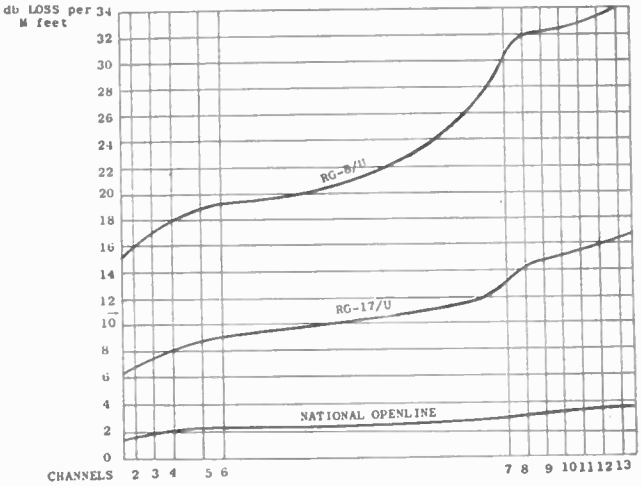
1 inch spacing between conductors . . . Spreaders at 6 inch intervals . . . Impedance 470 ohms . . . Standard put-up 250 feet reels, 12 reels per carton.
Shipping weight 50 lbs.

Catalog #N-300-½

½ inch spacing between conductors . . . Spreaders at 6 inch intervals . . . Impedance 300 ohms (approx.) . . . Standard put-up 250 foot reels, 20 reels per carton. Shipping weight 75 lbs.

NATIONAL 1 inch and ½ inch OPENLINE is available on 100, 75, 60 and 50 foot reels and is also available in Copperweld.

Charts showing the db loss per 1000 feet of NATIONAL OPENLINE with comparison to RG-8/U and RG-17/U.




| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.67 | 1.82 | 1.90 | 2.03 | 2.11 | 2.94 | 3.09 | 3.14 | 3.19 | 3.25 | 3.30 | 3.34 |
| 16. | 17. | 18. | 19. | 19.5 | 30. | 32. | 32.4 | 32.6 | 33. | 33.5 | 34. |
| 7. | 7.3 | 8. | 8.75 | 9. | 13. | 14.5 | 14.75 | 15. | 15.5 | 16. | 16.25 |



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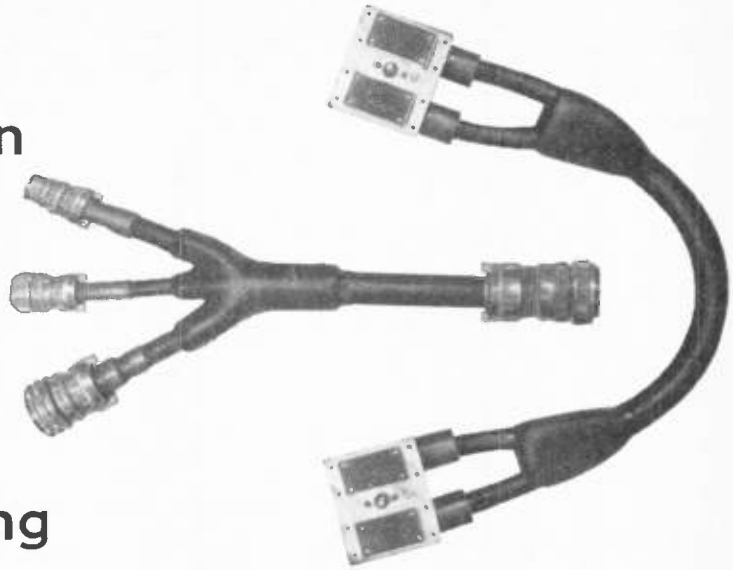
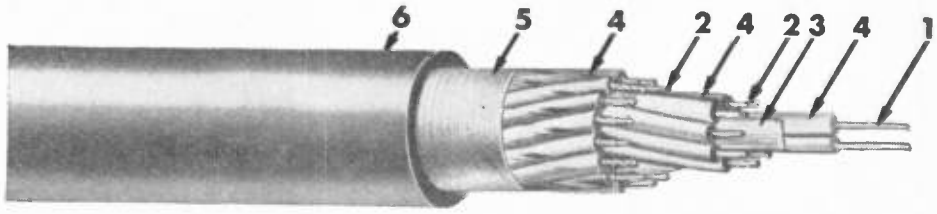
# We Specialize in MIL-SPEC Wires & Cables and "Systems" Cable Engineering





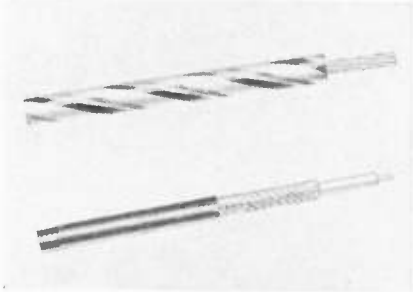

1. Heavy Duty Power Supply.
2. Control Wires.
3. Vinyl or Cotton Fillers.
4. Vinyl Insulation.
5. Vinyl Tape Wrap.
6. Vinyl or Neoprene Jacket.

## Custom Engineered – Custom Fabricated Special Cables

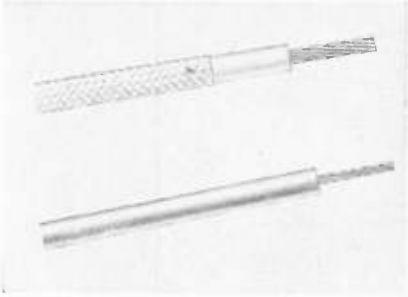
**Designed To Your Specifications** **To Meet Your Exact Requirements**

**NATIONAL'S field engineers are thoroughly qualified to assist you with your cable design problems. Your phone call or written inquiry will receive immediate expert attention.**

**NATIONAL HAS LARGE STOCKS OF CERTIFIED MIL-SPEC WIRES—CO-AXIAL CABLES—VINYL SLEEVING**



**Avail yourself of our facility to provide quick delivery of specially color coded – shielded – shielded & jacketed combinations of hook-up wire as well as multi-conductor cables.**



# NATIONAL WIRE & CABLE CORP. LOS ANGELES 31, CALIF.

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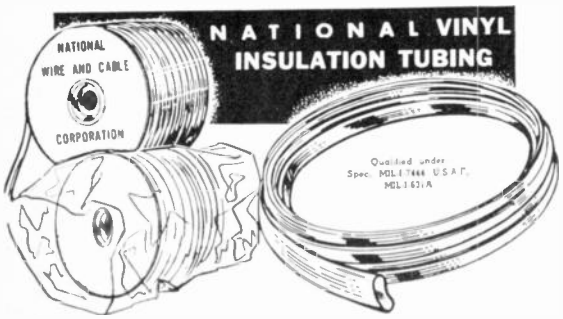
World Radio History

# NATIONAL LOS ANGELES, CALIF.

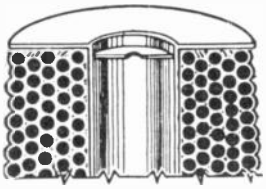
WIRE & CABLE CORPORATION




Sizes 24 through 3/8 on spools completely enclosed in plastic wrapping. Sizes 7/16" through 2½" in coils. GP — general purpose tubing qualified under spec. MIL-1-631A, Type F, Form U, Grade A, Classes I and II, Categories 1 and 2.

National's commercial and specification grade Vinyl tubing is manufactured from only the highest quality materials. Extreme care in preparing the compound formulations assures product uniformity. The most modern of plants, complete with compounding facilities and controlled extrusion techniques, together with modern inspection equipment provides rigid physicial and visual inspection on each length of tubing, assuring a finished product fully guaranteed against defective workmanship and materials. A product development laboratory is engaged in constant research to provide you with the finest in tubing.

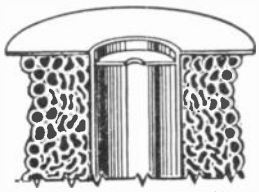
## NATIONAL "SOFT-WOUND" Prevents Flattening



CROSS SECTION OF SOFT WOUND SPOOL

Conventional methods of spooling insulation sleeving frequently produce flattening of those coils close to the spool core. Both assembly time and material are wasted. Certain thin wall tubings manufactured to low-temperature specifications are most susceptible. It also occurs to a lesser degree in all other types of insulation sleeving.

The new National method eliminates this condition. It provides full-round tubing, even at the spool core. While this method is called "Soft-Wound," the tubing is spooled with the normal compactness.



CROSS SECTION OF ORDINARY SPOOL

## NYLON, VINYL & TEFLON * PLASTIC CLAMPS, SCREWS NUTS, ETC.

CABLE CLAMPS

SNAP CLIPS

HALF CLIPS

BAND CLAMPS

PERFORATED STRAPPING

"D" WASHERS

THREADED NYLON ROD

MOLDED NYLON SCREWS

MOLDED NYLON NUTS

NYLON WASHERS

### SCREWS AND NUTS MOLDED FROM TOUGH DURABLE NYLON

### MECHANICAL AND THERMAL PROPERTIES

The nylon used in the manufacture of Clamps, Screws, Nuts, etc. is the best material available for the purpose. It is tough and has a sharp melting point below which it remains relatively rigid. General applications should be limited to service at temperatures below 300° F. (150°C.) When subjected to load, the service temperature should not exceed 275°F. (135°C.), and may go as low as -60°F. (-51°C.)

### CHEMICAL RESISTANCE:

National's nylon Screws and Nuts are made from the most solvent-resistant type of nylon. This nylon is insoluble in common solvents, alkalies, dilute mineral acids, and most organic acids. It is unaffected by petroleum oils and greases at temperatures as high as 300°F. (150°C.), and the lubricants are, in turn, unaffected by the nylon.



World Radio History

# Saxton TV TRANSMISSION WIRE & ACCESSORIES

## BRONX, NEW YORK

### PLASTIC COVERED MICROPHONE CABLES

Saxton microphone cables will provide long, troublefree service, and will withstand aging, moisture, and physical handling. Saxton cables have high insulation characteristics, low capacitance, and minimum attenuation at audio frequencies.

**Identifying No. MCL**

Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper and four No. 33 steel strands. Cellulose yard braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .140" Capacitance 33 mmf per foot. Especially suitable for use with hi-impedance lapel type microphones. Grey vinyl plastic jacket. 500 or 1000 foot spools.

**Identifying No. MCU**

Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper strands and four No. 33 steel strands. Cellulose yarn braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .200". Capacitance 26 mmf per foot. Especially suited for use with hi-impedance microphanes of all types. Grey vinyl plastic jacket. 500 foot or 1000 foot spools.

**Identifying No. MCX**

Dual conductor No. 22 AWG, each conductor consisting of 16 No. 34 tinned copper strands. Polyethylene plastic insulation. Tinned copper braided shield. Grey vinyl plastic jacket. Outside diameter .230". Capacitance with one conductor grounded to shield – 31 mmf per foot. Especially recommended for use with all types of low impedance microphones. 500 or 1000 foot spools.

### COPPERWELD WIRE CABLE

Unannealed No. 18 copperweld (40%) wire; hard drawn and shiny, wound on metal spools. Widely used as either electric fence wire, antenna wire, or as replacement for open line transmission wire. Also used in No. 12 and No. 14 gauges with Saxton 600 ohm spacers (See page 6-7) for installations requiring 600 ohm transmission line. The No. 18 gauge wire is wound in either 1000 foot or ½ mile lengths; the No. 12 and No. 14 wire, in 1000 foot lengths only.

**Identifying No.'s**

| | |
|---|---|
| EF-18-1000 | 1000 foot spool, 18 gauge |
| EF-18-2500 | ½ mile spool, 18 gauge |
| EF-12-1000 | 1000 foot spool, 12 gauge |
| EF-14-1000 | 1000 foot spool, 14 gauge |
| EF-16-1000 | 1000 foot spool, 16 gauge |
| EF-10-1000 | 500 or 1000 foot coil, # 10 |
| EF- 8-1000 | 500 or 1000 foot coil, # 8 |
| EF- 6-1000 | 500 or 1000 foot coil, # 6 |

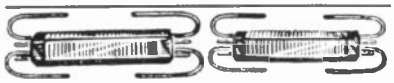
### LAMP CORD CABLE

Saxton lamp cord is made for long, troublefree usage in a multiplicity of applications where efficient transfer of power is necessary.

**Identifying No. POT**

41 strands of No. 31 bare copper conductor in each of 2 (No. 18 AWG) parallel wires in a plastic vinyl jacket. Colors: Brown or White. Diameter 114" x .230". Also available with rubber insulation. 250 foot spools.

### TV ANTENNA MATCHING "BALUN COILS"



**Identifying No. BC—2**
**1121**

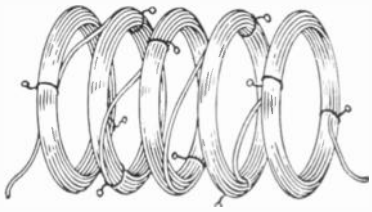
Highly efficient—extremely versatile—lo loss balun coils. Eliminates standing waves and provides efficient matching as follows:

| | |
|---|---|
| 1. 72 to 150 ohms | 2. 72 to 450 ohms |
| 3. 150 to 300 ohms | 4. 150 to 450 ohms |
| 5. 300 to 450 ohms | 6. 75 to 300 ohms |

Unique raised toothed construction allows minute coil contact losses since effect is similar to air dielectric. Each winding has an impedance of 150 ohms. Infinitely more efficient than resistive devices which has large power loss factor. Same suggested uses.

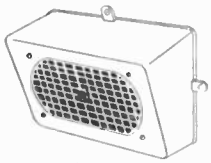
Antenna to line matching, 2 set coupler, 3 set coupler, 4 set coupler, set to line, etc.

### ALUMINUM GROUND WIRE



AG8 – 8 gauge, AG6 – 6 gauge, AG11 – 11 gauge. Dead soft annealed aluminum wire in No. 8 AWG, No. 6 AWG, or No. 11 AWG. (See illustration.) Put up in 1000 feet continuous coils tied off at every 50 or 100 feet, as specified. Also wound on metal spools in 500 or 1000 foot continuous lengths. Conforms with all local regulations. Also available in 50 and 100 foot containers, for efficient self-service sales.

### SPEAKER BAFFLE



Made of Unbreakable Hi-Impact Styrene. Complete with mask, hardware, and instruction sheet. In grey, mahogany, or oak finish. Will house either 5" x 7" or 6" x 9" elliptical speakers, 5" or 6" round speaker. Individually boxed. Easily mounted, efficient, good to look at.

Ideal housing for speaker used for paging, monitoring, extensions (radio, public address, hi fi, or juke box) boat, station wagon, or truck installations; and a thousand other uses.

### 3 WIRE INTERCOM

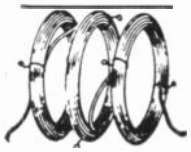
**Identifying No. IC-3**

3 conductors twisted. Identifying colors No. 22 solid copper conductors, overall vinyl jacket. 1000 foot spools.

**Identifying No. IC-3S**

Same as above—stranded.

### ANTENNA WIRE



**Identifying No. AW22S**

Seven strands of pre-stretched stranded pure copper wire in interconnected 50 or 100 foot coils, totalling 1000 feet. 1000 feet per carton.

**Identifying No. AW24S**

Same as above—24 gauge.

**Identifying No. AWE-12 — AWE-14**

Solid hard drawn copper wire, enamel covered, 12 and 14 gauge, 1000 foot continuous coils, tied off every 100 feet.

## GUY WIRE

All of the guy wire items also available in 50 foot coils, 500 foot metal spools, or 1000 foot wooden reels, at a small additional charge.

Specify type of coils or spools when ordering.

| | Iden. No. | Description | No Strands | Gauge | Standard Packing | Strength Test | Strength Yield |
|---|---|---|---|---|---|---|---|
| 428 | GW 4/20 | Heavy galvanized steel, half hard temper. | 4 | 20 | 10-100 ft. coils 1-1000 ft. spool | 300 lbs. p.s.i. | 4% per C ft. |
| 429 | GW 6/20 | Heavy galvanized steel, half hard temper. | 6 | 20 | 10-100 ft. coils 1-1000 ft. spool | 465 lbs. p.s.i. | 3.6% per C ft. |
| 430 | GW 6/18 | Heavy galvanized steel, half hard temper. | 6 | 18 | 10-100 ft. coils 1-1000 ft. spool | 675 lbs. p.s.i. | 3% per C ft. |
| 431 | AL 7/16 | EC quality aluminum, aircraft temper. | 7 | 16 | 10-100 ft. coils 1-1000 ft. spool | 440 lbs. p.s.i. | 4.5% per C ft. |
| 432 | ASL 7/16 | EC quality aluminum, aircraft temper with triple coated single steel core. | 6 alum 1 steel | 16 17 | 10-100 ft. coils 1-1000 ft. spool | 493 lbs. p.s.i. | 3.5% per C ft. |
| 433 | CO 6/20 | Copperweld – 30% copper over steel core, non-rust, half hard temper. | 6 | 20 | 10-100 ft. coils 1-1000 ft. spool | 600 lbs. p.s.i. | 2.7% per C ft. |
| 434 | CO 6/18 | Copperweld – 30% copper over steel core, non-rust, half hard temper. | 6 | 18 | 10-100 ft. coils 1-1000 ft. spool | 1100 lbs. p.s.i. | 2.5% per C ft. |
| 435 | CO 3/18 | Copperweld – 30% copper over steel core, non-rust, half hard temper. | 3 | 18 | 10-100 ft. coils 1-1000 ft. spool | 550 lbs. p.s.i. | 2.5% per C ft. |

**Inquiries invited for large or small runs of special or unlisted wire and cable constructions including Multi-conductor, shielded or stranded types.**

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World Radio History

# Saxton TV TRANSMISSION WIRE & ACCESSORIES

## GENERAL DESCRIPTION

Saxton lo-loss open wire transmission line is made for maximum uhf, vhf, or color reception. Signal loss under any weather conditions is the lowest of any wire made by any manufacturer. Copperweld (40%) copper – 60% steel) is recommended for general use. Copper formvar covered for special conditions such as humid, coastal areas. For the few who prefer aluminum, pure copper, or pure copper formvar covered, Saxton also offers a quality product with these same specifications.

## SAXTON OPEN LINE SPECIFICATIONS

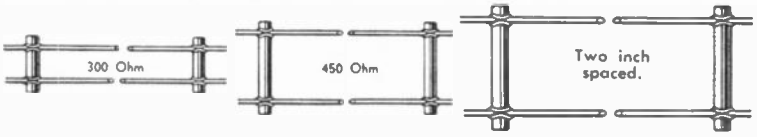
1. INSULATORS—Polystyrene—molded, slip proof.
2. SPACING—6" or 12" on 450 Ohm, 6" on 300 Ohm, random spacing on 600 Ohm.
3. MATERIALS USED—No. 18 gauge wire (40% Copperweld), Pure copper, Pure copper formvar coated aluminum. (No. 12 gauge for 2 inch spaced open line.) Ohm open line.)
4. TENSILE STRENGTH—400 pounds.
5. CAPACITANCE—negligible.

SAXTON OPEN LINE PRODUCTS are spooled on 100, 250, 500, and 1000 foot identified reels. The reels are so made that it is possible to determine the wire still remaining on the reel at all times.

ALL SAXTON PRODUCTS are made under carefully supervised, rigidly engineered specifications. Truly the antenna and the product are a "PERFECT MATCH" and "MADE FOR EACH OTHER".

## LO-LOSS OPEN WIRE GIVES MAXIMUM RECEPTION

**The truy all-weather, all-area transmission line.**




AVAILABLE IN 5 TYPES ILLUSTRATED

### CHARACTERISTIC CHART—TRANSMISSION LINE LOSS—DB LOSS PER 1000 FEET

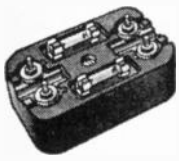
| Type | 100 MC Wet | 100 MC Dry | 500 MC Wet | 500 MC Dry | 1000 MC Wet | 1000 MC Dry |
|---|---|---|---|---|---|---|
| *300 Ohm Open Wire | 1.20 | 0.40 | 2.30 | .80 | 1.9 | 1.8 |
| 300 Ohm Tubular | 2.8 | 1.1 | 6.8 | 3.1 | 10.2 | 4.8 |
| 300 Ohm Flat | 7.6 | 1.5 | 20.0 | 3.2 | 30.0 | 5.0 |
| RG-59U | .... | 3.8 | .... | 9.4 | .... | 14.2 |
| RG-11U | .... | 1.8 | .... | 5.0 | .... | 7.6 |

### TRANSMISSION LINE LOSS—DB LOSS PER 100 FEET

| Type | 100 MC Wet | 100 MC Dry | 500 MC Wet | 500 MC Dry | 1000 MC Wet | 1000 MC Dry |
|---|---|---|---|---|---|---|
| 450 Ohm Open Wire | .... | 0.35 | .. | .78 | .... | 1.1 |
| 300 Ohms Tubular | 2.5 | 1.1 | 6.8 | 3.0 | 10.0 | 4.6 |
| 300 Ohm Flat | 7.3 | 1.2 | 20.0 | 3.2 | 30.0 | 5.0 |
| RG-59U | .... | 3.8 | .... | 9.4 | .... | 14.2 |
| RG-11U | .. | 1.8 | .... | 5.0 | .... | 7.6 |

* 300 Ohm Open Wire Transmission Line available in 3" insulated spacing for additional rigidity and ease of handling at a small additional charge. For further information ask your distributor salesman.
* Normal impedance: 600—ohm with #18 gauge wire; 475—ohm with #14 gauge; 450—ohm with #12 gauge.

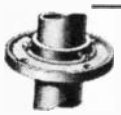
## SAXTON LIGHTNING ARRESTOR Identifying No. LA6



A highly efficient arrestor and static eliminator made of glazed reinforced porcelain for UHF and VHF applications.

Positive protection is obtained by externally fusing both sides of line so that the circuit is broken prior to damage. Built-in compensating inductor improves reception by maintaining constant line impedance. Resistor network drains off static impulses and prevents dangerous potentials across the set terminals.

## FLOATING GUY RING Identifying No. FG



Cast aluminum, 2-piece floating guy ring (see illustration) fits masts up to 1½" in diameter. Available with 3, 4, or 6 holes. Standard 4-hole units will be shipped unless otherwise stipulated. Individually packed, complete with set screw hardware in individual plastic bags. 50 to the master carton.

## GROUND MAST CLAMP Identifying No. GMC

Brass alloy mast clamp for use in grounding masts or for effecting ground connection on cold water systems. Ridged tooth inner section makes for good, solid, effective ground. Complete with set screw. (See illustration.) 100 to carton.

## SPIRAFIL CABLE

**Information on Foamflex also available on request.**

Spirafil is a semi-flexible, aluminum sheathed coaxial cable which is ideal for community antenna, broadcast, communications, or microwave work. A product of the Phelps Dodge Copper Products Corporation, it is impervious to migratory losses or variation of electrical value caused by chemical reaction, weather aging, or other influences commonly creating this condition. For use in underground or underwater applications, it is also obtainable with a high molecular weight polyethylene habirlene jacket which will allow such installations to be made without fear of corrosion for the life of the installation. Spirafil is made with an impedance of either 50 ohms or 70 ohms, and in either ⅜" or ½" diameters.

**Identifying No. SP5-A ⅜" 50 ohm spirafil**
**SP50-B ½" 50 ohm spirafil**
**SP70-3 ⅜" 70 ohm spirafil**
**SP70-B ½" 70 ohm spirafil**

For habirlene covering add H – i.e., SP 50-H is ⅜" Spirafil, 50 ohms impedance, habirlene covering. Spirafil must be ordered in units of 2000'. The unique construction of Spirafil, whereby the center solid copper conductor is centered in the solid, tubular aluminum sheath by means of a spirally wound polyethylene spacer, creates some very interesting features. Some of these features are no radiation, low attenuation, excellent frequency response, uniform electrical properties over wide temperature variations, and unlimited operating life. Additional information and specifications available on request.

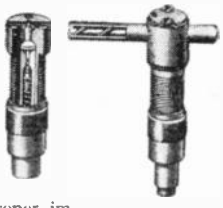
## OPEN WIRE STAND OFF INSULATORS

A standoff which is especially designed for use with open line transmission wire installations. To take up slack in line, tighten screws in slots after pulling taut. For use as ordinary spacer—partially tighten set screws (see illustrations). This will permit free movement of wire in the slots, thereby doing away with potential wire breaks due to backward and forward motion caused by wind. Ideal also for use as anchor point or spacer for "Fence Wire" installations.

For use in 600 ohm installation, use outside two slots. Particularly good for community installations, where random spacing of open lines is desirable to avoid tuned circuits created by regular spacing. Permits inexpensive, efficient, time-saving, trouble-free installations. For use with wire gauges from No. 12 to No. 18.

Molded polystyrene standoff with proper spacing for either 300 ohm, 450 ohm, or 600 ohm installations. 100 to box. 1000 to master carton.

## TEE TAP CONNECTOR



**Identifying No.**
**TTC—for coaxial cables**
**TTS—for Spirafil or Foamflex cables**

The Saxton Tee Tap allows quick, electrically perfect connection to Spirafil or coaxial cables without cutting the distribution lines and without necessity for reinsulation.

The tapping arrangement also provides proper impedance match from RG59U to RG59U and from RG11U to RG59U. Other impedance matches are available.

## HEAVY DUTY OPEN LINE STRESS INSULATORS

**Identifying No. 1094**
**SB—300**

Plastic blocks, slotted at either one or two inch centers complete with plated screw. For taking up slack and for use as anchor points in Open Line installations.

**Identifying No.**
**SB—600**

Same as above—Heavy duty. 2" spacing to accommodate #12 AWG wires.



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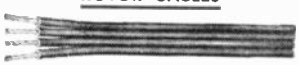
World Radio History

# Saxton TV TRANSMISSION WIRE & ACCESSORIES

## BRONX, NEW YORK

lightweight, pliable plastic covered flat or round cables specifically designed for antenna rotor work.

### ROTOR CABLES



**Identifying No. RC-4F**
Four conductor, parallel, flat ribbon type, rotor cable. Each conductor consists of seven strands of number 30 bare copper, total number 22 AWG. One outside conductor tinned to indicate polarity. Brown polyethylene plastic insulation. 500 foot and 1000 foot spools.

**Identifying No. RC-4R**
Four No. 20 AWG conductor, color coded, round rotor cable. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of brown vinyl. Diameter .165" 500 foot and 1000 foot spools.

**Identifying No. RC-8R**
Eight No. 20 AWG conductors, color coded, round rotor cables. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of black vinyl. Diameter .219". 500 and 1000 foot spools.

### PLASTIC INSULATED INTERCOMMUNICATION CABLES

Sturdy, pliable, lightweight, plastic multi-wire cables. Small diameter and extreme flexibility. Recommended for control, communications, and annunciator circuits.

**Identifying No. IC-420**
Four color coded conductors No. 20 AWG. Each conductor consists of seven. No. 29 bunched copper strands in a plastic jacket. External jacket of brown vinyl, diameter .160". 500 foot and 1000 foot spools.

**Identifying No. IC-820**
Eight color coded conductors of No. 20 AWG. Each conductor consists of seven No. 28 bunched copper strands in a plastic vinyl insulating jacket. Outer jacket black vinyl. Diameter .215". 500 and 1000 foot spools.
*Note: Prices quoted on request on cables, up to and including 64 conductors (32 pair). All special cables unshielded and with grey vinyl jackets.*

### TWIN LEAD TRANSMISSION WIRE

First quality standard gauge 300 ohm twin lead transmission wire.

**Identifying No. *TL55**
55 mil polyethylene—No. 22 AWG copper strand 1000 foot spools—brown.

**Identifying No. *TL100**
In brown or silver—100 mil polyethylene, No. 20 AWG copper strand. 1000 foot spool.

* Also available with clear polyethylene jacket on special order.

### SHIELDED INTERCOMMUNICATION CABLES

Sturdy, pliable two wire shielded cables especially designed for intercom work. Easily handled, easily and quickly stripped.

**Identifying No. ICX**
Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 tinned copper strands, polyethylene insulated. Outside jacket brown vinyl. Diameter .195". Tinned copper braid shield. 500 foot and 1000 foot spools.

**Identifying No. ICF**
Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 twisted and tinned copper strands, P.V.C. insulated and color coded. Shield is twisted, spiral aluminum shield. Outside jacket black vinyl. Diameter .198". 500 or 1000 foot spools. (A new type of construction, the large advantage of which is the ease with which it can be worked. After removing the outside jacket, twist the tinned spiral aluminum shield for ground, instead of pigtailing, as with copper shields.)

### TUBULAR TWIN LEAD TRANSMISSION WIRE

Saxton 300 ohm Tubular Twin Lead lo-loss lead-in wire is virtually unaffected by weather or physical handling due to the tough outer concentrated polyethylene wall.

**Identfying No. TU-20**
Seven strands of No. 28 gauge (No. 20 AWG) pure copper wire imbedded in pure polyethylene. In 500 or 1000 foot coils. Capacitance 4.0 mmf per foot. Primarily used in uhf applications.

### "SPONGEE" AIR FOAM 300 OHM UHF/VHF WEATHERPROOF LEAD-IN TRANSMISSION WIRE

Saxton "Spongee" foam polyethylene hi-gain lead-in owes its efficiency to the unique arrangement whereby the sponge-like arrangement of the plastic fibers provides thousands of individual but connected cells so arranged that all possible moisture is eliminated between the conductors. This results in the maintenance of a constant impedance and negates the necessity for the sealing or draining of the terminal points. Abrasion and damage from sun or rain are eliminated by the tough outer concentrated polyethylene wall.

**Identifying No. FRC300**
No. 30 AWG conductors. Each conductor consisting of 7 strands of 28 gauge pure copper. Conductors are imbedded in a foam-like sponge arrangement of brown polyethylene with heavy brown polyethylene outer layer. Outside diameter .297". Impedance 300 ohm. Velocity of propagation 82%. Capacitance 4.5 MMF per foot. 500 and 1000 foot coils.

**Identifying No. FRC301**
Same as above with non-contaminating jacket for coastal use.

### COAXIAL CABLES TRANSMISSION WIRES

Saxton coaxial cables are made to conform with JAN specs and are ideally suited for use with receiver, transmitter, or community installations.

**Identifying No. RG59U**
Solid bare copperweld No. 22 AWG conductor, pure polyethylene insulation. Bare copper braid shield. Black external vinyl or polyethylene jacket. Diameter .242".

| | |
|---|---|
| Atten. at 100 MC | 3.74 db per 100 ft. |
| Atten. at 200 MC | 5.60 db per 100 ft. |
| Atten. at 500 MC | 9.40 db per 100 ft. |
| Impedance | 72 ohms |
| Velocity of Propagation | 67% |
| Capacitance | 20 mmf per ft. |

500 or 1000 foot spools.

**Identifying No. RG8U**
7 No. 21 stranded, bare copper conductors (No. 13 AWG). Pure polyethylene insulation. Bare copper braid shield. Black external jacket. Diameter .405".

| | |
|---|---|
| Atten. at 100 MC | 2.08 db per 100 ft. |
| Atten. at 200 MC | 3.27 db per 100 ft. |
| Atten. at 500 MC | 4.75 db per 100 ft. |
| Impedance | 52 ohms |
| Velocity of Propagation | 67% |
| Capacitance | 28.3 mmf per ft. |

500 or 1000 foot spools.

**Identifying No. RG11U**
7 No. 26 stranded, tinned copper conductors (No. 18 AWG). Pure polyethylene insulation. Bare copper braided shield. Black external jacket. Diameter .405".

| | |
|---|---|
| Atten. at 100 MC | 1.90 db per 100 ft. |
| Atten. at 200 MC | 2.84 db per 100 ft. |
| Atten. at 500 MC | 4.98 db per 100 ft. |
| Impedance | 73 ohms |
| Velocity of Propagation | 67% |
| Capacitance | 20 mmf per ft. |

500 or 1000 foot spools

### GROUND RODS BY SAXTON

Saxton ground rods are made in a variety of types and sizes to conform with local regulations and to fulfill the requirements of a particular job.

**Identifying No.'s CGR-4, CGR-6**
Triple copper plated steel, ⅜" diameter, hand rubbed oil finish. In 4' or 6' lengths as required. Complete with clamp for securing ground wire. Standard package of 25 rods of size designated.

**Identifying No.'s ALGR-4, ALGR-6**
Solid hard drawn aluminum, ⅜" diameter, special alloy, in 4' or 6' lengths as required. Complete with clamp for securing ground wire. Standard package of 25 of size designated.

### REAMER FOR COAXIAL CABLE

**Identifying No. CR**
A reaming device for quickly preparing Spirafil or coaxial cables for Tee Tap connection.

### PHONOGRAPH WIRE

**Identifying No. PW**
For use as pickup arm lead. No. 22 stranded with braided copper shield. 500 or 1000 foot spools.

**Identifying No. PWW**
Same as above with spirally wound, tinned copper wrap around shield and protective vinyl covering. 500 or 1000 foot spools.

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World Radio History

# Radio & TV Wire Products

## P.A. and sound system cables

### 1282 juke box speaker cable

24/2 7/32 stranded one conductor tinned one conductor bare copper. Parallel lay chrome vinyl insulation. Nominal O.D. .058" x 155". Put-up 500 ft. and 1000 ft. spools.

**List Price $17.00 M. Wt. 6 Lbs. per M. Ft.**

### 1206 shielded connector cable

18/1 16/30 stranded tinned copper conductor .040" wall rubber insulation. Tinned copper braid shield. Nominal O.D. .155". Put-up 250 ft. spools.

**List Price $51.00 M. Wt. 24 Lbs. per M. Ft.**

### 1283 juke box control cable

Three conductors twisted 2-#16 26/30 stranded tinned copper .020" vinyl plastic insulation color coded green and orange; 1-#20 10/30 stranded tinned copper .020" vinyl Plastic blue. Overall chrome vinyl jacket. Nominal O.D. .240". Put-up 500 ft. spools.

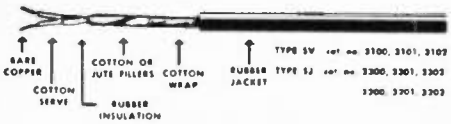
**List Price $70.00 M. Wt. 40 Lbs. per M. Ft.**

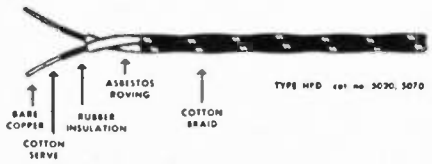
### 1934 extension wiring cable

22/3 7/30 stranded tinned copper conductor .015" vinyl plastic insulation coded red, white and black. White conductor covered with tinned copper braid shield, black and red unshielded with .020" chrome vinyl plastic jacket. Nominal O.D. 185". Put-up 500 ft. and 1000 ft. spools.

**List Price $60.00 M. Wt. 22 Lbs. per M. Ft.**

## flexible and portable cords





| Catalog Number | AWG Size | UL Type | Number of Strands | Insulation Cond. In. | Thickness Jacket In. | Nominal Outside Diameter Inch | Current Carrying Capacity Amp. | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3000 | 18/2 | SP-1 | 41/34 | 2/64 | — | .120x225 | 7 | 250' Spool | 4 Spools | 22 | 37.50 |
| 3001 | 18/2 | SP-2 | 41/34 | 3/64 | — | .150x285 | 7 | 250' Spool | 4 Spools | 36 | 58.00 |
| 3003 | 16/2 | SP-2 | 65/34 | 3/64 | — | .170x320 | 10 | 250' Spool | 4 Spools | 50 | 82.00 |
| 3010 | 18/2 | SPT-1 | 41/34 | 2/64 | — | .120x225 | 7 | 250' Spool | 4 Spools | 23 | 33.60 |
| 3011 | 18/2 | SPT-2 | 41/34 | 3/64 | — | .150x285 | 7 | 250' Spool | 4 Spools | 33 | 56.00 |
| 3012 | 16/2 | SPT-2 | 65/34 | 3/64 | — | .170x320 | 10 | 250' Spool | 4 Spools | 45 | 82.00 |
| 3100 | 18/2 | SV | 41/34 | 1/64 | 2/64 | .250 | 7 | 250' Spool | 4 Spools | 42 | 71.00 |
| 3200 | 18/2 | SJ | 41/34 | 2/64 | 2/64 | .305 | 7 | 250' Spool | 4 Spools | 54 | 93.00 |
| 3201 | 18/3 | SJ | 41/34 | 2/64 | 2/64 | .345 | 7 | 250' Spool | 4 Spools | 73 | 137.00 |
| 3202 | 18/4 | SJ | 41/34 | 2/64 | 2/64 | .360 | 5.6 | 250' Spool | 1 Spool | 96 | 200.00 |
| 3300 | 18/2 | SJ | 16/30 | 2/64 | 2/64 | .305 | 7 | 250' Spool | 4 Spools | 54 | 76.00 |
| 3301 | 18/3 | SJ | 16/30 | 2/64 | 2/64 | .345 | 7 | 250' Spool | 4 Spools | 73 | 130.00 |
| 5020 | 18/2 | HPD | 41/34 | 2/64 | — | .274 | 10 | 250' Spool | 4 Spools | 32 | 82.00 |
| 5070 | 16/2 | HPD | 65/34 | 2/64 | — | .301 | 15 | 250' Spool | 4 Spools | 42 | 97.00 |

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.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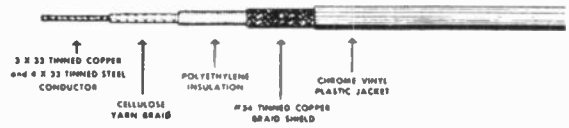
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

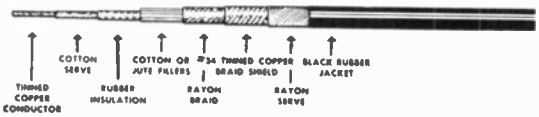
World Radio History

# Radio & TV Wire Products

## microphone cables

Cornish Microphone Cables are available in plastic and rubber insulations. Plastic cables utilize polyethylene insulation on the conductor with outer vinyl plastic jacket. They are designed for low capacitance, high insulation resistance, low attenuation; and withstand severe service under all operating conditions.




| Catalog Number | AWG Size | Number of Strands | Nominal Outside Diameter Inches | Nominal Capacitance Per Ft. MMF | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|
| **PLASTIC MICROPHONE CABLE** | | | | | | | | |
| 2411 | 25/1 | 7/33 | .144 | 37 | 500' Spool | 1 Spool | 15 | 53.00 |
| 2401 | 25/1 | 7/33 | .200 | 25 | 500' Spool | 1 Spool | 25 | 70.00 |
| **RUBBER MICROPHONE CABLE** | | | | | | | | |
| 2101 | 20/1 | 26/34 | .260 | 32* | 500' Spool | 1 Spool | 49 | 100.00 |
| 2152 | 20/2 | 26/34 | .280 | 68* | 500' Spool | 1 Spool | 54 | 116.00 |
| 2153 | 20/3 | 26/34 | .280 | 85* | 500' Spool | 1 Spool | 59 | 180.00 |
| 2154 | 20/4 | 26/34 | .305 | 95* | 500' Spool | 1 Spool | 72 | 200.00 |
| 2182 | 18/2 | 41/34 | .295 | 80* | 500' Spool | 1 Spool | 60 | 175.00 |
| 2160 | 20/1 | 26/34 | .175 | 34* | 500' Spool | 1 Spool | 25 | 88.00 |

*Between one conductor and remaining conductors connected to shield.

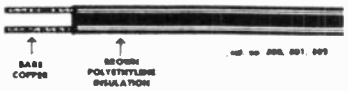
## antenna control cables

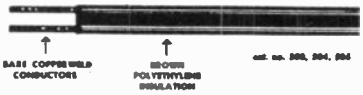
Cornish Antenna Control Cables are available in polyethylene and vinyl plastic insulations in a varied range of conductors to adequately meet all installation problems encountered. Flat and round constructions are furnished in brown colored outer insulation.

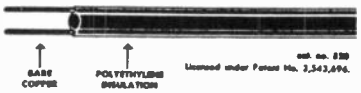
| Catalog Number | AWG Size | Number of Strands | Thickness Conductor Insulation Inch | Nominal Outside Dimension Inch | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|
| 510 | 20/4 | 7/28 | — | .075x.350 | 1000' Spool | 1 Spool | 20 | 34.00 |
| 514 | 20/4 | 7/28 | .010 | .170 | 1000' Spool | 1 Spool | 24 | 50.00 |
| 515 | 20/5 | 7/28 | .010 | .180 | 1000' Spool | 1 Spool | 30 | 60.00 |
| 518 | 22/8 | 7/30 | .015 | .205 | 1000' Spool | 1 Spool | 34 | 70.00 |

## t-v lead-in cables

Cornish TV Lead-in Cables are furnished only in pure virgin polyethylene insulation to insure long life under severe operating conditions and are designed so that only exceptionally low losses at high frequencies are experienced. They are available with pure copper or copperweld conductors. Copperweld 300 Ohm lead-in cable has 1½ times the tensile strength of copper and has approximately 2½ times greater flexing life. It insures long service life in TV aerial installations requiring long runs.

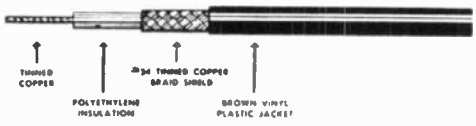



| Catalog Number | AWG Size | Number of Strands | Nominal Outside Diameter Inch | Frequency (MC) | Attenuation Per 100 Ft. (Decibels) | Impedance (Ohms) | Capacitance Per Ft. (MMF) | Standard Put-Up Pkge. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 | 20/2 | 7/28 | .052 x .400 | 100 | 1.1 | 300 | 4.6 | 1000' Spool | 17 | 26.00 |
| 501 | 20/2 | 7/28 | .072 x .400 | 200 | 1.7 | 300 | 4.6 | 1000' Spool | 18 | 28.60 |
| 502 | 20/2 | 7/28 | .100 x .400 | 300 | 2.2 | 300 | 4.6 | 1000' Spool | 20 | 30.40 |
| | | | | 400 | 2.7 | | | | | |
| 503 | 20/2 | 7/28 | .052 x .400 | 100 | 1.1 | 300 | 4.6 | 1000' Spool | 17 | 26.00 |
| 504 | 20/2 | 7/28 | .072 x .400 | 200 | 1.7 | 300 | 4.6 | 1000' Spool | 18 | 28.60 |
| 505 | 20/2 | 7/28 | .100 x .400 | 300 | 2.2 | 300 | 4.6 | 1000' Spool | 20 | 30.40 |
| | | | | 400 | 2.7 | | | | | |
| 520 | 20/2 | 7/28 | .320 x .460 | 100 | 1.25 | 300 | 4.65 | 500' Spool | 28 | 50.00 |
| 499 | 22/2 | 7/50 | .040 x .360 | | | 300 | 4.6 | 1000' Spool | 12 | 20.50 |

## RG/U coaxial transmission cables




Cornish RG/U Coaxial Transmission Cables are available in two basic constructions, namely RG-11/U, Catalog No. 522 and RG-59/U, Catalog No. 521. They are designed for use as communication cables and television antenna lead-in cable. These cables are available, normally, from factory stock. Other special RG/U constructions can be furnished to special order providing quantities required constitute an economical manufacturing run.

| Catalog Number | AWG Size | Number of Strands | Nom. Outside Diam. Inch | Frequency (MMC) | Atten. per 100 Ft. (Decibels) | Impedance (Ohms) | Capacitance per M Ft. (MMF) | Standard Put-Up | Standard Shipping Pkge. | Approx. Wght. Per M Ft. Lbs. | List Per M' |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 521 RG-59/U | 22/1 | Solid | .245 | 100 | 3.75 | 73 | 21 | 500 Ft. Spool | 1 Spool | 43 | 97.00 |
| | | | | 200 | 5.60 | | | | | | |
| | | | | 400 | 8.30 | | | | | | |
| 522 RG-11/U | 18/1 | 7/26 | .405 | 100 | 1.90 | 75 | 20.5 | 500 Ft. Spool | 1 Spool | 98 | 194.00 |
| | | | | 200 | 2.85 | | | | | | |
| | | | | 400 | 4.35 | | | | | | |

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.

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World Radio History

# Radio & TV Wire Products

## test lead wire

| Catalog Number | AWG Size | Number of Strands | Jacket Insulation Inch | Nominal Outside Diameter Inch | Suggested Voltage Rating | Available Standard Put-Up | Standard Shipping Pkgs. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1142 | 18 | 65/36 | .044 | .140 | 5000 | 100' Spool | 4 Spools | 15 | 40.00 |
| 1142 | 18 | 65/36 | .044 | .140 | 5000 | 500' Spool | 1 Spool | 15 | 40.00 |
| 1142 | 18 | 65/36 | .044 | .140 | 5000 | 1000' Spool | 1 Spool | 15 | 40.00 |

STANDARD COLORS:—Red and Black.

## intercommunication cable

Cornish Intercommunication and Sound Cables are made in various constructions utilizing plastic insulation for both conductors and jacket. Where installation conditions dictate, Cornish shielded cables are recommended.

| Catalog Number | AWG Size | Number of Strands | Number of Pairs | Thick. Conductor Insulation Inch | Thickness Jacket Insulation Inch | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1240 | 22/2 | Solid | 1 | .015 | .015 | .145 | 500' Spool | 1 Spool | 14 | 30.00 |
| 1241 | 22/4 | Solid | 2 | .015 | .015 | .205 | 500' Spool | 1 Spool | 22 | 49.00 |
| 1242 | 22/6 | Solid | 3 | .015 | .015 | .230 | 500' Spool | 1 Spool | 29 | 65.00 |
| 1243 | 22/12 | Solid | 6 | .015 | .015 | .265 | 500' Spool | 1 Spool | 42 | 92.50 |
| 1244 | 22/18 | Solid | 9 | .015 | .015 | .320 | 500' Spool | 1 Spool | 68 | 132.50 |
| 1245 | 22/30 | Solid | 15 | .015 | .015 | .380 | 500' Coil | 1 Coil | 105 | 250.00 |
| 1246 | 22/54 | Solid | 27 | .015 | .015 | .510 | 500' Coil | 1 Coil | 170 | 430.00 |

## plastic insulated cable

| Catalog Number | AWG Size | Number of Strands | Thick. Conductor Insulation Inch | Thickness Jacket Insulation Inch | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1223 | 22/3 | 7/30 | .015 | .015 | .140 | 500' Spool | 1 Spool | 14 | 34.00 |
| 1224 | 22/4 | 7/30 | .015 | .015 | .160 | 500' Spool | 1 Spool | 20 | 45.00 |

## shielded intercommunication cable

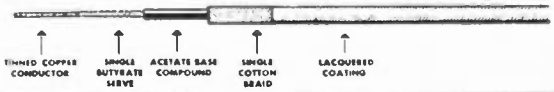
| Catalog Number | AWG Size | Number of Strands | Thickness Conductor Insulation Inch | Tinned Copper Shielding | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1230 | 20/2 | 10/30 | .015 | #34 | .163 | 1000 ft. | 2 | 22 | 50.00 |
| 1238 | 18/2 | 16/30 | .015 | #34 | .228 | 1000 ft. | 2 | 35 | 70.00 |
| 1233 | 20/3 | 10/30 | .015 | #34 | .230 | 500 ft. | 2 | 42 | 95.00 |

## intercommunication cable

| Catalog Number | AWG Size | Number of Strands | Thickness Conductor Insulation Inch | Thickness Jacket Insulation Inch | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shipping Package | Approx. Weight Lbs./M ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1234 | 20/2 | 10/30 | .015 | .015 | .205 | 1000' Spool | 1 Spool | 29 | 60.00 |
| 1236 | 20/3 | 10/30 | .015 | .015 | .262 | 1000' Spool | 1 Spool | 35 | 105.00 |
| 1237 | 18/2 | 16/30 | .015 | .015 | .260 | 500' Spool | 1 Spool | 35 | 72.00 |
| 1239 | *20/4 | 10/30 | .015 | .015 | .230 | 500' Spool | 1 Spool | 45 | 100.00 |

* Two conductors twisted and shielded with unshielded twisted pair.

## noflame-cor hook-up wire




| Catalog Number | AWG Size | Number of Strands | Nominal Outside Diameter Inches | Voltage Break-Down Nominal Volts | Available Standard Put-Ups | *Standard Shipping Package | Approx. Weight Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|
| 1084 | 18 | 16/30 | .110 | 7400 | 1000' Spool | 1 | 9 | 38.05 |
| 1085 | 20 | 10/30 | .102 | 7400 | 1000' Spool | 1 | 7 | 31.00 |
| 1086 | 22 | 7/30 | .091 | 7400 | 1000' Spool | 1 | 6 | 26.40 |
| 1079 | 18 | Solid | .103 | 7400 | 1000' Spool | 1 | 9 | 35.10 |
| 1080 | 20 | Solid | .095 | 7400 | 1000' Spool | 1 | 6 | 28.10 |
| 1081 | 22 | Solid | .091 | 7400 | 1000' Spool | 1 | 5 | 24.50 |

STANDARD COLORS:—Black, Red, Green, Yellow, Blue, Brown, Orange, Slate, White.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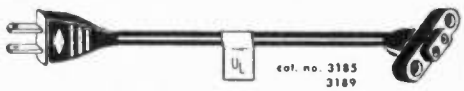
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

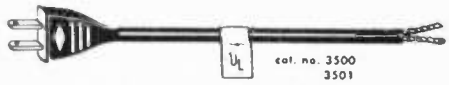
# Radio & TV Wire Products

## replacement and extension cord sets

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On #185TV Connector UL Flag Label.
SUGGESTED USE
Television Power Supply Cord for use on original equipment or as a replacement cord set.




DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug, Appliance end slit 2 inches. Conductor stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord-set for radios, record players, lamps and small appliances.




DESCRIPTION
18/2 SV Black with Cornish Molded-On Male Plug. Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord-set for food mixers, test equipment and small appliances.

DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Plug Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.
SUGGESTED USE
Replacement Cord set for electric tools, small motors and general use.

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Plug and soft molded rubber cube tap. UL Blue Flag Label.
SUGGESTED USE
Extension Cord set for office and household use.

DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Male Plug and Cornish Molded-On Female Connector. Coiled and boxed.
SUGGESTED USE
Extension Cord set for outdoor and heavy duty use.

DESCRIPTION
16/2 Glazed Cotton HPD Replacement Heater Cord with Cornish Molded-On Plug and with crotch and conductors wrapped 3 inches with asbestos thread and conductors bared ½ inch. Hanked, Green Flag Label.
SUGGESTED USE
For electric irons and other heating devices.

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On #190 Connector.
*Not UL Approved.
SUGGESTED USE
Television Power Supply "Cheater" Cord for sale to and use by authorized television servicemen.

| Catalog Number | Length | Standard Put-Up | Standard Shipping Pkg. | Wght. Standard Shipping Pkg. | List Price Per M Cords | Catalog Number | Length | Standard Put-Up | Standard Shipping Pkg. | Wght. Standard Shipping Pkg. | List Price Per M Cords |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3185 | 6 Feet | 100 | 100 | 19 | 497.00 | 3580 | 6 Feet | 100 | 100 | 24 | 802.90 |
| 3189 | 9 Feet | 100 | 100 | 25 | 605.65 | 3581 | 9 Feet | 100 | 100 | 32 | 975.00 |
| 3500 | 6 Feet | 100 | 100 | 18 | 400.00 | 3582 | 12 Feet | 100 | 100 | 38 | 1125.75 |
| 3501 | 10 Feet | 100 | 100 | 26 | 554.55 | 5520 | 7 Feet | 100 | 100 | 30 | 1306.40 |
| 3509 | 6 Feet | 100 | 100 | 28 | 762.15 | 3543 | 15 Feet | 1 | 20 | 23 | 2080.65 |
| 3510 | 10 Feet | 50 | 50 | 23 | 1095.25 | 3544 | 25 Feet | 1 | 20 | 33 | 2785.90 |
| 3519 | 6 Feet | 50 | 50 | 19 | 786.25 | 3190* | 6 Feet | 100 | 100 | 19 | 497.00 |
| 3520 | 10 Feet | 50 | 50 | 28 | 1132.50 | 3191* | 9 Feet | 100 | 100 | 25 | 605.65 |

## phonograph pick-up arm cable

This cable is designed specifically for use as phonograph pick-up arm cable. The conductor, being stranded from #36 AWG wire, is very flexible. The overall diameter of the wire is quite small and cable is devoid of stiffness.

| Catalog Number | AWG Size | Number of Strands | Thick. Conductor Insulation Inch | Tinned Copper Shielding | Nom. Outside Diameter Inch | Outer Braid | Standard Put-Up | Standard Shipping Package | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1250 | 24/1 | 16/36 | .015 | #36 | .095 | Overall | 100' Spool | 4 Spools | 7 | 53.00 |
| 1251 | 24/1 | 16/36 | .015 | #36 | .080 | None | 100' Spool | 4 Spools | 6 | 45.00 |

## high voltage and cathode-ray tube lead wire

This cable is designed for high voltage applications such as leads to cathode-ray tubes in television receivers and oscilloscopes. It has a high dielectric strength, corona resistance, and minimum surface leakage.

| Catalog Number | AWG Size | Number of Strands | Nominal Outside Diameter Inch | Suggested Voltage Rating | Color | Available Standard Put-Ups | Standard Shipping Package | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
|---|---|---|---|---|---|---|---|---|---|
| 1248 | 20/1 | 10/30 | .108 | 10,000 | White | 100' Spool | 4 Spools | 14 | 30.00 |
| 1249 | 20/1 | 10/30 | .169 | 20,000 | White With Red Stripe | 100' Spool | 4 Spools | 24 | 55.00 |

**Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.**

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World Radio History

# POLYSTYRENE ROD — TUBING — SHEET

For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

## POLYSTYRENE ROD — Transparent

Available in 12″ or 48″ lengths

| Catalog Number | Diameter | Net Price 12″ lgth. | Net Price 48″ lgth. |
|---|---|---|---|
| JB-100 | 1/8″ | $ .03 | $ .12 |
| JB-101 | 3/16″ | .07 | .28 |
| JB-102 | 1/4″ | .12 | .48 |
| JB-103 | 5/16″ | .18 | .72 |
| JB-104 | 3/8″ | .26 | 1.04 |
| JB-105 | 7/16″ | .36 | 1.44 |
| JB-106 | 1/2″ | .48 | 1.92 |
| JB-107 | 5/8″ | .72 | 2.88 |
| JB-108 | 3/4″ | 1.00 | 4.00 |
| JB-109 | 7/8″ | 1.42 | 5.68 |
| JB-110 | 1″ | 1.90 | 7.60 |
| JB-111 | 1 1/8″ | 2.50 | 10.00 |
| JB-112 | 1 1/4″ | 3.00 | 12.00 |
| JB-113 | 1 3/8″ | 3.60 | 14.40 |
| JB-114 | 1 1/2″ | 4.30 | 17.20 |
| JB-116 | 1 3/4″ | 6.00 | 24.00 |
| JB-118 | 2″ | 7.50 | 30.00 |

## POLYSTYRENE TUBING — Satin Finish

Available in 12″ or 48″ lengths.

| Catalog Number | O.D. | I.D. | Net Price 12″ lgth. | Net Price 48″ lgth. |
|---|---|---|---|---|
| JB-201 | 1/4″ | 1/8″ | $ .10 | $ .40 |
| JB-202 | 5/16″ | 3/16″ | .14 | .56 |
| JB-203 | 3/8″ | 1/4″ | .18 | .72 |
| JB-205 | 1/2″ | 3/8″ | .26 | 1.04 |
| JB-206 | 5/8″ | 1/2″ | .32 | 1.28 |
| JB-207 | 3/4″ | 5/8″ | .40 | 1.60 |
| JB-208 | 1″ | 7/8″ | .56 | 2.24 |
| JB-220 | 1 1/2″ | 1 1/4″ | 1.50 | 6.00 |
| JB-222 | 2″ | 1 3/4″ | 2.20 | 8.80 |

## POLYSTYRENE SHEET

The following sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

| Catalog Number | Thickness | Sheet Size | Net Price |
|---|---|---|---|
| JB-125 | 1/16″ | 12″ x 12″ | $4.15 |
| JB-126 | 3/32″ | 12″ x 12″ | 4.80 |
| JB-127 | 1/8″ | 12″ x 12″ | 5.50 |
| JB-128 | 3/16″ | 12″ x 12″ | 7.15 |
| JB-129 | 1/4″ | 12″ x 12″ | 8.15 |
| JB-245 | 1/16″ | 12″ x 24″ | 7.80 |
| JB-246 | 3/32″ | 12″ x 24″ | 9.15 |
| JB-247 | 1/8″ | 12″ x 24″ | 10.50 |
| JB-248 | 3/16″ | 12″ x 24″ | 13.15 |
| JB-249 | 1/4″ | 12″ x 24″ | 15.65 |
| JB-315 | 1/32″ | 24″ x 24″ | 9.65 |
| JB-301 | 1/16″ | 24″ x 24″ | 11.15 |
| JB-302 | 3/32″ | 24″ x 24″ | 13.00 |
| JB-303 | 1/8″ | 24″ x 24″ | 14.80 |
| JB-304 | 3/16″ | 24″ x 24″ | 18.75 |
| JB-305 | 1/4″ | 24″ x 24″ | 23.00 |
| JB-316 | 5/16″ | 24″ x 24″ | 27.65 |
| JB-309 | 3/8″ | 24″ x 24″ | 31.25 |
| JB-311 | 1/2″ | 24″ x 24″ | 38.65 |
| JB-317 | 5/8″ | 24″ x 24″ | 50.00 |
| JB-318 | 3/4″ | 24″ x 24″ | 69.25 |
| JB-319 | 1″ | 24″ x 24″ | 94.15 |

**JULIUS BLUM & CO., INC.**
CARLSTADT, N. J.

**Serving Industry Since 1910**


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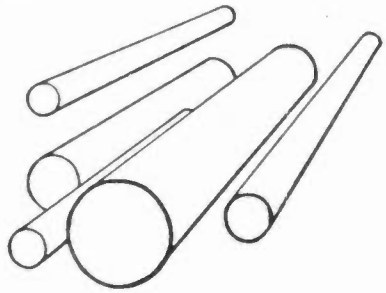
World Radio History

# PLASTICS

## for electronics

Plastic rods, sheets, and tubing in Phenolic, Acrylic, Polystyrene, Polyethylene, Nylon, and Teflon plastic materials. Highly recommended for use in radio and electronic equipment for coil forms, circuit boards, bushings, terminal blocks, etc. Excellent electrical and physical properties. All materials are easy to fabricate. We specialize in small standard sizes. The following is a list of the shapes, materials, and sizes that are available from stock.

**FOR PROPER CATALOG NO.** — the PREFIX for each catalog no. is in parentheses and indicates the shape and material. For the SUFFIX of each catalog no. add the O.D. for the rods and tubing, and the thickness for the sheets. FOR EXAMPLE: Cat. #T11-½ is acrylic tubing ½" O.D. Cat. #R14-1 is polyethylene rod 1" O.D.



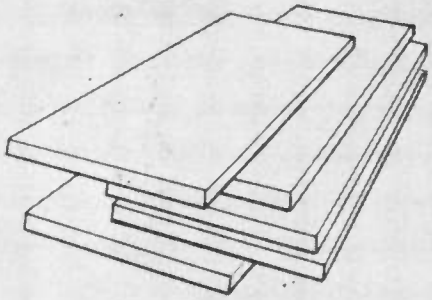
**RODS**

**SIZES** available from stock in O.D. (1 ft. long unless noted)

⅛", 3/16", ¼", 5/16", ⅜", ½", ⅝", ¾", ⅞", 1", 1⅛", 1¼", 1⅜", 1½", 1⅝", 1¾", 1⅞", 2", 2⅛", 2¼", 2½", 2⅝", 2¾", 2⅞", 3"

**MATERIALS** available from stock

Polystyrene(R10) — Acrylic(R11) — Phenolic Paper base(R12) — Phenolic canvas base(R13) — Polyethylene(R14) — Nylon(R15) — Teflon, 1 ft.(R16A) — Teflon, 6"(R16B) — Teflon, 3"(R16C)



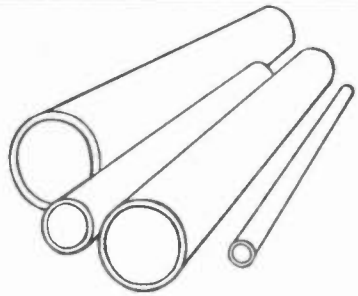
**SHEETS**

**THICKNESSES** available from stock (in inches)

.005, .010, .015, .030, .040, .050, .060, 1/32, 1/16, ⅛, 3/16, ¼, ⅜, ½, ⅝, ¾, ⅞, 1

**MATERIALS** available from stock

Each material is available in different size sheets.
A = 6" x 12" C = 12" x 12" E = 24" x 24" L = 3" x 6"
Polystyrene(S10A) (S10C) (S10E) — Acrylic(S11A) (S11C) (S11E) — Phenolic paper base (S12A) (S12C) (S12E) — Phenolic canvas base(S13A) (S13C) (S13E) — Polyethylene(S14A) (S14C) — Nylon(S15A) (S15C) — Teflon(S16L) (S16A) (S16C)



**TUBING**

**SIZES** available from stock(O.D. x I.D. in inches)

¼ x ⅛, ⅜ x ¼, ½ x ⅜, ⅝ x ½, ¾ x ⅝, ⅞ x ¾, 1 x ⅞, 1 x ¾, 1¼ x 1, 1½ x 1¼, 1¾ x 1½, 2 x 1¾

**MATERIALS** available from stock (all in 1 ft. lengths)

Polystyrene(T10) — Acrylic(T11) — Phenolic paper base(T12) — Phenolic canvas base(T13) — Polyethylene(T14) — Nylon(T15) — Teflon(T16)

products by **illumitronic engineering**

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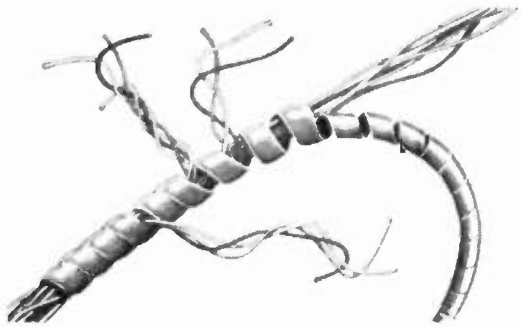
World Radio History

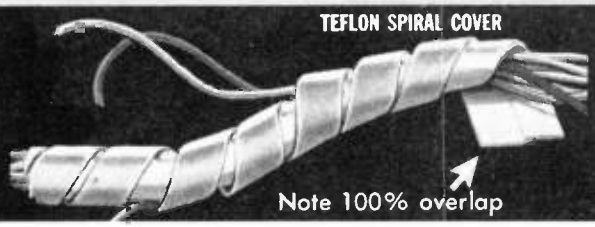


SPIRAL WRAP

# SPIRAL WRAP

another product by

**illumitronic engineering**




## SPIRAL WRAP:

Is spirally cut tubing and is most desirable for cabling loose wires into neat cables. Spiral Wrap is suitable for mass production or laboratory prototypes.

## MANY USES:

Replaces cable lacing; prevents wire abrasion; replaces spaghetti; will insulate tools; and a multitude of other uses.

## TWO SIZES:

Spiral Wrap is available from stock ¼" outside diameter and ⅜" outside diameter, both expandable up to 2" diameter. Other sizes available on special order.

## FOUR COLORS:

Spiral Wrap is available from stock White, Blue, Black and Red. Other colors available on special order.

## ADVANTAGES:

The many advantages of Spiral Wrap are: allows individual wires to leave cable at any point—excellent insulator—low initial cost—reusable—saves on labor costs—and many others.

## QUANTITY DISCOUNT:

(on all materials except Teflon Spiral Cover):

1' - 499' . . . . Net
500' - 999' . . Less 10%
10,000' - 49,999' . . . . . Less 33⅓%—10%
1000' - 4999' . Less 20%
5000 - 9999' Less 33⅓%

## POLYETHYLENE SPIRAL WRAP

| | Unexponded O. D. | Cat. No. | Lgth | Lgths/ Box | Net/ Foot | Net/ Lgth |
|---|---|---|---|---|---|---|
| #197-4 Minimum I.D. is ⅛" Minimum O.D. is ¼" | ¼" | 197-4C | 3' | 10 | $ .09 | $ .27 |
| | ¼" | 197-4M | 25' | 1 | .08 | 2.00 |
| | ¼" | 197-4W | 100' | 1 | .07 | 7.00 |
| | ¼" | 197-4X | 500' | 1 | .07 | 35.00 |
| #197-6 Minimum I.D. is ¼" Minimum O.D. is ⅜" | ⅜" | 197-6C | 3' | 10 | .135 | .405 |
| | ⅜" | 197-6M | 25' | 1 | .12 | 3.00 |
| | ⅜" | 197-6W | 100' | 1 | .105 | 10.50 |
| | ⅜" | 197-6X | 500' | 1 | .105 | 52.50 |

Specify color: White, Black, Red, Blue

## IRRADIATED SPIRAL WRAP

HIGH TEMPERATURE — FLAME RETARDANT
WILL NOT COLD FLOW

Made with a special mixture polyethylene, and then irradiated with extremely high velocity electrons.

| | Cat. No. | Length | Lgths/ Box | Net/ Ft. | Net/ Lgth |
|---|---|---|---|---|---|
| Minimum inside | 196-4A | 1' | 10 | $ .58 | $ .58 |
| Diameter is ½" | 196-4C | 3' | 1 | .55 | 1.65 |
| Minimum outside | 196-4M | 25' | 1 | .53 | 13.25 |
| Diameter is ¼" | 196-4W | 100' | 1 | .52 | 52.00 |
| BLACK ONLY | 196-4X | 500' | 1 | .52 | 260.00 |

## RULAN SPIRAL WRAP

FLAME RETARDANT

This material has additives which cause the polyethylene to be flame retardant and self-extinguishing. Temperature characteristics are not quite as good as standard polyethylene.

| #198-4 | Cat. No. | Length | Lgths/ Box | Net/ Ft. | Net/ Lgth |
|---|---|---|---|---|---|
| Minimum inside | 198-4C | 3' | 10 | $ .14 | $ .42 |
| Diameter is ½" | 198-4M | 25' | 1 | .13 | 3.25 |
| Unexponded OD ¼" | 198-4W | 100' | 1 | .12 | 12.00 |
| | 198-4X | 500' | 1 | .12 | 60.00 |
| #198-6 | | | | | |
| Minimum inside | 198-6C | 3' | 10 | .18 | .54 |
| Diameter ¼" | 198-6M | 25' | 1 | .17 | 4.25 |
| Minimum outside | 198-6W | 100' | 1 | .15 | 15.00 |
| Diameter ⅜" | 198-6X | 500' | 1 | .15 | 75.00 |
| BLACK or WHITE | | | | | |

## TEFLON SPIRAL WRAP

NON-INFLAMMABLE HIGHEST TEMPERATURE
(270° C. Continuous)

| | Cat. No. | Length | Lgths/ Box | Net/ Ft. | Net/ Lgth |
|---|---|---|---|---|---|
| Minimum Outside Diameter ¼" .030" Wall NATURAL Finish only | 199-4A | 1' | 5 | $1.54 | $ 1.54 |
| | 199-4C | 3' | 3 | 1.49 | 4.47 |
| | 199-4M | 25' | 1 | 1.45 | 36.25 |

## TEFLON SPIRAL COVER

| | Cat. No. | Size | Lgth | Net/ Ft. | Net/ Lgth |
|---|---|---|---|---|---|
| HIGH TEMPERATURE NON INFLAMMABLE | 220-4A | ¼"x.040 | 1' | $1.40 | $1.40 |
| | 220-4B | | 2' | 1.35 | 2.70 |
| | 220-4C | | 3' | 1.30 | 3.90 |
| | 220-4D | | 4' | 1.30 | 5.20 |
| FOR USES: Similar to SPIRAL WRAP | 220-8A | ½"x.040 | 1' | 1.92 | 1.92 |
| | 220-8B | | 2' | 1.86 | 3.72 |
| | 220-8C | | 3' | 1.80 | 5.40 |
| | 220-8D | | 4' | 1.80 | 7.20 |
| MATERIAL: Teflon | 220-12A | ¾"x.040 | 1' | 2.40 | 2.40 |
| | 220-12B | | 2' | 2.34 | 4.68 |
| | 220-12C | | 3' | 2.28 | 6.84 |
| | 220-12D | | 4' | 2.28 | 9.12 |
| Note unique cross-section gives 100% overlap | 220-16A | 1"x.040 | 1' | 2.90 | 2.90 |
| | 220-16B | | 2' | 2.84 | 5.68 |
| | 220-16C | | 3' | 2.78 | 8.34 |
| | 220-16D | | 4' | 2.78 | 11.12 |
| QUANTITY DISCOUNT 1'-24'—Net 25'-49'—Less 25% 50'-up—Less 33⅓% | 220-20A | 1¼"x.040 | 1' | 3.50 | 3.50 |
| | 220-20B | | 2' | 3.43 | 6.86 |
| | 220-20C | | 3' | 3.36 | 10.08 |
| | 220-20D | | 4' | 3.36 | 13.44 |
| | 220-24A | 1½"x.040 | 1' | 3.98 | 3.98 |
| | 220-24B | | 2' | 3.91 | 7.82 |
| | 220-24C | | 3' | 3.84 | 11.52 |
| | 220-24D | | 4' | 3.84 | 15.36 |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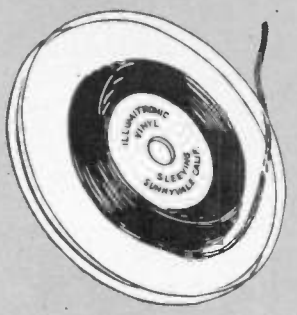
World Radio History

# V-105* VINYL SLEEVING




Illumitronic V-105 tubing is a specially compounded Poly-Vinyl-Chloride plastic (also called "Vinyl"). It is especially suited for electronic, electrical and aircraft applications over a wide temperature range (105°C to —30°C). The material is non-flammable and has excellent resistance to acids, alkalis, gasoline, oil, water, alcohol, petroleum solvents and fungi.

Illumitronic V-105 conforms to spec. MIL-1-631C, grade C, ASTM-D876, ASTM-D9222 and is U/L approved.

### PROPERTIES

Temperature rating ..... 105°C
Flexibility (low temp.) ..... —30°C
Dielectric Strength ..... 800 V/Mil
Flammability ..... non-flammable
Tensile Strength ..... 2500 PS1

* TURBO TURBOTRANS® 105

# ILLUMITRONIC V-105 SLEEVING

NET COST PER LENGTH

| Cat.No. | Nom. I.D. | Nom. Wall | 1' | 25' | 50' | 100' | 200' | 500' | 1000' | Std. Colors |
|---|---|---|---|---|---|---|---|---|---|---|
| V-105-24 | .022 | .012" | .03 | .51 | — | 1.59 | — | 7.35 | 14.40 | 1-2-3-4 |
| V-105-20 | .034 | .016" | | .53 | | 1.62 | | 7.50 | 14.70 | |
| V-105-19 | .038 | .016" | | .53 | | 1.65 | | 7.65 | 15.00 | |
| V-105-18 | .042 | .016" | | .54 | | 1.68 | | 7.73 | 15.15 | |
| V-105-17 | .047 | .016" | .03 | .56 | — | 1.70 | — | 7.80 | 15.30 | 1-2-3-4 |
| V-105-16 | .053 | .016" | | .57 | | 1.76 | | 8.18 | 16.05 | |
| V-105-15 | .059 | .016" | | .59 | | 1.80 | | 8.33 | — | |
| V-105-14 | .066 | .016" | | .59 | | 1.88 | | 8.63 | | |
| V-105-13 | .076 | .016" | .05 | .60 | — | 1.92 | — | 8.85 | — | 1-2-3 |
| V-105-12 | .085 | .016" | | .63 | | 2.04 | | 9.45 | | |
| V-105-11 | .095 | .016" | | .65 | | 2.10 | | 9.75 | | |
| V-105-10 | .106 | .016" | | .68 | | 2.22 | | 10.35 | | |
| V-105-9 | .118 | .020" | .06 | .80 | — | 2.72 | — | 12.83 | — | 1-2-3 |
| V-105-⅛" | .125 | .020" | | .81 | | 2.78 | | 13.13 | | |
| V-105-8 | .133 | .020" | | .83 | | 2.81 | | 13.28 | | |
| V-105-7 | .148 | .020" | | .86 | | 2.96 | | 14.03 | | |
| V-105-6 | .166 | .020" | .06 | .95 | — | 3.29 | — | 15.68 | — | 1-2-3 |
| V-105-5 | .186 | .020" | | 1.01 | | 3.48 | 6.84 | | | |
| V-105-4 | .208 | .020" | | 1.08 | | 3.80 | 7.50 | — | | |
| V-105-3 | .234 | .020" | | 1.17 | | 4.14 | 8.16 | | | |
| V-105-¼" | .250 | .020" | .08 | 1.20 | — | 4.43 | 8.63 | — | — | 1-2 |
| V-105-2 | .263 | .020" | | 1.26 | | 4.49 | 8.88 | | | |
| V-105-1 | .294 | .020" | | 1.35 | | 4.88 | 9.66 | | | |
| V-105-5/16" | .3125 | .025" | | 1.71 | | 6.32 | 12.54 | | | |
| V-105-0 | .330 | .020" | .08 | 1.46 | — | 5.31 | 10.50 | — | — | 1-2 |
| V-105-⅜" | .375 | .025" | .11 | 2.07 | | 7.53 | 14.76 | | | |
| V-105-7/16" | .438 | .025" | .12 | 2.33 | | 8.48 | 16.68 | | | |
| V-105-½" | .500 | .025" | .14 | 2.63 | 4.95 | 9.53 | | | | |
| V-105-9/16" | .562 | .030" | .17 | 3.48 | 6.21 | — | — | — | — | 1-2 |
| V-105-⅝" | .625 | .030" | .18 | 3.60 | 6.68 | | | | | |
| V-105-¾" | .750 | .035" | .23 | 4.73 | 9.08 | | | | | |
| V-105-⅞" | .875 | .035" | .24 | 5.33 | 10.28 | | | | | |
| V-105-1 | 1.000 | .035" | .29 | 6.15 | 11.70 | — | — | — | — | 1-2 |
| V-105-1 1/16" | 1.062 | .035" | .33 | 7.20 | 13.88 | | | | | |
| V-105-1¼" | 1.250 | .040" | .38 | 8.33 | 16.28 | | | | | |
| V-105-1⅜" | 1.375 | .040" | .39 | 8.85 | 17.25 | | | | | |
| V-105-1½" | 1.500 | .045" | .48 | 10.80 | 21.15 | — | — | — | — | 1-2 |
| V-105-1¾" | 1.750 | .050" | .59 | 13.43 | 26.40 | | | | | |
| V-105-2 | 2.000 | .060" | .78 | 18.08 | 35.63 | | | | | |
| V-105-2¼" | 2.250 | .065" | .90 | 21.30 | 42.08 | | | | | |
| V-105-2½" | 2.500 | .070" | 1.05 | 25.13 | 49.58 | | | | | |

V-105-S1 25 assorted 1' lengths, assorted colors (up to "0") ..... .99
V-105-S2 10 assorted 1' lengths, assorted colors (over ¼" to 1") ..... 1.49
Colors other than Standard available on special order. Colors: 1 Clear, 2 Black, 3 Red, 4 Yellow, 5 Green, 6 Blue, 7 Brown, 8 White, 9 Orange, 10 Violet.

# VINYL LACING CORD

Over 90% of lacing cost is labor So—
Cut lacing costs with ILLUMITRONIC VINYL LACING Because—

- DOES NOT SLIP—Will not become loose. No special knots to tie.

- IS NON-ABRASIVE—DOES NOT BURN OR CUT HANDS. Sore hands mean slow work.

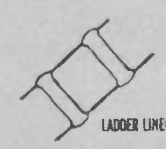
A typical harness uses 75c worth of labor and 3c worth of lacing! Our Vinyl usually saves over 20% of lacing time.

Material is .060" black Vinyl—is resistant to heat and cold and impervious to termites and fungus. Carries Army-Navy approval under Cert. No. ANEESA-13004, Spec. 1-1-57.

| Cat. | Put-up | Net |
|---|---|---|
| 224-6A | 50' Spool | .55 |
| 224-6C | 100' Spool | .95 |
| 224-6P | 1 lb. Spool (600') | 3.95 |

Lacing Quantity Discount
1- 9 lbs. NET; 10-24 lbs. NET LESS 10%;
25-49 lbs. NET LESS 25%; 50 lbs. up NET LESS 33⅓%

# LADDER LINE® and U-LINE®



### SUPERIOR CONSTRUCTION

The wires are spaced 1" or ½" apart and molded into the ends of polystyrene spacers for maximum strength. Only LADDER LINE® and U-LINE are constructed this way.

| CAT. NO. | DESCRIPTION | | Net Per C. Ft. |
|---|---|---|---|
| 300 S | SILVER U-LINE<br>½" Spaced; Open Wire Line; Solid Copper, Silver Sheathed FORMVAR Coated Wire; Out-Field Spacers | Less than 500'<br>500' to 999'<br>1000' or more | 6.30<br>5.67<br>5.36 |
| 300 C | U-LINE<br>½" Spaced; Open Wire Line; Solid Copper FORMVAR COATED Wire; Out-Field Spacers | Less than 500'<br>500' to 999'<br>1000' or more | 6.00<br>5.40<br>5.10 |
| 500 S | SILVER LADDER LINE<br>1" Spaced; Open Wire Line; Solid Copper; Silver Sheathed FORMVAR Coated Wire; Straight Spacers | Less than 500'<br>500' to 999'<br>1000' or more | 5.70<br>5.13<br>4.85 |
| 500 C | LADDER LINE<br>1" Spaced; Open Wire Line; Solid Copper FORMVAR Coated Wire; Straight Spacers | Less than 500'<br>500' to 999'<br>1000' or more | 5.40<br>4.86<br>4.59 |
| 500 W | STEEL CORE LADDER LINE<br>1" Spaced; Open Wire Line; Steel Core Copper Sheath; Straight Spacers | Less than 500'<br>500' to 999'<br>1000' or more | 4.50<br>4.05<br>3.83 |

All available in 30', 35', 40', 50', 60', 75', 100' and 250' rolls.

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World Radio History

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WORLD'S FINEST
# AUTO ANTENNAS

## FRONT MOUNTS

### NEW LOK-MATIC® MODEL L-1000

Revolutionary! An entirely new concept in auto antenna design! Fits all cars—even '59 and '60 models. Fits any hole ⅞" to 1¼". Installed in seconds, by one man, from top! Completely waterproof. Highest "Q" ever.

- 3 sections, to 56" from 19½".
- Triple chrome plated brass tubing.
- Adjusts to 43°. New Lok-matic mount.
- 54" low loss Elektran lead cable.

*12-carton: 12 lbs., 1 lb. each.*

### NEW LOK-MATIC MOUNT

Exclusive triple *interlocking* parts fall into place automatically! The *only* completely waterproof mount. Positive, easy, fool-proof. Self-locating rocker locks automatically, can't spread. Positive ground.

Self-aligning pad. Interlocking features of insulator and cap prevent twisting. Dome-shaped nut. Comes pre-assembled—no loose parts.

### NEW SUPER "8" MODEL TCF-4

King-size, but at regular price! Extra heavy. Sleek, modern, rugged. Popular, proved "8" Ball mount. Installed in minutes, by one man, from outside.

- 4 sections, to 57" from 18".
- Triple chrome plated brass tubing.
- Adjusts to 35°.
- 54" low loss Elektran lead cable.

*12-carton: 13 lbs., 1 lb. each.*

### EIGHT BALL MODEL TCF-3C

Still the world's most popular antenna! Rugged, rattleproof, smart. Installed by one man, completely from outside, in a matter of minutes!

- 3 sections, to 56" from 22".
- Triple chrome plated brass tubing.
- Adjusts to 35°. "8" Ball mount.
- 54" low loss Elektran lead cable.

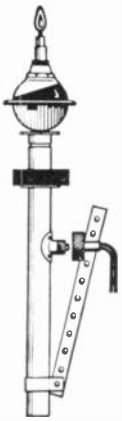
*12-carton: 12 lbs., 14 ozs. each.*

### DELUXE PHANTOM COMPLETE DISAPPEARING MODEL DCF-3C

Collapses to 1"! Really extra-smart, extra-sleek. Has flame tip, too! New aluminum shield tube is water-sealed. Mounting bracket. Waterseal grommet.

- 3 sections, to 45" from 1".
- Triple chrome plated brass tubing.
- Adjusts to 35°. "8" Ball mount.
- 54" low loss Elektran lead cable.

*12-carton: 15 lbs., 1¼ lbs. each.*



### FIBERGLAS MODEL TGF-1

**Chrome Fiberglas:** Looks, feels, sounds like chrome. Not a surface paint, but an exclusive impregnating. 16-carton: 6 lbs. **Duraramic:** Six colors—white, blue, green, yellow, tan, red. Cannot fade, rust, wear off. 6-carton: 6 lbs.
Model TGF-1 chrome
Model TGF-1 color (specify)

- Single section, 38" long.
- 4 inner-conductor wires.
- Will bend almost double, flex back.
- 54" low loss Elektran lead cable.
- "8" Ball mount.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World Radio History

HIGHEST QUALITY

# AUTO ANTENNAS

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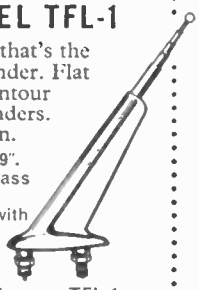
## REAR MOUNTS

### SPARKLE MODEL TFL-1



Here's rear-fin styling that's the very latest! Deck or fender. Flat mounting pad and contour pad for high-crown fenders. Colorful display carton.

- 3 sections, to 27" from 9".
- Triple chrome plated brass tubing.
- 18' Elektran lead cable with built-in capacitors.

*12-carton: 16½ lbs., 1⅓ lbs. each.*

**Dummy Model TFD-1:** Same as TFL-1 except no lead cable. Will not receive.
*12-carton: 12 lbs., ¾ lb. each.*

### MIDGET "8" BALL MODEL TCT-2

Live short twins. Rear fender or deck. Same fine Ward quality.

- 3 sections, to 24" from 11½".
- Triple chrome plated brass tubing.
- Adjusts to 35°. "8" Ball mount.
- Two 54" low loss Elektran lead cables.
- 15' lead extension with built-in capacitors.
- "T" connector and 5 clips.

*6 twins to carton: 13¼ lbs., twin set 2 lbs.*

### MIDGET "PHANTOM" MODEL TDT-2

Disappearing short twin rear. For that smart "built-in" look.

- 3 sections, to 24" from 1¾".
- Triple chrome plated brass tubing.
- Adjusts to 35°. "8" Ball mount.
- Two 54" low loss Elektran lead cables.
- 15' lead extension with built-in capacitors.
- "T" connector and 5 clips.

*6 twins to carton: 13½ lbs., twin set 2 lbs.*

## SIDE MOUNTS

### SKY QUEEN MODEL SC-6

Neat, simple styling. Two stanchions assure sturdy mounting, are chrome capped. Rugged. Rattle-proof. Trouble-free. Adaptable to foreign cars.

- 3 sections, to 56" from 25".
- Triple chrome plated brass tubing.
- 36" low loss Elektran lead cable.

*12-carton: 12¾ lbs., 1 lb. each.*

### LONG RANGER MODEL SC-8

Here's extra length that's ideal for extra pull in low-signal areas. Perfect for over-the-road truck equipment. Rattle-proof. Adaptable to foreign cars.

- 4 sections, to 100" from 39".
- Triple chrome plated brass tubing.
- 36" low loss Elektran lead cable.
- Sturdy 2 stanchion mount with chrome caps.

*12-carton: 21 lbs., 1½ lbs. each.*

### CONTINENTAL FLEX ANGLE MODEL CF-6

Adaptable to foreign cars. The only antenna that fits the Volkswagen. Flexible adjustment. Locks vertically.

- 3 sections, to 56" from 22".
- Triple chrome plated brass tubing.
- 36" low loss Elektran lead cable.

*12-carton: 15 lbs., 1 lb. 7 ozs. each.*

## ACCESSORIES

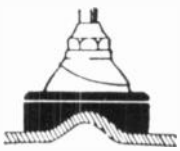
### REPLACEMENT MASTS

3-section telescopic. Just slip on and tighten over stub of original mast with Allen wrench supplied. Triple chrome plated brass tubing.
**Model TCFR-1** extends to 57" from 24"—½ lb.
**Model TCFR-2** extends to 38" from 17½"—7 ozs.
*Indiv. packed in cardboard tube—shipped bulk.*

### "T" CONNECTOR MODEL C-50

To connect two lead cables and lead extension of Twin Rear mounts. One 3-way connector and 5 clips. *12 on display card—1 lb.*

### FENDER PAD MODEL C-61



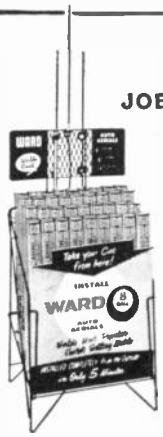
For mounting Ward "8" Ball mounts on '57 cars with creased or beaded front fenders. Individually wrapped in cellophane tear-off bag—*12 to card—6 ozs.*

### ELEKTRAN LEAD CABLE REPLACEMENT LEADS:

PART NO. 15-289: 36"
PART NO. 15-290: 54"

### LEAD EXTENSIONS:

**Model C-9:**
18", 24 to box, 2 lbs.
**Model C-12:**
24", 12 to box, 2½ lbs.
**Model C-42:**
15', 12 to box, 8¾ lbs.
—built-in capacitors.
**Model C-63:**
18', 12 to box, 10 lbs.
—built-in capacitors.




### JOBBER DISPLAY RACK MODEL WJD-2

Permanent black wrought iron. Displays 3 representative models. Needs only 2 sq. ft. floor space. Holds 36 Model TCF-3C.

### DEALER DISPLAY RACK MODEL WDD-2

Black wrought iron, floor or counter. Mounts a single antenna where customers can see it. Holds 6 Model TCF-3C. Free with purchase of 6 antennas.

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QUALITY BUILT

# COMMUNICATION Antennas

For every mobile frequency and application

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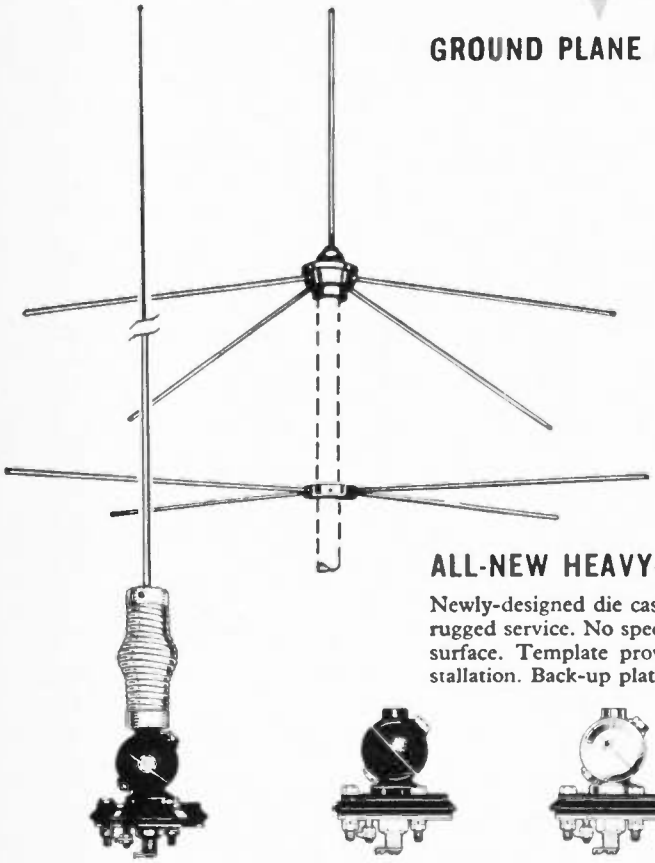


## GROUND PLANE ANTENNAS AND ADAPTERS

Ward Ground Plane antennas are general purpose, non-directional and vertically polarized, fixed-station antennas. For any frequency in 144-174 mc. range; will handle up to 3 kw of power. Good impedance, minimum VSWR. Radiate equal power in all horizontal directions. Built-in lightning arrester; weather-protected with cable terminating in mounting mast. Supplementary rods available to lower vertical radiation angle.

**WCA-A94** for 144-152 mc.
**WCA-B94** for 152-164 mc.
**WCA-94** for 164-174 mc.
**WCA-95** for lowering angle of radiation (Ring and 4 ground rods)

**ADAPTERS**

WCA-96 for use with RG-58/U and RG-8/U cables
WCA-97 for use with RG-17/U cables. Takes 1¼" IPS.
VSWR: less than 1.5:1; 52 ohms impedance. Vertical polarized. 300 watts maximum.

## ALL-NEW HEAVY-DUTY MOBILE BASES

Newly-designed die cast universal swivel bases; lighter and stronger for rugged service. No special tools. Mount watertight on any curved or flat surface. Template provided: ⅜-24 mounting hole. Entire outside installation. Back-up plate furnished.

**COMBINATION**

Base spring and mast packaged as one unit. All components same quality and design as single units. 96" mast.
**WCA-336-FG**, black Fiberglas mast
**WCA-336-SS**, stainless steel mast



**WCA-310**, painted hardware
**WCA-311**, stainless steel hardware

**WCA-312**, chrome plated base, stainless steel hardware

**COAXIAL BASES**
Accept PL-259

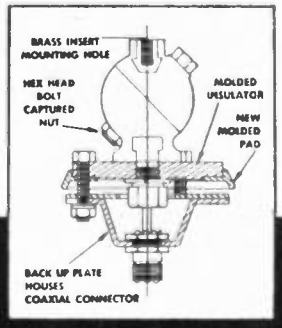
**WCA-315**, chrome plated stainless steel hardware

**WCA-313**, painted hardware
**WCA-314**, stainless steel hardware

**Mast Extension.** Heavy chrome plated brass tubing with ⅜-24 thread at both ends. 3 lengths: **WCA-330** in 12" or 24" or 36".

Adapters have ⅜-24 thread for use on any standard Ward mast. Lock washer and set screws included.
**WCA-89-357** stainless; ½" hex.
**WCA-89-358** cadmium plated; ⅝" hex.

Springs protect car and mast. Shock mounting "gives" under impact. Normal vertical.
**WCA-3A** is cadmium plated with lock washers.
**WCA-3AL** is extra heavy cadmium plated with lock washers.
**WCA-301** Deluxe has stainless steel spring and mounts.

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**WARD PRODUCTS CORPORATION**

*Division of The Gabriel Company* · Cleveland 15, Ohio

*In Canada: Atlas Radio Corp., Ltd., 50 Wingold Ave., Toronto, Canada*



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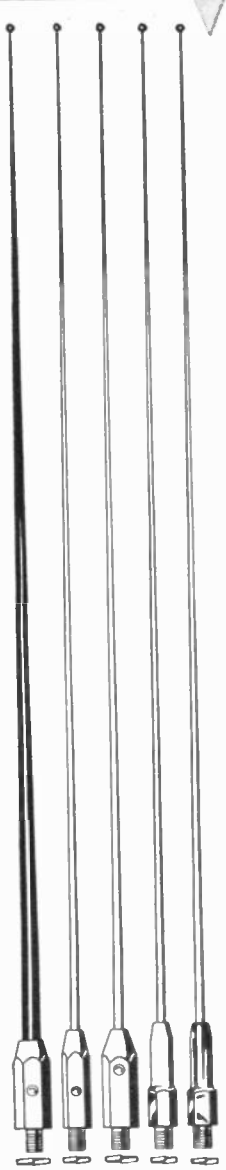
WORLD'S FINEST

# COMMUNICATION Antennas

**Emergency, Industrial, Commercial, Amateur**
**Built with rugged reliability**



## HEAVY-DUTY MASTS

Highest grade stainless steel: assured heavy-duty performance. 84½" mast bends to bring tip and base 30" apart without distortion. All base studs ⅜-24 threads. All taper ground with ball tip.

**WCA-320 series**—60" long, choice of adapters: chrome press fit, cadmium plated press fit; ⅝" hex steel, cadmium plated with set screws; ½" hex stainless steel with set screws.
**WCA-321 series**—72", same choices.
**WCA-322 series**—84", same choices.
**WCA-323 series**—96", same choices.
**WCA-324 series**—Fiberglas in all 4 lengths.

## DISGUISE ANTENNAS

Look and mount like ordinary car antennas, with Ward "8" Ball mount. The secret is in the lead: stub load type for 30-50 mcs.; standard leads for 144-174 mcs. WCAB-71 has triple chrome plated brass tubing and stainless steel tip rod. Looks like 3-section car antenna, but length fixed at 55½" (permanent at telescopic joints). Has heavy mounting bracket.

**WCA-235** same but with 70" mast.
**WCA-143** same but tapered stainless steel mast.
**WCA-248** looks like 3-section, "8" Ball mount.
**WCA-249** 55½" tapered stainless steel, "8" Ball mount.

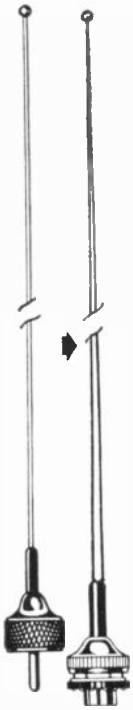
## WALKIE TALKIE MODEL WCA-254

Expressly for 2-way radio. Greatest operating range, clearest reception. 19" whip rod fits any adapter which accepts PL-259 connector.

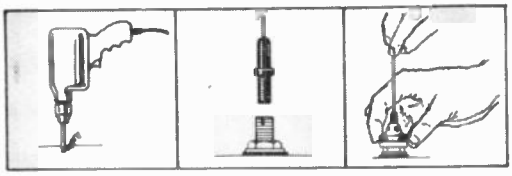
## ROOF TOP ANTENNAS

Three efficient models with varying megacycle ranges. Mount from outside; only one ⅜" hole required. 12' cable. Weather proof; positive ground. Ideal for fleets, police, taxi, fire, etc.

**WCA-250**—144-174 mc.
**WCA-251**—450-470 mc.
**WCA-A250**—108-174 mc.



## NEWEST, EASIEST INSTALLATION



Drill hole with any standard ¾" drill. Tolerance not critical.

Snap-in provides positive electrical contact between rod and lead cable.

Whip rod becomes handle to hold while installing components quickly, easily.

## LEADS FOR DISGUISE ANTENNAS

Leads are available in various lengths with either RG-8/U or RG-58A/U cables. Stub type loading is employed for 30-50 mc. operations to compensate for the short length of the antenna mast. Regular coaxial cable leads are used for 144-174 mc. operation.

| | Ward No. | Length | Type of Cable | Termination |
|---|---|---|---|---|
| *30-50 MCS Stub type. Select lead desired and give exact frequency. | WCA-154 | 20' | RG-58A/U | 2 pcs. PL-259 |
| | WCA-155 | 72" | RG-58/U | 2 pcs. PL-259 |
| | WCA-156 | 20' | RG-8/U | 2 pcs. PL-259 |
| | WCA-157 | 72" | RG-8/U | 2 pcs. PL-259 |
| | WCA-163 | 16' | RG-8/U | 2 pcs. PL-259 |
| 144-174 Mcs. Select lead desired. | WCA-246 | 20' | RG-58A/U | 2 pcs. PL-259 |
| | WCA-247 | 20' | RG-8/U | 1 pc. PL-259 |

*Cut to frequency leads not returnable

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# the antenna specialists co.

MANUFACTURERS OF RADIO COMMUNICATIONS ANTENNAS

CLEVELAND 6, OHIO

## AUTOMOTIVE ANTENNAS

| MODEL | DESCRIPTION | WEIGHT |
|---|---|---|
| AS-1 | "Baseball" Antenna, Triple-plated Chrome, 3-Section Telescopic 56" Tube Assembly, 36" Lead | 1 lb., 1 oz. |
| ASA1 | AS-1, with 54" Lead | 1 lb., 1 oz. |
| DB-12 | Display, 12 Chrome | |
| AS-2 | Side Cowl Antenna, 3-Section Tube Assembly, 66" Extended length with 56" Lead | 1 lb., 2 oz. |
| ASA2 | Same as above, with 54" Lead | 1 lb., 3 oz. |
| ASB6 | Same in Chrome, less Leads | 1 lb., 0 oz. |
| AS-23 | Disappearing Antenna, 3-Section, 3"-54" complete with 36" Lead | 1 lb., 6 oz. |
| ASA23 | Same with 54" Lead | 1 lb., 8 oz. |
| AS-20 | Twin Streamlined Antennas for Rear Fender Mounting, Complete with 15 ft. Lead-in Cable, T Connector, 6" & 1' Lead-in to Antenna, Packed in attractive display box, 3-Section 29" Chrome Antenna | 1 lb., 8 oz. |
| K-8 | Antenna Booster for Long Lead Antenna | |
| K-9 | Universal Replacement Mast for any Top Cowl Antenna | |
| K-11 | Pad for Sharp Radius Fender, Per Set | |
| EC-1 | 3-Section, Telescopic Antenna, 56" Extended Length, 22-1/2" Collapsed Length with 1" Stackup, Chrome Plated | 1 lb., 1 oz. |
| ECA1 | Same with 54" Lead (Replaceable) | 1 lb., 1 oz. |
| EC-1F | Same as EC-1 except designed to fit 1-1/8" hole in 1952-57 Ford and Mercury | 1 lb., 1 oz. |
| ECD-9 | Top Cowl, 3-Section Telescopic, 56" Extended Length, 22-1/2" Collapsed, with 1" Stackup, 48" Non-Removable Lead | |
| EC-15 | Top Cowl, 3-Section Telescopic, 36" Removable Lead, Paper Sleeve, Unassembled | |
| ECA-16 | Top Cowl, 3-Section Telescopic, 54" Removable Lead, Paper Sleeve, Unassembled | |

## COMMUNICATIONS ANTENNAS

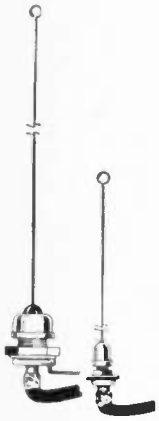
### TRANSMITTING ANTENNAS

"Disguised" antennas designed to look and mount like ordinary car aerials, on fenders, cowl or rear deck. For detectives, cab spotters, utilities, etc. 25-50 Mc., 144-174 Mc. Exclusive cable receptacle design eliminates electrical discontinuity, corrosion problems, water shorts. Order cable and plug separately.

**ASPR80.** With 56" chrome plated pseudo-telescopic whip. (Joints permanently connected.)

**ASPR85.** With tapered 56" stainless steel whip.

**ASP-20** and **ASP-34.** Special cables for above whips.



### ROOF TOP ANTENNAS

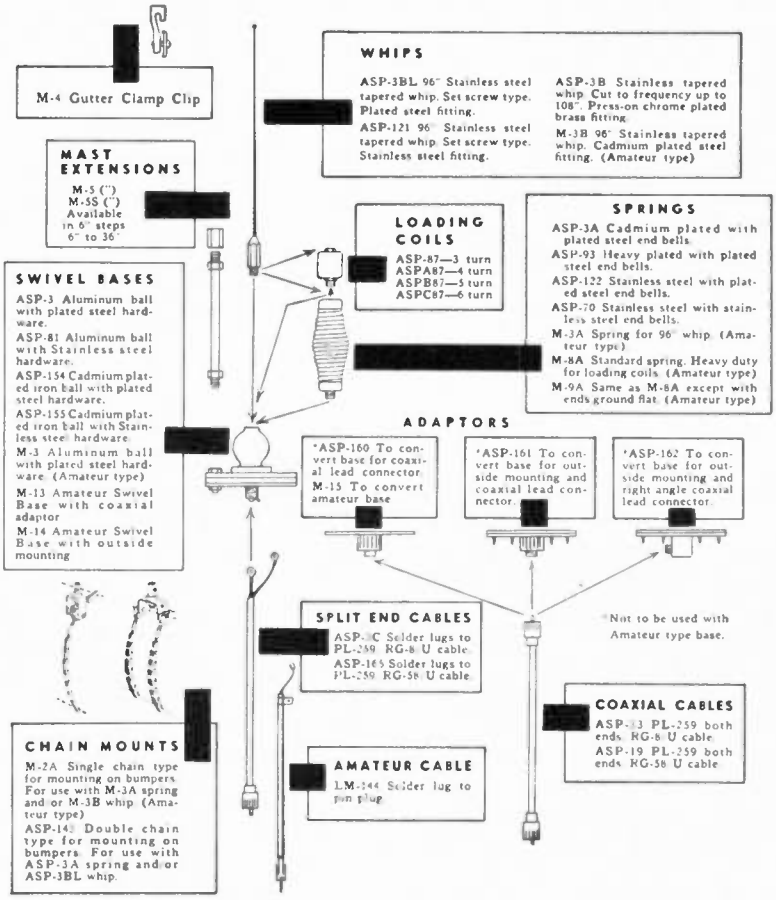
Small, inconspicuous, economical. Mounts from outside without disturbing upholstery. For 144-174 Mc. or 450-470 Mc. Whip lengths from 16" to 23¼" depending on frequency. Specify when ordering. Coaxial lead soldered to antenna. **ASP-1:** For ¾" mounting hole. Positive 4-point grounding. **ASP-126:** For ⅜" mounting hole. New miniature design provides highest performance in smallest size.

**WHEN ORDERING PLEASE SPECIFY:**

1. **Quantity and Model**
2. **Frequency of Operation in Mc.**
3. **Length of Whip Desired**
4. **Length of Lead**

## ASSEMBLY CHART

This chart illustrates the many A/S components which may be purchased separately and assembled on the job to provide a complete 24-50 Mc antenna for special requirements or specific purposes. Each product is described in more detail elsewhere in our complete catalog.



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World Radio History

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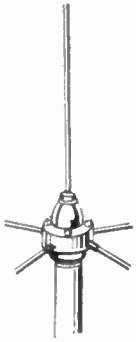
MANUFACTURERS OF RADIO COMMUNICATIONS ANTENNAS

CLEVELAND 6, OHIO

## GROUND PLANE ANTENNAS



All the advantages of high-priced units at almost half the cost. Impedance matched: weather-tight fittings: minimum line loss.

**ASP-11:** For all 144-176 Mc. transmitting: up to 3 KW. Vertically polarized. Plated steel radials. **ASP-12:** Skirt used with ASP-11 to modify vertical field pattern.

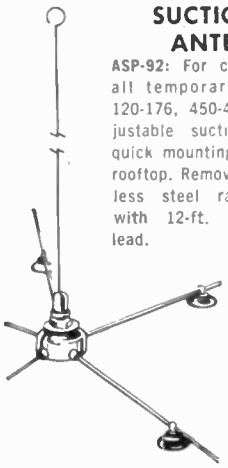
**ASPA11:** For 30-50 Mc. transmitting. Stainless steel radials. **ASP-38:** For 30-176 Mc. general monitoring. 12-ft. telescoping antenna.

**ASP-13, 14, 15:** Adaptors. See price list.

**M-12:** 30-54 Mc.
Amateur ground plane antenna.

**M-7:** 144-470 Mc.
Amateur ground plane antenna.

## SUCTION CUP ANTENNAS



**ASP-92:** For civil defense and all temporary installations. 120-176, 450-470 Mc. Five adjustable suction cups permit quick mounting on any vertical rooftop. Removable 15¾" stainless steel radials. Complete with 12-ft. RG-58 U coaxial lead.

**NOTE:**

**When Ordering Specify Frequency**

## TEMPORARY MOBILE ANTENNA

### CLIPS ON AUTO GUTTER

**ASP-157:** Clamps on rain gutter of automobile with special clip. Complete with 12-ft. RG-58 U cable and PL-259 adaptor. Whip cut to length for desired frequency. Specify frequency when ordering.

**WHEN ORDERING PLEASE SPECIFY:**

1. **Quantity and Model**
2. **Frequency of Operation in Mc.**
3. **Length of Whip Desired**
4. **Length of Lead**

| MODEL | FREQ. RANGE IN MC. | DESCRIPTION | WT. Per Unit LB. OZ. | SUGGESTED User List | SUGGESTED Dealer Com'l. |
|---|---|---|---|---|---|
| | | **ACCESSORIES AND CABLES FOR ANTENNAS** | | | |
| M-4 | | Whip Holdown Clip for Gutter | 0-1 | 1.50 | 1.00 |
| M-10 | | Rubber Plug to Fill Holes left by Swivel Base | 0-3 | 2.50 | 1.50 |
| M-11 | | Rubber Plug to Fill 3/4" Hole left by Antenna | 0-1 | 1.65 | .99 |
| ASP-160 | | Converts Professional Swivel Base to Coax Connector | 0-1 | 2.50 | 1.50 |
| ASP-161 | | ASP-160 plus Outside Mounting Feature | 0-12 | 6.00 | 3.60 |
| ASP-162 | | ASP-161 plus Right Angle Connector Socket | 0-12 | 7.75 | 4.65 |
| M-15 | | Converts Amateur Swivel Base to Coax Connector | 0-2 | 3.75 | 2.25 |
| ASP-3C | | RG-8/U Cable—Split End to PL-259—4' long | 1-7 | 6.25 | 3.75 |
| | * | Per additional foot of RG-8/U | | .25 | .15 |
| ASP-165 | | RG-58 U Cable—Split End to PL-259—5' long | 1-11 | 4.75 | 2.85 |
| | ** | Per additional foot of RG-58 U | | .12 | .07 |
| ASP-33 | | RG-8 U Cable—PL-259 each end—10' long | *1-8 | 11.40 | 6.82 |
| ASP-19 | | RG-58 U—PL-259 each end—10' long | **0-12 | 8.65 | 5.20 |
| LM-144 | | Amateur Lead, M-3 Base to Pin Plug—12' long | 0-6 | 4.00 | 2.40 |
| | | **ANTENNA, COMPLETE MOBILE ASSEMBLIES — 96" STAINLESS WHIP, SPRING AND BASE** | | | |
| G-1 | 25-50 | Standard Professional Swivel Base Assembly | 5-4 | 31.35 | 18.81 |
| G-2 | 25-50 | Stainless Professional Swivel Base Assembly | 5-4 | 55.25 | 33.16 |
| M-1 | Amateur | Standard Amateur Swivel Base Assembly | 4-7 | 14.95 | 8.97 |
| M-2 | Amateur | Standard Amateur Bumper Mounting Assembly | 4-6 | 19.40 | 11.64 |
| | | **ANTENNAS, DISGUISED AND FRONT MOUNTING AND ACCESSORIES** | | | |
| ASPR80 | 25-174 | Pseudo Telescopic Front Mounting—No Cable | 1-4 | 22.50 | 13.50 |
| ASPR85 | 25-174 | Tapered Stainless Front Mounting—No Cable | 1-4 | 22.50 | 13.50 |
| 19B83-5 | 25-174 | Replacement Whip for ASPR80 | 1-0 | 11.50 | 6.90 |
| 19B98-4 | 25-174 | Replacement Whip for ASPR85 | 1-0 | 11.50 | 6.90 |
| ASP-20 | 25-50 | Lead, Stub Loading—RG-58/U—6' long** | 0-8 | 16.00 | 9.60 |
| ASP-34 | 25-50 | Lead, Stub Loading—RG-8 U—6' long* | 1-0 | 17.00 | 10.20 |
| | | **ANTENNAS, GROUND PLANE — SPECIFY FREQUENCY AND ADAPTOR** | | | |
| ASPA11 | 30-50 | Antenna, Stainless Heavy Rods—Adaptor not incl. | 8-0 | 85.00 | 51.00 |
| M-12 | 30-54 | Antenna, Stainless Rods—Accepts PL-259, Amateur | 9-6 | 70.35 | 42.21 |
| ASP-11 | 144-470 | Antenna, 1 1/4" diameter Steel Radials, Adaptor not incl. | 3-0 | 27.50 | 16.50 |
| ASP-12 | 144-470 | Isolating Skirt—1/4" diameter Steel Radials | 1-0 | 9.75 | 5.85 |
| ASPB11 | 144-470 | Antenna, 3 8" diameter Alum. Radials, Adaptor not incl. | 3-5 | 36.00 | 21.60 |
| ASPB12 | 144-470 | Isolating Skirt—3/8" diameter Alum. Radials | 1-5 | 15.00 | 9.00 |
| M-7 | 144-470 | Antenna Amateur Duty with 10' Cable & PL-259 | 1-0 | 11.90 | 7.15 |
| ASPD11 | | Hub only, for ASPA11 Replacement | 2-0 | 27.50 | 16.50 |
| ASP-13 | | Adaptor only, connects PL-259 to Antenna | 1-0 | 6.60 | 3.96 |
| ASP-14 | | Adaptor only, connects RG-17 U to Antenna | 1-8 | 29.00 | 17.40 |
| ASP-15 | | Adaptor only, connects 7 8" Airline to Antenna | 4-0 | On Application | |
| | | **ANTENNAS, ROOFTOP AND VEHICULAR** | | | |
| ASP-1 | 144-470 | Vehicular Rooftop—For 3 4" Hole | 0-12 | 8.50 | 5.10 |
| ASP-126 | 144-470 | Vehicular Rooftop—For 3 8" Hole | 0-12 | 8.50 | 5.10 |
| ASP-91 | 144-470 | Rooftop—For 3 4" Hole low Clearance | 0-11 | 29.10 | 17.46 |
| ASP-92 | 144-470 | Suction Cup Vehicular Rooftop | 1-0 | 13.25 | 7.95 |
| ASP-157 | 144-470 | Temporary Mobile—Clamps on Rain Gutter | 1-6 | 11.50 | 6.90 |
| ASPA135 | 450-470 | Temporary Mobile—Fits on Auto Antenna | 0-15 | 11.90 | 7.15 |
| ASP-78 | 144-174 | Lift Truck Antenna, Spring Incl. | 0-14 | 27.00 | 16.20 |
| | | **ANTENNAS, SPECIAL DUTY, RECEIVING, PORTABLE, TRUCK** | | | |
| ASP-38 | 24-470 | Antenna, Receiving Monitor—Fits 1-1/4" pipe | 5-0 | 34.00 | 20.40 |
| ASP-50 | 25-50 | Antenna, Low Band Industrial—3 4" Hole | 1-5 | 32.50 | 19.50 |
| ASP-73 | 25-50 | Mounting Base & Spring for Flat Surface | 3-0 | 13.50 | 8.10 |
| ASP-74 | 25-50 | Antenna, Low Clearance Base Loaded | 1-6 | 75.00 | 45.00 |
| ASP-63 | 25-50 | Whip, Base Loaded Portable—Fits SO-239 | 1-4 | 12.95 | 7.77 |
| ASP-58 | 25-50 | Whip, Stainless to Fit 10-32 Stud | 0-5 | 11.50 | 6.90 |
| ASP-16 | 158-162 | Antenna, Railroad Low Clearance | 5-4 | 62.50 | 37.50 |
| ASP-77 | 144-174 | Pack Set Whip with Spring—Fits SO-239 | 0-10 | 21.00 | 12.60 |
| ASPA10 | 144-470 | Whip, Portable Pack Set Insulated—Fits SO-239 | 0-8 | 5.75 | 3.45 |
| | | **BUMPER MOUNTING, CHAIN — ACCEPT 3 8" — 24 STUD** | | | |
| ASP-143 | 25-50 | Professional Double Chain Bumper Mounting | 2-1 | 13.25 | 7.95 |
| ASP-143S | | Same as above in Stainless | | 39.60 | 23.76 |
| M-2A | Amateur | Amateur Single Chain Bumper Mounting | 1-1 | 8.75 | 5.25 |
| M-2AS | | Same as above in Stainless | | 21.00 | 12.60 |
| | | **BASES, UNIVERSAL SWIVEL — ACCEPT 3 8" — 24 STUD** | | | |
| ASP-3 | 25-50 | Standard Professional Base—Aluminum Ball | 1-6 | 11.95 | 7.17 |
| ASP-81 | 25-50 | Stainless Hardware Swivel Base—Aluminum Ball | 1-7 | 20.75 | 12.45 |
| ASP-154 | 25-50 | Malleable Iron Swivel Base—Cadmium Plated | 3-0 | 13.65 | 8.19 |
| ASP-155 | 25-50 | Stainless Hardware Malleable Iron Swivel Base | 3-0 | 22.50 | 13.50 |
| M-3 | Amateur | Amateur Swivel Base—Aluminum Ball | 1-2 | 5.05 | 3.03 |
| M-13 | Amateur | Amateur Swivel Base—Coax Lead Connection | 1-3 | 10.00 | 6.00 |
| M-14 | Amateur | Amateur Swivel Base—Coax plus Outside Mounting | 1-4 | 11.50 | 6.90 |
| | | **COILS, FULLY ENCAPSULATED FOR BASE LOADING** | | | |
| ASP-87 | 25-50 | 3 Turn Loading Coil—3/8"—24 Thread | 0-6 | 14.05 | 8.34 |
| ASPA87 | 25-50 | 4 Turn Loading Coil—3 8"—24 Thread | 0-6 | 14.05 | 8.34 |
| ASPB87 | 25-50 | 5 Turn Loading Coil—3 8"—24 Thread | 0-6 | 14.05 | 8.34 |
| ASPC87 | 25-50 | 6 Turn Loading Coil—3 8"—24 Thread | 0-6 | 14.05 | 8.34 |
| | | **EXTENSIONS, MAST FOR USE WITH CENTER LOADING COILS — 3 8" — 24 THREADS** | | | |
| M5-6 | Amateur | 6" long Chrome Plated Steel Tube with M-6 | 0-3 | 3.75 | 2.25 |
| M5S-6 | Amateur | 6" long Polished Stainless Steel Rod with M-6 | 0-5 | 4.60 | 2.76 |
| M5-12 | Amateur | 12" long Chrome Plated Steel Tube with M-6 | 0-4 | 4.85 | 2.91 |
| M5S-12 | Amateur | 12" long Polished Stainless Solid Rod with M-6 | 0-8 | 5.85 | 3.50 |
| M5-18 | Amateur | 18" long Chrome Plated Steel Tube with M-6 | 0-4-1/2 | 5.50 | 3.30 |
| M5S-18 | Amateur | 18" long Polished Stainless Solid Rod with M-6 | 0-11 | 6.25 | 3.75 |
| M5-24 | Amateur | 24" long Chrome Plated Steel Tube with M-6 | 0-6 | 6.15 | 3.69 |
| M5S-24 | Amateur | 24" long Polished Stainless Solid Rod with M-6 | 0-14 | 7.50 | 4.50 |
| M5-30 | Amateur | 30" long Chrome Plated Steel Tube with M-6 | 0-7-1/2 | 6.75 | 4.05 |
| M5S-30 | Amateur | 30" long Polished Stainless Solid Rod with M-6 | 1-1 | 8.35 | 5.00 |
| M5-36 | Amateur | 36" long Chrome Plated Steel Tube with M-6 | 0-9 | 7.60 | 4.55 |
| M5S-36 | Amateur | 36" long Polished Stainless Solid Rod with M-6 | 1-4 | 8.75 | 5.25 |
| M-6 | Amateur | Chrome Plated Coupling Nut (3 8"—24 Female) | 0-1 | 1.25 | .75 |
| | | **SPRINGS, SHOCK MOUNTING — 3 8" — 24 MALE STUD TO 3 8" — 24 FEMALE THREAD** | | | |
| ASP-3A | 25-50 | Standard Professional Cadmium Plated Steel Spring | 2-5 | 7.90 | 4.74 |
| ASP-93 | 25-50 | Professional Double-Cadmium Plated Steel Spring | 2-5 | 10.50 | 6.30 |
| ASP-122 | 25-50 | Professional Stainless Spring, Plated Steel Ends | 2-5 | 14.00 | 8.40 |
| ASP-70 | 25-50 | All Stainless Professional Spring | 2-5 | 21.60 | 12.96 |
| M-3A | Amateur | Spring, for Amateur use with 96" Whip | 1-11 | 3.40 | 2.04 |
| M-8A | Amateur | Spring, for Amateur use with Center Loading Coil | 2-2 | 6.08 | 3.65 |
| M-9A | Amateur | Deluxe Spring, for use with Center Loading Coil | 2-4 | 7.95 | 4.77 |
| | | **WHIPS, STAINLESS STEEL with BASE ADAPTORS THREADED 3/8"—24 TO FIT BASE or SPRING** | | | |
| ASP-3BL | 25-50 | 96", Cadmium Plated Setscrew Type Adaptor | 1-6 | 11.50 | 6.90 |
| ASP-3B | 25-50 | 96", Chrome Plated Non-removable Adaptor | 1-6 | 11.50 | 6.90 |
| ASP-121 | 25-50 | 96", All Stainless Setscrew Type Adaptor | 1-6 | 12.90 | 7.75 |
| ASPA66 | 25-50 | 96", All Stainless Setscrew Type Adaptor, 5/16"—18 Thread | 1-6 | 13.75 | 8.25 |
| ASP-59 | 25-50 | 85" - 103", Two Section Adjustable | 2-0 | 24.40 | 14.64 |
| M-3B | Amateur | 96", Cadmium Plated Removable Adaptor | 1-3 | 7.25 | 4.35 |

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

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*look for the spiral markings . . . trademark of Shakespeare Wonderods*

now a complete antenna line

# Shakespeare WONDEROD

## fiberglass antennas

### mobile antennas

**HIGH-GAIN (UHF-VHF) — 3 DB GAIN**

Doubles your effective mobile transmitter power.

**Style 45 for 440-470 mc**

*19" roof top antenna.*

**Style 56-1 for 144-155 mc**
**56-2 for 155-165 mc**
**56-3 for 165-174 mc**

*cowl or bumper mounted.*

### base station antennas

**HIGH GAIN — 5-6 DB GAIN**

Light weight, self supporting.

**Style 57 for 440-470 mc***

**Style 58 for 144-174 mc***

**specify your operating frequency when ordering.*

**NORMAL MODE HELICAL ANTENNA**

This distributed-load antenna eliminates standard loading coils. Shortened antenna allows you to select most advantageous mounting position.

| Style | 62-1 | 62-2 | 62-3 | 62-4 | 62-5 | 62-6 | 62-7 |
|---|---|---|---|---|---|---|---|
| Band | 30-35 mc | 35-42 mc | 10 meters | 15 meters | 20 meters | 40 meters | 80 meters |
| Approx. Length | 4'* | 4'* | 4' | 4' | 6' | 6' | 6' |

**marked for intermediate frequencies.*

**HIGH GAIN — 3 DB GAIN**

**Style 59 for 440-470 mc**

**Style 60-1 for 144-155 mc**
**60-2 for 155-165 mc**
**60-3 for 165-174 mc**

**STANDARD WHIP ANTENNAS**

Light weight . . . high flexural and impact strength . . . corrosion resistant.

**Whips — Style 10-1 54" — 60" — $5.75**
**10-2 60" — 90" — 6.95**

**Base Extensions —**

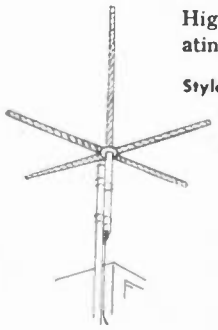
**Style 29-1 18" — $4.80**
**29-2 27" — 5.48**
**29-3 36" — 5.82**

*prices shown amateur net*

**GROUND PLANE ANTENNA**

High strength fiberglass radiating elements.

**Style 61-1 for 25-30 mc**
**61-2 for 30-35 mc**
**61-3 for 35-40 mc**
**61-4 for 40-47 mc**
**61-5 for 47-54 mc**



**We solicit orders for custom-built antennas for industrial applications.**

## COLUMBIA PRODUCTS CO.

**COLUMBIA, S. C. SUBSIDIARY OF THE *Shakespeare* COMPANY**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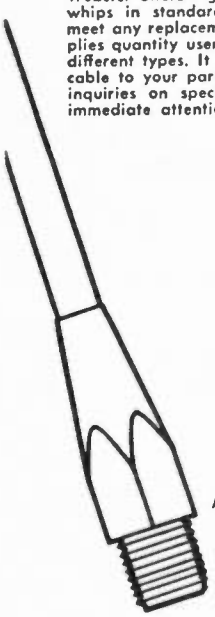
World Radio History

# WEBSTER Web Wip® MOBILE ANTENNAS STAINLESS STEEL WHIPS

## STAINLESS STEEL WHIPS

Webster offers high quality, long life, solid stainless steel whips in standard and custom-manufactured lengths to meet any replacement requirement. Webster regularly supplies quantity users with whips and base fittings of many different types. It is therefore possible that designs applicable to your particular purpose may already exist. Your inquiries on special lengths and mounts will be given immediate attention.



STANDARD MODELS
(net prices)

| Lengths, | Prices |
|---|---|
| 36" - 46" | 4.25 |
| 46" - 56" | 4.35 |
| 56" - 66" | 4.45 |
| 66" - 76" | 4.55 |
| 76" - 86" | 4.65 |
| 86" - 96" | 4.75 |

All prices f.o.b. factory Mill Valley, Calif.

**Quantity discounts.**

All listed whips have male-type base fittings threaded 3/8-24 SAE.

## MARINE ANTENNAS

### Webster Standard "Tiare"...

Webster Standard Marine, center loaded antenna is widely accepted as the standard of comparison. This highly effective antenna operates in conjunction with any standard radiotelephone to provide high performance over the marine range of 2000 to 3000 kcs. Completely weatherproof including fiber glass covered top whip, center loading section fully sealed ... permanent ... weatherproof. Support column is aircraft-type aluminum tubing, anodized and coated for maximum corrosion resistance. Antenna height, (overall) 23½ feet. Whip only, 8½ feet.

Less mounts and hardware .....
With standard AM-6 mounts and hardware .....

### Webster "Junior" marine....

Performance characteristics identical to Webster Standard, the Junior has a chrome-plated brass support column that telescopes to a fraction of the full extended height. (from 18'3" to 7'8"). It is beautifully built, weatherproof.

Webster Junior ... less mounts and hardware ....
With standard AM-6A mounts and hardware .....

### Webster Model "2700".....

Webster Model 2700 is the ideal, center-loaded antenna for the smaller power cruiser, where streamlining is essential and where space limitations impose definite restrictions on the type of antenna which may be installed practically. Highly effective, Model 2700 covers the range of 2000 to 3000 kcs. It has an overall height of 12½ feet, is completely weatherproof and corrosion proof. Fiber glass top whip is removable, brass fittings are chrome plated.

Less insulated base mounting .....

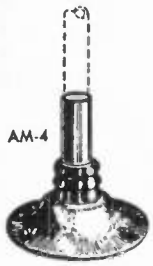
## BANDSPANNER

### multi-band mobile antenna.

An effective antenna for operation on 80-40-20-15 and 10 meter amateur bands. This is an effective, streamlined, center-loaded antenna with loading inductor wound directly on upper portion of the fiber glass support column. Moving top whip in or out, plunger fashion, makes possible exact resonance on these amateur bands. Light weight, sturdy, has stainless steel top whip, fiber glass support column and loading section.

Amateur net price ..... 24.75

## ANTENNA MOUNTS for Model 2700...



AM-4

Insulated deck mount for Model 2700. Combines excellent insulation with high mechanical strength. Thoroughly weatherproof, beautifully finished in polished chrome.

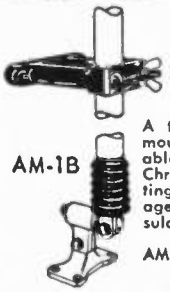
AM-4 .....

AM5A

A truly universal mount permitting full 90° movement of antenna in all directions. Also includes upper bracket for quick lock up and release of support column. Chrome plated brass parts.

AM5A, AM5B .....

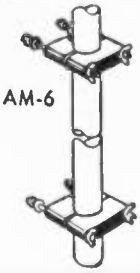
## ANTENNA MOUNTS for Junior and Standard models



AM-1B

A truly universal antenna mounting with every desirable feature. High polished Chrome plated brass fittings, excellent, long leakage path, phenolic base insulator.

AM1-B .....



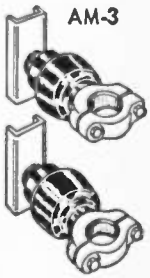
AM-6

Webster standard mounts. High impact phenolic with brass hardware. Simple, strong, sturdy. (AM-6A mounts have chrome plated hardware.)

AM-6 .....(Set)....
AM-6A .....(Set)....

Ceramic insulated mounts for high power and severe operating conditions. Long leakage path, high strength glazed ceramic. Anodized aluminum castings, holding bolts of stainless steel, brass fittings.

AM3 (Set) .....



AM-3

**WEBSTER MANUFACTURING CO., INC.**

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Net



World Radio History

# NEMCO'S advanced design auto antennas

## THE SENSATIONAL BALL-TENNA

NEMCO'S patented Universal Ball-Tenna Mount is a fast mover, proven successful for rapid turnover and greater profits. Universal mount **fits anywhere on any car,** may be installed in minutes. Super-flexible rod is completely rust-proof, styled in long-lasting lustre chrome finish.

**EASY TO INSTALL**

1. Insert base through pre-cut hole.
2. Tighten screw which holds Tenna base.
3. Mount mast at desired angle and tighten screw.

**NSF-27.** 3-section antenna with Universal Ball-Tenna mount which rotates 360°. Mast can be adjusted to sweep back at any angle. Extends from 25" to 60", with 48" lead. Individually packed in colorful display box 25 to master carton. Shpg. Wt. for master carton 25 lbs.

**NSF-26.** Same as above, except made in 2 sections. Extends from 23" to 40". Shpg. Wt. for master carton 24 lbs.

**SATURN NT-34.** Universal Ball-Tenna base surmounted by new decorative Saturn rings. Mounts anywhere on any model car, can be swept back at any angle. Made in 3 sections, extends from 25" to 60", with 48" lead. Shpg. Wt. for master carton 28 lbs.

**NT-35.** Same as above, except in 2 sections. Extends from 23" to 40", with 48" lead. Shpg. Wt. for master carton 27 lbs.

Each model individually packed 25 to master carton.

NSF-27

NT-34

- NEMCO in the forefront for style and profits.
- Constant quality control from blueprint to merchandising assures customers of superior craftsmanship.
- Dynamic styling and engineering advances compliment today's smart and powerful cars.
- Every product designed for simple installation.
- Dependable rattle-free action guaranteed.
- Lustrous triple-plated chrome finish is rust-proof.
- Admiralty brass tubing used exclusively.
- Copper braided shielding used throughout.
- Dramatic and comprehensive free merchandising aids—"sell-at-a-glance" displays.
- Colorful, compact packaging is both functional and sales-compelling.
- 36 years of integrity and service to the automotive after-market industry.

## CUSTOM-MADE O.E.M. MODELS

**ATLAS NT-71.** Custom-made O.E.M. for front fender installation on 1958 Chevrolet and entire 1957-58 Chrysler line. Suitable for rear deck installation on any flat surface. Sweeps back at 30° angle. Made in 3 sections, extends to 58", with 48" lead. Shpg. Wt. for master carton 21 lbs.

**DART NT-30.** Top cowl with base plate. Mounts anywhere on any model car. Universal Ball-Tenna rotates 360°. Mast can be adjusted to sweep back at any angle. Made in 3 sections, extends from 25" to 60", with 48" lead. Shpg. Wt. for master carton 26 lbs.

**SPARROW NT-79.** Top fender and cowl antenna mounts entirely from outside. Adjusts up to 28° angle. No tools required for replacement purposes. Made in 3 sections, extends to 58", with 48" lead. Shpg. Wt. for master carton 24 lbs.

Each model individually packed 25 to master carton.

NT-71

NT-30

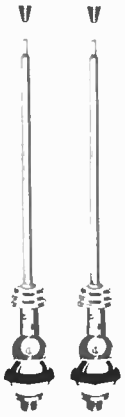
NT-79

## REAR DECK TWINS

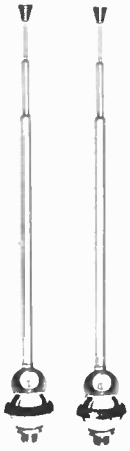
**SATURN TWINS NT-36.** Rear deck mounts, each with patented Universal Ball-tenna base, surmounted by new decorative Saturn rings. Can be swept back at any angle. Each made in 3 sections, extend from 12" to 24". 23' Hi-Q coaxial cable assembly. 6 cable clips included. Individually packed 10 sets to master carton. Shpg. Wt. 23 lbs.

**TENNA-TWINS NT-50.** Complete rear mount auto antenna kit, featuring patented Universal Ball-Tenna base. Can be adjusted to sweep back at any angle. Each made in 3 sections, extend from 12" to 24". 23' coaxial cable harness assembly and all required parts included for easy installation. Individually packed in colorful window display boxes 10 sets to master carton. Shpg. Wt. 20 lbs.

**NT-985.** Single replacement antenna for NT-50.



NT-36



NT-50

**ELECTRONICS DIVISION**

**VAN NORMAN INDUSTRIES INC.**

**MANCHESTER, NEW HAMPSHIRE**

## NEMCO'S CUSTOM-MADE DEPARTMENT

NEMCO'S CUSTOM-MADE DEPARTMENT offers extensive design, engineering and packaging to suit individual requirements. Rely on NEMCO for thorough analysis of your automotive accessory needs, and highest quality workmanship.



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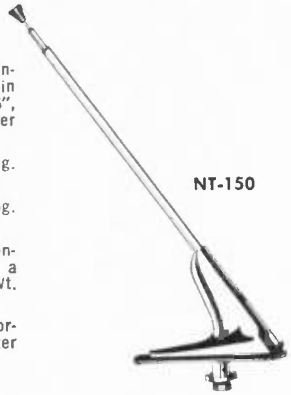
World Radio History

# NEMCO'S advanced design auto antennas

## SINGLE REAR MOUNT ANTENNA




**FALCON NT-150.** Single rear mount antenna with swept back design. Made in 3 sections, extends from 13½" to 26", with 18' lead. Shpg. Wt. for master carton 14 lbs.

**NT-151.** Same as above, less lead. Shpg. Wt. for master carton 9 lbs.

**NT-152.** Falcon Twin complete. Shpg. Wt. for master carton 20 lbs.

**NT-153.** Two Falcon antennas, one identical in operation to NT-150, one a non-operating decoy antenna. Shpg. Wt. for master carton 17 lbs.

Each model individually packed in colorful window display boxes, 10 to master carton.

- NEMCO in the forefront for style and profits.
- Constant quality control from blueprint to merchandising assures customers of superior craftsmanship.
- Dynamic styling and engineering advances compliment today's smart and powerful cars.
- Every product designed for simple installation.
- Dependable rattle-free action guaranteed.
- Lustrous triple-plated chrome finish is rust-proof.
- Admiralty brass tubing used exclusively.
- Copper braided shielding used throughout.
- Dramatic and comprehensive free merchandising aids—"sell-at-a-glance" displays.
- Colorful, compact packaging is both functional and sales-compelling.
- 36 years of integrity and service to the automotive after-market industry.

## TOP COWL MOUNT ANTENNAS COMPETITIVELY PRICED

A complete line of distinctively styled top cowl mount antennas. The line is expressly designed to be competitively priced—each model is a fast mover and typical of expert NEMCO craftsmanship. Features include lustre chrome plated finish, rattle-free and rust-resistant variable angle mount. All models mount entirely from the outside in a few minutes.

**NT-60.** Made in 2 sections, extends to 40", with 39" lead. Adjusts up to 28° angle. Shpg. Wt. for master carton 18 lbs.

**NT-65.** Same as above, except in 3 sections. Extends to 58". Shpg. Wt. for master carton. 20 lbs.

**NT-69.** Similar to above, made in 3 sections. Extends to 58", with 48" lead. Shpg. Wt. for master carton 22 lbs.

Each model individually packed 25 to master carton.

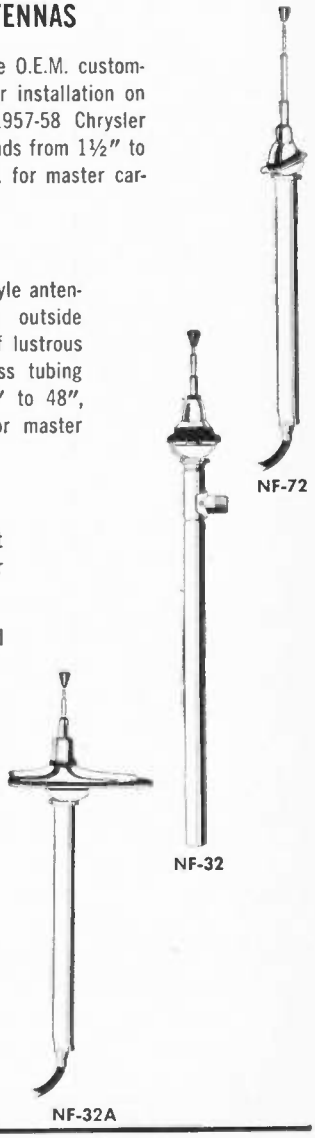
## CONCEALED STYLE ANTENNAS

**JUPITER NF-72.** Concealed type O.E.M. custom-made antenna for front fender installation on 1958 Chevrolet and entire 1957-58 Chrysler line. Made in 3 sections, extends from 1½" to 43", with 48" lead. Shpg. Wt. for master carton 27 lbs.

**MATADOR NF-32.** Concealed style antenna with original exclusive outside mount. Made in 3 sections of lustrous chrome plated Admiralty brass tubing and base. Extends from 1½" to 48", with 48" lead. Shpg. Wt. for master carton 26 lbs.

**NF-32A.** Same as above, except has base plate. Shpg. Wt. for master carton 28 lbs.

Each model individually packed 25 to master carton.




## SIDE COWL ANTENNAS

**NCS-8.** Side cowl style antenna, popularly priced and especially fast mover. Features bakelite insulators with chrome plated caps. Made in 3 sections, extends to 59", with 39" lead. Shpg. Wt. for master carton 22 lbs.

**NCP-63.** Same as above except made in 4 sections. extends to 97", with 39" lead. Shpg. Wt. for master carton 30 lbs.

Each model individually packed 25 to master carton.

NEMCO

ELECTRONICS DIVISION

VAN NORMAN INDUSTRIES INC.

MANCHESTER, NEW HAMPSHIRE

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World Radio History

# NEMCO'S advanced design auto antennas

## COMMUNICATIONS ANTENNAS

**NP-82** Police-type model with multi-angle base. Precision built of heavy duty triple chrome plated steel. Made in 4 sections, extends from 29" to 100". Inincludes 15' Hi-Q shielded cable. Individually packed 10 to master carton. Shpg. Wt. 25 lbs.

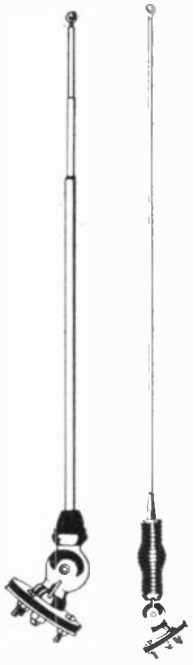
**NC-89** Heavy duty mobile antenna, featuring multi-angle base, heavy steel shock absorbing spring and 96" steel Whip mast. Uses 11' cable (NL-730), supplied separately. Individually packed. Shpg. Wt. 3½ lbs. Minimum quantity shipped is 10.

**NC-86** Multi-angle base and spring only for above. Shpg. Wt. 2 lbs.

**NC-87** 96" Whip antenna mast only for above. Shpg. Wt. 1½ lbs.

NC-86, NC-87 individually packed one to master carton. Min. quantity shipped is 10.

**NC-89 DISPLAY CARD** Free by your request, 14" x 19" Whip counter display card for merchandising that's simple and EFFECTIVE!



NP-82 NC-89

## NEMCO'S DYNAMIC "SELL-AT-A-GLANCE" DISPLAYS

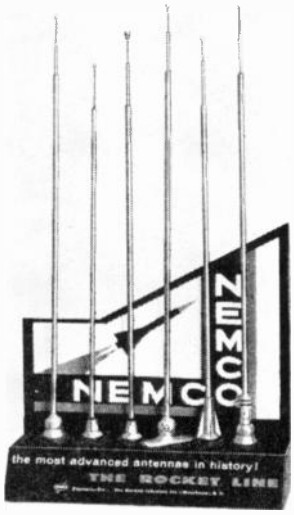
NEMCO displays offer you exceptional merchandise features. Sturdy, permanent, they are designed to be eye-catching . . . to sell for you! All displays are free; you pay only for the antennas used in them.

**ND-110** Permanent all-metal display comes pre-assembled for simplified merchandising. Contains **your** choice of six 1958 Rocket Line models. Choose from: NT-79, NT-30, NT-34, NT-35, NSF-27, NT-60, NT-69.

**ND-111** Same as above, except custom-loaded with five popular 1958 Rocket Line models: NSF-27, NT-60, NT-69, NT-30, NT-79.

**ND-115** Same as above, except custom-loaded with six largest selling antennas in the 1958 Rocket Line: NSF-27, NT-34, NT-79, NT-60, NT-69, NT-30.

Individual displays with component antennas packed one to master carton.




## "EXPLORER" BOOSTER

**NX-400** Extra profits with the sensational "Explorer" booster, replica of "outer-space" satellite. Adapted to all makes of antennas. Telescope arms actually extend. Individually packed 12 to a box. Shpg. Wt. 5 lbs.

## THE WONDER WAND

**NA-1503** NEMCO'S Universal auto "replacement" rod features solid construction and simplified installation. The "Wonder Wand" fits all types of antennas. Simply slide "Wonder Wand" over old mast stump, tighten into socket for **positive locking** with Allen wrench, which is supplied with antenna. Made in 3 chrome plated sections, extends from 25" to 60". Individually packed 25 to master carton. Shpg. Wt. 8 lbs.

## NEMCO'S STANDARD BOOSTER

**NV-99** Antenna booster features 75 MMF Condenser, shield can and pigtail assembly. Simple installation. Packed 10 to master carton. Shpg. Wt. 1 lb.

**ND-23** Attractive free counter display holds 10 NEMCO antenna boosters (Model NV-99). Display emphasizes installation ease, pigtail assembly. Packed 2 to master carton. Shpg. Wt. 2 lbs.

NEMCO

**ELECTRONICS DIVISION**

**VAN NORMAN INDUSTRIES INC.**

**MANCHESTER, NEW HAMPSHIRE**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World Radio History

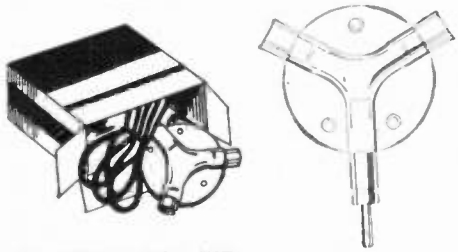
# NEMCO'S auto radio accessories

## UNIVERSAL EXTENSION LEADS

Shielded leads for adding needed length to existing lead.

| MODEL | LENGTH | SHPG. WT. |
|---|---|---|
| NL-715 | 12" | ¾ lbs. |
| NL-716 | 18" | 1 lb. |
| NL-717 | 24" | 1 lb. |
| NL-718 | 36" | 1½ lbs. |
| NL-721 | 11 ft. | 4 lbs. |
| NL-722 | 15 ft. | 5 lbs. |

Packed 10 to master carton.

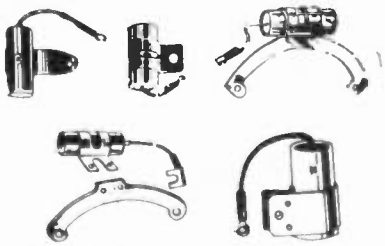


## "Y" CONNECTOR KIT

**NL-744** Comprised of model NL-743 "Y" connector, NL-721 (11 ft. lead), and 3 cable clips. Shpg. Wt. 10 lbs.

**NL-743** "Y" Connector 11 feet in length, for rear mount twin kits. Shpg. Wt. 3 lbs.

Each model individually packed 10 to master carton.



## CONDENSERS

| MODEL | DESCRIPTION | SHPG. WT. | MIN. PACKING |
|---|---|---|---|
| NS-500 | Dome light or ammeter silencer. | 3 lbs. | 50 |
| NS-501 | Heavy duty generator type, .5 Mfd. | 3 lbs. | 50 |
| NS-503 | Ford V-8 type. | 4¾ lbs. | 50 |
| NS-505 | Universal generator type. | 2½ lbs. | 25 |

Includes special bracket with hardware for use on generators requiring end installation (i.e., Fords). Without bracket, serves all other generators; suitable for all cars.

| | | | |
|---|---|---|---|
| NS-512 | Heavy duty type for effective elimination of intensive noise, 1 Mfd. | 7¼ lbs. | 50 |

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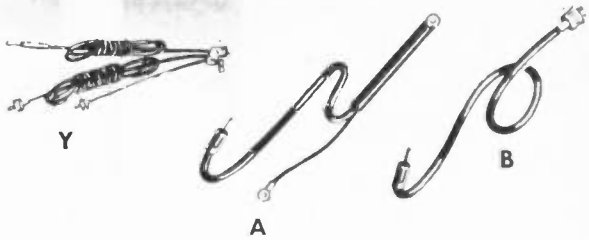
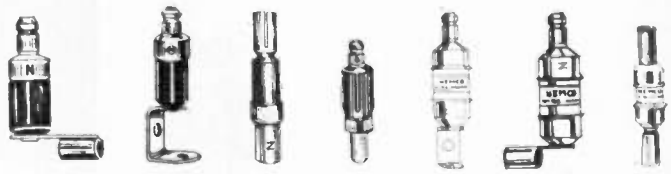
**MANCHESTER, NEW HAMPSHIRE**




## ANTENNA REPLACEMENT LEADS

| MODEL | TYPE | LENGTH | SHPG. WT. | DESCRIPTION |
|---|---|---|---|---|
| NL-727 | B | 48" | 2 lbs. | For NSF-26, NSF-27. |
| NL-736 | B | 15 ft. | 7½ lbs. | Same as above. |
| NL-730 | A | 11 ft. | 4½ lbs. | For Whip model. |
| NL-731 | A | 15 ft. | 7½ lbs. | Same as above. |
| NL-741 | Y | 23 ft. | 7½ lbs. | For rear mt. twin kits. |

Packed 10 to master carton.



## SUPPRESSORS

**CARBON TYPE**

| MODEL | DESCRIPTION | SHPG. WT. | MIN. PACKING* |
|---|---|---|---|
| NR-100 | Slip on, fits all cars. | 1 lb. | 50 |
| NR-102 | Knurled, nut & bracket design. | 1⅛ lbs. | 50 |
| NR-103 | Distributor model. | 2 lbs. | 50 |
| NR-106 | Spark plug type for all cars. | 1½ lbs. | 50 |

**WIRE WOUND**—This type of condenser does not cut down speed of car nor alter the intensity of ignition spark due to very low D.C. resistance. Sealed permanently into heat-resistant and moisture-proof bakelite cases. Winding inductance sets up high resistance against ignition noise frequencies and suppresses all interference.

| MODEL | DESCRIPTION | SHPG. WT. | MIN. PACKING* |
|---|---|---|---|
| NW-200 | For spark plug | 1½ lbs. | 50 |
| NW-201 | Slip on type | 1½ lbs. | 50 |
| NW-202 | Distributor model | 1½ lbs. | 50 |

*Figure in this colume indicates quantity which is packed into master carton.

## NOISE ELIMINATOR KITS

**CARBON TYPE SUPPRESSOR KIT**

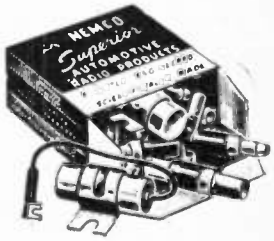
| MODEL | DESCRIPTION | Shpg. Wt. |
|---|---|---|
| NK-802 | For all 6 cylinder cars. | 6 oz. |
| NK-803 | For all 8 cylinder cars. | 7 oz. |

Each model is individually packaged for shipping.

**UNIVERSAL WIRE WOUND SUPPRESSOR KIT FOR ALL TYPES OF CARS**

| | | |
|---|---|---|
| NK-812 | For all 6 cylinder cars. | ½ lb. |
| NK-813 | For all 8 cylinder cars. | ½ lb. |

Each model individually packaged for shipping.

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World Radio History

# TenaTronics LIMITED

## it's NEW! it's DIFFERENT!

## CANNONBALL "200"

Top Cowl—Fender: The world's most wanted design, the split-ball, in a universal size to fit the original hole on any car. Replace any standard antenna, Ford or Mercury antenna, or electric antenna with this **one** model. No adapter pad needed except for high crown fenders. Triple Chrome plated, 3-section, 56" extended length, 54" Radar lead cable.

**Model 200** ..... **$5.90 List** **$3.54 Net Resale**

## *the most complete* LINE OF AUTO ANTENNAS!

### THE JET

**Top Cowl—Fender**

Unusual ball and rocker base adjusts from flat to a 35° angle, holds angle permanently. Rocker has positive grounding teeth. Chrome finished, 3-section, 56" extended length, 54" Radar lead cable.

**Model 114**
**$3.95 List**
**$2.37 Net Resale**

### CANNONBALL "100"

**Top Cowl—Fender**

Acclaimed the finest by popular demand! Won't shake loose, split-ball design locks insulator and mount together. Installs from top by one man in five minutes! Triple chrome plated, 3-section, 56" extended length, 54" Radar lead cable.

**Model 100**
**$4.95 List**
**$2.97 Net Resale**

### THE GENIE

**Top Cowl—Fender**

Installs in a flash! The Genie's unusual design makes it possible to adjust it at an angle to every type of cowl or fender contour.

**Model 117**—3-sec., 56" lgth, 54" lead
**$4.75 List**
**$2.85 Net Resale**

### CANNONBALL

**200 SP**

New from TenaTronics is this revolutionary method of packaging antennas: in a flat, see-through "skin" package. The antenna stays dust-free, stores and displays easily, catches the customer's eye. 3-section triple chrome plated, extends to 56", 54" detachable lead.

**Model 200 SP**
**$5.90 List**
**$3.54 Net Resale**

### SPORTSTER

**Side Cowl—Fender**

High quality at an attractive price. Chrome-plated tubing with screw-on connector and chrome capped insulators. 3-section, 66" extended length, 36" shielded polyethylene cable.

**Model 122**
**$5.45 List**
**$3.27 Net Resale**

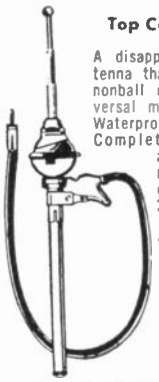
### ARISTOCRAT

**Side Cowl—Fender**

Anti-rattle construction. Triple chrome plated brass tubing. A top quality, 4-section side cowl antenna with speedy screw fittings and a 36" Radar lead cable. 92" extended length.

**Model 138**
**$7.10 List**
**$4.26 Net Resale**

### THE SPOOK



**Top Cowl— Fender**

A disappearing type antenna that includes Cannonball mount with universal mounting bracket. Waterproof construction. Completely shielded against engine noise. Triple chrome plated, 3-section, 54" lead cable. 56" extended; 4½" collapsed.

**Model 140**
**$7.95 List**
**$4.77 Net Resale**

### REPLACEMENT MAST

Universal design to fit any broken antenna mast. Simply slide the tapered ferrule of the "180" over the broken mast and tighten the set screws. Easy to install, it is a quality made mast, with BRASS ferrule, tripled plated, 3 section extending to 56". Packaged in individual plastic bag.

**Model 180**
**$3.15 List**
**$1.89 Net Resale**

## COMMUNICATIONS EQUIPMENT

### STAINLESS STEEL MASTS

High tensile strength masts bend to 90° angle, return to vertical position. Fit any standard base. With or without stud. Collet available No. 176.

| | | |
|---|---|---|
| **Model 172** | 72" mast | **$6.95 List** **$4.17 Net Retale** |
| **Model 173** | 84" mast | **$7.55 List** **$4.53 Net Resale** |
| **Model 174** | 96" mast | **$8.15 List** **$4.89 Net Resale** |
| **Model 175** | 96" mast without stud | **$7.65 List** **$4.59 Net Resale** |
| **Model 199** | 60" mast | **$6.95 List** **$4.17 Net Recale** |

### SWIVEL BASE

Adjustable split-ball with positive locking feature. Heavy steel backup plate.

**Model 168** **$4.90 List** **$2.94 Net Resale**

### BASE SPRINGS

Tightly coiled, oil-tempered heavy spring steel.

**Model 171** ....**$3.70 List** **$2.22 Net Resale**

### SWIVEL BASE and SPRINGS

Flexible cable through center of spring maintains constant electrical impedance. Oil-tempered heavy spring steel.

**Model 169** ..... standard **$7.45 List** **$4.47 Net Resale**

**Model 170** ..... heavy duty **$8.60 List** **$5.16 Net Resale**

### UNIVERSAL REPLACEMENT LEAD PACK

Handy, see-through display pack includes 54" Radar replacement lead cable plus coupling nuts to fit all popular replacement antennas and original equipment with detachable leads. Ultra-high "Q" coaxial cable.

**Model 214** ..... **$2.25 List** **$1.35 Net Resale**

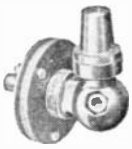
World Radio History

# ANTENNAS *Master Mobile* MOUNTS

MODEL 232

MODEL 232C (COAXIAL TYPE)

MODEL 232C



MODEL 321C

(Coaxial Type Body Mounts Optional)

232 SERIES

MODEL 140

MODEL 142

100 SERIES

SEPARATE SPRINGS FOR BUMPER MOUNTS

100W SERIES

No. 444 Bumper Mount $17.80

No. 445 Mount $7.95

No. 446 Mount $13.45

## MOUNT SPECIFICATIONS

**(All types are tapped for 3/8" Stud Fitting on Antenna End. Shipping Weight Approx. 3 lbs.)**

| | | |
|---|---|---|
| 232 | Body Mount—Double Tapered Spring—Swivel Base | $ 8.75 |
| 232C | Body Mount—Double Tapered Spring—Swivel Base Coax Conn. | 8.75 |
| 232SS | Body Mount—Double Tapered Spring—Spec. Stainless | 12.95 |
| 232SSC | Body Mount—Double Tapered Spring—Spec. Stainless—Coax Conn. | 12.95 |
| 232X | Body Mount—Heavy Duty—Double Tapered Spring—Swivel Base | 9.85 |
| 232XC | Body Mount—Heavy Duty—Double Tapered Spring—Coax Conn. | 9.85 |
| 232XSSC | Body Mount—Heavy Duty—Double Tapered Spring—Spec. Stainless—Coax Conn. | 14.95 |
| 232XSS | Body Mount—Heavy Duty—Double Tapered Spring—Spec. Stainless | 14.95 |
| 232XX | Body Mount—Extra Heavy Duty Spring | 10.85 |
| 232XXC | Body Mount—Extra Heavy Duty Spring—Double Tapered Spring—Coax Conn. | 10.85 |
| 232XXSS | Body Mount—Extra Heavy Duty Spring—Double Tapered—Spec. Stainless | 15.95 |
| 232XXSSC | Body Mount—Extra Heavy Duty Spring—Double Tapered—Spec. Stainless—Coax Conn. | 15.95 |
| 321 or 321C | Body Mount—Where no spring desired—with spec. rigid type ball joint | 7.95 |
| 140 | Bumper Mount—Double Tapered Spring | 6.95 |
| 140X | Bumper Mount—Heavy Duty—Double Tapered Spring | 7.95 |
| 140SS | Bumper Mount—Special Stainless | 9.65 |
| 140XSS | Bumper Mount—Special Heavy Duty Stainless | 10 95 |
| 140XX | Bumper Mount—Extra Heavy Duty—Double Tapered Spring | 8.95 |
| 140XXSS | Bumper Mount—Extra Heavy Duty—Stainless Steel | 11.95 |
| 142 | Bumper Mount—Less Spring, with Insulators for Direct Mounting by Series 100 Ant. or 92 Ext. and 106 Antenna | 3.95 |
| 446SS | Bumper Mount—Special Stainless—Chain Mount | 14.90 |
| 446XSS | Bumper Mount—Heavy Duty—Special Stainless—Chain Mount | 15.90 |
| 446XXSS | Bumper Mount—Extra Heavy Duty—Special Stainless—Chain Mount | 16.90 |
| 446 | Bumper Mount—Heavy Duty Spring—Chain Mount | 13.45 |
| 446L | Bumper Mount—Double Tapered Spring—Chain Mount | 12.45 |
| 446XX | Bumper Mount—Extra Heavy Duty Doubled Tapered Spring—Chain Mount | 14.45 |
| 444 | Bumper Mount—Heavy Duty Spring—Swivel Base—Chain Mount | 17.80 |
| 444L | Bumper Mount—Double Tapered Spring—Swivel Base—Chain Mount | 16.70 |
| 444XX | Bumper Mount—Extra Heavy Duty Spring—Swivel Base—Chain Mount | 18.80 |
| 444SS | Bumper Mount—Special Stainless—Swivel Base—Double Tapered Spring—Chain Mount | 20.90 |
| 444XSS | Bumper Mount—Special Stainless—Heavy Duty—Swivel Base—Chain Mount | 22.90 |
| 444XXSS | Bumper Mount—Extra Heavy Duty—Special Stainless—Swivel Base—Chain Mount | 23.90 |
| 445 | Bumper Mount—Threaded, 3/8"-24—Chain Mount | 7.95 |

### SEPARATE SPRINGS FOR BUMPER MOUNTS

| | Net |
|---|---|
| 100—Regular | $4.50 |
| 100-X—Heavy Duty | 5.50 |
| 100SS—Stainless Steel | 6.95 |
| 100XSS—Heavy Duty Stain. Steel | 7.95 |
| 100WX —Hvy. Duty w/Male stud. | 5.50 |
| 100XX—Extra Heavy Duty Spring | 6.50 |
| 100WXX—Extra Heavy Duty Spring —Male Stud on one end | 6.50 |
| 100XXSS—Extra Heavy Duty Spring —Stainless Steel | 8.95 |

| M SERIES | | C.A.P. COILS | |
|---|---|---|---|
| M-75 | $3.95 | M-2374KC | $6.75 |
| M-40 | 3.95 | M-2738KC | 6.75 |
| M-20 | 3.95 | M-2768KC | 6.75 |
| M-160 | 7.95 | M-4325KC | 5.75 |
| | | M-4507.5KC | 5.75 |
| | | M-4585KC | 5.75 |

### SILICON-CHROME WHIP ANT.

**New 9 Series—with 3/8" Thr. Studs**

| Model No. | Overall Length | Net Price |
|---|---|---|
| 9-60T | 60" | $2.97 |
| 9-72T | 72" | 3.24 |
| 9-84T | 84" | 3.30 |
| 9-86T | 86" | 3.60 |
| 9-96T | 96" | 3.75 |

**New 8 Series—without Studs**

| Model No. | Overall Length | Net Price |
|---|---|---|
| 8-60 | 60" | $2.82 |
| 8-72 | 72" | 3.07 |
| 8-84 | 84" | 3.13 |
| 8-86 | 86" | 3.42 |
| 8-96 | 96" | 3.55 |

**New Model No. 132-J Junior Body Mount**—Same design as standard No. 232 Master Mount but smaller size. Built to approved Master spec. for quality, workmanship and finish.
**Attractively priced at only** ..... $4.17

**Model No. 132-JC**—Same as above with Coax Connector ..... **Only $5.17**

**New Model No. 140-J Junior Bumper Mount**—Same design as our standard No 140 Master Mount but smaller spring—yet of same high quality construction and finish. **Net $4.17**

**Coaxial Conversion Kit**—No. 118 fits No. 232 and No. 118J fits No. 132J Models. **Net $1.00**

### WHIP ANTENNA SPECIFICATIONS

| MODEL St. Steel | Overall Length | Base Specifications | Net Price |
|---|---|---|---|
| 100-60S | 60" | Threaded 3/8" Stud to fit all Mounts | $4.95 |
| 100-72S | 72" | Threaded 3/8" Stud to fit all Mounts | 4.95 |
| 100-78S | 78" | Threaded 3/8" Stud to fit all Mounts | 5.00 |
| 100-86S | 86" | Threaded 3/8" Stud to fit all Mounts | 5.15 |
| 100-90S | 90" | Threaded 3/8" Stud to fit all Mounts | 5.20 |
| 100-96S | 96" | Threaded 3/8" Stud to fit all Mounts | 5.25 |
| 106-60S | | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.15 |
| 106-72S | 72" | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.15 |
| 106-78S | 78" | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.20 |
| 106-86S | 86" | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.35 |
| 106-90S | 90" | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.40 |
| 106-96S | 96" | Pl. End 3/16" Dia. (Fits Mod. 92 Ext.) | 4.50 |

Comb. 106-96" whip with #92 Ext. (18") gives up to 112" adj. ..... **Net $8.00**

**ORDER FROM YOUR JOBBER TODAY!**

**Master Mobile Mounts, Inc.**
LOS ANGELES, CALIFORNIA

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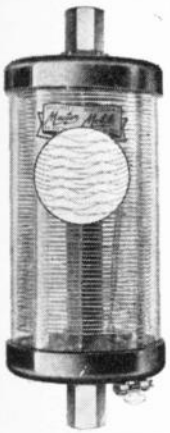
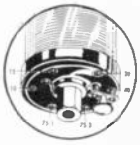
World Radio History

# ANTENNAS *Master Mobile* MOUNTS



THE ARISTOCRAT
No. 900

THE VICTORY



10-15-20-40-75 METERS

No. 999
10-15-20
METERS
ONLY

## NEW MULTI-BAND TRANS. ANTENNA COILS

New Plug-In Coils! Just plug into desired pair of jacks and presto! . . . your coil is ready for operation on the desired band. No switches, no sliding contacts, no loose connections. Built and tested for maximum resonance.

- Rigidly tested and engineered—found to have a "Q" of 525
- Handles 500 Watts input
- Operates into a 52-ohm cable
- Positive contact—noisefree, trouble-free operation
- Weathersealed
- Ruggedized construction
- Factory pre-tuned—no adjustment is necessary
- Higher efficiency—lower loss

YOUR CHOICE **$14.95**

## NEW SLIM-JIM

All-Band
BASE LOADING
Antenna Coil
For 10, 11, 15, 20, 40, 80 Meters.

96" S.S. Whip included. Positive locking action whip provides accurate and tight contact wherever set. Just slide in or out to final loading point and lock whip into position.

No. B-1080
**$17.95**

## THE GREAT NEW ADVANCEMENT IN VARIABLE ANTENNA COILS!

HY "Q" construction with wider spacing of turns for high frequency bands. Use as center or base loaded antenna with 60" whip.

New! . . .
Silver-Plated Roller with Positive Action, Stay-Put Contact
No. 333
MASTER MIGHTY MIDGET
For 40-20-15-11-10 Meters
Net **$9.95**

No. 750
MASTER DELUXE ALL-BANDER

Covers 10 thru 75 and all intermediate frequencies.

Silverplated single turn contact, positive spring. Eccentric cam contact, easy selection of turn.

Automatic lock prevents damage to coil.

Net **$14.95**

## Ultra-Hi "Q" COILS

FOR 80-40-20 & 15, METERS

After many years of experimentation, here is the coil with the highest "Q" ever obtained. Tested and found to have a "Q" of well over 515. Use with 36" base section, 60" whip.

- Ruggedized construction • Greater efficiency • Precision made • 2¾" Diameter

ANY BAND . . . AMATEUR

NET EA.
**$5.25**

## MOBILE BASE MOUNT

Engineered for Greater Performance!

MMW-3 APS

Latest and greatest is this new design in universal swivel bases, incorporating the last word in modern design for strength and service.
Easy one man installation, no special tools needed. Mounts watertight on curved or flat surface. Mounting Template provided. ⅜-24 thread mounting hole for whips and antennas.

**Model MMW-3AE** ..... $6.95
High Gloss Ebony Finish
**Model MMW-3AP** ..... $7.95
High Gloss Polished Finish
**Model MMW-3AES** ..... $8.95
Ebony Finish with Stainless Steel Hardware
**Model MMW-3APS** ..... $9.25
Polish Finish with Stainless Steel Hardware

NEW... ..... *Master Mobile*

NOISE-FREE
## E-Z-OFF
ANTENNA CONNECTOR

Connect or remove your loading coils, whips or mounts in a jiffy. No wrenches, pliers or screwdrivers needed. High-grade stainless steel throughout.

- Precision made
- Maximum efficiency
- Positive lock — will not corrode

AMATEUR NET $2.95
Model No. E-Z-295

| ULTRA HY "Q" C.A.P. COILS | | Net |
|---|---|---|
| UH "Q" 2374 KC. | Additional HY "Q" C.A.P. Coils to be used with HY "Q" C.A.P. Antennas according to frequency desired. These coils are interchangeable. Other freq. coils priced upon request. | $ 8.95 |
| UH "Q" 2738 KC. | | 8.95 |
| UH "Q" 2768 KC. | | 8.95 |
| UH "Q" 4507.5 KC. | | 7.95 |
| UH "Q" 4585 KC. | | 7.95 |
| UH "Q" 4325 KC. | | 7.95 |
| UH "Q" 160 Meters | ..... | 12.95 |
| UH "Q" 2251 KC. | ..... | 12.95 |

Automatically tunes the band from the driver's seat!

Available in 6 (2495-6) and 12 (2495-12) volt models.

## MASTER MATCHER
WITH BUILT-IN FIELD STRENGTH METER
No. 2495-6 and No. 2495-12

Motor driven variable inductance controlled by a switch from the operating position in the driver's seat enabling him to tune in the mobile antenna to the exact resonant frequency. Just flip the switch and presto! . . . the Master-Matcher goes to work! QSY in any particular band without jumping in and out of car to adjust antenna loading coil. All guesswork is eliminated with the Master-Matcher and the built-in FIELD STRENGTH METER. Automatic panel light indicates when the roller is at minimum inductance position. With the Master-Matcher, maximum efficiency is possible with minimum of time and effort.

Complete **$24.95** Amateur Net

## HEAVY DUTY MOBILE SPRINGS

Heavy duty flexible mounting spring mounts on the base and holds the antenna. Special flexible "give" spring prevents sharp impacts and breakage. Maintains vertical antenna position under normal wind loads.

⅜-24 tapped hole for antenna mast. ⅜-24 stud for antenna base. 5" h. Tightening wrenches supplied.

**Model MMW-7** ..... $4.50
Cadmium plated with black painted ends. Lockwasher included.
**Model MMW-7HC** ..... $5.50
Heavy Cadmium plated for extra protection. Lockwasher included.
**Model MMW-7SS** ..... $8.95
Deluxe—Stainless Steel spring high quality appearance. lockwasher included.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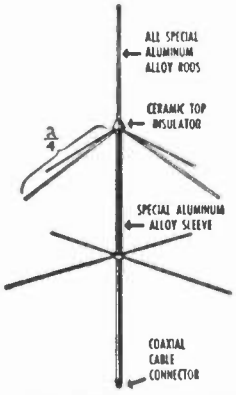
# ANTENNAS *Master Mobile* MOUNTS

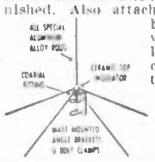
## 2 METER ANTENNAS — FIXED • MOBILE

### GROUND PLANE ANTENNA

**Model 300—Master DeLuxe . . . NEW! . . .** brings in that DX. Outperforms any type of vertical dipole. "Drooping" Type Ground Plane plus four straight radials to give a low angle of radiation for general coverage, an almost perfect circle radiation pattern. Ideal for CD and defense nets. Covers complete Amateur and with Broad Band char. Matches 52 ohm coax cable through threaded coax fitting at end. Straight radials are adjustable (up or down) to eliminate standing waves on trans. lines. For medium or low-powered trans. Sturdily built of finest alloys to withstand corrosion, high winds and extreme icing. With 36" length of ¾" pipe for mounting purposes. **Model 300 Amateur's . . Net $12.95**
**MB-1—Mounting Bracket Net 1.00**




**Model GP-4** — Four "Drooping" Radials for perfect match to 52 ohm coax cable. Complete amateur band coverage. Specify other frequencies. Attaches to Mast with U-Bolts. (U-Bolts and Mounting Brackets furnished. Also attachable to side of building. Sturdy, with special alloys, to withstand corrosion and extreme weather.



**MODEL GP-4**
**Amateur's Net $5.95**

### TWO METER COAX ANTENNAS

**No. 214—MASTER DELUXE . . .** ruggedly constructed, vertically polarized, frequency range 140 to 170 MC. Completely waterproofed. Highly polished chrome enhances appearance of any vehicle. Furnished with 10 ft. of 72 Ohm Coax Cable.
**Type 1**—On side with 2 brackets furnished. **$15.95**
**Type 2 — Master Mount (No. 232X or 140X)—** Mounts sold separately. **Complete $17.45**
Adjustable mtg.—adjusts to 17".

### 2 METER STANDARD MODEL

**No. 114 COAX VHF ANTENNA** — At a popular price! For OPEN TYPE VEHICLES using 140 MC to 165 MC. Mounts any convenient place with standard Master Mounts. Baked enamel finish. With 10 ft. Coax Cable and 18" Adjustable Section.
**Net, Only $9.95**

232X
Sugg'd Mtg.

**No. 613—NEW IMPROVED MASTER VHF ROOF TOP ANTENNA.** This new high performance antenna features an improved type positive lock coaxial connector. Designed for police, fire, taxi cabs and amateurs using 140 MC to 165 MC. Stainless steel wire with threaded fitting. Easily changed without disturbing mounting. Comes with 10 ft. coax cable . . . . . **Net $4.95**

**No. 113**—MOBILE ROOF TOP ANTENNA without De Luxe Connections . . . . . **Net 3.96**

**No. 117**—Extra Antenna for No. 113 and No. 114 . . . . **Net .97**

**No. 116**—Extra Antenna for No. 214 and No. 613 . . . . **Net 1.70**

## MICRO-Z-MATCH

### MICROMETER IMPEDANCE MATCHING INDUCTANCE for MOBILE ANTENNAS

Mounts Sold Separately

Master-Matcher Sold Separately

Mounts directly on Master-Matcher with Jan M-358 or Amphenol 83-1T "Tee" fitting.

Can be mounted directly on coax fitting on any Master Mobile antenna mount.

- Used on all bands with any type coaxial cable to match any mobile antenna.
- Roller coil construction with rear cap rotating the inductance within the case. 4 microhenries maximum inductance.
- Silver plated coil and roller contacts for low loss.
- Micrometer type calibration permits infinite adjustment and positive resetting.
- Adjustability — Easily adjustable for minimum standing wave ratio (1:1).

Without coax adapter kit Micro-Z-Match may be connected between antenna connector and ground connection.

No. 825
Complete with Coax Adp. Kit
Net
**$7.95**

### CITIZEN BAND — 2 METER

**No. 460** with 10' Coax (RG 58/U) **$7.95**

**No. B-20 $1.95**

**No. CB-19 $7.50**

New improved Master antennas for high performance. Stainless steel and chrome plated brass. Self-tapping threads. Easy to install with one 7/16" hole.

### CIVIL DEFENSE ANTENNAS

Freq. Range 220-225 MC

Master deluxe antennas, ruggedly constructed, vertically polarized. Completely waterproofed, highly polished chrome. Furnished with 10' of 72 ohm coax. Special designed positive action rubber suction cups for easy mounting . . . **No. 220-3 . . . $15.95**

Available in Type 1 . . . . . **$15.95**
(Similar to No. 214)

Available in Type 2 . . . . . **$17.45**
(Similar to No. 214)

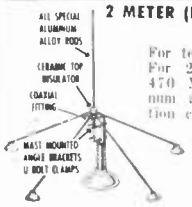
## EXTENSIONS — with ⅜"-24 thread, fits all mounts and coils

Model 92 — Model 90 — Model 88 — Model 115

| EXTENSIONS | | | Net |
|---|---|---|---|
| 88 | 36" | Lower Section for all Band Antennas | $4.95 |
| 88C | | In Chrome Plate | 5.25 |
| 90 | 26" | Extension for 100 Series Whips | 3.95 |
| 92 | 18¼" | Extension for 106 Series Whips | 3.50 |
| 94 | 36¼" | Extension for 106 Series Whips | 4.95 |
| 115 | 36" | Extension for Models No. 114 and No. 214 | 4.25 |
| 12* | 12" | Base Section for AB Antenna (baked enamel) | 2.95 |
| 12C* | 12" | Chrome Base Section for AB Antenna | 3.50 |
| 18* | 18" | Base Section for AB Antenna (baked enamel) | 3.25 |
| 18C* | 18" | Chrome Base Section for AB Antenna | 3.75 |
| 24* | 24" | Base Section for AB Antenna (baked enamel) | 3.95 |
| 24C* | 24" | Chrome Base Section for AB Antenna | 4.50 |
| 88* | 36" | Base Section for AB Antenna (baked enamel) | 4.95 |
| 88C* | 36" | Chrome Base Section for AB Antenna | 5.25 |

*NOTE: Base Sections for use with ALL-BANDER Antenna Coils.

### 2 METER (DROOPING TYPE) GROUND PLANE GP4-3




For temporary vehicle installations. For 2 meter, 220 MC, 450 to 470 MC. Made of special aluminum alloy. 5 positive action suction cups permit fast mounting on all vehicle rooftops. 4 drooping radials for perfect match to 52 or 72 ohm coaxcable. Spec. Freq. when ordering.

**$8.95**

### GROUND PLANE (Drooping Type) FOR 6 METERS

**No. MGP-6**

Aluminum alloy tubing, coax cable connector. For medium or low powered trans.

**$14.95**

**No. 10-H Tenahold**
Net $1.00

### NEW MASTER FLEX-'R No. 711

Designed to relieve stress and strain and prevent damage that could be transmitted to the loading coil.

**$1.95**

**Master Mobile Mounts, Inc.**
LOS ANGELES, CALIFORNIA

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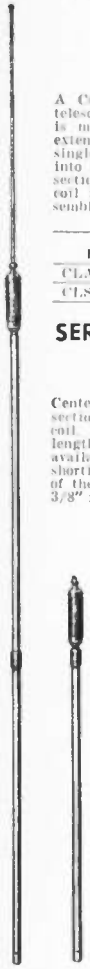
Net



World Radio History

# PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES



Series C

## SERIES C CENTER-LOADED MARINE ANTENNAS

A Center-Loaded Collapsible type Antenna, consisting of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section, giving a total extended length of about 19 feet. This Antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 feet. The sections are of seamless aluminum, or stainless steel and the coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof coating.

| No. | Type | Base O.D. | Base I.D. | Wt. Lbs. | List Price |
|---|---|---|---|---|---|
| CLA-619 | Aluminum | 1.000" | .834" | 5 | $ 45.00 |
| CLS-1119 | Stainless | 1.000" | .900" | 7 | 110.00 |

## SERIES B CENTER-LOADED ANTENNAS FOR MOBILE & MARINE USE

Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any 3/8" x 24-thread mounting.



| NO. | FREQ. | PRICE |
|---|---|---|
| BXS-14 | 14,000 kc. (20M.) | $12.50 |
| BXS-23 | 2374 kc. (CAP) | 15.00 |
| BXS-31 | 3105 kc. (APT) | 15.00 |
| BXS-38 | 3800 kc. (75M) | 15.00 |
| BXS-43 | 4325 kc. (CAP) | 15.00 |
| BXS-46 | 4585 kc. (CAP) | 15.00 |
| BXM-25 | 2000 to 3000 kc. (Marine) | 20.00 |
| (Same as BXS but with Spring) | | |
| BSS-14 | 14,000 kc. (20M.) | 22.50 |
| BSS-23 | 2374 kc. (CAP) | 25.00 |
| BSS-31 | 3105 kc. (APT) | 25.00 |
| BSS-38 | 3800 kc. (75M.) | 25.00 |
| BSS-43 | 4325 kc. (CAP) | 25.00 |
| BSS-46 | 4585 kc. (CAP) | 25.00 |
| BSM-25 | 2000 to 3000 kc. (Marine) | 30.00 |

## SERIES B COILS

Premax also supplies the Series "B" Coils in the standard frequencies above.
List Price ..... $9.00 ea.

Also available in special frequencies

Extra Charge ..... $3.50 ea. net

## CIVIL DEFENSE, PUBLIC SERVICE, FIRE & POLICE ANTENNAS CAR TOP OR MOBILE ANTENNAS

FCDA is insisting on adequate communications in Civil Defense and cities everywhere are installing RACES equipment that calls for outstanding ground plane and UHF Antennas. Premax meets this need with several profitable numbers to cover this new market.

TYPE CD-11 Series — PERMANENT
TYPE CD-21 Series — EMERGENCY TYPE

| NO. | FREQ. | PRICE |
|---|---|---|
| CD-112 | 108 to 120 mc. | $4.00 |
| CD-114 | 144 mc. | 4.00 |
| CD-115 | 152 to 162 mc. | 4.00 |
| CD-212 | 108 to 120 mc. | 2.80 |
| CD-214 | 144 mc. | 2.80 |
| CD-215 | 152 to 162 mc. | 2.80 |

CD-114

CD-214

TYPE BX TYPE BS

## GROUND PLANE ANTENNAS FOR POINT-TO-POINT USE

For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard 1/2" pipe. Cable carries down thru pipe.

| NO. | FREQ. | USE | PRICE |
|---|---|---|---|
| GP-312 | 120 mc. | For aircraft and CAP. | $8.00 |
| GP-314 | 140 mc. | For 2 meter and CD. | 8.00 |
| GP-315 | 150 mc. | For police and taxi | 8.00 |

GP-314

## PREMAX ADJUSTABLE GROUND PLANE ANTENNAS 20-60 mc

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

| | | |
|---|---|---|
| GP-430 | Adjustable 20-40 mc. | $50.00 |
| GP-450 | Adjustable 40-60 mc. | 40.00 |

GP-430

## MOBILE MOUNTINGS For 1/4" Dia. Whips or any 3/8"-24 Male Thread

Type CA

### CA BUMPER MOUNTING

"Chain Style — clamps on any bumper with 1" clearance; no drilling; theft-proof.

Price ..... $11.00

Type SA-1

### SA-1 SPRING ADAPTER

(similar to RS-2 which can be attached to Type K, L, or NA mounting. Ht. 4-3/4". Dia. 1-5/8"

Price ..... $12.50

Type R-2

### R-2 UNIVERSAL MOUNTING

Solid Aluminum split-ball can be adjusted to any angle. Has shielded coax connection.

Price ..... $12.50

Type RS-2

### TYPE RS-2

Similar to R-2 except has spring as shown under SA-1.

Price ..... $23.00

Type NA-1

### TYPE NA-1

Bumper mounting with ceramic cone insulator and steel bracket.

Price ..... $8.50

Type L-1

### TYPE L-1

Bumper mounting, 2 pairs ceramic cone insulators with steel bracket. 10" adjustment.

Price ..... $14.00

Type K-1

### TYPE K-1

Bumper mounting, ceramic cone insulators, cadmium-plated brackets; 10" height adjustment.

Price ..... $9.00

Type F

### TYPE F

30° adjustable mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.

Price ..... $13.50

Type V

### TYPE V

Thru-deck mounting designed for Style BX and BS Center-Loaded Marine Antennas. White porcelain cones with a maximum opening for 1-1/2" deck. Stud threaded 7/16"-24.

Price ..... $9.00

**PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., NIAGARA FALLS, N. Y.**



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World Radio History

# PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

## VERTICAL TELESCOPING ANTENNAS
## PREMAX STAINLESS STEEL ANTENNAS

Premax stainless steel antennas, fully telescoping and adjustable, have a locking device that holds the sections firmly at any desired point insuring a perfect electrical contact. Made of a high grade polished stainless steel tubing, hard-drawn to an extremely high tensile and yield strength, they are well suited for the most severe strains from high seas or winds.

## PREMAX ALUMINUM ANTENNAS

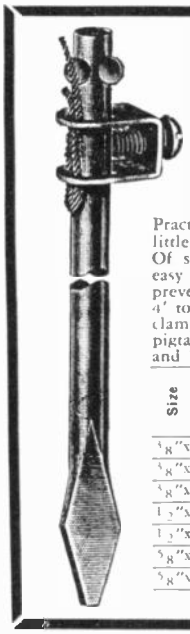
Premax aluminum antennas are lightweight, corrosion resistant and have adequate strength to meet practically all needs for marine, commercial and mobile installations that demand convenience in erecting and dependable performance. They are constructed of highly polished, specially tempered aluminum tubing engineered to withstand wind velocities up to 60 miles per hour.

## PREMAX STEEL ANTENNAS

Inexpensive, popular, fully adjustable telescoping steel antennas for commercial, amateur, civil defense or other installations, made of high-tensile copper-nickel steel tubing, are heavily cadmium-plated. A positive locking device insures proper electrical contact between sections. *Not recommended for marine use on salt water.*

## SPECIFICATIONS & DESCRIPTIONS OF TELESCOPING VERTICALS

| NO. | DESCRIPTION | EXTD. | COLL. | BASE O.D. | BASE I.D. | WGT. | LIST PRICE |
|---|---|---|---|---|---|---|---|
| SS-1118 | 3-Sec. Stainless | 18'4" | 6'3" | .750" | .680" | 6 | $ 90.00 |
| SS-1124 | 4-Sec. Stainless | 24'3" | 6'3" | 1.000" | .900" | 9 | 135.00 |
| SS-1130 | 5-Sec. Stainless | 30'0" | 6'4" | 1.250" | 1.120" | 13 | 185.00 |
| SS-1135 | 6-Sec. Stainless | 35'7" | 6'4" | 1.500" | 1.370" | 19 | 255.00 |
| AL-312 | 2-Sec. Aluminum | 12'4" | 6'4" | .500" | .334" | 1½ | 15.00 |
| AL-518 | 3-Sec. Aluminum | 18'5" | 6'4" | .750" | .584" | 3 | 25.00 |
| AL-324 | 4-Sec. Aluminum | 24'4" | 6'4" | 1.000" | .834" | 5 | 35.00 |
| AL-530 | 5-Sec. Aluminum | 30'0" | 6'5" | 1.250" | 1.084" | 7 | 55.00 |
| AL-535 | 6-Sec. Aluminum | 35'8" | 6'5" | 1.500" | 1.310" | 12 | 75.00 |
| 112-M | 2-Sec. Steel | 11'8" | 6'0" | .656" | .556" | 4 | 10.00 |
| 318-M | 3-Sec. Steel | 17'3" | 6'2" | .875" | .775" | 7 | 16.00 |
| 224-M | 4-Sec. Steel | 22'9" | 6'3" | 1.063" | .963" | 11 | 22.00 |
| 130-M | 5-Sec. Steel | 28'3" | 6'4" | 1.250" | 1.150" | 15 | 28.00 |
| 136-M | 6-Sec. Steel | 33'9" | 6'5" | 1.500" | 1.400" | 20 | 36.00 |



## PROTECT YOUR EQUIPMENT WITH A PREMAX GROUND ROD!

Practical and efficient Ground Rods, costing so little that it doesn't pay to fuss with makeshifts! Of smooth, hard-drawn steel, chisel-pointed for easy driving and heavily copper-plated for rust prevention and to insure clean electrical contact. 4' to 8' lengths in ⅛", ½" and ⅝" with screw clamp (illustrated) or in 6' and 8' lengths in pigtail wire, drilled hole or plain style, ½" and ⅝" only.

| Size | Screw No. | Clamp List | Hole No. | Hole List | Pigtail No. | Pigtail List | Plain No. | Plain List |
|---|---|---|---|---|---|---|---|---|
| ⅛"x4' | J-64 | $ 80 | | | | | | |
| ⅛"x6' | J-66 | 110 | | | | | | |
| ⅛"x8' | J-68 | 165 | | | | | | |
| ½"x6' | G-86 | 210 | H-86 | $200 | P-86 | $225 | X-86 | $180 |
| ½"x8' | G-88 | 250 | H-88 | 240 | P-88 | 265 | X-88 | 220 |
| ⅝"x6' | G-106 | 300 | H-106 | 290 | P-106 | 315 | X-106 | 265 |
| ⅝"x8' | G-108 | 380 | H-108 | 370 | P-108 | 395 | X-108 | 345 |

(Prices are per 100 rods, bundled in 25s)

## BASE MOUNTINGS FOR VERTICALS

### TYPE 1 BASE INSULATOR

Heavy-duty type Base Mounting Insulator with compression rating up to 10,000 lbs. Has wet-process brown-glazed porcelain cones. Available in galvanized malleable iron, plain brass and chrome-plated brass, in rigid-post, hinged-post. Ht. to post base, 7 to 9 inches. Wt. 8 lbs.

*List Price* ..... $52.00 to $105.00

### TYPE 6 BASE INSULATOR

For marine, mobile unit, roof-top or tower. Lead-thru construction permits connections below deck. Flanges 6" in diameter with 6 bolts on a 5" circle. For ½" to 3" deck. Available in galvanized malleable iron, only, except on special order. Rigid post, and hinged post styles. Ht. from flange to post base, 3" to 5". Wt., 11½ lbs.

*List Price* ..... $78.00 to $85.00

## STANDOFF INSULATORS

### TYPE 10-S

A heavy-duty Insulator with chrome-plated brass base and head caps—regular or hinged clamps. Insulator is brown-glazed porcelain in extra heavy style. Ht. to center of clamp, about 4½". Wt., 3 lbs.

*List Price* ..... $60.00 to $72.00

### TYPE 13-S

Heavy, rugged cast caps and base plates in aluminum, or chrome-plated brass. Heavy brown-glazed porcelain insulator, 3 inches in diameter. Ht. to center of clamp, 4¾". Wt., 2½ lbs.

*List Price* ..... $14.00 to $26.00

## MOBILE WHIP ANTENNAS

### TAPERED STAINLESS — TYPE ES

Solid one-piece taper-ground Whips, ¼" at base tapering to 3/32" at tip with ball top. High-tensile stainless steel fabricated by special formula, comparing favorably with the best spring steel, yet having excellent corrosion-resistant properties.

### TAPERED CHROME — SILICON — TYPE EC

Same as above only fabricated from chrome-silicon steel of exceptionally high-tensile strength and uniformity of temper, with high fatigue values developed by special heat treatment during fabrication.

### SECTIONAL STAINLESS — TYPE AS

A solid step-tapered antenna with a ¼" base and ⅛" tip made up of sections of varying diameters securely and permanently joined. Constructed of polished hard-drawn stainless steel, corrosion-resistant.

### SECTIONAL CAD-PLATED STEEL — TYPE AC

Same description as above except built of high carbon content steel, heat treated and oil-tempered, with a heavy cadmium-plated finish.

| NO. | LENGTH | PRICE | NO. | LENGTH | PRICE |
|---|---|---|---|---|---|
| ES-760 | 60" | $6.50 | AS-160 | 60" | $5.50 |
| ES-772 | 72" | 7.00 | AS-172 | 72" | 5.50 |
| ES-784 | 84" | 7.50 | AS-184 | 84" | 6.00 |
| ES-796 | 96" | 8.00 | AS-196 | 96" | 6.50 |
| EC-660 | 60" | 6.50 | AC-160 | 60" | 4.00 |
| EC-672 | 72" | 7.00 | AC-172 | 72" | 4.00 |
| EC-684 | 84" | 7.50 | AC-184 | 84" | 4.25 |
| EC-696 | 96" | 8.00 | AC-196 | 96" | 4.50 |

**ALL PRICES SHOWN ARE LIST PRICES SUBJECT TO USUAL COMMERCIAL DISCOUNTS.**
**PRICES EFFECTIVE AT TIME OF PRINTING AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

**PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., NIAGARA FALLS, N. Y.**

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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**



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★ ROTATORS
★ VIBRATORS
★ AUTO AERIALS
★ TV ANTENNAS
★ POWER SUPPLIES

STANDARD OF COMPARISON — RADIART

# THE RADIART CORPORATION
CLEVELAND 2, OHIO

# AUTO AERIALS

## MODEL 8 BE
## SPEE-DEE

- Exclusive "Static Muffler" Ball
- 18-8 Stainless Steel Rod
- "Super-Chrome" Finish On High Tensile Strength Brass Mast
- SPEE-DEE ASSEMBLY
- Extra Long Fill 42" Polyethylene Lead-In

Here is the outstanding new auto aerial that has everything. Full 30 degree mast adjustment so that it fits all body and fender contours. And the new installation design makes it a snappy 1, 2, 3 assembly without even looking under the fender.

### DELUXE MODEL 4BX3

Three section design extends to 59½".

- Brilliant long lasting chrome finished mast and spacer cap
- Full length quality 36" polyethylene waterproof lead-in
- Only one half inch mounting hole required

### SUPERIOR STANDARD MODEL 4BX2

Two section design extends to 43".

### TWO INSULATOR SIDE MOUNT TYPES

Sturdy high quality construction throughout. Brilliant chromed brass masts with stainless steel rods. Wedge type adaptor furnished, with 36" polyethylene lead-in.

MODEL 2S, 43" extended, 2 sections. 10 per master carton, 9 pounds

MODEL 3S, 63" extended, 3 sections. 10 per master carton, 13¼ pounds

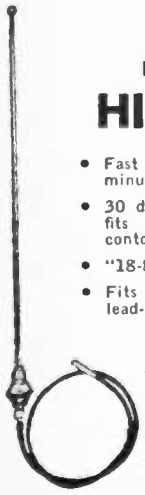
MODEL 4S, 92" extended, 3 sections. 10 per master carton, 17½ pounds

### DISAPPEARING MOUNT

A handsome addition to any car. Collapses to 6 inches and extends to 60 inches. Fits either fender or cowl and features the exclusive "O" ring seal around the mast that prevents water from entering inside the aerial. Only one ⅜" mounting hole required.

MODEL 3D, 60" extended, 3 sections, 2 pounds each

10 per master carton weighing 19 pounds.



### MODEL 8 BD
## HI • BALL

- Fast installation . . 5 minutes
- 30 degree mast adjustment fits all body and fender contours
- "18-8" Stainless steel rod
- Fits any car radio, bayonet lead-in adaptor included

A favorite with dealers and service-men everywhere. Fast assembly and outstanding performance make it a great value.

Also Model 8BDL with 48" lead-in.

## BATTERY—ELIMINATORS

Here is the ideal compact, efficient unit for testing and demonstrating auto radios. Smooth DC power, 6 or 12 volts, from the 110 volt 60 cycle AC line.

| Model | Output | Class |
|---|---|---|
| 110B6 | 6A at 12V or 10A at 6V | H |
| 110B12 | 10A at 12V or 20A at 6V | H |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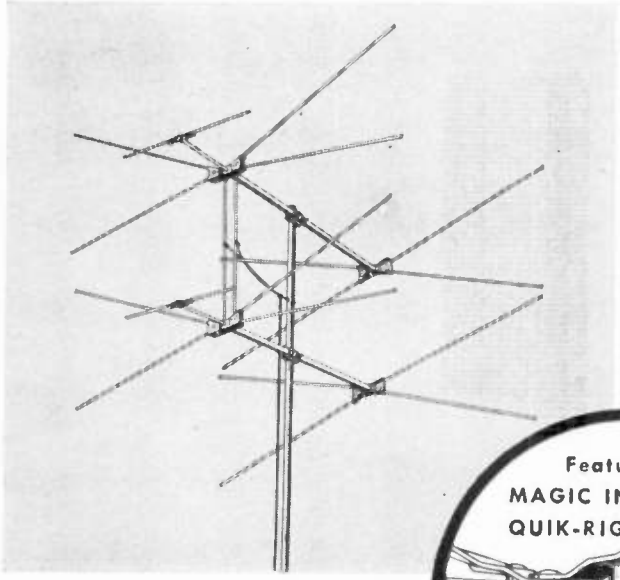
World Radio History

- ROTATORS
- VIBRATORS
- AUTO AERIALS
- TV ANTENNAS
- POWER SUPPLIES

THE **RADIART** CORPORATION
CLEVELAND 2, OHIO

# RADIART TV ANTENNAS

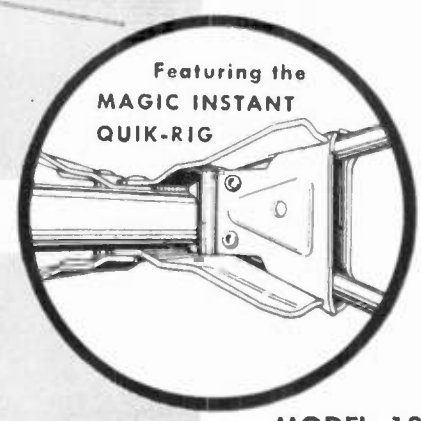


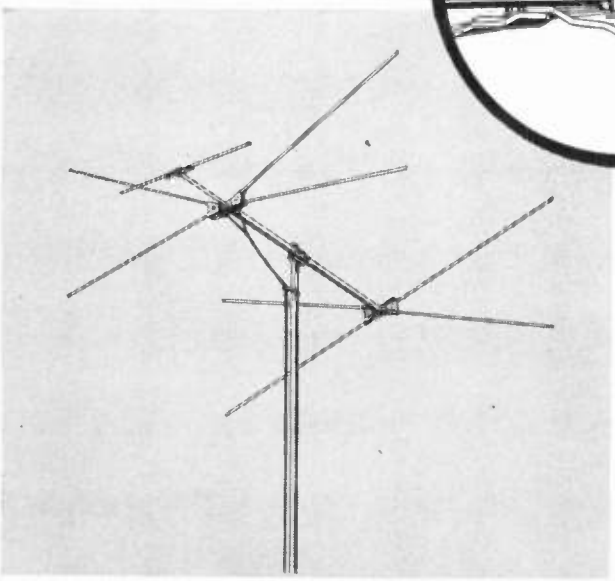
## MODEL 280SW (shown left)

- Double stacked array PLUS high frequency elements
- All aluminum construction
- Mounts on any mast up to 1¾" O.D.
- QUICK-RIG design for speedy one man installation
- Complete with stacking bars, nothing else to buy

## MODEL 280

QUICK-RIG double stacked "Lazy-X" conical



## MODEL 180SW (shown left)

Same as above only not double stacked, a single bay array

## MODEL 180

QUICK-RIG 8 element "Lazy-X" conical

LZX 200—8 element conical completely assembled, stacked array
LZX 100—single array
LZX 201—8 element conical unassembled, stacked array
LZX 101—single array
LZX 250—6 element conical unassembled, stacked array
LZX 150—single array
LZX 251—6 element conical unassembled, stacked array
LZX 151—single array

## ACCESSORIES

### AK-85 CHIMNEY MOUNT

The famous "Spec-Dee" chimney mount, faster and sturdier.

### TA-5 LIGHTNING ARRESTOR

Here is the midget that does the work of a giant. Many features of superiority.

### MODEL UAK-4 FILTER NETWORK

Here is the most efficient network . . . not just a circuit . . . but an electronic device.

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World Radio History

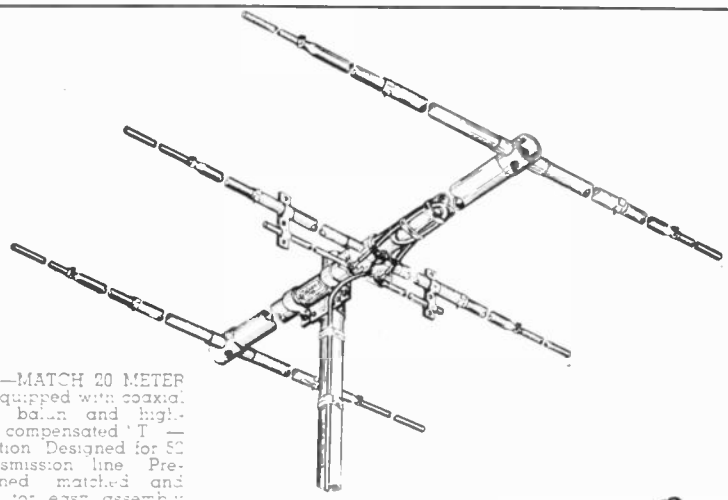
**ANTENNA DEVELOPMENT & MANUFACTURING**
**Asbury Park**

**Telrex LABS.**
**TV & COMMUNICATION ANTENNAS**

**ANTENNA DESIGN ENGINEERS SINCE 1921**
**New Jersey**

*Designers and Manufacturers of*

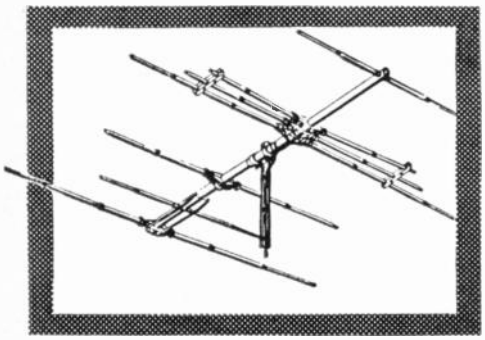
# COMMERCIAL SERVICE "BEAMED-POWER" ARRAYS



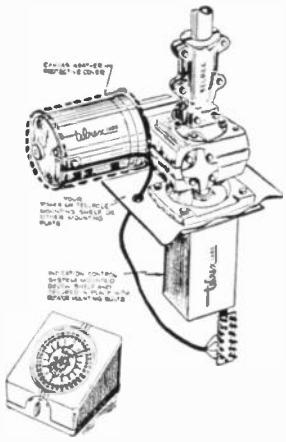
NEW "T"—MATCH 20 METER ARRAY—Equipped with coaxial half-wave balun and high-efficiency, compensated "T"—match section. Designed for 52 ohm transmission line. Precision tuned, matched and calibrated for easy assembly at your site.

**Telrex is equipped to design and supply to our specifications or yours, Broad-band or single frequency, fixed or rotary arrays for communications, FM, TV, scatter-propagation, etc.**

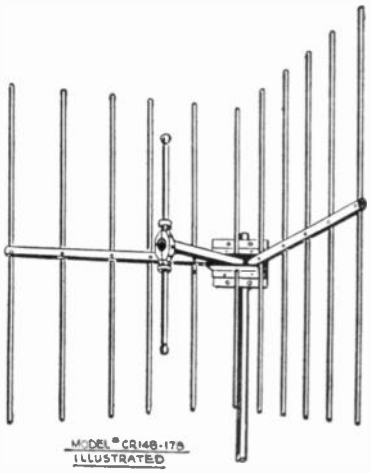
**Consultants and suppliers to communication firms, universities, propagation laboratories and the Armed Forces.**



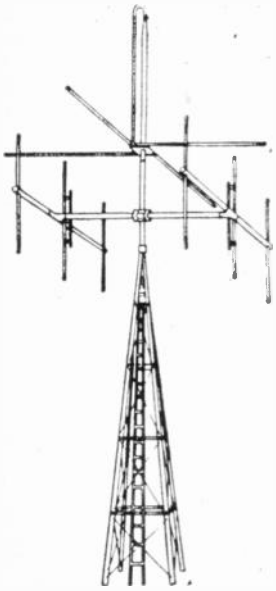
TELREX Model TB-7E. It's the only no-compromise one-transmission line "Tri-Band"® providing satisfying top-man-on-the-frequency results on 3-bands.



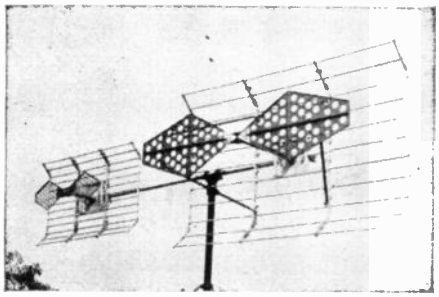
TELREX Heavy-Duty Rotator and Direction-Control System Model 200RS. Specifically overdesigned for utmost reliability and high torque (1200 inch-lbs.) in hurricane force winds. Indication system selsyn controlled, directly coupled to output shaft of rotator. Highly responsive relay switching system assures low cost, highly efficient service.




NEW CORNER REFLECTOR—High-gain, broad-band, uni-directional arrays for the 70 to 960 Mc. range. Excellent gain and stable operation under severe weather conditions. Stability results from inherent broad-band characteristic of the design.



ILLUSTRATED—Unity gain broad-band, ground-plane antenna for omni-directional general coverage, mounted atop mast supporting Twin Yagis producing high gain, uni-directional pattern.
ALSO AVAILABLE — Rotator and indication Systems, Towers, Support Masting, Accessories.



Broad-band, balanced-pattern arrays. Designed and manufactured for the U. S. Army Signal Corps.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World Radio History

ANTENNA DEVELOPMENT & MANUFACTURING
Asbury Park

Telrex LABS. TV & COMMUNICATION ANTENNAS

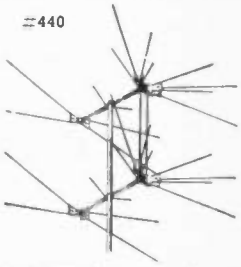
ANTENNA DESIGN ENGINEERS SINCE 1921
New Jersey

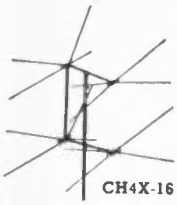
# UHF-VHF ANTENNAS

ALL-ALUMINUM CONSTRUCTION

| MODEL NO. | | Units in St'd. Carton | Ship. Wt. Lbs. | List Price |
|---|---|---|---|---|
| **DUO-BAND (UNIVERSAL) "CONICAL-V-BEAM"** | | | | |
| #420 | Single bay | 2 | 10 | 12.08 |
| #440 | Two bay stack | 1 | 10.5 | 25.50 |
| **CHALLENGER SERIES** | | | | |
| **4 Element Radiator; 4 El. Reflector** | | | | |
| CH2X-8 | Single bay | 3 | 10.5 | 7.22 |
| CH4X-16 | Two bay stack | 3 | 21 | 15.28 |
| CH8X-32 | Four bay stack | 1 | 14 | 34.03 |
| **"CLOVER-V-BEAM" SERIES** | | | | |
| CLV | E-Z-Rig Clover | 4 | 5 | 5.95 |

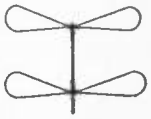
**Type #440** — UHF-VHF at same cone apex. No filter losses. Electronic and mechanical excellence equal to the "Meteor Duo-Band". Solid or tubular elements, with famous Telrex plug-in design. All aluminum. Single lead-in. Practical Channel 2 to 83 performance at lowest cost.


#440


CH4X-16

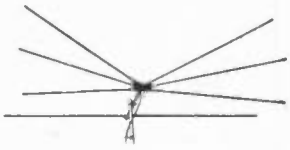
**Type CH4X-16**—7/32" D. solid duraluminum rod, or doweled tubular elements. Six supplied in the 2X-6 types; eight elements, in the 2X-8 type. Both types feature "Universal" style "butterfly" element brackets, at each end of the crossarm, facilitating several radiator and reflector arrangements.

**Type CLV**—Requires no rotator to pick up signal from front or back. Transposition bar stacking gives vertically narrow, noise-free reception lobes. Tough closed loops yield lightly in high winds, but have no tendency to snap off.


CLV

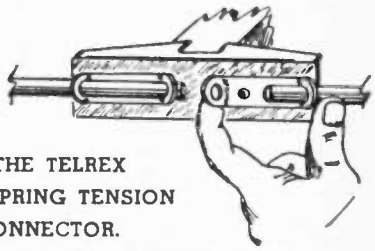
## REVOLUTIONARY QUIK-LOK SUPER "CONICAL-V-BEAM"

The all new, all aluminum TELREX QUIK-LOK SUPER "CONICAL-V-BEAM" is the time proven array used by millions. Now, new, easy no tool assembly has been incorporated with the use of spring tension element connectors for ease of assembly and erection. As with other TELREX models the QUIK-LOK features all aluminum butterfly clamps (no plastic substitutes), doweled elements and rugged construction.



Model QL-2X

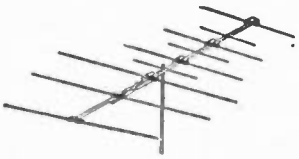
| | | |
|---|---|---|
| QL-2X | Single bay | $9.05 |
| QL-4X | Two bay stack | 19.30 |
| QL-8X | Four bay stack | 42.25 |



DETAIL OF THE TELREX DESIGNED SPRING TENSION ELEMENT CONNECTOR.
NO TOOLS, NO SCREWS, NUTS, BOLTS

## NEW "THUNDERBIRD" "BEAMED POWER" ARRAYS FOR ALL-CHANNEL TV

"THUNDER BIRD" Antennas are loop phased, multi-element, "Beamed Power" Arrays for fringe and "sub-fringe" area TV reception. Element functions are duplexed by means of variable impedance phasing loops to produce effective high gain Yagis for Hi and Lo channel VHF Bands in an all-in-line array which actually produces superior gain and directivity -- element for element — than equivalent separate units.



Model T-120

| | |
|---|---|
| T-120 | List $23.60 |
| T-122 | List 48.60 |

Model T-110

| | |
|---|---|
| T-110 | List $17.75 |
| T-112 | List 36.90 |

| FM and HI-FI SERIES | | Units in St'd. Carton | Ship. Wt. Lbs. | List Price |
|---|---|---|---|---|
| FMT-3 | Single bay | 1 | 4 | 9.03 |
| FMT-3-S | Stacked | 1 | 8 | 20.92 |
| FMT-6 | Single bay | 1 | 8 | 17.75 |
| FMT-6-S | Stacked | 1 | 15 | 38.31 |

FMT-6

Broad-band gain and impedance characteristics make these beams ideal where extremely high fidelity, high-sensitivity antennas are required. All models of this series provide an excellent match to a 300-ohm characteristic impedance line (common TV lead).

"Conical-V-Beams" are produced under re-issue Pat. No. 23,346, and Canadian Pat. No. 500436 and in England Pat. No. 691485.

**ORIGINATORS & MANUFACTURERS OF THE WORLD'S FINEST TV & COMMUNICATION ANTENNAS**

WRITE FOR COMPLETE TV ANTENNA CATALOG NO. 32

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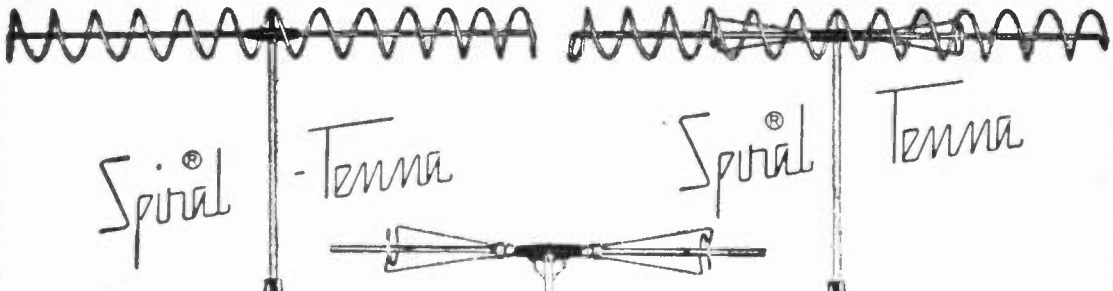
TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*



World Radio History

# HI-LO TV ANTENNAS are BEST

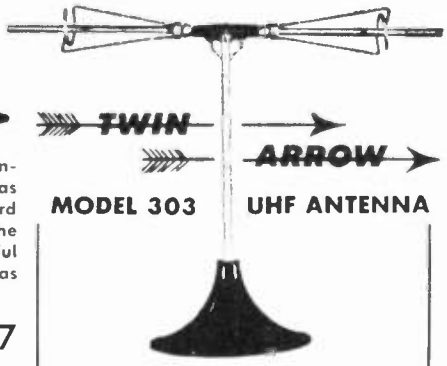



**MODEL 101**
**For**
**Channels 2-13**

Here is the greatest indoor TV antenna . . . the antenna which has been setting the highest standard for indoor TV reception since the beginning of television. Beautiful golden spiral which performs as well as it looks . . . the highest signal gain possible . . . new and improved for better television pictures. Shipping weight: 2 lbs.

**$5.47** Dealer net

**HI-LO TV ANTENNAS ARE BETTER FOR UHF, VHF, AND COLOR**




**MODEL 303 UHF ANTENNA**

Unsurpassed reception in UHF areas with this proven and accepted indoor antenna which works better in tough areas. Shipping weight: 1½ lbs.

Dealer net **$3.57**

**MODEL 202UV**
**For**
**Channels 2-83**

Hi-Lo is still the leader in the antenna business and this UHF-VHF model is one of the reasons. This is the best-performing indoor television antenna for all channels which is guaranteed to outperform others. Its more modern design and finer engineering assure you of television reception at its highest peak. Shipping wt.: 2 lbs.

**$5.97** Dealer net

**You will obtain the sharpest, clearest TV pictures with HI-LO**

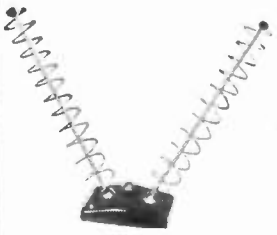
## "SELL THE GENUINE HI-LO ANTENNAS"

## "V" KIT

**MODEL 606**
**For**
**Channels 2-13**

Utilizing the Spiral-Tenna design, the 606 produces clearest reception. The luxurious brown plastic base rests lightly and firmly on any flat surface and the gold color on the spiral blends with any room. The antenna is so designed to completely eliminate any pulling or pushing of rods and carries the same guarantee as all other *Hi-Lo* antennas, famous throughout the country.

Dealer Net **$4.80**



**MODEL 505**
**For**
**Channels 2-83**

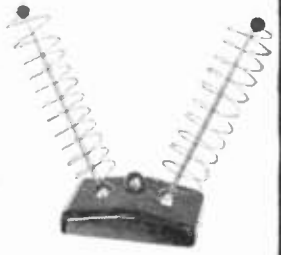
The spiral antenna that is designed for maximum performance, featuring the NEW TELESCOPING DIPOLES. This versatile antenna swivels on ball and socket in any direction. Gold spirals, plastic base blends with any room.

Dealer Net **$5.00**

**MODEL 404**
**For**
**Channels 2-83**

NEW INDOOR ANTENNA that swivels with a gentle touch of your little finger. Dipoles swivel on ball and socket in every direction. Golden spirals and decorative plastic base blend with all furniture. RECEPTION IS GUARANTEED.

Dealer Net **$4.80**



U.S Pat. No. 2,495,579
Canadian Pats 1951
Other Pats Pending

**Mfd. By** *Hi-Lo* **TV Antenna Corporation**
**Chicago 13, Illinois**



Net

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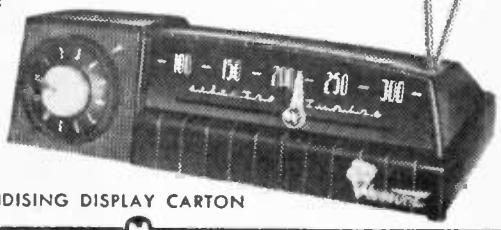
World Radio History

the **MOST POWERFUL** of all indoor TV antennas... and the most distinctive

# Spico Viscount

ONLY $19.95 List Price



EXCLUSIVE 1958 AWARD WINNER — SELF MERCHANDISING DISPLAY CARTON

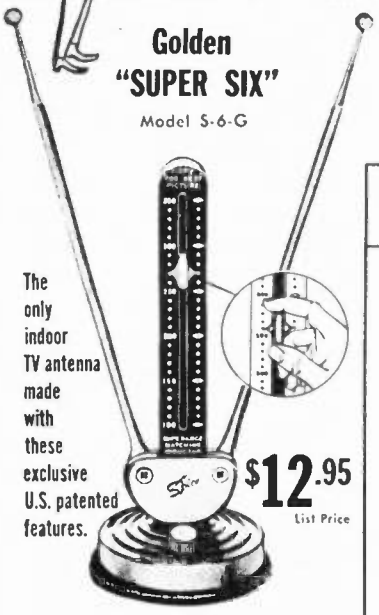
## the GOLDEN LINE

SPICO INDOOR TV ANTENNAS HAVE BEEN SOLD TO OVER 3,500,000 SATISFIED CUSTOMERS FROM COAST TO COAST.
The most advertised Indoor TV Antenna by leading stores throughout the country.
The only Indoor TV Antenna with a sales record of over $1,000,000.00 spent for direct national consumer advertising.
Spico's are handled by all merchandising and profit minded dealers.
No gimmicks—truly an electronic achievement.

**SPICO ANTENNAS ARE MORE POWERFUL THAN ANY OTHER INDOOR TV ANTENNAS MADE!**

## Golden "SUPER SIX"

Model S-6-G



The only indoor TV antenna made with these exclusive U.S. patented features.

$12.95 List Price

New, Exclusive *Selectronic* TUNING

A tunable impedance matching device that gives clear, sharp pictures on each individual channel.

EXCLUSIVE "ADJUSTA-KNOB" at BASE for MICRO-FINE ADJUSTMENT

U. S. PAT. NO. 2,608,657

**ALL MODELS COMPETITIVELY PRICED FOR VOLUME SALES!**
**Combine the latest durable features with the most advanced modern styling!**

### TENNA-SCOPE

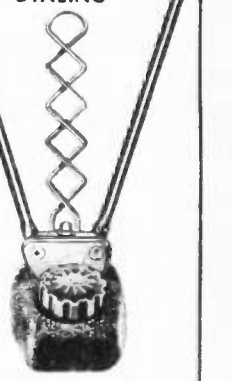
Available in gleaming Silver or Gold finish. Embossed inlaid base with matching dipoles.
Model B-5G (Gold)
Model B-5S (Silver)
$7.95 List Price

### TENNA MASTER

Available in gleaming Silver or Gold finish, featuring 6 point selector switch for best reception.
Model B-92-G (Gold)
Model B-92S (Silver)
$10.95 List Price

### STRAT-O-MATIC

PRECISION "on the beam" DIALING



New GOLDEN Automatic 6-position selector switch

UNCONDITIONALLY GUARANTEED!

$10.95 List Price
Unbreakable Rustproof Tiltproof Model S-7G

### SWITCH-O-MATIC

Unconditional Guarantee
Model S-9-A (aluminum)
Model S-9 (brass).
Unbreakable
Rustproof
Tiltproof
$9.95 List Price

### INDOOR-TENNA

Unconditional Guarantee
Unbreakable
Rustproof
Tiltproof
MODEL TV-B Brass
Model TV-BA Alum
$6.95 List Price

### TARGET

For UHF only Model U-83
Unbreakable
Rustproof
Tiltproof
$4.95 List Price

***Self Selling Packaging . . .***
All models beautifully packaged in distinctive individual cartons.

**SPIRLING PRODUCTS CO., INC.** HICKSVILLE, L. I., N. Y.

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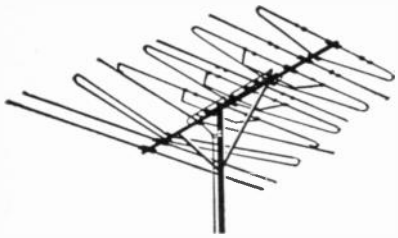
World Radio History

# ...Featuring the TRIO Wing Dipole.....



## TRIO Color-Royal

High forward gain: Sharper, clearer pictures; high signal to noise ratio. Flat frequency response: Improved contrast on black and white; perfect reproduction of the color signal. Highest front-to-back ratio for freedom from co-channel interference.

**See the TRIO Colorite—for areas formerly using conical installations.**

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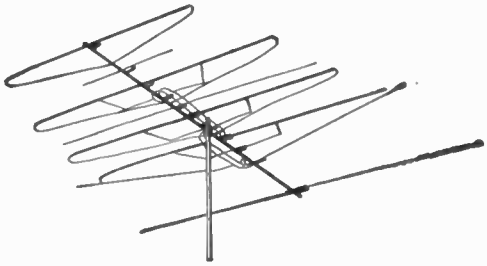
## TRIO Zephyr Royal



***The Nation's Best Performing Antenna On Color or Black & White***

Recommended for areas where better than average sensitivity is needed for both high and low channels. Now—more powerful than ever! with the revolutionary new extended "wing" dipole, the most powerful dipole ever designed. Plus the "wing" director, specially designed to enhance the power and sensitivity of the "wing" dipole.

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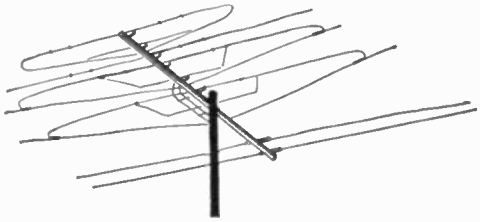


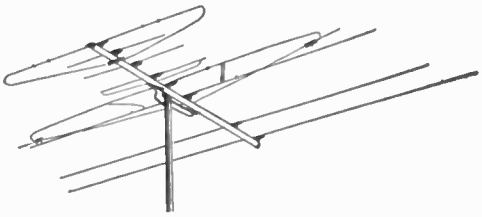
## TRIO Zephyr pioneer

***For Extreme Distance***

Uses the extended "wing" dipoles. The improved "wing" dipole that adds increased power and the "wing" director. Sharper than conventional director systems. A method for added gain on both high and low channels.

---

## TRIO SUPER-MITE



***For Distance***

Flat response that gives good reception on both black and white and color. Uses the extended "wing" dipole and "wing" director—most powerful combination ever designed.

---

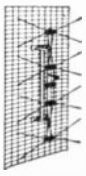
## TRIO Sharp Shooters

***America's No. 1 Antenna Values!***

| | |
|---|---|
| **TRIO *"Sharpshooter"* YAGIS** | Models for every channel and power gain required. Completely pre-assembled. 5 element, 10 element and broadband models. |
| **TRIO *"Sharpshooter"* CONICALS** | Highest quality. 12 popular models. Completely pre-assembled. |
| **THE TRIO "88"** | Uses famous TRIO "Conical" head and Instalok clamps. Available in single and two bay models. |

## TRIO SU 44

## UHF ANTENNA



SU-44

Wide vertical expanse. Instalok-type assembly. New improved phasing harness. Rugged construction. Improved over TRIO UBT-4—rates as highest gain UHF antenna by independent, unsolicited tests.

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**TRIO MANUFACTURING CO.**

GRIGGSVILLE, ILLINOIS



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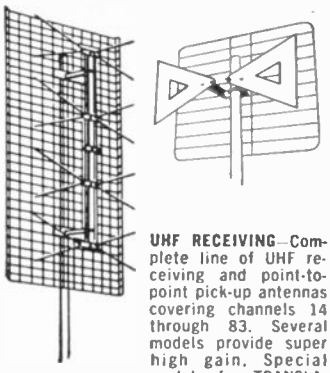
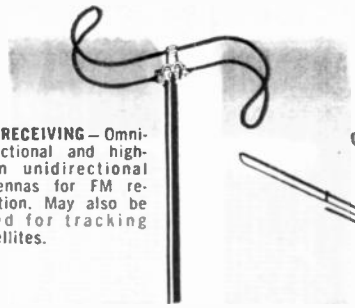
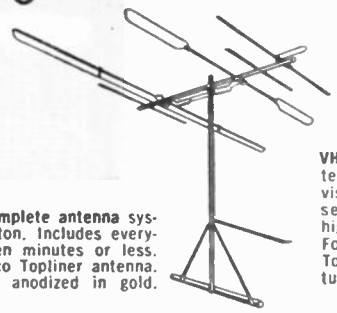
World Radio History



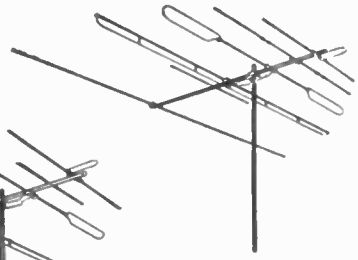
**UHF RECEIVING**—Complete line of UHF receiving and point-to-point pick-up antennas covering channels 14 through 83. Several models provide super high gain. Special models for TRANSLATOR stations.



**FM RECEIVING**—Omnidirectional and high-gain unidirectional antennas for FM reception. May also be used for tracking satellites.



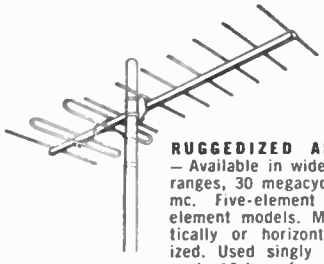
**TACO "QUIKIE"**—A complete antenna system in a single carton. Includes everything. Installs in ten minutes or less. Features famous Taco Topliner antenna. Mount and antenna anodized in gold.



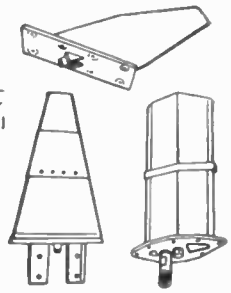
**VHF RECEIVING**—Topliner antennas for complete VHF television coverage. Assemble in seconds, extremely rugged, high uniform gain across band. Four models. Also Taco Golden Topliner antenna series featuring anodized gold finish.

# WHEN IT COMES TO ANTENNAS
# *YOU NAME IT . . . WE MAKE IT!*

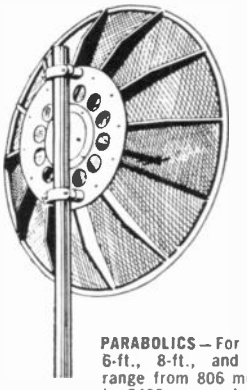
**DISC-CONE TYPE ANTENNA**—One of a wide variety of Taco antennas covering the frequency ranges of 100-174 mc and 220-400 mc.



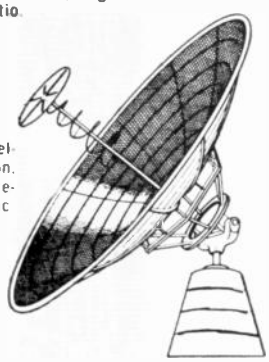
**RUGGEDIZED ANTENNAS**—Available in wide frequency ranges, 30 megacycles to 900 mc. Five-element and ten-element models. May be vertically or horizontally polarized. Used singly or stacked up to 16 bays for special pattern requirements. Screen reflector models for extra high front-to-back ratio.



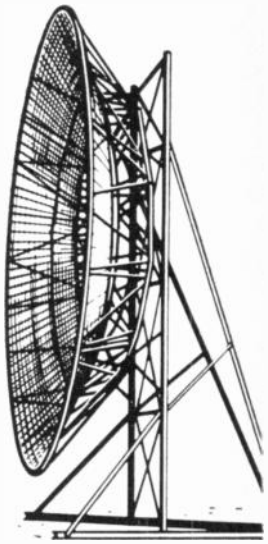
**AIR BORNE ANTENNAS**—Blade-type antennas for military and commercial communications. Wide range of models and frequencies.



**PARABOLICS**—For communications. 4-ft., 6-ft., 8-ft., and 10-ft. in frequency range from 806 mc to 960 mc, 1700 mc to 2400 mc, and 5950 mc to 7450 mc.



**TELEMETERING ANTENNAS**—With helical drivers for circular polarization. For telemetering applications in frequency range from 215 mc to 235 mc Also other frequency ranges.



**BIG DISHES**—For communications, scatter and radio astronomy. 14-ft., 15-ft., 16-ft., 19-ft., 28-ft., 32-ft., and 60-ft. sizes. Complete systems include feeds either single or dual polarized. Sizes 14-ft. to 32-ft. provide ground or tower mounting.

**Taco is the world's largest organization devoted solely to the design, development and production of fine antenna systems for the military, commercial and home markets. A wide choice of 'stock' antenna types makes Taco the place to look for antennas to meet your needs. If we don't have what you need, we'll make it.**

**WRITE FOR COMPLETE INFORMATION . . .**
**TELL US YOUR REQUIREMENTS . . .**

**TACO**

**TECHNICAL APPLIANCE CORP.**
**SHERBURNE, N. Y.**
In Canada: Hackbusch Electronics, Ltd., Toronto 4, Ont.

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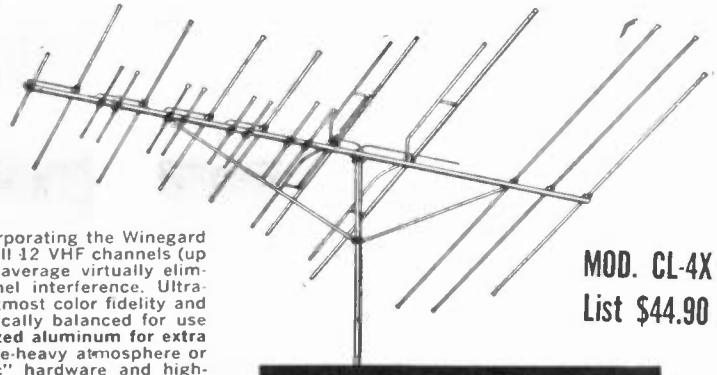
World Radio History

# WINEGARD TV ANTENNAS

## WINEGARD MODEL CL-4X

*"Colorceptor with Power Pack"*

### HIGH POWER 18-ELEMENT GOLD ANODIZED VHF ANTENNA FOR UP TO 150 MILES

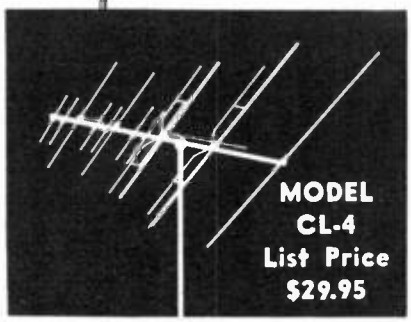


MOD. CL-4X
List $44.90

Precision 18 element antenna with Power Pack, incorporating the Winegard Electro-Lens principle. Produces super high gain on all 12 VHF channels (up to 16 db). Exceptional front-to-back ratio of 31 db average virtually eliminates "venetian blind" effect caused by co-channel interference. Ultra-linear flat responses across all channels provides ultmost color fidelity and best obtainable black and white reception. Mechanically balanced for use with a rotator. Constructed of **protective gold anodized aluminum for extra long life** and resistance to corrosive effects of smoke-heavy atmosphere or salt spray. Factory pre-assembled, with "automatic" hardware and high-impact polystyrene insulators. Wt. 11 lbs. Less mast and 300 ohm line.
**Single Bay CL-4X. List Each** ..... **$44.90**

**11 ELEMENT COLOR 'CEPTOR MODEL CL-4**

Smaller, less powerful antenna incorporating the proven Electro-Lens principle. Produces superb results on all 12 VHF channels in black and white or color. Recommended for all areas, even the fringe, except where super power is needed. **Constructed of gold anodized aluminum.** Less mast and 300 ohm lead. Wt. per bay 8 lbs.
**Single Bay CL-4. List Each** ..... **$29.95**
**TWO BAY STACKING HARNESS ONLY.** For wide spacing. Gold anodized. Model SB-4C. **List Each** ..... **$3.15**



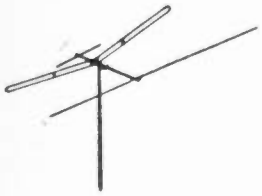
MODEL
CL-4
List Price
$29.95

**"POWER PACK" FOR CL-4 COLOR 'CEPTOR**

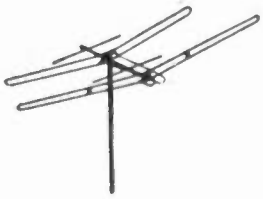
Gives a big power boost to Color 'Ceptor—a total of 18 elements and up to 47% more gain! Separate 5-element and 2-element sections plug into ends of antenna boom, require no tools for assembly. Shpg. wt. 5 lbs.
Model PK. **List Each** ..... **$14.95**

*U.S. Pat. No. 2,700,105

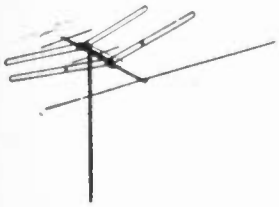
# WINEGARD "SCOTCHMAN" ANTENNAS & KITS



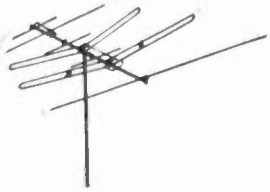
**MODEL 501:** 3-element antenna recommended for use in place of conicals. New Vee driven element design. Smooth forward response lobes and accurate impedance match on both high and low bands. Cuts ghosts. No finer antenna for city and suburban areas at this low price. Packed 2 per carton, shipping weight 5 lbs. 14 oz. **$6.95** list.



**MODEL 502:** 4-element with new improved Vee driven element design for city and suburban areas. Exceptionally good reception on the high channels . . . almost bi-directional on low channels. Higher gain and better ghost rejection than conicals. A natural with Kit D. Packed 2 per carton, shipping weight 6 lbs. 8 oz. **$9.95** list.



**MODEL 503:** Near fringe and suburban area, all-channel 5-element antenna with new improved Vee driven elements. Can be used with attachment Kits A, B, C or D. Ideal for stacking. Packed 1 per carton. Shipping Weight 4 lbs. 15 oz. **$14.95** list.



**MODEL 504:** All-channel, high performance, 7-element fringe area antenna. Exclusive impedance—compensated Vee driven elements and patented* Electro-Lens design. Easily converted to 13 element antenna for tough reception areas with Kit A. Packed 1 per carton, shipping weight 5 lbs. 8 oz. **$19.95** list.

## ATTACHMENT KITS FOR SCOTCHMAN

**KIT A: HI-LO BOOST** for higher gain and co-channel suppression. Adds two reflectors for extremely high front to back ratio. Adds 4-element patented* Electro-Lens director for increased gain on all channels. Use with models 503, 501 and 504. Gives up to 22% more gain. Packed 1 per carton, shipping weight 3 lbs. 12 oz. **$12.50** list.

**KIT B: HI-BAND BOOST** for peaked gain on channels 7 through 13. Gives antenna sharper directivity. Reduces ghosts. Adds 3 high band director elements to front of antenna. Fits all Scotchman models 501, 502, 503 and 504. Packed 4 per carton, shipping weight 3 lbs. 2 oz. **$3.25** list.

**KIT C: STACKING BAR KIT** consists of two stacking bars, heavy duty support bracket and terminal insulator. Stacking two antennas of the same model increases sensitivity up to 40%. Can be used with all Scotchman models 501, 502, 503 and 504. Packed 6 pr. per carton, shipping weight 5 lbs. **$2.50** list.

**KIT D: INSTALLATION KIT** (pat. pend.) Universal tripod mount fits any gable, pitched or flat roof. All extra heavy seamless aluminum. Can't stain roof. No guy wires. 5½ ft. tall. One man can install. Includes, mount, mast, lead-in wire, stand-offs and lightning arrestor. Can be used with rotor. Works well with all Scotchman models. Packed 1 per carton, shipping weight 5 lbs. **$9.95** list.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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

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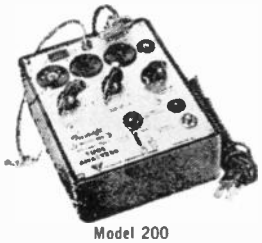
# TV ANTENNAS — TV LAMPS SERVICE AIDS

## TRICRAFT TUBE CHECKER



- Entirely NEW circuit
- Tests ALL tubes
- Quick and accurate
- Fits in tube Caddy

Model 200

**A Precision Instrument with the following features:**

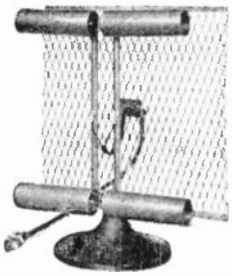
1. Tests tubes better, faster and more thoroughly than instruments costing many times more.
2. Compact and rugged enough to take it day in and day out in the service kit.
3. Completely and thoroughly checks all standard octal, loctal, 7 and 9 pin miniature tubes including
   150 mil type for grid emission, gas, shorts, opens, microphonics and filament continuity. (Also picture tubes.)
4. All elements checked independently; no elements are tied together during test.
5. **Obsolete proof;** no circuit changes necessary to check new tubes as they are developed.

MODEL 200 Dealer's Net .....$32.95

Pat. Applied for

## TRICRAFT UHF INDOOR ANTENNA

Consists of a two element aluminum array with a plane reflector. Measures only 12 inches from side to side. Has plastic base. Conveniently placed atop TV receivers. Covers all 70 UHF bands and provides excellent impedance match over the band. Packed individually. Wt. 2 lbs. each.



Model 210

MODEL 210 Dealer's Net .....$5.32

## CHINESE COOLIE HAT LAMP

Cat. No. 8088

Approximately 11" high. Overall width 9". Available in — Black, Red, Green and Chartreuse. — Threads in white shade match base colors. Shade of molded fibre glass, unbreakable, washable, colorfast.

Dealer's Net ..$5.85

## THE "INDIRECT BULLET"

Cat. No. 8001

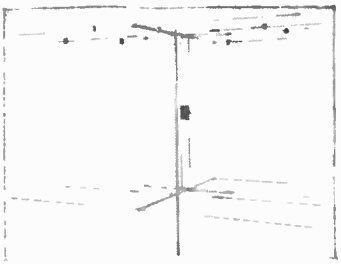
Base in six attractive colors: Black, Pink, Crimson, Green, Chartreuse and Turquoise. 5½" round — 10" high.

Swivel connector shade can be tilted in any direction. All have grey shades made of molded fibre glass, unbreakable, washable, colorfast.

Dealer's Net .....$3.40

Available in Variety of Models

## TRICRAFT HIGH GAIN LONG DISTANCE ANTENNA



FOR FRINGE AREA RECEPTION
Model P-238

- Top TV Reception from 100 to 200 Miles
- Single bay for metropolitan area
- Two bays for fringe area
- Four bays for ultra fringe area

Sharpest reception with this 14 element, yagi-type VHF outdoor antenna.

Hard aluminum tubular construction — Molded polystyrene insulators — Pre-assembled . . unfold, tighten wing nuts — Separate matching network for different bays — Flat response . . gains nearly uniform across whole high VHF band and across whole low VHF band — Double-duty elements . . 2, 3, 4, 7 (see illus.) receive in both bands, double reception for each foot of tubing.

| Model | Dealer's Net |
|---|---|
| P-38—Single unit with high band matcher | $10.70 |
| P-238 Two-stack, with stacking bars and high band impedance matcher | $20.25 |
| P-438—Four-stack, with stacking harness, bars and high band impedance matcher | $39.25 |

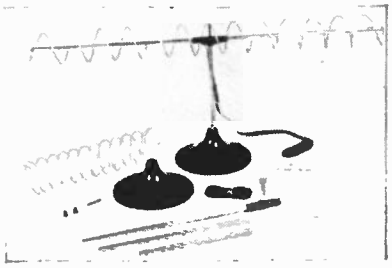
## TRICRAFT UHF-VHF INDOOR ANTENNA

"Performance never before achieved." Here's why:

- Electronically adjusted
- "Only" pretuned frequency indoor antenna
- Turn switch to channel and antenna is electronically tuned to station
- Signal gain never before achieved
- Two-toned mahogany leatherette cover blends with any TV set
- Consumer tested and approved, wt 4½ lbs. ea.

MODEL 600 Dealer's Net .....$8.60

## TRICRAFT INDOOR ANTENNA



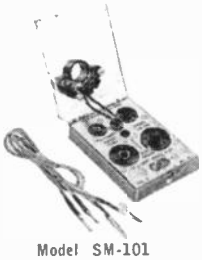
Model T-11 in Kit Form

Gleaming Gold Spiral and Dipoles

• Best indoor performance • Highly directional characteristics reject noise and ghosts • No dangling, unsightly wires • No dust catcher • Simple to orient on both high or low bands • Sturdy construction, wt. 1½ lbs. each.

MODEL T-11 Dealer's Net .....$4.39
(Licensed by Hi-Lo TV Antenna Corp. U. S. Pat. No. 2,495,579; Canadian Pats. 1951)

## TRICRAFT FILAMENT CONTINUITY CHECKER

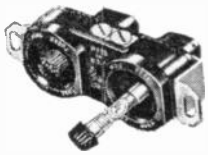


- Quickly locates bad tubes in series-sets.
- Tests continuity of parts and appliances.
- Easy to use — no warm-up or switching.
- No guessing — positive indication.
- Safe — Test current less than 1/1000 amp.
- Pocket size

Model SM-101

Model SM-101 Dealer's Net .....$2.95

## FUSE-O-LET DUPLEX OUTLET



For Maximum SAFETY
For Positive PROTECTION
In HOME and INDUSTRY

Model FL-101

FUSE-O-LET saves time and money because it prevents costly down-time and expensive burn-outs on test lines, control circuits, motorized equipment and other critical industrial installations. Eliminates fire hazard, prevents overloaded outlets, protects hidden wiring. Manufactured of finest materials including phosphorous-bronze contacts, comes individually boxed with two 6 amp fuses. Available with any standard ¼" x 1¼", 250 volt fuses, 15 amps or less. Fits all standard outlet boxes. Complete with two fuses. Underwriters Laboratories Appr. Patented.

Dealer's Net .....$.72

**PRODUCTION and MANUFACTURING FACILITIES for CUSTOM MADE PRODUCTS!**

Tricraft **PRODUCTS CORPORATION**
**Chicago 13, Illinois**

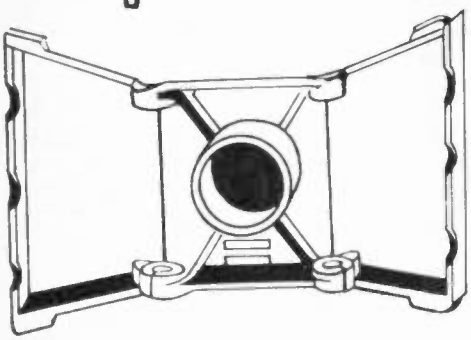


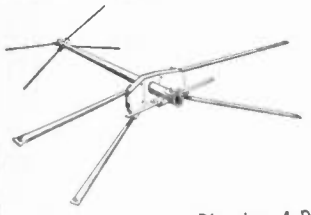
World Radio History

# LANCE

ANTENNA MANUFACTURING COMPANY
SAN FERNANDO CALIFORNIA

## KWIK-OPEN CONICALS



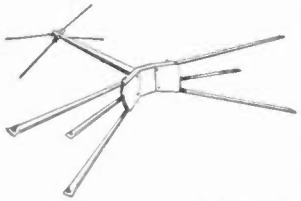


**CONICALS, 100% : KWIK OPEN : SNAP OPEN DIPOLES, REFLECTORS & DIRECTOR BAR**

- 60 second assembly—100% "KWIK-OPEN".
- High impact Mica-styrene plastic.
- All Aluminum Construction.

| | | LIST |
|---|---|---|
| 32D | Director, 4 Dipoles, 2 Reflectors | 5.35 |
| 32D-2 | Above 2 Bay with Stacking Bars | 11.35 |
| 34D | Director, 4 Dipoles, 4 Reflectors | 5.70 |
| 34D-2 | Above 2 Bay with Stacking Bars | 12.20 |

- Single one-piece hi-impact styrene head
- Heavy steel brackets
- High quality spring steel
- Fastest installation on the market
- Super strong pull-power

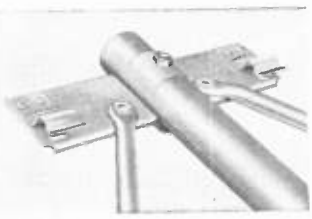


**CONICALS, 100% : KWIK OPEN : SNAP OPEN DIPOLES & REFLECTOR**

| | | LIST IND. BOX |
|---|---|---|
| 306 | 6 Element, 4 Dipoles, 2 Reflectors | 4.50 |
| 306-2 | Above 2 Bay with Stacking Bars | 9.75 |
| 308 | 8 Element, 6 Dipoles, 2 Reflectors | 4.70 |
| 308-2 | Above 2 Bay with Stacking Bars | 10.25 |
| 384 | 8 Element, 4 Dipoles, 4 Reflectors | 5.15 |
| 384-2 | Above 2 Bay with Stacking Bars | 11.00 |
| 310 | 10 Element, 6 Dipoles, 4 Reflectors | 5.35 |
| 310-2 | Above 2 Bay with Stacking Bars | 11.35 |

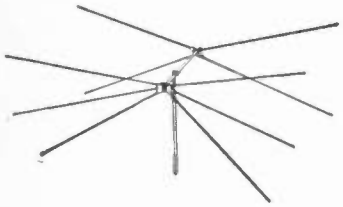
## REGULAR SERIES

DEVELOPED FOR THOSE INSTALLATIONS REQUIRING THE FINEST IN CONSTRUCTION AT THE LOWEST POSSIBLE COST.



**FEATURING:**
- "KWIK-OPEN" rear reflectors.
- Wooden dowel, reinforced driven elements.
- High impact styrene plastic with weather barriers.
- All aluminum construction.

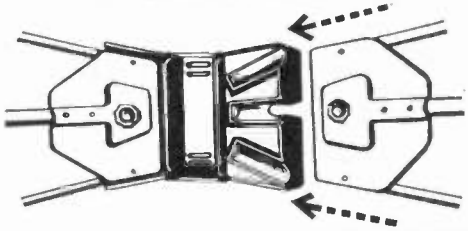
All Parts Attached to Boom Before Shipment.



**COMPETITION CONICALS SEMI SNAP OPEN**

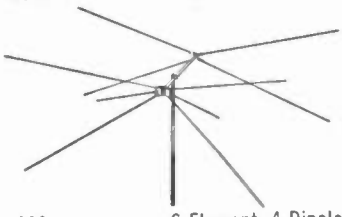
| | | LIST |
|---|---|---|
| L96 | 4 Dipoles, 2 Reflectors | 3.75 |
| L96-2 | Above 2 Bay with Stacking Bars | 8.20 |
| L98 | 6 Dipoles, 2 Reflectors | 3.95 |
| L98-2 | Above 2 Bay with Stacking Bars | 8.60 |
| L984 | 4 Dipoles, 4 Reflectors | 4.35 |
| L984-2 | Above 2 Bay with Stacking Bars | 9.15 |
| L99 | 6 Dipoles, 4 Reflectors | 4.55 |
| L99-2 | Above 2 Bay with Stacking Bars | 9.80 |

## DELUXE SERIES



FOR THOSE INSTALLATIONS REQUIRING RUGGED CONSTRUCTION, INSTALLATION SPEED AND LOW COST.

**Features:**
- "KWIK-OPEN" rear reflectors. • Front elements riveted to plate for fast assembly. • All aluminum construction. • High impact styrene plastic with weather barriers—All Parts Attached to Boom Before Shipment.



**CONICALS : DELUXE : SNAP OPEN REFLECTORS, RIVETED FRONT ELEMENTS TO HOLDING PLATE FASTENED TO INSULATOR WITH ONE WING NUT**

| | | LIST |
|---|---|---|
| 106 | 6 Element, 4 Dipoles, 2 Reflectors | 4.50 |
| 106-2 | Above 2 Bay with Stacking Bars | 9.75 |
| 108 | 8 Element, 6 Dipoles, 2 Reflectors | 4.70 |
| 108-2 | Above 2 Bay with Stacking Bars | 10.25 |
| 184 | 8 Element, 4 Dipoles, 4 Reflectors | 5.15 |
| 184-2 | Above 2 Bay with Stacking Bars | 11.00 |
| 110 | 10 Element, 6 Dipoles, 4 Reflectors | 5.35 |
| 110-2 | Above 2 Bay with Stacking Bars | 11.35 |



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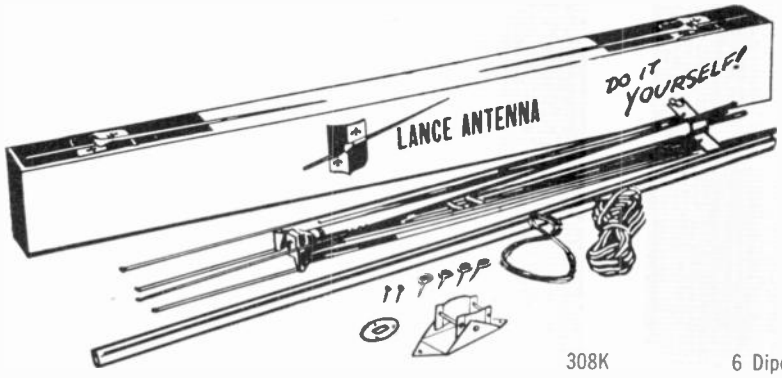
# LANCE

ANTENNA MANUFACTURING COMPANY
SAN FERNANDO CALIFORNIA

## KITS




KIT NO. 1 CONTAINS THE FOLLOWING: 50 ft. Twin Lead 30 ft. Guy Wire 3 screw eyes 3 Standoffs 1 5 ft. Mast 1 Guy Ring 1 Mast Standoff 1 Pivot Base 2 base nails

KIT NO. 2—Same as Kit No. 1 except for the following: 10 ft. Mast and 50 ft. Guy Wire

KIT NO. 3—Same as Kit No. 1 except for Tubular Lead for UHF

SPECIAL KITS: Write for quotations listing your requirements.

### CONICAL KITS

| | | LIST |
|---|---|---|
| 308K | 6 Dipoles, 2 Reflectors No. 1 | 10.40 |
| 308-2K | 2 Bay with Stacking Bars No. 2 | 16.75 |
| 310K | 6 Dipoles, 4 Reflectors No. 1 | 11.00 |
| 310-2K | 2 Bay with Stacking Bars No. 2 | 17.95 |

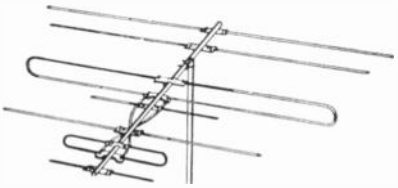
### ARROW KITS

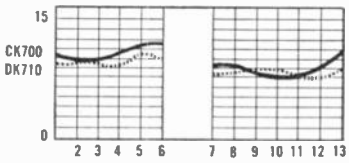
| | | |
|---|---|---|
| 201K | Standard Arrow No. 1 | 9.15 |
| 200K | Deluxe Arrow No. 1 | 9.75 |
| 200UK | Deluxe Arrow for VHF or UHF No. 3 | 10.00 |

### UHF KITS

| | | |
|---|---|---|
| BT4SK | 4 Bay Bow Tie with Screen No. 3 | 13.00 |
| VVK | Stacked V No. 3 | 11.25 |
| DVVK | Deluxe Stacked V No. 3 | 11.65 |

## ALL CHANNEL YAGIS





**"COLOR KING" Model CK800** Channels 2 to 13. Heaviest construction ½" Extruded Aluminum elements.
List $29.95

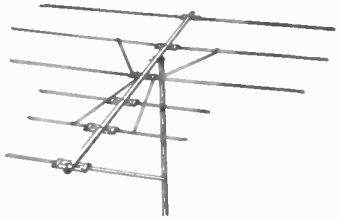
**ANODIZED ANTENNAS "COLOR KING" Model AN800** Channels 2 to 13. **ANODIZED IN GOLD.**
List $29.95

**"COLOR QUEEN" Model CQ800** Channels 2 to 13. ½" Butt-seam elements.
List $22.95

**"DELTA KING" Model DK710**—where top performance and rugged construction are required.
List $13.45

**"DELTA QUEEN" Model DQ710**—same performance as DK710, but for normal wind-weather areas.
List $12.40

**"DELTA PRINCE" Model DP710**—for primary and first fringe areas.
List $9.90



### MULTI YAGIS, DUAL DRIVEN, 6 ELEMENTS 100% SNAP OPEN

| | | LIST |
|---|---|---|
| DP60 | All Channel, VHF | 9.35 |
| DQ60 | All Channel, VHF | 10.60 |
| DK60 | All Channel, VHF | 14.25 |

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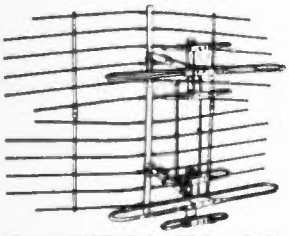
# LANCE

ANTENNA MANUFACTURING COMPANY
SAN FERNANDO CALIFORNIA

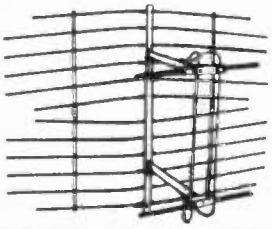
## SPECIAL SERIES



**SKYCHIEF**

33 All channel VHF-UHF. For use in fringe areas or difficult locations where a high gain antenna is necessary.

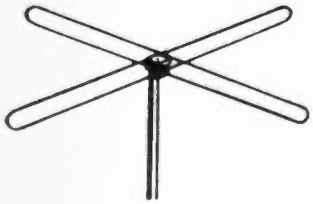
List 37.50



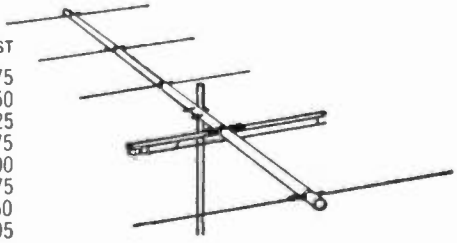
**RADAR**

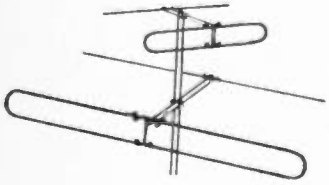
44 All channel VHF big screen radar type. 1¼" dipoles. Wind tested. List 31.50

## FM SERIES



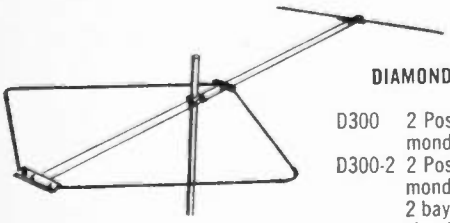
| | | LIST |
|---|---|---|
| FMO | Omni Directional Dipoles | 8.75 |
| FMOK | Above Complete KIT | 14.50 |
| FMY | FM Yagi 5 Element | 13.25 |
| FMYK | Above Complete KIT | 18.75 |
| FMY8 | FM Yagi 8 Element | 21.00 |
| FMY8K | Above Complete KIT | 28.75 |
| FMFD | FM Dipole with Reflector | 7.50 |
| FMFDK | Above Complete KIT | 12.95 |





### FOLDED DIPOLE SERIES

| | | LIST |
|---|---|---|
| FDH | Folded Dipole, VHF High Band | 2.85 |
| FDL | Folded Dipole, VHF Low Band | 6.20 |
| FDHL | Stacked Folded Dipole, VHF High and Low Bands | 7.35 |
| FDI | Dual Folded Dipole, Inline, VHF High and Low Bands | 6.25 |



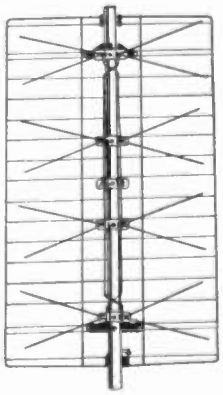
### DIAMOND SERIES

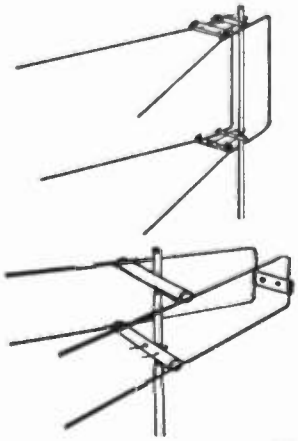
| | | LIST |
|---|---|---|
| D300 | 2 Position Diamond, VHF | 5.00 |
| D300-2 | 2 Position Diamond, VHF, 2 bay with stacking bars | 10.40 |

### ARROW SERIES

| | | LIST |
|---|---|---|
| 202R | Standard Arrow, VHF | 3.45 |
| 201D | Custom Arrow, 2 position, VHF, UHF | 4.00 |
| 200D | DeLuxe Arow, 2 position, VHF, UHF | 4.30 |

## UHF SERIES ANTENNAS





| | | LIST |
|---|---|---|
| BT4 | 4 Bay Bow-Tie | 5.70 |
| BT4S | 4 Bay Bow-Tie with Screen | 8.95 |
| UC | Corner Reflector | 4.05 |
| VV | Standard Stacked V | 4.55 |
| DVV | Deluxe Stacked V | 4.85 |

### UHF KITS

| | | |
|---|---|---|
| BT4SK | 4 Bay Bow Tie with Screen No. 3 | 13.00 |
| VVK | Stacked V No. 3 | 11.25 |
| DVVK | Deluxe Stacked V No. 3 | 11.65 |

KIT NO. 3 CONTAINS THE FOLLOWING: 30 ft. Guy Wire 3 screw eyes, 50 ft. Tubular Lead for UHF 3 Standoffs. 1 5 ft. Mast 1 Guy Ring 1 Mast Standoff 1 Pivot Base 2 base nails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# LANCE

ANTENNA MANUFACTURING COMPANY
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# CUT TO CHANNEL YAGIS

| CODE No. | DESCRIPTION | | LIST IND. BOX |
|---|---|---|---|
| **YAGIS, 5 ELEMENT, "T" MATCH WIDE SPACED 100% SNAP OPEN** | | | |
| YL5-2 | Channel 2 | | 13.00 |
| YL5-3 | Channel 3 | | 12.40 |
| YL5-4 | Channel 4 | | 11.75 |
| YL5-5 | Channel 5 | | 11.00 |
| YL5-6 | Channel 6 | | 10.25 |
| YH5-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 6.95 |
| **YAGIS, 10 ELEMENT, "T" MATCH WIDE SPACED 100% SNAP OPEN** | | | |
| YL10-2 | Channel 2 | Stabilizing | 26.00 |
| YL10-3 | Channel 3 | Bars On | 25.00 |
| YL10-4 | Channel 4 | Cha 2 to 6 | 24.25 |
| YL10-5 | Channel 5 | Supplied | 23.00 |
| YL10-6 | Channel 6 | | 21.50 |
| YH10-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 10.75 |
| **YAGIS, 5 ELEMENT, FOLDED DIPOLE WIDE SPACED 100% SNAP OPEN** | | | |
| EYL5-2 | Channel 2 | | 12.40 |
| EYL5-3 | Channel 3 | | 12.40 |
| EYL5-4 | Channel 4 | | 10.90 |
| EYL5-5 | Channel 5 | | 10.90 |
| EYL5-6 | Channel 6 | | 9.35 |
| EYH5-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 6.15 |
| **YAGIS, 10 ELEMENT, FOLDED DIPOLE WIDE SPACED 100% SNAP OPEN** | | | |
| EYL 10-2 | Channel 2 | Stabilizing | 23.50 |
| EYL 10-3 | Channel 3 | Bars On | 22.50 |
| EYL 10-4 | Channel 4 | Ch 2 to 6 | 20.75 |
| EYL 10-5 | Channel 5 | Supplied | 19.25 |
| EYL 10-6 | Channel 6 | | 18.50 |
| EYH 10-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 9.80 |
| **YAGIS, 5 ELEMENT, DELTA WIDE SPACED 100% SNAP OPEN** | | | |
| DY5-2 | Channel 2 | | 11.20 |
| DY5-3 | Channel 3 | | 11.20 |
| DY5-4 | Channel 4 | | 10.10 |
| DY5-5 | Channel 5 | | 10.10 |
| DY5-6 | Channel 6 | | 9.25 |
| DY5-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 5.75 |
| DY10-2 | Channel 2 | Stabilizing | 22.25 |
| DY10-3 | Channel 3 | Bars On | 21.10 |
| DY10-4 | Channel 4 | Ch 2 to 6 | 19.70 |
| DY10-5 | Channel 5 | Supplied | 18.50 |
| DY10-6 | Channel 6 | | 17.70 |
| DY10-(7-13) | Channel 7, 8, 9, 10, 11, 12, or 13 (Specify Channel) | | 9.65 |
| | **YAGI STACKING KITS** | | |
| L22 | 22" Stacking Kit, Pair | | .80 |
| L44 | 44" Stacking Kit, Pair | | 1.25 |
| L65 | 65" Stacking Kit, Pair | | 1.90 |

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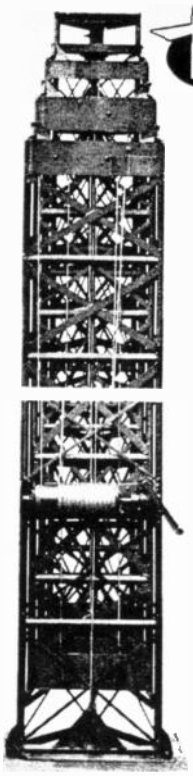


# HAM and INDUSTRIAL Self Supporting TOWERS

## EXTRA LARGE DELUXE CRANK-UP HZ SERIES

TRI-EX now presents the ultimate in CRANK-UP Tower design, engineered to support the heaviest and largest multiple arrays of 10, 15, and 20 meter "HAM" Beams. Self-supporting when installed with our accessory Tripod Base Mount. The HZ-237 and 354 Models are also self-supporting when using our special base mounts TBC-37 or TBC-54

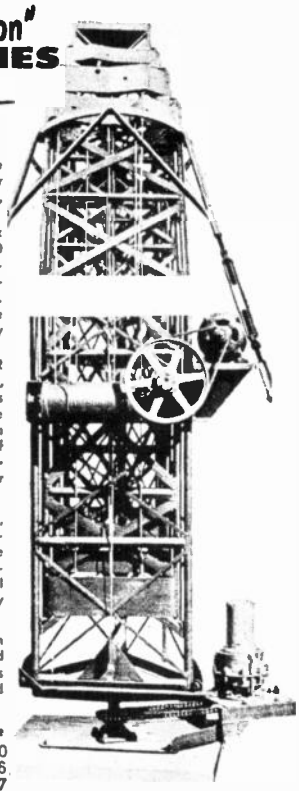
Heavy angle formed steel horizontal members; plus full X sway bracing used throughout for maximum strength and rigidity. Extra large 13 ⅞" cross section diameter on top section to accommodate all Prop Pitch and other large Rotor Motors inside top section.

Heavy duty enclosed gear box, with 35 to 1 worm gear reduction; plus extra large 4½" diameter cable drum, used for Tower Winch on all Models. As Tower is cranked either up or down, all sections raise or lower together, under full control of raising cables at all times; permitting complete motorizing of Winch when using kit BMP-61. You may operate at any height from 20 ft. Minimum size raising cable used is 3/16", 7x19 construction galvanized Aircraft Cable.

All Models shipped complete with crank and base, and full engineering data and calculations are available on request.

| Model No. | Height | Weight | Net Price |
|---|---|---|---|
| HZ-237 | 37' | 270# | $258.18 |
| HZ-354 | 54' | 420 | 381.76 |
| HZ-471 | 71' | 625 | 550.00 |
| HZ-588 | 88' | 950 | 874.50 |
| TBC-37 (Base) | | 45 | 43.95 |
| TBC-54 (Base) | | 50 | 43.95 |
| Tripod Support | | 100 | 55.00 |

# "Constellation" HZR SERIES Rotating Self Supporting Towers



The Tri-Ex HZR Rotating Tower is d dream come true for the Ham and Industrial User. This Tower has all the Deluxe Features of the HZ Series, plus many more.

The complete Tower and Antenna rotates on six large sealed precision ball bearings at the 20 ft. level, and on a heavy duty, flange type, self-aligning ball bearing at the base. You can rotate the entire Tower with the tip of the finger. A Prop Pitch or other Gearhead Motor may be used as a drive unit. (See our "BPR" Accessory Brackets.)

No guying is necessary as this dependable HZR Model comes complete with tripod support rods, extending to anchor points within 5 foot radius from the base. Engineered to support large arrays of 10, 15, and 20 meter beams. Extra large top section has a cross section diameter of 13⅞" Heavy formed steel horizontal members; plus full X sway bracing; electric welded for maximum strength and rigidity.

Equipped with a 35 to 1 Timken roller bearing, sealed worm gear drive raising Winch. This permits raising and lowering your Tower with little effort; enabling you to operate with your antenna at any height. You can motorize for full remote control with the aid of our accessory Model BMP-61 kit.

All HZR Models are shipped complete with Rotating Base, 2 roller Chain Sprockets and drive Chain, Crank, and 3 concrete anchor Rods and Braces. Full engineering calculations and data, available on request.

| Model | Height | Weight | Net Price |
|---|---|---|---|
| HZR-237 | 37' | 310# | $398.00 |
| HZR-354 | 54' | 460# | 535.56 |
| HZR-471 | 71' | 670# | 721.87 |

# EXTRA LARGE CRANK-UP HS SERIES

GUYED MODELS

Designed and engineered to support the largest multiple arrays of 10, 15, and 20 meter "HAM" Beams, when properly guyed.

Large 13⅞" cross section diameter on top section. Big enough to accommodate all Prop Pitch and other Rotor Motors inside top section. Choice of removable top mast anchor plate or predrilled Prop Pitch mounting plate.

Heavy duty large worm gear drive winch, with 10 to 1 gear reduction ratio, for maximum ease in raising Tower with the largest heavy arrays of "HAM" Beams.

All raising cables are of 7x19 construction, galvanized Aircraft Cable. Minimum size used is 3/16", 4200 lb. test.

Each Tower shipped complete with crank, base and 3 safety stops for each section. This eliminates all weight on raising cable when guying is completed.

Full engineering data and calculations are available on request.

| Model No. | Height | Weight | Net Price |
|---|---|---|---|
| HS-237 | 37' | 200 lb. | $194.12 |
| HS-354 | 54' | 305 lb. | 271.76 |
| HS-471 | 71' | 440 lb. | 362.35 |
| HS-588 | 88' | 620 lb. | 508.82 |

# Tri-Ex Crank-up

## LARGE "H" SERIES

GUYED MODELS

Designed and engineered to support large multiple arrays of 10, 15, and 20 meter 'HAM' Beams, when properly guyed.

11½" cross section diameter on top section. Large enough to accommodate most Prop Pitch and other Rotor Motors inside top section.

Choice of removable top mast anchor plate or predrilled Prop Pitch mounting plate.

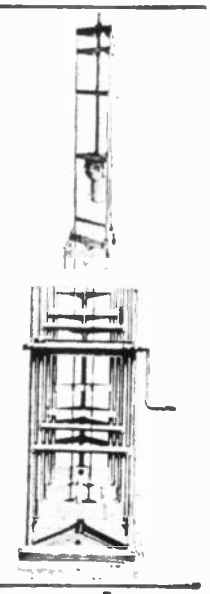
Raising Winch includes ratchet for easy cranking up during installation. Provision also provided for padlocking Winch for safety.

All raising cable of 7x19 construction, galvanized aircraft grade. Minimum size used is 3/16", 4200 pound test.

Each Tower shipped complete with crank, base, and 3 safety stops for each section. This eliminates all weight on raising cable when guying is complete.

Full engineering details and calculations available on request.

| Model | Height | Weight | Net Price |
|---|---|---|---|
| H-237 | 37' | 150# | $145.17 |
| H-354 | 54' | 250# | 203.25 |
| H-471 | 71' | 365# | 279.51 |



# Tri-Ex ACCESSORIES

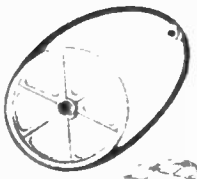
FOR H, HS, HZ and HZR TOWERS

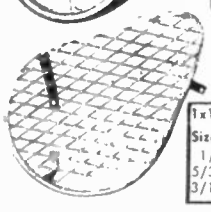
**BMP-61 Winch raising and lowering kit.**

Bolts on to the 35 to 1 Worm gear winch bracket, on all HZ and HZR Models only. (Use 1/2 or 1/3 H.P. motor)

**Weight - 10 lbs. Net Price $43.95 (as above)**

Shipped less Motor

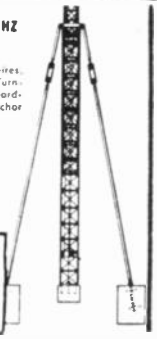




**TRP-3 Tripod, for HZ Models only.**

Eliminates the use of guy wires. Shipped complete with Turnbuckles, all necessary Hardware and Concrete Anchor Rods.

**Weight 100 lbs. Net Price $55.00**



**1x19 Galvanized Aircraft Cable for guying**

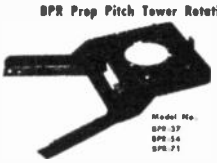
| Size | Strength | Price |
|---|---|---|
| 1/8" | 2100 lb. | $3.78 cft |
| 5/32" | 3300 lb. | 4.52 |
| 3/16" | 4700 lb. | 6.10 |

**TB-2 Antenna Mast, Flange Thrust Bearing.**

Self aligning sealed Ball Bearing Type. For 2 inch O.D. Mast. Fits all H, HS, and HZ Models, which are pre-drilled to fit this Bearing. Shipped complete with mounting Bolts.

**Model No. TB-2 Weight 5 lbs. Net Price $17.50**

**BPR Prop Pitch Tower Rotating Bracket.**



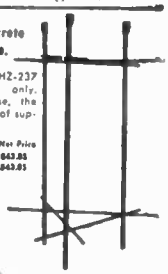
This is an especially designed Bracket for mounting a Prop Pitch Motor for rotating all HZR Model Towers.

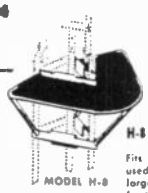
| Model No. | Weight | Net Price |
|---|---|---|
| BPR-37 | 20 lbs. | $43.95 |
| BPR-54 | 20 lbs. | $43.95 |
| BPR-71 | 20 lbs. | $43.95 |

**TBC — Center Concrete Hinged Base.**

For self-supporting HZ-237 and HZ-354 Models only. (When using this Base, the Tripod, or other means of support is not needed.)

| Model No. | Weight | Net Price |
|---|---|---|
| TBC-37 | 45 lbs. | $43.95 |
| TBC-54 | 50 lbs. | $43.95 |





MODEL H-8

**H-8 Work Platform.**

Fits all Tri-Ex Towers. May be used on any section, No. 3, or larger. (see our general specification sheet)

**Weight 16 lbs. Net Price $22.77**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World Radio History

**New.. Iron-Phosphate Rust Proof undercoating on all Tri-Ex towers & accessories**
**TRI-EX NOW PAYS FREIGHT.** New freight allowance covers all freight charges, including drop shipments into most areas, on all towers and accessories from our factory at Tulare, California.

## TRI-EX EMPIRE SEMI-CRANK-UP...combines strength with amazing ease of installation.

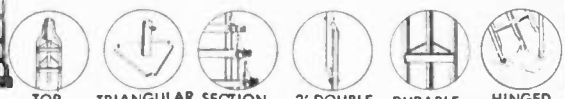
| Model | Height | Description | Wt. | Net Price |
|---|---|---|---|---|
| | | **10 FT. AND 20 FT. SECTION COMBINATIONS** | | |
| J3 | 28 ft. | 10 ft. top, 20 ft. btm. | 85 | $ $51.33 |
| J4 | 36 ft. | 2-10 ft., 1-20 ft. btm. | 120 | 70.92 |
| J5 | 46 ft. | 1-10 ft., 2-20 ft. btm. | 150 | 85.16 |
| | | **TOWERS WITH ALL SECTIONS 10 FT. IN LENGTH** | | |
| K-2 | 18 ft. | 2-10 ft. sections | 60 | $ 37.08 |
| K-3 | 26 ft. | 3-10 ft. sections | 90 | 57.06 |
| K-4 | 34 ft. | 4-10 ft. sections | 130 | 78.58 |
| K-5 | 42 ft. | 5-10 ft. sections | 175 | 102.03 |
| K-6 | 50 ft. | 6-10 ft. sections | 225 | 130.48 |
| K-7 | 58 ft. | 7-10 ft. sections | 280 | 175.87 |
| K-8 | 66 ft. | 8-10 ft. sections | 335 | 227.43 |
| | | **TOWERS WITH ALL SECTIONS 20 FT. IN LENGTH** | | |
| L-2 | 38 ft. | 2-20 ft. sections | 110 | $ 66.14 |
| L-3 | 56 ft. | 3-20 ft. sections | 170 | 100.07 |
| L-4 | 74 ft. | 4-20 ft. sections | 255 | 141.53 |
| L-5 | 92 ft. | 5-20 ft. sections | 345 | 187.31 |
| L-6 | 110 ft. | 6-20 ft. sections | 440 | 243.86 |
| L-7 | 128 ft. | 7-20 ft. sections | 535 | 333.15 |
| L-8 | 146 ft. | 8-20 ft. sections | 650 | 434.74 |

This is the finest, safest, most durable tower on the market today. Will support masts from 1½" to 2¼" diameter. You can mount these towers on the ground using hinged concrete base mount, or on the roof using the "F" style hinged base mount. Tower can also be supported with the adjustable wall bracket on self-supporting and guyed installations. Made of heavy 16 gauge steel tubing, 1" and 1¼" dia. Heavily coated with weather-resistant, non-corrosive styrene paint. No gin pole required to erect tower. You never have to get more than 10 or 20 feet off the ground.

D1 concrete base mount fits all T3 sections, net price..... $10.05
D2 concrete base mount fits B4, C4, K2, L2..... 10.44
D3 concrete base mount fits B5, C5, K3, L3..... 11.32
D4 concrete base mount fits B6, C6, K4, L4..... 12.21
D5 concrete base mount fits B7, C7, K5, L5..... 13.37
D6 concrete base mount fits B8, C8, K6, L6..... 14.98
D7 concrete base mount fits B9, C9, K7, L7..... 19.94
D8 concrete base mount fits B10, C10 K8, L8..... 23.91

**HINGED MOUNTING BASE FOR ROOF OR BASE OF GUYED TOWER**
Specify "F" style hinged base mount instead of "D" style listed above.

**FEATURES:**



TOP SECTIONS — TRIANGULAR PLATE — SECTION STOPS — 2' DOUBLE LAP — DURABLE CONSTRUCTION — HINGED BASE

## TRI-EX CRANK-UP . . . climbs effortlessly into the air with the turn crank.

Perfect for Antenna and Set Demonstration. Also Ideal for Permanent Installation. Top adapter is removable so that up to 20 ft. additional height may be obtained by adding the 2¼" O.D. adapter and using any extension that will fit, such as the 20 ft. or 30 ft. telescoping masts. Die formed guides are used to insure minimum friction. Designed and constructed to prevent binding in raising or lowering of tower. No moving parts. Safety stops constructed of 1½" x 3/16" steel relieve tension on cable. Electric welded construction. Towers are dipped in special formula non-corrosive styrene and baked to give auto type finish. Ball bearing aircraft control type pulleys used throughout. Minimum 2000 lb. rust-proof aircraft cable. No bulky guy ring. Complete data on guying sent with each tower. Removable crank insures safety. The crank may be used on either side of winch. Heavy gauge steel base plate, hinged to facilitate mounting on slanting or straight surface. As new antennas are developed TRI-EX Towers may be easily lowered to install new and improved arrays. Standard equipment with towers include base plate and pin, top adaptor, safety stops and crank. Extensions are extra.

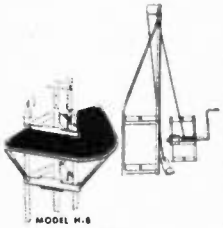
| Model | Number Sections | Height Extended | Weight | Net Price |
|---|---|---|---|---|
| | | **20 FOOT SECTIONS** | | |
| T-588 | 5 | 88 ft. | 280 lbs. | $194.78 |
| T-471 | 4 | 71 ft. | 210 lbs. | 143.96 |
| T-354 | 3 | 54 ft. | 155 lbs. | 118.55 |
| T-237 | 2 | 37 ft. | 100 lbs. | 78.51 |
| T-120 | 1 | 20 ft. | 40 lbs. | 33.85 |
| | | **MODELS WITH 10 SECTIONS** | | |
| T-761 | 7 | 61 ft. | 280 lbs. | $230.95 |
| T-652 | 6 | 52 ft. | 215 lbs. | 192.47 |
| T-545 | 5 | 45 ft. | 165 lbs. | 134.72 |
| T-436 | 4 | 36 ft. | 125 lbs. | 101.61 |
| T-327 | 3 | 27 ft. | 90 lbs. | 80.82 |
| T 218 | 2 | 18 ft. | 60 lbs. | 55.41 |
| | | **HEAVY DUTY MODELS WITH 20 FOOT SECTIONS** | | |
| T-6105HD | 6 | 105 ft. | 460 lbs. | $364.18 |
| T-588 HD | 5 | 88 ft. | 360 lbs. | 296.42 |
| T-471 HD | 4 | 71 ft. | 265 lbs. | 228.66 |
| T-354 HD | 3 | 54 ft. | 210 lbs. | 160.90 |
| T-237 HD | 2 | 37 ft. | 135 lbs. | 118.55 |

**FEATURES:**

REMOVABLE TOP ADAPTOR — DIE FORMED GUIDES — SAFETY STOPS — DURABLE PULLEY — PERMANENT WINCH — HINGED BASE PLATE

13½ foot 1¼" Hi-Carbon steel antenna pole. For any of the above towers. Shipping weight 20 lbs. EXTRA ..... Each 4.06

## ACCESSORIES FOR EMPIRE SEMI-CRANK-UP



MODEL H-8
H-8 Work Platform.
Fits all Tri-Ex Towers. May be used on any section No. 3 or larger (see our general specification sheet)
Weight 16 lbs.
Net Price $22.77

**ROTOR POST**—Designed to take all rotors that require an offset mount, such as the Alliance, Trio, etc. Mounts directly on plate which is furnished with each tower. Special mount not required for center mount rotor. H-7 post, Net $1.74

**WINCH FIXTURES**—Winch fixtures come complete with cable. Ball bearing aircraft control type pulleys. May be installed at any height. Crank fits into either side of winch and may be removed for safety. Model H-3, 2 piece winch fixture, 20 lb. Net $26.62

**ADJUSTABLE WALL BRACKET**—Model H-1 fits any tower up to 18" cross-section. J3,4, and 5, K2,3,4, and 5 and L2, 3,4, and 5. Ship. wt. 10 lb. Net price, $8.05

Model H-2 bracket fits larger towers with up to 26" cross section. K6,7, and 8 and L6, 7 and 8. Ship. wt. 17 lb. Net price, $12.29

### TURN BUCKLES

| NO. | CLOSED | OPEN | EACH |
|---|---|---|---|
| H-16 | 7½" | 10½" | .50 |

### GUY WIRE THIMBLES

Prevents wire from fraying and loosening.

| NO. | EACH |
|---|---|
| H-13 | .12 |

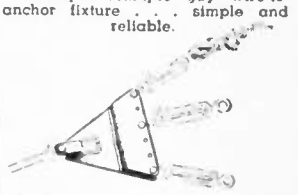
### CABLE CLAMPS

Popular guy wire clamps will hold guy wires securely.

| NO. | EACH |
|---|---|
| H-12 | .20 |

### TRIANGLE GUY PLATE

A one-spot multiple guy wire-to-anchor fixture . . . simple and reliable.



| NO. | | EACH |
|---|---|---|
| H-15 | complete with bolts | 6.25 |

### EARTH ANCHORS

| NO. | EACH |
|---|---|
| H-14 | 4.35 |

### TUBULAR MAST EXTENSIONS

| NO. | DESCRIPTION | HEIGHT | PRICE |
|---|---|---|---|
| E-135R | 1.25" O. D. x .065 Hi-Carbon extension.... (Reinforced) | 13'6" | 4.06 |
| AD-60 | 2.25" O. D. x 16 Ga. MAST..... | 6' | 6.00 |
| AD-100 | 2.25" O. D. x 16 Ga. MAST..... | 10' | 10.00 |
| AD-200 | 2.25" O. D. x 16 Ga. MAST..... | 20' | 20.00 |

## *NEW Sturdy Economy Model*
## TRI-EX "10" "TRISTAO" TOWER

**CONSTRUCTION & SPECIFICATIONS**

Uprights of Hi-Strength 1" O. D. heavy steel tubing. Cross bracing of die formed steel. 14 inches across the triangle. Electric welded for maximum rigidity. Coated with tough, durable, non-corrosive styrene finish.

**DESIGN**

Heavy wall tubular sleeves welded to upright members to prevent collapsing tube when tightening bolt. Hi-Strength ¾" galvanized steel bolts used throughout. Top of uprights sleeved with heavy wall steel inserts. With exclusive Tri-Ex method using heavy steel sleeves & inserts, all failures due to tearing of tubing at joint is eliminated.

**RUGGED STEEL ERECTION FIXTURE** — No trained workmen required for fast, easy installation. First section is set in concrete or on Model 14C Concrete Base. May be mounted on roof or flat surface with Model 14D Flat Base Mount. Only one to two man hours to install "Tri-Ex 10" fifty foot tower.

| | | | | |
|---|---|---|---|---|
| 14A | Top Section (For 1½" Mast | 28 lbs. | 10' | $17.61 |
| 14A2.25 | Top Section (For 2¼" Mast) | 28 lbs. | 10' | $17.61 |
| 14B | Standard Section..... | 31 lbs. | 10' | $17.61 |
| 14C | Concrete Base Mount..... | 15 lbs. | 5' | 8.42 |
| 14D | Adjustable Roof Mount..... | 9 lbs. | | 10.66 |
| 14E | Erection Fixture..... | 18 lbs. | 14' | 16.28 |
| H10 | 1½" O.D. x 1¼" I.D. Bushing | | 5" | .31 |
| H11 | Adapter for 2¼" O.D. (Please Specify I.D.)..... | | | 2.07 |

**TRI-EX TOWER CORPORATION**
**TULARE, CALIFORNIA**



World Radio History

# Rohn

*only complete line of*

# TV and COMMUNICATION TOWERS

## *proven in* Profits *and* Customer Satisfaction

• • • • HIGHLIGHTS OF THE ROHN LINE • • • •

*look at these*
**ROHN exclusives**

- **HOT DIPPED GALVANIZED**
  The finest, most durable finish is available for ROHN Towers and accessories . . . all done entirely on the ROHN premises under careful ROHN supervision.

- **UNEQUALLED DESIGN AND ENGINEERING**
  ROHN is the only design that has stood up over the years. ROHN has been first and foremost . . . and always the *leader* in new products to meet the changing demands.

- **MASS PRODUCTION FOR LOW COSTS**
  ROHN was the first to utilize mass production techniques to build a superior tower at the most competitive prices. This means no sacrifice in quality yet far greater profits for you.

- **UNIVERSAL CUSTOMER ACCEPTANCE**
  Thousands and thousands of installations prove the ROHN line first in customer satisfaction.

- **PIONEER MANUFACTURERS**
  Pioneers in tower manufacturing—and today one of the world's largest manufacturers of this type equipment. The ROHN Company was built on satisfaction on the part of distributor, dealer and customer alike.

- **COMPLETE LINE**
  Only ROHN offers a full line—*one* dependable one-stop source for all TV installation equipment. Save headaches, save shipping costs, save time . . . use ROHN unequalled service *exclusively*.

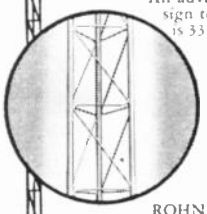
## no. 6 tower

"All-Purpose" tower

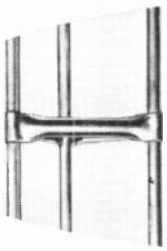
Fulfills 75% of your general tower needs—reduces need to carry big inventory. Ideal for home and industrial installations, communication requirements . . . eliminates stocking many different tower models. *Self-supporting to 50 ft. or guyed to 120 ft.!* Easy to climb for fast, efficient servicing. Utilizes *"Magic Triangle"* which insures far greater strength and stability. Permanent hot-dipped galvanized coating. Dependability—a feature customers demand—is assured with the Rohn No. 6 Tower . . designed to "stand up" for years to the rigors of weather and climatic conditions. Also available in enameled finish if desired.

## no. 25 tower

General-purpose communication or heavy-duty TV tower



An advanced design tower that is 33⅓% stronger than towers of similar size and type! However, cost less because of exclusive ROHN mass production techniques. Features heavy-gauge 1¼" high-quality steel side rails in a 12½" equilateral triangle design. Uses "zig-zag" cross-pieces, electric welded to side rails. Available in either hot-dipped zinc galvanized or special "RohnKote" enamel process. Self-supporting to 50 feet under most conditions or guyed to 150 feet.



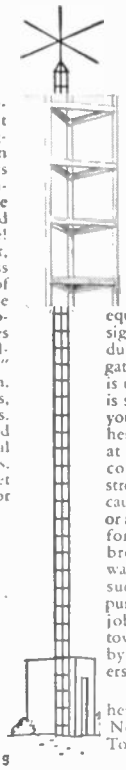
ROHN NO. 6 features the

**MAGIC TRIANGLE***

For structural superiority, famed wrap-around "magic triangle" design is featured in these all-steel towers. Towers have full 2½" wide corrugated cross-bracing welded to tubular steel legs. The exclusive design assures dependable strength and permanence.

*pat. pending

## COMMUNICATIONS TOWER No. 40



For extreme heights and communication purposes of all kinds, the Rohn No. 40 gives you strength and durability on which you can depend. The time tested and proven equilateral triangle design using extra heavy duty tubing and corrugated steel cross-bracing is utilized. The No. 40 is structurally sound so you can install it for heights up to 300'; or at lesser heights when considerably greater strength is required because of excessive wind or antenna loading. Use for radio telephone, broadcasting, microwave relay and all other such communication purposes. If a particular job calls for this type tower, save real money by using ROHN towers.

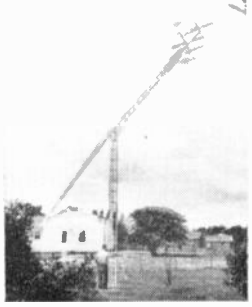
Note. For lesser heights, use the Rohn No. 20 or No. 30 Tower.

## Telescoping Masts

Heavy-duty hot-dipped galvanized steel tubing and rigid joints give extraordinary strength. *Quick installation* . . . mast attached to base—antenna fixed, then mast hoisted quickly to desired height. Utilizes special clamp and guy ring arrangement. Flanged interior section; crimped exterior section gives mast stability that can't be beat. Complete with guy rings and necessary erection parts. In 20, 30, 40 and 50 ft. sizes. Bases and ground mounts available.

## ROHN FOLD-OVER TOWERS

These unique fold-over towers are perfect for experimentation, TV service departments, amateur use, and special purposes. Uses regular ROHN tower sections with kit. Now available in standard No. 10 tower to 50', and in ROHN No. 30 & No. 40 towers for heavy-duty use.

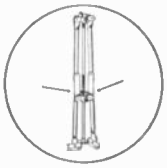


## *ALSO* a full line of ROHN ACCESSORIES

Rotor posts, house brackets, eave brackets, peak and flat roof mounts, instant drive-in bases, hinged base sections, telescoping mast bases, guying brackets, UHF antenna mounts, erection fixtures, variety of mounts and supports for masts or tubing, tower installation accessories, TV service tables, mast and TV hot-dipped galvanized tubing, guy rings, "twister-anchors", rubber tower grommets, insulator sections, hinged rotor platform, accessory shelf and platform and dozens of other items. Get the complete catalog TODAY!

## ROHN ROOF TOWERS

5 models from 2½ to 10 ft.—all hot dipped galvanized. Makes sturdy, quick and economical installation. Very popular everywhere. Collapsible for easy shipping.



**ROHN** *Manufacturing Company*

PEORIA, ILLINOIS



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World Radio History

# KTV

formerly KUEHNE

# Towers

## and communications equipment

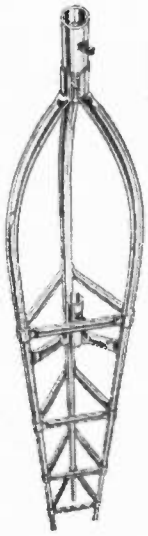
A TOWER OF *STRENGTH*

## 2 GREAT PACKAGES

**40 ft. Tower** *Includes:* 1 #710-K; 1 #816-K; 2 #818-K tower sections and all connecting hardware. Shipping wt. 126 lbs. Order concrete base or roof mount separately.

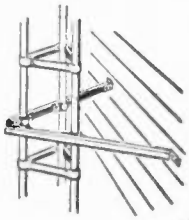
**50 ft. Tower** *Includes:* 1 #710-K; 1 #816-K; 2 #818-K and 1 #820-K tower sections; all connecting hardware. Shipping wt. 164 lbs. Order concrete base or roof mount separately.

**also available in 10, 20 and 30 ft. packages**



#710-K *Top Section.* Equipped with 21" spaced mast socket rings to take 1½" to 2½" dia. mast. Threaded external receptacle securely welded to each ring gives extra bearing for 2" x ½" set screw. Hi-tensile bolts, washers, hex nuts and set screws furnished. Over-all length 10 ft. Wt. 28 lbs.

#820-K *Straight Section.* Used as bottom of free-standing 50 ft. tower and in other applications. Legs of 16 ga. cold rolled steel triangularly spaced on 10⅞" centers. Gird-around cross ties spaced at 12" intervals. Over-all length 10 ft. Complete with hardware 38 lbs. #818-K, same quality, but cross ties are spaced at 15" intervals. Wt. 34 lbs. #816-K, Cross ties spaced 20" apart. Wt. 30 lbs.



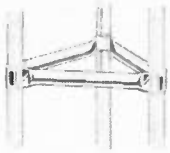
#864-H *Wall or Roof Bracket.* Adjustable to 20 inches.

#863-H *Roof Mount.* Assures a strong, accurately vertical installation of one or more tower sections. Adjusts up to 45° roof pitch. Takes full advantage of KTV's lateral load support. Wt. 8 lbs.

#852-J *"Gin Pole".* For easy tower assembly. Has 1¼" heavy-duty steel tubing with powerful strap-steel grab brackets. Fits all tower sections. With forged ring and iron pulley. Length 12 ft. Wt. 18 lbs.

### *Gird-Around Cross Ties*

**Bigger, safer, stronger. Actually *grip around* vertical tubing. Take all outward strain. The tower itself takes none.**

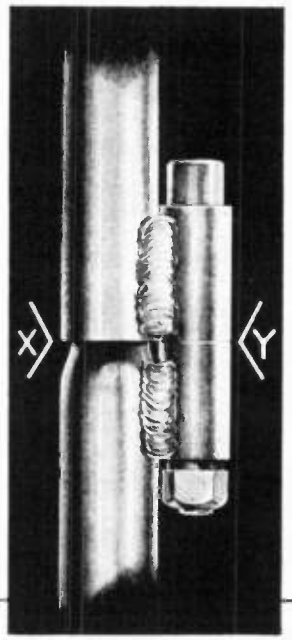


#862-H. Concrete base mount. The recommended installation.
#857-F. Mast 10 ft. x 1¼" O.D.
#859-F. Mast 14 ft. x 1¼" O.D.
#865-H. Rotor post brackets—adjustable.
#866-H. Tower mast bushing. 1¼" I.D. 1½" O.D.
#867-H. Base plate for drive-in base.

*Engineering available for special towers for radiation and special antennas.*

**COMMERCIAL and HAM TOWERS AVAILABLE TO 160 FEET**

- *Safe in gales up to 80 mph without ugly, hazardous guy wires.*
- *Free-standing to 50 feet high.*
- *No rusting, ripping or weakening holes . . . safest by far!*
- *Big, husky, steel gird-around ties for extra strength.*
- *Exclusive lateral load bearers take all strain off joints.*
- *Easy installation and dismantling on roof or ground.*
- *Free-drainage joints prevent trapped moisture and corrosion.*
- *Electro-plated with durable zinc for permanent high-luster finish*




## *Exclusive!* LATERAL LOAD BEARERS

*No dangerous rust.* Arrow (X) shows open joint section. Assures free drainage and ventilation, less corrosion. * * * *No hazardous holes.* Arrow (Y) shows lateral load bearers lifetime welded to side of each section leg with twin 1⅛" fillets. Sections are bolted vertically. Bear 100% of the load. No load on joints. No horizontal bolts to tear through. Nothing safer. Only KTV has it!

## KTV Tower and Communications Equipment Company

Sullivan, Illinois

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World Radio History

**CORNELL-DUBILIER**
SOUTH PLAINFIELD, N. J.

THE **RADIART** CORP.
CLEVELAND 13, OHIO

# now...3 models to choose from

## C·D·R *Automatic* ROTORS

a type for every need . . . ALL 40% sharper tuning than any other automatic rotor.

Here is the HEAVY DUTY rotor that is so popular everywhere . . . NOW COMPLETELY AUTOMATIC! Powerful beyond any TV need . . . it is proven and tested as the giant of the industry. Uses 4 wire cable.

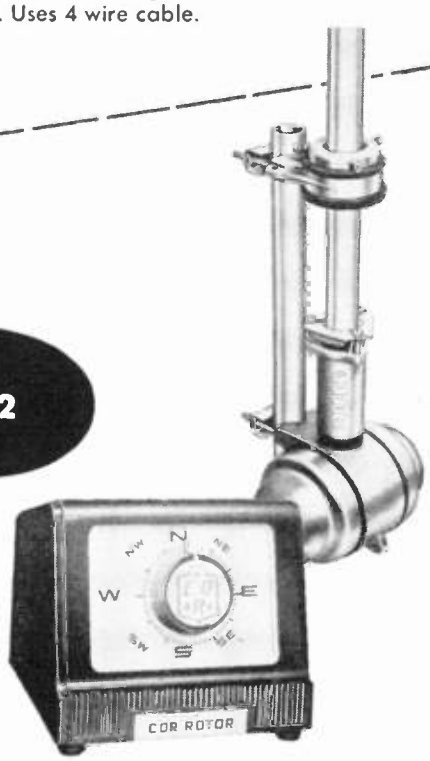
**AR-22**

The complete, AUTOMATIC rotor with THRUST BEARING. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

**AR-2**

The complete, AUTOMATIC rotor. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

**AR-1**





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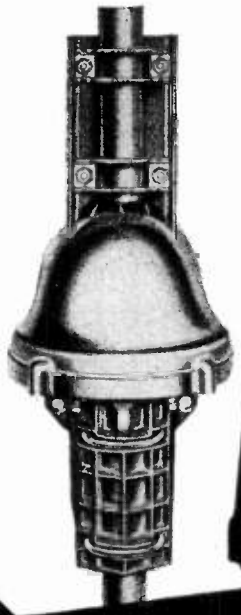
# CORNELL-DUBILIER

SOUTH PLAINFIELD, N. J.

THE **RADIART** CORP.

CLEVELAND 13, OHIO



## TR-4

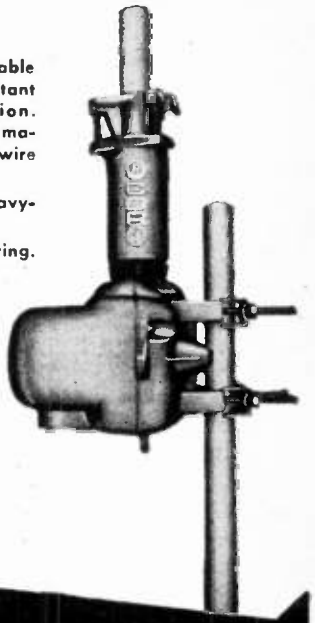
The HEAVY DUTY rotor, complete with new handsome modern cabinet with METER control dial, uses 4 wire cable.

## TR-15

Features never before available in popular price range. Instant locking. 360° revolution. Weather-sealed. Cabinet: mahogany or blond. Uses 4-wire cable.

TR-16 Same but with heavy-duty thrust bearing.

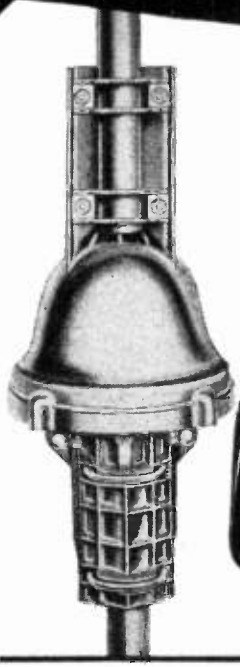
TA-6 Heavy-duty thrust bearing.



# C·D·R ROTORS

**Powerful • Dependable**

Here is the ONE line that has everything . . . a model for every need! AND POWERFUL EVEN BEYOND ANY ORDINARY NEED! Skillfully engineered . . . ALL FIELD TESTED AND PROVEN by thousands and thousands of satisfied users from coast to coast.

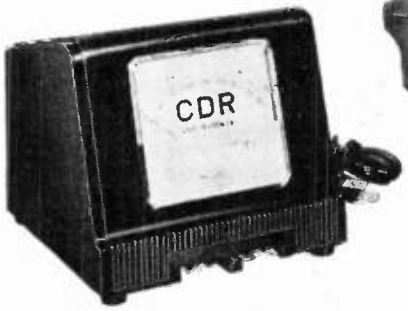


## TR-2

The HEAVY DUTY rotor with plastic cabinet featuring "Compass Control" illuminated perfect-pattern dial, uses 8 wire cable.

## HAM-M

Heavy-duty unit specially designed for amateur radio operators. Holds heaviest antennae commercially available. Exceptional resistance to ice, wind. Uses 8-wire cable. Automatic break. Extremely accurate directional indicator.



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World Radio History

# ALLIANCE TV PRODUCTS

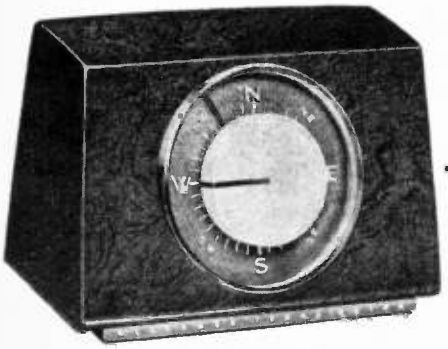
## ALLIANCE TENNA-ROTORS

### ALLIANCE TENNA-ROTOR

The Alliance Tenna-Rotor, available in three models illustrated below, is a TV or FM antenna rotator. Designed to rotate all conventional type antennas. It consists of a fully enclosed electrically driven rotor into which the antenna center-post is clamped. Four-conductor "zip" cable connects rotator with plastic control case placed near receiver, which plugs into any 60 cycle 110-volt AC house circuit. A selector switch controls rotation clockwise or counter-clockwise to point antenna in any direction for optimum reception.

ROTATOR UNIT

*Rotator on the Market*
*Most Widely Advertised*



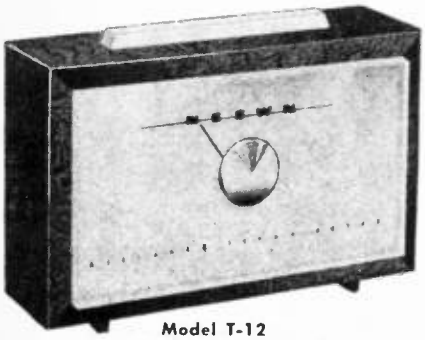

Model U-98 Automatic
Available in *Forest Green, *Ivory and Mahogany Grain. List Price .....$44.25
*Slightly Higher

### FULLY AUTOMATIC MODEL U-98

"SET IT AND FORGET IT"

The first and finest fully automatic rotator on the market.
BEAUTIFUL NEW DECORATOR MODELS!
New Colors—*Forest Green, *Ivory, as well as Standard Mahogany.

Simply set the pointer—antenna automatically turns by itself and stops at the direction shown on the indicator dial. New styling plus the exclusive automatic feature makes Model U-98 the ultimate in rotators!



Model T-12
(with Tenna-Teller Dial)
Available in *Forest Green, *Ivory and Mahogany Grain. List Price .....$34.25
*Slightly Higher

### MODEL T-12

WITH EXCLUSIVE TENNA-TELLER DIRECTION INDICATOR

This finger-tip electrically driven and manually operated Alliance Tenna-Rotor is noted for extreme accuracy, compactness and smart styling. The "Tenna-Teller" indicator dial shows the exact compass direction to which the antenna is pointed and gives a constant reading.

Both new model Alliance Tenna-Rotors, the U-98 automatic and the T-12 have many new and advanced features of design which include increased speed of rotation and incorporate 32 distinct improvements.

The new rotator unit has double-action, magnetic anti-drift brake, plus smoother synchronization with control units. All Alliance Tenna-Rotors are pre-sold through television advertising, which is continuous and nationwide!

### MODEL K22

New, lowest-priced rotator in the field, Alliance Model K-22 Tenna-Rotor features a fingertip control bar. When pressed on one end the antenna rotates in one direction, reverses when other end is depressed. Center disc signal light indicates when limit of travel is reached. Neat, compact, modern design; product of Alliance high-standard precision manufacturing. Fully guaranteed.

Model K-22
Standard Color Only
List Price .....$24.50

**THE ALLIANCE MANUFACTURING COMPANY, INC. • Alliance, Ohio**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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

World Radio History

# ALLIANCE TV AND ELECTRONIC PRODUCTS

**ALLIANCE TENNA-ROTORS • ALLIANCE GENIE®**

# GENIE®

## Radio-Controlled Garage Door Operators

The first quality, low-cost, automatic garage door operator!

The Alliance Genie opens, closes, locks garage door, turns light on and off automatically! Now available in radio-controlled models (fully automatic), and key-lock switch models (semi-automatic).

The Alliance Genie operates on all standard one-piece and sectional overhead garage doors. The "Genie" radio models are activated from the car dash and by a radio transmitter installed under the car hood.

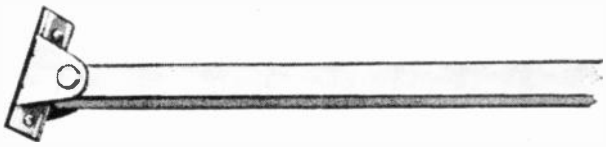
"Genie" key lock models are operated by turning a key mounted in a lock-switch installed along the driveway.

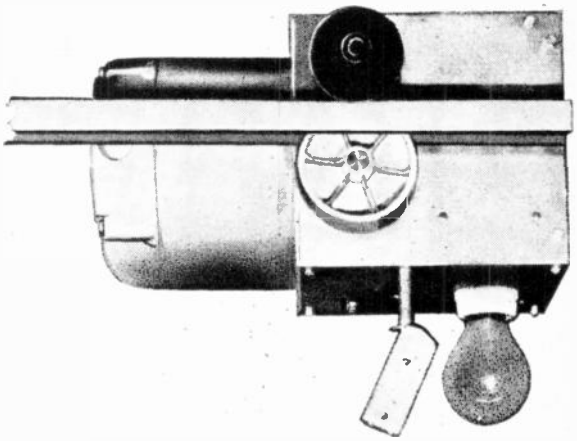
The Alliance Genie incorporates special safety features — a safety clutch which automatically stops the door if it strikes an object while operating and which automatically reverses direction of door's travel the next time operator is activated.

Special Alliance "wobbulator" assures instant stop and saves motor wear.

The Alliance Genie is easily and quickly installed. Comes complete with necessary mounting brackets. Works on standard house circuits.

***New! Alliance's DeLuxe "400" Radio-Controlled Screw-Driven Garage Door Operator! Send for literature now!***





### "Genie"

**RADIO CONTROLLED MODELS**

"Genie" RCST-1 (solid doors)
"Genie" RCCT-1 (sectional doors)

**KEY LOCK MODELS**

"Genie" KST-1 (solid doors)
"Genie" KCT-1 (sectional doors)

**Model TBB**
**List Price $4.95**

## ALLIANCE THRUST BEARING BRACKET

The Alliance Thrust Bearing Bracket, accessory to Alliance Tenna-Rotor, is made to provide added support for all heavier conventional type antennas. Used with Alliance Tenna-Rotor, it makes an ideal installation. Especially suited for multibay and stacked array antenna types. The Thrust Bearing takes the weight off the rotor unit and transfers it to the ground. It assures extra rigid support and maximum resistance to high winds.

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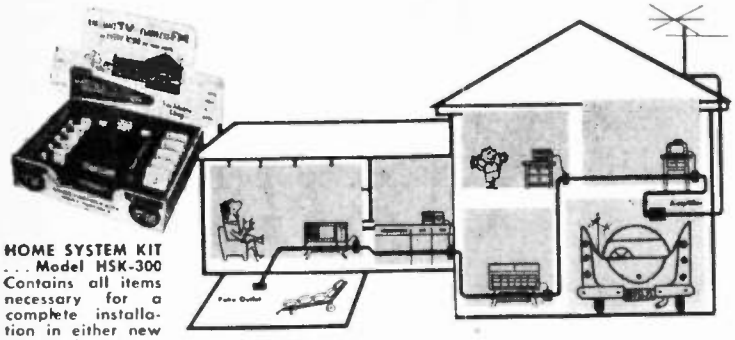
World Radio History

# JERROLD TV RECEPTION AIDS

## JERROLD'S AMPLIFIED TV-FM HOME SYSTEM



**HOME SYSTEM KIT . . . Model HSK-300** Contains all items necessary for a complete installation in either new construction or existing buildings. Contains one HSA-46, five HS-140, twelve HS-36 and 100' of twin-lead. List Price $67.75.

The 1st Completely Engineered, Amplified System For The Home. Produces . . . Plug-In . . . High Fidelity TV and FM Reception . . . Anywhere In The Home.

### FEATURES

- HIGH-OUTPUT, NOISE FREE AMPLIFIER
- ALL VHF CHANNEL TV AND FM RECEPTION
- 300 OHM TWIN-LEAD OPERATION
- PRESS-ON, PLUG-IN OUTLETS
- SCREW-DRIVER INSTALLATION . . . SOLDERLESS
- IMPEDANCE MATCHED THROUGHOUT
- HIGH ISOLATION BETWEEN OUTLETS

## SYSTEM COMPONENTS

**HOME AMPLIFIER Model HSA-46** A printed circuit amplifier with a low noise input. Response is flat, ±1.5 db over TV and FM band. Gain is a minimum of 15 db. Output capabilities permit input signals as high as 30,000 microvolts without overload. Input and output matched to 300 ohms. Utilizes two 6BK7-A tubes. List Price $49.95.

**HOME OUTLET . . . Model HS-21** An efficient press-on tap unit for surface or flush mounting (with HS-22 and HS-23). Offers 10 db isolation between receiver and 300 ohm line. List Price $1.45.

**MOUNTING RING . . . Model HS-22** Plastic bracket used to adapt HS-21 for flush mounting in standard plastic outlet box. List Price $.30.

**COVER PLATE Model HS-23** Ivory cover plate to cover the outlet in flush mounting applications. List Price $.50.

**PRESS-ON PLUG Model HS-24** Male plug for simple attachment to 300 ohm twin-lead. No soldering. Inserts into HS-21 Outlet. List Price $.50.

**TWIN-LEAD INSULATORS Model HS-36** Plastic strap insulators for attaching twin-lead throughout the home. List Price $1.80/24.

**OUTLET ASSEMBLIES SURFACE MTG. Model HS-135** Contains all items for surface mounting. One HS-21 and one HS-24. List Price $1.95.

**FLUSH MOUNTING . . . Model HS-140** Contains all items for flush mounting. One HS-21, one HS-22, one HS-23 and one HS-24. List Price $2.75.

### DESCRIPTION

The JERROLD Home System is a completely new innovation in supplying exceptional quality television and FM signals to a number of receivers located anywhere in the home. This is the first truly engineered, amplified system designed especially for the home.

The Home System consists of a low-noise, high output amplifier that permits clear reception of VHF television and FM radio signals in both fringe and metropolitan areas. AM reception is included by utilizing one side of the distribution wiring as an efficient AM antenna. The amplifier distributes the TV and FM signals throughout the house over regular twin-lead. Connection to the twin-lead is made by a special tap unit. A quick disconnect press-on plug is supplied for connecting the antenna terminals of each receiver to any of the tap units. This feature allows any receiver to be moved from room-to-room . . . receivers are no longer tied down.

## LOW LOSS MULTI-SET COUPLERS

Jerrold Multi-Set Couplers provide the best method of connecting 2, 3 or 4 television receivers to a common antenna array. Units feature positive matching, extremely low loss and high isolation. Couplers can be used in reverse to mix antennas.

INDOOR MOUNTING — on the baseboard for a neat and attractive appearance, with connectors concealed and protected. For attic or basement use, the unit mounts with terminals exposed for ease of servicing.

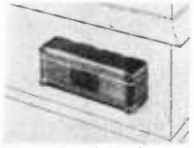
OUTDOOR MOUNTING — a bracket is supplied utilizing keyhole perforation for screw heads, or for strapping to antenna mast. The unit is weather resistant.

**THREE MODELS AVAILABLE**

*M-2 TWO SET COUPLER FOR STRONG SIGNAL AREAS — inductively compensated with emphasis on postive matching for reduction of ghosting and smear. Color: blue grey. List $3.50.

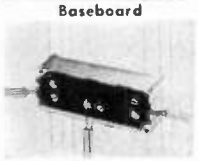
MF-2 TWO SET COUPLER FOR FRINGE AREAS — for use wherever extremely low forward losses are mandatory. Featuring a highly efficient transformer design and positive matching. Provides complete isolation between receivers. Color: ivory. List $4.50

MF-4 FOUR SET COUPLER FOR ALL AREAS — designed with the same basic circuit as MF-2, but for use in feeding 3 or 4 sets from one antenna. Color: ivory. List $5.75

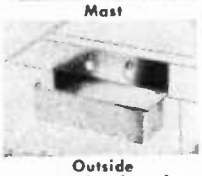


Baseboard

Mast



Attic & Basement



Outside

(Each unit packed with special bracket, for outdoor mounting, and necessary hardware.)
*Best for UHF.

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

**ALL JERROLD EQUIPMENT DESIGNED FOR COLOR**



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World Radio History

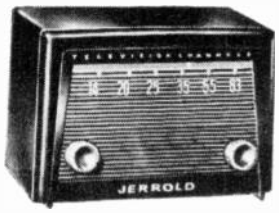
# FOR THE HOME

JERROLD

## ULTRACON
### UHF CONVERTERS
**FEATURING**

- PRESELECTION — a must in 2 channel areas, UHF or VHF.
- COAXIAL TUNING — for no drift-stability, low noise operation, no wiping contacts.
- LONG LIFE OPERATION — newly developed 6AF4-A oscillator tubes, low noise mixer-diodes.
- VERNIER TUNING — coupled to slide rule dials for easy station selection.

### ULTRACON Deluxe Model FTC




. . . for excellent reception in areas where other units don't work. Combines high gain amplification with low loss radar designed, dual cavity tuner. Built-in UHF antenna. Matched Impedance. Handsome mahogany or blonde cabinet. Complete with 6AF4-A, 1N72, 6CB6 and instruction booklet. List Price $39.95.

### ULTRACON Model TCU

. . . for quality reception in normal signal areas. Lowest noise figure over entire UHF band of any similarly priced converter! Handsomely styled cabinet in dark maroon. Complete with 6AF4-A and 1N72. List Price $22.95.

## "TRAP-EASE"
### TUNABLE INTERFERENCE TRAPS

Eliminate adjacent channel interference, permit reception of weak, distant stations normally blocked by a strong local channel.

BEFORE

AFTER

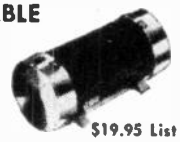
TRAP-EASE "KNOCKS OUT ADJACENT CHANNEL INTERFERENCE". This tunable "deep notch" antenna trap (greater than 50 db) permits TV viewers to remove "beat" or "herringbone" patterns caused by adjacent channel sound or video carriers. Permits clear reception of even weak distant stations.

Works with any TV receiver and any 300 ohm antenna that would normally bring in pictures from the distant stations if the interfering adjacent channel was not on the air. Does not affect reception of regularly viewed channels.

### TWO MODELS AVAILABLE

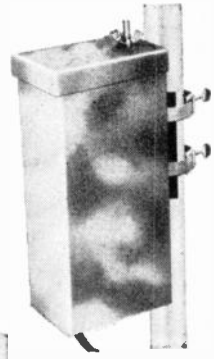
LOW TRAP-EASE
(Model HQ-91) covers Channels 2 to 6.

HIGH TRAP-EASE
(Model HQ-92) covers Channels 7 to 13



$19.95 List

## "DE-SNOWER" PREAMPLIFIERS



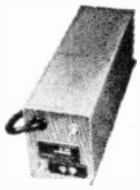
Jerrold De-Snower Preamplifiers mount directly at the antenna. Produce "snow-free" pictures from extremely weak signals. Overcome noise pick-up and line losses in antenna lead-ins. Three models available, each with optional inputs for 75 or 300 ohm antennas. One coax cable carries both 24 volt power and amplified signal. All units shipped with remote power supply, fittings and mounting brackets.

### Model DSA-132
All Band: Covers channel 2 to 13. Gain: 25 db. Frequency Response: ±1 db. Noise Figure: 6 db low band and 7.5 db high band. Tubes: 3- 6BQ7-A, 1 6AK5, 1 6CB6. Sizes: 5" x 5" x 10¼". List Price $109.50*

### Model DSA-62
Low Band: Covers channel 2 to 6. Similar to DSA-132 in specifications. Tubes: 1-6CB6 and 1-6BQ7-A. List Price $90.00*

### Model-DSA-*
Single Channel: Available for any channel from 2 to 13. Similar to Model DSA-62. Gain: 28 db. Tubes: Low Band, 1- 6BQ7-A and 1-6CB6; High Band, 1-6BQ7-A and 1-6AK5. List Price $90.00*

## FM RANGE EXTENDER



Provides reception of distant FM stations not normally received. Greatly improves reception of weak or noisy stations. Connects between the antenna and FM tuner or receiver. 20 db S/N ratio with 0.6 uv input. Increases the antenna signal 18x. Full FM bandwidth. Gain: 25 db. Tubes: 1 6BQ7-A and 1- 6CB6.

### Model DSA-FM
Designed for outdoor antenna mast mounting, operates from a remote supply of 24 volts. Supply included. List Price $90.00*

### Model 406A-FM
Designed for indoor mounting, operates from internal 117 volt supply. List Price $64.25*

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

**LOOK TO JERROLD FOR AIDS TO BETTER TELEVIEWING.**

JERROLD

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*Prices slightly higher in the West and Southwest.

TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY



World Radio History

# JERROLD

# TV DISTRIBUTION SYSTEMS

*as simple as A-B-C*

## A AMPLIFYING

Amplify the signals, one channel or all channels. Achieve undistorted reproduction of TV signals over long distances of coaxial cable with simplicity of installation and continuous 24-hour maintenance-free operation. Each Jerrold amplier is designed with:

- Flat Response over entire band
- Matched 300 ohm or 75 ohm input
- Matched 75 ohm output
- High Overload Characteristics

### MODEL 2300

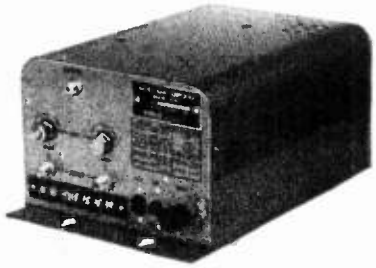
COVERS CHANNELS 2 TO 6 AND 7 TO 13

The Jerrold high gain, high output TV distribution amplifier for large motels, hotels, apartment buildings and "neighborhood cable" systems.

**$164.00 List**

**FEATURES:**

- Hi and Lo band locking gain controls.
- Hi and Lo band "tilt" controls for cable compensation. (No external line equalizers needed.)
- Ground clamp for lightning protection.



### SPECIFICATIONS

**Gain:** 38 db min.
**Gain Controls:** 16 db range Hi and Lo bands.
**Tilt Controls:** Hi and Lo bands.
**Rated Output (Max.):** .3v/channel for 9 channel operation
**Rated Input (Max.):** 26000 uv
**Tube Complement:** 4-6BQ7-A, 2-12BY7A, 1-6CB6.
**Cable Fittings:** 75 ohms — (3) F-61; 300 ohms — screw terminals
**Fuses:** Primary — 1 amp.
**Finish:** Gray hammertone.
**Dimensions:** 11" x 7¼" x 5¼"
**Shipping Weight:** 10 lbs.
**Power Requirements:** 117 volts AC .58 amps.; 63 watts

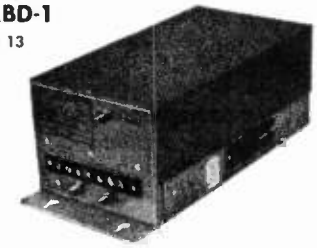
### MODELS ABD-1, ABD-8 and 406A

Provide the key to superior television distribution for small economical systems. Combining latest cascode circuitry and superior mechanical design, these amplifiers deliver strong, snow-free pictures and keep installation costs to a minimum.

### SPECIFICATIONS: MODEL ABD-1

COVERS CHANNELS 2 TO 6 and 7 TO 13

**Gain:** 25 db
**Rated Output (Max.):** 0.1 v/channel (7 channel operation)
**Rated Input (Max.):** 5500μv
**Noise Figure:** 6 db low band, 7.5 db high band
**Tube Complement:** 3-6BQ7A, 1-6AK5, 1-6CB6
**Cable Fittings:** 75 ohms-(3) F-61; 300 ohms — screw terminals
**Fuses:** B+, 1/10 amp. Slo Blo; Pri. ½ amp. Slo Blo
**Dimensions:** 11" x 4" x 5"



**Shipping Weight:** 7 lbs. 7 ozs.
**Power Requirements:** 117 v AC, 50-60 cps, 35 Watts

**$99.50 List**

### SPECIFICATIONS: MODEL ABD-8

COVERS CHANNELS 2 TO 13

Same circuitry as ABD-1 except output circuit, which delivers 15 db gain to each of eight F-61 output terminals.

**$99.50 List**

### SPECIFICATIONS: MODEL 406A-*

COVERS ANY SINGLE CHANNEL FROM 2 TO 13

**Gain:** 28 db
**Bandwidth:** 6 mc. ±½ db
**Rated Output (Max.):** .6v RMS Lo band, .5 v RMS Hi band
**Noise Figure:** 6 db Lo band, 8 db Hi band
**Tube Complement:** Lo band, 1-6CB6, 1-6BQ7A; Hi band, 1-6BQ7A, 1-6AK5
**Housing:** Gray hammertone finish
**Dimensions:** 3" x 4" x 10½" overall
**Shipping Weight:** 4¼ lbs.
**Power Consumption:** 15 Watts

* Specify channel desired

**$64.25 List**

TECHNICAL DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

**Above units shipped complete with coaxial fittings and hardware.**

**ALL JERROLD EQUIPMENT DESIGNED FOR COLOR**



**Prices slightly higher in the West and Southwest**

**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

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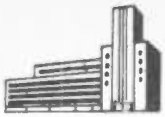
World Radio History



# B BRANCHING

Branch amplifier outputs into 2 or more trunks with minimum loss, no distortion, no overload and high isolation between legs.

## TWO-WAY SPLITTER
### Model 1562

Hybrid two way splitter with only 3 db forward loss in each leg. Isolation between outputs is 15-20 db. B-59 coax bushings do not require cable connectors.

**$7.50 List**

## FOUR-WAY SPLITTER
### Model 1514

Four-way reactive splitter with only 6 db forward loss to each output. Isolation between outputs, 12 db. Complete with five F-59 cable connectors. (Unused outputs must be terminated with TR-72F terminating resistors.)

**$14.50 List**

## TERMINATORS

### Model TR-72B

Inexpensive 75 ohm terminator for easy connection to B-59 type bushings.

**$1.50 List**

### Model TR-72

Close tolerance 75 ohm resistor for line or equipment termination. Mates with C-61, C-81 or C-5911.

**$1.50 List**

### Model TR-72F

Similar to TR-72. Mates with F-61, F-81, A-61 or F-101-59.

**$1.50 List**

# C CONNECTING

Connect the signal to TV receivers quickly and efficiently — using simple and rapidly installed Jerrold tap-off units. Designed for high isolation between receivers. Compensates for cable characteristics.

## FOR INDOOR USE

### Surface Mounting

### Model LT-310 — 300 ohm output

Taps RG-59/U line to 300 ohm receivers. Full RF and AC isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Three color-coded attenuation values (specify R, Y or G). Terminate the last tap on feeder line with model TR-72B terminator.

**$5.00 List**

### Model LT-77 — 75 ohm output

Taps RG-59/U line to 75 ohm receiver or to 300 ohm in direct pick-up locations. Full RF isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Three color-coded attenuation values (specify R, Y or G). Terminate the last tap on a feeder line with model TR-72B terminator.

**$5.00 List**

### Flush Mounting

### Model 1431 — 300 ohm output

Electrically identical to LT-310. Mounts in 2" x 4" electrical outlet box or 4" x 4" outlet box with single gang plaster ring. Specify R, Y or G. Terminate the last tap on a feeder line with model TR-72B terminator.

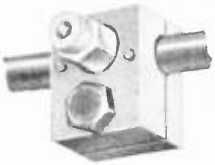
**$5.00 List**

### Model 1477 — 72 ohm output

Electrically identical to Model LT-77. Mounts in 2" x 4" electrical outlet box or 4" x 4" outlet box with single gang plaster ring. Specify R, Y or G. Complete with 72 ohm output plug. Terminate the last tap on a feeder line with model TR-72B terminator.

**$5.00 List**

## FOR OUTDOOR USE



### Model PT 1461 — For RG-11/U

Pressure tap for RG-11/U type feeders. Surface mounting. Removable color coded isolation units. (Specify R, Y or GR.) Unique design minimizes shunt capacity. (Requires use of CD-11 Cutting Punch.) Complete with F-59 cable connector. Terminate the last tap on a feeder line with TR-72F terminator. (Use F101-59 cable adaptor.)

**$7.50 List**

### Model 1401 — For RG-59/U, RG-6/U

Surface mounting non-resistive line tap for RG-59/U type feeders. Color coded attenuation values permit use with highest gain amplifiers. Specify R, Y, GR. Complete with mounting bracket and three C-52 cable connectors. (Use C-56 connectors for RG-6 type feeders.) Terminate the last tap on a feeder line with TR-72 terminator.

**$7.50 List**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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World Radio History

# JERROLD TV SYSTEM ACCESSORIES

## ANTENNA MIXING NETWORKS

### ANTENNA MIXING NETWORKS

For mixing single channel antennas or amplifiers into a common line. Provide individual channel control by permitting insertion of pads at the inputs. May be used in reverse as channel splitters. AMN series has F-61 connectors for 75 ohm line. DMN series has terminal strips for 300 ohm line.

INDOOR MOUNTING 72

**AMN-HI Indoor mounting,** gray hammertone finish, 75 ohm input and output. For four channels, 7 to 13. $27.50 list

**AMN-LO Indoor mounting,** gray hammertone finish, 75 ohm input and output. For three channels, 2 to 6. $27.50 list

MAST MOUNTING 300Ω

**DMN-HI — Mast mounting** $42.50 list
Iridite finish, 300 ohm input and output. For four channels 7 to 13.

**DMN-LO Mast mounting** $42.50 list
Iridite finish, 300 ohms input and output. Includes Hi-Lo mixer for combining with DMN-HI. For three channels, 2 to 6.

Model AMN-H

Model DMN-HI

## UHF CONVERTER MODEL U2V

### UHF Converter Model U2V

Pulling UHF pictures out of the snow where other converters haven't a chance, the U2V mast mounting mixer head converts right at the antenna. The UHF oscillator is mounted at the amplifier location (or at the TV receiver for individual home installation) and sends conversion signals up to the mixer, (a technique developed in radar installations). Signals leave the mixer as VHF so coaxial cable may be used. The U2V will convert any UHF channel to any VHF channel. Order by specifying UHF channel to be converted to a specific VHF channel. $124.50 list

**MIXER HEAD**

**UHF Input:** double cavity tuned, 10 mc bandwidth, 75 ohms
**VHF Output:** 75 ohms
**Mixer Crystal:** CK 710 or CK 731
**Dimensions:** 4¼" x 4 9/16" x 2 9/16"
**Weight:** 1 lb. 13 oz.
**Mounting:** Mast mounted, brackets and straps supplied

**OSCILLATOR**

**Tube complement:** 1-6AF4, 1-OB2.
**Oscillator Output:** 1.0. v RMS
**Power Requirements:** 117v AC, 50-60 cps, 25 watts
**Dimensions:** 4½" x 5½" x 7"
**Weight:** 3½ lbs.
**Mounting:** May be mounted higher horizontally on a shelf or vertically on a wall.
**Shipping Weight:** 7 lbs. (Head & Oscillator).

## WALL TERMINAL UNITS

**Model ST 1611**
Features quick-disconnect receptacle.
Matches receiver to 75 ohm line. Terminates tap line. Isolates line from AC-DC receivers. Metal construction minimizes radiation. Male plug not included.
$3.75 list

**MODEL 1201**
Matches receiver to 75 ohm line. Terminates line. Isolates line from AC-DC receivers. Molded plastic economy model. Surface mounting.
$2.40 list

**MODEL 1202**
Same as model 1201 but mounts flush in 2 x 4 electric outlet box. Requires one Model 1202 P Cover Plate.
1202 $2.40 list
1202P $ .25 list

## MATCHING TRANS-FORMERS

**Model T-372**
Surface mounting. 6 db gain between 75 ohm line and 300 ohm line. Flat response 50-250 mc. VSWR 1.26. Isolates line from AC-DC receivers. C-52 male connector included.
$6.00 list

**Model T-375**
Receiver mounting. Economy version of T-372. Has B-59 crimp-on bushing in place of C-61 female 75 ohm connector, pre-connected 6" 300 ohm lead instead of terminal strip for mounting directly to receiver. $4.85 list

**Model T-373**
Flush mounting. Transformer type terminal unit. Mounts flush in 2" x 4" electric outlet box. Steps up signal 6 db between 75 ohm line and 300 ohm output. Isolates line from AC-DC receivers. $6.00 list

**Model TO-374**
Antenna mounting. Outdoor version of T-372. Bypasses AC for using open line in long runs between De-Snower preamplifier and power supply. Matches 300 ohm broadband or yagi antennas to 75 ohm line. Complete with mounting strap and cable connector (F-59). $10.00 list

## HIGH Q TRAPS

Each trap consists of two tunable L-C circuits in a modified bridged-tee network. Tuning is by Teflon-dielectric trimmers with screwdriver adjustment. With both circuits tuned to an interfering signal, rejection is 40 db minimum with insertion loss only 1 db at 1 mc off the interfering frequency. Complete with two F-59 connectors for RG-59/U cable. each $58.50 list

**Model TLB-1** 59.75 — 83.75 mc
**Model TFM-1** 88-108 mc
**Model THB-1** 179.75 — 211.25 mc

## MATCHED T PADS

**Model MTP**
Model MTP is a T pad presenting outstanding 75 ohm match to both line and tap. VSWR is better than 1.2. Available in attenuation values of 8, 10, 12, 14, 17, and 20 db. (Insertion loss varies inversely with tap attenuation, 5.5, 5.0, 4.5, 3.3, 2.5 and 2.0 db). Specify value desired. Complete with three F-59 cable connectors for RG-59/U cable.

Model MTP-8, 10, 12, 14, 17 or 20. $10.83 list

## FIXED RF PADS

**Model PDC**—Coaxial chassis mounting attenuator pads. F-59 connector on one end mates with F-61 connector on chassis. F-61 connector at other end mates with F-59 male cable connector. Available in attenuation values of 3, 6, 10 and 20 db. Specify value desired.

**Model PDC-3, 6, 10 or 20** $5.85 list

**Model PDL** — Identical with PDC except that both ends have F-61 female connectors to mate with F-59 cable connectors.

**Model PDL-3, 6, 10 or 20** $5.85 list

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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# JERROLD TEST EQUIPMENT

# TRANSISTORIZED

## FIELD STRENGTH METER
## Model TMT

Direct Reading . . . Portable Field Strength Meter for Television Signal Measurements . . . Channels 2 to 6 and 7 to 13.

### FEATURES

- TRANSISTORIZED PRINTED CIRCUIT . . . 200 operating hours on 4 flashlight cells.
- EXTREMELY LIGHT WEIGHT . . . 4½ lbs.
- UP TO 6,000,000 MICROVOLTS...in eight switchable ranges.
- NO FALSE READINGS ON NON-TV INTERFERENCE.
- METER CALIBRATED IN BOTH MICROVOLTS AND DB.
- WEATHER PROTECTIVE CARRYING CASE, WITH NECK STRAP, AVAIABLE.
- DESIGNED FOR EASY ONE MAN ANTENNA ORIENTATION.

### APPLICATIONS

- CHECKING ANTENNA PERFORMANCE ON SERVICE CALLS
- ANTENNA ORIENTATION
- SIGNAL PROBING FROM ROOF TOPS, VEHICLES, ON HILL-SIDES AND OTHER LOCATIONS WHERE PORTABILITY AND BATTERY OPERATION ARE A NECESSITY
- MEASURING TELEVISION SIGNALS IN ALL TV DISTRIBUTION SYSTEMS.

The Jerrold Model TMT is a direct reading Field Strength Meter that represents a radically new concept in the design of an instrument for measuring television signal strengths. In operation, the meter is relatively immune to noise and interfering signals; it responds only to the channel to which the meter has been tuned. The input to the meter is designed for both 75 and 300 ohm applications.

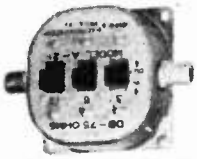
Utilization of transistors, crystal diodes and printed circuit wiring offer many advantages. Principal among these are: extremely long life, minimum maintenance, stable operation, minimum power consumption and compact portability. Model TMT features these and many more advantages for the television serviceman and system technician. Unit shipped complete with transistors, crystal diodes and instructions. Net Price $109.50.

### WEATHER PROTECTIVE CARRYING CASE

A sturdy water repellent case designed for the TMT. Makes it possible for one man operation with hands free.

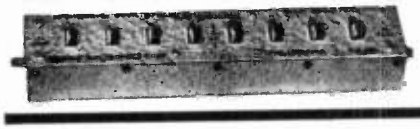
## VARIABLE ATTENUATORS

**Models A-72 and A-21**



A-21 $11.70 net

Switch type, Variable RF Attenuators providing precise attenuation over the frequency range of 0 to 250 megacycles. The units are matched to 75 ohms with a VSWR of less than 1.05 and are capable of handling 500 milliwatts of power. Model A-72 attenuates from 0 to 82 db in 1 db steps. Model A-21 attenuates from 0 to 21 db in 3 db steps.



A-72
$54.50 net

## SPLIT RF DETECTOR — Model D-86

Model D-86 Detector removes the modulation envelope from an RF carrier and applies it to the vertical input of an oscilloscope. Terminals are: RF Input; RF Output; Scope; and External Marker Input. Voltage doubler circuit for up to 1 volt DC output. For testing and aligning RF amplifiers, VSWR measurements and checking impedance match of RF devices. Response flat from 1.5 to 220 mc. Impedance of 75 ohms with a VSWR of 1.06. List Price $25.00 net.

## JERROLD CALIBRATED FIELD STRENGTH METER
## Model 704B

A calibrated, direct reading instrument for TV and FM measurements . . . a 'must' for color. Reads down to 5 microvolts and up to 3 volts. Bandwidth is 0.6 mc. Separates audio from adjacent video. Precise readings in db or microvolts, ±0.8 db over entire range. Reads percent of amplitude modulation of FM carriers, percent of AM distortion of FM amplifiers, and percent of AM of RF generators. Output jacks for phone and oscilloscope.

Frequency Range: 54 to 220 mc, covered in one band by a continuous tuner. Ranges: 0 - 100 uv; 0 - 300 uv; 0 - 1,000 uv; 0 - 3,000 uv; 0 - 10,000 uv; 0 - 30,000 uv; 0 - .1 volt; 0 - .3 volt; 0 - 1 volt; and 0 - 3 volts. Image Rejection: 90 db below signal. Power Requirements: 55 watts, 105 - 125 volts @ 50/60 cps. Tubes: 2 - 5654; 1 - 6AB4; 1 - 6T8; 1 - OD3; 3 - 5749; 1 - 5V4; and 1 - 12AU7. Dimensions: 12" x 12¾" x 8". Finish: Gray Crackle, aluminum case. Shipping Weight: 24 lbs. Complete with tubes and instruction manual. Net Price $365.00.

## ALIGNMENT JIG Model AJ-106

Capacity coupling alignment jig used where an RF signal must be inserted between stages of amplifiers or similar equipment. The AJ-106 is placed over a cold (dummy) tube and the alignment or test signal from the signal generator is connected to the jig.

$4.50 net

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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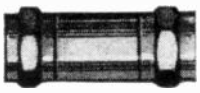
# JERROLD *Solderless* COAXIAL CABLE CONNECTORS and ADAPTERS

JERROLD solderless connectors can be permanently bonded to all types of RG-59/U, RG-6/U and RG-35/U cables with simple crimping tools. JERROLD connectors are carefully machined of brass and all exposed surfaces are heavily silver plated. All the new JERROLD "F" series connectors are accurately matched to 75 ohm with a V.S.W.R. less than 1.05 up to 200 mc. "F" connectors can be wrench tightened and all sizes will adapt to each other.

## NEW "F" SERIES

### FOR RG-59/U AND RG-6/U



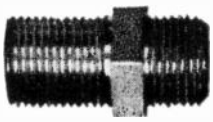
**F-71 Male Coupling Adapter.** Mates with F-61, F-81, F-101-59 or A-61. **$1.60 List**

**F-61 Female Chassis Fitting.** Accepts F-59, F-56 and TR-72F. Mounts in 3/8" diameter chassis hole. **$.92 List**

**A-61 Adapter.** Mates new F-59 or F-56 male connectors to older type C-61 female fittings. **$2.00/25 List**

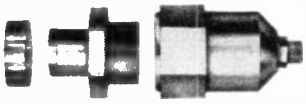
**F-59 Male Connector.** Mates with F-81, F-1159, A-61. For RG-59/U type cables. Requires Crimping Tool PL-601 or PL-602. **$.80 List**

**F-56 Male Connector.** Same as F-59, but for RG-6/U type cables. **$1.03 List**



**F-81 Female Coupling.** Accepts F-59 or F-56. Mounts in 3/8" diameter panel hole for use as feed-thru. **$1.25 List**

### FOR RG-35/U

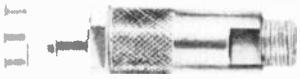


**F-100 Adapter.** Connects RG-35/U type cables to F-59, F-56 or TR-72F. Use 8" end cutters for crimping ferrule. **$16.25 List**

**F-181 Coupler.** Couples two lengths of RG 35/U. **$32.90 List**

### FOR RG-11/U

**MODEL F-101-59 ADAPTER ASSEMBLY**



Connects RG-11/U type cables to F-59, F-56 or TR-72F. Requires Crimping Tool PL-602. **$2.43 List**

**MODEL AF-101 ADAPTA-FIT MALE CONNECTOR**

For RG-11 U type cables. Mates with F-81, F-1159, F-61, F-101-59 and A-61. Requires Crimping Tool PL-602. **$2.10 List**

**AF-201.** Same as AF-101, but for RG-11 Poly Foam Cables. **$2.10 List**

## "C" SERIES

**C-52 Male Connector** mates with C-61 or C-5911. For RG-59/U type cables requires Crimping Tool PL-601 or PL-602. **$.80 List**

**C-56 Male Connector.** Same as C-52 but for RG-6/U type cables. **$1.03 List**

**C-61 Female Chassis Fitting.** Accepts C-52, C-56 or A-61. Mounts in 5/16" diameter chassis hole. **$.80 List**

**C-81 Female Coupling.** Accepts two C-52, C-56 or A-61. Mounts in 1/4" diameter panel hole and feed-thru. **$1.00 List**

## TOOLS and FERRULES

**Crimping Tool PL-601** — Crimps type 1051 ferrules. For F-59, F-56 and C-52 connectors and B-59 bushings. Does not distort cable or cause impedance mismatches. **$6.50 List**

**Crimping Tool PL-602** — Crimps all three ferrules — 1051, 1026 and 1095. For F-59, C-52, F101-59, AF-101 and B-59 bushings. Does not distort cable or cause impedance mismatches. Made of hardened steel. **$8.17 List**

**Cable Cutting Tool CD-11** — Cuts attenuator opening in coax cable for JERROLD pressure taps. Made of hardened steel. **$3.25 List**

**CT-1.** Replacement cutting tip for CD-11. **$1.66 List**

**Ferrules** — for use with Jerrold Solderless Fittings

**1026 Ferrule**—For use with RG-6/U type cables. **$3.85/100 List**

**1051 Ferrule**—For use with RG-59/U type cables. **$2.00/100 List**

**1095 Ferrule**—For use with RG-11/U type cables. **$6.00/100 List**

**1146 Ferrule**—For use with RG-35/U type cables. **$.33 ea. List**

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

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# CECO Community Engineering Corporation

**State College, Pa. — Electronic Equipment for Television Systems —**

**The CECOPRINT AMPLIFIER** — A printed-circuit wide band distributed amplifier. Advanced printed wiring techniques plus quantity production brings you this low noise, rugged, reliable distributed amplifier for CATV, hotel, motel, apartment house, cable theatre, educational or other closed circuit television systems — at low cost. The CECOprint is an excellent amplifier for laboratory or other uses where wide band distributed amplifier is required. Twelve channel operation, continuous operation in spite of tube failure, long tube life, no tuning adjustments necessary, top quality TV reception in color or black and white, unexcelled cascadability.

CECOPRINT AMPLIFIER

**SPECIFICATIONS:** All models have a four-stage, three section, distributed low pass circuit; twelve 6AK5 tubes; self-contained power supply, silicon rectifiers, power input 117 v ac, 46 watts; frequency response plus or minus 1.5 db; noise figure 8.5 db at 80 mc; output level 40 db/mv; input level, any single or multiple channel, 0 to 15 db; manual gain control with 30 db range on 10-90 models, and 20 db range on 216 model. Overload point is not effected by setting of gain control. Unit has UHF connectors Input and Output for trunk line; enclosure is sheet steel, grey, perforated metal cover; dimensions 6¾"w X 7⅛" l X 4" h Model 10-90E is an equalized version with 6 db tilt over low VHF band.

**MODEL 10-90**
**10 to 90 mc.**
**40 db gain**
**Net — $139.50**

**MODEL 10-90E**
**10 to 90 mc.**
**40 db gain Ch. 6**
**Equalized**
**Net — $149.50**

**MODEL 216**
**54 to 216 mc.**
**20 db gain**
**Net — $139.50**

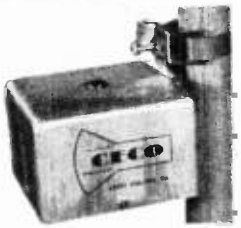
**CECO MATCHING TRANSFORMERS** — Features perfect impedance matching between 72 ohm unbalanced and 300 ohm balanced line, provides complete isolation between line and ac-dc receivers, gives 6 db additional signal to TV set. Flatness of plus or minus 1 db across entire band Shielded Powdered iron transformer. All channels 2 to 13 (54 to 216 mc.)

Model MT — 1

Fastens to back of TV set with hook, has ten inch lead with spade terminals for easy hook-up to set, and solderless connector for RG-59/U cable. Net price, $3.50

Model MT — 2

Surface mounting, twin lead screw terminals, solderless connector for RG-59/U cable Net price, $3.50



Model MT — OD

For antenna or mast mounting. Weatherproof construction, aluminum enclosure, UHF connector, mast clamp included: Net price, $7.50

**CECOSPLITS: passive line splitters** — 36 low loss models. Order by model number from chart below showing frequency range, outlets, attenuation, construction and fittings. Specify type fittings and construction. All models have impedance 75 ohms In and Out, flatness plus or minus 1 db or better, power loss less than .5 db, high isolation.

Series UC

| Model No. | Frequency Range | Number of Outlets | Attenuation per outlet | Net price/ type U* | UC* | SL* |
|---|---|---|---|---|---|---|
| 100-S-33* | 10 to 90 mc. | 2 | 3 db each | $ 9.50 | $5.75 | $4.95 |
| 100-S-555* | 10 to 90 mc. | 3 | 5 db each | 10.95 | 6.75 | 5.95 |
| 100-S-6666* | 10 to 90 mc. | 4 | 6 db each | 12.50 | 7.75 | 6.95 |
| 100-S-014* | 10 to 90 mc. | 2 | 0 db,14 db | 9.50 | 5.75 | 4.95 |
| 100-S-024* | 10 to 90 mc. | 2 | 0 db,24 db | 9.50 | 5.75 | 4.95 |
| 100-S-61* | 10 to 90 mc. | 2 | 6 db, 1 db | 9.50 | 5.75 | 4.95 |
| 200-S-33* | 54 to 216 mc. | 2 | 3 db each | 9.50 | 5.75 | 4.95 |
| 200-S-555* | 54 to 216 mc. | 3 | 5 db each | 10.95 | 6.75 | 5.95 |
| 200-S-6666* | 54 to 216 mc. | 4 | 6 db each | 12.50 | 7.75 | 6.95 |
| 200-S-014* | 54 to 216 mc. | 2 | 0 db,14 db | 9.50 | 5.75 | 4.95 |
| 200-S-024* | 54 to 216 mc. | 2 | 0 db,24 db | 9.50 | 5.75 | 4.95 |
| 200-S-61* | 54 to 216 mc. | 2 | 6 db, 1db | 9.50 | 5.75 | 4.95 |

* Specify construction and fittings by "U", "UC", "SL":
U — UHF connectors, handles cable-powering, aluminum enclosure weatherproof construction, mounting clamp, outdoor use.
UC — UHF connectors, metal enclosure, indoor use.
SL — Solderless RG-59/U fittings, metal enclosure. indoor use

Series U

Series SL

CECO manufactures a complete line of equipment for R-F distribution of television signals, including ultra-low noise preamplifiers (UHF and VHF), cable-powered amplifiers, power supplies, wide band sweep generators, automatic level control units, and others.

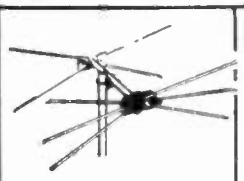


World Radio History

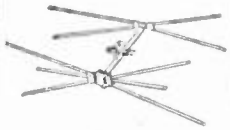
# TELCO TELEVISION HARDWARE

**The Most Complete Line of TV Antennas and Hardware in the Industry**

## TELCO UHF-VHF TELEVISION ANTENNAS

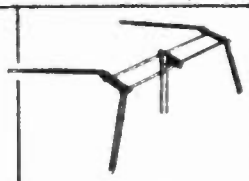


**Speed Rig Conical**
No. A-270 List $9.75

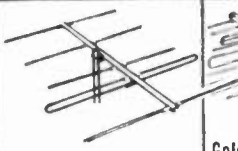


**All-Aluminum Conical**
No. A-8700 List $7.50

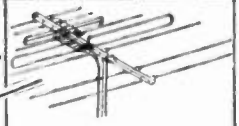
**Hi-Low Dipole**
No. A-250 List $8.70



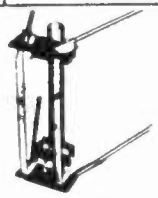
**Flying V**
No. A-260 List $5.25



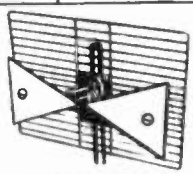
**5 Element VHF Yagi**
No. A-302 List $12.50



**Golden Invader**
**VHF fringe area.**
**UHF primary area.**
No. A-8111 List $24.95



**Double V**
No. A-9010 List $6.25



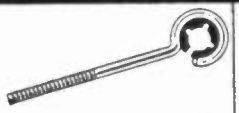
**Golden Grid UHF Butterfly**
No. A-8965 List $3.95

**UHF-VHF Indoor RO-TO**
No. A-8161 List $8.25

**Hide-A-Way Indoor VHF**
No. A-8146 List $10.95

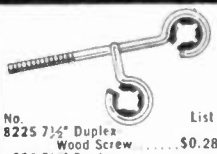
## TELCO UHF-VHF TELEVISION STAND-OFFS

| No. | | List |
|---|---|---|
| 8027 | 3½" Wood Screw | $4.59C |
| 8028 | 5½" Wood Screw | 8.87C |
| 8029 | 7½" Wood Screw | 9.78C |

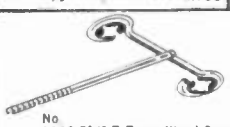


| No. | | List |
|---|---|---|
| 8031 | 3½" Machine Screw | $6.60C |
| 8032 | 5½" Machine Screw | 8.80C |
| 8035 | 7½" Machine Screw | 9.90C |

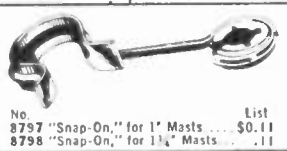
| No. | | List |
|---|---|---|
| 8253 | 3½" Kant-Strip, Mast | $0.19 |
| 8254 | 5½" Kant-Strip, Mast | .24 |
| 8257 | 7½" Kant-Strip, Mast | .25 |



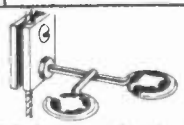
| No. | | List |
|---|---|---|
| 8225 | 7½" Duplex Wood Screw | $0.28 |
| 8226 | 7½" Duplex. Machine Screw | .28 |



| No. | | List |
|---|---|---|
| 8809 | 7½" T-Type, Wood Screw | $0.32 |
| 8810 | 7½" T-Type, Machine Screw | .32 |



| No. | | List |
|---|---|---|
| 8797 | "Snap-On," for 1" Masts | $0.11 |
| 8798 | "Snap-On," for 1¼" Masts | .11 |



| No. | | List |
|---|---|---|
| 8255 | 3½" Single, Guy "Wire-Grip" | $0.21 |
| 8256 | 7½" Duplex, Guy "Wire-Grip" | .33 |

## TELCO TELEVISION MOUNTS (Roof—Wall Chimney—Vent)

**No. 9060 No-Guy Roof Mount**
List $4.75

**No. 8005 Chimney Quick Mount**
List $2.65

**No. 8930 Snap-In Chimney Mount**
List $4.70

No. 8624
Peak Mount
(18" Lower Bracket)
List $3.55

No. 8625
Peak Mount
(30" Lower Bracket)
List $4.75

No. 8306
6" Snap-In
Wall Mount
List $2.40

No. 8308
8" Snap-In
Wall Mount
List $3.90

No. 9021
Hinged Ridge Mount
(Fits Masts to 1½")
List $2.35

No. 9022
Hinged Ridge Mount
(Fits Masts to 2")
List $3.30

**No. 8575 All-Purpose Mast Bracket**
List $3.30

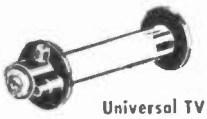
**No. 8800 Swing-Up Mast Mount**
List $0.66

**No. 8620 Any-Angle Mast Mount**
List $0.66

**No. 8622 Pivot Swing-Up Mount**
List $0.66

## TELCO TELEVISION INSTALLATION ACCESSORIES

**Universal UHF-VHF Lightning Arrestor**
No. 8642 List $1.25



**Universal TV Lead-In Tube**

| No. | | List |
|---|---|---|
| 8958 | —Brown | $2.35 |
| 8958-1 | —Ivory | 2.35 |

**Ground Rods**

| No. | | List |
|---|---|---|
| 8929 | 4' l. x ⅜" dia. | $1.20 |
| 9016 | 6' l. x ⅜" dia. | 1.80 |
| 9017 | 8' l. x ½" dia. | 3.60 |

**Screw Eyes**

| | | |
|---|---|---|
| No. 8078 | 1" long | List $0.06 |
| No. 8342 | 3" long | List .12 |
| No. 8486 | 5" long | List .13 |
| No. 9027 | 7" long | List .18 |

**TELEVISION HARDWARE MFG. CO.** ROCKFORD, ILL., U.S.A.
DIVISION OF GENERAL CEMENT MFG. CO., ROCKFORD, ILL., U.S.A.



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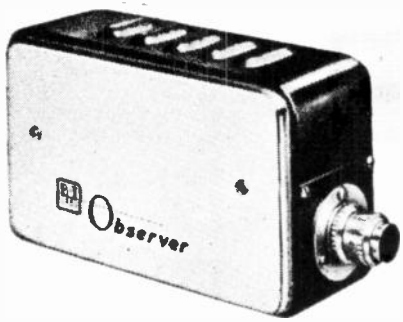
World Radio History

# B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY



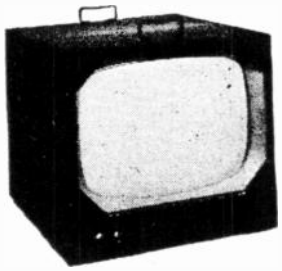

## OBSERVER

### Model TVC-1A Industrial TV Camera

A new crystal-controlled camera for use in industry, education, science and other closed circuit applications. Complete unit includes Vidicon tube, coated f/1.9 lens, control generator and 25 feet of control cable. The control generator may be located up to 500 feet from the camera. It provides two RF outputs and one high definition video output.

Image may be viewed on standard TV sets located up to 1/2 mile from the camera, before preamplification is required. The camera uses fully interlaced, 525-line scanning for maximum resolution. Traverse control permits camera to be focused from 2 inches to infinity.

**$1995 list**



## VIDEO MONITOR

### Model DVM — 17

A high resolution monitor for closed-circuit TV systems, television studios and control centers, and laboratory and manufacturing operations. Video response flat within 1 db up to 10 Mc. Handles peak-to-peak voltage range from 0.25 to 5.0. Features exclusive DC restorer circuit. Aluminized picture tube. **$310 net**

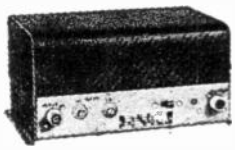
## AUTOMATIC LIGHT COMPENSATOR

### Model ALC

Used with "Observer" camera to maintain constant picture quality during continuously changing light levels over 150 to 1 range. Installed between TVC-1A Camera and TVC-1A Control Generator.

**$400 list**

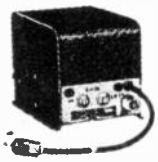
## MASTERLINE TV SYSTEM COMPONENTS



### VHF AMPLIFIER Model MLA

Powerful all-channel VHF cascode amplifier with more than 37 db gain. Has variable gain controls for equalizing high and low bands. Output on each band: 1.25 volts RMS, flat to within 2 db. Self-powered. Input and output 75-ohm coax fittings. When used with MAGC maintains constant output level.

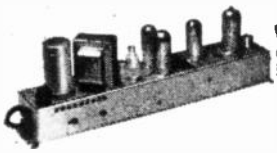
**$142.50 list**



### AUTOMATIC GAIN CONTROL

Model MAGC

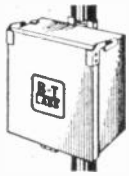
A plug-in unit for use with MLA amplifier to maintain constant output level over 20 db input range. Output flat within 1.5 db. Effective with over 14,000 microvolts MLA input signal. Compensates for AC line variations. Input and output 75-ohm coax fittings. Obtains power from MLA. **$79.60 list**



### VHF SINGLE CHANNEL AMPLIFIER with AGC Model MCS

Gain in excess of 38 db on low band and in excess of 35 db on high band. Features automatic level and manual gain controls. Has high rejection of adjacent channels. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing network. Self-powered.

(specify VHF channel) **$134.50 list**



### RADIATION-PROOF HOUSING

Model MRH-A

Weatherproof and radiationproof outdoor enclosure for master TV equipment. Has perforated mounting surface and adjustable support bracket. Maximum ventilation, front-opening sealed door and sturdy hasp. Iridite-finished, cadmium-plated steel.

**$62.50 list**

## VHF CONVERTER-AMPLIFIERS

Model MVC

Converts a specified VHF 'high' channel to a specified VHF 'low' channel. Crystal controlled. Gain: in excess of 33 db ±½ db. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing networks. Self-powered. Available on special order only.

(specify input and output channels) **$400.00 list**

Model MLC

Converts a specified VHF "low" channel to a specified VHF "low" channel. Crystal controlled. Flat within ±½ db over 6 Mc. bandwidth. Input and output 75 ohm coax fittings. Two outputs and all-channel mixing network. Self powered. Available on special order only. **$400.00 list**

### UHF CONVERTER-AMPLIFIER Model MUC

Converts a specified UHF channel to a specified VHF channel. Crystal controlled. Gain from 15 to 25 db. Flat within ± ½ db over 6 Mc. bandwidth. Input for 300 ohms and two outputs for 75 ohms. All-channel mixing network. Self powered. Available on special order only. **$400.00 list**

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World Radio History

# B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY

## VHF FIELD STRENGTH METER

**Model FSM-1** **54mc to 216mc**

A portable, precision instrument for accurate measurement of RF signal strength. Measures signal levels from 10 microvolts to 3.0 volts with an accuracy of ±1.5 db. When used with B-T UHF converter, range includes entire UHF band. Also measures percentage of AM modulation and indicates IM distortion.

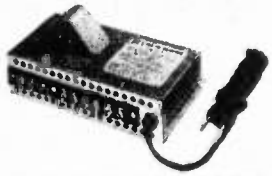
- Special strap for field use.

**Features include:**

- Continuous tuning from 54mc to 216mc
- Sound/video takeoff.
- Unaffected by temperature changes from 0° through 120° F.

**Dimensions:** 12 x 9¼ x 8¼ inches
**Input Impedance:** 75 ohms **$310 net**
less batteries

## FAMOUS LINE OF ALL-CHANNEL UHF CONVERTERS AND VHF AMPLIFIERS



### B-23 TWO-SET BOOSTER

Model B-23 Two Set Booster is a broadband TV amplifier that boosts signal strength on all VHF channels 2-13 and operates 1, 2, or 3 TV sets with one antenna. No tuning is required. A single B-23 boosts signal strength on 1, 2 or 3 TV sets up to 6 db gain operating 2 sets from one antenna. Couples 2 or 3 TV sets using present antenna. Outperforms non-powered couplers in any reception area. Ideal for color, low noise, figure, reduces interference, easily installed. Ideal for small TV systems. **$23.95 list**

## NEW "EXACT MATCH" TV INSTALLATION ACCESSORIES

### NEW "EXACT-MATCH" TV INSTALLATION ACCESSORIES

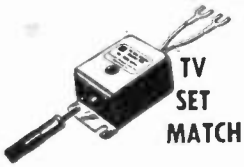
**Model A-100** Outdoor Mounting Kit. For B-T couplers A-102, A-104, A-105, and A-107. Bracket and strap assembly for mast mounting. **$.90 list**

**Model A-102** Two-Set TV Coupler. Low loss 300 ohm coupler feeds two receivers from one antenna or mixes two antennas into one line. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **$2.95 list**

**Model A-104** Four-Set TV Coupler. Low loss 300 ohm coupler feeds four receivers from one antenna or mixes four antennas into one line. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **$3.95 list**

**Model A-105** Hi-Lo TV Coupler. Combines low band and high band VHF antenna outputs or provides separate low and high outputs from a common line or antenna. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **$3.50 list**

**Model A-107** UHF-VHF TV Coupler. Combines VHF and UHF antenna outputs or provides separate VHF and UHF outputs from a common line or antenna. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **$3.50 list**




### Model TM

An impedance-matching transformer designed for use at the TV set to match 75-ohm cable to 300-ohm TV input. Cable plug supplied to fit jack permits easy connect and disconnect. Heavy duty output leads with spade lugs. **$3.30 list**

UL approved

### CLASS A Model 99R

Ideal all-channel UHF converter for "Class A" signal areas. Direct-drive ganged tuning provides precise tracking of input and oscillator. VHF output on channel 4, 5 or 6. Precise, 300-ohm impedance match. **$22.95 list**
Meets FCC tuner standards.

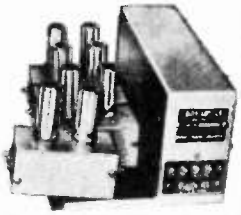
## ADD-A-UNIT TV SYSTEM COMPONENTS

### COMMERCIAL ANTENSIFIER
**Model CA-1**

A popular broadband VHF amplifier for antenna and line applications. Gain: 26 db on low band and 24 db on high band. Low noise circuit. 75 ohms and 300 ohms at input and output. Gain control. Self-powered. **$84.50 list**

### DISTRIBUTION AMPLIFIER
**Model DA8-B**

Provides eight isolated TV set outlets from one 75-ohm or 300-ohm input. Each outlet handles 75-ohm or 300-ohm line, and delivers 10 db gain on all VHF channels. Gain control covers 20 db range. Self-powered. **$94.50 list**



### MIXER AMPLIFIER
**Model MA4-1**

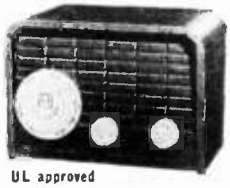
A versatile unit consisting of broadband mixing circuits and built-in power supply for up to four plug-in VHF channel strips or two UHF converter strips (see CS-1 and UC-1). Precise 75-ohm and 300-ohm impedance match at all terminals. May be used in series. **$78.75 list**

### VHF CHANNEL STRIP
**Model CS-1**

Single channel amplifier strip for MA4-1. Gain: 20 db on low channels and 17 db on high channels. Input terminals for 75-ohm or 300-ohm line. Draws power from MA4-1. (specify VHF channel) **$37.50 list**

### UHF CONVERTER STRIP
**Model UC-1**

Designed for use with MA4-1. Converts a specified UHF channel to a specified VHF channel. Gain: more than 15 db. 300-ohm input. Draws power from MA4-1. **$125.00 list**



UL approved

### ULTRAVERTER
**Model BTU-2R**

Tunable, all-channel UHF converter — the most powerful in the field — with high-gain, low-noise triode amplifier. Has dual-speed channel selector. VHF output on channel 5 or 6. Meets FCC tuner standards. **$39.95 list**

### ANTENNA BOOSTER
**MODEL B-12**

Mast-mounted, broadband antenna amplifier. Amplifies all VHF channels. Low noise amplifier with 11 db gain on all channels. Remote power supply. Weatherproof mast mounting. Swing-down chassis for easy servicing. Convenient 300 ohm lead-in terminals.

### FM BOOSTER
**MODEL BF-20**

Mast-mounted amplifier providing 13 db low-noise neutralized triode amplification on all FM stations. Remote power supply, weather-proof mast mounting. Improves FM reception on weak channels. Swing-down chassis for easy servicing. Convenient 300 ohm lead-in terminals.



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# B-T LABS products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY

## 'EXACT-MATCH' TV ACCESSORIES

### BALUN

**Model MB**

Precise impedance match between 75-ohm coax and 300-ohm antenna line. Has 75-ohm coax fitting and 300-ohm screw terminals. Weather-protected.

**$9.20 list**

### DUPLEXERS

Pair remotely controls TV amplifiers or permits two-way audio or AM transmission. One line for VHF TV, plus AC, AM or audio (0 to 2 mc). Weather-protected.

Model MDX-300 (300 ohms) pair **$25.20 list**

Model MDX-75 (75 ohms) pair **$27.80 list**

### LOW-BAND EQUALIZER

**Model ME-2**

Graduated attenuation from 9 db on Channel 2 to less than 1 db on Channel 6. Balances signals through 2000 ft. of RG-11/U or 1000 ft. of RG-59/U. 75-ohm coax fittings, in and out. Weather-protected.

**$15 list**

### DIRECTIONAL COUPLER

**Model MDC-2**

Two isolated outlets for TV sets or branch lines. Only 3 db forward loss. Minimum isolation: 14 db. One 75-ohm input and two 75-ohm output fittings. Weather-protected.

**$13 list**

### FM WAVE TRAP

**Model MWT-1**

Eliminates FM interference at the antenna, in the line or at the TV set. Attenuates any FM channel more than 25 db. 75-ohm coax fittings. Weather-protected.

**$27.80 list**

### POWER LINE FILTER

**Model MLF**

Provides 60 db RF isolation between amplifier and power line. Two AC power outlets, one power cable input connector. Mounts in MRH-A.

**$20.25 list**

### DIRECTIONAL COUPLER

**Model MDC-4**

Four isolated outlets for TV sets or branch lines. Only 6 db forward loss. Minimum isolation: 20 db. One 75-ohm input and four 75-ohm output fittings. Weather-protected.

**$28 list**

### ALL-CHANNEL EQUALIZER

**Model ME-1**

Graduated attenuation from 17 db on Channel 2 to 1 db on Channel 13. Balances signals through 1000 ft. of RG-11/U or 500 ft. of RG-59/U. 75-ohm coax fittings, in and out. Weather-protected.

**$16 list**

### VHF ATTENUATOR

**Model MAT**

Uniform all-channel attenuation from 0 to 45 db in steps of 3 db. 75-ohm coax fittings, in and out.

**$23.50 list**

## CABLE TAP-OFFS

### OUTDOOR TAP-OFF

**Model MTO-11**

Spliceless, weatherproof tap from RG-11/U cable. Uniform 17 db resistive isolation with only 0.6 db insertion loss. Lowest shunt capacity. Positive electrical protection thru blocking condenser. Supplied with installation tool. **$7.75 list**

### INDOOR TAPOFFS

**Model T01-75:** Single isolated tapoff for recessed mounting. Handles either RG-11/U or RG-59/U, with 75 ohm output jack. **$3.75 list**

**Model T01-300:** Single isolated outlet with 300 ohm terminals. **$3.95 list**

**Model T02-75:** Two 75 ohm isolated outlets from RG-11/U or RG-59/U cable. **$7.20 list**

**Model T02-300:** Two 300 ohm isolated outlets from RG-11/U or RG-59/U cable. **$7.20 list**

### FOUR SET TAP-OFF

**Model MIT-4**

17 db isolation and only 0.3 db insertion loss at each outlet. Coax fittings and weatherproof housing.

**$28 list**

## CABLE CONNECTORS

### CABLE COUPLER — Model MC

Correct 75-ohm match in splicing, adapting or terminating RG-11/U and/or RG-59/U cable. Thru-connection for Model MRH-A. Used with B-T Connectors and Terminating Plug. **$2.50 list**

### TERMINATING PLUG — Model MTP-75

Correctly terminates cable fitted with Model MC Cable Coupler. **$2.50 list**

### NEW SOLDERLESS CONNECTORS

**Model P-11S**

Matched 75-ohm male fitting for use with RG-11/U size cable. **each $1.55 list**

**Model P-59S**

Matched 75-ohm male fitting for use with RG-59/U size cable. **each $1.55 list**

**Write for detailed information on B-T products — or for free, expert sales engineering services to assist you in planning any master TV or industrial TV system.**

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World Radio History

# Westbury Electronics, Inc.

WESTBURY, NEW YORK

● *INDUSTRIAL* ● *HOTEL* ● *APARTMENT HOUSE* ● *COMMUNITY TV* ●

## AMPLIFIERS

ABB-1

### ABB-1 — BROAD-BAND AMPLIFIER (54-88 MC)

Provides high gain (45 db), high output level (0.3 V. per channel), excellent response linearity (± 0.5 db), slope adjustment (3 to 10 db), automatic overload and manual gain controls. Pre-aged tubes, rugged construction. Integral contant voltage transformer. Cascode low-noise input stage. 1—6BQ7A, 4—6AK5, 1—12BY7A, 1—6AL5, 1—6AW8, 1—OB2, 2—Selenium Rectifiers.

**Model ABB-1 List: $5.25**

ABB-3

### ABB-3 — BROAD-BAND AMPLIFIER (Economy Series)

An economical amplifier for channel 2—6 range for use in community TV, apartments, hotels, hospitals, schools, etc.
Cascode Input: High Signal to Noise Ratio. Input and Output Matched 75 Ohm. Gain Control.
Gain: 37 db Midband (adj. slope). Output: 0.3 volts per channel. Input Power: 115V A.C. Tubes: 2—6BQ7A, 1—12BY7A, 2—Selenium Rectifiers.

**Model ABB-3 List: $99.50**

ABB-4

### ABB-4 — BROAD-BAND AMPLIFIER (Economy Series)

Same as ABB-3 but covers channels 2 thru 6 and 7 thru 13.
Tubes: 4—6BQ7A, 1—6CB6, 2—12BY7A. 2—Selenium Rectifiers.

**Model ABB-4 List: $165.00**

AP-1

### AP-1 — PREAMPLIFIER

Single channel unit (specify) in completely weatherproof pole mtg. aluminum housing. Cascode input, 6 MC Bandwith, 40 db minimum gain. Noise figure: 5 db Low Band, 8 db High Band. 1—6BQ7A, 2—6AK5, 1—Selenium Rectifier.

**List: $140.00**

ABB-5, 6, 7, 8

### DISTRIBUTED (CHAIN) AMPLIFIERS

Truly broadband amplification: TV and FM signals from 15 to 230 MC. 20 db Gain; flat ± 1.5 db; 75 ohms matched IN and OUT; 0.1 V output per channel for 7 channels.
Manual Gain Control, Provision for addition of AGC, Emission loss of one or more tubes **does not** interrupt system.
115 volts A.C. 12—6AK5, 2—Selenium Rectifiers.

ABB-5: Rack Mtg. chassis
ABB-6: Flat Mtg. chassis
**List: $416.00**

ABB-7: 15-110 MC, 32 db, Rack Mtg.
ABB-8: 15-110 MC, 32 db, Flat Mtg.
**List: $416.00**

### AHP-1, -2, -3 HIGH LEVEL AMPLIFIERS (Single Channel)

For driving Mountian cable run or first cable span, with a high level signal. This means elimination of a mid-span amplifier. Adj. sound trap included. Available Ch. 2—13 (Specify).

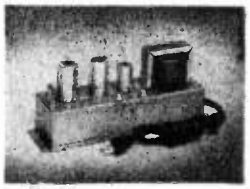
| | Max. Output | Gain | List |
|---|---|---|---|
| AHP-1 | 4 V. | 45 db | $440.00 |
| AHP-2 | 4 V. | 12 db | $310.00 |
| AHP-3 | 10 V. | 35 db | $500.00 |

AHP-1

### CV-1 — CASCODE CONVERTER

Provides channel conversion in VHF HI-Band, LO-Band, and sub-channels. Its unique design permits signal inputs lower than 600 microvolts without noticable loss of signal to noise ratio. Has gain of 3 to 10 db depending on conversion. Uses crystal oscillator. Specify channels IN and OUT.

**Model CV-1 List Price: $291.00**



CV-1

### TRANSISTORIZED BROADBAND AMPLIFIER

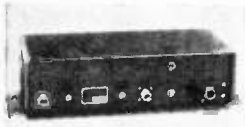


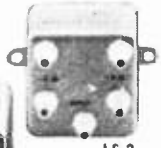
ABB-9

Transistorized Broadband Amplifier for Channels 2 thru 6 • 37 db gain • 75 ohm input and output • 0.1 volt level • transistor regulated power supply • 115 VAC 60 cy input • automatic transfer to internal standby battery in the event of commercial power failure • weather proof housing • built in power line filter • 4 HF transistors • 2 regulator transistors • NO TUBES.

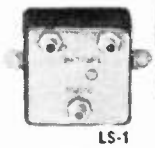
**LIST PRICE $540.00**

## LS SERIES — LINE SPLITTERS

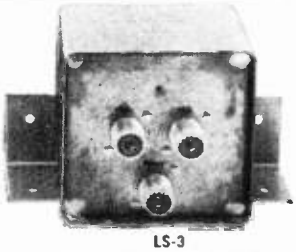
Provide matched splits from 75 ohm source to two or four 75 ohm loads, with minimum attenuation and high isolation between outputs.



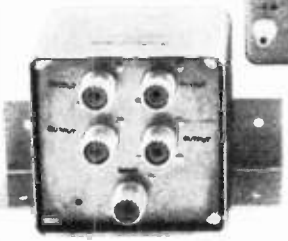
LS-2



LS-1



LS-3



LS-4

LS-1 & LS-3: 2 Outputs — 3 db attenuation, 20 db isolation. Cable connections supplied.
LS-2 & LS-4: 4 Outputs — 6 db attenuation, 12 db isolation. No cable connector supplied.
LS-1 & LS-2 for RG-59/U.
LS-3 & LS-4 for RG-11/U.

**Model LS-1: List $ 7.00**
**Model LS-2: List $10.00**
**Model LS-3: List $10.80**
**Model LS-4: List $15.50**

*The Royalty of TV Systems*



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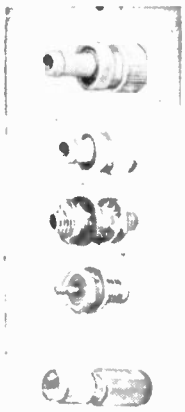
TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

World Radio History

# Westbury Electronics, Inc.

WESTBURY, NEW YORK

● *INDUSTRIAL* ● *HOTEL* ● *APARTMENT HOUSE* ● *COMMUNITY TV* ●



## CONNECTORS

A101 — For RG-6/ cable—solderless—ferrule supplied ..... List $ .80

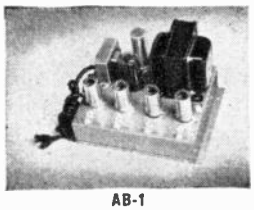
A102 — For RG-59 U cable ..... List .75

A103 — Female miniature adapter mates with A101 or A102 ..... List .90

A106 — Chassis connector, mates with A101 and A102 ..... List .75

A107 — 75 Ohm Termination for A106 and RG-59 U cable ..... List 3.10

## AB-1 — BRIDGING AMPLIFIER (54-88 MC)

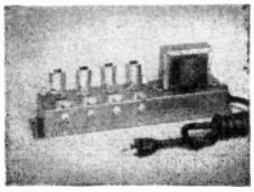


AB-1

Permits driving four feeder lines from main line with complete isolation of feeders from each other and the main line. High output level permits longer feeder lengths without additional amplifiers. Separate Slope Adjustment for each output (zero to 5 db range) Mid-band gain 5 db. Max. Output 0.3 V. per channel for 5 channels. 4—12BY7A, 1—5Y3.

**List: $138.00**

## AB-2 — BRIDGING AMPLIFIER (54-88 MC)

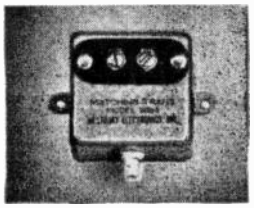


AB-2

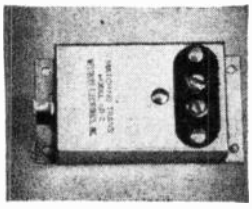
Four outputs isolated from the main line and from each other to feed branch lines. Separate Slope Adjustment for each output (zero to 5 db range) Mid-band gain 3 db. Max. Output 0.1 V. per channel for 5 channels. 4 — 6AK5, 1 — Selenium Rectifier.

**List: $110.00**

## WB-1, -2 — MATCHING TRANSFORMERS



WB-1



WB-2

Connects 75 ohm co-ax cable to 300 ohm balanced twin lead with D.C. isolation. No soldering — threaded input connector, screw output terminals. WB-1 uses toroid transformer. WB-2 uses elevator coils, providing superior high band match. Includes cable connector.

**WB-1 — List $4.90** **WB-2 — List $5.70**

## OUTLET PLATES

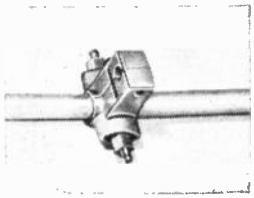
**OP-1 — Flush Mounting Outlet Plate.** Input: screw terminals on back for connection to RG-59/U thru-line or terminated. Output: co-axial jack for 59/U type cable. Available attenuation: zero, 15, 20, 25, 30 db. Specify. **List: $4.00**

**OP-2** — Same as OP-1 except with matching transformer. Output screw terminals for 300 ohm twin-lead. **List: $5.00**

**OB-1 — Surface Mounting Box:** 2"x2"x1" — Electrically same as OP-1. **List: $4.00**

**OB-2** — Same as OB-1, except 300 ohm output. **List: $5.00**

## PT — PRESSURE TAP-OFF (2 TAPS IN 1)



A new, simple, economical and efficient method of tapping single shielded RG-11/U, double shielded double jacketed RG-11/U type, 3/8" or 1/2" aluminum cable with either solid or foam dielectric.

**PT-1** — For RG-11/U Single Shielded Cable.

**PT-2** — For RG-11/U Double Shielded, Double Jacketed Cable.

**PT-3** — For 1/2" Aluminum Cable with either Foam or Solid Dielectric.

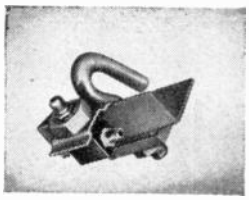
**PT-4** — For 3/8" Aluminum Cable with either Foam or Solid Dielectric.

**PT Body Only: List $2.70**

**PI — ATTENUATOR INSERTS FOR PT — TAP-OFFS**

| | Capacitative | List $4.00 | Resistive | |
|---|---|---|---|---|
| PI-1 | 11 db at 100 MC | | PI-A | 15 db |
| PI-2 | 17 db at 100 MC | | PI-B | 20 db |
| PI-3 | 22 db at 100 MC | | PI-C | 25 db |
| PI-4 | 27 db at 100 MC | | PI-D | 30 db |
| PI-5 | 41 db at 100 MC | | PI-E | 35 db |
| PI-6 | 35 db at 100 MC | | PI-F | 40 db |

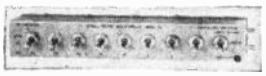
## T-1 — TAP OFF



For RG-6/U or RG-59/U Coaxial Cable. Assembly consists of tap cartridge, bracket, and span clamp anchor for house drop messenger wire. Tap Cartridge available without clamp and bracket (TO-1). Attenuations available: 12, 15, 18, 23, 33 db at 100 MC (specify).

**T-1 Assy: List $6.40**
**TO-1 only: List $4.60**

## MODEL 1220 VARIABLE ATTENUATOR



1220

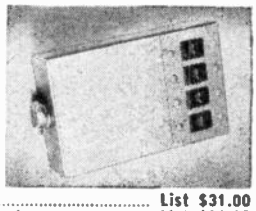
Total of 82 db attenuation in 1 db steps.

- Two Inputs switchable.
- 75 Ohm or 50 Ohm Impedance available.

VSWR ..... Less than 1.25 to 200 MC
Insertion Loss ..... 0.5 db

**Model 1220A** ..... 75 ohms ..... **List $80.00**
**Model 1220B** ..... 50 ohms ..... **List $90.00**

## PF — POWER LINE FILTERS

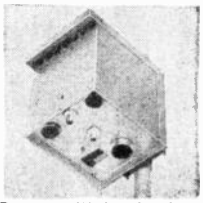


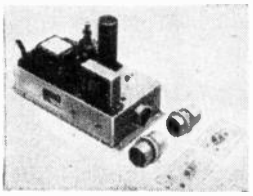
PF

Designed for TV Distribution Systems to prevent RF leakage back onto the power lines and to meet FCC radiation requirements. Rugged mica capacitors and insulated coils in totally enclosed silver plated filter cartridge; line protection fuses; optional lightning arresters. Load Rating; 5 Amperes; Line Protection Fuse, 15 Amperes.

**Model PF-1** 4 Outlet Filter only ..... **List $31.00**
**Model PF-2** Same Plus 1 Lightning Arrestor ..... **List $38.00**
**Model PF-3** Same Plus 2 Lightning Arrestors ..... **List $46.00**

## AP-2 — LOW-NOISE PRE-AMPLIFIER





For use with low level UHF signals, or VHF signals below 100 microvolts, this unit provides the lowest noise figure commercially available: 3.5 db at Ch. 13, 5 db at Ch. 35. Gain is 22 db at Ch. 13, 18 db at Ch. 35. Bandwidth is 8 MC. Forced air cooling of planar triode has safety interlock. Completely weatherproof pole mounting case. Tube is Western Electric 416B 6280. Companion PS-6 power supply contains Automatic Plate Voltage Time Delay for amplifier tube protection. Rectifier is selenium.

**AP-2 complete with PS-6 Power Supply** ..... **List: $800.00**

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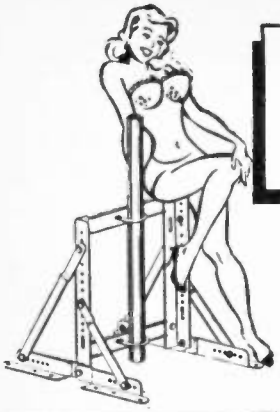
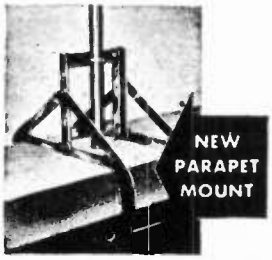
World Radio History



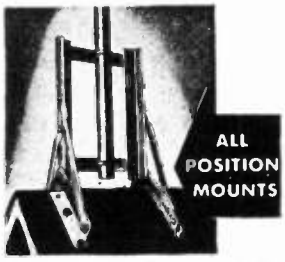
# KENCO

## TELEVISION ANTENNA MOUNTS AND ACCESSORIES



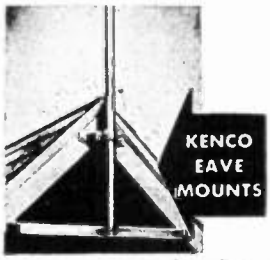

Gives positive anchorage to apartment house walls without damage to building. Shipped assembled. Hot dip galvanized.

| Model | List |
|---|---|
| 106 | $10.75 |



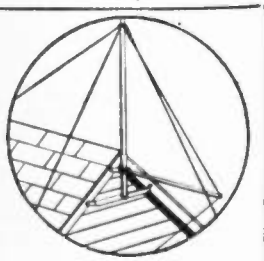

A strong, self supporting mount for peak, slope, sidewall corner or flat mountings. Heavy zinc plate.

| Model | | List |
|---|---|---|
| 105 | Masts up to 1 ½" o.d. | $5.10 |
| 101 | Masts up to 2" o.d. | 7.60 |




Easily mounted on hanging rafters or trim boards of eave. Ideal for buildings with extended roofs. Hot dip galvanized. Available in 3 sizes

| Model | | List |
|---|---|---|
| 122 | 22" eave mount | $3.35 |
| 128 | 28" eave mount | 3.95 |
| 148 | 48" eave mount | 5.35 |



### SKY STRUT

Made of tubular steel—welded construction, 40" long. Built-in cable clamp on outer end of strut locks guy wire in place giving rigid support to mast. Weather resistant finish.

Model 40S.....List $3.55

### SPECIAL TV LAG SCREWS

Full thread, hex-head lag screws, can be run in with any standard ratchet or speed wrench. Full thread for extra holding power. Heavy bright zinc plate. Available in all standard sizes. Special low prices on request.

### EXPANSION SHIELD

| Dia. of Lag | List |
|---|---|
| ¼" | $15.00 per 100 |
| 5/16" | 18.00 per 100 |

### U-BOLT
**Mast Joiner**

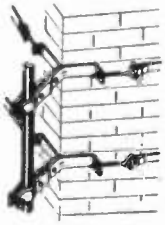
Easily joins two masts up to 1 ½" O.D. Heavy zinc plate.

List $0.29 ea.

### J & L PERMA TUBE
**Fitted Joints**

1¼" O.D. x .035 (20 gage) 5' and 10' lengths
1¼" O.D. x .049 (18 gage) 10' lengths
1¼" O.D. x .065 (16 gage) 5' and 10' lengths
1½" O.D. x .065 (16 gage) 10' lengths

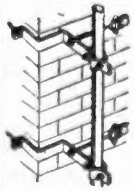
### SNAP-IN CHIMNEY MOUNTS



Heavy duty Y mount, pre-assembled with solid rivets, hot dip galvanized. Snap-in feature eliminates holding of mast while applying hardware. Front locking carriage bolts for easy one hand tightening. Non-spiralling, straight opening, 12' heavy gage bands.

| Model | | List |
|---|---|---|
| 4C | Zinc coated bands, E-Z Seals | $3.15 |
| 4CG | Hot dip galvanized bands, KENCO Quick Seals | 3.30 |
| 4C-SS | Stainless steel bands, KENCO Quick Seals | 4.45 |

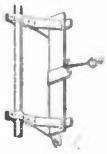
### CHIMNEY MOUNT (Z TYPE)



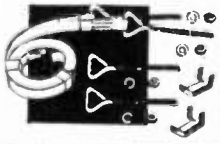
Made of heavy gage steel. One piece construction. Heavy zinc plate. Square corners provide snug fit. Non-spiralling, straight opening, heavy gage bands.

| Model | | List |
|---|---|---|
| 3C | Zinc coated bands E-Z Seals | $2.19 |
| 3C-SS | Stainless steel bands KENCO Quick Seals | 3.39 |

### MINUTE MOUNT
**ONE PIECE CHIMNEY MOUNT**



Exclusive Y construction on offsets for maximum strength. Bearing feet top and bottom prevent rocking on irregular chimneys. Snap-in feature holds mast while applying hardware. Carriage bolts throughout. One piece welded construction. Heavy gage steel, hot dipped galvanized.
12 ft. stainless steel band and stainless steel seals. 3-Easy-slide corner guards for uniform tightening and protection of bands. Model 5C-SS List $5.25

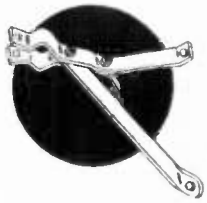


### REPLACEMENT KIT
**Stainless Steel Strap**

You get: 2-12 ft. stainless steel straps, 2 stainless steel seals, 2 stainless E-Z seals, 4 heavily plated triangular eyebolts, lockwashers & nuts.

Model 1RK List $2.92

### SNAP-IN WALL BRACKETS

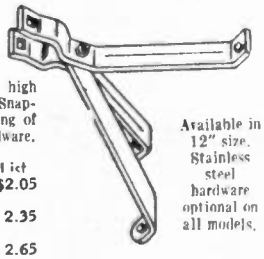


**Available in 7" - 12" - 18" - 24" Sizes**

Snap-in feature eliminates holding of mast while applying hardware. Carriage bolts throughout. Heavy gage steel, zinc plated.

| Model | | List |
|---|---|---|
| 7W—7" | (less tripod legs) | $2.05 |
| 7W-1—7" | (1 tripod leg) | 2.35 |
| 7W-2—7" | (2 tripod legs) | 2.65 |
| 12W-1—12" | (1 tripod leg) | 3.65 |
| 12W-2—12" | (2 tripod legs) | $4.15 |
| 18W-1—18" | (1 tripod leg) | 4.99 |
| 18W-2—18" | (2 tripod legs) | 5.65 |
| 24W-2—24" | (2 tripod legs) | 6.65 |

### Aluminum SNAP-IN WALL BRACKET



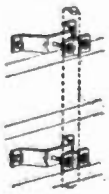
Made of heavy gage high strength aluminum alloy. Snap-in feature eliminates holding of mast while applying hardware. Carriage bolts throughout.

| Model | | List |
|---|---|---|
| 6W-AL—6" | (less tripod leg) | $2.05 |
| 6W1-AL—6" | (1 tripod leg) | 2.35 |
| 6W2-AL—6" | (2 tripod legs) | 2.65 |

Available in 12" size. Stainless steel hardware optional on all models.

### STAINLESS STEEL STRAPPING

Heavy ¾" stainless steel strapping.
100 ft. lengths.
(Ind. boxed) List $10.50



### 2" WALL BRACKET

Heaviest bracket made. 5/16" x 1¼" steel. Locking nuts in front of bracket for easy installation. Hot dip galvanized.

| Model | List |
|---|---|
| 2W | $1.75 |

**ALL KENCO ITEMS AVAILABLE AT COMPETITIVE PRICES!**

## KENWOOD ENGINEERING CO., INC.
KENILWORTH, NEW JERSEY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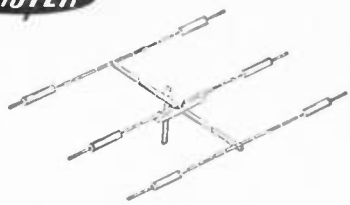
World Radio History

## TRAP MASTER 3 BAND BEAMS 10 – 15 – 20



**3 ELEMENT** beam provides outstanding performance on 10, 15 and 20 meter bands. Up to 8 db. forward gain with 25 db., or better, front-to-back. 1.1/1, or less, SWR at resonant frequencies. Exceptionally broadband for excellent results over full Ham bandwidth. Exclusive MOSLEY trap design provides frequency stability under all weather conditions. Easily handles full KW amplitude modulated. Traps weather and dirt proof. Element center sections of double thickness 61ST6 aluminum to reduce sag. 1½" x 14' aluminum boom requires no bracing. Self-aligning element clamping blocks of high-impact polystyrene provide positive, non-slipping orientation of elements. Heavy duty universal mounting plate fits all masts up to 1½" O.D. Maximum element length, 28'. Turning radius, 15½'. Assembled weight, 40 lbs. Feed with single coax line; RG-8/U recommended. Shipping weight, 53 lbs.

**Model TA-33, Amateur Net, $99.75**

**2 ELEMENT** version of the famed TRAP MASTER Beam rated to a full KW. 5.5 db. forward gain with 20 db. front-to-back. 7' boom; 28' max. element length. Easily converted to TA-33 with kit, below.

**Model TA-32, Amateur Net, $69.50**

### CONVERSION KIT

**Model TA32-33** includes 7' boom section and complete director element. Finished conversion identical to standard TA-33. All materials & instructions. **Amateur Net $30.25**

**Commercial and Other Beam Types**

Mosley has designed and built a wide variety of single and multi-band beam arrays for commercial, scientific and military requirements. Inquiries of this nature are welcome and design proposals with quotations promptly submitted. In addition to models shown here, Mosley manufactures the famous "Vest Pocket" and "Super" single and multi-band Amateur beams. Write for catalog.

## "TRAP MASTER" VERTICAL ANTENNA

### 10 – 40 Meters

No bandswitching with this vertical. Electrical ¼ wave length each band with low angle radiation makes this an excellent low cost DX antenna. Low SWR with exceptionally flat response over full bandwidth. Traps weather and dirt proof for long, reliable service. Will handle full KW, AM. Sturdy aluminum construction. Included with antenna are; heavy gauge aluminum base plate, ceramic base insulator, poly guy rope, all necessary hardware & instructions. Requires 4 radial wires, 30' ea.

**Model V-4-6, Amateur Net, $27.95**

### 80 Meter BASE LOADING COIL

Beautifully made loading coil for operating V-4-6 Vertical on 75 and 80 meter bands. Space wound on heavy ceramic form. Handles full KW, AM. Mounts on base section of vertical. With coax connectors.

**Model D–4BC, Net, $14.95**

## TRAP-MOBILE for 10, 15 & 20 M

*No Band Switching !*

3–band mobile antenna functions without switches, sliding contacts or other mechanical devices. Overall length of 7' 8" provides electrical ¼ wavelength on each band assuring excellent performance with low SWR over full bandwidth. Weatherproof trap assembly has slim profile for low wind resistance. Stainless steel whip sections permit antenna to lay forward over car for garaging. Guaranteed not to take set. Brass base stud, 3/8"–24, fits standard mounts. Use any standard base loading coils for operation on 40 and 80. Recommended mounting on fender or rear deck. Feed with RG-8/U coax, preferably 22½' in length.

**Model MA–3, Net, $19.95**

## TRAP MASTER "JR"

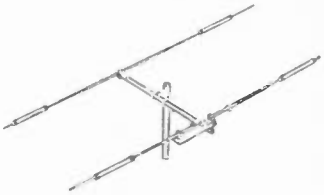
FOR 300 WATTS OR LESS

### 10 – 15 – 20 METER BANDS

**No need to pay for power rating you cannot use-** TRAP MASTER "JR" Beams provide the same fine performance and incorporate the same excellent design features as the world-famous Models TA-33 and TA-32 Trap Master Beams. Traps rated to 300 watts, AM, are lighter in weight permitting use of smaller diameter element tubing with no sacrifice in strength or sturdiness.

**Model TA-33-JR, 3 ELEMENT 'JR'** Up to 8 db. forward gain with 25 db. front-to-back will give that low or medium-power rig real "authority" on 10, 15 and 20 meter bands. SWR is usually less than 1.5/1 at resonant frequencies and is remarkably flat across full width of each band. Aluminum boom is 1¼" O.D. x 12'. Max. element length, 26' 8". Turning radius is 14' 9". Wind load, 86 pounds. Assembled weight, 20 lbs. Recommended feed-line, RG-8/U.

**Amateur Net, $69.50**



**Model TA-32-JR, 2 ELEMENT 'JR'** Provides 5.5 db. forward gain with approximately 20 db. front-to-back. Aluminum boom is 6' long and maximum element length is 26' 8". Has turning radius of just 13' 9". Weight assembled is 14 pounds. Wind load, 62 pounds.

**Amateur Net, $49.50**

### *NEW MODELS TO BE ANNOUNCED*

A number of Beam and other communication antenna types have been developed in the MOSLEY laboratories too late for inclusion in this catalog. To be announced are several new high performance parasitic arrays, additional vertical types and the exclusive 'TOTE-TENNA' 3-band portable antenna for use in hotels, motels, hospitals, apartments, etc. Write for free literature.

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World Radio History

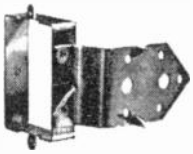
## Flush Mounted TV Sockets

Easy-to-install, attractive wall plate TV sockets for every installation requirement. Ivory or brown plates are styled to harmonize with existing electrical plates. Available in types for single, dual or triple lead-in lines and for single and dual lines plus 4, 5 or 8-wire rotor cable. Packaged with mating plug(s), F-9 mounting brackets and full instructions.

| Type No. | Service | List |
|---|---|---|
| F-1PK | 1 – 300 ohm lead. | $2.05 |
| F-11PK | 2 – 300 ohm leads. | 2.81 |
| F-111PK | 3 – 300 ohm leads. | 2.81 |
| F-14PK | 1 – 300 ohm lead & 4-wire rotor. | 3.69 |
| F-15PK | 1 – 300 ohm lead & 5-wire rotor. | 3.69 |
| F-18PK | 1 – 300 ohm lead & 8-wire rotor. | 3.78 |
| F-114PK | 2 – 300 ohm leads & 4-wire rotor. | 3.69 |
| F-115PK | 2 – 300 ohm leads & 5-wire rotor. | 3.69 |
| F-118PK | 2 – 300 ohm leads & 8-wire rotor. | 3.78 |

## Mounting Hardware

**Type F-9, Mounting Brackets** of heavy gauge steel for installing F-Series Sockets in walls of existing buildings. Requires rectangular opening 1¾" wide by 4" long. List $ .37



**Type F-8, Plaster Ring** for installing F-Series Sockets in new construction. Mounts easily and quickly to wood studding. Adjustable for plaster thicknesses up to 1½". Heavy plated steel. List $ .42

## Surface Mounted Sockets

Surface mounted sockets resemble flush wall plate types but may be used for either concealed wiring or where TV line is brought along surface of wall. No wall opening required. In brown or ivory polystyrene. Supplied with mating plug(s) & wood screws.

| Type No. | Service | List |
|---|---|---|
| SM-1PK | 1 – 300 ohm lead. | $1.74 |
| SM-11PK | 2 – 300 ohm leads. | 2.25 |
| SM-111PK | 3 – 300 ohm leads. | 2.51 |
| SM-14PK | 1 – 300 ohm lead & 4-wire rotor. | 3.69 |
| SM-15PK | 1 – 300 ohm lead & 5-wire rotor. | 3.69 |
| SM-18PK | 1 – 300 ohm lead & 8-wire rotor. | 3.78 |
| SM-114PK | 2 – 300 ohm leads & 4-wire rotor. | 3.30 |
| SM-115PK | 2 – 300 ohm leads & 5-wire rotor. | 3.36 |
| SM-118PK | 2 – 300 ohm leads & 8-wire rotor. | 3.73 |

## Universal TV Socket

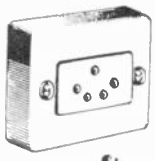
**Type 343PK.** Compact, neat plug-in socket for FM or TV lead-in line. Use as line tap or terminal socket. Low loss polystyrene, constant impedance design for 300 ohm line. In brown or ivory. Complete with mating plug. List $1.11

## 300 Ohm Connectors

Precision molded low loss 300 ohm connectors for UHF and VHF transmission lines. Constant impedance. Solderless.

| | | |
|---|---|---|
| Type 301. | Line Plug. | List $ .32 |
| Type 311. | Line Socket. | .32 |
| Type 321. | Polarized. Pair, | .63 |
| Type 304. | Input Adapter. | .32 |
| Type 27-S. | Flat-line Splicer. | .19 |
| Type 29-S. | Round to flat Splicer. | .21 |

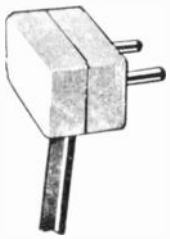
## Multi-wire Connectors



For rotor cable connections and many other low voltage uses. No set screws in line plugs and line sockets. 8-wire line sockets and plugs are round. Brown or ivory.

| | | |
|---|---|---|
| *Base Sockets* | | |
| Type 354. | 4-Wire. | List $1.44 |
| Type 355. | 5-Wire. | 1.58 |
| Type 358. | 8-Wire. | 1.84 |
| *Line Sockets* | | |
| Type 364. | 4-Wire. | List $1.01 |
| Type 365. | 5-Wire. | 1.08 |
| Type 368. | 8-Wire. | 1.32 |
| *Line Plugs* | | |
| Type 374. | 4-Wire. | List $ .79 |
| Type 375. | 5-Wire | .85 |
| Type 378. | 8-Wire. | 1.05 |

## 300 Ohm TV Plug



**Type 312.** Precision molded ivory or brown polystyrene plugs. 3 pins in polarizing arrangement mate with AC-TV series plates and middle pin may be removed to use with other Mosley sockets. Solderless. No set screws. List $ .32

**Type 303.** New 300 ohm Plug, similar in appearance to No. 312 but of one-piece construction and utilizing set-screws to hold line. Supplied with 3 pins to mate with AC-TV series plates but middle pin is removable to use with Mosley 2-pin sockets. Brown or ivory. List $ .32

## TV Distribution Outlets

Attractive, easy-to-install wall plate sockets for hotels, hospitals, apartments, etc., with master antenna systems using RG-59/U or equivalent. Provides excellent electrical and mechanical plug-in connections of TV sets to coaxial cable drops. Fits standard electrical outlet boxes or may be installed with Type F-8 or F-9 accessories. In brown or ivory.

| | | |
|---|---|---|
| Type F-3PK. | 300 ohm socket with plug. | List $2.63 |
| Type F-3BPK. | Above, with balun coil. | List $4.73 |
| Type F-3CPK. | With MC fitting for RG-59/U cable. | List $5.04 |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# Mosley TV Installation Accessories

## Roof-Thru

Type 624. 8" x 9" copper flashing with polystyrene feed through bushing permits direct weather-proof roof entrance of flat TV line and rotor cable. Easy to install. List $6.15

Type 623. Similar to No. 624 but for round or oval 300 ohm line only. List $6.15

## Wall-Thru

Type 625. Neat, low loss wall entrance for all popular oval, round or flat transmission lines. Fits walls up to 13" thick. Type 343 TV Socket mounts on inside plate. Brown or ivory. List $2.05

Type 625PK. Above, with TV Socket & Plug. List $3.15

## Wall Feed

Type 626. Install at gable end or under roof overhang to provide weatherproof TV lead-in entrance into attic. Ideal for house trailer installations. Ivory or brown polystyrene plate with weather-hood and 2" tube. In trailer installation cut tube flush with inside wall and install Type 343 TV Socket directly over opening. List $1.33

Type 626PK. Above, with TV Socket & Plug. List $2.43

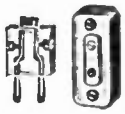
## TV Antenna Switches

Top quality rotary TV Antenna Switches for UHF and VHF. Silver-to-silver contacts and constant impedance design assures low insertion loss. Solderless. Brown or ivory.

Type F-40. 2-Way Switch. List $2.05

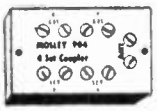
Type F-20. 3-Way Switch. List $3.94

## Multi-Set Couplers



Type 912. "Tiny-Mite" Multi-set Coupler and plug-in socket with plug. Resistor type tap-off unit will operate two TV sets from one antenna. Neat, compact. In brown or ivory. List $1.84

Type 902. Dual Match 2-Set Coupler. Efficient resistor type coupler outperforms many coil type units and provides exceptionally good isolation between sets. Solderless. Brown or ivory case. Intended for primary signal areas. List $3.10



Type 904. 4-Set Coupler. Resistor type coupler designed for metropolitan areas, the major multi-set markets. Ideal for motels, small apartment buildings, etc. Brown or ivory poly case. List $6.56

See MOSLEY Rotary Beam Antennas and other Amateur Components listed in another section of this book.

## 72-300 Ohm Transformer

Type 90. Balun type transformer matches 72 to 300 ohm or 300 to 72 ohm. Can be installed at set or directly on antenna. Solderless. Weather-sealed poly case. List $3.77

## Tunable Wave Traps

High Q, series resonant wave traps for eliminating interference patterns and cross-talk on TV and FM. Use on any receiver input, 50 to 600 ohms, balanced or unbalanced. Solderless. Install on set terminal strip. Choose type with range including frequency of interfering station. List $4.82

| Type | Range (mcs) | Type | Range (mcs) |
|---|---|---|---|
| WT-7 | 6.8 – 8.5 | WT-41 | 27 – 55 |
| WT-14 | 13.8 – 16 | WT-78 | 47 – 110 |
| WT-21 | 16 – 28 | WT-165 | 100 – 230 |

## MOSLEY "Y-TY"

Solderless strain relief connector prevents transmission line from breaking at the antenna. Easy to install, fits all types line. Use type 263-L for antennas with terminals more than 4" apart.

Type 263-S "Y-TY" List $. 69

Type 263-L "Y-TY" List $. 69

## Polyethylene TV Conduit

Black polyethylene tubing makes ideal conduit for running TV and FM transmission lines within walls. Simplifies replacement of hidden wires. ¼" inside diameter. Flexible, easy to install. Many other applications such as intercom and other low voltage cables.

No. 80-25. 25'. List $8.25 No. 80-100. 100'. List $33.00

No. 80-50. 50'. List $16.50

## AC-TV Wall Plate Sockets

Combination TV lead-in outlet and plate for double convenience outlet. Ideal for installation during new construction or remodelling. Metal barrier plate, supplied, separates AC and TV services to comply with electrical codes. Install in ganged electrical boxes. Brown or ivory. With mating plug(s) & mounting screws.

| Catalog No | TV Service | List Price |
|---|---|---|
| AC-1PK | Single 300 Ohm Lead. | $1.97 |
| AC-11PK | Dual 300 Ohm Lead. | 2.69 |
| AC-111PK | Triple 300 Ohm Lead. | 3.48 |
| AC-14PK | One 300 Ohm Lead plus 4-Wire Rotor. | 3.48 |
| AC-15PK | One 300 Ohm Lead plus 5-Wire Rotor. | 3.48 |
| AC-18PK | One 300 Ohm Lead plus 8-Wire Rotor. | 3.88 |
| AC-114PK | Two 300 Ohm Leads plus 4-Wire Rotor. | 4.18 |
| AC-115PK | Two 300 Ohm Leads plus 5-Wire Rotor. | 4.33 |
| AC-118PK | Two 300 Ohm Leads plus 8-Wire Rotor. | 4.58 |

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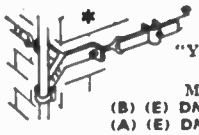
# South River — THE COMPLETE QUALITY LINE OF ANTENNA MOUNTING ACCESSORIES

## CHIMNEY MOUNTS

U.S. Pat. #2482575, Can. Pat. #463261

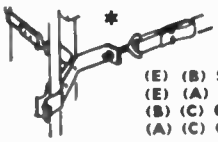


"Y" TYPE HOT DIP GALV. STEEL

| MODEL | LIST |
|---|---|
| (B) (E) DM-36 | $4.00 |
| (A) (E) DM-36-ST | 5.65 |
| (B) (C) "Y" Special | 3.10 |
| (A) (C) "Y" ST Special | 3.95 |

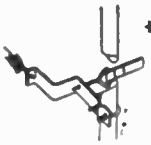
COMPLETELY ALL STAINLESSS

| | |
|---|---|
| (A) ST-DM | 8.05 |



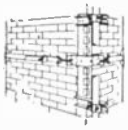
SNAP-IN TYPE

| MODEL | LIST |
|---|---|
| (E) (B) SN-50 | $3.60 |
| (E) (A) SN-50-ST | 5.00 |
| (B) (C) CM-20 | 3.10 |
| (A) (C) CM-20-ST | 3.95 |



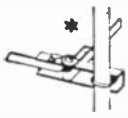
"Z" TYPE

| MODEL | LIST |
|---|---|
| (B) (C) ZM | $2.45 |
| (A) (C) ZM-ST | 3.50 |
| (B) (C) ZM-2 | 2.35 |
| (A) (C) ZM-2-ST | 3.30 |



ONE PIECE TYPE

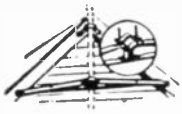
| MODEL | LIST |
|---|---|
| (E) (A) (One Strap) UM-1-ST | $6.85 |



RATCHET TYPE

| MODEL | LIST |
|---|---|
| (B) RT | $4.25 |
| (A) RT-ST | $5.50 |

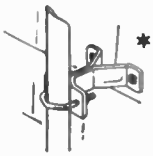
## EAVE MOUNTS



| MODEL | LIST |
|---|---|
| EM-1 | $5.45 |

| MODEL | LIST |
|---|---|
| 30" EM-30 | $4.55 |
| 48" EM-48 | 6.40 |
| 60" EM-60 | 8.00 |

## WALL BRACKETS

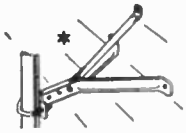


"U" BOLT TYPE

| MODEL | LIST |
|---|---|
| 3" Alum. WB-3 | $2.20 |

| MODEL | LIST |
|---|---|
| 3" NT-3 | $1.45 |
| 4" NT-4 | 1.60 |

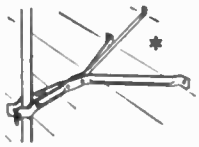
| MODEL | LIST |
|---|---|
| 6" WB-6 | $2.35 |



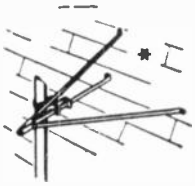
| MODEL | LIST |
|---|---|
| 9" WB-9 | $3.45 |
| 12" WB-12 | 4.60 |
| 15" WB-15 | 5.45 |
| 18" WB-18 | 6.15 |
| 24" WB-24 | 7.60 |

SNAP-IN TYPE

| MODEL | LIST |
|---|---|
| 6" SN-6 | $2.35 |

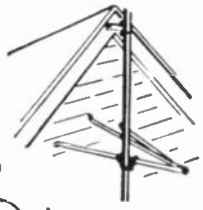


| MODEL | LIST |
|---|---|
| 9" SN-9 | $3.45 |
| 12" SN-12 | 4.60 |
| 15" SN-15 | 5.45 |
| 18" SN-18 | 6.15 |
| 24" SN-24 | 7.60 |



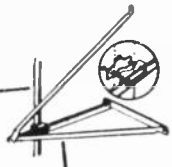
ADJUSTABLE

| MODEL | LIST |
|---|---|
| 18" Alum. WB-18A | $7.50 |



| MODEL | LIST |
|---|---|
| Combination WB-3-18A | $5.45 |

All Aluminum



| MODEL | LIST |
|---|---|
| ST-18A Assembled | $9.25 |
| ADJ-18 Unassembled | 6.90 |

ALL STEEL

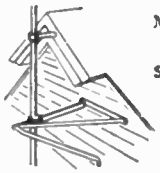
CODE:

* TWO TO A SET

(A) Stainless Steel Banding
(B) Galv. Steel Banding
(C) Economy Model
(D) Not Illustrated
(E) With Kwik Klip
(F) U.S. Pat. # 2734708
(G) Fits Masts Up To 1½"
(H) Fits Masts Up To 2"

Complete descriptions and list of South River Products available in latest catalog. Write for your copy.

## WALL BRACKETS



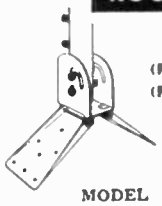
| MODEL | LIST |
|---|---|
| Combination Assembled ST-3-18A | $5.80 |
| Combination Unassembled ADJ-3-18A | 5.25 |

ALL STEEL

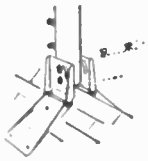
HEAVY SWIVEL GROUND UP TYPE

| MODEL | LIST |
|---|---|
| GU-3 (Fits Masts Up To 3⅜" O.D.) | $6.15 Pr. |
| GU-7 Fits Masts up to 2⅝" O.D. | $3.65 Pr. |

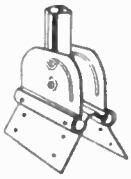
## ROOF MOUNTS



| MODEL | LIST |
|---|---|
| (F) (G) PFM-1 | $3.80 |
| (F) (H) PFM-1-LM | 4.70 |

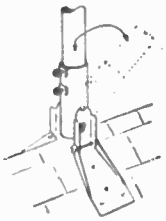


| MODEL | LIST |
|---|---|
| (F) (G) PFM-30 | $3.35 |
| (F) (H) PFM-30-LM | 4.35 |

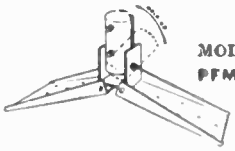


| MODEL | LIST |
|---|---|
| (F) (G) PFM-2 | $7.30 |

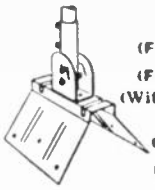
All Aluminum



| MODEL | LIST |
|---|---|
| (G) PFM-90 | $2.25 |
| (H) PFM-90-LM | 3.25 |
| (C)(D)(G) SPF-9 | 1.90 |
| (C)(D)(H) SPF-9-LM | 2.40 |



| MODEL | LIST |
|---|---|
| PFM-XL (Fits Masts Up to 2¼" O. D.) | $5.90 |



| MODEL | LIST |
|---|---|
| (F) (G) PM-10 | $4.85 |
| (F) (H) PM-10-LM (Without Patented Walk-Up Drop- Lock Feature) | 5.50 |
| (D) (G) PM-12 | 2.95 |
| (D) (H) PM-12-LM | 3.60 |

| MODEL | LIST |
|---|---|
| (G) UR-1 | $.59 |
| (G)(D) UR-2** | .59 |

**(Holes replaced by continuous slot)

**SOUTH RIVER METAL PRODUCTS CO., INC.,** South River, New Jersey



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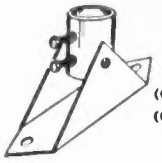
World Radio History

# South River — THE COMPLETE QUALITY LINE OF ANTENNA MOUNTING ACCESSORIES

## ROOF MOUNTS



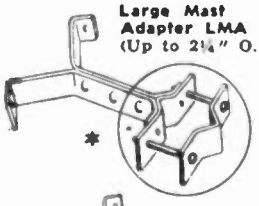
| MODEL | LIST |
|---|---|
| (G) RM-80 | $1.25 |
| (H) RM-80-LM | 2.35 |
| (C) (G) SRM-8 | 1.05 |
| (C) (H) SRM-8-LM | 1.55 |
| (D) RM-XL* | 3.65 |

*(Fits Masts Up To 2¼" O.D.)

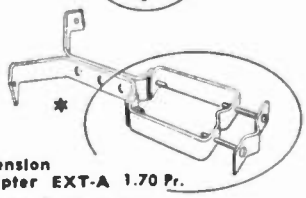
## PIPE MOUNT

| MODEL | LIST |
|---|---|
| (B) P-1 | $2.85 |
| (A) P-1-ST | 3.25 |

## ACCESSORIES

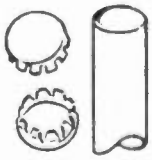


Large Mast Adapter LMA $1.35 Pr.
(Up to 2¼" O. D.)

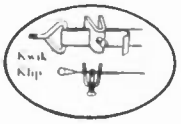


Extension Adapter EXT-A 1.70 Pr.
(Extends Mast 3")

Mast Coupler MC .95



Mast Plug MP .20

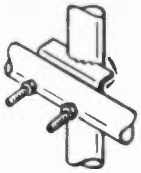


KWIK KLIP

| MODEL | LIST |
|---|---|
| KK | $.28 |

Complete descriptions and list of South River Products available in latest catalog. Write for your copy.

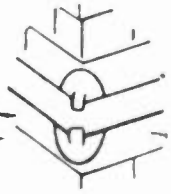
## ACCESSORIES



| MODEL | LIST |
|---|---|
| "U" Bolt & Saddle UBS | $ .45 |

CORNER GUARD

| MODEL | LIST |
|---|---|
| CG | $.49 |



STRAP CLAMPS

| MODEL | LIST |
|---|---|
| (C)-Q Galv. Steel | $.08 |
| (C)-QS Stainless Steel | .15 |

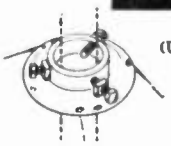
U.H.F. ANTENNA MAST ADAPTERS

Model UHB-15
List $2.10

## BANTAM TOWERS

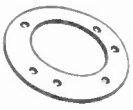
| MODEL | LIST |
|---|---|
| BT-5 | $7.25 |
| BT-10 | 9.95 |

## GUY RINGS



(Universal Type Fits Masts up to 2")
Model GR-1
List $1.60

| MODEL | LIST |
|---|---|
| 1¼" MASTS GR-5 | $.20 |
| 1⅜" MASTS GR-6 | .30 |
| 1½" MASTS GR-7 | .30 |
| (D) Guy Ring Support RS-5 (For 1¼" Masts) | .25 |



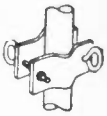
RATCHET GUY WIRE TIGHTENER
Model GW-RT
List $.75

## GROUND RODS

| MODEL | LIST |
|---|---|
| (D) 4 Ft. GND-4 CP | $1.10 |
| (D) 6 Ft. GND-6 CP | 1.55 |
| (D) Gnd. Rod GRC Clamp | .35 |
| (D) Gnd. Rod Clamp GRC-2 | .18 |

## GUY WIRE CLAMPS

(G) Model GC-1 List $.40



(G) Model GC-2
List $.45

(H) Model GC-3
List $.60

Model GC-4
List $.80
(For Masts Up to 3")

## MAST TUBING

ALUMINUM

ALLOY 63S T6
WALL THICKNESSES—.050"—.054"—.058"
SIZES 5', 8' 10' 12'

## GUY WIRE

STRANDED ALCLAD ALUMINUM

500# TEST—7 Strand 17 Gauge
50' INTERCONNECTED COILS
100' INTERCONNECTED COILS
1000' CONTINUOUS COILS

## REPLACEMENT BANDING KITS

| | | |
|---|---|---|
| A | 12 Ft. Straps | 1.90 |
| AT | 10 Ft. Straps | 1.55 |
| C | 12 Ft. S.S. Straps | 3.45 |
| CT | 10 Ft. S.S. Straps | 2.75 |
| XLG | 18 Ft. Straps | 2.60 |
| XLST | 18 Ft. S.S. Straps | 4.95 |

## SOUTH RIVER SUPERLIGHT MAGNESIUM LADDERS

Magnesium: 1/3 Lighter than Aluminum, Strongest Metal Lb. for Lb. in existence.

EXTENSION LADDERS

| Size | Weight | List Price |
|---|---|---|
| 40' | 57 Lbs. | $142.40 |
| 36' | 51 " | 128.20 |
| 32' | 46 " | 113.95 |
| 28' | 32 " | 87.95 |
| 24' | 28 " | 75.35 |
| 20' | 23 " | 62.80 |
| Rubber Safety Feet | | 3.65 |

STRAIGHT LADDERS

| Size | Weight | List Price |
|---|---|---|
| 16' | 18 Lbs. | 46.70 |
| 12' | 13 " | 35.00 |
| 10' | 11 " | 29.20 |
| Roof Hooks | | 3.65 |

STEPLADDERS

| Size | Weight | List Price |
|---|---|---|
| 8' | 16 Lbs. | 39.10 |
| 6' | 11½ " | 28.15 |
| 4' | 8½ " | 21.35 |
| 26" | 3¾ " | 10.40 |

These ladders furnished immediately from complete warehouse stocks in South River, N. J.

**SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey**

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# Perma-Power TV Accessories

## TV TUBE BRITENERS

### UNIVERSAL BRITENER MODEL C-301

**BRITENS AND ISOLATES PARALLEL OR SERIES TV PICTURE TUBES**

Multi-purpose isolation transformer type Britener. Operates on electrostatic or magnetic focus television picture tubes. Provides 6.3 volts to filament to relieve cathode-filament short problems or 7.8 volts to increase cathode emission. Simple switch permits quick, easy selection. Operates on either parallel or series wired filaments. Shipping Weight, 10 ounces.
**Perma-Power Model C-301**—Net Each..... $2.67

### GOLDEN C-BRITE MODEL C-201

**BRITENS PARALLEL OR SERIES TV PICTURE TUBES**

A dual purpose autoformer Britener. Features an exclusive reversible plug that adapts to either parallel or series wired filaments. Operates on electrostatic or magnetic focus television picture tubes. Provides an output of 7.8 volts. Gold-anodized aluminum housing. Shipping Weight, 8 ounces.
**Perma-Power Model C-201**—Net Each..... $1.49

### VU BRITENERS MODELS C-401, C-402

**THE PRICE LEADER FOR BRITENING MOST TV SETS**

Single-purpose autoformer Briteners. Provide 7.8 volts output. Operate on electrostatic or magnetic focus television picture tubes. Shipping Weight, 8 ounces.
**Perma-Power Model C-401**—For sets with parallel wired filaments only. Net Each ..... 89c
**Perma-Power Model C-402**—For sets with series wired filaments only. Net Each..... 89c

### NEW 110° C-BRITE MODELS C-211, C-221

**BRITENS PARALLEL OR SERIES 110° TV PICTURE TUBES**

Dual-purpose autoformer Briteners with quick selector switch for instant adaption to either series or parallel wired filaments. Operates on 110° television picture tubes. Provides an output of 7.8 volts. Shipping Weight, 8 ounces.
**Perma-Power Model C-211**—With button base. Net Ea.. $2.25
**Perma-Power Model C-221**—With shell base. Net Each. $2.25

### HORIZONTAL BAR GENERATOR MODEL B-101

A neon tube relaxation oscillator that plugs onto picture tube to provide a series of equally spaced horizontal lines. Installs quickly; completely self-contained. Permits precise setting and adjustments of yoke, focus coil and magnet and adjustment of vertical linearity, height and centering. Shipping Weight, 5 ounces.
**Perma-Power Model B-101**—Net Each..... $1.75

## TV SERVICE AIDS

### TV TUBE RESTORER MODEL K-101

**LOCATE AND CORRECT FOR:**

- OPEN CATHODE
- HEATER TO CATHODE SHORT
- OPEN CONTROL GRID
- CONTROL GRID TO CATHODE SHORT
- LOW EMISSION
- COMBINATIONS OF THESE DEFECTS

Unique design is used in the Restorer so that one simple unit provides the cure for any defective picture tube in any television set. Operates on electrostatic or magnetic focus TV picture tubes, with either series or parallel wired filaments. Corrects for dozens of picture tube faults. Shipping Weight, 1 pound.
**Perma-Power Model K-101**—Net Each..... $3.98

### TUBE RESTORER MODEL K-201 (NOT ILLUSTRATED)

**FOR CORRECTION OF:**

- OPEN CONTROL GRID
- CONTROL GRID TO CATHODE SHORT

Similar to the Model K-101 above, but corrects only open control grid and control grid to cathode short defects. Shipping Weight, 8 ounces.
**Perma-Power Model K-201**—Net Each..... $1.49

### COLOR BRITE MODEL C-501

**TO BRITEN COLOR TV PICTURE TUBES**

Single-purpose autoformer Britener that extends the useful life of all three-gun color television picture tubes. Provides increased filament voltage to boost electron emission and return full contrast and color quality. Shipping Weight, 1 pound.
**Perma-Power Model C-501**—Net Each..... $5.85

### COLOR GUN KILLER MODEL T-101

**TO MAKE PURITY ADJUSTMENTS**

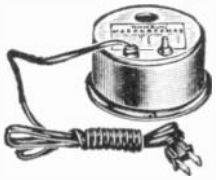
Enables each gun of three-gun color television picture tubes to be operated either singly or in combinations so as to make purity adjustments. Avoids disconnecting or cutting of leads. Shipping Weight, 8 ounces.
**Perma-Power Model T-101**—Net Each..... $3.25

### COLOR KINE ADAPTER MODEL T-201

**TO TEST COLOR TV PICTURE TUBES**

Enables each gun of a three-gun color television picture tube to be individually tested on tube testers that were designed to test black and white picture tubes. Shipping Weight, 8 ounces.
**Perma-Power Model T-201**—Net Each..... $2.69

## NEW PERMA-POWER MAGNEFORMER MODEL F100



- MAGNETIZES AND DEMAGNETIZES SCREWDRIVERS, PLIERS, HAMMERS, PROBES, TWEEZERS AND OTHER SMALL TOOLS
- THREE SECOND OPERATION
- IDEAL FOR SERVICE TECHNICIANS, REPAIRMEN, ENGINEERS, HOBBYISTS
- PORTABLE

Now, with this specially developed device, you can quickly, easily and economically magnetize or demagnetize all your small tools and special instruments. Portable, for use wherever and whenever needed, the Magneformer was designed for use by mechanics, opticians, service technicians, hobbyists, engineers, etc. Furnished complete with simple instructions and is fully guaranteed. $4.49
**Perma-Power Model F100**—Net Each.....

## TV VOLTAGE REGULATOR MODEL D-101 300 WATT

- RETURNS FULL HEIGHT AND WIDTH OF PICTURE WHEN LOW OR HIGH LINE VOLTAGE CAUSES DISTORTION OF PICTURE
- BOOSTS 10 VOLTS
- LOWERS 10 VOLTS
- FEEDS LINE THROUGH

Returns full height and width of TV picture affected by low or high line voltage. This 300 watt model will handle most requirements from 90 to 135 volts. Boosts or lowers 10 volts. Eliminates intermittent sync and oscillator drift. Increases set sensitivity. Reduces low line and high line hazards. Simple plug-in installation. Turns on and off with the TV set. Shipping Wt., 2½ lbs. $4.17
**Perma-Power Model D-101**—Net Each.....

**Perma-Power Co.** CHICAGO 18, ILLINOIS



Net

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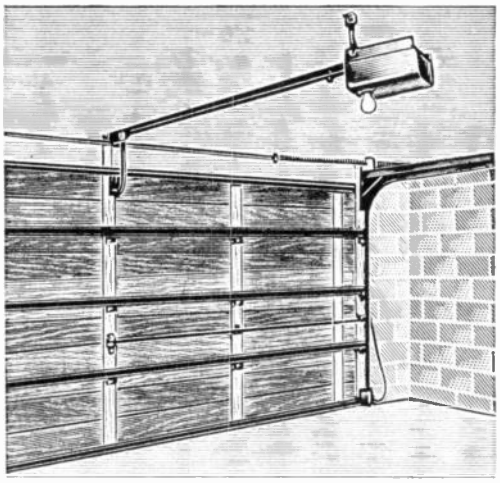
World Radio History

# Perma-Power Electronic Equipment

## PERMA-POWER RADIO CONTROLLED GARAGE DOOR OPENER



### Just a touch of your finger . . . . . opens and closes your garage door

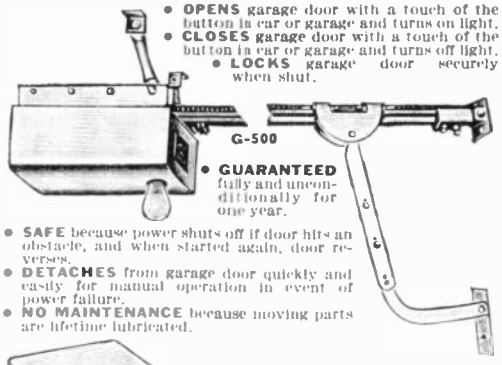
The Perma-Power Garage Door Opener embodies novel design features providing maximum convenience and safety to the user. Styling, too, was given important consideration. All mechanism is contained in a modern streamlined fixture that illuminates as well as beautifies the garage interior.

The concealed motor is a ¼ HP, 117 volt, capacitor-start type with ample power to operate the largest of modern, residential, garage doors. Also in the fixture is the radio receiver which turns on the motor when it gets a signal from the transmitter in the car.

**DOOR REQUIREMENTS**—The Perma-Power Garage Door Opener will operate all one-piece tilt-up or sectional roll-up residential doors that travel on horizontal or curved roller tracks. Doors may be up to 18′ wide and 8′ high and of metal or wood construction. As little as 2″ of headroom (space between high-arc of door and ceiling) in garage is adequate for installation.

**INSTALLATION**—Entire system was designed to make installation an easy one-man job. Simplified step-by-step instruction manual assures fast, professional results using common hand tools. Every part required is supplied, including mounting materials.

- **OPENS** garage door with a touch of the button in car or garage and turns on light.
- **CLOSES** garage door with a touch of the button in car or garage and turns off light.
- **LOCKS** garage door securely when shut.




- **GUARANTEED** fully and unconditionally for one year.
- **SAFE** because power shuts off if door hits an obstacle, and when started again, door reverses.
- **DETACHES** from garage door quickly and easily for manual operation in event of power failure.
- **NO MAINTENANCE** because moving parts are lifetime lubricated.

### OPERATIONAL FEATURES

- When button is pressed, door automatically opens and turns on fixture light, illuminating garage. When button is pressed again, door automatically closes and locks securely. No conventional key lock required.
- New, exclusive, safety feature—light remains on for two minutes after door is closed to permit safe exit.
- Automatic shut-off gives extra protection. If door hits an obstacle, power shuts off instantly. When started again, door reverses, pulling away.
- Sensitive safety clutch is easily adjusted by a knob to exert just enough force to move door reliably. This vital safeguard makes door travel gentle and, consequently, easy to arrest.
- A detachable door arm permits unlatching for manual operation of the door in case of power failure.
- A push-button with wire is supplied for wall mounting in garage or other location to operate door from inside. This control circuit is only 24 volts and safely isolated from the main service line. Additional buttons may be easily installed at auxiliary points. A key-operated switch is available for outside mounting.
- The radio-control transmitter operates on an FCC authorized frequency of 27.255 mcs. It mounts under the hood and operates directly from the 6 or 12 volt car battery. When door operation from more than one car is desired, a separate transmitter is installed in each additional car.
- An exclusive, coded channel is set up in each radio control system upon installation. This allows operation free from interference with and from neighboring installations and other electrical devices.

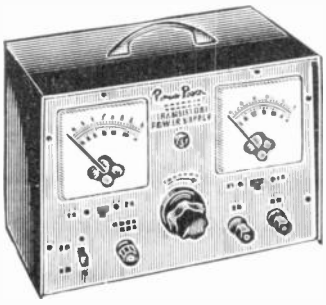
G-315

**Perma-Power No. G-500**—Complete door opening system, including motor mechanism, radio transmitter and receiver, antennas, mounting hardware, wiring, wall switch, etc. Net . . . **$139.90**

**Perma-Power No. G-315**—Additional transmitter for use in second car. Net Each . . . . . **$24.50**

**Perma-Power No. G-511**—Key switch for outdoor location. Net **$4.20**

## PERMA-POWER TRANSISTOR POWER SUPPLY




Especially designed to operate, service and test transistorized portable radios and low-power transistor circuits.

### FEATURES

**Continuously adjustable output** using variable autoformer control. **Two output voltage ranges** for accurate setting of all transistor battery voltages. **Two output current ranges** monitor current for single transistor or entire set. **Extremely low ripple** for testing low-cost level transistor circuits. **Very low internal impedance,** providing excellent regulation. **Precision D'Arsonval meters** provide laboratory accuracy. **Milliammeter protection** furnished by front panel fuse, additional internal line fuse. **Output isolated** from line and case. **Maroon Hammerloid cabinet** with attractive slope front and rubber feet.

### SPECIFICATIONS

**Input:** 115 v., 50-60 cps. **Output Voltage:** 0-15 v. and 0-30 v. **Output Current:** 0-15 ma. and 0-60 ma. **Accuracy:** 2%, on both voltage and current. **Ripple:** Less than 500 μv (0.002%, at full output). **Regulation:** 1.2 v. maximum, zero to full load current. **Internal Impedance:** Less than 20 ohms DC to radio frequencies (including 7 ohm meter fuse, optionally removable). **Terminals:** Five-way binding post. **Size:** 10″ x 6½″ x 5¾″. **Weight:** 16 lbs.

**Perma-Power Model A-400** Net Each . . . . . **$64.50**

## NEW MODEL A-410 WITH EXTENDED CURRENT RANGE

Designed to meet the needs of advanced transistor circuits requiring higher power and more precise adjustments. **Output Current:** 20 ma and 200 ma. All other specifications similar to those of Model A-400 above.

**Perma-Power Model A-410** Net Each . . . . . **$74.50**

## PERMA-POWER BATTERY ELIMINATOR

### MODEL "A" 1½-VOLT SUPPLY

### CONVERTS BATTERY RADIOS TO ALL-ELECTRIC OPERATION

For 1½ volt radios with 4, 5 or 6 tubes. Designed to give nearly constant power from varying line voltages. Maintains rated output under varying tube loads. Universal sockets for all battery plugs. Fits in back of battery radios as well as battery compartments of most portables. **"A" Voltage:** 1.45 volts DC at 200 to 350 ma. **"B" Voltage:** 90 volts DC at 13 ma. **Size:** 2¾″ x 4½″ x 6¾″. **Weight:** 4 lbs.

**Perma-Power Model A-101**—Net Each . . . . . **$12.65**

**Perma-Power Co.**

KEystone 9-7171
• CHICAGO 18, ILLINOIS



World Radio History

**SELECT-O-SWITCH**
4-position switch permits quick switching of one input to four different outputs. Use as an antenna switch or speaker switch. Beautiful modern design hi-impact case.
**Model SS-4** **List 3.25**

**TELE-LINK**
Bifilar coils offer maximum isolation between sets with maximum signal transfer. Solderless screw terminals for all connections. Equally effective for TV or FM sets.
**Model TL-2** **List 2.95**

**ANTEN-UATOR**
Removes overload in strong signal areas. Corrects reception when AGC circuits are faulty in TV & FM receivers. Reduces ghosts, audio and video distortion. One feed-thru, 10 DB and 20 DB attenuation positions. Matched to 300 ohms.
**Model SA-1** **List 3.25**

**TELE-TRAP**
Balanced constant-K high-pass filter for 300 ohm line. Cures most spurious signal overload problems. Attenuates signals below 44 MC and passes all higher frequencies. Assembled with coils and capacitors.
**Model F-1** **List 2.95**

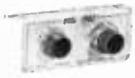
**DE RO-JUVENATOR**
Compact tube booster. Renews brilliance and contrast to picture. Prolongs life of old Tubes.
**Model RP-1 Parallel**
**Model RS-1 Series** **List 1.50**

**DUO-JUVENATOR**
Featuring exclusive "Switch-In-Base" for conversion from Parallel to Series and vice-versa.
**Model RPS-2 Series & Parallel**
**List 2.95**

**UNIVERSAL DE RO-JUVENATOR**
Corrects practically all tube failures. Isolates cathode and filament shorts. For all parallel or series TV sets — both electrostatic and electromagnetic.
**Model RU-5** **List 3.95**

**PERSONNA-TONE**
Permits chair-side TV listening. Select either one or both speakers from remote position. Unwanted commercials are eliminated. All-wood cabinet for best sound. Built-in volume control. Complete with 25 feet of cable.
**Model PS-20** **List 9.95**

**REMO-TONE**
Completely wired remote speaker switch assembly for installation to any radio or TV set. 3-position silver-plated contacts. Ample cable for all cars when used in rear-seat speaker installations.
**Model RT-16** **List 1.95**



**DUAL-TONE**
Two volume controls — one for each speaker. Permits sound adjustment of either speaker independently. No switch necessary. Adjusts sound to fit the needs exactly.
**Model DT-32** **List 3.95**

**PIC-TEST**
Determine if picture tube is defective without removing it from the cabinet by substituting the Pic-Test in its place. Step-by-step instructions make operation simple.
**Model PT-1** **Net 2.97**

**3 SPEAKER HI-FI SYSTEM**
**Stereo Model S844W**
Hand-rubbed mahogany and blond woods, matched and phased speakers. Electronic crossover network wired in assuring proper frequency dispersion. True hi-fi presence. Handles outputs to 15 watts. Dimensions: 14"H x 18"W x 10"D. Brass legs optional.
**List $39.95**

## *JUMP-IT*
**HI-FI CONNECTOR CABLES INDIVIDUALLY PACKAGED**

**PP-18** 18" cable Pin Plug both ends 1.25
**PJ-18** 18" cable Pin Plug and Pin Jack 1.35
**PT-18** 18" cable Pin Plug and tinned ends .95
**PPH-18** 18" cable Pin Plug and Phone Plug ..... 1.50
**PHPJ-18** 18" cable Phone Plug and Phone Jack ..... 2.50
**FTPJ** Feed-thru Pin Jack Both ends .95
**PHPJ** Phone Plug and Pin Jack adapter .95
For 36" cables use code letters above and add "— 36" **Example: PP-36.**

**Model VT-2**

## VELVETONE
Crossover network featuring high-pass filter to extend high frequency range of any amplifier system. Facilitate the addition of a tweeter to any amplifier.

Automatically channels low frequencies to woofer and higher frequencies to tweeter. High frequency control for proper tone balance.

Can be used on 4, 8 or 16 ohm systems. Low frequency roll-off begins in the 2000-3000 cycle region.
**List 3.95**

Latest catalog available on request

**DeRO Electronics**

**ROOSEVELT, LONG ISLAND, NEW YORK**

## SOUND-ORBITER
Completely wired. One crossover network services all four sets of speakers. Screw terminals for all connections.

Unique switching permits operation of Hi-Fi speakers independently of all remote loads. Switches in any combination of up to four sets of woofers and tweeters in constant-impedance arrangement.

Use directly across amplifier output and control eight speakers in groups of two; or connect to output of cross-over network and control four sets of speakers.

**Model HFS-4 (4 ohms)**
**HFS-8 (8 ohms)**
**HFS-16 (16 ohms)**
**List 9.95**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**TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY***

World Radio History

# Kreco Antennas

# CUT TO FREQUENCY COMMUNICATIONS ANTENNAS

for COMMERCIAL ● INDUSTRIAL
AMATEUR ● CIVIL DEFENSE

## CO-AXIAL

**HIGH BAND**

CO-2-150-155

All Brass Construction

Mounts on Std. pipe.

Feed with RG 8/U

**LOW BAND**

CO-6-10-30-40

Brass Skirt, Aluminum Vertical

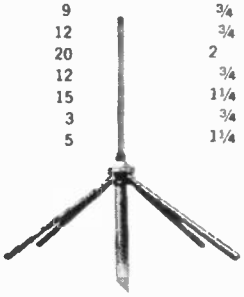
Mounts on Std. pipe

Feed with RG 8/U

| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| CO-2 | 2 meters | 3 | ¾ | 14.95 |
| CO-6 | 6 meters | 5 | ¾ | 24.95 |
| CO-10 | 10 meters | 10 | ¾ | 34.95 |
| CO-30 | 25-50 MC | 10 | ¾ | 49.94 |
| CO-40 | 25-50 MC | 15 | 1¼ | 86.25 |
| CO-150 | 108-470 MC | 3 | ¾ | 24.94 |
| CO-155 | 108-470 MC | 6 | 1¼ | 43.69 |

## GROUND PLANE

| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| GP-2 | 2 meters | 3 | ¾ | 14.95 |
| GP-6 | 6 meters | 9 | ¾ | 39.95 |
| GP-10 | 10 meters | 12 | ¾ | 44.95 |
| GP-17 | 25-50 C | 20 | 2 | 124.94 |
| GP-30 | 25-50 MC | 12 | ¾ | 62.44 |
| GP-40 | 25-50 MC | 15 | 1¼ | 86.25 |
| GP-150 | 108-470 MC | 3 | ¾ | 24.94 |
| GP-155 | 108-470 MC | 5 | 1¼ | 27.19 |



**LOW BAND**

GP-6-10-17-30-40

Brass Base, Aluminum Elements

Use RG 8/U

GP-17 uses RG 17/U

**HIGH BAND**

GP-2-150-155

All Brass

Use RG-8

## STACKED CO-AXIAL

**HIGH BAND**

SC-2-150

Mounts on ¾ pipe

6 DB Gain

All Brass

Use RG 8/U

**HIGH BAND—HEAVY DUTY**

SC-155

Mounts on 1¼ pipe

6 DB Gain

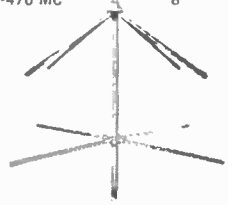
All Brass

Use RG 8/U

| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| SC-2 | 2 meters | 10 | ¾ | 44.50 |
| SC-150 | 108-470 MC | 10 | ¾ | 61.88 |
| SC-155 | 108-470-MC | 16 | 1¼ | 112.50 |

## DUO-GROUND PLANE

| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| DGP-2 | 2 meters | 5 | ¾ | 22.45 |
| DGP-6 | 6 meters | 16 | ¾ | 59.90 |
| DGP-10 | 10 meters | 21 | ¾ | 79.90 |
| DGP-17 | 25-50 MC | 35 | 2 | 199.98 |
| DGP-30 | 25-30 MC | 20 | ¾ | 109.23 |
| DGP-40 | 25-50 MC | 22 | 1¼ | 153.75 |
| DGP-150 | 108-470 MC | 5 | ¾ | 34.31 |
| DGP-155 | 108-470 MC | 8 | 1¼ | 41.35 |



**HIGH BAND**

DGP-2-150-155

All Brass

Use RG-8/U

**LOW BAND**

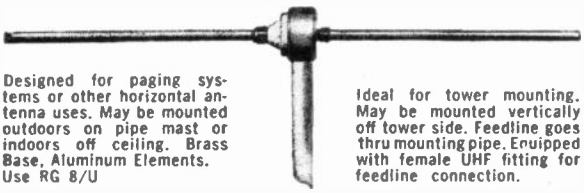
DGP-6-10-17-30-40

Brass Base, Aluminum Elements

Use RG-8/U

DGP-17 uses RG 17/U

## HORIZONTAL



Designed for paging systems or other horizontal antenna uses. May be mounted outdoors on pipe mast or indoors off ceiling. Brass Base, Aluminum Elements. Use RG 8/U

Ideal for tower mounting. May be mounted vertically off tower side. Feedline goes thru mounting pipe. Equipped with female UHF fitting for feedline connection.

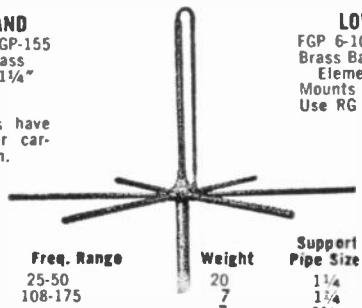
| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| HA-40 | 25-50 | 15 | 1¼ | 86.25 |

**HA-40 Cut to any frequency 25 to 50 MC $86.25**

## FOLDED GROUND PLANE

**HIGH BAND**

FGP 2-155 RGP-155
All Solid Brass
Mounts on 1¼" pipe
Use RG 8/U
RGP models have reflector for cardioid pattern.



**LOW BAND**

FGP 6-10-40 RGP-40
Brass Base Aluminum Elements
Mounts 1¼" pipe
Use RG 8/U

| Model | Freq. Range | Weight | Support Pipe Size | Price |
|---|---|---|---|---|
| FGP-40 | 25-50 | 20 | 1¼ | 112.50 |
| FGP-155 | 108-175 | 7 | 1¼ | 49.94 |
| FGP-2 | | 7 | 1¼ | 34.95 |
| FGP-6 | | 15 | 1¼ | 67.50 |
| FGP-10 | | 20 | 1¼ | 82.50 |
| RGP-40 | 25-50 | 37 | 1¼ | 157.50 |
| RGP-155 | 108-175 | 9 | 1¼ | 65.00 |

**HERB KRECKMAN CO.** CRESCO, PENNSYLVANIA Phone

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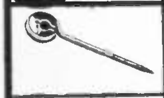
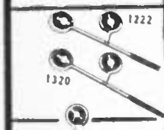
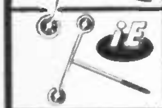
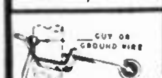
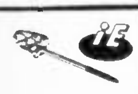
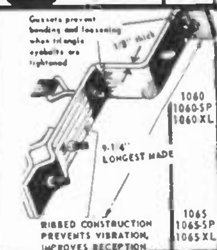
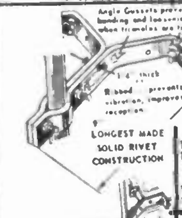
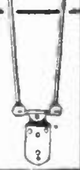
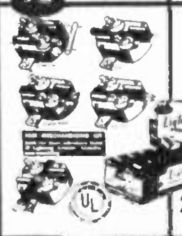
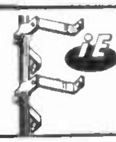
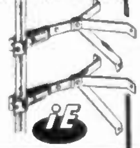
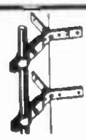
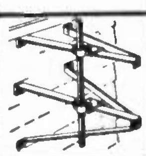
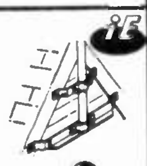
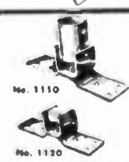
World Radio History

# iE HARDWARE · iE RADIO PARTS · iE ACCESSORIES

iE MANUFACTURING CHICAGO 12 ILLINOIS

| iE ILLUSTRATION | PART NO. | DESCRIPTION |
|---|---|---|
|  | 1330<br>1350<br>1370<br>1390 | **iE - STAND-OFFS**<br>WOOD SCREW TYPE<br>3½" Wood Screw<br>5½" Wood Screw<br>7½" Wood Screw<br>10" Wood Screw |
|  <br>1222<br>1320 | 1222<br>1320 | **iE INLINE DOUBLE STANDOFF**<br>FOR HIGH-LOW, 2 LEAD-INS<br>7½" Machine Screw type<br>7½" Wood Screw type |
| | 1345 | **iE 3-WAY STANDOFF**<br>WOOD SCREW TYPE<br>7½" Wood Screw 3-way |
|  | 1380<br>1343<br>1340<br>1341 | **iE "T"-TYPE DOUBLE STAND-OFF**<br>WOOD SCREW TYPE<br>3½" Wood Screw T-type<br>5½" Wood Screw T-type<br>7½" Wood Screw T-type<br>12" Wood Screw T-type |
| <br>LONG THREAD | 1230<br>1250<br>1270<br>1290<br><br>1231<br>1251<br>1271<br>1291 | **iE MAST STAND OFFS**<br>MACHINE SCREW TYPE<br>Will accommodate masts up to 3" diameter<br>WITH GALVANIZED STRAP<br>3½" Machine Screw Galvanized Strap<br>5½" Machine Screw Galvanized Strap<br>7½" Machine Screw Galvanized Strap<br>12" Machine Screw Galvanized Strap<br>WITH STAINLESS STEEL STRAP<br>3½" Machine Screw Stainless Strap<br>5½" Machine Screw Stainless Strap<br>7½" Machine Screw Stainless Strap<br>12" Machine Screw Stainless Strap |
| | 1220<br>1221 | **iE INLINE DOUBLE MAST STAND-OFF**<br>MACHINE SCREW TYPE<br>For 2 lead ins<br>7½" Inline double-galvanized strap<br>7½" Inline double-stainless steel strap |
| <br>1212 | 1200<br>1210<br>1212 | **iE GUTTER TYPE STAND-OFF**<br>Anchors securely to roof gutters and eaves. Prevents lead-in wire from wearing due to whipping and swaying<br>3½" Gutter Type Machine Screw<br>7½" Gutter Type Machine Screw<br>7½" Gutter Double In Line |
| | 1780<br>1790 | **iE GUY WIRE STAND-OFF**<br>Permanently fastens to guy wire. Carries lead-in wires and rotor wires. Simple to use<br>3½" Guy wire Standoff<br>7½" Guy wire Standoff |
|  <br>GUY OR GROUND WIRE | 1830 | **iE GUY WIRE CLAMP AND MAST STAND-OFF**<br>Clamps on guy wire. Clamps on masts up to 1-7/8" dia. For dual use as ground clamp. Slip wire into groove at bottom of clamp "V" tip.<br>3½" Mast and Guy Wire Standoff |
| | 1214<br>1215<br>1216 | **iE LOK-ON STAND-OFF**<br>This new, improved LOK-ON STAND-OFF snaps on without effort, remains secure under the severest conditions<br>1" Lok-On Stand-Off<br>1¼" Lok-On Stand-Off<br>1½" Lok-On Stand-Off |
| | 1234<br>1235<br>1236 | **iE SNAP-ON STAND-OFF**<br>Serrated teeth prevent rotating, will not "flick" off.<br>1" Mast Snap-on Stand-off<br>1¼" Mast Snap-on Stand-Off<br>1½" Mast Snap-on Stand-Off |
| | 1260 | **iE HOT NAIL STAND-OFF**<br>Masonry type Hot Nail Stand-off Made of highly tempered steel.<br>Hot Nail Stand-Off |
| | 1310<br>1300 | **iE NAIL IN STAND-OFF**<br>DRIVE IN TYPE<br>For fast installations in any wood<br>3½" Nail in Stand-Off<br>5½" Nail in Stand-Off |
| | 1305 | **iE MORTAR NAIL STAND-OFF**<br>Fastens into concrete, cement, mortar and brick. Complete with masonry drive nail. Large eye to prevent twisting, another special IE feature<br>Mortar Nail Stand-Off |
| | 1720 | **iE ROTOR STAND-OFF**<br>Spring-type design prevents breaking and stretching of transmission line caused by movement of rotor<br>Rotor Stand-Off |
|  | LL1330<br>LL1350<br>LL1370 | **iE WOOD SCREW LINE-LOK STAND-OFF**<br>WOOD SCREW TYPE<br>3½" Wood Screw Line-Lok Stand-Off<br>5½" Wood Screw Line-Lok Stand-Off<br>7½" Wood Screw Line-Lok Stand-Off |
| | LL1230<br>LL1250<br>LL1270<br><br>LL1231<br>LL1251<br>LL1271 | **iE LINE-LOK MAST STAND-OFF**<br>MACHINE SCREW TYPE<br>Will accommodate masts up to 3" diameter<br>WITH GALVANIZED STRAP<br>3½" Line-Lok Mast Stand-Off<br>5½" Line-Lok Mast Stand-Off<br>7½" Line-Lok Mast Stand-Off<br>WITH STAINLESS STEEL STRAP<br>3½" Line-Lok Mast Stand-Off<br>5½" Line-Lok Mast Stand-Off<br>7½" Line-Lok Mast Stand-Off |

| iE ILLUSTRATION | PART NO. | DESCRIPTION |
|---|---|---|
|  <br>Gussets prevent bending and loosening when triangle eyebolts are tightened<br>1/8" thick<br>9-1/4" LONGEST MADE<br>RIBBED CONSTRUCTION PREVENTS VIBRATION, IMPROVES RECEPTION<br>1-3/8" wide | 1060<br>1060-SP<br>1060XL<br><br>1065<br>1065-SP<br>1065XL | **iE CHIMNEY MOUNT**<br>DELUXE "Z" TYPE<br>Supports masts to 1-7/8" Triangle eye bolt, factory assembled on strapping with<br>GALVANIZED STRAPPING<br>Chimney Mount - 24 ft. Strapping<br>Chimney Mount - 20 ft. Strapping<br>Chimney Mount - 32 ft. Strapping<br>**iE CHIMNEY MOUNT**<br>DELUXE "Z" TYPE<br>Supports masts to 1-7/8" triangle eye bolts factory assembled on strapping<br>WITH STAINLESS STEEL STRAPPING<br>Chimney Mount - 24 ft. Strapping<br>Chimney Mount - 20 ft. Strapping<br>Chimney Mount - 32 ft. Strapping |
|  <br>Angle Gussets prevent bending and loosening when triangles are tightened<br>1/4" thick<br>Ribbed ... prevents vibration, improves reception<br>LONGEST MADE SOLID RIVET CONSTRUCTION<br>SNAP-ON | 1070<br>1070SP<br>1070XL<br><br>1075<br>1075SP<br>1075XL | **iE SNAP-ON CHIMNEY MOUNT**<br>Requires no special tools ... Mount Kit supplied complete with 24 ft. of strapping. Triangles factory assembled to eye bolts at one end, 2 brackets and hardware ... Just strap brackets on chimney and Snap-On Mast. Chimney Mount is designed for the most rapid assembly possible. Brackets fabricated of heavy gauge steel. Supports masts to 1-7/8 dia.<br>WITH GALVANIZED STRAPPING<br>Snap-on mount - 24 ft. strapping<br>Snap-on mount - 20 ft. strapping<br>Snap-on mount - 32 ft. strapping<br>WITH STAINLESS STEEL STRAPPING<br>Snap-on mount - 24 ft. strapping<br>Snap-on mount - 20 ft. strapping<br>Snap-on mount - 32 ft. strapping |
| | 1610<br>1620 | **iE PERFORATED STEEL STRAPPING**<br>3/4" Zinc Plated to resist rust ... 3/4" holes in extra strong flexible strapping<br>12 ft. Coil Perforated Steel Strapping<br>100 ft. Coil Perforated Steel Strapping |
| | 1640<br>1641<br>1630<br>1631 | **iE STEEL STRAPPING**<br>Galvanized and stainless<br>Extra strong and flexible<br>12 ft. Coil Galvanized Steel Strapping<br>12 ft. Coil Stainless Steel Strapping<br>100 ft. Coil Galvanized Steel Strapping<br>100 ft. Coil Stainless Steel Strapping |
| <br>INDIVIDUALLY BOXED | 1645<br>1646 | **iE CHIMNEY STRAPPING REPAIR KIT**<br>Handy replacement kit for defective or worn-out strapping. Complete with 4 eye bolts, 2 clips, 4 nuts and 24 ft. of strapping. Eye bolts factory assembled on ends.<br>Chimney Strapping repair kit galvanized<br>Chimney strapping repair kit stainless |
| | AT6000<br>AT6100 | **iE INDOOR VHF T-V ANTENNA**<br>3 section telescoping dipoles, 300 OHM lead-in with lugs fastened on ends tip proof, ratchet grip locks dipoles in any position.<br>Indoor Antenna Aluminum DiPoles<br>Indoor Antenna Nickel Plated DiPoles |
| | 6012<br>6013 | **iE PUSH DOWN TENNA**<br>Universal disappearing antenna. Attaches easily. Can be moved any angle. 4 section dipoles mounted on ball swivels. Complete with lead-in wire and mounting screws. Plastic case. Comes in brown, ivory and black case. Individually boxed.<br>Push-down-tenna Brass Dipoles<br>Push-down-tenna Nickel Plated Dipoles |
|  | AT6010<br>AT6011 | **UNIVERSAL ANTENNA**<br>For all portables and T.V. sets. 360 degree movement. Can be fastened any where. Swings down out of way when not in use. 3 section dipoles completely assembled with twin line. Individually boxed with hardware<br>Universal Antenna Aluminum dipoles<br>Universal Antenna Nickel plated dipoles |
| | 6014 | **iE GOLDEN CIRCLE ANTENNA**<br>Indoor Antenna for all channel reception UHF and VHF. Gold finish, padded base, 10" high. Complete with lead-in. Individually boxed.<br>Golden Circle Indoor Antenna |
| | AT6009 | **6-POSITION SWITCH ANTENNA**<br>Brass DiPoles for UHF-VHF 6-position switch for maximum signal pick up on every channel.<br>Top detail for black - White and Color<br>Fully assembled with twin line. Channels 2 to 83. Will not tip.<br>Individually Boxed |

| iE ILLUSTRATION | PART NO. | DESCRIPTION |
|---|---|---|
|  | 4000<br>4005 | **iE LIGHTNING ARRESTOR**<br>Combines the 4 most wanted features in 1 outstanding model<br>Multi-Purpose Design!<br>Provides a perfect electrical path for every standard type of transmission line.<br>Quick-N-Easy Installation!<br>Easily mounted - anywhere - indoors or outdoors, without wire stripping, loss of signal or "Misses."<br>Positive Protection!<br>Long, piercing teeth insure positive contact. Shunt static and lightning charges harmlessly to the ground.<br>Compact, Sturdy Construction<br>Small and light weight in design. Underwriters approved.<br>Lightning Arrestor<br>Lightning arrestor with strap |
|  | 1422<br>1440 | **iE DELUXE UTILITY WALL MOUNT**<br>Made of heavy gauge steel 1¼" wide. Zinc plated. Heavy clamp fastens with two 1/4" bolts. All IE wall brackets are designed for quick, easy installation ... Individually boxed ... Complete with hardware. For masts to 1-7/8"<br>2½" Clearance - 1¼" wide material<br>4" Clearance - 1¼" wide material |
| | 1460<br>1480 | **iE QUALITY SNAP-ON WALL MOUNT**<br>A sturdy steel wall mount ... Zinc plated. Designed for quick, easy installation. Kit complete with 2 brackets and hardware ... Assembled and individually boxed ... Holds masts to 1-7/8" dia.<br>6" Snap-On Wall Mount<br>8" Snap-On Wall Mount |
|  | 1430<br>2180<br>2240 | **iE DELUXE SNAP-ON WALL MOUNT**<br>PRE-ASSEMBLED FOR FASTER INSTALLATION<br>Snap-On Mast Mount has 16" spread to fit on 2 x 4 joists. Heavy gauge steel, Zinc plated. For masts to 2½" dia ... Third leg support<br>13½" Deluxe Snap-On Wall Mount<br>18" Deluxe Snap-On Wall Mount<br>24" Deluxe Snap-On Wall Mount |
|  | 1420 | **CORNER WALL MOUNT**<br>Mounts quickly on any corner, wood or brick. Snap on type for masts to 1-7/8". Complete with hardware. Individually boxed with 2 mounts.<br>Corner Wall Mount |
|  | 1450 | **iE ADJUSTABLE WALL MOUNT**<br>PRE-ASSEMBLED FOR FASTER INSTALLATION<br>For difficult overhanging installations, this adjustable mount allows clearance from wall 8" to 20". As rugged as it's versatile. Fabricated of 3/16" steel. Zinc plated. Complete with installation hardware and extra leg for firm support. Individually boxed. Pre-assembled for quick and easy installation.<br>Holds mast to 1-7/8" diameter.<br>20" Adjustable for masts to 1-7/8" |
|  | 1469<br>1470<br>1471<br>1472<br>1473 | **iE EAVES MOUNT**<br>Developed to provide simple, long lasting support of mast to eave where a roof-peak installation is necessary or desirable rugged heavy gauge steel construction. Carriage bolts hold without turning for fast installation. Designed to hold masts up to 1-7/8" diameter.<br>Kit comes complete with clamps and hardware.<br>25" Eaves Mount<br>30" Eaves Mount<br>36" Eaves Mount<br>48" Eaves Mount<br>60" Eaves Mount |
| | 1090<br>1091 | **iE RIDGE MOUNT-HINGE TYPE**<br>Popular hinge-type design. Adjustable for flat roofs, walls, or peak roofs of any slope. Allows tall masts to be swung up along ridge completely assembled. Permits one-man roof installation. Available in two sizes.<br>Masts up to 1½" Heavy Duty<br>Masts up to 2" Heavy Duty |
| <br>NUTS LOCKED IN PLACE CANNOT LOOSEN | 1095<br>1096 | **iE RIDGE MOUNT - UNIVERSAL**<br>For all types of roof installations - flat roofs, walls or peaked roofs. Completely assembled for quick and easy installation. Allows tall masts to be swung up along the ridge of the roof. Provides secure mounting available in two sizes.<br>Masts up to 1½" Heavy Duty<br>Masts up to 2" Heavy Duty |
|  <br>No. 1110<br>No. 1120 | 1110<br><br>1120 | **iE SWIVEL MAST BASE**<br>HEAVY DUTY<br>The new Qui-N-Easy swivel mast base. Mounts on roof ridge or flat surface with new IE engineered base. Makes installation quick and easy — Just swivel mast to greatest signal strength and lock in any position. Takes masts and telescoping towers up to 2½" diameters.<br>Swivel Mast base with tube for mast to 2-3/8"<br>Swivel Mast base without tube for mast to 2½" includes bolt and nut |
| <br>3½" | 1121 | **ECONOM-IE BASE MOUNT**<br>New Pivot Swing on base mount. Permanent nut in tube cannot loosen. For mast up to 1½".<br>Econom-IE Swing-up mount, Masts to 1½ |



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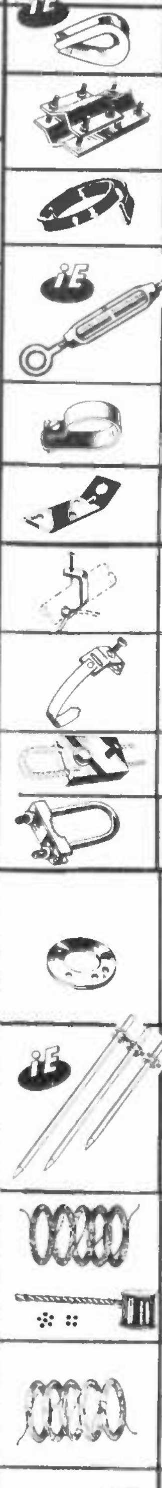
World Radio History

iE MANUFACTURING
CHICAGO 12, ILLINOIS

# iE HARDWARE · iE RADIO PARTS · iE ACCESSORIES

iE MANUFACTURING
CHICAGO 12, ILLINOIS

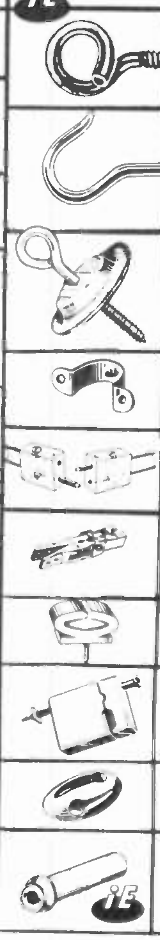
| Part No. | Description |
|---|---|
| | **IE ECONOMY ANGLE BASE MOUNTS** For Masts up to 1¼". Designed for the small installation jobs from 5 to 20 ft. Will accommodate masts to 1¼". Clamp type. Constructed of heavy gauge steel. Zinc plated to resist rust and corrosion completely assembled to save time and save work. |
| 1123 | Econo-iE angle base mount |
| | **iE DELUXE ANGLE BASE MOUNT** Designed for flat or slanty roofs of any pitch. Will tilt 180 degrees. Durable construction features. Heavy gauge steel, Zinc plated, rustproof finish, completely assembled. |
| 1127 | Deluxe angle base Mount for 1¼" masts |
| 1128 | Deluxe angle base Mount for 2" masts |
| | **iE VENT PIPE MOUNT** Features special "U" bolt for holding vent pipes up to 2" in diameter. Installation is simple, sure-quick and easy! Construction extra sturdy. Heavily plated throughout to withstand all kinds of weather. |
| 1405 | Vent Mount to 2" |
| | **iE VENT PIPE MOUNT** Quickly and simply attached to any vent or round object. Adjustable bracket permits fastening to pipe from 4" to 6" in diameter. Positive clamp action assures extra rugged installation. |
| 1406 | Vent Mount 4" to 6" |
| | **iE UNIVERSAL MOUNT** A universal mount for ridge roofs, chimneys and corners. Adjustable clamp, mounts masts to either of two positions. Will hold masts up to 1-7/8" diameter. Steel Zinc Plated against rust and corrosion. Kit comes complete with mast clamp and hardware. |
| 1540 | Apex Mounts for Mast to 1-7/8" |
| | **iE UNIVERSAL RIDGE MOUNT HEAVY DUTY** "JUMBO" SIZE-MASTS TO 2½" DIA. Mast base for large masts and telescoping towers. Allow you to "Walk-Up" large masts and towers with ease and safety. Safety-sure construction with contrasting mast clamp and carriage bolts for "one hand" installation. Adjustable for any installation. |
| 1080 | Universal Ridge Mount Masts to 2½" |
| | **iE MAST BASE** For Masts to 1-7/8" diameter. Adjustable base mount permits mounting of masts at any angle. Will not slip. Complete with necessary hardware. |
| 1550 | Masts base for Masts to 1-7/8" |
| | **iE SLOTTED MAST BASE** For Masts to 1-7/8" diameter. Similar in design to the regular iE Standard Mast Base. Special slot arrangement permits "walk up" of antenna mast. Will accommodate mast to 1-7/8" completely assembled. Includes necessary hardware to assure easy installation. |
| 1560 | Mast Base for Masts to 1-7/8" |
| | **iE TRIPOD MOUNT** Opens and closes like an umbrella. Completely assembled with solid rivets. Flexible grippers, fits roofs of any slope. Angle iron construction makes a sturdy vibration proof assembly. Legs adjustable to 32" center, fits any 2 by 4. Shipped Assembled - fast installation. |
| 2702 | 2 ft. Tripod Mount for Mast to 1½" |
| 2703 | 3 ft. Tripod Mount for Mast to 1½" |
| 2705 | 5 ft. Tripod Mount for Mast to 1½" |
| 2710 | 10 ft. Tripod Mount for Mast to 1½" |
| | **iE ADAPTOR BRACKET** FOR U.H.F. & V.H.F. This adaptor bracket permits addition of another antenna to existing installation. Swivel feature allows for masts up to 1-7/8" diameter. Completely assembled. |
| 1050 | Adaptor Bracket |
| | **iE GUY WIRE CLAMP** Fastens on masts for attaching guy wires. Clamps on masts up to 1½" diameter with firm, sure grip. Two round eye bolts provide best guy wire attachment. Individually Packed. |
| 1500 | Guy Wire Clamp for Masts to 1½" |
| | **iE GUY WIRE CLAMP** Fastens on masts for attaching guy wires. Furnished with screws and individually packed. |
| 1510 | Guy Wire Clamp for Masts to 1½" |
| | **IE 3-WAY WIRE CLAMP** Clamps on masts up to 2½" in diameter with firm, secure, grip. Three screw eye, balanced arrangement provides easy, sure fastening of guy wire. Constructed of heavy gauge steel for long life. Zinc plated to prevent rust and corrosion. |
| 1512 | 3 Way Guy Wire Clamp for Masts to 2½" |
| | **iE CABLE CLAMP** Heavy gauge steel ... Zinc plated ... Fits guy wires from 1/8" to 3/16". Complete with hardware to hold clamp securely. |
| 1650 | 1/8" Cable Clamp Small Size |
| 1651 | 3/16" Cable Clamp Standard Size |



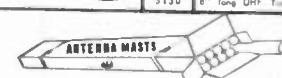
| Part No. | Description |
|---|---|
| | **iE GUY WIRE THIMBLE** Prevents wire from fraying and loosening. Quickly fastens guy wires securely ... Zinc plated to prevent rust. |
| 1660 | Guy Wire Thimble |
| | **iE MAST COUPLER** 3-PIECE. 3 Piece Vise Clamp to hold any masts of equal or unequal diameter ... for masts 3/4" to 1-7/8" diameter. Heavy gauge steel. Zinc plated. |
| 2320 | Mast Coupler 3/4" to 1-7/8" Masts |
| | **iE 300 OHM TUBING** Clear plastic protective tubing protects twin lead thru doors, windows and tight places. |
| 7110 | 100 ft. Coil |
| | **iE TURN-BUCKLES** Heavy duty rust resistant |

| Part No. | Size Closed | Size Open | Take Up | Bolt Size |
|---|---|---|---|---|
| 3330 | 3-3/8" | 4-5/8" | 1-1/4" | 5/32" |
| 3400 | 4" | 5-5/8" | 1-5/8" | 3/16" |
| 3450 | 4-1/2" | 6-3/8" | 1-7/8" | 7/32" |
| 3550 | 5-1/2" | 7-5/8" | 2-1/8" | 1/4" |
| 3630 | 6-3/4" | 9-1/4" | 2-1/2" | 5/16" |
| 3750 | 7-1/2" | 10-1/2" | 3" | 3/8" |

| Part No. | Description |
|---|---|
| | **iE GUY RING CLAMP** Holds Guy ring in place. Ring is full floating when clamped on mast under guy ring. |
| 3800 | For Masts of 3/4" to 1" |
| 3810 | For Masts of 1¼" to 1½" |
| | **iE GUY WIRE ANCHOR BRACKET** Anchors end of guy wire firmly to roof. 1/8" steel. Edges on hole rounded prevents wire from fraying. |
| 1670 | Guy Wire Anchor Bracket |
| | **iE GROUND CLAMP** C-Clamp type to fit pipe up to 1-3/8" for fast and permanent installation. Slip wire into groove or bottom of clamp in the "V" lip. |
| 1675 | Ground Clamp for pipe to 1-3/8" diameter |
| | **iE GROUND WIRE CLAMP** Strap type ground clamp for pipe 3/8" to 2" diameter ... Adjustable for pipe 1/2" to 3" in diameter. Copper plated for good conductivity. |
| 1676 | Ground Clamp Copper for Pipe ½" to 3" |
| | **iE GUY CLAMP** Easy and simple ways of fastening guy wire ends. |
| 1680 | Guy wire Clamp for 1/8" to 1/4" wire. |
| | **POSITIVE GRIP "U" CLAMP** |
| 5100 | Clamp Assembly with lock washers and nuts. |
| | **iE FLOATING GUY RING** STEEL ... ZINC PLATED |
| 3900 | For 1" Mast Size |
| 3910 | For 1-1/8" Mast Size |
| 3920 | For 1-1/4" Mast Size |
| 3930 | For 1-3/8" Mast Size |
| 3940 | For 1-1/2" Mast Size |
| 3941 | For 1-5/8" Mast Size |
| 3942 | For 1-3/4" Mast Size |
| 3950 | For 2" Mast Size |
| 3951 | For 2-1/4" Mast Size |
| 3953 | For 2-1/2" Mast Size |
| | **iE GROUND ROD** Heavy gauge steel rod, heavy copper plated, with sharp point for easy installation. Ground wire clamp included. Assembled on rod. |
| 4401 | 4 Ft. - 3/8" diameter |
| 4402 | 6 Ft. - 3/8" diameter |
| 4403 | 8 Ft. - 3/8" diameter |
| 4404 | 8 Ft. - 1/2" diameter |
| | **iE STEEL STRANDED GUY WIRE** Heavy Galvanized Steel Rust Proof Television Guy Wire. Non Tangling Coils. |
| 4600L | 4 Strand No. 20 - 50' Connecting Coils |
| 4600M | 4 Strand No. 20 - 1000' Spools |
| 4601L | 6 Strand No. 20 - 50' Connecting Coils |
| 4601M | 6 Strand No. 20 - 1000' Spools |
| 4602L | 6 Strand No. 18 - 50' Connecting Coils |
| 4602M | 6 Strand No. 18 - 1000' Spools |
| | **iE ALUMINUM GROUND WIRE** Aluminum Ground Wire uncoated. Pliable, easy to use, for grounding Mast from lightning and electrical disturbances. |
| 4604 | 50' Coil 1/8 Dia. Aluminum Wire |
| 4605 | 100' Coil 1/8 Dia. Aluminum Wire |
| 4606 | 500' Coil 100' Interconnecting Al. Wire |
| 4607 | 1000' Spool 1/8 Dia. Aluminum Wire |
| | **SCREW EYE** |
| 4902 | Screw Eye - Steel Zinc Plated |



| Part No. | Description |
|---|---|
| | **BRIDLE RINGS** Handy for tying any size or number Guy Wires. Made of heavy gauge steel, zinc plated to prevent corrosion. For wiring and rotator installation. |
| 1730 | Bridle Rings 3/16" Dia. Wire |
| | **SCREW HOOK** |
| 4916 | Screw Hook Steel Zinc Plated |
| | **iE WATER-TIGHT ANCHOR SCREW AND SHIELD** For anchoring mast to the roof. Weathertite design. Protects roof from leaks. Zinc Plated. |
| 1671 | Water-Tite Screw Eye 3½" long |
| 1672 | Water-Tite Screw Eye 5" long |
| | **iE MAST AND PIPE STRAP** Ideal for fastening Pipes, Poles, etc. to roofs, chimneys and walls. Heavy gauge. Galvanized. |
| 1580 | 1" Masts |
| 1590 | 1¼" Masts |
| | **iE TWIN LEAD CONNECTORS** Solderless 300 ohm twin lead connector. Slip on wire and tighten screw. Use in pairs. |
| 1750 | Twin Lead Plug 2-Pieces |
| | **iE 3-WAY CLIP** No soldering, connects leads to TV sets or testing equipment. |
| 1602 | 3-way Clip |
| 1602-X | Bag of 10. Transparent plastic |
| | **iE RUBBER WALL STANDOFF** For indoor use in securing twin lead to walls, base boards and mouldings. Comes assembled with nails. |
| 1770 | Wall Standoff |
| | **iE PORCELAIN 300 OHM NAIL-IN STANDOFF** This handy porcelain insulator protects lead-in from sway and whip, fully water proof. Complete with screw. |
| 3000 | Porcelain Nail-in-Standoff |
| | **iE PORCELAIN STRAIN INSULATORS** Made of white glazed porcelain. |
| 3090 | Strain insulator 1½" x 3/4" dia. |
| 3100 | Strain insulator 1½" x 2" dia. |
| | **iE PORCELAIN LEAD-IN TUBES UHF TYPE** For oval and round wire thru walls. Drill 3/4" hole. |
| 3110 | 4" long UHF Tube |
| 3120 | 6" long UHF Tube |
| 3130 | 8" long UHF Tube |

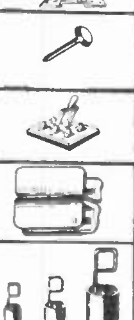



EXPANDED MASTING
PACKED 10 TO A CARTON

- iE electro galvanized finish.
- Finish will not crack or peel.
- Plastic finish coating on inside.
- 6" Expanded end, lock joint.
- Bright silver finish.

| | | | |
|---|---|---|---|
| 2604 | 1¼" | 16 | 10' |
| 2603 | 1¼" | 16 | 5' |
| 2606 | 1½" | 16 | 10' |
| 2602 | 1¼" | 18 | 10' |
| 2601 | 1¼" | 18 | 5' |
| 2600 | 1¼" | 20 | 10' |
| 2608 | 1¼" | 20 | 5' |

| Description | Part No. | Stand. Pack | List Price |
|---|---|---|---|
| ALL SECTIONS WITH FULL 16 Ga. STEEL | | | |
| 20' Telescoping Mast | 2820 | 1 | 8.95 |
| 30' Telescoping Mast | 2830 | 1 | 13.50 |
| 40' Telescoping Mast | 2840 | 1 | [illegible].00 |
| 50' Telescoping Mast | 2850 | 1 | [illegible].00 |
| | 1120 | MAST | BASE |
| ALL SECTIONS WITH FULL 16 Ga. STEEL | | | |
| 20' Telescoping Mast | 2520 | 1 | 11.95 |
| 30' Telescoping Mast | 2530 | 1 | 16.95 |
| 40' Telescoping Mast | 2540 | 1 | 24.50 |
| 50' Telescoping Mast | 2550 | 1 | [illegible].00 |



| Part No. | Description |
|---|---|
| | **FIBRE HEAD WIRING TACK** Fully insulated with fiber head for nailing any television transmission wire along base of woodwork and walls. Fiber head prevents signal loss. |
| 1771 | Fiber Head Tack |
| | **iE KNIFE SWITCH D.P. D.T.** For Hi-Lo antenna installation and shop use. Nickel plated brass fittings. Bakelite base. |
| 1603 | Knife Switch D.P. D.T. |
| | **iE FUSE CLIP** Just snap fuse clip over burnt out fuse and insert new fuse. Covered with insulation. |
| 1690 | TV Fuse Clip |
| | **iE TUBE & VIBRATOR PULLERS** |
| 4300 | 3 Sizes in a set |
| 4305 | 5 Sizes in a set |
| 4301 | Vibrator Puller Only |

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World Radio History

# SOLDERING IRONS

**Equipped with Quick, Long-life Heaters**

**FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT**

ASK YOUR GENERAL ELECTRIC DISTRIBUTOR FOR A COPY OF BULLETIN GED-3553.

- **HIGH-SPEED SOLDERING.** You can solder as fast and continuously as the nature of the work will allow.
- **UNIFORM PERFORMANCE.** Operating characteristics remain constant day after day. No appreciable decrease in efficiency, even after months of service.
- **EASY, LOW-COST REPAIR.** Assembling and disassembling are easy.
- **LONG LIFE AND LOW MAINTENANCE.** Life is lengthened, and over-all costs are kept low because sturdy construction eliminates need for frequent repairs.
- **THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR.** Irons can be repaired on the job without special tools or skill.

## LIGHTWEIGHT INDUSTRIAL IRONS

(Listed by Underwriters' Laboratories)

Cat. No. 6A273

3/16-in. Chisel

Cat. No. 6A283

3/16-in. Pyramid

Disassembled View

| Soldering Iron, Including Ironclad Tip and Heater Assembly | | | | | | Tip and Heater | | Tip Only* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cat. No. | Rating | | Tip Dia, Inches | List Price, Each† | Standard Package Quantity | Cat. No. | List Price, Each† | Cat. No. | Size, Inches | List Price, Each† |
| | Volts | Watts | | | | | | | | |
| 6A273 | 120 | 60 | ¼ Chisel | $13.80 | 6 | 6A300 | $6.75 | 326A964P21 | ¼ Chisel | $1.75 |
| 6A283 | 120 | 60 | 3/16 Pyramid | 13.80 | 6 | 6A301 | 6.75 | 326A964P22 | 3/16 Pyramid | 1.75 |
| 6A283G23 | 120 | 60 | 3/16 Chisel | 13.80 | 6 | 6A301G4 | 6.75 | 116V707P21 | 3/16 Chisel | 1.75 |

*Tips must be brazed on. See instructions included with irons.
†Mfgr's suggested resale price.

## APPROVED SOLDERING IRONS

(Listed by Underwriters' Laboratories)

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices and ignition. Also, for medium, intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for service and repairmen, for shop and farm.

Fig. 1. Industrial soldering iron, 6A161 and 6A162 series

Fig. 2. Cutaway view of industrial soldering iron, 6A161 and 6A162 series

CHISEL TIPS

½-in. Short

½-in. Long

⅜-in.

13/64-in.

| Soldering Iron, Less Tip | | | | | Renewal Heater | | Interchangeable Tips | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cat. No. | Rating | | List Price, Each† | Standard Package Quantity | Cat. No. | List Price, Each† | Cat. No. | Size, Inches | Type | List Price, Each† |
| | Volts | Watts | | | | | | | | |
| 6A161 and 6A162 Series (Fig. 1 and 2) | | | | | | | | | | |
| 6A161 | 115 | 75 | $14.50 | 6 | 6A31 | $4.45 | Note: All of the interchangeable tips listed below will fit any iron in the 6A161 and 6A162 series. | | | |
| 6A162 | 115 | 100 | 14.50 | 6 | 6A32 | 4.45 | 6851732P21 | ⅜ | Calorized | $1.00 |
| | | | | | | | 6851732P22 | ⅜ | Ironclad | 1.80 |
| 6A162G6 | 115 | 110 | 14.50 | 6 | 7C342 | 4.45 | 6808345AAP2 | ½ short | Calorized | 1.00 |
| | | | | | | | 6851775P21 | ½ short | Ironclad | 1.80 |
| 6A162G3 | 115 | 125 | 14.50 | 6 | 8A88 | 4.45 | 6808345AAP3 | ½ long | Calorized | 1.70 |
| | | | | | | | 6851775P22 | ½ long | Ironclad | 3.45 |
| | | | | | | | 9817171P22 | 13/64 | Ironclad | 1.80 |

† Manufacturer's suggested resale price.


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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# SOLDERING IRONS

**Equipped with Quick, Long-life Heaters**

**FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT**

ASK YOUR GENERAL ELECTRIC DISTRIBUTOR FOR A COPY OF BULLETIN GED-3553.

## MIDGET SOLDERING IRONS

This 8-inch, 1¾-oz. featherweight iron for close-quarter soldering with pin-point precision, is used where conventional irons might cause damage . . . be clumsy to handle . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has Ironclad copper tips either ¼-, 3/16-, or ⅛-inch diameter, as desired.

**Improves operator efficiency** — Handles like a pencil, weighs only as much as a pack of cigarettes (1¾ oz.)

**Cuts maintenance costs**—Ironclad tips last up to ten times longer than conventional tips.

**Increases production** — Heater is built into tip for quick heat recovery, fast heat transfer.

**Provides greater versatility** with four tip sizes.

**Tip renewal is easy, fast**—Complete tip and heater assembly can be changed in only five seconds.

**Listed by Underwriters' Laboratories**

**RATING: 6 VOLTS, 25-35 WATTS**

| Soldering Iron (Complete) | | List Price Each * | Renewal Tip and Heater Assembly | | List Price Each * |
|---|---|---|---|---|---|
| Cat. No. | Tip Dia., Inches | | Cat. No. | Tip Dia., Inches | |
| 6A210 | ¼ Chisel | $7.60 | 6A211 | ¼ Chisel | $3.95 |
| 6A212 | ⅛ Pyramid | 7.60 | 6A213 | ⅛ Pyramid | 3.95 |
| 6A214 | 3/16 Pyramid | 7.60 | 6A215 | 3/16 Pyramid | 3.95 |
| 6A216 | 3/16 Chisel | 7.60 | 6A217 | 3/16 Chisel | 3.95 |

* Manufacturer's suggested resale price.

All tips are Ironclad copper.

Net weight, iron less cord, 1¾ oz.

Net weight, iron including cord, 5 oz.

Shipping weight, complete iron, 8 oz.

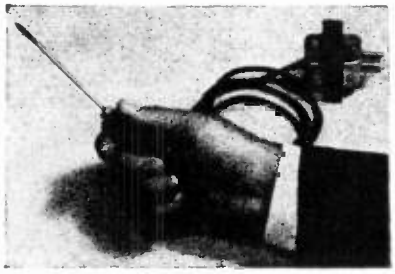
Standard package consists of 6 units of one size.

### TRANSFORMERS

Specially designed transformers are available as optional equipment in two types. Single-tap transformer is for use where only one soldering heat is required. Four-tap transformer gives wide range of heats (from 26 to 35 watts) for close temperature control of tips. There are six transformers in standard package.

| Description | 115-volt Primary Cat. No. | List Price, Each | 230-volt Primary Cat. No. | List Price, Each |
|---|---|---|---|---|
| Single-tap | 6A362G2 | $6.90 | 6A362G22 | $12.30 |
| Four-tap | 6A364G2 | 9.20 | 6A364G22 | 12.95 |

## MINIATURE SOLDERING IRONS



The General Electric iron was developed especially for use by electronics component and instrument manufacturers who are required to do production-line soldering of subminiature equipment, printed circuits, and instruments. The Miniature, because it has a tubular heater built into the tip, provides fast, efficient heat to produce uniform joints, with little heat loss to adjacent areas. In addition, the Miniature's ⅛-in. tip and shank will go into congested areas to solder critical points inside the equipment with minimum damage to surrounding insulation, joints, and wiring

**Long Tip Life** — Vacuum-processed iron tip resists harmful effects of tin and high temperatures.

**Efficient** — Tubular heat built into tip.

**Portable** — Transformer integral part of cord set, plugs into any standard 115-v outlet.

**Improves Operator Efficiency** — Weighs less than 1½ oz., reduces operator fatigue, increases production.

**Easy to Maintain** — Tip and heater assembly replacement is fast and easy and requires fewer renewal parts.

**Dependable** — Tested and proved by leading electronics component manufacturer in cooperation with General Electric.

**SOLDERING IRON — 6 Volts, 12 Watts**

| Cat. No. | Description | Tip and Heater Size (In.) | Shank Length (In.) | List Price, Ea. | Std. Pkg. Qty. |
|---|---|---|---|---|---|
| 6A428G3 | Complete iron including tip and heater assembly, 6-ft. cord & transformer | ⅛ Chisel | 3 | $15.00 | 6 |
| 6A428G4 | Complete iron including tip and heater assembly, 6-ft. cord & transformer | ⅛ Chisel | 6 | 15.00 | 6 |
| 6A428G5 | Complete iron, less transformer (includes tip and heater assembly & 6-ft. cord set with terminals) | ⅛ Chisel | 3 | 9.00 | 6 |
| 6A428G6 | Complete iron, less transformer (includes tip and heater assembly & 6-ft. cord set with terminals) | ⅛ Chisel | 6 | 9.00 | 6 |

**RENEWAL TIP AND HEATER ASSEMBLY**

| Cat. No. | Tip Size (In.) | Shank Length (In.) | List Price, Each | Std. Pkg. Qty. |
|---|---|---|---|---|
| 6A429G3 | ⅛ Chisel | 3 | $5.50 | 6 |
| 6A429G4 | ⅛ Chisel | 6 | 5.50 | 6 |

**RENEWAL TRANSFORMER ***

| Cat. No. | List Price | Std. Pkg. Qty. |
|---|---|---|
| 6A430 | $7.80 | 6 |

* Includes 6-foot integral cord set.

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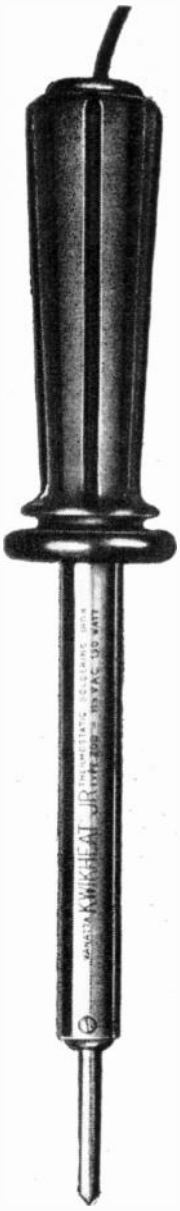
World Radio History

# KWIKHEAT THERMOSTATIC SOLDERING IRONS

**Built-in Vanatta Automatic Thermostat**

## KWIKHEAT TYPE NO. 200



**HOT IN 80 SECONDS**
**150 Watts—115 Volts AC Only**

Weight of Iron with Tip.....7½ oz.
Shipping Weight per Iron with ⅜" x ¼" Dia. Tip and resting stand .....1 lb. 2 oz.
Length of Iron with ⅜" x ¼" Dia. Tip .....12¾"
Length of Heater Cord.....6 ft.

**HOT IN 80 SECONDS**
**List Price**

Iron complete with tip..... $9.95
Replacement Elements ..... 6.95
Tip ⅜" x ¼" Dia. Pyramid Point ..... 1.10

### CHECK THESE ADVANTAGES

KWIKHEAT JR. has been designed to meet the demand by the electronics industry for a lighter and smaller **PRODUCTION** tool. The element is readily replaced in the field by use of screwdriver, pliers, and small punch or nail.

### CORROSION RESISTANT

Core assembly and outer shell are made of **STAINLESS STEEL.**

### HOT IN 80 SECONDS

The watt density of the heating element is very high and completely controlled by the thermostat.

### TEMPERATURE

While the thermostat is preset at the factory, two standard temperatures are available—Standby Irons, used for intermittent bench work, servicing, and engineering, set at 700°F; **PRODUCTION** Irons, used for constant high speed soldering, set at 800°F.

### TIPS

Tips, plunger type ⅜" x ¼" diameter x 4" long, plated to reduce corrosion. It is advisable to keep tips inserted completely in the cavity of the element for complete temperature control.

Tip 2051..... 1.10 Tip 2052.....80
Tip 2053.....90

## KWIKHEAT TYPE NO. 300

**HOT IN 90 SECONDS**
**225 Watts—115 or 230 Volts AC Only**

Weight of Iron with Standard No. 1 Tip .....14 oz.
Shipping Weight per Iron with No. 1 Tip and resting stand ....1½ lb.
Length of Iron with No. 1 Tip...13"
Length of Heater Cord .....6 ft.

**HOT IN 90 SECONDS**
**List Price**

Iron complete with tip .... $14.95
Available in other AC Voltages
Available with 3 Conductor Cord add 2.75
Replacement Elements .... 10.85
Tips, any style ..... $1.80 to $2.70

### TEMPERATURE

The Kwikheat Element can be set at the factory to any desired tip temperature between 275° and 875° F. Additional charges for this service:

1 to 49 .....$1.00 ea.
50 to 99 ..... .50 ea.
100 or more .....standard price

### CORROSION RESISTANT

Tips and core are forged of tellurium copper alloy and plated for resistance to corrosion.

### HOT IN 90 SECONDS

Kwikheat Thermostatically controlled soldering irons are the only irons containing built-in thermostats, allowing a much greater watt density with less radiation of heat.

### TEMPERATURES ARE PRE-SET

The use of recently developed alloys have permitted the increase of thermostat temperatures with reduced creep.

WHEN IRONS ARE TO BE USED FOR HEAVY OR HIGH SPEED SOLDERING — SPECIFY A PRODUCTION IRON.

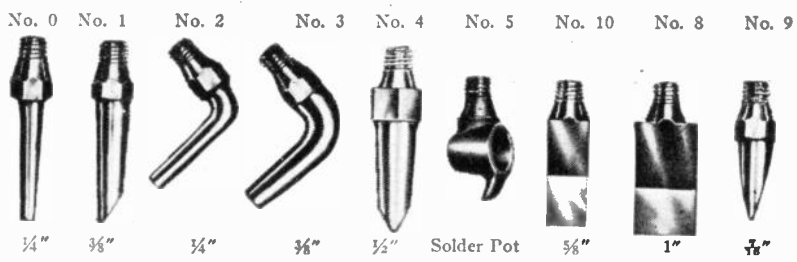
## #20 ANTIFREEZE COMPOUND

A lubricant for all soldering iron tips. Prevent sticking, increases conductivity between tip and core.

Please contact your jobber for trade discounts.

### TYPE 200 TIPS

### 9 INTERCHANGEABLE TIPS FOR TYPE 300




**KWIKHEAT MFG. CO.** **Glendale 4, California**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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*
World Radio History

# ORYX

## PRECISION MINIATURE SOLDERING IRONS

World's finest instruments for close-quarter precision soldering . . . the only complete line of low voltage, low maintenance irons for every production, service, or laboratory application! Ideally suited for transistors, printed circuits, and fine sub-assemblies. From the world-famous Oryx Electrical Laboratories of England.

*Shown Model 6-A*

**NO HAND FATIGUE**
Weight as low as ¼ oz. permits fast, efficient production soldering

**LONGER LIFE**
Low voltage element in handle operates on any AC or DC source (step-down transformers available) Handle does not get hot!

**HIGH TEMPERATURES**
Operating temperatures from 540 to 1000°F available for every application

**REPLACEABLE TIPS**
Low maintenance costs with inexpensive push-on tips. Variety of bits available.

### COMPLETE LINE OF SOLDERING INSTRUMENTS FOR EVERY APPLICATION

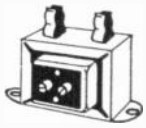
| MODEL | DESCRIPTION | Volts AC-DC | Watts | Max. Temp. (in °F) | Length | TIP No. | ALSO TAKES No. | NET PRICE |
|---|---|---|---|---|---|---|---|---|
| 6 | The world's smallest soldering instrument. With fixed tip, it is ideal for hair spring movements, r.f. coils, and fine sub-assemblies. Specially recommended for connections to transistors and diodes. | 6 | 6 | 542 | 6" | 1/16" Fxd. | — — | **$4.95 ea.** (12 or more $4.45 ea.) |
| 6A | Combines the lightweight advantages of Model 6 with the added convenience of renewable bits (or tips). Widely used for hearing aids, f.m. tuners, printed circuits, transistorized amplifiers. | 6 | 6 | 602 | 6" | B | A | **$4.95 ea.** (12 or more $4.45 ea.) |
| 9-6<br>9-12<br>9-24 | Ideal for use on complex circuitry, radar, missile sub-assemblies, electro-medical devices, television and all applications calling for a precision tool with high heat capacity. | 6<br>12<br>24 | 8.3<br>8.3<br>8.3 | 614<br>614<br>614 | 6"<br>6"<br>6" | A<br>A<br>A | B<br>B<br>B | **$4.95 ea.** (12 or more $4.45 ea.) |
| 11 | Special featherweight high temperature model specifically designed for all soldering alloys requiring a hotter than normal iron. Uses a pure nickel bit to reduce oxidization. | 6 | 10 | 813 | 6" | D | E | **$6.95 ea.** (12 or more $6.45 ea.) |
| 12-6<br>12-12<br>12-24 | Standard model for factory use on radio, television, radar assembly, switchboard and instrument work. Its generous heat capacity also renders it extremely suitable for repair work in aircraft and automotive industries. | 6<br>12<br>24 | 12<br>12<br>12 | 652<br>652<br>652 | 6¼"<br>6¼"<br>6¼" | C<br>C<br>C | —<br>—<br>— | **$4.95 ea.** (12 or more $4.45 ea.) |
| 18 | Specially developed for the production line. The equivalent in performance of a standard 80-watt soldering iron at the fantastic weight of only ¾ oz. By the elimination of hand fatigue, output can be greatly increased. | 6 | 18 | 674 | 7¼" | F | G | **$7.50 ea.** (12 or more $7.05 ea.) |
| 25-12 | The latest addition to the ORYX line. A high performance iron for continuous operation at 1000°F. The world's most powerful miniature iron. Fitted with heavy duty copper alloy bit with solid nickel tip to resist oxidization and greatly speed production. | 12 | 25 | 1000 | 7¼" | G | H | **$8.00 ea.** (12 or more $7.55 ea.) |

**TRANSFORMERS:**

**MODEL 54203-6V**

For 6-volt irons. Output 18 watts, 3 amps. Operates on 110v AC. 4½-ft. cord and clip-holder for iron.

NET 4.95



**MODEL 5420-12V**

For 12-volt irons. Output 25 watts, 2 amps. Operates on 110v AC. 4½-ft. cord and clip-holder for iron.

NET 5.95

PROTECTED BY U. S. PATENTS

**REPLACEMENT TIPS:**

| Tip | Material | Tip Diam. | Net Price |
|---|---|---|---|
| A | Nickel plated | 5/32" | $ .50 |
| B | Nickel plated | 3/32" | .50 |
| C | Nickel plated | 3/16" | .50 |
| D | Solid Nickel | 5/32" | 1.80 |
| F | Solid Nickel | 3/32" | 1.80 |
| F | Nickel plated | 3/16" | 1.25 |
| G | Solid Nickel end | 3/16" | 1.85 |
| H | Copper Alloy and plated | ¼" | 2.35 |

**THE ORYX COMPANY** ***National Sales Agency*** **Beverly Hills, California**

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World Radio History

# Weller

INSTANT HEAT TYPE

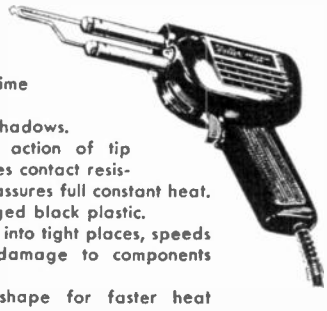
# SOLDERING GUNS AND KITS

Easton, Penna.

## DUAL HEAT MODELS

### IMPORTANT WELLER GUN FEATURE

**DUAL HEAT**—saves time and money; tip life greatly increased by using high heat only when necessary. Switch instantly to high or low heat as job requires.



**Model D-550**

200/275 watts
Instant heat—no wasted time or current.
Twin spotlights—eliminate shadows.
Exclusive tip-grip—wiping action of tip fastening unit eliminates contact resistance and oxidation; assures full constant heat.
Shatterproof housing—rugged black plastic.
Longer reach—slides easily into tight places, speeds work and prevents damage to components and insulation.
Replaceable tips—chisel shape for faster heat transfer.
Accessory tips—available for cutting and smoothing.
Guaranteed—one year.

**PRICE**.....**$16.25 each, list**

**Model D-440**

100/150 watts
Instant heat—full capacity heat in 5 seconds.
Twin spotlights—locate the work quickly.
Tip-grip—exclusive feature, assures full constant heat.
High-impact housing—longer reach slips between wiring; handles difficult locations with ease.
Low-cost tips—replacement tips attach quickly and securely.
Special tips—accessories available for cutting and smoothing jobs.
Guaranteed—for one year.

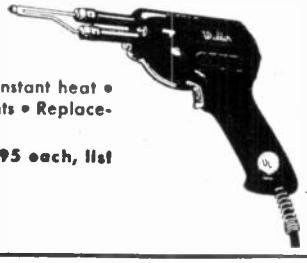
**PRICE**.....**$12.95 each, list**

## SINGLE HEAT MODELS

**Model 8250A**

250 watts
Heavy-duty general purpose soldering gun.
Instant heat—lights and heat come on together.
Twin spotlights—illuminate the work.
Tip-grip—assures full, constant heat delivered to the tip.
Rugged housing—shatterproof plastic.
Replaceable tips—change tips in a jiffy.
Guaranteed—one year.

**PRICE**.....**$12.95 each, list**



**Model 8100**

100 watts
Light duty, Junior model gun • Instant heat • Compact design • Twin spotlights • Replaceable tips • Guaranteed.

**PRICE**.....**$5.95 each, list**

## NEWEST SOLDERING GUN DESIGN

**RECENTLY RELEASED FOR SALE**
**INCLUDES MANY ADVANCED FEATURES**

*available from your Distributor*

## DUAL HEAT • 90/125 WATTS

**NEW HI-PERFORMANCE TIP DESIGN**
supplied in a complete kit of soldering accessories

**Model 8200K**

**PRICE**.....**$7.95 each, list**

## HEAVY DUTY SOLDERING KIT

**Model 8250AK**

250 watts
Kit includes:
250 watt, instant heat **soldering gun.**
Supply of first-quality **solder.**
Long-life **soldering tip.**
**Cutting tip** for cutting thermoplastics, etc.
**Smoothing tip** for heat sealing, etc.
Tip interchange **wrench.**
2 Instructions **booklets.**
All-metal storage and **carrying case** a $17.00 value.

**PRICE**.....**$14.95 each, list**

## WELLERTIPS FOR ALL MODELS

For Gun Models 8100 and D-440:

Soldering tip
No. 7135, pkg. of 2..35c list

Smoothing tip
No. 6120, with nuts...50c list

Cutting tip
No. 6110, with nuts...50c list

For Gun Models 8250A and D-550

Soldering tip
No. 7250, pkg. of 2..50c list

Smoothing tip
No. 6140, with nuts...50c list

Cutting tip
No. 6130, with nuts...50c list

## WELLER SOLDERING AID

Special soldering aid widely used for opening old joints, holding down wires, twisting and looping, etc.—always handy.

**PRICE**.....**50c each, list**



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**TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY**

World Radio History

# Weller

## TEMPERATURE CONTROLLED
# MAGNASTAT SOLDERING IRONS
### Easton, Penna.

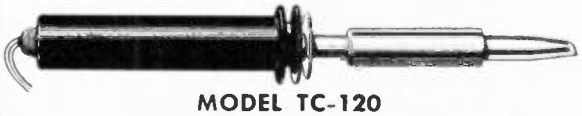
## FOR MORE RELIABLE SOLDERING

**MODEL TC-40**

40 watts, controlled lower temperature for printed circuits, etc.

**MODEL TC-60**

60 watts, controlled temperature for light to medium electrical soldering



**MODEL TC-120**

120 watts, controlled temperature for medium to heavy electrical soldering

## ONLY NEW WELLER MAGNASTAT SOLDERING TOOLS WITH BUILT-IN TEMPERATURE CONTROL GIVE YOU THESE ADVANTAGES:

**PROPER SOLDERING TEMPERATURE** is *automatically* maintained at the tip.

**NO OVERHEATING** saves current when idling; reduces tip redressing.

**LIGHTWEIGHT** design is about ½ that of uncontrolled iron.

**FULL HEAT** is reached quickly.

**PREMIUM QUALITY** construction; all structural parts are stainless steel.

Delicate Balance • Cool Handle • Guaranteed

## 3 MODELS IN 3 WATTAGES

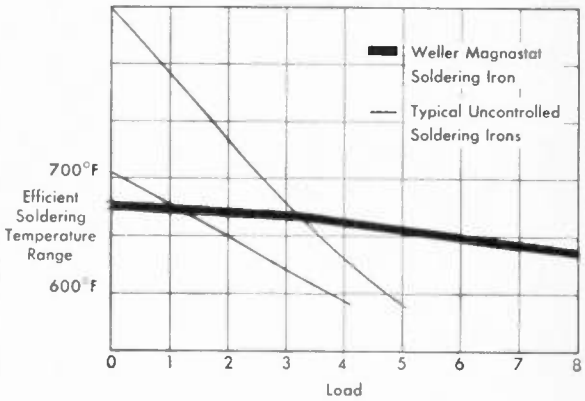
Advanced soldering tools from Weller, long time leader in this field. Full coverage of production line and serviceman needs. 110-120 volts, AC.

| Model | Watts | weight in ounces | | List Price |
|---|---|---|---|---|
| | | with cord | without cord | |
| TC-40 | 40 | 5.5 | 2.9 | **$ 8.00** |
| TC-60 | 60 | 6.7 | 4.1 | **9.00** |
| TC-120 | 120 | 11.2 | 8.6 | **10.50** |

## PRECISE TEMPERATURE CONTROL

A Weller Soldering Iron with built-in Magnastat temperature control gives precise temperature at the tip. Smaller size and design utilizes the energy at the tip, reduces radiation loss and gives greater efficiency. No "peaks" and "lows" to cause faulty soldering.

TYPICAL SOLDERING IRON PERFORMANCE
Temperature vs Load




Unlike uncontrolled irons with varying heat during use, Weller's temperature is maintained within a narrow band at the optimum soldering temperature.

### SENSING DEVICE IS IN THE TIP

Magnastat temperature controller located logically in the tip; it is fully sheathed by stainless steel.

### CORD PLUGS INTO THE HANDLE

This Weller feature reduces cord maintenance.

## MAGNASTAT WELLERTIPS

Premium-plated for long life—tapered for heat efficiency; replacement tips screw on simply and securely.

| Tip Number | Size | List Price |
|---|---|---|
| WT-40 (¼", ⅛") | ⅛" | **$ 0.50** each |
| WT-60 (⅜", 3/16") | 3/16" | **$ 0.70** each |
| WT-120 (½", ⅜") | ⅜" | **$1.20** each |

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World Radio History

# ELECTRIC SOLDERING IRONS

**VOLTAGE RANGE: 6 to 250 — OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE**
**STANDARD VOLTAGES 110/120, 121/130, 220/250 — SPECIFY VOLTAGE ON ORDER**

Equipped with flexible 6-ft. approved Neoprene rubber heater cord, which is water-proof, kink-free, and resistant to oil, abrasion and heat. Nickel-chromium replaceable heating elements, insulated with finest mica, protected by rugged outer housing. Replaceable tips.

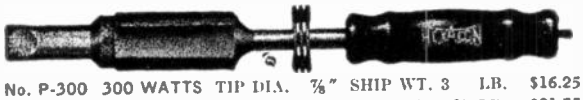
## PLUG-TIP IRONS

**No. P-25** 25 WATTS TIP DIA. 1/8" SHIP WT. 1/2 LB. $6.00
**SMALLEST FULL-FLEDGED INDUSTRIAL IRON.** Weight (less cord) only 3 oz. Length only 8". For extremely light soldering on finest wires, delicate instruments, jewelry, etc. Can also be furnished in higher wattages.

**No. P-26** 30 WATTS TIP DIA. 3/16" SHIP WT. 1/2 LB. $6.00
Same size and for same work as P-25, but where larger tip is required. Can be furnished in higher wattages.

**No. P-30** 40 WATTS TIP DIA. 1/4" SHIP WT. 7/8 LB. $6.75
Very light soldering on fine wire and delicate instruments. Extra 1/8" dia. tip furnished with each iron. Also available in 50 or 60 watts. Specify watts when ordering.

| | | | | | |
|---|---|---|---|---|---|
| No. P-70 | 80 WATTS | TIP DIA. | 3/8" | SHIP WT. 1 1/8 LB. | $ 9.00 |
| No. P-100 | 100 WATTS | TIP DIA. | 3/8" | SHIP WT. 1 3/8 LB. | $10.00 |
| No. P-125 | 130 WATTS | TIP DIA. | 5/8" | SHIP WT. 1 5/8 LB. | $11.75 |
| No. P-150 | 150 WATTS | TIP DIA. | 3/8" | SHIP WT. 1 1/2 LB. | $10.75 |
| No. P-151 | 175 WATTS | TIP DIA. | 1/2" | SHIP WT. 1 5/8 LB. | $11.50 |
| No. P-200 | 200 WATTS | TIP DIA. | 5/8" | SHIP WT. 2 3/8 LB. | $12.00 |
| No. P-250 | 250 WATTS | TIP DIA. | 5/8" | SHIP WT. 2 3/8 LB. | $13.75 |



| | | | | | |
|---|---|---|---|---|---|
| No. P-300 | 300 WATTS | TIP DIA. | 7/8" | SHIP WT. 3 LB. | $16.25 |
| No. P-550 | 550 WATTS | TIP DIA. | 1 1/8" | SHIP WT. 4 3/8 LB. | $21.75 |

## SCREW TIP IRONS

| | | | | | |
|---|---|---|---|---|---|
| No. 50 | 50 WATTS | TIP DIA. | 7/16" | SHIP WT. 1 LB. | $ 6.50 |

| | | | | | |
|---|---|---|---|---|---|
| No. 60 | 60 WATTS | TIP DIA. | 1/2" | SHIP WT. 1 1/8 LB. | $ 9.00 |
| No. 85 | 90 WATTS | TIP DIA. | 1/2" | SHIP WT. 1 1/8 LB. | $ 9.75 |
| No. 120 | 120 WATTS | TIP DIA. | 5/8" | SHIP WT. 1 3/8 LB. | $10.75 |
| No. 130 | 130 WATTS | TIP DIA. | 7/8" | SHIP WT. 1 1/2 LB. | $12.25 |
| No. 170 | 175 WATTS | TIP DIA. | 1" | SHIP WT. 2 1/4 LB. | $13.75 |

| | | | | | |
|---|---|---|---|---|---|
| No. 225 | 250 WATTS | TIP DIA. | 1 1/8" | SHIP WT. 2 3/4 LB | $16.25 |
| No. 350 | 350 WATTS | TIP DIA. | 1 3/8" | SHIP WT. 3 1/2 LB | $18.75 |
| No. 500 | 500 WATTS | TIP DIA. | 1 5/8" | SHIP WT. 4 3/8 LB. | $21.50 |
| No. 700 | 700 WATTS | TIP DIA. | 1 3/4" | SHIP WT. 5 5/8 LB. | $39.25 |

## NEW LONG-LIFE HEXCLAD TIPS

Last 10 times or more as long as copper tips with normal use and save maintenance cost. Have a durable coating of Iron Alloy over copper base on all surfaces for long wear. Do not erode or pit and thus deliver uniform heat. Available in all plug and screw tip sizes and shapes. Can also furnish special HEXCLAD tips made to your order.

**Ask for Bulletin No. 600 for Further Details and Prices**

## HEXACON SPECIAL-PURPOSE FAST-PRODUCTION-LINE SOLDERING IRONS

### SUPER-PENCIL IRONS

HOT TIP (Weighs only 2 oz.) COOL HANDLE

Length 7 3/4" Ship Wt. 1/2 lb.

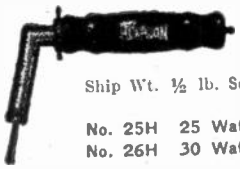
| | | | | |
|---|---|---|---|---|
| No. 25S | 25 Watts | (higher wattages | 1/8" Tip | $6.00 |
| No. 26S | 30 Watts | are available) | 3/16" Tip | $6.00 |

All the advantages of a Soldering Pencil, but a full-fledged industrial soldering iron with nickel-chromium mica-wound element. Tiny tips outperform irons with larger tips and higher wattages.
**See Bulletin 25S for Further Details**

**No. 24S** 50 Watts 1/4" Tip $8.50
Fastest and most durable Pencil Iron. Weighs but 2 oz. Price includes XTRADUR Extra-Long-Life HEXCLAD Tip.
**Bulletin No. 24S gives full details**

### BANTAMWEIGHT HATCHET IRONS

(Weighs only 3 oz.)

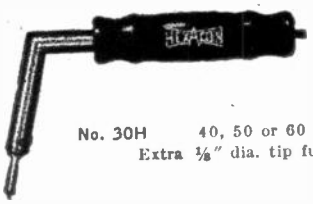


Smallest Hatchet Soldering Iron. Perfect balance gives effortless soldering at its best. Tiny tips outperform irons with larger tips and higher wattages.
Ship Wt. 1/2 lb. **See Bulletin 25H for Further Details.**

| | | | | |
|---|---|---|---|---|
| No. 25H | 25 Watts | (higher wattages | 1/8" Tip | $6.50 |
| No. 26H | 30 Watts | are available) | 3/16" Tip | $6.50 |

### FEATHERWEIGHT HATCHET IRON

(Weighs only 5 oz.)



More powerful than wattage rating indicates. Hatchet design makes iron effortless to use. Ship Wt. 7/8 lb. **See Bulletin 30H for Further Details.**

No. 30H 40, 50 or 60 Watts 1/4" Tip $7.25
Extra 1/8" dia. tip furnished with each iron.

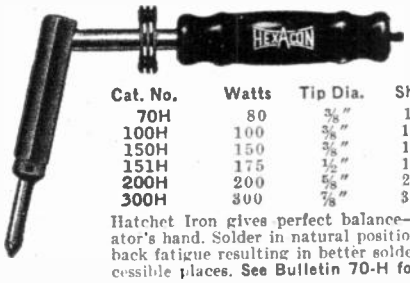
### SUPER-POWERED IRONS

HIGHER SPEED SMALLER TIPS

| Tip Dia. | Watts | Cat. No. | Ship Wt. | |
|---|---|---|---|---|
| 1/4" | 100 | P-114 | 1 3/8 lbs. | $10.00 |
| 1/4" | 150 | P-154 | 1 1/2 lbs. | $10.75 |
| 1/4" | 200 | P-214 (shown) | 2 1/8 lbs. | $12.00 |
| 3/8" | 200 | P-238 | 2 1/4 lbs. | $12.00 |
| 1/2" | 200 | P-212 | 2 1/4 lbs. | $12.00 |
| 3/8" | 300 | P-338 | 2 3/4 lbs. | $16.25 |

SOLDER FASTER WITH LOWER TIP COST! For example, Cat. No. P-214 has more speed than conventional 200 watt iron, but takes 1/4" tip instead of 5/8" (saves 84% of tip copper). Widely used on production line soldering of TV sets, etc. **See Bulletin P-154 for Further Details.**

### HATCHET TYPE IRONS



Perfect Balance
Less Fatigue
See What You Solder

| Cat. No. | Watts | Tip Dia. | Ship Wt. | |
|---|---|---|---|---|
| 70H | 80 | 3/8" | 1 3/8 lbs. | $11.00 |
| 100H | 100 | 3/8" | 1 1/2 lbs. | $12.00 |
| 150H | 150 | 3/8" | 1 5/8 lbs. | $12.75 |
| 151H | 175 | 1/2" | 1 5/8 lbs. | $13.50 |
| 200H | 200 | 5/8" | 2 1/4 lbs. | $14.00 |
| 300H | 300 | 7/8" | 3 lbs. | $18.25 |

Hatchet Iron gives perfect balance—"cradles" in operator's hand. Solder in natural position, relieving arm and back fatigue resulting in better soldered joints. For inaccessible places. **See Bulletin 70-H for Further Details.**

**HEXACON ELECTRIC COMPANY • ROSELLE PARK, N. J.**
In Canada: Adlam Tool & Supply Co., 1015 St. Alexander St., Montreal. Export Division: 36 Pearl St., New York 4, N. Y.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# INSTANT SOLDER GUNS

Featuring a new concept in solder gun design. Elimination of transformer reduces weight and lifetime tip assures long trouble-free service. Fully guaranteed; underwriters' approved.

## FEATHERWEIGHT SOLDER GUN

**instantaneous, Power Packed — 150 watts**

- **SOLDERS IN SECONDS** No waiting for warm-up
- **WEIGHS ONLY 8 OZ.** No heavy transformer
- **HEAT RIGHT IN TIP** Exclusive Hexacon design
- **LIFETIME TIP** No wire to bend

The ideal handy soldering tool for hundreds of uses. Just the tool for radio, TV, motors, autos, labs, electronic and telephone equipment, industrial electrical maintenance, hobbies and general home use. Saves space and weight in tool boxes.

**OPERATES ON D.C. AS WELL AS A.C. —ANY CYCLE**

Model G14 with ¼" Dia. Tip. Ship. Wt. 1¼ lbs. **Price $7.95**

Hexacon Guns are compact, light-weight. Hexacon Lifetime Tips require no maintenance, cannot bend or wear and permit longer, thinner reach. Heater-tip assembly and lamp are replaceable; handle is shock-resistant plastic.

Hexacon Guns solder in only seconds. Just press the switch trigger and solder instantly. Trigger control gives any degree of heat required, without danger of overheating. Tiny tips perform finest soldering.

**ALSO AVAILABLE WITH ⅛" DIA. TIP**



150-watt gun with ⅛" diameter tip for smaller joints and confined spaces. Same as Model G14 except for tip. Model G14B, 120 volts AC-DC. Ship. Wt. 1¼ lbs. **Price $7.95**

**PATENT PENDING**

## COMPLETE "DO-IT-YOURSELF" KIT G14K

- 150-WATT HEAVY DUTY SOLDER GUN
- CUTTING TIP AND SMOOTHING TIP
- KESTER TV-RADIO RESIN-CORE SOLDER
- SANDPAPER FOR CLEANING JOINT

Model G14K — Solder Gun Kit. Ship. Wt. 1¼ lbs. **Price $8.95**

---

# Popular SOLDERMASTER ELECTRIC SOLDERING IRONS

**VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE**

**STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER**

Equipped with 6 ft. approved heater cord with rubber plug. Nickel-chromium replaceable heating elements. All one-piece swaged cases chrome finished. Insulated with finest mica, protected by rugged outer housing. Replaceable tips.

## SCREW TIP IRONS

**No. 55B** — For light soldering, radio apparatus, etc. 55 Watts. Tip dia. 7/16". Ship. wt., 13 oz. ..... each $3.95

**No. 76B** — For light work, electrical instruments, etc. 75 Watts. Tip dia., ½". Ship. wt., 15 oz. ..... each $6.00

**No. 100B** — Same as No. 76B except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip dia., ½". Ship. wt., 16 oz. ..... each $6.50

**No. 150B** — Ideal size for garage and repair work. For home use. 170 Watts. Tip. dia., ⅞". Ship. wt., 24 oz. ..... each $9.75

**No. 300B** — For heavy steel metal, auto radiators, etc. 275 Watts. Tip dia., 1⅛". Ship. wt., 38 oz. ..... each $13.00

## PLUG TIP IRONS

**No. 71B** — For light work, radio repairs, etc. 80 Watts. Tip dia., ⅜". Ship. wt., 16 oz. ..... each $6.00

**No. 101B** — For same work as No. 71B, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip dia., ⅜" Ship. wt., 18 oz. ..... each $6.50

**No. 121B** — High speed iron for radio and electrical repairs. 125 Watts. Tip dia., ⅜". Ship. wt., 1¾ lbs. ..... each $7.75

**No. 201B** — For same work as No. 150B, except where plug tip is desired. 200 Watts. Tip dia., ⅝". Ship. wt., 34 oz. ..... each $10.75

**No. 301B** — For same work as No. 300B, except where plug tip is desired. 300 Watts. Tip dia., ⅞". Ship. wt., 46 oz. ..... each $13.00

## DISPLAYS

Increase your sales with silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

### SCROLL TYPE DISPLAY

Striking, Modernistic
All Metal Panel

**No. 1B** — Nine Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B, 201B, 301B. Ship. Wt. 20 lbs. **Price $75.45**

**No. 2B** — Seven Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B. Ship. Wt. 17 lbs. **Price $51.70**

**No. 3B** — Five Iron with Nos. 55B, 76B, 100B, 150B, 300B. Ship. Wt. 15 lbs. **Price $39.20**

**No. 4B** — Five Iron with Nos. 71B, 101B, 121B, 201B, 301B. Ship. Wt. 16 lbs. **Price $44.00**

**No. 1B DISPLAY Illustrated** — Size 15" x 17½" (Nos. 1B, 2B, 3B and 4B also same size).

### ATTRACTIVE THREE COLOR CARDBOARD DISPLAY

**No. 5B** — Three Iron with Nos. 55B, 76B, 100B. Ship. wt., 4 lbs. **Price $16.45**

**No. 5DB** — Three Iron with Nos. 55B, 100B, 150B, on display and 2 No. 55B and 1 No. 100B for stock. Ship. wt., 8 lbs. **Price $34.60**

**No. 6B** — Three Iron with Nos. 71B, 101B, 121B. Ship. wt., 5 lbs. **Price $20.25**

**No. 6B DISPLAY Illustrated** — Size 12" x 16½". (Nos. 5B, 5DB also same size).

**HEXACON ELECTRIC COMPANY • ROSELLE PARK, N. J.**

In Canada: Adlam Tool & Supply Co., 1015 St. Alexander St., Montreal. Export Division: 36 Pearl St., New York 4, N. Y.

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World Radio History

# THE VERSATILE *Ungar*® SOLDERING LINE

designed for

**PRODUCTION • SERVICE • RESEARCH**

**LIGHT AS A FEATHER... NO FATIGUE**

**LOW WATTAGE... CUTS ELECTRIC BILLS**

**QUICK INTERCHANGEABILITY... NO TOOLS REQUIRED**

**HANDLES, TIP SHAPES AND TEMPERATURES JOB-FITTED TO YOUR REQUIREMENTS**

## NEW #880 THE INDUSTRIAL

**RUGGEDIZED FOR PRODUCTION LINE SOLDERING**

NEW stainless steel deflector for lowest handle temperature.

NEW fiber glass insulating material insures longer life.

NEW tough phenolic for added durability.

NEW extra-heavy, extra-flexible 18-gauge rubber insulated with molded cord protector. Full 6 feet length.

115 V, AC-DC List Price **$2.00** Each

## NEW #260 SOLDERING PISTOL

**NOW: A MUCH-WANTED ADDITION TO THE UNGAR LINE**

...tough phenolic riveted handle — takes all Ungar interchangeable tips... interchangeable 2½" Tellurium copper tip. Tapered chisel, 800°F.... comfortable hand-fitted grip... extra long reach... positive tip positioning... lightweight — balanced for fatigue-free soldering... full 6 feet extra-flexible, extra-light cord.

115 V, AC-DC List Price **$4.50** Each Patent Pending

## #776 THE STANDARD

**USED AND APPROVED FOR OVER 25 YEARS**

- Largest selling soldering pencil anywhere.
- Light as a feather... weighs only 3 ounces.
- Smallest handle... gets in tight places.
- Most flexible cord... molded rubber protector.
- Thirty quickly interchangeable tips and tiplets fit same handle.
- Cooler to work with... no handling fatigue.

115 V, AC-DC List Price **$1.50** Each

## NEW #250 DE LUXE SOLDERING KIT

The new Ungar #880 featherweight handle, PLUS a complete range of the same 16 interchangeable tips, heating units and tiplets used and approved for years by industry, service men and research engineers. A truly magnificent collection of precision soldering tools... handsomely packaged in lifetime gold-tone metal case for compact storage and easy carrying. An outstanding value.

List Price **$25.00** Each

## NEW #270 DE-SOLDERING KIT

**DESIGNED FOR PRINTED CIRCUIT REPAIR**

Ungar now provides a complete set for de-soldering printed circuits. Engineered to meet the special problems arising out of the increasing use of printed circuitry.

**SET CONTAINS 7 SPECIALIZED COMPONENTS**

List Price **$5.95** Each



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**THE 4000 SUPER HI-HEAT SERIES — 900°-1000°F. TIP TEMPERATURES — 47½ WATTS**

**SUPER HI-HEAT NO. 4033 CHISEL TIP**
For all types of soldering—1⅝" long, tip ¼" wide. Tellurium copper base is plated with iron and pure silver. 900° F. 47½ watts, 115 V, AC-DC. List Price **$3.00** Each

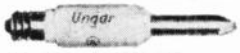
**SUPER HI-HEAT NO. 4036 PYRAMID TIP**
For extra heavy duty soldering — ⅜" diameter, 1⅛" long. Special iron plating over tellurium copper, coated with pure silver, 1000° F. 47½ watts. 115 V, AC-DC. List Price **$3.00** Each

**SUPER HI-HEAT NO. 4039 HEAVY CHISEL TIP** List Price **$3.00** Each
For heavy line soldering. Iron plating over tellurium copper—coated with pure silver — ⅜" diameter, 1⅛" long, 47½ watts, delivers 1000 degrees tip temperature. 115 V, AC-DC.

# *Ungar*® EXCLUSIVE FEATURES:

## INTERCHANGEABLE TIPS... HEATING UNITS AND TIPLETS

**HI-HEAT NO. 1236 PYRAMID TIP**
For general service and light production soldering. 1⅛" long, 5/16" diameter tip machined of silverplated pure iron, 37½ watts, 800 degrees tip temperature. 115 V, AC-DC. List Price **$1.50** Each

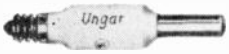


**HI-HEAT NO. 1239 CHISEL TIP**
For general work. 1⅛" long, ⅜" diameter tip of pure iron plated with silver, requires minimum maintenance. Delivers 800 degrees tip temperature at only 37½ watts. 115 V, AC-DC. List Price **$1.50** Each

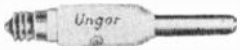
**NO. 536 PYRAMID TIP** List Price **$1.25** Each
For use on instrument repair, general purpose repair and maintenance. 1⅛" long, 5/16" diameter. Tellurium copper tip delivers 700 degrees F. 115 V, AC-DC.

**NO. 539 CHISEL TIP**
For general repair, home workshops, hobbyists. 1⅛" long, ⅜" diameter. Tellurium copper tip. 700 degrees tip temperature. 115 V, AC-DC.
List Price **$1.25** Each

**HEATING UNITS FOR 300 SERIES TIPLETS**



**SUPER HI-HEAT NO. 4035 HEATING UNIT**
Designed especially for use with Elkaloy and iron plated Tiplets No. 300 series. Delivers 850 degree tip temperature to tiny Elkaloy tiplets. Iron base silver plated. ⅜" diameter. 47½ watts, 115 V, AC-DC. List Price **$3.00** Each



**HI-HEAT NO. 1235 HEATING UNIT**
For use with No. 300 Series Elkaloy and iron plated Tiplets — for soldering printed circuits. ⅜" diameter iron body, silver plated. Draws 37½ watts, delivers 750 degrees tip temperature. 115 V, AC-DC. List Price **$1.50** Each

**NO. 535 HEATING UNIT**
For use with No. 300 Series Elkaloy and iron plated Tiplets — for smallest miniaturized components, printed circuits. 1⅛" long, 5/16" dia. iron body silver plated. Delivers 650 degrees to tiplets. 115 V, AC-DC. List Price **$1.25** Each

**NO. PL 300 SERIES PLATED TIPLETS** Plated tiplets made of tough copper alloy, iron clad. Ungar exclusive triple-plating process insures long life, makes tinning easier, eliminates expensive maintenance. List Price **60c** Each (Shown actual size)

No. PL 331 — Pencil Tiplet

No. PL 332 Pencil Tiplet, 30° offset

No. PL 333 — Chisel Tiplet

No. PL 338 — Tapered Needle Point

**NO. 300 SERIES ELKALOY "A" TIPLETS** — Serviceable, low-priced, versatile. List Price **20c** Each

No. 331 — Pencil Tiplet

No. 332 — Pencil Tiplet, 30° offset

No. 333 — Chisel Tiplet

# NEW

(Shown actual size)

## De-Soldering Tiplet No. 857

Made of Mallory 3 tough copper chromium alloy. A tiplet and a tool — all in one. For melting and straightening connections folded and soldered to printed circuit boards. Dimensions: 1" x 3/16"; slot opening, .040". Use with No. 4045 Hi-Heat Unit, delivers 850°F. to this tiplet. List Price **60c** Each

**NEW EXTRA-LONG PLATED TIPLETS**

**NEW EXTRA-LONG PLATED TIPLETS NO. PL 833** Straight shank, 2" x 3/16" dia. chisel tip, extra-long for hard-to-reach spots.
List Price **$1.00** Each

**No. PL 834** Extra-long angle tip, 45° offset, 2" x 3/16" dia. for easier access to deep, at-angle spots. List Price **$1.00** Each

**NEW SUPER HI-HEAT UNIT NO. 4045**
Specially designed for 800 Series Tiplets. Same physical size as No. 4035 — 47½ watts. Delivers approx. 800°F. to tiplets. 115 V, AC-DC.
List Price **$3.00** Each

## *Ungar*® ELECTRIC TOOLS, INC.

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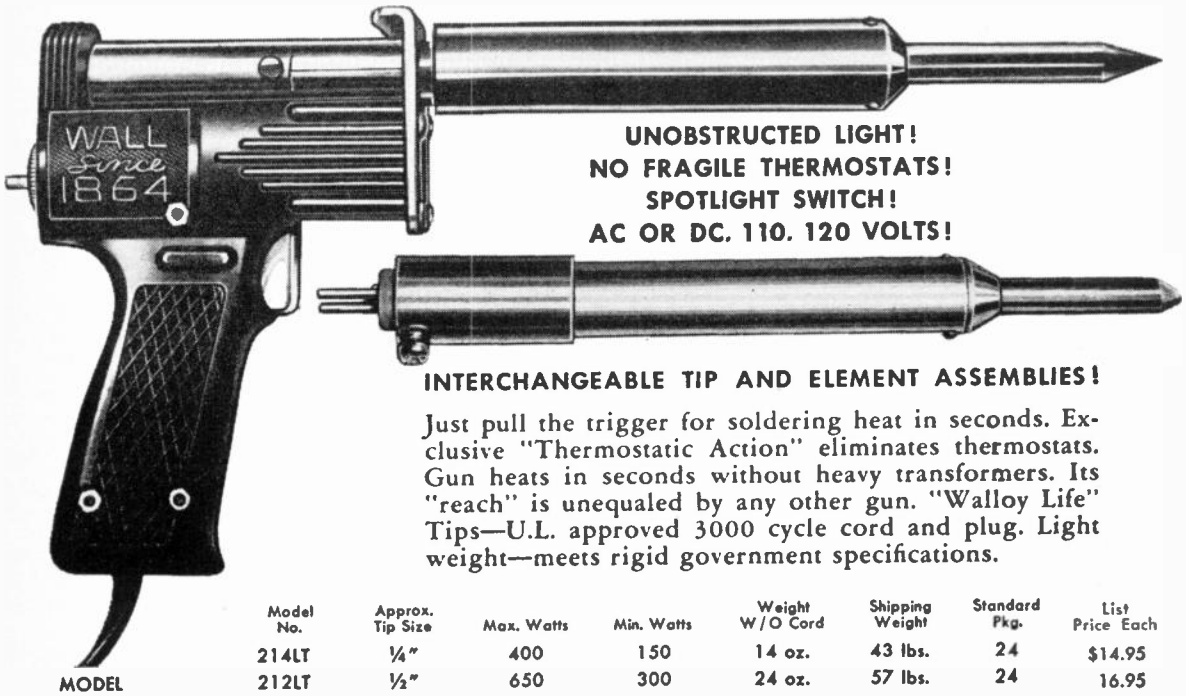
# "TRIG-R-HEAT"

## *Instant Electric*

# SOLDERING GUNS

*with "Thermostatic Action"*




**UNOBSTRUCTED LIGHT!**
**NO FRAGILE THERMOSTATS!**
**SPOTLIGHT SWITCH!**
**AC OR DC. 110. 120 VOLTS!**

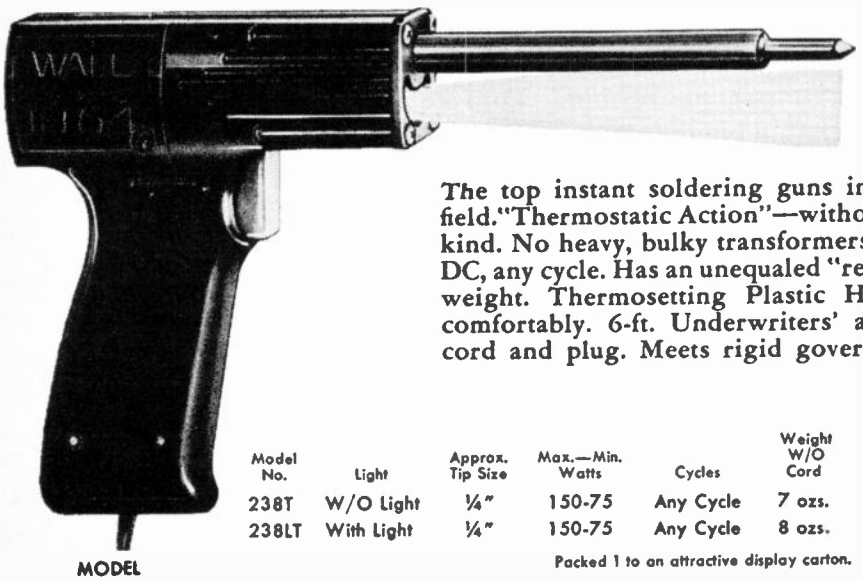
**INTERCHANGEABLE TIP AND ELEMENT ASSEMBLIES!**

Just pull the trigger for soldering heat in seconds. Exclusive "Thermostatic Action" eliminates thermostats. Gun heats in seconds without heavy transformers. Its "reach" is unequaled by any other gun. "Walloy Life" Tips—U.L. approved 3000 cycle cord and plug. Light weight—meets rigid government specifications.

| Model No. | Approx. Tip Size | Max. Watts | Min. Watts | Weight W/O Cord | Shipping Weight | Standard Pkg. | List Price Each |
|---|---|---|---|---|---|---|---|
| 214LT | ¼" | 400 | 150 | 14 oz. | 43 lbs. | 24 | $14.95 |
| 212LT | ½" | 650 | 300 | 24 oz. | 57 lbs. | 24 | 16.95 |

Attractively packed 1 to a display carton.

**MODEL NO. 212LT**



## POPULAR PRICED MODEL

The top instant soldering guns in the popular priced field."Thermostatic Action"—without thermostats of any kind. No heavy, bulky transformers. Operates on AC or DC, any cycle. Has an unequaled "reach." Extremely light weight. Thermosetting Plastic Handle fits the hand comfortably. 6-ft. Underwriters' approved 3000 cycle cord and plug. Meets rigid government specifications.

| Model No. | Light | Approx. Tip Size | Max.—Min. Watts | Cycles | Weight W/O Cord | Standard Package | Shipping Weight | List Price Each |
|---|---|---|---|---|---|---|---|---|
| 238T | W/O Light | ¼" | 150-75 | Any Cycle | 7 ozs. | 50 | 50 lbs. | $7.50 |
| 238LT | With Light | ¼" | 150-75 | Any Cycle | 8 ozs. | 50 | 50 lbs. | 7.98 |

Packed 1 to an attractive display carton.

**MODEL NO. 238LT**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# Industrial SOLDERING IRONS with "Thermostatic Brain"

WALL SOLDERING PRODUCTS — The Safety Line — SINCE 1864

## BUILT WITH TRIPLE LIFE, PRECISION-WOUND ELEMENTS

Precision-built to withstand "production-line punishment!" "Thermostatic Action" provides controlled heat without fragile or moving parts to wear out. "Thermostatic Action" is guaranteed for the life of the iron.

1. Built to withstand "Production-Line Punishment"!
2. "Thermostatic Action" prevents tip burning!
3. Heats 4 times faster than most other industrial irons!
4. No radionic interference while iron is in use!
5. Underwriters' Laboratories and Canadian Standards approved!
6. Successfully passed the 65° below zero test!
7. Precision wound on pure mica sheet!
8. More economical in use than others of like wattage!
9. Operates on 110-120 volts, AC or DC!
10. Meets all rigid government specifications!

No. 18 Series—1 ounce*

No. 14 Series—2 ounces*

## PENCIL TYPES

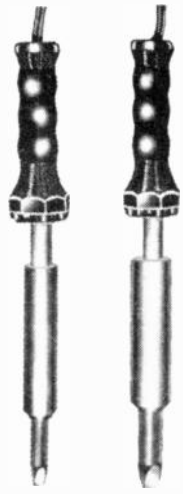
### Ideal for Printed Circuits

For delicate, precision work on radio, TV, electronics, small metals, jewelry, light or intricate electrical connections. Recovers faster and reduces fatigue on the production line.

| Cat. No. | Max.—Min. Watt Input | Type | Tip Metal | Volts AC-DC | Tip Size | Overall Length | Shipping Case Quantity | Shipping Case Weight | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 18T | 90-25 | Regular | Copper | 110-120 | 1/8" | 7½" | 50 | 17 lbs. | 6.90 |
| 18TW | 90-25 | Regular | Walloy | 110-120 | 1/8" | 7½" | 50 | 17 lbs. | 7.75 |
| 18HD | 25 | Heavy Duty | Copper | 110-120 | 1/8" | 7½" | 50 | 17 lbs. | 7.50 |
| 18HDW | 25 | Heavy Duty | Walloy | 110-120 | 1/8" | 7½" | 50 | 17 lbs. | 8.50 |
| 14T | 125-40 | Regular | Copper | 110-120 | 1/4" | 8" | 50 | 19 lbs. | 7.90 |
| 14TW | 125-40 | Regular | Walloy | 110-120 | 1/4" | 8" | 50 | 19 lbs. | 9.25 |
| 14HD | 40 | Heavy Duty | Copper | 110-120 | 1/4" | 8" | 50 | 19 lbs. | 8.75 |
| 14HDW | 40 | Heavy Duty | Walloy | 110-120 | 1/4" | 8" | 50 | 19 lbs. | 10.00 |

*Wt. without cord

Packed 1 to a box



58T 78T

## EXTRA HEAVY DUTY PRODUCTION IRONS

Made to withstand uninterrupted soldering service of medium and medium heavy metals. Heavy metal electrical connections. Heavy duty . . . but light in weight.

| Cat. No. | Max.—Min. Watt Input | Type | Tip Metal | Volts AC-DC | Tip Size | Overall Length | Shipping Quantity | Case Wt. | List Price |
|---|---|---|---|---|---|---|---|---|---|
| 38T | 225-80 | Regular | Copper | 110-120 | 3/8" | 12½" | 50 | 61 lbs. | 10.00 |
| 38TW | 225-80 | Regular | Walloy | 110-120 | 3/8" | 12½" | 50 | 61 lbs. | 11.00 |
| 38HD | 80 | Heavy Duty | Copper | 110-120 | 3/8" | 12½" | 50 | 61 lbs. | 11.00 |
| 38HDW | 80 | Heavy Duty | Walloy | 110-120 | 3/8" | 12½" | 50 | 61 lbs. | 12.00 |
| 12T | 300-125 | Regular | Copper | 110-120 | 1/2" | 13" | 50 | 73 lbs. | 12.00 |
| 12TW | 300-125 | Regular | Walloy | 110-120 | 1/2" | 13" | 50 | 73 lbs. | 13.75 |
| 12HD | 125 | Heavy Duty | Copper | 110-120 | 1/2" | 13" | 50 | 73 lbs. | 13.00 |
| 12HDW | 125 | Heavy Duty | Walloy | 110-120 | 1/2" | 13" | 50 | 73 lbs. | 14.60 |
| 58T | 500-200 | Regular | Copper | 110-120 | 5/8" | 13½" | 25 | 50 lbs. | 14.00 |
| 58TW | 500-200 | Regular | Walloy | 110-120 | 5/8" | 13½" | 25 | 50 lbs. | 15.75 |
| 58HD | 200 | Heavy Duty | Copper | 110-120 | 5/8" | 13½" | 25 | 50 lbs. | 15.00 |
| 58HDW | 200 | Heavy Duty | Walloy | 110-120 | 5/8" | 13½" | 25 | 50 lbs. | 16.75 |
| 78T | 750-300 | Regular | Copper | 110-120 | 7/8" | 14" | 25 | 70 lbs. | 17.00 |
| 78TW | 750-300 | Regular | Walloy | 110-120 | 7/8" | 14" | 25 | 70 lbs. | 20.00 |
| 78HD | 300 | Heavy Duty | Copper | 110-120 | 7/8" | 14" | 25 | 70 lbs. | 18.00 |
| 78HDW | 300 | Heavy Duty | Walloy | 110-120 | 7/8" | 14" | 25 | 70 lbs. | 21.00 |

Packed 1 to a box

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# BEST FOR SERVICE—FASTEST SELLING

# the WEN PRODUCTS, INC.

**complete line of handy, low cost, electric power tools.**

## 4 "Quick-Hot" SOLDERING GUNS & KIT

8 STANDARD & SPECIAL TIPS

#100 ONLY **$5.95** LIST

Light (19 oz.), compact. 100 Watts. Heats 2½ sec. Long life tips, spotlight, etc.

#199 **$7.95** LIST

General purpose gun. Heats 2½ seconds. Weighs 1½ lbs. Long, durable tips, spotlight, sturdy case.

COMPLETE KIT

#199-K **$9.95** LIST

Includes #199 Gun, extra tips for hot cutting, smoothing, etc.; rosin core solder. Strong metal box.

#288 **$9.95** LIST

Heats in 5 seconds far beyond 200 Watt rating. Weighs only 2¼ lbs. Has long reach, long life tips; spotlight; shatterproof case.

#250 **$12.95** LIST

Famous WEN 250 Watt Heavy Duty Model. Heats in 5 seconds. 567 hours operation. Special long life tips, spotlight, etc.

## 3/8" 2 SPEED POWER DRILL

DRILL ACCESSORIES KIT

#808 **$29.95** LIST

Here in 1 tool is everything needed in an electric drill. Speed change 1000-3000 RPM. Easy, quick, positive. Husky, powerful, but streamlined design. Genuine ⅜" Geared Chuck. Universal 115 V-AC/DC 2 amp. motor. Drill weighs only 4½ lbs. Size 12¼" x 4¾" x 2½" overall.

#80-K-35

**$9.95** LIST

This Drill Accessories Kit still further increases usefulness of the WEN Drill. Measures 18" x 6" x 8". Includes grinding wheel, buffing wheel, 9 assorted twist drills, 15 assorted sandpaper discs, wire brush, paint mixer, rubber pad, wool polishing bonnet, adapter set, speed stand. Complete in carton, 5 lbs.

## 8 SAWS in 1 POWER SAW

AND SAW TABLE

#505

**$29.95** LIST

Does work of rip, jig, crosscut, band, hack, coping, scroll, keyhole saws, Cuts 2x4 in seconds; cuts plastics, etc.; cuts ½" steel plate. 115 Volt AC/DC 1.8 amp. Motor. 2650 — ⅝" strokes per minute under load. Motor fan keeps guideline free from sawdust. 3 blades included.

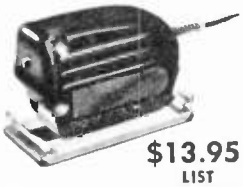
#5-T-1

**$12.95** LIST

This sturdy steel Saw Table with WEN Power Saw locked in place constitutes a complete work shop at very low cost. Enables anyone to cut accurately and swiftly any angle, curve, or straight, as desired. Table is 15"x15"x7½". With attachments can serve as T Square or Protractor. Legs can bolt to bench. 5 blades included.

## 3 SANDER-POLISHERS and KITS

#202



**$13.95** LIST

Powerful motor delivers 14,400 straight line action strokes per minute. Ideal for fine finishing and polishing. Strong black plastic case. In Display Carton with 6 abrasives, 2 polishing pads.

#303

**$16.95** LIST

Utility sander. 14,400 straight strokes per minute. Case strong red plastic, "Gold" metal Kit Box, 12 abrasives, 2 polishers.

#404

**$19.95** LIST

Has special motor, amazing power. Drives 3¼x6⅛" sanding pad, 14,400 straight strokes per minute. Strong ebony black plastic case. In metal Kit Box with 15 abrasives, 2 polishing pads, instruction book.

**THEY'RE "NATURALS"**

for professional Service, Repair and Maintenance men and for the tremendous "Do-It-Yourself" market. They make top-notch gift items. Operating on 110-120 V AC—60 cycle, they give speedier, better performance and have longer effective life than similar tools costing much more. Fully guaranteed.



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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# SIDCO

*industrial soldering tips and tiplets for pencil irons manufactured by* SID UNGAR, *the pioneer with 26 years experience in making electric pencils*

**CHISEL TIP NO. 25W33 25 W. 115 V.**
1⅝" long, point ¼" – Tellurium Copper PRE-TINNED (Entire Tip) – List **$1.25** ea.

**PYRAMID TIP NO. 25W36 25 W. 115 V.**
1⅛" long x 5/16" dia. – Tellurium Copper PRE-TINNED (Entire Tip) – List **$1.25** ea.

**CHISEL TIP NO. 50W33 50 W. 115 V.**
1⅝" long, point ¼" – Tellurium Copper Plated with 50% more iron. Entire Tip PRE-TINNED. HEAVY DUTY...LONGER LIFE – List **$3.00** each.

**PYRAMID TIP NO. 40W36 40 W. 115 V.**
1⅛" long x 5/16" dia. – Pure ARMCO Iron PRE-TINNED (Entire Tip) – List **$1.50** ea.

**CHISEL TIP NO. 50W33AR 50 W. 115 V.**
1⅝" long, point ¼" – Pure ARMCO Iron PRE-TINNED (Entire Tip) – List **$2.00** ea.

**THREADED UNITS FOR USE WITH TIPLETS**

**NO. 25W35 25 W. 115 V.**
1⅛" x 5/16" dia. – Threaded unit silver plated for use with iron plated or regular Elkaloy tiplets. See Tiplets* – List **$1.25** each.

**NO. 40W35 40 W. 115 V.**
1¼" x ⅜" dia. – Threaded unit silver plated for use with tiplets. See Tiplets* – List **$1.50** each.

**NO. 50W35 50 W. 115 V.**
1¼" x ⅜" dia. – Threaded unit silver plated for use with tiplets. See Tiplets* – List **$2.00** each

* PL 1 Conical — PL 2 Bent Conical — PL 3 Chisel

Iron Plated Tiplets 1"x⅛" dia. available in three types – last ten times as long – chemically treated – positively will not bind or freeze. PRE-TINNED.

List **50¢** each

**Also available in Pre-Tinned Elkaloy**
Chemically treated – positively will not bind or freeze. PRE-TINNED.

* T 1 — T 2 — T 3

List **20¢** each

## CHECK and COMPARE

- ✔ All SIDCO Tips and Tiplets are PRE-TINNED to save you costly labor time
- ✔ Tips guaranteed electrically for 90 days
- ✔ Heating element wound automatically - even spacing - even tension – larger wire - for maximum concentration of heat
- ✔ Larger drive screw assures better contact
- ✔ All tiplets are chemically treated to prevent binding, freezing or breaking off
- ✔ Better Ceramics
- ✔ Iron plated tips have 50% more plating for longer life
- ✔ Higher wattage - higher tip temperature

## QUANTITY DISCOUNTS

| | |
|---|---|
| $1 00 to $9 00 | 33⅓% |
| $10 00 to $99 00 | 40% |
| $100 00 to $249 00 | 40% and 5% |
| $250 00 to $499.00 | 40% and 10% |
| $500.00 to $999.00 | 50% |
| $1000 00 and over | 50% and 5% |

**SOLDERING IS OUR ONLY BUSINESS!**

© **SID UNGAR CO., INC.** 1729 West Washington Blvd. / P.O. Box 180 / Venice, California

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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***



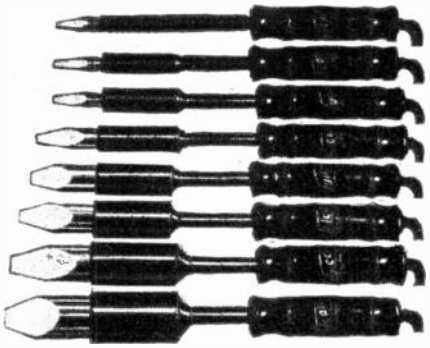
World Radio History

# VULCAN
# ELECTRIC SOLDERING TOOLS

- High-powered Soldering Tools, designed for fast soldering, with low operating cost.
- Tips are of finest forged copper.
- The "Hang" or balance good mechanics appreciate, plus light weight.
- Cool handles of selected birch, shaped to fit the hand.
- 6 ft. heater cord, with unbreakable rubber plug.
- Fireproof terminals.
- Heating elements easily replaced.
- Operate equally well on AC or DC.

## SCREW TIP

| CAT. No. | WATTS | TIP | LIST |
|---|---|---|---|
| 20 | 50 | 7/16" | $6.55 |
| 30 | 60 | 1/2" | 8.95 |
| 40 | 90 | 1/2" | 9.80 |
| 50 | 130 | 7/8" | 11.65 |
| 60 | 175 | 1" | 13.35 |
| 70 | 220 | 1 1/8" | 15.50 |
| 80 | 310 | 1 3/8" | 17.70 |
| 90 | 430 | 1 5/8" | 20.15 |
| 900 | 700 | 1 3/4" | 37.30 |



## Pygmy PENCIL TYPE

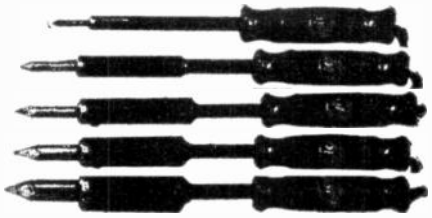
A very efficient tool for fine soldering of instruments, meters, gauges, small radios, etc. or any spots where space is cramped or there is little clearance. The cool, tapering wood handle permits "writing grip." Flexible coil also assures coolness. Equipped with approved cord and unbreakable rubber plug. Standard tip is 1/4" but 3/16" or 1/8" tips are available, as well as special tips, bent to any angle or in various shapes.

| Cat. No. | Watts | Tip | Weight | Length | List |
|---|---|---|---|---|---|
| Pygmy | 25 | 1/4" | 7 oz. | 8 1/4" | $5.10 |

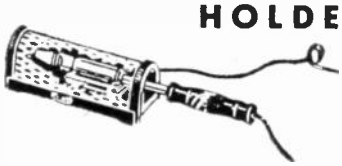
## PLUG TIP — All parts replaceable

| CAT No. | WATTS | TIP | LIST |
|---|---|---|---|
| * 25 | 50 | 1/4" | $6.25 |
| 35 | 100 | 3/8" | 9.80 |
| 453 | 150 | 3/8" | 10.65 |
| 45 | 150 | 1/2" | 11.15 |
| 55 | 200 | 5/8" | 11.55 |
| * 75 | 300 | 7/8" | 15.10 |

*Heating element replaceable at Factory only.



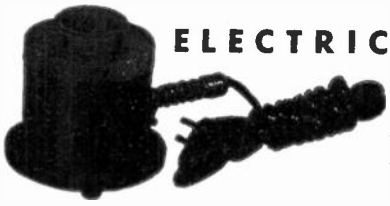
## SOLDERING TOOL HOLDER



Holds and guards the Soldering Tool and keeps the tip at soldering temperature as long as it remains in the holder. Has a cord and attached plug cap for connection to current and a receptacle for plugging in the Tool. A convenient adjusting screw sets the Holder thermostat to maintain proper temperature. AC only

**No. 2100** without thermostat ..... **$4.50** list
**No. 2100T** with thermostat ..... **$7.30** list

## ELECTRIC SOLDER POTS



Both single and three-temperature Pots in a variety of sizes and wattages, all with cord and plug approved at Underwriters' Laboratories.

| CAT. No. | WATTS HIGH | WATTS MEDIUM | WATTS LOW | CAPACITY SOLDER APPROXIMATE | LIST |
|---|---|---|---|---|---|
| 1700 | 200 | 120 | 80 | 1 1/4 lbs. | $27.25 |
| 1702 | 250 | 150 | 100 | 5 lbs. | 31.30 |
| 1704 | 500 | 250 | 125 | 10 lbs. | 39.30 |
| 1600 | 150 | Single Heat | | 14 oz. | 9.45 |
| 1606 | 350 | Single Heat | | 3 lbs. | 11.00 |
| 1701 | 250 | Single Heat | | 4 lbs. | 20.10 |
| 1703 | 200 | Single Heat | | 1 1/2 lbs. | 15.35 |

Other sizes up to 6000 watts, single heat.

"DUREVER" Soldering Tips are pure forged copper, shaped to your favorite style, with a special metal coating that will preserve the original shape of the tip by protecting the copper from corrosion and oxidation. Will outlast copper tips, cannot amalgamate with solder, do away with the necessity for dressing or filing. Can be readily tinned without filing and hold their original shape. Circular on request.

**VULCAN ELECTRIC COMPANY**

DANVERS 30, MASS.

ELECTRIC SOLDERING TOOLS • SOLDER POTS • GLUE POTS • BRANDING IRONS • HEATING UNITS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World Radio History

# VULCAN

## ELECTRIC SOLDERING TOOLS

### *LOW PRICE, LONG DISCOUNT*

# JACKSON

Jackson "Standard" Electric Soldering Irons are scientifically designed for that "balanced feel" which reduces fatigue. All elements used in Jackson Standard Irons are made of the finest quality nichrome wire, wound on heat conductive cores and insulated with selected high grade amber mica. Equipped with 6 ft. approved heater cords and plugs. Stand included with every iron.

**STANDARD SCREW TYPE — Gun Metal Finish** UL

| CAT. No. | WATTS | TIP | LIST |
|---|---|---|---|
| 141 | 85 | 7/16" | $5.65 |
| 142 | 100 | 5/8" | 6.55 |
| 0142 | 125 | 5/8" | 7.75 |
| 144 | 150 | 3/4" | 9.30 |
| 143 | 225 | 7/8" | 10.70 |
| 210 | 350 | 1 1/8" | 12.55 |

**STANDARD PLUNGER TYPE (Plug Tip) — Gun Metal Finish** UL

| CAT. No. | WATTS | TIP | LIST |
|---|---|---|---|
| 149 | 85 | 5/16" | $5.65 |
| 145 | 100 | 3/8" | 6.55 |
| 0145 | 125 | 3/8" | 7.75 |
| 146 | 150 | 1/2" | 9.30 |
| 147 | 225 | 5/8" | 10.70 |
| 148 | 350 | 7/8" | 12.55 |

**DE-LUXE ELECTRIC SOLDERING PENCIL**

A soldering pencil for all light work such as Radio, Television, Jewelry, Instruments and Electronics. Handle is cork-filled composition, 100% air cooled: 1/2" steel tubing, perforated for air cooling. Element is wound on a heat conductive core, for efficient heating. High grade mica and nichrome wire. Underwriters approved 6 ft. rubber cord and plug.

| CAT. No. | WATTS | VOLTS | TIP | LENGTH | WEIGHT | LIST |
|---|---|---|---|---|---|---|
| 230D | 25 | 115 | 1/4" | 7" | 3 oz. | $3.45 |

**STANDARD ELECTRIC SOLDERING PENCIL**

Wood handle, rich black finish with cork sleeve. 1/2" steel tubing gun metal finish. Element is wound on heat conductive core. High grade mica and nichrome wire. 6 ft. rubber cord and plug.

| CAT. No. | WATTS | VOLTS | TIP | LENGTH | WEIGHT | LIST |
|---|---|---|---|---|---|---|
| 230 | 25 | 115 | 1/4" | 7" | 3 oz. | $2.90 |
| 231 | 40 | 115 | 3/8" | 8" | 4 oz. | 5.10 |

**COMET — SCREW TIP***

**COMET — PLUNGER (PLUG) TIP**

Comet Irons are equipped with a 6 ft. approved Heater Cord and Plug. Heating element is made of high quality Nichrome Wire, wound with mica on a core. Handles are black finish. All irons are packed one in a box, stand included. 50 to a standard shipping container. All irons are made for 115 volts. If higher voltage is desired, there will be a slight extra charge.

| CAT. No. | WATTS | TIP | LIST | CAT. No. | WATTS | TIP | LIST |
|---|---|---|---|---|---|---|---|
| 65 S | 65 | 1/2" | $3.10 | 65 P | 65 | 1/4" | $2.75 |
| 85 S | 85 | 5/8" | 3.60 | 85 P | 85 | 5/16" | 3.25 |
| 100 S | 100 | 3/4" | 4.10 | 100 P | 100 | 3/8" | 4.00 |
| 125 S | 125 | 7/8" | 4.90 | 125 P | 125 | 7/16" | 4.90 |

*Discontinued manufacture of screw-on type comet line. Limited number of irons still available.

## VULCAN "EVEN-DIP" SOLDER POTS

**DESIGNED AND DEVELOPED BY SPECIALISTS FOR PRINTED CIRCUIT SOLDER OPERATIONS**

- 16 Crucible Sizes.
- High Fidelity thermostat control—Adjustable 150-600° F.
- Surface Temperature does not vary beyond ± 2° F.
- Localized "hot spots" completely eliminated.
- Replaceable heavy-duty heating elements.

*Send for free, detailed specifications.*

## VULCAN ELECTRIC COMPANY

DANVERS 30, MASS.

ELECTRIC SOLDERING TOOLS • SOLDER POTS • GLUE POTS • BRANDING IRONS • HEATING UNITS

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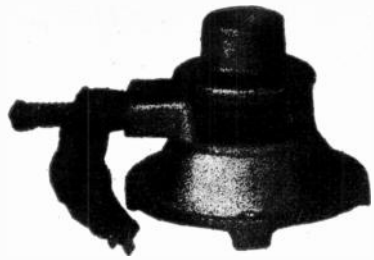
World Radio History

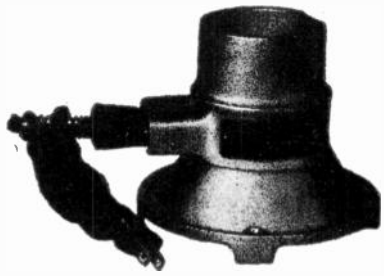
# ESICO Electric Solder Pots

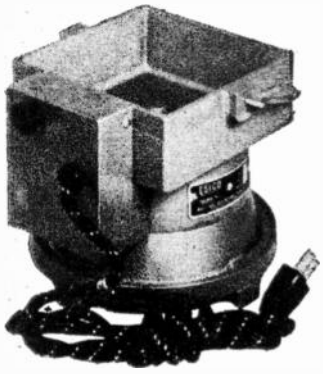
**No. 12** This small pot is used largely for individual dipping of small parts and reaches a temperature of approximately 750°. For higher temperatures, it is possible to use either a #36 or a #60 element. See table below for details.



**No. 70T** This is a thermostatically controlled pot, maintaining a temperature of 400/600° to within plus or minus 4°. Adjustable control permits the pot to be used anywhere between these two temperatures. See table below for details.

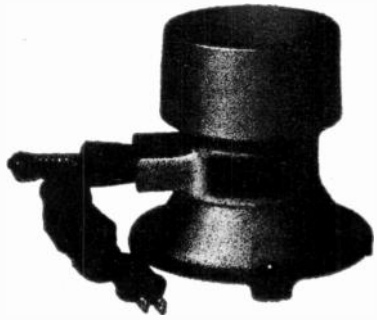
**No. 36** This pot is used for dip soldering of bundles of lead wires and where a slightly hotter pot is required than the #12. It operates at approximately 750°. If a higher temperature is required, a #60 element may be used. See table below for details.

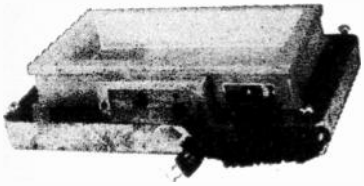




**No. 75T** This pot is similar in operation to the #70T, but is intended for the dipping of small panels which cannot be accommodated in a round pot. Temperature range is 400/600° plus or minus 4°. The pot is also available without a thermostat but is then catalogued as #75. Without a thermostat, the pot reaches a temperature of 850°. See table below for details.

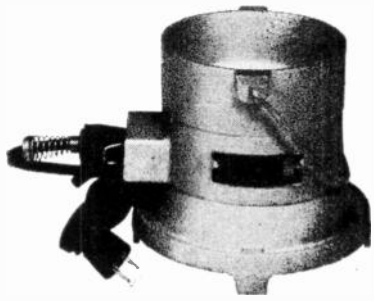
**No. 60** This pot is used for volume tinning and operates at a temperature of 800°. On occasion where production requires greater heat drain capacity, elements of a higher wattage than the standard 325 watt have been supplied. However, we recommend the use of the #70 600W Pot for this greater heat requirement and higher temperature. See table below for details.

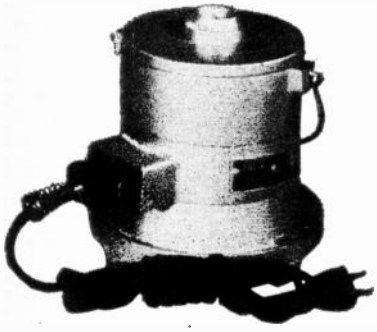




**No. 80** This pot is intended for printed circuit panels and is thermostatically controlled. Temperature range is 400/600°. The pot stands on 4 corner posts in a sand tray, which has screws for leveling. See table below for details.

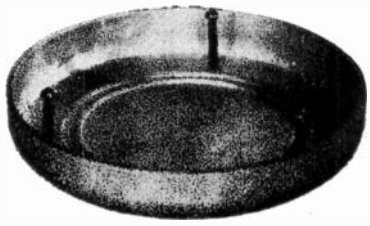
**No. 70** This is a high heat pot reaching a temperature of approximately 900°, and has considerable heat drain capacity. Where pots are required for 220V operation, longer element life will be secured than in the case of the #60. See table below for details.





**No. 90** This is a high temperature pot intended for silver soldering, and will maintain a temperature of 1300/1500°. See table below for details.

**No. 1270** This sand tray will accommodate all of the round base solder pots shown on this sheet. The tray is fitted with leveling screws. See table below for details.



| CAT. NO. | WATTS | DIA. | DEPTH | WIDTH | LENGTH | HEIGHT | THERMO-STAT | SOLDER CAP. LBS. | SHIPPING WEIGHT LBS. |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 200 | 1½" | 1½" | — | — | 4½" | No | ¾ | 3¾ |
| 12T | 200 | 1½" | 1½" | — | — | 4½" | Yes | ¾ | 4½ |
| 36 | 250 | 2½" | 1¾" | — | — | 4¾" | No | 2¼ | 4 |
| 36T | 250 | 2½" | 1¾" | — | — | 4¾" | Yes | 2¼ | 4¾ |
| 60 | 325 | 3½" | 1⅛" | — | — | 4¾" | No | 3¾ | 5¼ |
| 60T | 325 | 3½" | 1⅛" | — | — | 4¾" | Yes | 3¾ | 6 |
| 70 | 600 | 4¾" | 1⅝" | — | — | 5½" | No | 9 | 6¾ |
| 70T | 600 | 4¾" | 1⅝" | — | — | 5½" | Yes | 9 | 8 |
| 75 | 600 | — | 1¾" | 4¾" | 4¾" | 5½" | No | 11¾ | 8 |
| 75T | 600 | — | 1¾" | 4¾" | 4¾" | 5½" | Yes | 11¾ | 9¾ |
| 80 | 1200 | — | 2" | 6" | 12" | 3¾" | Yes | 15 | 28 |
| 90 | 550 | 1⅛" | 2⅞" | — | — | 5½" | No | ¾ | 8 |
| 1270 | — | 9¼" | 1½" | — | — | — | — | — | 2 |



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# ESICO

REG. U. S. PAT. OFF.

## ELECTRIC SOLDERING IRONS FOR HOME, PROFESSIONAL MECHANIC AND FACTORY

### ● GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.

No. 415—List $2.48—3/8" Tip—55 Watts

No. 416—List $3.75—1/4" Tip—60 Watts

No. 417—List $5.00—3/8" Tip—100 Watts

No. 418—List $6.28—1/2" Tip—130 Watts

### ● ORANGE LABEL LINE

For Professional Mechanics — light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.

No. 62—List $6.26—1/4" Tip—60 Watts

No. 63—List $7.53—3/8" Tip—100 Watts

No. 64—List $8.81—1/2" Tip—130 Watts

No. 65—List $10.08—5/8" Tip—200 Watts

No. 67—List $11.30—7/8" Tip—300 Watts

No. 69—List $13.83—1 1/8" Tip—500 Watts

### ● RED LABEL LINE

For Production Line Continuous Operations. These Irons are of most rugged construction.

No. 38—List $8.81—3/8" Tip—100 Watts

No. 58—List $11.30—5/8" Tip—200 Watts

No. 78—List $13.83—7/8" Tip—300 Watts

No. 98—List $16.36—1 1/8" Tip—550 Watts

## ESICO Luger Gun

**SOLDER MELTING CAPACITY:**

The Model "C" is fully equivalent in solder melting capacity to 150 watt professional model guns on the market.

**BALANCE:**

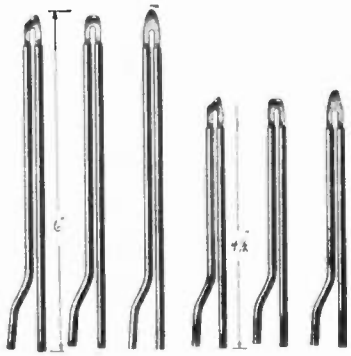
The LUGER, with its transformer built in the handle, has a very much superior balance over conventional soldering guns and there is none of the TIP HEAVINESS experienced with conventional guns.

**TIP SHAPES:**

The design and style of tips available for use in the LUGER fills a long felt need, and many soldered connections inaccessible to the average gun can be reached with LUGER tips. It is also possible to unsolder and pry off wires and components with the Model AB Tip.

**THE LUGER IS BY FAR:**

***The Best Soldering Iron Buy on the Market!***



AB6 AB5 AB4 AB3 AB2 AB

LONG AND THIN FOR GETTING INTO DEEP PLACES!

Model "C"

List Price

$8.95

## Kit of Tips

This assortment in a plastic vial, includes tips that are long and short, narrow and broad, straight and bent—for all soldering jobs. They will not anneal, bend, or develop residue, even if left on the circuit beyond the operating cycle.

**List Price $5.75**

**ELECTRIC SOLDERING IRON CO., INC. • Deep River, Conn.**



World Radio History

# YOU NEED A SPECIAL TOOL...FOR A SPECIAL JOB

## Lenk

## "PRINTED CIRCUIT" SOLDERING GUN for Printed Circuits and Miniaturized Components

**Fast Soldering**
Exclusive "Controlled Heat" produces proper amount of heat for quick, easy soldering.

**Prevents Damage**
Exclusive "Controlled Heat" reduces possibility of damage to delicate printed circuits or miniaturized components.

**Pin-Points the Work**
Precision-designed tip pin-points the tip onto the work quickly and accurately.

**Lightweight – Comfortable**
Exclusive "Easy Grip" handle and lightweight (only 1 lb. approx.) reduce fatigue.

**MODEL NO. 560**
110 volts – AC only
Display Carton
24 to case – 34 lbs.

**REPLACEMENT TIPS**
No. 560-1 – 45° Angle
No. 560-2 – Straight

*Printed Circuit photograph courtesy of Electralab, Inc.*

## Lenk

## "PENCIL TYPE" SOLDERING IRON for Fast Continuous Precision Work

**MODEL NO. 251**
25 watts
**MODEL NO. 256**
40 watts
4 lbs. per doz.

**MINIATURE DESIGN** for fast, continuous production of precision work. TV, Radio, Electronic Components, etc.

**2 TIPS** 1/8" Tip standard – 1/4" Tip extra!
**FEATHER-LIGHT** – only 2 oz.!
**COMPACT** – only 7½" over-all!
**PLATED TIPS** resist corrosion!
**FAST HEATING** – brass core element!
**EXTRA RUGGED** – stainless steel construction!
**EXTRA COOL** – cooling fins, plastic handle!
**BALANCED** – easy to handle, fatigue-reducing!

## Lenk

## INSTANT IH HEAT SOLDERING GUN for Heavy Duty Service

**MODEL NO. 501**
Heavy Duty
180 Watts AC Only

Packed in counter display carton. 12 cartons to case – 35 lbs.

**REPLACEMENT TIPS**
No. 501-1 – Standard
No. 501-2 – For Fine Work
No. 501-3 – Tile Cutting

**INSTANT SOLDERING** for Radio, TV, Laboratory and Service Men!

**MELTS SOLDER** in 3½ seconds!

**PERFECT BALANCE** for working comfort!

**ADJUSTABLE SWIVEL-TIP** permits any angle soldering!

**SPECIAL ALLOY TIP** for increased resistance to oxidation and wear!

**AUTOMATICALLY FOCUSED LIGHT** always follows work!

*Write for Name of Nearest Jobber*

**The LENK MANUFACTURING CO.**
FRANKLIN, KENTUCKY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World Radio History

# IDEAL WIRE STRIPPERS

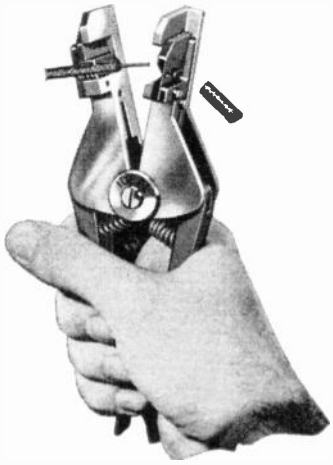
## FOR ALL PRODUCTION JOBS ON ALL KINDS OF FILM INSULATION

**Formex · Formvar · Nylon · Enamel · Fibre Glass · Teflon***

**IDEAL Wire Strippers, both hand and production models are engineered with unique design features that speed up and simplify the stripping of ALL types of film insulation.**

## IDEAL Stripmaster®

## 2 SECOND "ONE SQUEEZE" OPERATION



Unexcelled for fast assembly work, this 10 oz. stripper can be used all day without fatigue. Exclusive "automatic" feature holds jaws open after stripping to permit removal of wire and to prevent crushing. No nicking, fraying, or cutting of wire ends possible. 7 models for all wire gauges from 8 to 30.

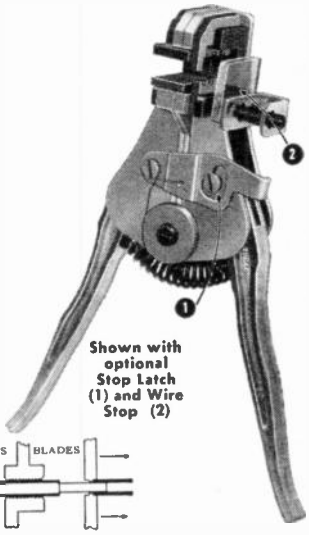
**MODELS FOR ALL WIRE GAUGES — FROM 8 TO 30**

| Catalog No. | Wire Gauge | No. of Holes | List Price◆ | Suggested Resale |
|---|---|---|---|---|
| 45-090 | 8 to 12 | 3 | $9.60 | $5.75 |
| 45-091 | 10 to 18 | 4 | 9.60 | 5.75 |
| 45-092 | 10 to 22 | 6 | 9.60 | 5.75 |
| 45-093 | 14 to 22 | 4 | 9.60 | 5.75 |
| *45-095 | 16 or 18, and POSJ | - | 9.60 | 5.75 |
| 45-097 | 16 to 26 | 6 | 9.60 | 5.75 |
| 45-098 | 20 to 30 | 6 | 9.60 | 5.75 |

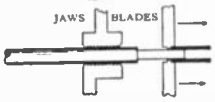
*Also strips 2 and 3-conductor low-voltage wire used in G.E. and Touchplate remote control wiring systems.

## IDEAL "CONCENTRIC HOLE" STRIPPER for TEFLON* WIRE

Makes Teflon as easy to strip as any other insulation. Chucking action on insulation guides the conductor through the stripping hole, preventing nicks and scrapes. Two models strip all wire sizes from 10 to 26.




Shown with optional Stop Latch (1) and Wire Stop (2)




Counterbored stripping hole "chucks" insulation

| Catalog No. | Catalog No. (with stop latch & wire stop) | Wire Gauge | No. of Holes |
|---|---|---|---|
| 45-170 | 45-180 | 10 to 14 | 3 |
| 45-171 | 45-181 | 16 to 26 | 6 |

Nos. 170 and 171—List $28.25◆ Suggested Resale $16.95
Nos. 180 and 181—List $34.60◆ Suggested Resale $20.75

*REG. TRADEMARK OF DuPONT

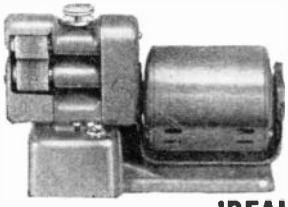
## THREE IDEAL PRODUCTION TYPE STRIPPERS FOR ALL TYPES OF FINE GAUGE FILM INSULATION

### TWIN-CONE BENCH TYPE

Compact, durable unit with unique fibre glass conical wheels — strips from AWG No. 50 to No. 30 wires faster and easier to within 1/8" of winding.
Cat. No. 45-101

### TWIN-CONE PORTABLE MODEL

with flexible shaft- not shown. Catalog No. 45-104



### TWIN WHEEL BENCH TYPE

For slightly heavier-duty work. Fibre glass *cylindrical* wheels strip AWG No. 50 to No. 25 wires up to 3/4" from body of winding.
Cat. No. 45-107

### Eliminate Wire Breakage—Cut Down Broken Lead Rejects. Strips to within 1/8" From Body of Winding

IDEAL'S Twin-Cone and Twin Wheel models are time and motion engineered for maximum simplicity and efficiency on the highest speed production work. There is an IDEAL Fibre Glass Wheel or Wire Brush for every kind of film insulated wire in AWG sizes #50 to #16.

Ideal has the most complete line of wire strippers on the market. Ask your Distributor for full information on our line to fill *any* wire stripping need. ◆ Mfr.'s Suggested List Price

**IDEAL INDUSTRIES Inc., Sycamore, Illinois**



World Radio History

# IDEAL Thermo-Tip instant heat

## Lightweight Resistance Soldering Tools. Especially Designed for Faster Positive Production Soldering of Miniature and Subminiature Parts

An efficient production tool expressly designed for soldering electronic circuits and parts, aircraft connectors, pin-type plugs, wire-to-wire, terminals, instruments, and printed circuits. Its pencil-small element gets into tight spots and is so much lighter and easier to handle than a soldering iron or gun that a woman can use it all day without fatigue!

### INSTANT RESISTANCE HEATING

Thermo-Tip is so fast that many joints can be soldered in less than 1 second! It heats by passing a high amperage current through wires, terminals, connector pins, etc. For power savings full rated wattage is used only when actually soldering.

### CUTS SOLDER VOID REJECTS

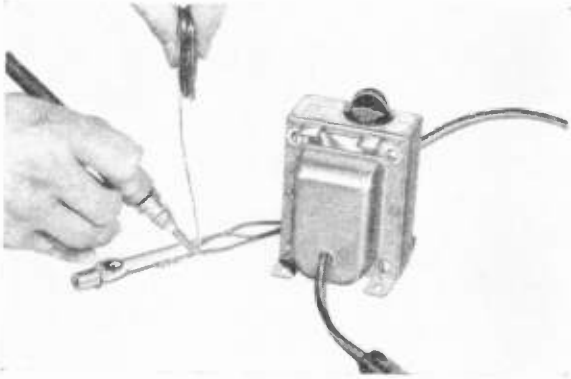
Resistance principle requires that joint being soldered be hot enough to melt the solder. Even an inexperienced person can get sound joints every time. Less solder will be necessary, too. Uniform heat cuts solder void rejects to a minimum.

### PREVENTS HEAT DAMAGE TO DELICATE PARTS—"PIN-POINTS" THE HEAT

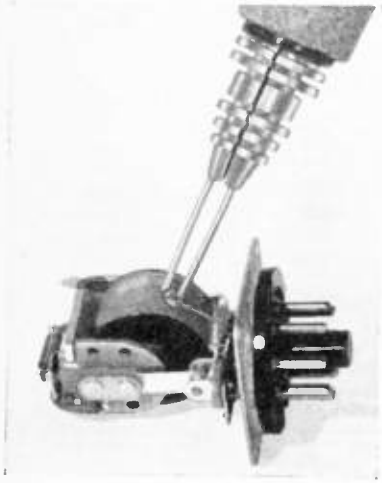
Only the part being soldered is heated. Surrounding parts are not burned or melted by a hot tip near them. Thermo-Tip heats so fast that leads can be soldered before resistors, transistors, diodes, condensers, printed circuits, terminal fibre, etc., are damaged or other connections loosened. Power units permit selection of outputs to meet heat requirements of the job.

### SAFE-LOW SECONDARY VOLTAGE

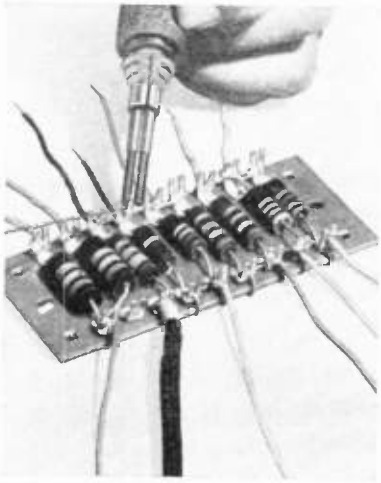
Soldering "pencil" uses harmless low voltage and high amperage from step-down transformer. Fire hazards are reduced, too, because the electrodes heat only when in use. No operator burns because heat is confined to electrodes.



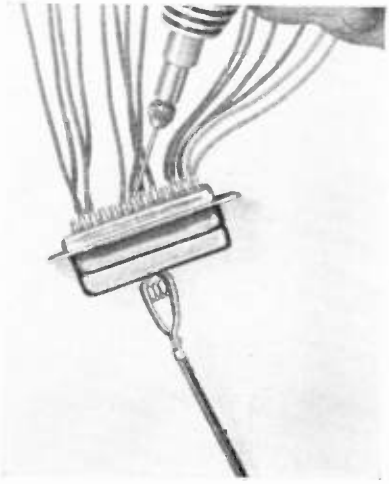
Cat. No. 12-124 Power Unit and Cat. No. 12-157 Double Metal Attachment Tool, shown soldering large telephone jack.



Double Metal Attachment Tool. Cat. No. 12-157, shown soldering miniature relay.



Double Carbon Attachment Tool. Cat. No. 12-155, shown soldering resistor board.



Single Metal Attachment Tool. Cat. No. 12-142, shown soldering Winchester type connector pins.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TRADE DISCOUNT APPLIES TO *LIST PRICE ONLY*

World Radio History

# RESISTANCE SOLDERING TOOLS IDEAL

## COMPLETE THERMO-TIP ATTACHMENT TOOLS AND POWER UNITS

All attachment tools feature lightweight handle with cork insulation — easily replaced electrodes — five-ft. cords with special connector which fits only the connector on the power unit. Heat-dissipating fins provide cooler handle for operator comfort. Shipping weight of all attachment tools — 6 oz. each.

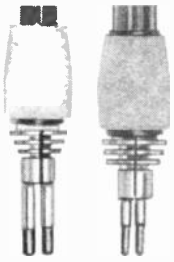
**Cat. No. L-5241** — Replacement Electrodes — .062" Dia., 3-1/2" long. Packed 6 per tube. Shipping Wt., 2 oz. List Price $1.35◆ Suggested Resale .80 per pkg.

## DOUBLE METAL ATTACHMENT TOOLS

Feed through Metal Electrodes are adjustable for length and locked in place by set screws. Electrode spacing can be adjusted by bending wires.

**Cat. No. 12-157** with .062" Double Metal Electrodes. List Price $13.20◆ Suggested Resale $7.90.

## DOUBLE CARBON ATTACHMENT TOOLS



Carbons are easily replaced at low cost. Replacement Carbon Holders will fit both double carbon attachment tools—providing economical conversion from one size to the other.

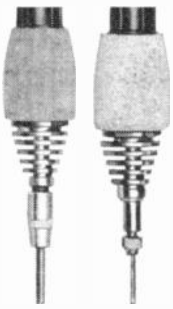
**Cat. No. 12-155** with 3/16" Dia. Carbons. List Price $13.20◆ Suggested Resale $7.90.

**Cat. No. 12-156** with 1/8" Dia. Carbons. List Price $13.20◆ Suggested Resale $7.90.

**Cat. No. L-4866** 3/16" Dia. Replacement Carbon for 12-155. Six per package. Shipping Wt., 2 oz. List Price $1.75◆ Suggested Resale $1.04 per pkg.

**Cat. No. L-4848** 1/8" Dia. Replacement Carbons for 12-156. Six per package. Shipping Wt., 2 oz. List Price $.80◆ Suggested Resale $.48 per pkg.

## SINGLE ELECTRODE ATTACHMENT TOOLS



**Cat. No. 12-141** has specially compounded 1/8" Carbon 3" long. **Cat. No. 12-142** has .062" Metal Electrode 3-1/2" long. Both attachment tools feature feed-through collet chuck which permits easy adjustment for wear and/or variety of jobs. Attachment tools include ground clamps for jig soldering. **Cat. No. 12-141** with 1/8" Dia. Carbons **12-142** with .062" Dia. Metal. List Price $13.20◆ Suggested Resale $7.90.

**Cat. No. L-5202** Replacement Carbons for **12-141**. Packaged 6 per tube. Shipping Wt., 2 oz. List Price $3.20◆ Suggested Resale $1.92 per pkg.

**Cat. No. L-5241** Replacement Electrodes for **12-142**. Packaged 6 per tube. Shipping Wt., 2 oz. List Price $1.35◆ Suggested Resale $.80 per pkg.

## CHISEL TIP IRONS

**Cat. No. 12-151** Handle and Lead Assembly. List Price $5.90◆ Suggested Resale $3.55.

**Cat. No. 12-144**—1/4" Chisel-Tip. List Price $9.15◆ Suggested Resale $5.50.

**Cat. No. 12-143**—1/8" Chisel-Tip. List Price $9.15◆ Suggested Resale $5.50.

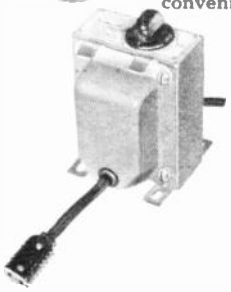
Rapid heating characteristics and corrosion-resistant special plating provide long life. Irons are locked into handle with set screws. Resistance element in the iron provides continuous, controlled heat.

NOTE: Handle assembly and Irons are sold separately.

## FOOT SWITCH

Used to eliminate arcing at point of electrode contact. Also permits the use of electrodes to position or hold work after heat has been applied. Small and convenient to use (3-5/8" Dia. x 1-1/8" high). Wired normally open (with series plug). Rated 5 amps., 115V.

**Cat. No. 12-146** List Price $10.30◆ Suggested Resale $6.20.



## Thermo-Tip Power Units

125-Watt Power Unit

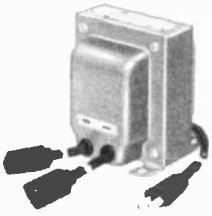
**Cat. No. 12-124** List Price $23.65◆ Suggested Resale $14.20.

Includes primary and secondary leads, on-off switch and heat control knob. 115 volt, 60 cy. only. Spring clips provide for pencil storage or holding of pencil during soldering.

250-Watt Power Unit

**Cat. No. 12-123** List Price $35.00◆ Suggested Resale $20.95.

Includes primary lead and secondary leads. Primary 115 V., 60 cy. only. This higher watt unit will handle all the work listed for the 125 watt unit at a faster rate and will solder larger components. Power is supplied to attachments by high and low secondary leads.



## How to Select Proper Attachment Tools

In selecting the proper soldering attachment tools, consideration must be given to the following:

A. Size of wires and terminals.
B. Available working space.
C. Production speed required.
D. Adaptability to jig soldering.
E. Sensitivity of components to heat.

The **12-157** Double Metal Attachment with the **12-124** Power Unit is the most generally useful combination — handling the widest variety of work.

On large work, the **12-155** or **12-156** Double Carbon Attachments are used, depending on space available.

The **12-141** and **12-142** Single Electrode Attachments are used where work lends itself to jig soldering (as in aircraft connectors). Ground wire clamped to jig makes jig part of circuit. Ground wire and clamp are furnished as part of the attachment tools.

Chisel-Tip Irons **12-143** and **12-144** are available for those few applications where irons are necessary.

◆ Mfr.'s Suggested List Prices

**IDEAL INDUSTRIES Inc., Sycamore, Illinois**

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World Radio History

# SOLDER-ETTE

**FEDTRO**

## The ALL NEW SOLDERING IRON *designed for* TRANSISTOR & PRINTED CIRCUITS

## *Ideal for Industrial Use, Radio, Television and Electronic Equipment*

Featherweight! Just one ounce! Only 7¾" long! Constant controlled heat for precision applications in the manufacture and servicing of transistor and printed circuits. Especially designed for close quarter soldering. Slim-line element permits pin-point accuracy in normally unaccessable spots. Solder-Ette's one ounce featherweight and contour grip eliminates fatigue and increases production output.

*COOL HANDLE:* Thermal reflector design assures a cooler, more comfortable handle for production line or intermittent use.

*LONG LIFE PRECISION WOUND ELEMENT:* The element of the Solder-Ette utilizes the highest quality nichrome, precision wound on a double strength mica base.

*SPARE TIPS:* The tip of the Solder-Ette screws into the precision element. Durable replacement copper tips are quickly changed in a matter of seconds. Extra tips are available for the Model FS-25 Solder-Ette.

**MODEL FS-25**

List Price **$3.50**

110-120 Volts
25 Watts • AC/DC

Actual Size

### SOLDER-ETTE'S OUTSTANDING FEATURES!

- Fast Controlled Heat
- Light Weight
- Cool Handle
- Contour Grip
- Replaceable Tip
- Rugged Construction
- Long Life
- Precision Wound Element
- Complete with Quality Line Cord

Beautiful 6 PACK 4-Color Counter Displays

**FEDTRO**

"QUALITY ELECTRONIC PRODUCTS"

**FEDERAL ELECTRONIC SALES**
ROCKVILLE CENTRE, NEW YORK
In Canada: ATLAS RADIO CORP. LTD., TORONTO


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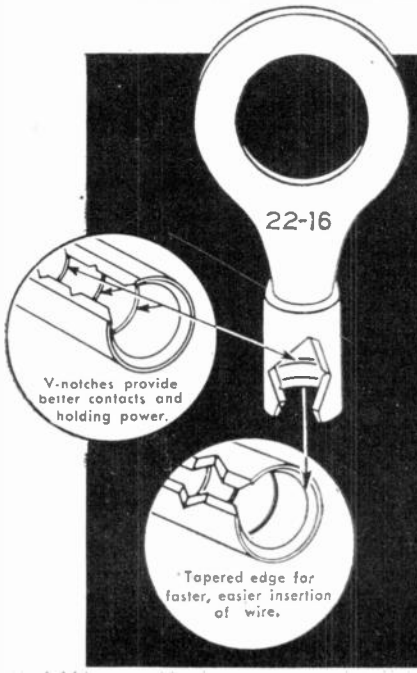
World Radio History

# WALDOM SOLDERLESS TERMINALS

**NON-INSULATED**
**KRIMPTITE Terminals and Connectors**

**INSULATED**
**INSULITE Terminals and Connectors**

Wire ranges color coded: 22-16 Red, 16-14 Blue, 12-10 Yellow



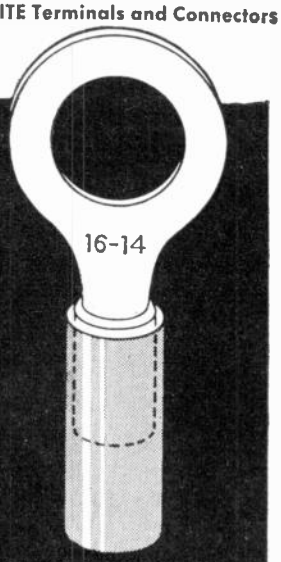

Constructed of pure soft copper for highest conductivity.

Electro-tin plated for maximum corrosion resistance. Modern one piece construction affords greater strength and economy.

FULL ¼" BARREL LENGTH IN ALL SIZES gives wide crimping area for permanent, vibration-proof, and moisture tight connections. Extra long for fast . . . easy location when crimping. AVAILABLE IN WIRE RANGES: 22-16, 16-14, & 12-10. Imprinted on all Terminals and Connectors.

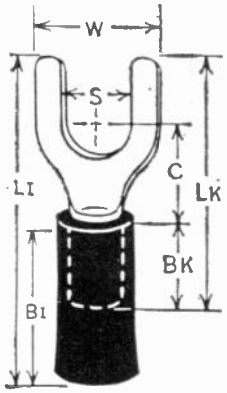
**WALDOM CRIMPING TOOLS**

CT-1050 For Non-Insulated Terminals. Net $3.95
CT-2050 For Insulated Terminals. Net $3.95




Firmly attached tough plastic insulating sleeve with high dielectric strength withstands crimping pressure. Supporting sleeve vibration-proofs wide range of wire insulation thicknesses.

S Model Nos. are Non-Insulated Types. T Model Nos. are Insulated Types.*




**Spade Tongue**

| WIRE RANGE | CATALOG No. | STUD SIZE S | MAXIMUM WIDTH W | OVERALL LENGTH LK-LI | BARREL LENGTH BK-BI | STUD CLEARANCE C | INDUSTRIAL USER'S NET PRICES 100-999 Per C | 1000-9999 Per M | 10,000-Over Per M |
|---|---|---|---|---|---|---|---|---|---|
| 22-16 | S-1014 | 5-6 | 9/32 | 39/64 | 1/4 | 13/64 | 2.05 | 17.28 | 11.66 |
| | T-2014 | 5-6 | 9/32 | 51/64 | 7/16 | 13/64 | 5.02 | 42.24 | 28.51 |
| | S-1029 | 5-6 | 5/16 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2029 | 5-6 | 5/16 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1030 | 8 | 9/32 | 39/64 | 1/4 | 13/64 | 2.05 | 17.28 | 11.66 |
| | T-2030 | 8 | 9/32 | 51/64 | 7/16 | 13/64 | 5.02 | 42.24 | 28.51 |
| | S-1031 | 8 | 5/16 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2031 | 8 | 5/16 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1032 | 10 | 5/16 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2032 | 10 | 5/16 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.21 |
| 16-14 | S-1015 | 5-6 | 19/64 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2015 | 5-6 | 19/64 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1033 | 8 | 19/64 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2033 | 8 | 19/64 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1016 | 10 | 23/64 | 3/4 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2016 | 10 | 23/64 | 15/16 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| 12-10 | S-1017 | 10 | 3/8 | 3/4 | 1/4 | 9/32 | 2.87 | 24.24 | 16.36 |
| | T-2017 | 10 | 3/8 | 11/16 | 7/16 | 9/32 | 5.47 | 46.08 | 31.10 |

*Add suffix "X" to type number of insulated terminal when desired with flared end. (No additional cost)

**Ask your distributor for WALDOM'S complete catalog of Electronic Components and Croname Products including . . .**

Anode Connectors
Azimuth Dials
Cord Sets
Crimping Tools
Crystal Sockets
Dial Assemblies
Dial Locks
Dial & Switch Plates
Diode Sockets
Direct Drive Dials
Fasteners
Fastener Assortments
Grid Caps
Hi-Fidelity Accessories
Horns Aerosol
Instrument Cases & Panels
Interlock Sockets
Jack or Trimmer Covers
Knobs
Knob Assemblies
Paint (Aerosol)
Phono Connectors
Planetary Drives
Plastic Boxes
Printed Circuit
Tube Sockets
Shaft Locks
Solderless Terminals
Terminal Assortments
Terminal & Spade Lugs
Terminal Strips
Title Plates
Transistor Socket
Tube Shields
Tube Sockets
Tuner Dial Assemblies
TV Accessories
TV Mask Assemblies
Washers

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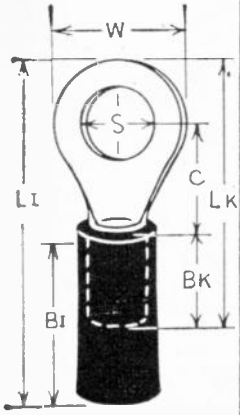
World Radio History

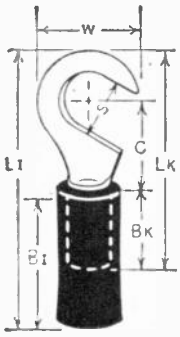
# WALDOM SOLDERLESS TERMINALS

S Model Nos. are Non-Insulated Types. T Model Nos. are Insulated Types.*




**Ring Tongue**

| WIRE RANGE | CATALOG No. | STUD SIZE S | MAXIMUM WIDTH W | OVERALL LENGTH LK-LI | BARREL LENGTH BK-BI | STUD CLEARANCE C | INDUSTRIAL USER'S NET PRICES 100-999 Per C | 1000-9999 Per M | 10,000-Over Per M |
|---|---|---|---|---|---|---|---|---|---|
| 22-16 | S-1001 | 5-6 | 15/64 | 33/64 | 1/4 | 5/32 | 2.05 | 17.28 | 11.66 |
| | T-2001 | 5-6 | 15/64 | 45/64 | 7/16 | 5/32 | 5.02 | 42.24 | 28.51 |
| | S-1002 | 5-6 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2002 | 5-6 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1021 | 8 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2021 | 8 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1003 | 10 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2003 | 10 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1004 | 1/4" | 9/16 | 15/16 | 1/4 | 13/32 | 2.87 | 24.24 | 16.36 |
| | T-2004 | 1/4" | 9/16 | 1 1/8 | 7/16 | 13/32 | 5.47 | 46.08 | 31.10 |
| | S-1005 | 5/16" | 9/16 | 15/16 | 1/4 | 13/32 | 2.87 | 24.24 | 16.36 |
| | T-2005 | 5/16" | 9/16 | 1 1/8 | 7/16 | 13/32 | 5.47 | 46.08 | 31.10 |
| 16-14 | S-1006 | 5-6 | 1/4 | 19/32 | 1/4 | 7/32 | 2.05 | 17.28 | 11.66 |
| | T-2006 | 5-6 | 1/4 | 25/32 | 7/16 | 7/32 | 5.02 | 42.24 | 28.51 |
| | S-1007 | 5-6 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2007 | 5-6 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1024 | 8 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2024 | 8 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1008 | 10 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2008 | 10 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1009 | 1/4" | 15/32 | 27/32 | 1/4 | 23/64 | 2.87 | 24.24 | 16.36 |
| | T-2009 | 1/4" | 15/32 | 1 1/32 | 7/16 | 23/64 | 5.47 | 46.08 | 31.10 |
| | S-1041 | 5/16" | 15/32 | 27/32 | 1/4 | 23/64 | 2.87 | 24.24 | 16.36 |
| | T-2041 | 5/16" | 15/32 | 1 1/32 | 7/16 | 23/64 | 5.47 | 46.08 | 31.10 |
| 12-10 | S-1011 | 10 | 3/8 | 23/32 | 1/4 | 9/32 | 2.87 | 24.24 | 16.36 |
| | T-2011 | 10 | 3/8 | 1 1/32 | 7/16 | 9/32 | 5.47 | 46.08 | 31.10 |
| | S-1012 | 1/4" | 39/64 | 1 1/16 | 1/4 | 1/2 | 3.64 | 30.72 | 20.73 |
| | T-2012 | 1/4" | 39/64 | 1 3/8 | 7/16 | 1/2 | 6.44 | 54.24 | 36.61 |
| | S-1042 | 5/16" | 39/64 | 1 1/16 | 1/4 | 1/2 | 3.64 | 30.72 | 20.73 |
| | T-2042 | 5/16" | 39/64 | 1 3/8 | 7/16 | 1/2 | 6.44 | 54.24 | 36.61 |
| | S-1013 | 3/8" | 39/64 | 1 1/16 | 1/4 | 1/2 | 3.64 | 30.72 | 20.73 |
| | T-2013 | 3/8" | 39/64 | 1 3/8 | 7/16 | 1/2 | 6.44 | 54.24 | 36.61 |




**Hook Tongue**

| WIRE RANGE | CATALOG No. | STUD SIZE S | MAXIMUM WIDTH W | OVERALL LENGTH LK-LI | BARREL LENGTH BK-BI | STUD CLEARANCE C | 100-999 Per C | 1000-9999 Per M | 10,000-Over Per M |
|---|---|---|---|---|---|---|---|---|---|
| 22-16 | S-1018 | 5-6 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2018 | 5-6 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1036 | 8 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2036 | 8 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1037 | 10 | 5/16 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2037 | 10 | 5/16 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| 16-14 | S-1038 | 5-6 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2038 | 5-6 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1039 | 8 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2039 | 8 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| | S-1040 | 10 | 23/64 | 23/32 | 1/4 | 9/32 | 2.05 | 17.28 | 11.66 |
| | T-2040 | 10 | 23/64 | 29/32 | 7/16 | 9/32 | 5.02 | 42.24 | 28.51 |
| 12-10 | S-1045 | 10 | 3/8 | 23/32 | 1/4 | 9/32 | 2.87 | 24.24 | 16.36 |
| | T-2045 | 10 | 3/8 | 1 1/32 | 7/16 | 19/32 | 5.47 | 46.08 | 28.51 |

* Add suffix "X" to type number of insulated terminal when desired with flared end. (No additional cost)

**Ask your distributor for WALDOM'S complete catalog of Electronic Components and Croname Products including . . .**

Anode Connectors
Azimuth Dials
Cord Sets
Crimping Tools
Crystal Sockets
Dial Assemblies
Dial Locks
Dial & Switch Plates
Diode Sockets
Direct Drive Dials
Fasteners
Fastener Assortments
Grid Caps
Hi-Fidelity Accessories
Horns Aerosol
Instrument Cases & Panels
Interlock Sockets
Jack or Trimmer Covers
Knobs
Knob Assemblies
Paint (Aerosol)
Phono Connectors
Planetary Drives
Plastic Boxes
Printed Circuit Tube Sockets
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Terminal Assortments
Terminal & Spade Lugs
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Tuner Dial Assemblies
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TV Mask Assemblies
Washers


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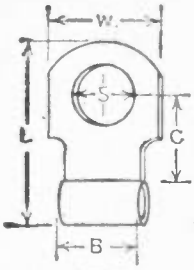
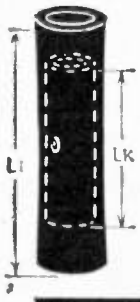
World Radio History

# SOLDERLESS TERMINALS

**WALDOM**




| | WIRE RANGE | CATALOG No. | STUD SIZE S | MAXIMUM WIDTH W | OVERALL LENGTH LK-LI | BARREL LENGTH BK-BI | STUD CLEARANCE C | INDUSTRIAL USER'S NET PRICES 100-999 Per C | 1000-9999 Per M | 10,000-Over Per M |
|---|---|---|---|---|---|---|---|---|---|---|
| Flag Type | 22-16 | S-1043 | 10 | 3/8 | 5/8 | 1/4 | 19/64 | 3.05 | 25.68 | 17.33 |
| Flag Type | 16-14 | S-1044 | 10 | 3/8 | 5/8 | 1/4 | 9/32 | 3.05 | 25.68 | 17.33 |
| Butt Connector | 22-16 | S-1019<br>T-2019 | | | 9/16<br>15/16 | | | 2.05<br>5.02 | 17.28<br>42.24 | 11.66<br>28.51 |
| Butt Connector | 16-14 | S-1020<br>T-2020 | | | 9/16<br>15/16 | | | 2.05<br>5.02 | 17.28<br>42.24 | 11.66<br>28.51 |
| Butt Connector | 12-10 | S-1046<br>T-2046 | | | 9/16<br>1 1/16 | | | 3.16<br>6.70 | 26.64<br>58.56 | 17.98<br>39.52 |

## CROSS REFERENCE CHART

This cross-reference to other manufacturers is by no means complete as to furnishing an equal of WALDOM to any other manufacturer. If you have a number other than those listed, which are the most popular sizes and types, please write to WALDOM for our type number which may be similar or equal.

| WALDOM | AMP (API) | Lynn (Vaco) |
|---|---|---|
| S-1018 | | 3300 |
| S-1044 | 31181 | 2902 |
| S-1043 | 31291 | 2802 |
| S-1019 | 31818 | 3101 |
| S-1020 | 31819 | 3102 |
| T-2001 | 31881 | |
| T-2002* | 31885 | |
| T-2021 | 31886 | |
| T-2003 | 31891 | |
| T-2007 | 31901 | |
| T-2024 | 31902 | |
| T-2008 | 31903 | |
| T-2009 | 31906 | |
| T-2041 | 31907 | |
| T-2029 | 35052 | |
| S-1030 | 32053 | |
| S-1031 | 32053 | |
| S-1032 | 32054 | |
| T-2015 | 32058 | |
| T-2033 | 32059 | |
| T-2016 | 32060 | |
| S-1046 | 32151 | 3103 |
| T-2014 | 32404 | |
| T-2006 | 32442 | |
| T-2036 | 32456 | |
| T-2014 | 32561 | |
| T-2017 | 32589 | |
| S-1014 | 32897 | 2600 |
| S-1033 | 32904 | |
| T-2029 | 32979 | |
| T-2030 | 32981 | |
| T-2031 | 32981 | |
| T-2032 | 32982 | |
| S-1021 | 32990 | |
| S-1024 | 32992 | |
| S-1001 | 33020 | 2300 |
| S-1003 | 33021 | 3202 |
| S-1006 | 33023 | 2400 |
| S-1007 | 33023 | 2401 |
| S-1009 | 33025 | 2403 |

| WALDOM | AMP (API) | Lynn (Vaco) |
|---|---|---|
| S-1015 | 33026 | 2601 |
| S-1016 | 33027 | 2602 |
| S-1011 | 33028 | 2502 |
| S-1012 | 33029 | 2503 |
| S-1020 | 33031 | 3102 |
| S-1002 | 33032 | 2301 |
| S-1042 | 33033 | |
| S-1008 | 33037 | 2402 |
| S-1013 | 33040 | 2504 |
| S-1017 | 33041 | 2702 |
| S-1044 | 33043 | 2902 |
| S-1019 | 33045 | 3101 |
| S-1046 | 33046 | 3103 |
| S-1001 | 33213 | 2300 |
| S-1002 | 33213 | 2301 |
| S-1003 | 33214 | 2302 |
| S-1007 | 33216 | 2401 |
| S-1008 | 33217 | 2402 |
| S-1009 | 33218 | 2403 |
| S-1016 | 33219 | 2602 |
| S-1013 | 33220 | 2504 |
| S-1041 | 33454 | |
| S-1011 | 33457 | 2502 |
| S-1012 | 33458 | 2503 |
| S-1042 | 33459 | |
| S-1015 | 33477 | 2601 |
| S-1017 | 33479 | 2702 |
| S-1029 | 33713 | |
| T-2019 | 34070 | |
| T-2020 | 34071 | |
| T-2046 | 34072 | |
| S-1001 | 34105 | 2300 |
| S-1002 | 34107 | 2301 |
| S-1021 | 34108 | |
| S-1003 | 34109 | 2302 |
| S-1002 | 34110 | 2301 |
| S-1021 | 34111 | |
| S-1003 | 34112 | 2302 |
| S-1030 | 34117 | |
| S-1031 | 34117 | |

| WALDOM | AMP (API) | Lynn (Vaco) |
|---|---|---|
| S-1032 | 34118 | |
| S-1006 | 34120 | 2400 |
| S-1007 | 34121 | 2401 |
| S-1024 | 34122 | |
| S-1008 | 34123 | 2402 |
| S-1009 | 34124 | 2403 |
| S-1041 | 34125 | |
| S-1015 | 34127 | 2601 |
| S-1033 | 34128 | |
| S-1016 | 34129 | 2602 |
| T-2001 | 34142 | |
| T-2002 | 34144 | |
| T-2021 | 34145 | |
| T-2003 | 34146 | |
| T-2021 | 34148 | |
| T-2003 | 34149 | |
| T-2030 | 34155 | |
| T-2031 | 34155 | |
| T-2032 | 34156 | |
| T-2006 | 34158 | |
| T-2007 | 34158 | |
| T-2007 | 34159 | |
| T-2024 | 34160 | |
| T-2008 | 34161 | |
| T-2009 | 34162 | |
| T-2041 | 34163 | |
| T-2015 | 34165 | |
| T-2033 | 34166 | |
| T-2016 | 34167 | |
| T-2011 | 34170 | |
| T-2012 | 34171 | |
| T-2042 | 34172 | |
| T-2013 | 34173 | |
| T-2017 | 34176 | |
| S-1001 | 34194 | 2300 |
| S-1006 | 34197 | 2400 |
| T-2018 | 34313 | |
| T-2018 | 34501 | |
| T-2029 | 34513 | |
| T-2014 | 34514 | |

| WALDOM | AMP (API) | Lynn (Vaco) |
|---|---|---|
| S-1017 | 34595 | 2702 |
| T-2003 | 34701 | |
| T-2002 | 34704 | |
| T-2001 | 34706 | |
| T-2019 | 34707 | |
| T-2006 | 34710 | |
| T-2008 | 34711 | |
| T-2009 | 34712 | |
| T-2015 | 34715 | |
| T-2016 | 34716 | |
| T-2020 | 34717 | |
| T-2011 | 34721 | |
| T-2012 | 34722 | |
| T-2013 | 34723 | |
| T-2042 | 34725 | |
| T-2017 | 34726 | |
| T-2046 | 34727 | |
| T-2013 | 34836 | |
| T-2011 | 34854 | |
| T-2012 | 34855 | |
| T-2042 | 34856 | |
| T-2015 | 35559 | |
| S-1012 | 35772 | 2503 |
| S-1042 | 35773 | |
| S-1014 | 36195 | 2600 |
| S-1014 | 36513 | 2600 |
| S-1018 | 36514 | 3300 |
| S-1039 | 320257 | |
| T-2039 | 320263 | |
| T-2039 | 320306 | |
| T-2038 | 320381 | |
| T-2014 | 320665 | |
| T-2033 | 321233 | |
| S-1007 | 321684 | 2401 |
| T-2036 | 321699 | |
| T-2008 | 322238 | |
| S-1013 | 322458 | 2504 |
| T-2015 | 322994 | |

S Model Nos. are Non-Insulated Types. T Model Nos. are Insulated Types. * * Add suffix "X" to type number of insulated terminal when desired with flared end. (No additional cost)

**Waldom Electronic Components are bulk packaged for Industrial users. See your distributor for quantity prices and listings.**

**WALDOM ELECTRONICS INC., Chicago 32, Illinois**

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World Radio History

Available in the 7 lb. bench reel, 1 lb. dispenser carton and the 50¢ Service Pak

ONLY SOLDER MADE WITH NON-CORROSIVE, EXTRA ACTIVE ERSIN FLUX!

Available in the 7 lb. bench reel and 1 lb. Dispenser Carton

## STANDARD TIN/LEAD ALLOYS

### MULTICORE SOLDER

Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in the same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

### ERSIN FLUX

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high grade, water white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use. Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

## NEW! COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT, one of a number of solder alloys developed for the industry by Multicore, it is entirely different—and, it is patented. SAVBIT alloy contains its own copper, and therefore will not take the copper of the soldering iron tip into the molten solution during soldering. This absorption of copper when any standard alloy is used is a basic reason for the wearing out of expensive copper tips, and the need for constant refinishing of the tip.

Comparative tests with solders having pure tin/lead alloys and the new Ersin Multicore copper-loaded SAVBIT alloy have been made on assembly lines of electronics plants. Results of these tests have proven that startling production efficiencies and economies may be realized when the wear and corrosion of copper soldering iron tips is curbed, using SAVBIT alloy. Equally as important . . . a higher standard of soldering quality is assured for a much longer period of time.

It is hardly necessary to emphasize the great economies that can be effected in soldering iron maintenance and great efficiency on the assembly line, by using this new alloy. SAVBIT alloy is available in Ersin Multicore 5-Core Solder containing non-corrosive extra fast Ersin flux in 14, 16 and 18 gauge. Its melting point is virtually the same as standard tin/lead alloys. There is no appreciable difference between SAVBIT and normal tin/lead alloys in electrical conductivitiy or tensile and shear strength — in fact, the strength of SAVBIT is slightly greater.

**Alloys and Melting Points**

| Alloy | B. S. Grade | Multicore Color Code | Melting Temp. °C | Melting Temp. °F | Recommended Bit Temp. °C | Recommended Bit Temp. °F |
|---|---|---|---|---|---|---|
| 60/40 | K | Red | 188 | 370 | 228 | 442 |
| 50/50 | F | Yellow | 212 | 414 | 252 | 476 |
| 45/55 | (M) | Crimson/ Buff | 215 | 419 | 255 | 491 |
| 40/60 | G | Green | 234 | 453 | 274 | 525 |

**Approximate lengths per pound in feet**

| S.W.G. | Diameter | Dia. M/Ms | 60/40 | 50/50 | 45/55 | 40/60 |
|---|---|---|---|---|---|---|
| 14 | .080 | 2.032 | 65.7 | 62.6 | 61 | 60 |
| 16 | .064 | 1.626 | 102 | 98 | 97 | 94.5 |
| 18 | .048 | 1.219 | 182 | 174 | 172 | 167 |
| 20 | | | 324 | | | |
| 22 | | | 536 | | | |

## "GENALEX"

Finest Audio Tubes Ever Made

The original KT66 power tetrode — may be used in the output stage of an audio-frequency power amplifier, tetrode or triode-connected; or in transmitting circuits using frequencies up to 30 Mc/s as an oscillator or radio frequency amplifier.

*New!* KT88 Audio Output Tube! Up to 100 watts audio from a pair of KT88 tubes with only a plate supply of 560 volts. Low distortion. Small size. Same pin connections as KT66.

### Z729 INPUT TUBE

A low hum low microphonic, voltage amplifying Audio Pentode expressly designed for use in high quality, high gain audio pre-amplifier and equalizer stages. Fits standard 9 pin miniature socket.

## S. G. BROWN

HI-FI HEADPHONES

Type K-Hi-Fi Headphones of the very highest quality. Available with monaural/binaural wiring. Response—From 50 to over 10,000 cycles. Moving coil type motor assemblies. Bakelized conical diaphragm. 6,000 lines flux density. 3 standard impedances — 52 ohms, 600 ohms and 15,000 ohms. 6½ ft. cord. Rugged construction. Complete with rubber ear cushions. Highly polished headband and cases.

**BRITISH INDUSTRIES CORPORATION - PORT WASHINGTON, N. Y.**


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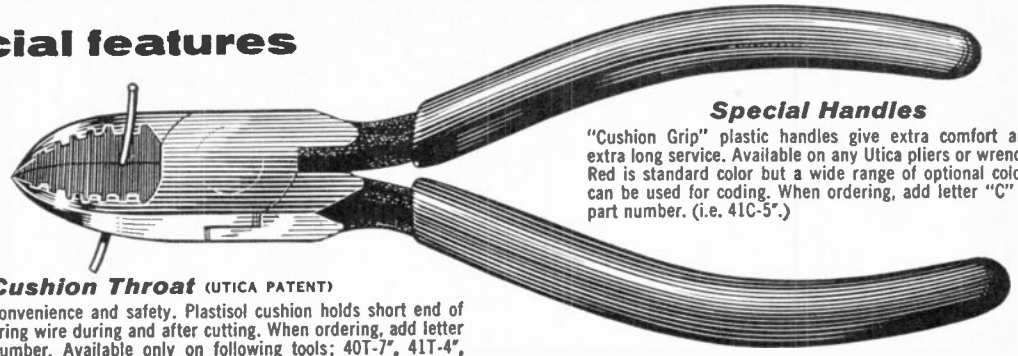
# UTICA

DROP-FORGED • INDUCTION-HARDENED • BACKED BY FULL GUARANTEE

## special features



### *Special Handles*

"Cushion Grip" plastic handles give extra comfort and extra long service. Available on any Utica pliers or wrench. Red is standard color but a wide range of optional colors can be used for coding. When ordering, add letter "C" to part number. (i.e. 41C-5".)

### *Ribbed Cushion Throat* (UTICA PATENT)

Designed for convenience and safety. Plastisol cushion holds short end of electrical or spring wire during and after cutting. When ordering, add letter "T" to part number. Available only on following tools: 40T-7", 41T-4", 41T-5", 41T-6", 44T-5", 46T-4".

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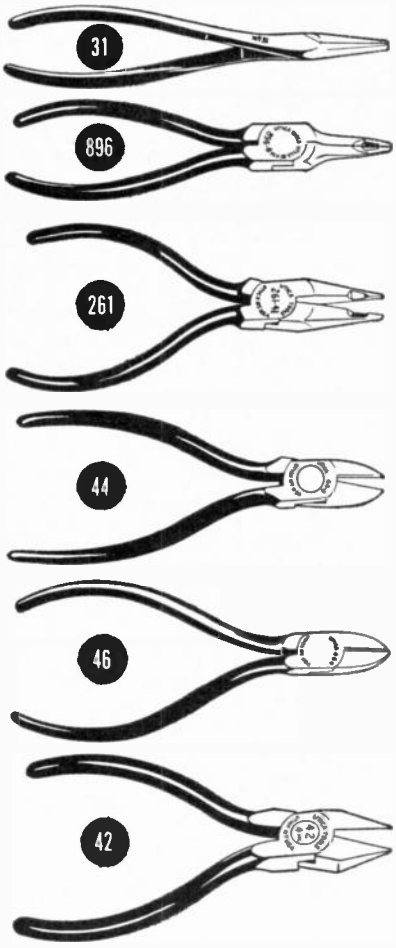



**No. 31 DUCK BILL WIRING PLIERS**
Long reach duck bill pliers. Serrated jaws. Size: 8".

**No. 896 RADIO AND IGNITION CUTTING PLIERS**
For cutting and forming wire. Center cutter near tip of jaws. Size: 6".

**No. 261 SPECIAL SHORT CHAIN NOSE CUTTING PLIERS**
Flush cutter near tip of jaws for close cuts. Size: 4½" (formerly custom tool No. B801).

**No. 44 SPECIAL DIAGONAL PLIERS**
Slim nose diagonal with semi-flush cutting edge. Sizes: 5", 6".

**No. 46 MIDGET DIAGONAL PLIERS**
Small, light, sturdy diagonal for work on small electronic assemblies. Size: 4".

**No. 42 DIAGONAL PLIERS**
Heavy pattern diagonal. Flush cutting edges, tapered jaws for cutting in confined areas. Size: 4".

**No. 1033 LONG CHAIN NOSE PLIERS**
For general wiring. 3/32" nose and deep serrated jaws. Sizes: 6", 7".

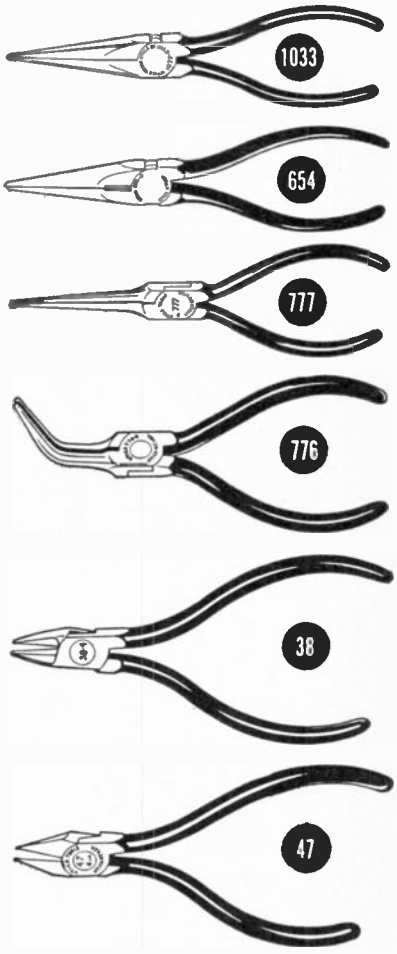
**No. 654 LONG CHAIN NOSE SIDE CUTTING PLIERS**
Same as 1033 but with side cutter. Sizes: 6" 7".

**No. 777 LONG NEEDLE NOSE PLIERS**
Long, spring tempered jaws for very fine work in assembling small electronic apparatus. Size: 6".

**No. 776 CURVED LONG NEEDLE NOSE PLIERS**
Fine, spring tempered pliers with bent nose for offset work. Size: 6".

**No. 38 SPECIAL DIAGONAL PLIERS**
Exceptionally fine construction of nose for precision work. Semi-flush edges. Size: 4" (formerly custom tool No. B644).

**No. 47 MIDGET DIAGONAL PLIERS**
Fine tapered nose for delicate work in confined areas; Flush jaws for close cutting. Size: 4".




## USE UTICA... the tools the experts use!

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# XCELITE QUALITY TOOLS

***Preferred by the EXPERTS***

## ROUND BLADE SCREWDRIVERS

| Number | Size Blade | List | Number | Size Blade | List |
|---|---|---|---|---|---|
| R-3322 | 3/32" x 2" | $0.30 | R-5328 | 5/32" x 8" | $0.90 |
| R-3323 | 3/32" x 3" | .45 | R-3163 | 3/16" x 3" | .85 |
| R-3324 | 3/32" x 4" | .45 | R-3164 | 3/16" x 4" | .90 |
| R-181 | 1/8" x 2" | .30 | R-3166 | 3/16" x 6" | 1.05 |
| R-183 | 1/8" x 3" | .45 | R-3168 | 3/16" x 8" | 1.15 |
| R-184½ | 1/8" x 4" | .45 | R-31610 | 3/16" x 10" | 1.30 |
| R-182 | 1/8" x 2" | .55 | R-142 | 1/4" x 2" | 1.05 |
| R-184 | 1/8" x 4" | .60 | R-144 | 1/4" x 4" | 1.15 |
| R-186 | 1/8" x 6" | .65 | R-146 | 1/4" x 6" | 1.20 |
| R-188 | 1/8" x 8" | .80 | R-148 | 1/4" x 8" | 1.30 |
| R-1810 | 1/8" x 10" | .90 | R-1410 | 1/4" x 10" | 1.35 |
| R-5323 | 5/32" x 3" | .70 | R-5164 | 5/16" x 4" | 1.35 |
| R-5324 | 5/32" x 4" | .70 | R-5166 | 5/16" x 6" | 1.50 |
| R-5325 | 5/32" x 5" | .70 | R-5168 | 5/16" x 8" | 1.60 |

## SQUARE BLADE SCREWDRIVERS

| Number | Size Blade | List | Number | Size Blade | List |
|---|---|---|---|---|---|
| S-183 | 1/8" x 3" | $0.65 | S-5168 | 5/16" x 8" | $1.70 |
| S-184 | 1/8" x 4" | .65 | S-51610 | 5/16" x 10" | 1.90 |
| S-185 | 1/8" x 5" | .65 | S-51612 | 5/16" x 12" | 2.10 |
| S-3163 | 3/16" x 3" | 1.00 | S-388 | 3/8" x 8" | 2.10 |
| S-3164 | 3/16" x 4" | 1.05 | S-3812 | 3/8" x 12" | 3.05 |
| S-3166 | 3/16" x 6" | 1.20 | S-3818 | 3/8" x 18" | 3.30 |
| S-3168 | 3/16" x 8" | 1.30 | S-7166 | 7/16" x 6" | 2.45 |
| S-31610 | 3/16" x 10" | 1.50 | S-71612 | 7/16" x 12" | 3.05 |
| S-142 | 1/4" x 2" | 1.20 | S-71618 | 7/16" x 18" | 3.30 |
| S-144 | 1/4" x 4" | 1.25 | S-1424 | 1/4" x 24" | 2.75 |
| S-146 | 1/4" x 6" | 1.30 | | | |
| S-148 | 1/4" x 8" | 1.50 | | | |
| S-5162 | 5/16" x 2" | 1.25 | | | |
| S-5164 | 5/16" x 4" | 1.50 | | | |
| S-5166 | 5/16" x 6" | 1.60 | | | |

### Stubbies

| Number | Size Blade | List |
|---|---|---|
| S-3161 | 3/16" x 1" | $0.70 |
| S-141 | 1/4" x 1" | .85 |
| S-5161 | 5/16" x 1" | .85 |

## COMBINATION-DETACHABLE SCREWDRIVERS

**COMPLETE (Regular Type)**

| | List Price |
|---|---|
| No. CR1 | $2.15 |
| No. CR2 | 2.15 |
| No. CR3 | 2.15 |

**BLADES ONLY (Regular Type)**

| | | List Price |
|---|---|---|
| No. RB1 | #1 Phillips and 3/16" Reg. | $1.20 |
| No. RB2 | #2 Phillips and 1/4" Reg. | 1.20 |
| No. RB3 | #3 Phillips and 5/16" Reg. | 1.20 |

HANDLES ONLY — No. 25 ..... .95

**STUBBY SIZE**

| Complete | | Blades Only | |
|---|---|---|---|
| No. CS1 | $1.90 | No. SB1 | $1.05 |
| No. CS2 | 1.90 | No. SB2 | 1.05 |

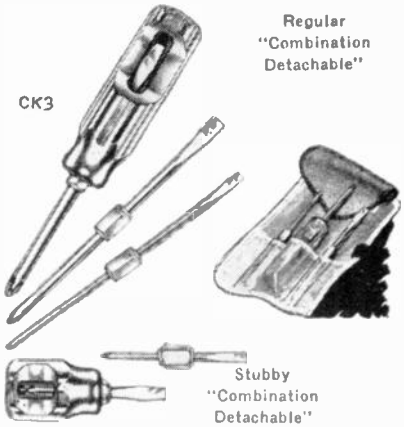
**HANDLES ONLY**

No. 26—Stubby ..... $ .85

**ROLL KIT COMBINATIONS**

No. CK-3 with RB-1, RB-2 and RB-3 blades and combination handle (see "Combination-Detachable", above for sizes) ..... List $5.45

No. CK-2 with RB-1 and RB-2 reversible blades and combination handles ..... List $4.25




## PHILLIPS SCREWDRIVERS

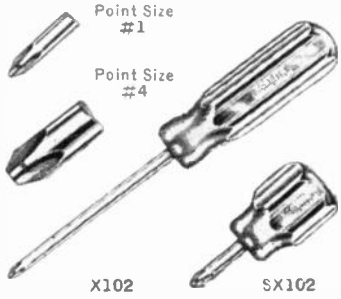
| No. | Point Size | Length Blade | Diameter Blade | List Price |
|---|---|---|---|---|
| X-100 | 0 | 2" | 1/8" | $ .75 |
| X-108 | 1 | 6" | 3/16" | 1.15 |
| X-101 | 1 | 3" | 3/16" | 1.05 |
| X-102 | 2 | 4" | 1/4" | 1.35 |
| X-103 | 3 | 6" | 5/16" | 1.80 |
| X-104 | 4 | 8" | 3/8" | 2.25 |
| X-1010 | 1 | 10" | 3/16" | 1.60 |
| X-1020 | 2 | 10" | 1/4" | 1.80 |

**SHORT STUBBY TYPE**

| No. | Point Size | Blade | List Price |
|---|---|---|---|
| SX-101 | 1 | 3/16"x1 3/8" | $1.00 |
| SX-102 | 2 | 1/4"x1 3/8" | 1.10 |

**POCKET CLIP STYLE**

| No. | Point Size | Blade | List Price |
|---|---|---|---|
| P12S | 0 | 1/8"x2" | $ .65 |




## BERYLLIUM-COPPER SCREWDRIVERS

- Non-sparking
- Non-magnetic
- Better fatigue resistance than steel

| Number | Size Blade | List |
|---|---|---|
| BR-186 | 1/8" x 6" | $1.25 |
| BR-1810 | 1/8" x 10" | 1.35 |
| BR-3168 | 3/16" x 8" | 2.20 |
| BR-146 | 1/4" x 6" | 2.75 |
| BR-148 | 1/4" x 8" | 2.95 |
| BR-1410 | 1/4" x 10" | 3.25 |

## CLUTCH HEAD SCREWDRIVERS

Type G — Friction-Hold Type A

Note: Both types are the same size and price. Order by number.

| Type G No. | Type A No. | Size | Diameter Blade | Length Blade | List Price Each |
|---|---|---|---|---|---|
| G-3324 | — | 3/32" | 1/8" | 4" | $1.20 |
| G-183 | A-183 | 1/8" | 3/16" | 3" | 1.20 |
| G-5324 | A-5324 | 5/32" | 1/4" | 4" | 1.35 |
| G-3164 | A-3164 | 3/16" | 1/4" | 4" | 1.35 |
| G-146 | A-146 | 1/4" | 5/16" | 6" | 1.75 |
| G-5166 | A-5166 | 5/16" | 3/8" | 6" | 2.15 |

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World Radio History

# XCELITE QUALITY TOOLS

***Preferred by the EXPERTS***

## NUTDRIVERS (With Color-Coded Handles)

### REGULAR

**6" Overall Length**

| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| 6 | Black | 3/16" | 1.10 |
| 7 | Brown | 7/32" | 1.10 |
| 8 | Red | 1/4" | 1.10 |
| 9 | Orange | 9/32" | 1.10 |
| 10 | Amber | 5/16" | 1.10 |
| 11 | Green | 11/32 | 1.10 |
| 12 | Blue | 3/8" | 1.10 |
| 14 | Brown | 7/16 | 1.40 |
| 16 | Red | 1/2" | 1.40 |

**9" Overall Length**

| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| A-6 | Black | 3/16" | $1.25 |
| A-7 | Brown | 7/32" | 1.25 |
| A-8 | Red | 1/4" | 1.25 |
| A-9 | Orange | 9/32" | 1.25 |
| A-10 | Amber | 5/16" | 1.25 |
| A-11 | Green | 11/32" | 1.25 |
| A-12 | Blue | 3/8" | 1.25 |

### HOLLOW SHAFT

| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| HS-8 | Red | 1/4" | $1.35 |
| HS-10 | Amber | 5/16" | 1.35 |
| HS-11 | Green | 11/32" | 1.35 |
| HS-12 | Blue | 3/8" | 1.35 |
| HS-14 | Brown | 7/16" | 1.55 |
| HS-16 | Red | 1/2" | 1.60 |
| HS-18 | Orange | 9/16" | 1.65 |
| HS-20 | Amber | 5/8" | 1.90 |

### EXTRA LONG HOLLOW SHAFT

| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| AHS-14 | Brown | 7/16" | $1.80 |
| AHS-16 | Red | 1/2" | 1.85 |
| AHS-18 | Orange | 9/16" | 1.90 |
| AHS-20 | Amber | 5/8" | 2.15 |

### STUBBY NUTDRIVERS

**3¼" Overall Length**

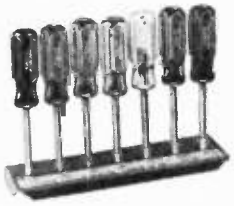
| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| S-8 | Red | 1/4" | $ .90 |
| S-10 | Amber | 5/16" | .90 |
| S-12 | Blue | 3/8" | .90 |

### "You Wear 'Em!" Handy, Pocket-Clip NUTDRIVERS

| No. | Handle Color | Hex Opening | List |
|---|---|---|---|
| P-3 | Amber | 3/32" | $ .75 |
| P-4 | Red | 1/8" | .75 |
| P-5 | Amber | 5/32" | .75 |
| P-8 | Red | 1/4" | .75 |
| P-10 | Amber | 5/16" | .75 |
| P-12 | Blue | 3/8" | .75 |

ALSO—ask about Xcelite Regular and Phillips Pocket Screwdrivers!

## NUT DRIVER SETS

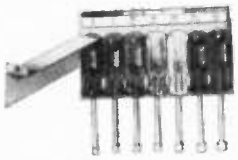


**No. 17 SET**

NON-TIPPING BENCH RACK OF STURDY STEEL. Contains Nos. 6, 7, 8, 9, 10, 11 and 12 XCELITE Nutdrivers with convenient color-coded handles (size-color table above, left).

**No. 17** — Polished Finish ..... **$8.25** list

**No. 17C** — Chrome-Plated Blades ..... **$9.15** list



**No. 127 SET**

YOU CAN LOCK 'EM UP! This steel wall set with red wrinkle finish comes with Nos. 6, 7, 8, 9, 10, 11 and 12 XCELITE Nutdrivers with color-coded handles.

**No. 127** — Polished Finish ..... **$8.90** list

**No. 127C** — Chrome-Plated Blades ..... **$9.65** list

**No. 137 SET**

THEY'RE ALL HANDY — Your most-used Xcelite nutdrivers! Sturdy metal bench set contains Nos. 6, 8, 10, 11, 12, HS-16 and HS-18.

**No. 137** — Polished Finish ..... **$10.25** list

**No. 137C** — Chrome-Plated Blades ..... **$11.25** list

## ADJUSTABLE WRENCHES

Everything about these XCELITE wrenches is designed from the mechanic's point of view! Extra-wide bearing surface of movable jaws gives better grip. The thin pattern helps you get into close quarters. The adjustment knurl turns EASILY. And it's STRONG, because it's drop forged from chrome alloy steel. Ideal for securing antenna mounts and 1001 other jobs. Order your sizes by number. All in gleaming chrome plated finish.

| No. | Size | List |
|---|---|---|
| 44C | 4" | $2.35 |
| 46C | 6" | 2.40 |
| 48C | 8" | 2.75 |
| 40-10C | 10" | 3.55 |
| 40-12C | 12" | 5.15 |

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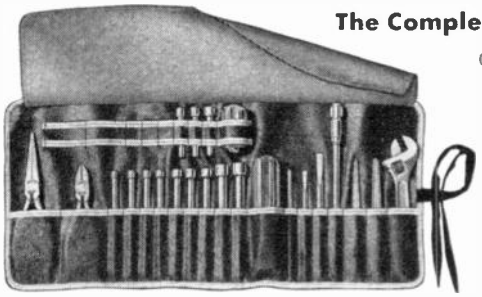
# XCELITE QUALITY TOOLS

***Preferred by the* EXPERTS**

## KITS and "99" PARTS

### NEW SERVICE MASTER
### The Complete Serviceman's Kit!



Contains: No. 52C Long Nose Pliers, No. 55C Side Cutter, Stubby 99-3 Handle with three Nutdrivers (1/4", 3/16" and 3/8"), No. 46C Chrome-Plated Adjustable Wrench, Regular 99-1 Handle with nine Nutdrivers, one Phillips and two Regular Screwdrivers, 99-X10 Extension Shaft and two Chrome-Plated SUPEREAMERS.

**No. 99 SM** **$33.50 list**
**Kit only**
**(No. 99 SMK) $ 2.95 list**

**No. 99 JR ROLL KIT**

Contains: No. 99-6, -7, -8, -9, -10, -11, -12 Nutdrivers; No. 99-811, -812 (Slotted and No. 99-821, -822 (Phillips) Screwdriver Blades; No. 99-2 Handle.

**No. 99 JR** . . . . **$11.75 list**
**Kit only**
**(No. 99 KJR)** ..... **$ 1.50 list**

**No. 99 PR ROLL KIT**

Contains: No. 99-6, -7, -8, -9, -10, -11, -12, -14, -16 Nutdrivers; No. 99-81 (Slotted) and -82 (Phillips) Reversible Screwdriver Blades; No. 99-1 Handle (Regular).

**No. 99 PR** **$13.65 list**
**Kit only**
**(No. 99 K)** . **$ 1.50 list**

XCELITE Now Offers You the Most Complete selection of quality, quick-change tools available to make the serviceman's job easier. They're yours in any combination you want: the three roll kits shown — or in "custom" kits your distributor can makeup immediately from his replacement stock.

ALL BLADES Fit the No. 99-1 Regular Handle, while all single-end blades fit the No. 99-2 Junior and 99-3 Stubby Handles.

THE NEW No. 99-X10 EXTENSION SHAFT snaps into all "99" Handles — adds a 6" reach to all single-end blades for those "hard-to-reach" jobs. It's one of the most popular additions to the "99" family!

NEW CHROME-PLATED REAMERS . . . Added to the rust-proof, clean-cutting No. 99-38 Detachable Reamer, is the No. 99-39. This 1/4"—1/2" "Reamer with the New Twist" has a .190 shank hole for T-Handle Leverage when you insert a 3/16" round screwdriver blade — either with the Stubby Handle for extra convenience, or the Regular Handle for extra torque on the tough jobs.

ASK YOUR DISTRIBUTOR for Your Choice of the "99" Kits, Handles or Interchangeable Tools Shown on This Page.

### SERIES "99" TOOLS

| | | LIST |
|---|---|---|
| No. 99-1 | Handle (Regular) | $1.15 |
| No. 99-2 | Handle (Junior) | $1.00 |
| No. 99-3 | Handle (Stubby) | $ .90 |
| No. 99-6 | 3/16" Nut Driver | $ .85 |
| No. 99-7 | 7/32" Nut Driver | $ .85 |
| No. 99-8 | 1/4" Nut Driver | $ .85 |
| No. 99-9 | 9/32" Nut Driver | $ .85 |
| No. 99-10 | 5/16" Nut Driver | $ .85 |
| No. 99-11 | 11/32" Nut Driver | $ .85 |
| No. 99-12 | 3/8" Nut Driver | $ .85 |
| No. 99-14 | 7/16" Nut Driver | $1.15 |
| Nc. 99-16 | 1/2" Nut Driver | $1.15 |
| No. 99-81 | 3/16" & 9/32" Slotted, Reversible | $1.40 |
| No. 99-82 | #1 & #2 Phillips, Reversible | $1.40 |
| No. 99-83 | 3/16" & 9/32" Frearson, Reversible | $1.40 |
| No. 99-84 | 3/16" Clutch "G," Reversible | $1.40 |
| No. 99-811 | 3/16" Slotted | $ .85 |
| No. 99-812 | 9/32" Slotted | $ .85 |
| No. 99-821 | #1 Phillips | $ .85 |
| No. 99-822 | #2 Phillips | $ .85 |
| No. 99-38 | Reamer (1/8"-3/8") | $2.05 |
| No. 99-39 | Reamer (1/4"-1/2") | $2.60 |
| No. 99X10 | Extension | $1.45 |

**Stubby Nut Drivers**

| No. 99-S8 | No. 99-S10 | No. 99-S12 |
|---|---|---|
| List $ .75 | List $ .75 | List $ .75 |

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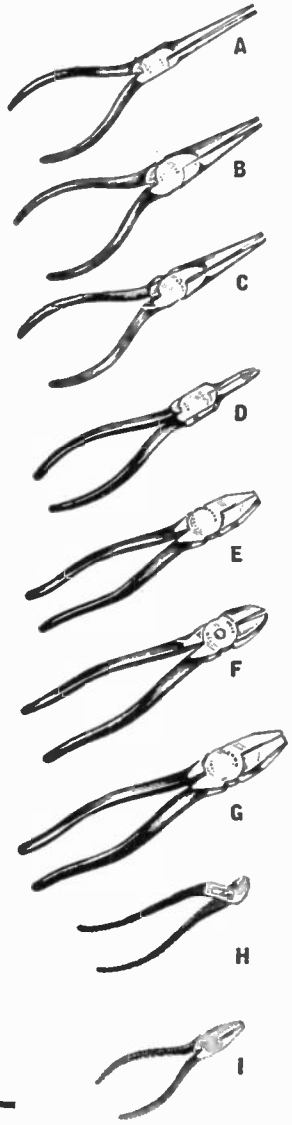
# XCELITE QUALITY TOOLS

***Preferred by the EXPERTS***

## PLIERS FOR EVERY JOB
### DROP FORGED OF HIGH GRADE TOOL STEEL




**(Fig. A)—No. 56 6-in. Needle Nose Plier**—Long slim jaws permit entry of this plier where a regular long nose plier won't work. List Price ..... $3.10
**No. 56C**—Chrome plated ..... $3.60

**(Fig. B)—No. 52 Long Nose Plier (Without Side Cutters)**—Long perfectly matching tips are ideal for gripping and twisting in awkward places. List Price ..... $2.65
**No. 52C**—Chrome plated ..... $3.35

**(Fig. C)—No. 51 Long Nose Plier (With Side Cutters)**—The same rugged strength and long reach as No. 52 Long Nose Plier above plus side cutters. List Price ..... $3.40
**No. 51C**—Chrome plated ..... $4.15

**(Fig. D)—No. 58 Radio and TV Plier**—Designed for radio and TV Servicemen. Extreme tip for gripping with sharp cutting edges ¼ in. back from tip. Invaluable in many applications. List Price ..... $4.10
**No. 58C**—Chrome plated ..... $4.85

**(Fig. E)—No. 60 6-in. Side Cutting Plier**—This plier has the "just right" size required for most side cutting operations. Serrated upper and lower jaws for gripping and hand honed cutting edges. List Price ..... $3.05
**No. 60C**—Chrome plated ..... $3.65

**(Fig. F)—No. 67 7-in. Diagonal Plier**—A rugged plier with all the leverage required for even the heaviest applications. Hand honed cutting edges stand up under tough cutting conditions. List Price ..... $3.75
**No. 67C**—Chrome plated ..... $4.35

**(Fig. G)—No. 68 8-in. Side Cutting Plier**—The big brother to No. 60 above. Designed for the man-sized big job where heavy grip and leverage is needed. Ideal for cutting heavy wire. List Price ..... $3.85
**No. 68C**—Chrome plated ..... $4.55

**(Fig. H)—No. 50 5-in. Ignition Plier**—Narrow head. Three slip joint adjustments. List Price ..... $1.70
**No. 50C**—Chrome plated ..... $1.85

**(Fig. I)—No. 40 Midget 4" Side Cutting Plier**—with serrated jaws and hand-honed blades. List Price ..... $2.80
**No. 40C**—Chrome plated ..... $3.50

**(Fig. J)—No. 54 Midget 4-in. Diagonal Plier**—the ideal plier for close quarter work. For servicemen, electricians and hobbyists. List Price ..... $3.10
**No. 54C**—Chrome plated ..... $3.60

**(Fig. K)—No. 62 Transverse Cutting Plier**—for flush cut-off—Radio and TV Printed Circuits and Miniature Sets. List Price ..... $4.15
**No. 62C** ..... $4.65

**(Fig. L)—No. 55 5-in. Diagonal Plier**—Ideal for most cutting needs. Hand honed cutting edges cut through medium wire with ease. List Price ..... $3.10
**No. 55C**—Chrome plated ..... $3.60

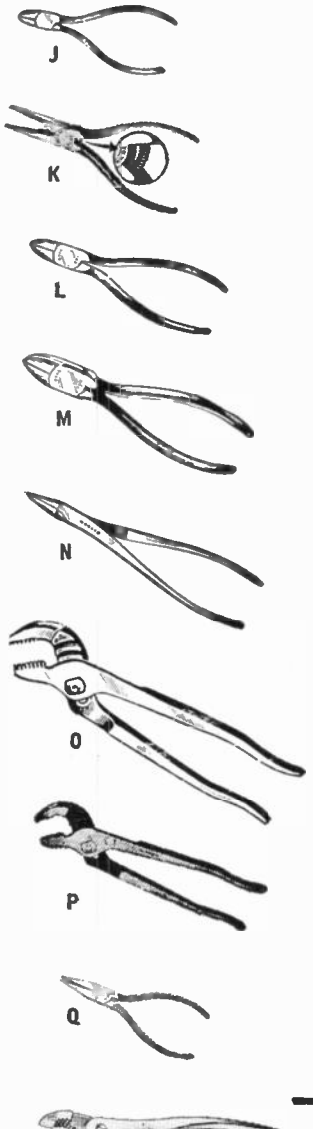
**(Fig. M)—No. 66 6-in. Diagonal Plier**—An all purpose plier heavier than No. 55 above. Small enough for most jobs, but it has a grip for the tough ones. List Price ..... $3.35
**No. 66C**—Chrome plated ..... $3.95

**(Fig. N)—No. 59 Chain Nose Electricians Plier**—Long reach and high leverage are combined. Slim enough to go into a small space, rugged enough to stand the pressure for tough electrical jobs. List Price ..... $3.25
**No. 59C**—Chrome plated ..... $3.85

**(Fig. O)—No. 63 10-in. Utility Plier**—Forged ribbed lock design for strength plus high leverage. Serrated jaws. List Price ..... $3.15
**No. 63C**—Chrome plated ..... $3.95

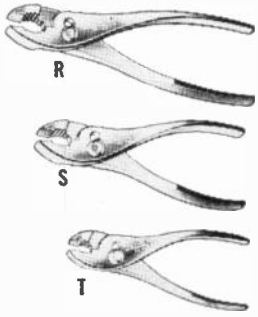
**(Fig. P)—No. 53 6-in. Utility Plier**—A husky, all-purpose plier with forged rib-lock design and serrated jaws. List Price ..... $2.30
**No. 53C**—Chrome plated ..... $2.50

**(Fig. Q)—No. 41—Midget 4" Long-Nose Plier**—without side cutter. Perfectly matched tips for gripping and twisting where space is short. List Price ..... $2.40
**No. 41C**—Chrome plated ..... $3.10




## NEW COMBINATION PLIERS . . . . . .

**(Fig. R)—No. 78C. 8-in. Combination Plier**—A high quality slip joint combination plier. Sturdy construction—ideal for general use. Polished Chrome Plate. List Price ..... $1.95
**(Fig. S)—No. 76S. 6-in. Combination Plier**—Satin Finish Plated. List Price ..... $ .85
**No. 76C**—Polished Chrome Plate. List Price ..... $1.50
**(Fig. T)—No. 75S. 5-in. Combination Plier**—Satin Finish Plated. List Price ..... $ .85
**No. 75C**—Polished Chrome Plate. List Price ..... $1.50

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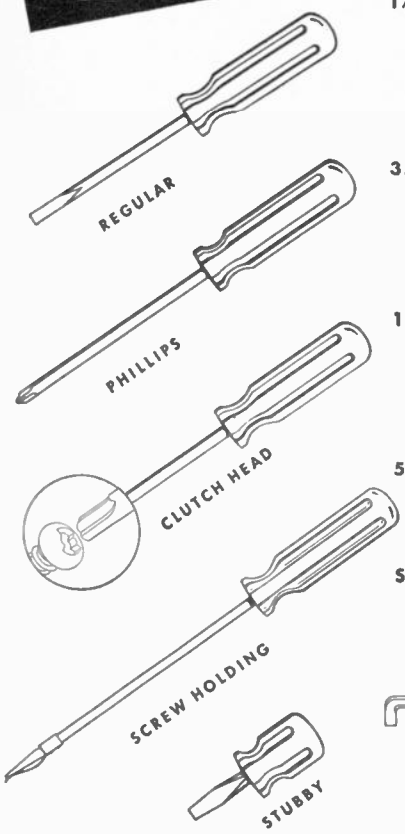
# VACO BREAK-PROOF SHOCK-PROOF Screw Drivers

- **Chrome Vanadium Steel Blades**
- **Fire-Safe Amberyl Shock and Break-Proof Handles**

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES INC.




### 1/8" Cabinet Style—Round Blades

| Stock Number | Blade Diameter and Length |
|---|---|
| A 216-4 | 1/8"x4" |
| A 216-6 | 1/8"x6" |
| A 216-8 | 1/8"x8" |
| A 216-10 | 1/8"x10" |

### 3/16" Cabinet Style—Round Blades

| | |
|---|---|
| A 316-4 | 3/16"x4" |
| A 316-5 | 3/16"x5" |
| A 316-6 | 3/16"x6" |
| A 316-8 | 3/16"x8" |
| A 316-10 | 3/16"x10" |

### 1/4" General Service—Round Blades

| | |
|---|---|
| A 416-4 | 1/4"x4" |
| A 416-5 | 1/4"x5" |
| A 416-6 | 1/4"x6" |
| A 416-8 | 1/4"x8" |
| A 416-10 | 1/4"x10" |

### 5/16" Heavy Duty—Round Blades

| | |
|---|---|
| A 516-6 | 5/16"x6" |
| A 516-8 | 5/16"x8" |
| A 516-10 | 5/16"x10" |

### Stubbys

| | |
|---|---|
| A 132 | 1/4"x1-1/4" |
| A 135 | 5/16"x1-3/4" |

### Phillips Drivers

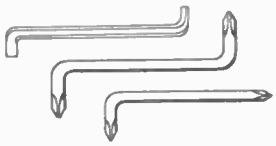
| Stock Number | Point No. | Blade Diam. and Length |
|---|---|---|
| P 01 | 0 | 1/8"x2-1/2" |
| P 1 | 1 | 3/16"x3" |
| P 2 | 2 | 1/4"x4" |
| P 3 | 3 | 5/16"x6" |
| P 5 (Stub) | 2 | 1/4"x1-3/4" |
| P 6 (Stub) | 1 | 3/16"x1-1/4" |
| P 12 (Pocket Clip) | 1 | 1/8"x2-1/2" |

### Clutch Head Drivers

| Stock Number | Bit Point Diameter and Blade Length |
|---|---|
| CH 43 | 1/8"x3" |
| CH 54 | 5/32"x4-1/4" |
| CH 64 | 3/16"x4-1/4" |
| CH 86 | 1/4"x6" |
| CH 106 | 5/16"x6" |
| **Stub Styles** | |
| CH 51 | 5/32"x1-1/2" |
| CH 61 | 3/16"x1-1/2" |

### Screw Holding Drivers

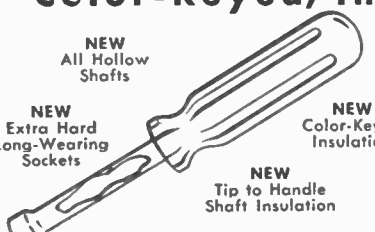
| Stock Number | Blade Diam. & Length |
|---|---|
| OK 23 | 1/8"x3" |
| OK 24 | 1/8"x4" |
| OK 26 | 1/8"x6" |
| OK 28 | 1/8"x8" |
| OK 34 | 3/16"x4" |
| OK 36 | 3/16"x6" |
| OK 38 | 3/16"x8" |



### Offset Screw Drivers

| Stock No. | Type | Blade |
|---|---|---|
| VO 1 | Regular | 5/32"x3" |
| VO 2 | Regular | 1/4"x4" |
| P 120 | Phillips | #1 point one end, #2 point other end |
| P 111 | Phillips | #1 point both ends |
| P 222 | Phillips | #2 point both ends |

## Color-Keyed, Insulated, Hollow Shaft NUT DRIVERS

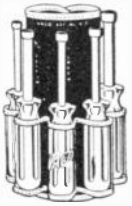



### Standard (3") Lengths

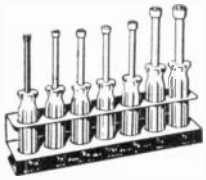
| Stock No. | Hex Size | Overall Length | Color Key |
|---|---|---|---|
| N 6-3 | 3/16" | 6 5/8" | Black |
| N 8-3 | 1/4" | 6 5/8" | Red |
| N 10-3 | 5/16" | 6 5/8" | Yellow |
| N 11-3 | 11/32" | 6 5/8" | Green |
| N 12-3 | 3/8" | 6 5/8" | Blue |
| N 14-3 | 7/16" | 7" | Brown |
| N 16-3 | 1/2" | 7" | Orange |

**ALSO AVAILABLE**

**Stubby 1 1/2" out of handle N 6-1 thru N 16-1. Long 5 1/2" out of handle N 6-6 thru N 16-6. Extra Long 8 1/4" out of handle N 6-8 thru N 16-8.**



**K-7 Self-Standing Kit**
Includes 7 nut drivers (3" lengths) each in own holder marked for size and color.



**N-700 Bench Stand**
All metal for permanent attachment to bench or wall. 7 drivers.

### Hollow Shaft (Standard Line) Nut Drivers — No Insulation

| Stock No. | Hex Size | Overall Length |
|---|---|---|
| HS 5 | 5/32" | 6 3/4" |
| HS 6 | 3/16" | 6 3/4" |
| HS 7 | 7/32" | 6 3/4" |
| HS 8 | 1/4" | 6 3/4" |
| HS 9 | 9/32" | 6 3/4" |
| HS 10 | 5/16" | 6 3/4" |
| HS 11 | 11/32" | 6 3/4" |
| HS 12 | 3/8" | 6 3/4" |
| HS 14 | 7/16" | 6 7/8" |
| HS 16 | 1/2" | 6 7/8" |
| HS 18 | 9/16" | 8" |
| HS 20 | 5/8" | 8" |

**Stubby Sizes**

| | | |
|---|---|---|
| HSS 8 | 1/4" | 3 1/4" |
| HSS 10 | 5/16" | 3 1/4" |
| HSS 12 | 3/8" | 3 1/4" |

**HS-500 Bench Stand**
All metal for attaching to bench or wall. 5 drivers.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### Beryllium Copper Drivers

Round Blade, Non-Spark, Non-Magnetic

| Stock Number | Blade Diameter and Length |
|---|---|
| VB 26 | 1/8"x6" |
| VB 210 | 1/8"x10" |
| VB 38 | 3/16"x8" |
| VB 46 | 1/4"x6" |
| VB 48 | 1/4"x8" |

### Insulated Blade Screw Drivers

| | |
|---|---|
| VR 241 | 1/8 x4" |
| VR 261 | 1/8"x6" |
| VR 281 | 1/8' x8" |
| VR 361 | 3/16"x6" |
| VR 381 | 3/16"x8" |

### Non-Metallic Radio and TV Aligners

Bone Fiber Blade

| | |
|---|---|
| AT 55 | 5/32"x5" |
| AT 510 | 5/32"x10" |

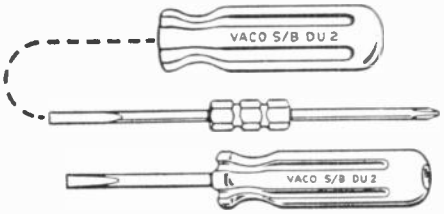
### Non-Magnetic *Metal Tip* Radio and TV Aligner

| Stock Number | Body Size | Bit Diameter | Capacitance |
|---|---|---|---|
| AT 45 | 3/8"x5-1/2 | 3/16 | Slight |

### Neon Light Screw Drivers

| Stock Number | Blade Diameter and Length |
|---|---|
| AN 44 | 1/4"x4" |
| AN 2 (Pocket Clip) | 1/8' x3" |

### Duplex "*Reversible*" Drivers




| Stock Number | Blade Size and Type |
|---|---|
| DU 2 | No. 1 Phillips, One End<br>3/16" Regular, Other End |
| DUH 4 | No. 2 Phillips, One End<br>1/4" Regular, Other End |
| DUP 12 | No. 1 Phillips, One End<br>No. 2 Phillips, Other End |

## VACO RADIO and TV KITS

ZBX 51

**ZBX 51 Screw Driver Kit**

A fine, all-purpose kit of interchangeable regular and Phillips blades that fit same handle. 6" extension makes 10 combinations possible. In durable leatherette bag.

ZSX 61

**ZSX 61 Nut Driver Kit**

A most versatile and complete hexagon wrench kit for radio, television or any other work requiring speedy nut setting. All sockets are super hard for maximum utility and long life. 6" extension makes 10 blade lengths possible. In handy leatherette tool roll.

ZA 70

**ZA 70 Allen Driver Kit**

This useful kit consists of 6 hexagon drivers, handle and bag. Will service hexagon recessed opening screws Nos. 4, 5, 6, 8, 10, 1/4", 5/16" and 3/8". Each bit is extra long and may ground back as wear occurs.

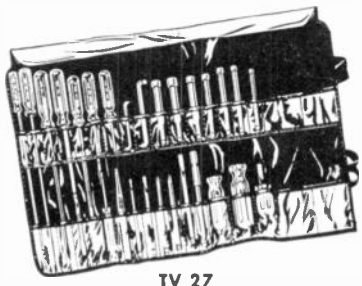
ZU 75

**ZU 75 Universal Driver Kit**

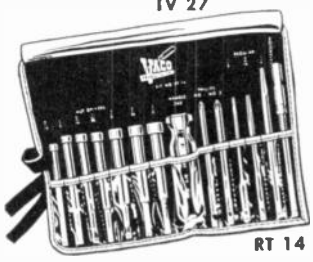
Here is a kit that is universal in its applications since it will serve all three types of the most popular screws in use today—regular slotted, Phillips, and clutch head. All popular size blades are included—3/16" and 1/4" for regular slotted screws; No. 1 and No. 2 Phillips; 5/32" x 3/16" clutch head.

**27-Piece TV and Radio Kit**

NO. TV 27 KIT—Contains practically every hand tool necessary for television and radio work, *plus* extra pockets for pliers and other personal tools according to individual preferences. Contains one each of the following: ZH 1 medium duty handle; ZH 2 heavy duty handle; ZX 56 extension; A 132 1/4" stub; 1/4", 3/16", 1/8" regular bits; No. 1 Phillips and No. 2 Phillips bits; 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" hex. wrenches; AT 45 metal tip aligner; A 116-2 3/32" pocket clip; P 01 #0 Phillips thin blade; OK 24 1/8" screw holding; VR 261 1/8" insulated blade; OK 38 3/16" screw holding; VR 381 3/16" insulated blade; VB 210 1/8" x 10" non-magnetic adjuster; AT 510 5/32" fiber aligner; VO 2 medium offset; VO 1 small offset.



TV 27



RT 14

**14-Piece TV and Radio Kit**

NO. RT 14 KIT—Here's a handy, convenient kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, plus ZH 2 heavy duty handle and famous Vaco 6" extension which doubles the usefulness of each driver. In durable leatherette tool roll.

**VACO PRODUCTS CO., Chicago 11, Illinois**

In Canada: Vaco-Lynn Products (of Canada) Ltd.

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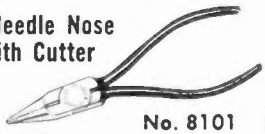
World Radio History

# NEW VACO Individually Tested PLIERS

- **Milled jaws for sure grip**
- **Hand honed side cutters**
- **Fitted grip handles**
- **Unconditional factory guarantee**

## 24 Popular Styles from Which to Choose

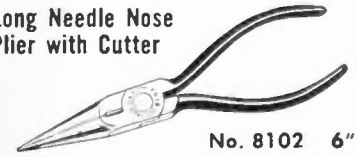
### Short Needle Nose Plier with Cutter



**No. 8101 5"**

This plier is intended for general use where a short nose is desired for getting into difficult places.

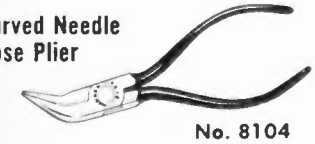
### Long Needle Nose Plier with Cutter



**No. 8102 6"**
**No. 8103 7"**

An exceptional handy and useful plier, well proportioned with long thin nose, designed for reaching into tight places.

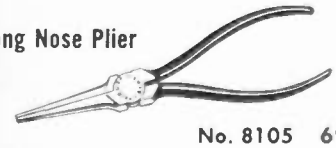
### Curved Needle Nose Plier



**No. 8104 6"**

A long, bent, thin nose plier. The angle is arranged to give full clearance and prevent skinning of knuckles.

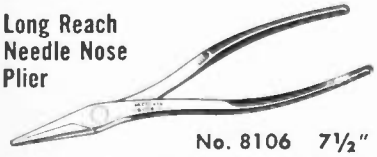
### Long Nose Plier



**No. 8105 6"**

Newly designed long nose plier suitable for working in confined places.

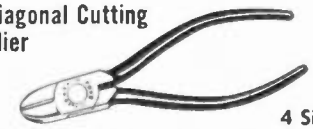
### Long Reach Needle Nose Plier



**No. 8106 7½"**

Has long, thin, sure-grip jaws to reach into places where fingers and ordinary pliers will not go.

### Diagonal Cutting Plier

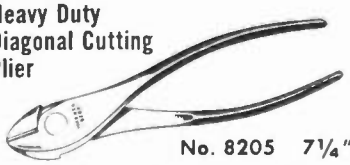


**4 Sizes**

**No. 8201 4½"** **No. 8203 6"**
**No. 8202 5"** **No. 8204 7½"**

Specially designed for electricians, radio and TV service men and automotive mechanics. Powerful jaws cut close and quickly.

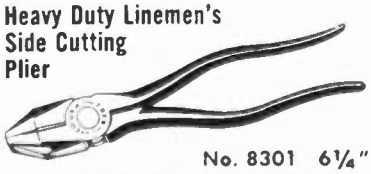
### Heavy Duty Diagonal Cutting Plier



**No. 8205 7¼"**

One of the most powerful diagonal pliers made. Long handles give a 20 to 1 ratio of leverage to cut with minimum effort.

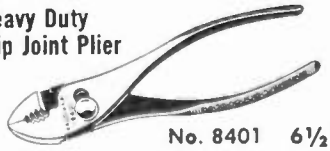
### Heavy Duty Linemen's Side Cutting Plier



**No. 8301 6¼"**
**No. 8302 7½"** **No. 8303 8¾"**

One of the most popular pliers in use today. Has extra powerful leverage and reinforced cutting knives.

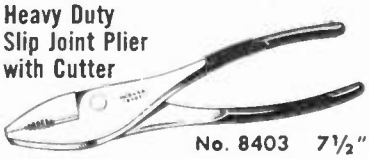
### Heavy Duty Slip Joint Plier



**No. 8401 6½"**
**No. 8402 8"**

A top quality slip joint combination plier. Has all the quality features of higher priced cutting pliers at modest cost.

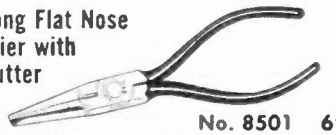
### Heavy Duty Slip Joint Plier with Cutter



**No. 8403 7½"**

This plier incorporates the best features of a regular side cutter with the versatility of a slip joint combination plier.

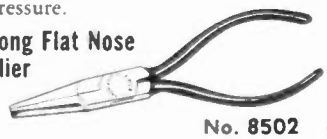
### Long Flat Nose Plier with Cutter



**No. 8501 6"**

Extra long, wide, flat nose makes this an especially useful tool. Plier is tempered so jaw will not spring under pressure.

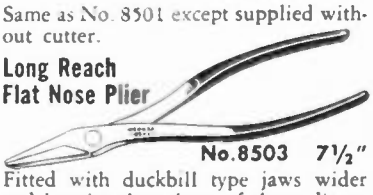
### Long Flat Nose Plier



**No. 8502 6"**

Same as No. 8501 except supplied without cutter.

### Long Reach Flat Nose Plier



**No. 8503 7½"**

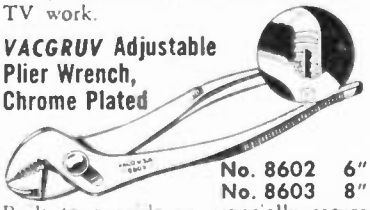
Fitted with duckbill type jaws wider and heavier than those of the ordinary flat nose for firmer gripping service.

### *VACGRUV* Adjustable Ignition Plier Wrench, Chrome Plated

**No. 8601 5"**

Especially designed 3-position jaws accommodate small to medium large nuts, bolts, etc. Fine for delicate radio and TV work.

### *VACGRUV* Adjustable Plier Wrench, Chrome Plated



**No. 8602 6"**
**No. 8603 8"**

Built to provide an especially secure grip on medium to large bolts, nuts, pipes, etc. 3-position jaws open to—⅝", ¾", respectively.

### *VACGRUV* Adjustable Plier Wrench, Chrome Plated

**No. 8604 10"**

A general purpose, heavy duty tool with 5-position jaws that open to 1⅛". Doubles as pipe wrench, gripping plier and hand vise.

**VACO PRODUCTS CO., Chicago 11, Illinois**
**In Canada: Vaco-Lynn Products (of Canada) Ltd.**



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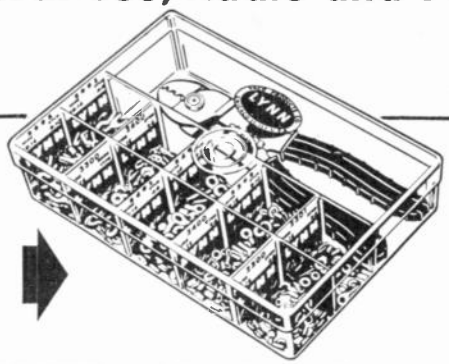
World Radio History

# LYNN *Lightning* Solderless Terminals by VACO

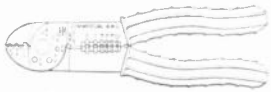
## Wide Assortment of Solderless Terminals for General Use, Radio and TV



### No. 2195 Service Kit

A GENERAL PURPOSE ELECTRICAL, RADIO AND TV KIT containing everything needed for making clean, fast, trouble-free electrical connections. No soldering! No fuss or muss! Kit includes . . . No. 1900 Crimping Tool and Terminals Nos. 2300, 2301, 2302, 2400, 2401, 2402, 2600, 2601, 2602, and 3300 . . . all in a clear plastic box with tight-fitting lid. Individual bins marked with terminal stock number cards.

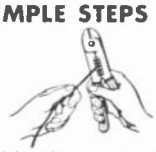
### No. 1902 BOLT CUTTING and CRIMPING TOOL



New type VACO Crimcut Tool has threaded holes for screwing in and shearing 4-40, 6-32, 8-32, 10-24 and 10-32 bolts or machine screws . . . plus crimping die, wire cutters and wire-stripping die. Shock-proof, slip-proof plastic handle grips. For No. 22 to No. 10 gauge wire.

### Only 3 SIMPLE STEPS and Terminal Is On

**1.** Cut Wire. Use the wire cutter built into the crimping tool to cut wire proper length.



**2.** Strip Wire. Insert end of wire into proper wire stripping opening, close jaws, rotate tool one-half turn, then pull insulation off wire.

**3.** Crimp Terminal. Insert stripped portion of wire into terminal barrel, place barrel in proper crimping nest with seam directly opposite crimping tooth and close tool like pliers.

**Extra long barrel on terminal provides easy crimp and perfect contact. Only ONE crimp necessary. Barrel *always* remains round.**

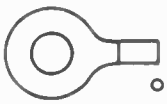
## Quick Reference Chart for Easy Terminal Identification

### RING TONGUE TERMINALS

No. 2300
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

No. 2301
Hole Dia. — 5/32
Stud Size — 4 - 6
Wire Size — 22 - 16

No. 2302
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 22 - 16



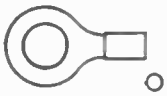
No. 2303
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 22 - 16

No. 2304
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 22 - 16

No. 2400
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 16 - 14

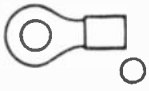
No. 2401
Hole Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 16 - 14

No. 2402
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 16 - 14

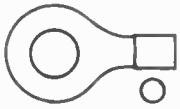


No. 2403
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 16 - 14

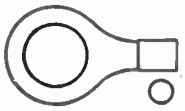
No. 2404
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 16 - 14



No. 2502
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10



No. 2503
Hole Dia. — 17/64"
Stud Size — 12 - 1/4
Wire Size — 12 - 10



No. 2504
Hole Dia. — 13/32"
Stud Size — 3/8
Wire Size — 12 - 10

### SPADE TONGUE TERMINALS

No. 2600
Slot Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

No. 2601
Slot Dia. — 5/32
Stud Size — 4 - 6
Wire Size — 16 - 14

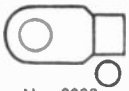
No. 2602
Slot Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 16 - 14

No. 2702
Slot Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10

### FLAG TYPE TERMINALS

No. 2802
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 22 - 16

No. 2902
Hole Dia. — 13/64
Stud Size — 8 - 10
Wire Size — 16 - 14



No. 3002
Hole Dia. — 13/64"
Stud Size — 8 - 10
Wire Size — 12 - 10

### HOOK TYPE TERMINAL

No. 3300
Slot Dia. — 5/32"
Stud Size — 4 - 6
Wire Size — 22 - 16

### BUTT CONNECTORS

No. 3101
Wire Size — 22 - 16

No. 3102
Wire Size — 16 - 14

No. 3103
Wire Size — 12 - 10

### CONVENIENT $ PAK

All Lynn Lightning Terminals are available in convenient $ Paks. When any of the "bins" of the service kit are empty, user merely purchases a refill just right for replacing stock. Refill Paks are well marked for trouble-free handling, and designed with "window" for easy identification.

### BULK PAK

**Also available in bulk—packed 100 pieces to a pak, 4 paks to master carton of 500.**

**VACO PRODUCTS CO. • Chicago 11, Illinois, U.S.A.**

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World Radio History

## NUT-DRIVERS
### NEW DESIGN

Actual shape of formed head

**EXTRA THIN HEADS** — **COLOR CODED HANDLES** — **HOLLOW OR REGULAR**

SHOCKPROOF HANDLES — DURABLE STEEL BLADES

### SUPREME REGULARS:

| Code | Size | List | Code | Size | List |
|---|---|---|---|---|---|
| DS-6 | 3/16 | $ .88 | DS-10 | 5/16 | .88 |
| DS-7 | 7/32 | .88 | DS-11 | 11/32 | .88 |
| DS-8 | 1/4 | .88 | DS-12 | 3/8 | .88 |
| DS-9 | 9/32 | .88 | DS-14 | 7/16 | 1.20 |
| | | | DS-16 | 1/2 | 1.20 |
| **Stubbys** | | | | | |
| DS-8S | 1/4 | .88 | DS-12S | 3/8 | .88 |
| DS-10S | 5/16 | .88 | | | |

### SUPREME HOLLOWS:

| | | | | | |
|---|---|---|---|---|---|
| NDS-6 | 3/16 | $1.20 | NDS-10 | 5/16 | 1.20 |
| NDS-7 | 7/32 | 1.20 | NDS-11 | 11/32 | 1.20 |
| NDS-8 | 1/4 | 1.20 | NDS-12 | 3/8 | 1.20 |
| NDS-9 | 9/32 | 1.20 | | | |

### SCREWDRIVERS

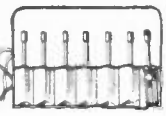
**DURA-TIPS SHOCKPROOF UNBREAKABLE HANDLES** — **DELUXE ALLOY FULL POLISHED ROUND BLADE**

| Code | Size Blade | List | Code | Size Blade | List |
|---|---|---|---|---|---|
| L-182 | 1/8x2 | .36 | L-141 | 1/4x1 | .70 |
| L-183 | 1/8x3 | .42 | L-144 | 1/4x4 | .92 |
| L-3164 | 3/16x4 | .70 | L-146 | 1/4x6 | 1.00 |
| L-3166 | 3/16x6 | .80 | L-148 | 1/4x8 | 1.10 |
| L-3168 | 3/16x8 | .88 | | **Recess** | |
| L-31610 | 3/16x10 | .95 | R-1 | 3/16 | .86 |
| | | | R-2 | 1/4 | .96 |
| | | | R-3 | 5/16 | 1.24 |

### GENERAL PURPOSE 6"

**PL-1106**
List **$2.40**

### NUT DRIVER KITS



7 piece hollow set in plastic kit, #6-#12.
KNDS-7 .... List $9.65

7 piece regular set in plastic kit, #6-#12.
KDS-7 ..... List $7.40

### POCKET SIZE NUT DRIVERS

Supreme Head. .

MND-8—List .65 MND-10—List .65
MND-12—.65

### SUB-MINIATURE NUT DRIVERS

Precision made. Will fit smallest commercial nuts

| Code | Size | List | Code | Size | List |
|---|---|---|---|---|---|
| A10 | 5/16 | $1.50 | A14 | 5/32 | 1.50 |
| A11 | 3/32 | 1.50 | A15 | 3/16 | 1.50 |
| A12 | 7/64 | 1.50 | A16 | 1/4 | 1.50 |
| A13 | 1/8 | 1.50 | | | |

For kit of all seven sizes A10-7.....$9.95
Above tools are 2¾" overall. For 5 in. tool add L to code. Same price.

### PLIERS

All Handles Cushion Dipper Drop Forged Alloy Steel

Long Nose 6" Size
PL-606S With Cutter List $3.30
PL-606 Without Cutter List $2.70

### DIAGONALS

PL-205, 5" — List $2.80
PL-206, 6" — List 3.36

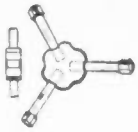
**ELECTRICIAN'S SIDE CUTTING**

PL-406, 6" — List $3.48
PL-408, 8" — List 4.72

**HEAVY DUTY 10"**

PL-1010
List $3.50

### ATOM NUT-DRIVER

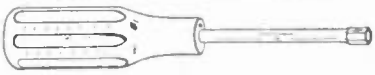


Popular set in one handy tool. Compact strong leverage

#8 (1/4) - #10 (5/16) - #12 (3/8)
**AM-1** List **$1.69**

### LARGE HANDLE NUT-DRIVERS

Supreme Design



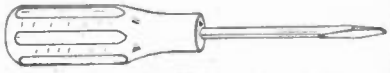
A line with extra large specially designed handles to eliminate hand fatigue and cramps.

| Code | Size | List | Code | Size | List |
|---|---|---|---|---|---|
| 6X | 3/16 | $1.50 | 10X | 5/16 | 1.50 |
| 7X | 7/32 | 1.50 | 11X | 11/32 | 1.50 |
| 8X | 1/4 | 1.50 | 12X | 3/8 | 1.50 |
| 9X | 9/32 | 1.50 | | | |

Handle size 1⅛"x4"

### LARGE HANDLE SCREWDRIVERS

Square Blades



Same as above only with alloy forged square screwdriver blade.

| Code | Size Blade | List |
|---|---|---|
| H3164X | 3/16x4 | $1.50 |
| H3166X | 3/16x6 | 1.55 |
| H3168X | 3/16x8 | 1.60 |
| H144X | 1/4x4 | 1.60 |
| H146X | 1/4x6 | 1.70 |
| H148X | 1/4x8 | 1.75 |
| H386X | 3/8x6 | 1.90 |

**SMALL NEEDLE NOSE WIRING**

PL-805, 5"—List $1.98

**SMALL UTILITY**

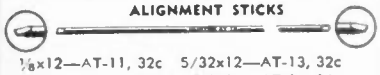
PL-705, 5"—List $1.98

**SMALL LAP JOINT**

PL-905, 5"—List $2.46

### ALIGNMENT TOOLS

**ALIGNMENT STICKS**



1/8x12—AT-11, 32c 5/32x12—AT-13, 32c
1/8x16—AT-12, 36c 5/32x16—AT-14, 36c



Thin tip for small can openings. Westinghouse and other sets. 6".
AT-17 ..... $ .45

Neutralizing Wrench 1/4"x5/16"
1/4"—AT-1, 32c 5/16"—AT-2, 32c



Combines the low capacitance desirable in alignment tools with metal tip screwdriver strength.

6" overall AT-19 30c

### I.F. ALIGNMENT SCREWDRIVERS

8½" long for No.6 studs, AT-4.....$ .80

Slot to fit No. 6 studs, AT-8.....$ .80



One end fits hex studs. Other screws for Zenith, Hoffman, Raytheon, etc.
5½" overall, AT-9 .....$ .40

AT-5 Stubby. This screwdriver is only 2", overall. Fits #6 studs.....$ .50
AT-10 I.F. Aligner, 2½" overall..... .50

Fits No. 6 and No. 9 Studs, Duo-Size.
AT-6 .....$ .76

### TV OSCILLATOR ALIGNMENT TOOLS

Durable fiberglass reinforced Folyester. More durable than fiber or plastic. AT-15....$1.25

A full 12" slim fully insulated Tuner Alignment Tool with replaceable tips.

AT-7 (Tool) $1.30 — AT-7R (Tip) $ .22

Handy dual-purpose tool. One end low capacitance metal tip . . . other is special tool for dressing wires, probe, etc. AT-3.....$ .50

**TOOLS SHOWN HERE ARE THE MOST POPULAR ELECTRONIC ITEMS OF THE HUNTER LINE . . . YOUR JOBBER DISTRIBUTING HUNTER TOOLS HAS AVAILABLE AMERICA'S MOST COMPLETE LINE.**

**HUNTER TOOLS • SANTA FE SPRINGS, CALIFORNIA**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## TENSION-TWEEZIE

Tweezie with permanent tension. Hold small wires while soldering — clamp-hold nuts, etc.

TT-1—Tweezie Only List $ .50
TT-2—Tweezie with Handle List .70

## HOT TUBE PULLER

New Tube Puller is easy to operate. Just clamp over the desired tube and pull up and out. Plastic coating on tip protects tubes.

D2 — 90° Angle List $2.38
D1 — Straight List 2.20

## AWL-PICK

SUPER TEMPERED STEEL
TENITE II HANDLE
RUGGED - TOUGH

AWL, List $ .70

## TV KIT

A ¼" Nut Driver Regular Screwdriver, Recess-Phillips Screwdriver in one Kit. Fits light and snug into your shirt pocket. Handles are Tenite II shock-proof. Blades are Alloy. OPENS ALL TV SETS.

EK List $1.98

## HEX DRIVERS

Screwdriver type hex wrenches easily reach these areas normally inaccessible with any other tool. Tenite handle.

| Code | Size | List |
|---|---|---|
| S050 | — .050 | $ .65 |
| S116 | — 1/16 | .65 |
| S564 | — 5/64 | .65 |
| S332 | — 3/32 | .75 |
| S18 | — 1/8 | .75 |

KS-5 — All of the above in kit — $3.95

## CIRCUITRACER

Three in one testing lab.
Test low voltage live circuits.
Tests high voltage live circuits.
A continuity tracer for dead circuits.

CTR — List $4.95

## PANAVISE

Any compound angle can be achieved with this versatile vise. Ideal for sanding, soldering, filing, buffing, drilling, glueing, etc.

Constructed of die cast zinc and aluminum. Height 6½", Width 5½", Jaw Width 2½", Opening 2".

PV — List $14.95
Positioner only — List $9.95

## SPLINE DRIVER SET

Contains one each #4, #6-4, #6-6, #8, #10 and #¼.

Same popular features of the Smitty.
S-6 — List $1.95

Set of 6 spline in plastic kit.
HS6S — List $ .65

Set of 6 spline and 6 hex in kit.
HXSP-12 — List $1.10

*Tools Designed For* ELECTRONIC *Industry*

HUNTER TOOLS

FOR COMPLETE LINE ASK FOR CATALOG G-58-59

## Tool Originators of The . . . "SLUG RETRIEVERS"

## MAGIC-TIP SCREWDRIVERS

Width at Point only — .160
Thickness at Point — .30

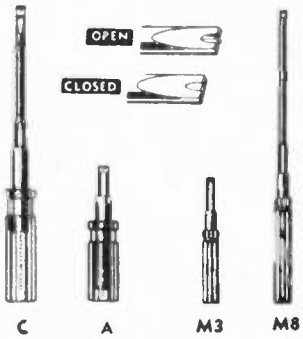
Designed especially as a tool to retrieve lost or floating tuning unit slugs, these long slim drivers have many other applications.

TV-12 — List $2.70 11 inch tool
TV-16 — List $3.25 15 inch tool
TV-20 — List $4.00 20 inch tool

## "CARTRIDGE SCREWDRIVER"

Miniature size makes it ideal for removing or starting the small screws used to hold the phonograph cartridges in place. Works on most all models.

E-3 List $2.05 Holds screws #00 thru #3. 2½" overall.




| Code | Overall Length | Width of Point | Thickness of Point | Slot Fits Screw | Diam. Handle | Price |
|---|---|---|---|---|---|---|
| E-3 | 2½" | ⅛" | .017 | #00 to #2 | 9/16" | $2.05 |
| E-4 | 4" | ⅛" | .017 | #00 to #2 | 9/16" | 2.05 |
| E-7 | 7" | ⅛" | .017 | #00 to #2 | 9/16" | 2.30 |
| M-3 | 3½" | 3/16" | .030 | #3 to #6 | 9/16" | 1.80 |
| M-5 | 5¼" | 3/16" | .030 | #3 to #6 | 9/16" | 2.00 |
| M-8 | 8¼" | 3/16" | .030 | #3 to #6 | 9/16" | 2.30 |
| M-12 | 11¼" | 3/16" | .030 | #3 to #6 | 9/16" | 2.65 |
| A | 4" | ¼" | .038 | #6 to #10 | ⅞" | 1.95 |
| B | 6¼" | ¼" | .040 | #7 to #10 | ⅞" | 2.30 |
| C | 7½" | ¼" | .040 | #7 to #10 | ⅞" | 2.50 |
| D | 11¼" | ¼" | .040 | #7 to #10 | ⅞" | 2.90 |

One tool starts the screw and drives it. To operate one merely places the tip of the Magic-Tip in the slot of the screw and pushes gently . . . the screw becomes firmly fastened to the blade—easy to start even in places inaccessible to the fingers. No bulky claws to get in the way because the mechanism is internal and fully automatic. Hardened steel locking pin, tough chromoly steel tip, plus sturdy OVER ALL construction assures long trouble-free operation.

## "SMITTY" The ORIGINAL

## FOLDING SOCKETHEAD WRENCH SETS

Sturdy set of hex keys in one durable handle give you the right size when you need it. Greater leverage — always handy. Replacement blades available.

P-6 — Small set .050-5/32" 6 Blades, List $1.55
P-5 — Medium Set 3/32"-7/32" 5 Blades, List $1.55

## "TRI-TAP"

## THREE POPULAR SIZE TAPS IN ONE TOOL

This tool cleans and cuts any of the three most popular threads. Tap is permanently set in plastic handle.

WK List $2.50

6/32, 8/32, 10/32

## "WIRE-STRIPPER"

The Hunter Strip-It Tool strips and cuts both stranded and solid wire. Tool features positive lock adjustment built into handle which enables the user to preset the Strip-It for any size wire from #10 to #20.

WS-1 List $ .98

HUNTER TOOLS • SANTA FE SPRINGS, CALIFORNIA

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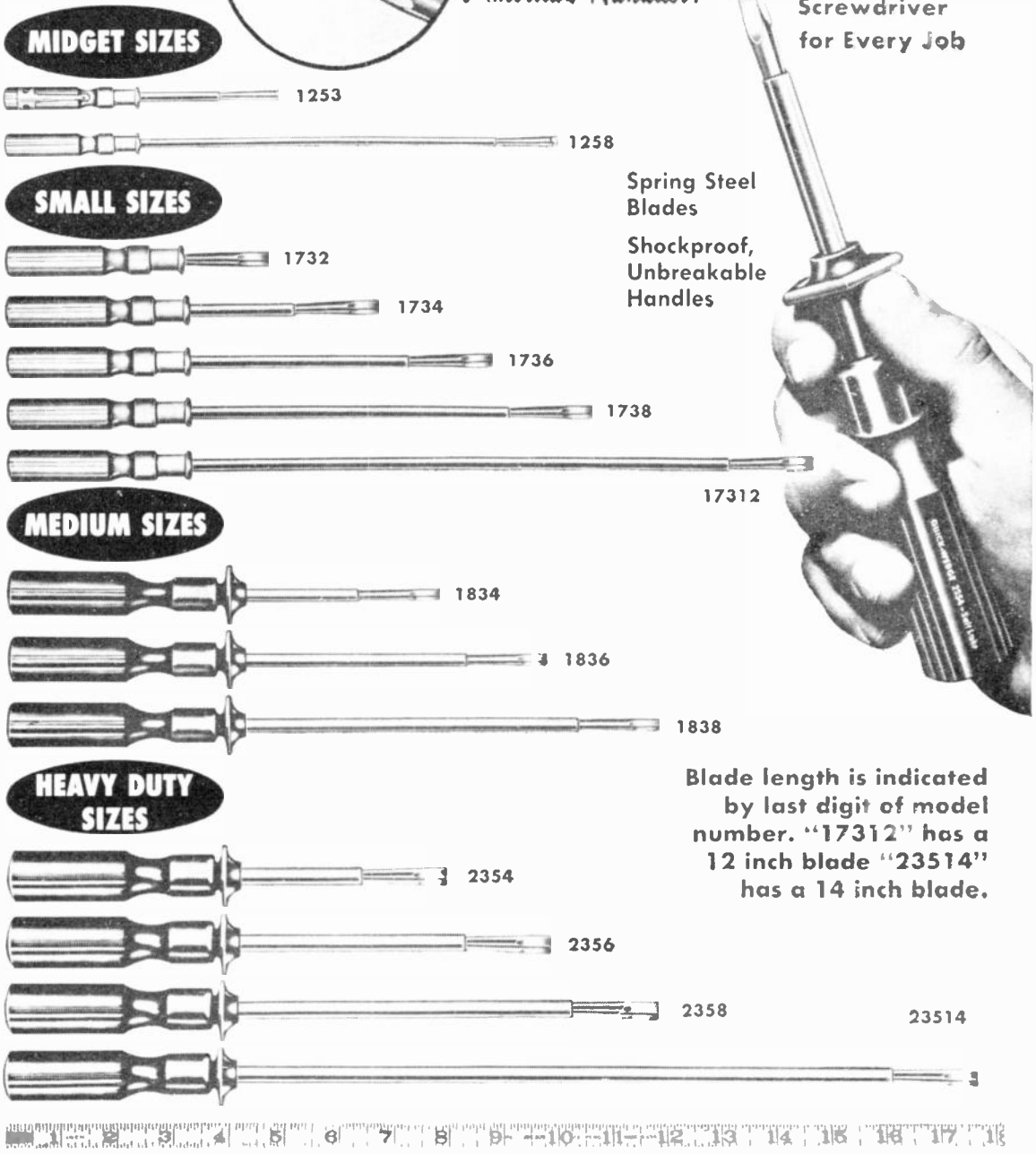
# QUICK-WEDGE SCREW-HOLDING SCREWDRIVER

*Holds the screw*
*Starts the screw*
*Drives the screw*

*America's Handiest!*

A Quick-Wedge Screw-Holding Screwdriver for Every Job




Spring Steel Blades

Shockproof, Unbreakable Handles

Blade length is indicated by last digit of model number. "17312" has a 12 inch blade "23514" has a 14 inch blade.

**ELECTRICAL SIZES** Any of the 14 sizes (except No. 1732) available with shockproof, plastic covered tubing at a cost of 15c additional per screwdriver.

**KEDMAN COMPANY • Salt Lake City, Utah**

*Other Kedman Products--The Famous Huntsman Welding Shields and Face Shields*



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# kraeuter

BUY THE FINEST
BUY KRAEUTER
BUY AMERICAN

AS MODERN AS TOMORROW · FOR 100 YEARS THE FINEST IN HAND TOOLS 1860-1960

| Tool No. | Color "CG" | List Price Each |
|---|---|---|
| 71—8" | | 3.95 |
| CG71—8" | B | 3.95 |
| 1641—5" | | 2.95 |
| CG1641—5" | R | 2.95 |
| 1643—5" | | 2.50 |
| CG1643—5" | B | 2.50 |
| 1661—6" | | 3.20 |
| CG1661—6" | B | 3.20 |
| C-CG1661—6" | B | 3.50 |
| 1671—6" | | 2.60 |
| CG1671—6" | G | 2.60 |
| 1663—6" | | 3.40 |
| CG1663—6" | O | 3.40 |
| C-CG1663—6" | O | 3.70 |
| 1771—7" | | 2.90 |
| CG1771—7" | Y | 2.90 |
| 1781—7" | | 3.90 |
| CG1781—7" | O | 3.90 |
| C-CG1781—7" | O | 4.20 |
| 1830—4" | | 2.70 |
| CG1830—4" | R | 2.70 |
| 1830—5" | | 2.80 |
| CG1830—5" | B | 2.80 |
| 1830—6½" | | 3.00 |
| CG1830—6½" | O | 3.00 |
| 1830—7" | | 3.35 |
| CG1830—7" | Y | 3.35 |
| 1830—8" | | 3.80 |
| CG1830—8" | B | 3.80 |
| 2612—6½" | | 3.75 |
| CG2612—6½" | Y | 3.75 |
| 4501—4½" | | 2.60 |
| CG4501—4½" | B | 2.60 |
| C-CG4501—4½" | B | 2.90 |
| 4501—5" | | 2.80 |
| CG4501—5" | O | 2.80 |
| C-CG4501—5" | O | 3.10 |
| 4501—6" | | 3.25 |
| CG4501—6" | R | 3.25 |
| C-CG4501—6" | R | 3.55 |
| 4502—7" | | 3.65 |
| CG4502—7" | B | 3.65 |
| 4610—5" | | 2.80 |
| CG4610—5" | Y | 2.80 |
| 4610—7" | | 3.20 |
| CG4610—7" | G | 3.20 |
| C-CG4625—5" | R | 3.90 |
| CG5627—5½" | R | 3.50 |

## KRAEUTER INDUSTRIAL PLIERS
### FULL POLISHED HEADS—BLUE TEMPER HANDLES

Designed for use in the Radio and Electronic fields. Hammer forged from high grade tool steel, individually fitted, tempered, adjusted and tested.

**INDUSTRIAL PLIERS ALSO AVAILABLE WITH CUSHION GRIPS**

"CG"—prefix indicates PLIERS furnished with VINYLITE CUSHION GRIPS (factory applied) COLORS: B-blue G-green O-orange R-red Y-yellow.

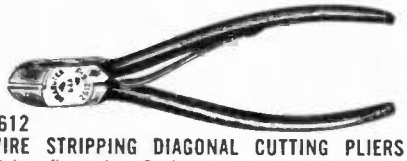
"C-CG"—prefix indicates PLIERS furnished with CROSS COIL SPRING and CUSHION GRIPS.

**1830**
**ELECTRICIANS' SIDE CUTTING PLIERS**
For electric wiring and repair work.

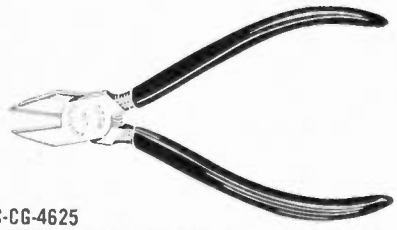
**4501**
**DIAGONAL "OBLIQUE" CUTTING PLIERS**
For close cutting in radio, TV, telephone work.

**4610**
**HEAVY DUTY DIAGONAL CUTTING PLIERS**
Added leverage for easier cutting.

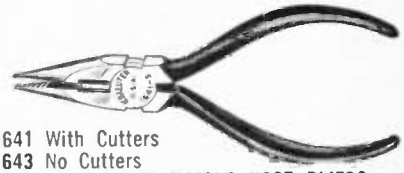
**4502**
**7-IN. DIAGONAL CUTTING PLIERS WITH FULL-FASHIONED HANDLES**
High leverage and comfort for continuous cutting.



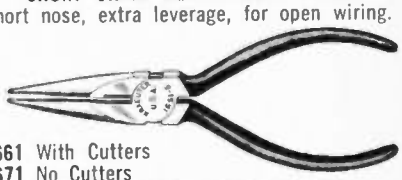
**2612**
**WIRE STRIPPING DIAGONAL CUTTING PLIERS**
Strips fine wire. Spring return handles.



**C-CG-4625**
**NEEDLE POINT DIAGONAL CUTTING PLIERS**
For light electronic work. Narrow tapered nose for close cutting. Cross coil spring in handle. Furnished with cushion grips only.



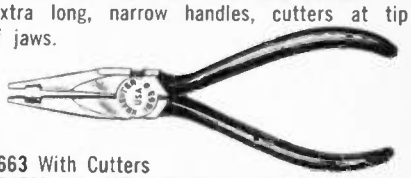
**1641** With Cutters
**1643** No Cutters
**SHORT CHAIN NEEDLE NOSE PLIERS**
Short nose, extra leverage, for open wiring.



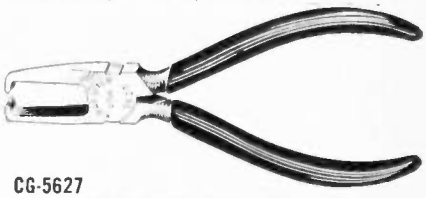
**1661** With Cutters
**1671** No Cutters
**LONG CHAIN NEEDLE NOSE PLIERS**
Radio and TV's most extensively used pliers.

**1781** With Cutters
**1771** No Cutters
**EXTRA LONG CHAIN NOSE PLIERS**
Jaw length reaches 2¾", narrow pointed nose.

**71** With Cutters
**SHORT JAW NOSE—CUTTING PLIERS**
Extra long, narrow handles, cutters at tip of jaws.



**1663** With Cutters
**RADIO AND IGNITION NOSE CUTTING PLIERS**
Grips at tip of nose, cutters ¼" back.



**CG-5627**
**END-CUTTING RESISTOR PLIERS**
Resistor terminal cutters for cutting the terminal ends of packaged-assembly type resistors. Pliers sever terminal wires which are inaccessible except from over the resistor. Furnished with cushion grips only.

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World Radio History

# kraeuter

BUY THE FINEST
BUY KRAEUTER
BUY AMERICAN

AS MODERN AS TOMORROW · FOR 100 YEARS THE FINEST IN HAND TOOLS 1860-1960

### PROFESSIONAL PLIERS
### FULL POLISHED FINISH

Extra fine needle point pliers designed for light professional use. Milled Jaws.

In the hands of the skilled radio or electronics technician, these tools may be depended upon for exceptional service.

### PRECISION JEWELERS PLIERS
### FULL POLISHED FINISH

Fine, small jewelers pliers, matched in size and handle shape for accurate and exacting work. Smooth Jaws. Drop forged from selected tool steel, accurately machined, and carefully heat treated. Extensively used in the manufacture and repair of radio, TV, instruments, etc.

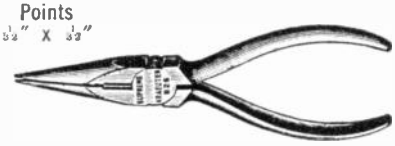
**PRECISION JEWELERS PLIERS AND PROFESSIONAL PLIERS ALSO AVAILABLE WITH CUSHION GRIPS.**

"CG"—prefix indicates PLIERS furnished with VINYLITE CUSHION GRIPS (factory applied) COLORS: B-Blue G-Green O-orange R-red Y-Yellow.

Needle Points 1/32" X 1/32"

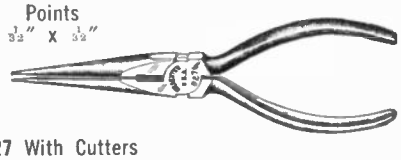
825 With Cutters
835 No Cutters
**MEDIUM NOSE NEEDLE POINT PLIERS**

Needle Points 1/32" X 1/32"

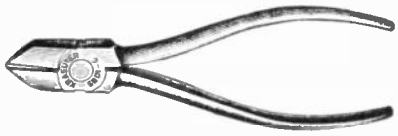


826 With Cutters
836 No Cutters
**LONG NOSE NEEDLE POINT PLIERS**

Needle Points 1/32" X 1/32"



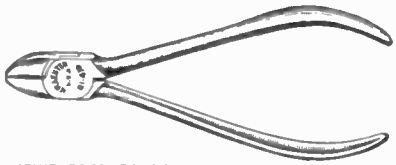
827 With Cutters
837 No Cutters
**EXTRA LONG NOSE NEEDLE POINT PLIERS**



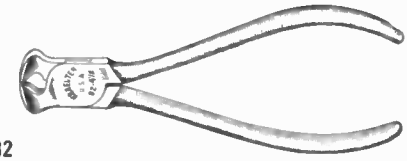
5601
**NEEDLE POINT DIAGONAL CUTTING PLIERS**

5612
**NEEDLE POINT DIAGONAL CUTTING PLIERS**
Wire stripping notch, spring return handles.

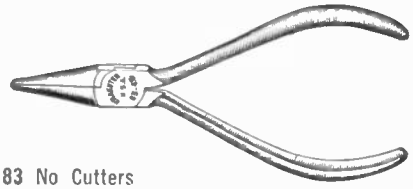
| Tool No. | Color "CG" | List Price Each |
|---|---|---|
| **JEWELERS PLIERS** | | |
| 81—4½" | | 2.90 |
| CG81—4½" | R-B-G | 2.90 |
| 82—4½" | | 3.50 |
| CG82—4½" | R-B-G | 3.50 |
| 83—4½" | | 2.90 |
| CG83—4½" | R-B-G | 2.90 |
| 84—4½" | | 2.90 |
| CG84—4½" | R-B-G | 2.90 |
| 85—4½" | | 2.90 |
| CG85—4½" | R-B-G | 2.90 |
| 89 Set | | 10.70 |
| CG89 " | R-B-G | 10.70 |
| 90 " | | 17.85 |
| CG90 " | R-B-G | 17.85 |
| **PROFESSIONAL PLIERS** | | |
| 825—5" | | 3.60 |
| CG825—5" | B | 3.60 |
| 826—6" | | 3.75 |
| CG826—6" | G | 3.75 |
| 827—7" | | 4.20 |
| CG827—7" | O | 4.20 |
| 835—5" | | 3.10 |
| CG835—5" | G | 3.10 |
| 836—6" | | 3.25 |
| CG836—6" | O | 3.25 |
| 837—7" | | 3.70 |
| CG837—7" | Y | 3.70 |
| 5601—4½" | | 3.30 |
| CG5601—4½" | R | 3.30 |
| 5601—5" | | 3.50 |
| CG5601—5" | B | 3.50 |
| 5601—6" | | 3.85 |
| CG5601—6" | G | 3.85 |
| 5612—6½" | | 4.35 |
| CG5612—6½" | O | 4.35 |



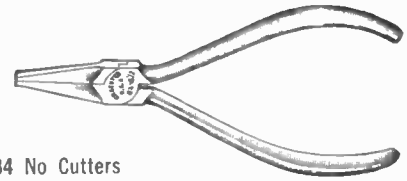
81
**JEWELERS' DIAGONAL CUTTING PLIERS**



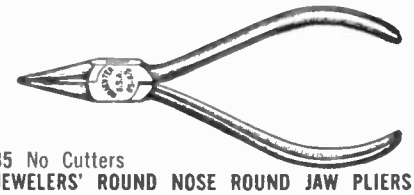
82
**JEWELERS' END CUTTING NIPPERS**



83 No Cutters
**JEWELERS' CHAIN NOSE PLIERS**



84 No Cutters
**JEWELERS' FLAT NOSE PLIERS**



85 No Cutters
**JEWELERS' ROUND NOSE ROUND JAW PLIERS**

**No. 83-84-85**
Supplied with Milled Jaws When Specified

**PLIER SETS, IN BLACK ZIPPER CASES**
**89 One ea. Nos. 81, 83, 84**
**CG89 One ea. Nos. CG81, CG83, CG84**
**90 One ea. Nos. 81, 82, 83, 84, 85**
**CG90 One ea. Nos. CG81, CG82, CG83, CG84, CG85**

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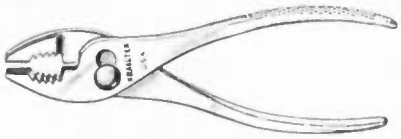
# kraeuter

BUY THE FINEST
BUY KRAEUTER
BUY AMERICAN

AS MODERN AS TOMORROW · FOR 100 YEARS THE FINEST IN HAND TOOLS 1860-1960

## COMBINATION PLIERS

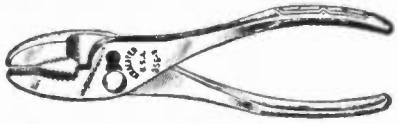
Drop forged from special analysis steel, KRAEUTER slip joint pliers have sharp, milled teeth and notches for better gripping and wire cutting. Knurled handles are shaped to fit the hand comfortably and provide maximum leverage. Studs and nuts are machined from solid bar steel and carefully hardened for longer wear.



## KRAEUTER BRITE LINE

A new line of fine quality slip joint pliers in 3 different finishes.

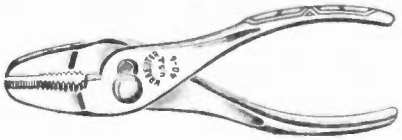
| | | List Each |
|---|---|---|
| 056—6" | Satin Chrome Plated Finish | .70 |
| 056—8" | Satin Chrome Plated Finish | .90 |
| 156—6" | Chrome Plated Finish | .95 |
| 156—8" | Chrome Plated Finish | 1.20 |
| 156—10" | Chrome Plated Finish | 1.60 |
| 256—6" | Full Polished Chrome Plated Mirror Finish | 1.18 |
| 256—8" | Full Polished Chrome Plated Mirror Finish | 1.60 |
| 256—10" | Full Polished Chrome Plated Mirror Finish | 2.20 |



## "GRIPTITE" COMBINATION PLIERS

Designed for heavy duty service.
5½" & 6" sizes, 2 position slip joint adjustments.
8" & 10" sizes, 3 position slip joint adjustments.

| | | |
|---|---|---|
| 356—5½" | Nickel Plated | List Each 2.20 |
| 356—6" | Nickel Plated | List Each 2.30 |
| 356—8" | Nickel Plated | List Each 2.90 |
| 356—10" | Nickel Plated | List Each 3.50 |



## THIN NOSE COMBINATION PLIERS

Tapered thin jaws for confined areas.

40—6" Nickel Plated ..... List Each 1.75

## TONGUE-N-GROOVE JOINT PLIERS

Finish—Polished

Five parallel adjustments from closed to 1⅝". Furnished with "CG" Cushion Grips only. Color Red "CG".

CG710—10" ..... List Each 3.00

## ALLOY STEEL ADJUSTABLE WRENCH

THIN PATTERN — SMOOTH ACTION
CHROME PLATED

Also Available with "CG" Cushion Grip

| | | Color | List Each |
|---|---|---|---|
| 31 | 4" | | 2.40 |
| CG31 | 4" | Red | 2.40 |
| 31 | 6" | | 2.40 |
| CG31 | 6" | Blue | 2.40 |
| 31 | 8" | | 2.80 |
| CG31 | 8" | Orange | 2.80 |
| 31 | 10" | | 3.55 |
| CG31 | 10" | Green | 3.55 |
| 31 | 12" | | 5.20 |
| CG31 | 12" | Yellow | 5.20 |
| 31 | 15" | | 7.90 |
| CG31 | 15" | Red | 7.90 |

## COMBINATION PATTERN SNIP

Cuts straight, curved shapes in metal, etc.
Polished Blades. Hard Black Enameled Handles.

K13—7" Pocket Size, Cut 1⅝" ..... List Each 2.39

## LEATHER TOOL POUCHES

Five pockets, with tape holder. Stitched with 7-cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form-fitting Russet Leather. Designed for the radio and TV serviceman to carry pliers, screwdrivers, tape, and other small tools.

711 Tool Holster ..... List Each 4.65

## PLIERS WITH SPRING IN HANDLE

Available for most pliers, replaceable leaf spring keeps pliers in open position, ready to work. Can be provided separately or in combination with cushion grips. Effectively used to increase efficiency and reduce wrist fatigue on the production line.

Additional, List each .30

## SAFETY GRIPS

Available to fit most pliers. Knurled, easily applied, non-explosive, molded to snugly fit handles.

List Each Pair for 6" .65, for 7" .70, for 8" .75

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World Radio History

# INDUSTRIAL SAFETY BELT

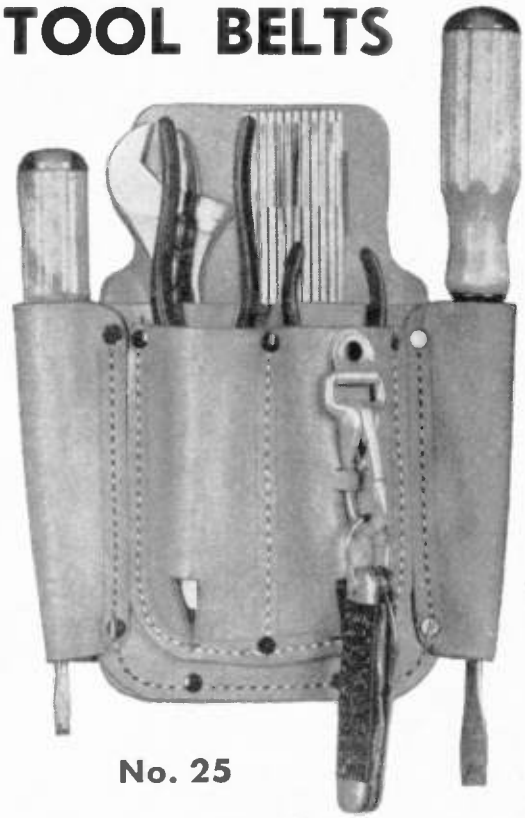
## • TOOL HOLSTERS • TOOL BELTS

No. 24

### No. 24 TOOL HOLSTER

Similar to electrician holster except side pockets not attached, making the overall dimensions 5 x 9 inches.

**No. 24 List $4.00 each**



No. 25

### ELECTRICIAN HOLSTER
**5 POCKETS**

Stitched with seven cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form fitting Russet Leather.

Special designed snap allows knife to be removed by use of a one hand upward motion. Overall dimensions are: 8 x 9 inches.

**No. 25 List Price $5.00 each** (Without Tools)

No. 23

### No. 23

Similar to overall dimensions of tool holster No. 24. One pocket. Dimensions are small enough to insert in pocket of trousers.

**No. 23 List $2.50 each**

### No. 175 TOOL BELT

*Extra heavy quality leather.* Two *strong loops* formed for heavy tools. *Latigo* thong *tape carrier* attached. *Steel rivets* anchor *tested buckle* to belt. Three sizes, No. 1, 30 to 38; No. 2, 40, to 46; No. 3, 46 to 52.

**List Price $3.50**



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## KLEIN SIDE-CUTTING PLIER
NE TYPE (Streamlined)

| | |
|---|---|
| No. 201-5NE | Size 5 in. |
| 201-6NE | 6 in. |
| 201-7NE | 7 in. |
| 201-8NE | 8 in. |
| 201-9NE | 9 in. |

## KLEIN KUT* HIGH LEVERAGE PLIER
Patented

No. 213-9NE — Size 9 in.
*Trade-Mark

## KLEIN LONG NOSE PLIER

| | |
|---|---|
| No. 301-5 | Size 5 in. |
| 301-6 | 6 in. |
| *301-7 | 7 in. |

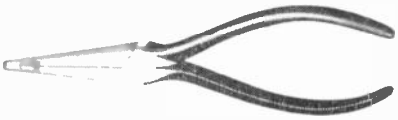
*With extra long nose 2¾ in. from center hinge to point. Available with spring.

## KLEIN LONG NOSE SIDE-CUTTING PLIER

| | |
|---|---|
| No. 203-5 | Size 5 in. |
| 203-6 | 6 in. |
| *203-7 | 7 in. |

*With extra long nose 2¾ in. from center hinge to point. Available with spring.

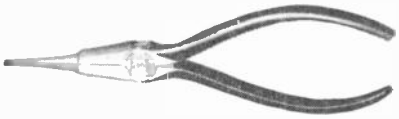
## KLEIN LONG NOSE PLIER WITH KNIFE AT POINT



| | |
|---|---|
| No. 301-6P | Size 6⅝ in. |
| 317-6P | 6 in. |

Available with spring.

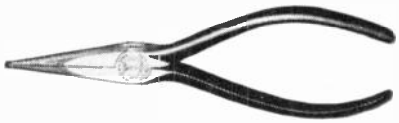
## KLEIN SPECIAL NEEDLE NOSE PLIER



| | |
|---|---|
| No. 301-6-SCP | Size 6 in. |
| 203-6-SCP with cutters | 6 in. |

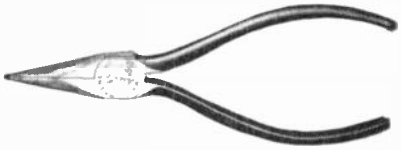
Available with spring.

## KLEIN SLIM LONG NOSE PLIER



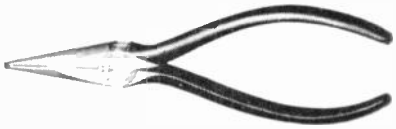
No. 307-5½ — Size 5½ in.
Available with spring.

## KLEIN CHAIN NOSE PLIER



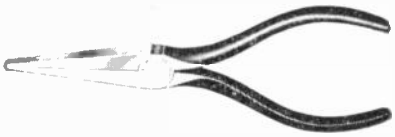
No. 317-5 — Size 5 in.
Available with spring.

## KLEIN CHAIN NOSE PLIER



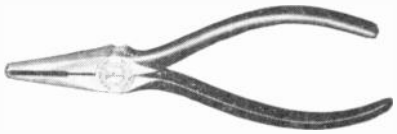
| | |
|---|---|
| No. 317-6 | Size 6 in. |
| 217-6 with cutters | 6 in. |

## KLEIN LONG FLAT NOSE PLIER



| | |
|---|---|
| No. 305-6 | Size 6 in. |
| 206-6 with cutters | 6 in. |

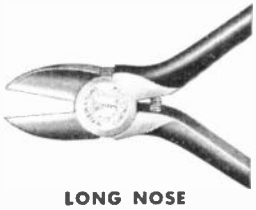
## KLEIN TRAVERSE END-CUTTING PLIER



No. 204-6 — Size 6 in.
Available with spring.

## KLEIN COIL SPRING

Pliers listed below may be had with coil spring to keep jaws open. Spring guaranteed for life of plier. Inside of handles is unobstructed and handles may be plastic-coated if desired.



| OBLIQUE CUTTERS | | LONG NOSE | |
|---|---|---|---|
| No. 210-5-C | No. 202-6-C | No. 301-5-C | No. 204-6-C |
| 210-6-C | 245-5-C | 301-6-C | 203-5-C |
| 209-5-C | 257-4-C | 301-7-C | 203-6-C |
| 202-5-C | 207-6-C | 301-6-P-C | 203-7-C |
| | | 301-6-SCP-C | 321-4½-C |
| | | 203-6-SCP-C | 224-4½-C |
| | | 307-5½-C | 208-6-C |
| | | 317-5-C | 208-6-NC |
| | | 306-5½-C | |

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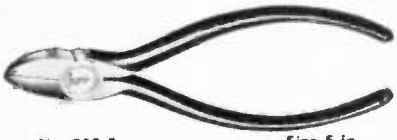
### KLEIN "AUTO" OBLIQUE CUTTING PLIERS "HANDFORM" HANDLES

No. 220-7 — Size 7 in.
220-7-SN (Short Nose) — 7 in.

### KLEIN LIGHTWEIGHT OBLIQUE CUTTING PLIER

No. 209-5 — Size 5 in.
Available with spring

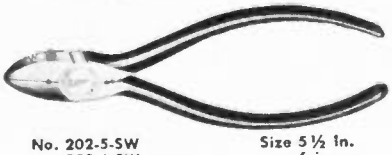
### KLEIN NARROW NOSE OBLIQUE CUTTING PLIER



No. 202-5 — Size 5 in.
202-6 — 6 in.
Available with spring

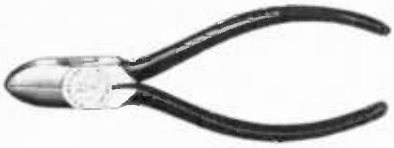
### KLEIN OBLIQUE CUTTING PLIER

with "W" Stripping Notches
Sleeve Openings and Skinning Hole



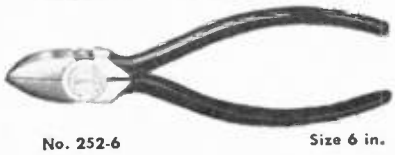
No. 202-5-SW — Size 5 ½ in.
252-6-SW — 6 in.

### KLEIN OBLIQUE CUTTING PLIER



No. 245-5 — Size 5 in.
Available with spring

### KLEIN OBLIQUE CUTTING PLIER



No. 252-6 — Size 6 in.

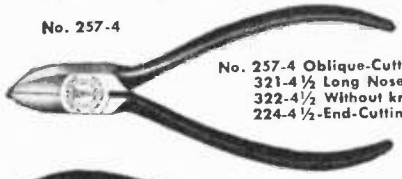
### KLEIN LONG CURVED NOSE PLIER

No. 302-6 — Size 6 in.

# NEW KLEIN PLIERS

## MIDGET ELECTRONIC PLIERS

Highest quality pliers in small size for work in confined space.

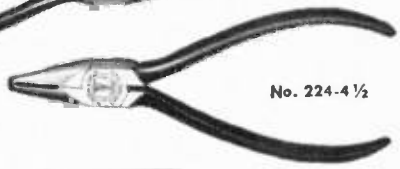


No. 257-4

| | | |
|---|---|---|
| No. 257-4 | Oblique-Cutting Plier | Size 4 in. |
| 321-4½ | Long Nose Plier | Size 4½ in. |
| 322-4½ | Without knurl | Size 4½ in. |
| 224-4½ | -End-Cutting Plier | Size 4½ in. |

Available with spring

No. 321-4½



No. 224-4½

### HIGH LEVERAGE DIAGONAL CUTTING PLIER

No. 228-8 — Size 8 in.

### 8-INCH LONG NOSE PLIER

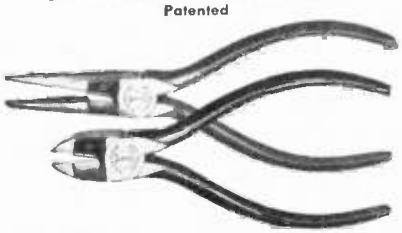
No. 314-8 with knurl — Size 8 in.

### 8-INCH DUCK BILL PLIER

No. 315-8 with knurl — Size 8 in.
316-8 without knurl — 8 in.

### KLEIN SHEAR CUTTING PLIERS

Patented



Available both in long nose and oblique nose patterns. Will cut dead soft or extremely hard wire. Blade is replaceable.

| | | |
|---|---|---|
| No. 208-6 C | Long Nose | Size 6 in. |
| 208-6 NC | Same as above but designed to put a positive 3/16 in. hook on the end of resistor wire | |
| 078-K | Replacement Knife | |
| 207-5 C | Oblique Nose | 5 in. |
| 077-K | Replacement Knife | |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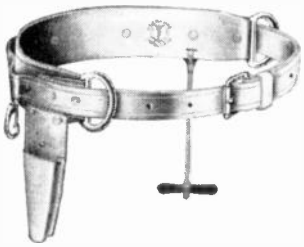
## "KLEIN-KORD" NYLON SAFETY STRAP

A strong high-quality safety strap made of nylon possessing excellent dielectric characteristics. Klein Red Center for safety.

| Cat. No. | Size | Av. Wgt. Per Doz. |
|---|---|---|
| Standard Snaps | | |
| 5294 | 1¾"x 5'⅛" | 34 lb. |
| 5294-7 | 1¾"x 7' | 38 lb. |
| "Klein-Lok" Snaps | | |
| KL5294 | 1¾"x 5'⅛" | 34 lb. |
| KL15294 | 1¾"x 7' | 38 lb. |

## LEATHER TOOL BELTS



Made of first quality harness leather. "D" rings are solid drop steel forgings tested to 1,500 lb. All rivets are solid copper and sewing is with hot waxed linen thread, lock stitched.

| Cat. No. | Width | Av. Wgt. Per Doz. |
|---|---|---|
| 5204-DE | 3½" | 34 lb. |

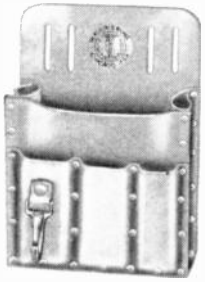
One of a complete line of Klein tool belts.

## KLEIN ELECTRICIANS' WAIST BELTS

A lightweight belt of genuine harness leather with tool loops and tape thong. May be used with Klein Tool Pockets. Handy for electrician's use. Sizes: 36", 38", 40", 42", 44" and 46".

| Cat. No. | Size-Adjustable |
|---|---|
| 5207-M | 32 to 40 in. |
| 5207-L | 38 to 46 in. |

## KLEIN COMBINATION TOOL POCKETS



Above are two of the many tool pockets available in the Klein line. Made from high-grade leather to assure maximum service. Both have large utility pocket and knife snap. 5126 has 2 plier pockets and 2 screw driver pockets. 5127 has 3 plier pockets and 2 screw driver pockets.

| | |
|---|---|
| No. 5126 | Size 8½ in. high, 6½ in. wide |
| 5127 | 10 in. high, 7 in. wide |

## KLEIN "XELA" ELECTRICIANS' SCISSORS
Patented

A scissor designed for the electrician and mechanic. Will stand continued hard service. Made of high-grade steel carefully tempered. Has screw hinge to allow for adjustment. Nickel plated.

| Cat. No. | Size |
|---|---|
| 2100-5 | 5 in. |

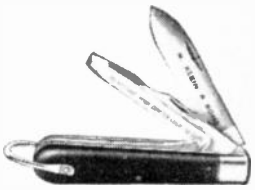
5100 Pocket for scissors, not illustrated

## KLEIN STRIPPING TOOL
Patented

A newly developed tool designed to strip insulation from all types of cable. Will strip a few inches or as many feet as desired swiftly and simply. Doesn't damage conductors inside weatherproofed sheath. Lightweight cast aluminum with knife of tempered tool steel. May be sharpened. Knife easily replaced.

No. 1558 Size across handle, 4 in.

## KLEIN "XELA" ELECTRICIANS' KNIFE



Especially designed for electricians. Has sharp utility blade and screw driver blade which locks automatically in open position. Made of finest cutlery steel, carefully tempered. Fitted with wrought shackle riveted in handle.

No. 1550-2 Length Closed 4 in.

## KLEIN "XELA" LINEMAN'S KNIFE

Sturdily constructed. Single 3-in. blade of finest cutlery steel. Blade locks automatically in open position. Handle of plastic. Won't crack or chip. Fitted with wrought shackle riveted in handle.

No. 1550-4 Length Closed 4 in.

## KLEIN "XELA" SKINNING KNIFE

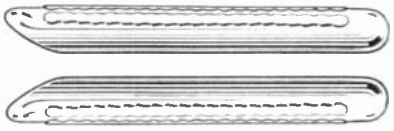
A high-quality knife designed for skinning. Particularly used in the telephone field. Hardwood handle with ring for attaching to snap.

No. 1550-5 Length Closed 3½ in.

## KLEIN-KOAT PLASTIC COVER FOR PLIER HANDLES

These covers provide non-skid grip and greater comfort. Made of transparent plastic in bright maroon. Simple to apply. Does away with the necessity of taping handles.

| No. | to fit |
|---|---|
| 60 | 6-in. pliers |
| 70 | 7-in. pliers |
| 89 | 8 & 9-in. pliers |



## DIPPED HANDLES

Klein Pliers may be had with dipped-on plastic coating. This provides a heavy comfortable plastic coating that can't come off and yet may be removed if desired. Prices on request.

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World Radio History

**DESIGN** IN-DUS-TRONIC tools are more steamlined, with slender jaws and fine points, to reach into the tight spots and perform the specific work required of the electronics technician.

**TEST AND INSPECTION** Individually tested for hardness, each tool must maintain highest standards for handle strength and cutting ability. To assure perfect jaw alignment, pliers must cleanly cut single bond paper strips and snip cotton-covered lamp cord without fraying. Each tool is guaranteed against defects in workmanship and materials.

Individually Boxed

**WORKMANSHIP** IN-DUS-TRONIC tools are hot drop-forged from special analysis alloy steel, machined and finished with the same care and precision which have made world-famous BOKER TREE BRAND Fine Cutlery and surgical instruments for over a century. Individually fitted and adjusted, each is accurately heat-treated by HYDRIZING, which minimizes "carburization" and "decarb". Cutting blades are precision-hardened with electronic controls, and honed by hand for keen edges that retain their sharpness.

### RADIO AND TV NOSE CUTTING PLIERS

Reaches into tight spots to cut small wires, and to grip at the tips. Wgt. Pkg. of Five, 1¾ lbs.

**539-6"** List Ea. 3.25
Polished Head, GunMetal Handles
**939-6"** List Ea. 3.65 Cushion-Grip Handles
**639-6"** List Ea. 3.50 Nickel and Chrome Plated
**739-6"** List Ea. 3.75 Plated, Cushion Grips

### SIDE TIP NOSE CUTTING PLIERS

Cuts flush at left side of tips. Turn tool over to cut flush at right side. Wgt. Pkg. of Five, 1¾ lbs.

**S539-6"** List Ea. 3.60
Polished Head, GunMetal Handles
**S939-6"** List Ea. 4.00 Cushion-Grip Handles
**S639-6"** List Ea. 3.85 Nickel and Chrome Plated
**S739-6"** List Ea. 4.10 Plated, Cushion-Grips

### SHORT JAW, LONG HANDLE NOSE CUTTING PLIERS

Longer, narrow handles provide maximum reach of the slender jaws to cut and grip. Wgt. Pkg. of Five, 2½ lbs.

**579-8"** List Ea. 3.75
Polished Head, GunMetal Handles
**979-8"** List Ea. 4.15 Cushion-Grip Handles
**679-8"** List Ea. 4.00 Nickel and Chrome Plated
**779-8"** List Ea. 4.25 Plated, Cushion-Grips

### TRANSVERSE END CUTTING PLIERS

For clean, flush cutting of small wires where ordinary cutters are too bulky. Wgt. Pkg. of Five, 1¾ lbs.

**532-6"** List Ea. 3.25
Polished Head, GunMetal Handles
**932-6"** List Ea. 3.65 Cushion-Grip Handles
**632-6"** List Ea. 3.50 Nickel and Chrome Plated
**732-6"** List Ea. 3.75 Plated, Cushion-Grips

### SHORT CHAIN NEEDLE NOSE PLIERS

Short jaws, 1⅜" inside length, provide more positive grip at checker-milled tips. Wgt. Pkg. of Five, 1 lb.

POLISHED HEAD, GUN METAL HANDLES
**53-5"** List Ea. 2.85 With Side Cutters
**530-5"** List Ea. 2.45 Without Side Cutters

POLISHED HEAD, CUSHION-GRIP HANDLES
**93-5"** List Ea. 3.25 With Side Cutters
**930-5"** List Ea. 2.85 Without Side Cutters

FULLY NICKEL AND CHROME PLATED
**63-5"** List Ea. 3.10 With Side Cutters

PLATED, CUSHION-GRIP HANDLES
**73-5"** List Ea. 3.35 With Side Cutters
**730-5"** List Ea. 2.95 Without Side Cutters

### LONG CHAIN NEEDLE NOSE PLIERS

Slender, check-milled jaws, 1¾" inside length, taper to 1/32" at tips. Wgt. Pkg. of Five, 1½ lbs.

POLISHED HEAD, GUN METAL HANDLES
**53-6"** List Ea. 3.10 With Side Cutters
**530-6"** List Ea. 2.60 Without Side Cutters

POLISHED HEAD, CUSHION-GRIP HANDLES
**93-6"** List Ea. 3.50 With Side Cutters
**930-6"** List Ea. 3.00 Without Side Cutters

FULLY NICKEL AND CHROME PLATED
**63-6"** List Ea. 3.35 With Side Cutters
**630-6"** List Ea. 2.85 Without Side Cutters

NICKEL AND CHROME PLATED, CUSHION-GRIP HANDLES
**73-6"** List Ea. 3.60 With Side Cuttesr
**730-6"** List Ea. 3.10 Without Side Cutters

### EXTRA LONG CHAIN NOSE PLIERS

2¾" long jaws add extra reach to checker-milled tips. Wgt. Pkg. of Five, 2¼ lbs.

POLISHED HEAD, GUN METAL HANDLES
**53-7"** List Ea. 3.75 With Side Cutters
**530-7"** List Ea. 2.90 Without Side Cutters

POLISHED HEAD, CUSHION-GRIP HANDLES
**93-7"** List Ea. 4.15 With Side Cutters
**930-7"** List Ea. 3.30 Without Side Cutters

FULLY NICKEL AND CHROME PLATED
**63-7"** List Ea. 4.00 With Side Cutters
**630-7"** List Ea. 3.15 Without Side Cutters

NICKEL AND CHROME PLATED, CUSHION-GRIP HANDLES
**73-7"** List Ea. 4.25 With Side Cutters
**730-7"** List Ea. 3.40 Without Side Cutters

### DIAGONAL CUTTING PLIERS

POLISHED HEAD, GUN METAL HANDLES
**51-4½"** List Ea. 2.45 Wgt. Pkg. of 5, 1½ lbs.
**51-5"** List Ea. 2.75 Wgt. Pkg. of 5, 2 lbs.
**51-5½"** List Ea. 3.00 Wgt. Pkg. of 5, 2 lbs.
**51-6"** List Ea. 3.10 Wgt. Pkg. of 5, 2½ lbs.
**51-7½"** List Ea. 3.30 Wgt. Pkg. of 5, 3 lbs.

POLISHED HEAD, CUSHION-GRIP HANDLES
**91-4½"** List Ea. 2.85 Wgt. Pkg. of 5, 1¾ lbs.
**91-5"** List Ea. 3.15 Wgt. Pkg. of 5, 2¼ lbs.
**91-5½"** List Ea. 3.40 Wgt. Pkg. of 5, 2¼ lbs.
**91-6"** List Ea. 3.50 Wgt Pkg. of 5, 2¾ lbs.
**91-7½"** List Ea. 3.70 Wgt. Pkg. of 5, 3¼ lbs.

FULLY NICKEL AND CHROME PLATED
**61-4½"** List Ea. 2.70 Wgt. Pkg. of 5, 1½ lbs.
**61-5"** List Ea. 3.00 Wgt. Pkg. of 5, 2 lbs.
**61-5½"** List Ea. 3.25 Wgt. Pkg. of 5, 2 lbs.
**61-6"** List Ea. 3.35 Wgt. Pkg of 5, 2½ lbs.

NICKEL AND CHROME PLATED, CUSHION-GRIP HANDLES
**71-4½"** List Ea. 2.95 Wgt. Pkg. of 5, 1½ lbs.
**71-5"** List Ea. 3.25 Wgt. Pkg. of 5, 2 lbs.
**71-5½"** List Ea. 3.50 Wgt. Pkg. of 5, 2 lbs.
**71-6"** List Ea. 3.60 Wgt. Pkg. of 5, 2½ lbs.
**71-7½"** List Ea. 3.80 Wgt. Pkg. of 5, 3¼ lbs.

DIAGONALS are available with STRIPPING NOTCH, "W" NOTCHES, INSULATION CRUSHERS on request. These features are standard in pliers below:
**517-5½"** List Ea. 3.40 Pol. Head, Gun Metal Hndls.
**617-5½"** List Ea. 3.65 Nickel and Chrome Plated
**717-5½"** List Ea. 3.90 Plated, Cushion-Grips

PLIERS WITH SPRING IN HANDLES
Additional Each .30 List

### HEAVY DUTY DIAGONAL CUTTING PLIERS

Added leverage for heavy cutting. Wgt. Pkg. of 5, 3 lbs.

**591-7"** List Ea. 3.00
Polished Head, Gun Metal Handles
**991-7"** List Ea. 3.40 Cushion-Grip Handles
**691-7"** List Ea. 3.25 Nickel and Chrome Plated
**791-7"** List Ea. 3.50 Plated, Cushion-Grips

### LONG NEEDLE NOSE PLIERS

Unusual gripping ability without distortion for such long, slender jaws, checker-milled. Wgt. Pkg. of Five, 1¾ lbs.

**533-6"** List Ea. 2.80
Polished Head, Gun Metal Handles
**933-6"** List Ea. 3.20 Cushion-Grip Handles
**633-6"** List Ea. 3.05 Nickel and Chrome Plated
**733-6"** List Ea. 3.30 Plated, Cushion-Grips

### CURVED NEEDLE NOSE PLIERS

Checker-milled jaws, Wgt. Pkg. of Five, 1¾ lbs.

**538-6"** List Ea. 3.00
Polished Head, Gun Metal Handles
**938-6"** List Ea. 3.40 Cushion-Grip Handles
**638-6"** List Ea. 3.25 Nickel and Chrome Plated

### SHORT JAW, LONG HANDLE, NEEDLE NOSE PLIERS

Checker-milled jaws. Wgt. Pkg. of Five, 2½ lbs.

**573-8"** List Ea. 2.85
Polished Head, Gun Metal Handles
**973-8"** List Ea. 3.25 Cushion-Grip Handles
**673-8"** List Ea. 3.10 Nickel and Chrome Plated
**773-8"** List Ea. 3.25 Plated, Cushion-Grips

### SHORT JAW, LONG HANDLE, DUCKBILL PLIERS

**574-8"** List Ea. 2.85
Polished Head, Gun Metal Handles

### ELECTRICIAN'S SIDE CUTTING PLIERS

POLISHED HEAD, GUN METAL HANDLES
**52-6"** List Ea. 2.85 Wgt. Pkg. of Five, 2 lbs.
**52-7"** List Ea. 3.25 Wgt. Pkg. of Five, 3 lbs.
**52-8"** List Ea. 3.60 Wgt. Pkg. of Five, 4 lbs.

FULLY NICKEL AND CHROME PLATED
**62-7"** List Ea. 3.50 Wgt. Pkg. of Five, 3 lbs.



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World Radio History

# BOKER IN-DUS-TRONIC TOOLS

*PROFESSIONAL TOOLS DESIGNED SPECIFICALLY FOR THE ELECTRONICS INDUSTRY*

BOKER IN-DUS-TRONIC TOOLS

## JEWELERS' 4½" PRECISION PLIERS

**DIAGONAL CUTTING PLIERS**
481

**END CUTTING NIPPERS**
482

**NEEDLE NOSE PLIERS**
483

Fine, small pliers, hot drop-forged from special analysis alloy steel, machined with precision, carefully fitted, accurately heat treated, and tested to exacting specifications.

Matched in size and shape to fit the hand with a snug "feel", they speed delicate work in jewelry and watchmaking, electronics and communications, instruments, model making, and other precision work in confined areas.

**481-4½"** Carefully edged for close cutting and trimming of small wires and soft materials. Also 581, 981, 681, 781, (prices below).

**482-4½"** High leverage for clean cuts, flush or close to the surface, of small wire and fine objects. Also 582, 982, 682, 782, (prices below).

**483-4½"** Slender, smooth jaws taper to a needle point to hold, bend, twist, and pull. Also 583, 983, 683, 783, (prices below).

**484-4½"** Flat, wide, smooth jaws for stronger gripping and forming of wire and flat stock. Also 584, 984, 684, 784, (prices below).

**485-4½"** Both jaws rounded and tapered to form accurate loops, rings, and bends. Also 585, 985, 685, 785, (prices below).

**FLAT NOSE PLIERS**
484

**ROUND NOSE PLIERS**
485

**JEWELERS' PLIERS SETS**

Crystal Case, 5" x 7", lined to nest 4½" Pliers.

| No. | Contents | List |
|---|---|---|
| C63 | One ea. 681, 683, 684 | 10.00 |
| C64 | One ea. 681, 683, 684, 6517 | 12.00 |
| C65 | One ea. 681, 682, 683, 684, 685 | 16.60 |
| C93 | One ea. 981, 983, 984 | 9.70 |
| C95 | One ea. 981, 982, 983, 984, 985 | 16.10 |

| FULL POLISHED FINISH (illustrated) | | POLISHED HEAD, GUN METAL HANDLES | | POLISHED HEAD, CUSHION-GRIP HANDLES | | FULL NICKEL AND CHROME PLATED | | NICKEL, CHROME-PLATED, CUSHION-GRIP HANDLES | |
|---|---|---|---|---|---|---|---|---|---|
| Tool No. | List Ea. | Tool No. | List Ea. | Tool No. | List Ea. | Tool No. | List Ea. | Tool No. | List Ea. |
| 481 | 2.90 | 581 | 2.25 | 981 | 2.90 | 681 | 3.00 | 781 | 3.25 |
| 482 | 3.50 | 582 | 2.85 | 982 | 3.50 | 682 | 3.60 | 782 | 3.85 |
| 483 | 2.90 | 583 | 2.25 | 983 | 2.90 | 683 | 3.00 | 783 | 3.25 |
| 484 | 2.90 | 584 | 2.25 | 984 | 2.90 | 684 | 3.00 | 784 | 3.25 |
| 485 | 2.90 | 585 | 2.25 | 985 | 2.90 | 685 | 3.00 | 785 | 3.25 |

**PROFESSIONAL SLIP-JOINT SIDE CUTTERS**

Flat, serrated nose for gripping, curved inner section to grip round shapes, keen knives to cut.
FULLY NICKEL AND CHROME PLATED
**6395-7½"** List Ea. 3.25 Wgt. Pkg. of 5, 2½ lbs.

**COMBINATION SLIP-JOINT PLIERS**

FULLY NICKEL AND CHROME PLATED
**6040-6½"** List Ea. 1.00 Wgt. Pkg. of 5, 2½ lbs.
**6041-8"** List Ea. 1.50 Wgt. Pkg. of 5, 3½ lbs.
**6041-10"** List Ea. 2.25 Wgt. Pkg. of 5, 5 lbs.

**THIN NOSE COMBINATION PLIERS**

FULLY NICKEL AND CHROME PLATED
**6042-6½"** List Ea. 1.25 Wgt. Pkg. of 5, 2½ lbs.

**BENT THIN NOSE COMBINATION PLIERS**

FULLY NICKEL AND CHROME PLATED
**6043-6½"** List Ea. 1.50 Wgt. Pkg. of 5, 2½ lbs.

**"GROOVE-GRIP" 5-ADJUSTMENT PLIERS**

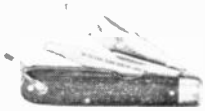
FULLY NICKEL AND CHROME PLATED
**6507-6½"** List Ea. 2.25 Wgt. Pkg. of 5, 2 lbs.
**6507-8"** List Ea. 2.50 Wgt. Pkg. of 5, 3 lbs.
**6507-10"** List Ea. 2.85 Wgt. Pkg. of 5, 4 lbs.

**MIDGET "GROOVE-GRIP PLIERS**

Slender and wiry, indispensable for gripping small nuts and other objects in tight spots. Wgt. Pkg. of Five, 3/4 lbs.
**6517-5"** List Ea. 2.00
Nickel and Chrome Plated
**P6517-5"** List Ea. 2.25
Plated, With Cushion Grips

**THIN, ALLOY STEEL ADJUSTABLE WRENCHES**

FULLY NICKEL AND CHROME PLATED
**6W- 4"** List Ea. 2.38 Wgt. Pkg. of 5, ½ lb.
**6W- 6"** List Ea. 2.38 Wgt. Pkg. of 5, 1½ lbs.
**6W- 8"** List Ea. 2.76 Wgt. Pkg. of 5, 2½ lbs.
**6W-10"** List Ea. 3.54 Wgt. Pkg. of 5, 4½ lbs.
**6W-12"** List Ea. 5.18 Wgt. Pkg. of 5, 7½ lbs.
**6W-15"** List Ea. 7.88 Wgt. Pkg. of 5, 16 lbs.



**ELECTRICIAN'S UTILITY KNIFE**

One Blade, one self-locking Screwdriver and Insulation Scraper Blade.
**9229 3¾"** List Ea. 2.50 Wgt. per Doz. 3 lbs.

**ELECTRICIAN'S SNIPS**

Scraper, file on back of blade. Nickel plated.
**709-5"** List Ea. 2.50 Wgt. per Doz. 1¾ lbs.

**LEATHER TOOL HOLSTER**

**99** List Ea. 4.65 5-pocket, tape holder

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World Radio History

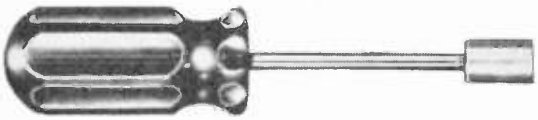
# SUBMINIATURE NUT DRIVERS

Miniaturization of industrial components in every field has established the need for these PROPERLY PROPORTIONED miniature nut drivers. Precision machined and broached, these fine sockets will give many years of dependable service. Available either with permanently attached Tenite handles or without handles to fit the standard chuck type jewelers screw driver handle.

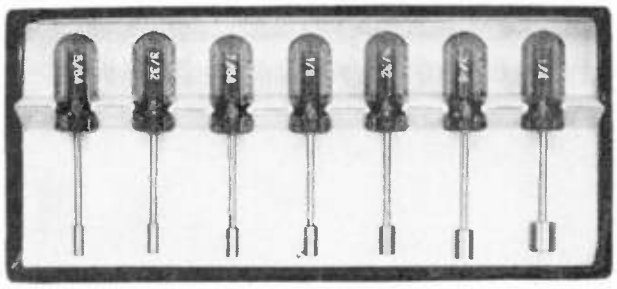
EXTRA LONG SHAFTS FOR THOSE HARD TO GET AT PLACES. Designed to reach into deep assemblies and properly fit nuts that are so close that standard wrenches cannot be used. Nut driver without Tenite handle 5¼" over all. Nut driver with Tenite handle 5½" over all.

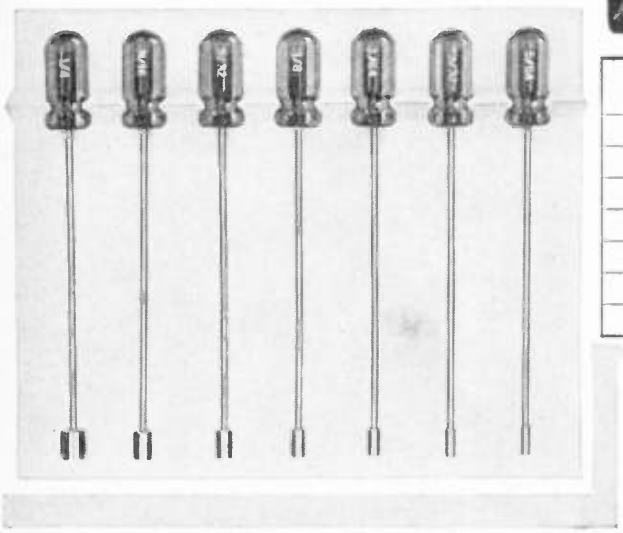
DESCO*

## NUT DRIVERS WITH TENITE HANDLES

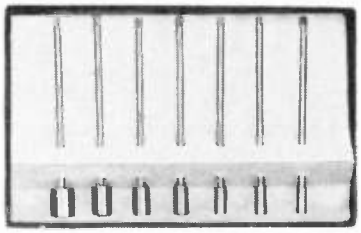


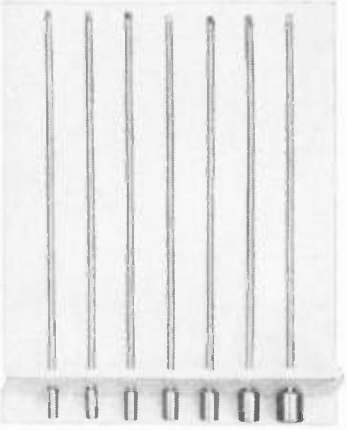
ACTUAL SIZE OF 3/16" DRIVER
For quick identification the size is engraved into handle.





| CODE | SIZE ACROSS FLATS | HANDLE | OVERALL LENGTH SHORT | OVERALL LENGTH LONG |
|---|---|---|---|---|
| H11 | 5/64" | 9/16" x 1¼" | 2¾" | 5½" |
| H12 | 3/32" | 9/16" x 1¼" | 2¾" | 5½" |
| H13 | 7/64" | 9/16" x 1¼" | 2¾" | 5½" |
| H14 | 1/8" | 9/16" x 1¼" | 2¾" | 5½" |
| H15 | 5/32" | 9/16" x 1¼" | 2¾" | 5½" |
| H16 | 3/16" | 9/16" x 1¼" | 2¾" | 5½" |
| H17 | 1/4" | 9/16" x 1¼" | 2¾" | 5½" |





## NUT DRIVERS WITHOUT HANDLES

Available individually or in complete sets of 7.
Also made up in sets of 5 — specify sizes and type.

| CODE | SIZE ACROSS FLATS | OVERALL LENGTH SHORT | OVERALL LENGTH LONG |
|---|---|---|---|
| J11 | 5/64" | 2½" | 5¼" |
| J12 | 3/32" | 2½" | 5¼" |
| J13 | 7/64" | 2½" | 5¼" |
| J14 | 1/8" | 2½" | 5¼" |
| J15 | 5/32" | 2½" | 5¼" |
| J16 | 3/16" | 2½" | 5¼" |
| J17 | 1/4" | 2½" | 5¼" |

**NON-MAGNETIC NUT DRIVERS FOR INSTRUMENT CALIBRATION**

Available with Tenite handles only. Same standard lengths as listed above. These precision nut drivers can be safely used in or near a magnetic field without affecting the designed characteristics of the field.

*T.M.

DESCO **DESCO MFG. CO., GLENDALE, CALIF.**

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TRADE DISCOUNT APPLIES TO LIST PRICE ONLY

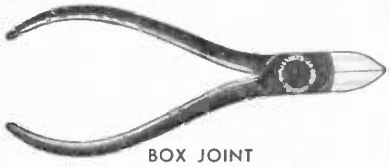
World Radio History

## Berg SWEDISH STEEL PLIERS

ALL ITEMS CARRIED IN STOCK FOR IMMEDIATE SHIPMENT

All pliers packed ½ dozen per box

**Diagonal Cutting Pliers**



BOX JOINT

No. 526 ..... 5" 3.25 6" 4.05

SINGLE JOINT

| | 4½" | 5" | 5½" | 6" |
|---|---|---|---|---|
| No. 1525 | 2.40 | 2.65 | 2.80 | 3.25 |

With wire stripping hole

1525-STR ..... 4½" 2.65 5" 2.90

**ANGLE NOSE Diagonal Cutting Pliers**

No. 2528 ..... 6½" 3.70 7½" 4.20

**PIANO WIRE Diagonal Cutting Pliers**

| | 4½" | 5½" | 6½" | 7½" |
|---|---|---|---|---|
| No. 1528 | 2.50 | 3.20 | 3.70 | 4.20 |

**PIANO WIRE Side Cutting Nippers with replaceable blades**

No. 1518 ..... 9" 5.15 10" 5.85

Extra Blades ..... 9" 1.80 10" 1.85

**PIANO WIRE End Cutting Nippers with replaceable blades**

No. 1519 - 9" ..... 6.40

Extra Blades ..... 2.00

**PIANO WIRE End Cutting Nippers**

No. 527 ..... 6" 2.65 7" 3.10

**Slip Joint Pliers with wire cutters**

No. 616 ..... 5½" 2.40 7½" 2.90

**End Cutting Nippers**

BOX JOINT

No. 522 - 6" ..... 3.75

SINGLE JOINT

No. 523 - 6" ..... 3.10

**Long Nose Pliers with cutters**

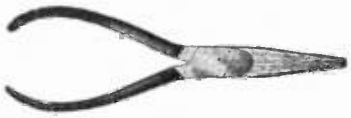
BOX JOINT

No. 590 ..... 6" 3.50 7" 4.05

SINGLE JOINT

No. 1590 5" 3.40 6" 3.40 7" 3.90

**Long Nose Pliers**



BOX JOINT

No. 533 5" 3.00 6" 3.25 7" 3.35

SINGLE JOINT

No. 2533 6" 2.55 7" 3.25 8" 3.90

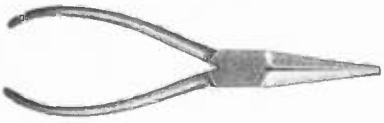
**Snipe Nose Pliers**

No. 1533 - 6" ..... 2.65

**Slender Duck Bill Pliers**

No. 1532 - 6" ..... 2.65

**Special Slender Electronic Duck Bill Pliers with BOX JOINT**



No. 530 ..... 5" 2.50 6" 3.05

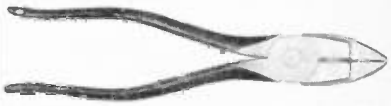
**Curved Nose Pliers**

No. 1631 - 5½" ..... 3.35

**Special Bent Nose Pliers**

No. 2533-B - 8" ..... 3.50

**Lineman's Pliers**

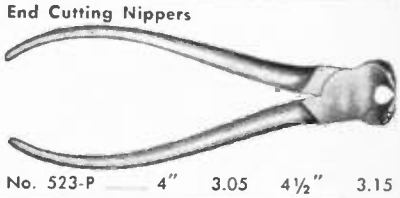


No. 697 - 8" ..... 4.70

## INSTRUMENT MAKERS and JEWELERS PLIERS

Full Polished

**End Cutting Nippers**

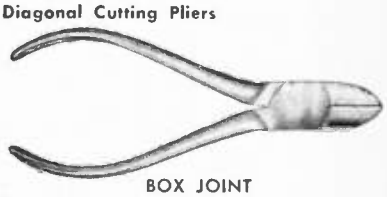


No. 523-P ..... 4" 3.05 4½" 3.15

**BOX JOINT Duck Bill Pliers**

No. 531-4½P ..... 3.05

**Diagonal Cutting Pliers**



BOX JOINT

No. 526 - 4½P ..... 3.75

SINGLE JOINT

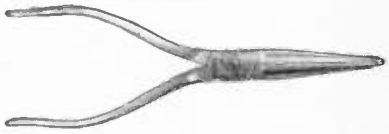
No. 1526-4P ..... 3.45

No. 1525-4½P ..... 3.45

**BOX JOINT Snipe Nose Pliers**

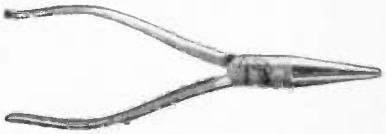
No. 533-P .... 4" 3.30 4½" 3.60

**Slim Snipe Nose Pliers**



No. 1520-P ..... 4" 3.00 4½" 3.25

**Slim Round Nose Pliers**



No. 5020-P ..... 4" 3.00 4½" 3.25

**ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.**

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Net



World Radio History

# Norseman
## ELECTRONIC TOOLS

### STICKLE-BACK DRILSAWS

Made in Germany, this tool will drill holes in wood, plaster board, etc. and saw in any direction.

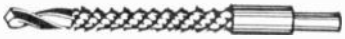
#0—5 x 5/32" dia. ..... $ .98 net
#1—7 x 3/16" dia. ..... 1.85 net
#2—10 x 1/4" dia. ..... 2.45 net
#3—13 x 5/16" dia. ..... 2.95 net
#4—15 x 3/8" dia. ..... 3.25 net
#5—13 x 1/2" dia. ..... (saw rasp) 2.25 net

### REVERSIBLE RATCHETS

A rugged ratcheting box wrench. No buttons, no levers — just turn it over to reverse the ratchet.

1/4" x 5/16" ..... $2.35 net
3/8" x 7/16" ..... 2.65 net
1/2" x 9/16" ..... 3.60 net
5/8" x 11/16" ..... $3.90 net
5/8" x 3/4" ..... 3.90 net
3/4" x 7/8" ..... 4.50 net

### DRILL ROUTERS



Another "Stickle-back" tool, similar to the Drilsaw, but for use in electric drills.

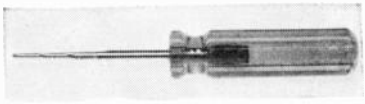
#318-1 2 3/8" x 1/4" dia. ..... $1.40 net
#318-2 4 1/2" x 1/4" dia. ..... 1.60 net

### TIPPY STICKS

Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.

ST-186 6" long ..... .40 net
ST-1810 10" long ..... .45 net
ST-1814 14" long ..... .50 net

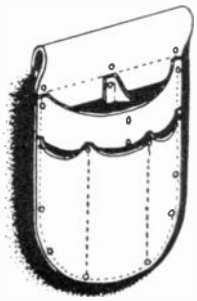
### TRI-TAPS



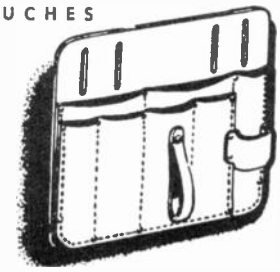
The original 3-in-1 tool with 6/32", 8/32" and 10/32" taps to clean or cut three of the most common threads used in electronic work.

T-3 ..... $1.95 net  T-4 tap only for HT-24 1.45 net
HT-24 with replaceable tap ..... $2.50 net

### TOOL POUCHES



#14 Telephone lineman's pouch of chrome-tanned cowhide. One large separated pocket with three smaller ones in front. Riveted and stitched with linen thread. 6' x 9 1/4" ..... $4.95 net



Electrician's Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, snap loop for roll of tape.

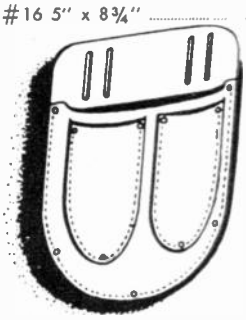
#17 10" x 9" ..... $4.00 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 1 smaller one in front.

#16 5" x 8 3/4" ..... $2.15 net

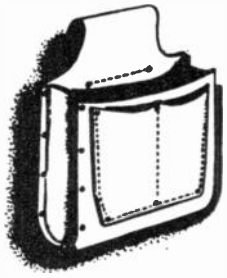
Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.

#15 5 1/2" x 7 3/4" ..... $2.75 net



Radio-TV Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.

#19 8" x 10 1/4" ..... $3.60 net



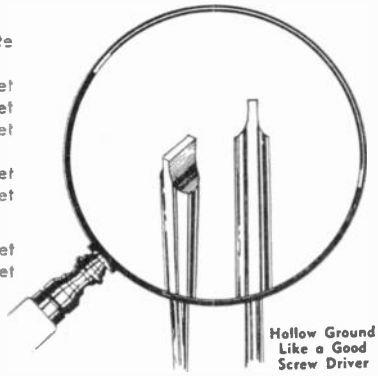
#18 Box type pouch of chrome-tanned cowhide. Large 2" wide pocket with two smaller ones in front. Riveted and stitched with linen thread. 6 1/4" x 9" ..... $3.60 net

### DIDDLE STICKS

Alignment tools of Lucite 10" long.
LU-1810 1/8" dia. ..... .25 net
LU-53210 5/32" dia. .25 net
LU-31610 3/16" dia. 25 net
14" long
LU-53214 5/32" dia. .35 net
LU-31614 3/16" dia. .35 net

Rigid Vinyl 3/16" dia.
RV-31610 10" long ..... .25 net
RV-31614 14" long ..... .35 net

Fibre Glass 1/8" dia.
FG-1810 10" long ..... .35 net
FG-1814 14" long ..... .50 net
FG-1818 18" long ..... .65 net

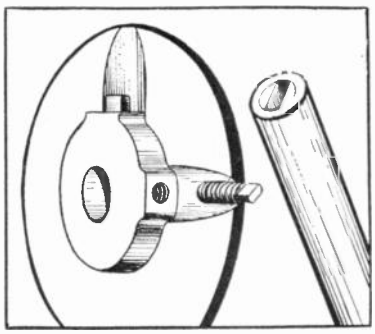


Hollow Ground Like a Good Screw Driver

### SLAB-HEAD DRIVERS

Drivers for SLAB-HEAD screws as used in Delco auto radios, Zenith & Arvin TV and 1956 models of Webcor recorders.

246-P ..... $1.65 net



Clutch Head Screw and Driver

**ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.**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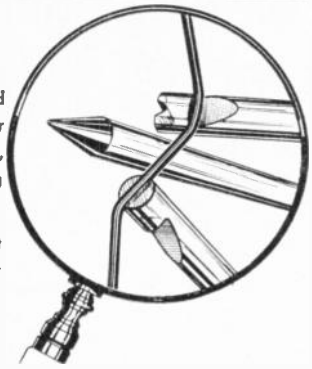
World Radio History

# Norseman
## ELECTRONIC TOOLS

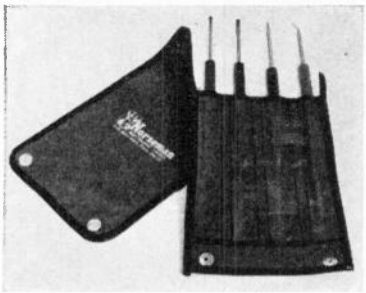
### JIGGLE STICKS

Probes of Lucite, 1 end forked for pushing other end pointed for probing, notched on side for pulling wires.

PR 532-6 5/32" dia. .30 net
PR 316-8 3/16" dia. .35 net



### SOLDERING AID KIT



Red Vinyl plastic kit, packed with 4 Norseman Soldering Aids (#2, 3, 4 & 5) as illustrated.
SA-4 complete kit ..... $3.75 net

Kit with 4 Norseman Soldering Aids with unbreakable aluminum handles (AL-22, AL-33, AL-44 & AL-55).
ALSA-4 complete kit ..... $4.35 net

# NORSEMAN SOLDERING AIDS

AL-22 ALUM. HDLE.

#2 ..... $.60 net
AL-22 ..... $.75 net

AL-33 ALUM. HDLE.

#3 ..... $.60 net
AL-33 ..... $.75 net

AL-44 ALUM. HDLE.

#4 ..... $.75 net
AL-44 ..... $.90 net

AL-55 ALUM. HDLE.

#5 ..... $.75 net
AL-55 ..... $.90 net

**PLASTIC HANDLES**—(#2, #3, #4, #5)—are Hi-Impact Styrene 4" x 3/8" hex—won't roll off the work bench.

**METAL HANDLES**—are aluminum alloy 4" x 3/8" hex and won't roll off the work bench. Being metal, are NOT SHOCK-PROOF and hence not recommended for ordinary radio-TV service work, especially on a 'live' unit. However, these handles are practically unbreakable and were designed to take rough use on industrial assembly lines and can be used as PRY BARS in lining up components.

**METAL ENDS**—(separated from each other) non-magnetic stainless steel, to which solder won't adhere. Are firmly seated in handles and are twist-proof.

**FORKED END**—straddles the wire and with a slight twist, grips it for easy unwinding and removal, or guides it into another lug for soldering. Since plastic handles act as insulation, there is no danger of shock when working on sets in operation. 1/8" forks are made especially for use on printed circuits and transistors.

**SPADE END**—is a reamer to clean lug holes of solder.

**CURVED END**—can be used as a scriber for marking chassis. As a circuit tracer when looking for loose connections. As a dial cord stringer. Hook can be bent to a 90 degree angle if desired.

**WIRE BRUSH**—has approx. 200 bristles of stainless steel wire .0035 in dia. For use in cleaning connections before soldering, brushing out splattered solder and in repairing printed circuits.

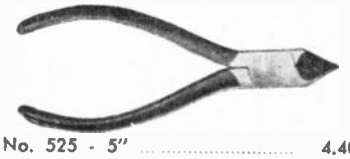
**KNIFE & SCRAPER**—for cutting and repairing printed circuits.

Berg SWEDISH STEEL PLIERS

**MADE IN ESKILSTUNA, SWEDEN, BY E. A. BERG MFG. CO. LTD. • EST. 1880**

Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT

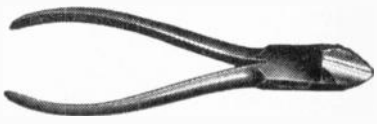


No. 525 - 5" ..... 4.40

High Leverage Diagonal Cutting Pliers.

1508 - 7" ..... 3.00

Straight Cutting Pliers with extended jaws



No. 1529 - 6½" ..... 3.25

**ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.**

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World Radio History

# Handicraft Tools INC.

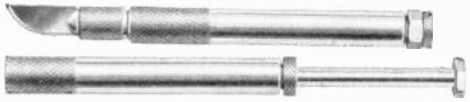
A division of X-acto®, INC.

**KNIVES • with surgically-sharp interchangeable BLADES, ROUTERS, GOUGES AND PUNCHES for cutting, carving, etching, piercing, scribing, scraping, sawing, trimming, slicing, hollowing, stripping, slitting, scoring, etc.**

No. 1—All-metal knife

No. 1-G—Knife with adjustable guard

No. 2—All-metal knife



No. 2-G—Knife with adjustable guard

No. 3—Pen-knife

No. 4—Stencil knife

No. 5—Heavy duty knife

No. 6—All-metal heavy duty knife

No. 8—Utility knife

No. 66—Retractable-blade knife

**NO. 1 KNIFE** — For light to medium work. Aluminum handle (5" long — 5/16" handle diameter) complete with No. 11 blade. **Net 60¢**

**NO. 1-G SAFETY KNIFE** — Same as No. 1 knife with adjustable metal guard for safety and for depth cutting (Pat. Pending). **Net $1.20**

**NO. 2 KNIFE** — For medium to heavy work. Aluminum handle (5" long — 7/16" handle diameter) complete with No. 22 blade. **Net 75¢**

**NO. 2-G SAFETY KNIFE** — Same as No. 2 knife with adjustable metal guard for safety and for depth cutting. (Pat. Pending). **Net $1.50**

**NO. 3 PEN-KNIFE** — Handy utility knife (5⅜" long) — clips to pocket. Plastic barrel, metal blade lock. Complete with No. 10 blade and refill No. 11 blade in handle. **Net $1.00**

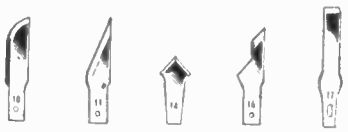
**NO. 4 STENCIL KNIFE** — All-metal handle with detachable blade (5" long with blade — ¼" handle diameter). **Net 30¢**
(Refill blades: No. 4B — pkg. of 5 — Net 25¢)

**NO. 5 KNIFE** — For heavy work. Plastic handle and metal blade lock (4¾" long), complete with No. 19 blade. **Net $1.20**

**NO. 6 KNIFE** — For heavy work. Solid aluminum handle (4¾" long) complete with No. 24 blade. **Net $1.80**

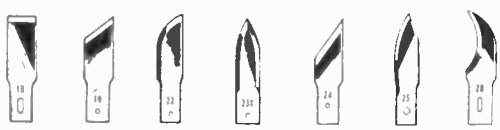
**NO. 8 UTILITY KNIFE** — Steel handle (5⅜" long), patented lock, reversible blade. **Net 29¢**
(Refill blades: No. 8 — pkg. of 5 — Net 30¢)

**NO. 66 POCKET KNIFE** — Stainless steel shell, surgical blade, push button operation. **Net 59¢**
(Refill blades: No. 122 — pkg. of 2 — Net 25¢)



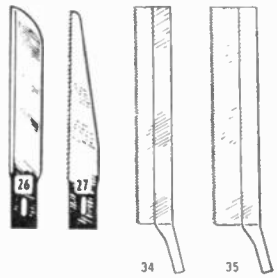
Package of 5 alike Net 60¢
(For 5 assorted, specify Asstmt. No. 1 — Net 60¢)

Fit Nos. 1, 1-G, and 3 handles.



Package of 5 alike Net 60¢
(For 5 assorted, specify Asstmt. No. 2 — Net 60¢)

Fit Nos. 2, 2-G, 5, and 6 handles.




**BLADES**

Pkg. of 2 alike
Net 30¢

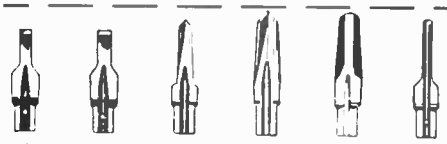
Fit Nos. 2, 5 and 6 handles.

**RAZOR SAWS**

No. 34—¾" wide by 5½" long. Net 40¢

No. 35—1" wide by 5½" long. Net 45¢

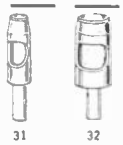
Fit Nos. 5 and 6 handles.




**GOUGES**

Each Net 25¢
(For 5 assorted, specify Asstmt. No. 4 — Net $1.25)

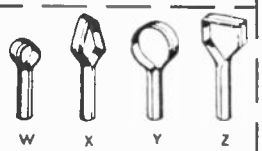
Fit Nos. 5 and 6 handles.




**PUNCHES**

Each Net 30¢
(Pkg. of 2 different Net 60¢)

Fit Nos. 5 and 6 handles.




**ROUTERS**

Each Net 25¢
(For 4 assorted, specify Asstmt. No. 5 — Net $1.00)

Fit Nos. 5 and 6 handles.

**HANDICRAFT TOOLS, INC.** *A division of X-ACTO, INC.* **LONG ISLAND CITY 1, N. Y.**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World Radio History

# Handicraft Tools INC.
A division of X-acto®, INC.

**PRECISION-MADE ELECTRONIC TOOLS**

## KNIFE SETS

**No. 51 KNIFE SET** – No. 1 Knife with 5 extra assorted blades. **Net $1.20**

**No. 52 KNIFE SET** – No. 2 Knife with 5 extra assorted blades. **Net $1.35**

**No. 62 DOUBLE KRYSTAL-PAK KNIFE SET** – Nos. 1 and 2 Knives with 10 extra assorted refill blades. **Net $2.75**

**No. 81 TRIPLE KRYSTAL-PAK KNIFE SET** – Nos. 1, 2, and 5 knives plus 10 assorted extra blades in handy clear plastic case. **Net $3.75**

**No. 82 KNIFE CHEST** – Nos. 1, 2 and 5 Knives plus 9 asstd. extra blades. Handy, natural-finish wood chest. **Net $4.50**

**No. 83 DELUXE KNIFE CHEST** – Nos. 1, 2 and 6 knives plus 18 asstd. extra blades. Handy, natural-finish wood chest. **Net $6.00**

### No. 22 DRILL CHUCK

Precision-tooled English model (1⅜" long). Fits standard hand drills, power drills and lathes. Accommodates No. 61 to No. 80 drill bits. **Net 75¢**

### No. 21D COMBINATION HAND DRILL & PIN VISE

Precision-tooled, double-ended (3¾" long); accommodates No. 45 to No. 80 drill bits. **Net $1.00**

### No. 53 RAZOR SAW BLADE SET

No. 5 Handle and 1 each of No. 34 and No. 35 Saw Blades. **Net $1.75**

### No. 60S SWISS NEEDLE FILE SET

Complete set of 12 assorted styles. **Net $3.95**

### No. 60 FILE SET

Round, flat, and triangular files plus wooden handle. **Net $1.50**

### No. 70 SCREW DRIVER SET

Aluminum handle with sure-locking chuck and 5 assorted steel blades. **Net $1.75**

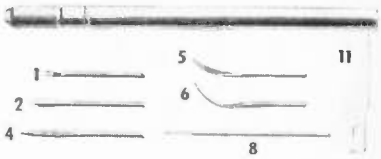
### No. 39 FORCEPS

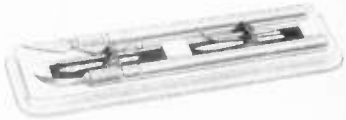
Steel construction. Scissor-action. 5" long.

**Net 75¢**

## SCRAPERS AND PROBES

• All-metal X-acto handle with specially designed chuck takes 6 styles of precision-made English scraper points and 4 shapes of X-acto knife blades.



**No. 63 DOUBLE SCRAPER SET** – 2 metal handles; 6 assorted scraper points; 2 pointed, straight-edged knife blades; packaged in plastic container. **Net $2.75**

**No. 68 METAL HANDLE ONLY** **Net 60¢**

**No. 64 METAL HANDLE** and 1 scraper point. **Net 75¢**

**No. 65 METAL HANDLE,** 6 assorted scraper points. 1 No. 11 knife blade. **Net $1.50**

**No. 67 SCRAPER POINTS** – 6 asstd. (Nos. 1, 2, 4, 5, 6, 8) **Net 90¢**
(Individual points – 15¢ ea.)

## TWEEZERS

**No. 36** – Plain pointed (4¾" long) **Net 40¢**

**No. 37** – Cross-action, self-locking, Pointed (4¾" long) **Net 55¢**

**No. 38** – Cross-action, self-locking, Blunt (6½" long) **Net 60¢**

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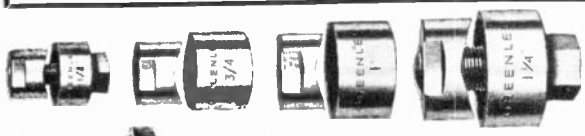
World Radio History

TOOLS FOR CRAFTSMEN

GREENLEE

# KNOCKOUT PUNCHES AND CUTTERS

Greenlee Tool Co., Rockford, Illinois



## NO. 735 KNOCKOUT PUNCH SET

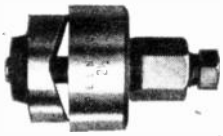
Designed primarily for the electrical trade to permit fast, easy enlarging of knockouts and cutting of holes for conduit in metal boxes and cabinets. Also excellent for automobile work where holes are needed for heater pipes and other accessories. Simply insert the tool in a knockout or small drilled hole and give the screw a few turns with an ordinary wrench. No. 735 set has four punches for cutting 7/8, 1 3/32, 1 11/32, 1 11/16-inch holes for 1/2, 3/4, 1, 1 1/4-inch conduit. Set is neatly packed in leather case illustrated. The 1/2-inch punch will cut a 7/8-inch hole for 1/2-inch conduit where no standard knockout is provided when a 7/16" hole is drilled.

### Heavy Duty Drive for 1/2" Punch

To increase length of service of the 1/2-inch Knockout Punch in cutting 7/8-inch holes in heavier-gauge sheet metals, the No. KR5 Drive Screw with No. KR4 Drive Nut illustrated is recommended.

## NO. 737 KNOCKOUT PUNCH SET

Similar to the No. 735 set, but consists of only two punches for cutting holes to accommodate 1 1/2" and 2" conduit. Packed in leather case.

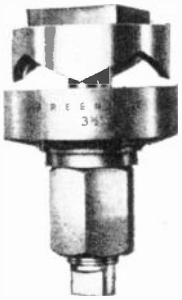


## NOS. 738 AND 739 KNOCKOUT PUNCHES

For cutting holes to accommodate 2 1/2" and 3" conduit. Design is similar to that of smaller GREENLEE Knockout Punches: insert in a knockout or drilled hole and turn drive nut with an ordinary wrench. Packed and sold individually.

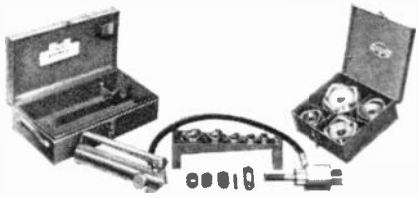
## NOS. 741, 742 and 743 KNOCKOUT PUNCHES

For quickly making smooth openings for 3 1/2", 4" and 5" conduit. Hole is clean, no filing of burrs necessary. Operation is similar to that of other GREENLEE Knockout Punches. Simply insert in hole for 1" conduit and turn drive nut with an ordinary wrench.



### KNOCKOUT PUNCHES — LIST PRICES AND WEIGHTS (WTS. IN LBS.)

| | | Hole Size | Price | Weight |
|---|---|---|---|---|
| No. 735 | Knockout Punch Set | | $11.60 | 2 1/2 |
| KR1 | 1/2" Conduit Punch | 11/16" | 1.50 | 1/16 |
| KR2 | 1/2" Conduit Die | 11/16" | .80 | 1/16 |
| KR3 | 3/8" x 1 1/2" Drive Screw | | .30 | 1/16 |
| K11 | 3/4" Conduit Punch | 1 3/32" | 1.70 | 1/8 |
| K12 | 3/4" Conduit Die | 1-11/32" | .95 | 1/16 |
| K13 | 1" Conduit Punch | 1-11/32" | 1.95 | 1/16 |
| K14 | 1" Conduit Die | 7/8" | 1.10 | 1/8 |
| K15 | 1 1/4" Conduit Punch | 7/8" | 2.20 | 1/16 |
| K16 | 1 1/4" Conduit Die | | 1.20 | 1/16 |
| KR17 | 3/4" x 2 1/4" Drive Screw | 1 3/32" | .45 | 1/8 |
| KR4 | Heavy Duty Drive Nut | | .45 | 1/8 |
| KR5 | Heavy Duty Drive Screw | | .90 | 1/8 |
| No. 737 | Knockout Punch Set Complete | | $12.00 | 3 1/2 |
| K21 | 1 1/2" Conduit Punch | 1 13/16" | 2.80 | 1/2 |
| K22 | 1 1/2" Conduit Die | 1 13/16" | 2.40 | 5/8 |
| K23 | 2" Conduit Punch | 2 3/8" | 3.85 | 7/8 |
| K24 | 2" Conduit Die | 2 3/8" | 3.00 | 1 |
| KR25 | 3/4" x 3" Drive Screw | | .60 | 7/16 |
| No. 738 | Knockout Punch Complete | | $16.25 | 4 1/2 |
| K31 | 2 1/2" Conduit Punch | 2 7/8" | 6.30 | 1 3/8 |
| K32 | 2 1/2" Conduit Die | 2 7/8" | 5.75 | 1 1/2 |
| K34 | Drive Nut | | 1.60 | 1/2 |
| K35 | 3/4" x 5 3/8" Drive Screw | | 3.15 | 7/8 |
| No. 739 | Knockout Punch Complete | | $22.00 | 6 1/2 |
| K34 | Drive Nut | | 1.60 | 1/2 |
| K35 | 3/4" x 5 3/8" Drive Screw | | 3.15 | 7/8 |
| K37 | 3" Conduit Punch | 3 1/2" | 9.35 | 2 1/2 |
| K38 | 3" Conduit Die | 3 1/2" | 8.65 | 2 1/2 |
| No. 741 | Knockout Punch Complete | | $43.00 | 10 3/8 |
| K41 | 3 1/2" Conduit Die | 4" | 15.50 | 3 1/4 |
| K42 | 3 1/2" Conduit Punch | 4" | 20.00 | 3 |
| K44 | Drive Nut | | 2.20 | 1 1/4 |
| K45 | 1 1/8" x 6 3/4" Drive Screw | | 6.60 | 2 1/4 |
| K46 | Bushing | | 2.50 | 5/8 |
| No. 742 | Knockout Punch Complete | | $53.00 | 12 1/8 |
| K44 | Drive Nut | | 2.20 | 1 1/4 |
| K45 | 1 1/8" x 6 3/4" Drive Screw | | 6.60 | 2 1/4 |
| K46 | Bushing | | 2.50 | 5/8 |
| K47 | 4" Conduit Punch | 4 1/2" | 26.50 | 4 1/2 |
| K48 | 4" Conduit Die | 4 1/2" | 20.00 | 3 1/2 |
| No. 740 | Knockout Cutter Complete | | $17.50 | 4 3/4 |
| K51 | Lock Screw (2) | | .35 | 1/32 |
| K52 | Wheel Cutter (2) | | .65 | 3/32 |
| K53 | Feed Nut | | .30 | 1/16 |
| K54 | 1 1/8" dia. Disc | | .80 | 3/16 |
| K55 | 2 3/8" dia. Disc | | .95 | 3/16 |
| K56 | 2 7/8" dia. Disc | | 1.20 | 3/16 |
| K57 | 3 1/2" dia. Disc | | 1.40 | 1/2 |
| K58 | Body | | 6.35 | 1 3/8 |
| K59 | Center Shaft | | 1.00 | 1/2 |
| K60 | Drive Nut | | .95 | 3/16 |
| K61 | Retainer Screw (2) | | .50 | 3/16 |
| K62 | Cutter Bushing (2) | | .35 | 3/32 |
| K63 | Cutter Support (2) | | .75 | 3/16 |
| K64 | Key Washer | | .30 | 3/32 |
| K65 | Woodruff Key | | .10 | 3/32 |



Set No. 7310

## HYDRAULIC KNOCKOUT PUNCH DRIVER AND PUNCH SETS

The GREENLEE No. 7646A Hydraulic Knockout Punch Driver is a powerful unit for operating all GREENLEE Knockout Punches. Also drives GREENLEE Radio Chassis Punches. Available separately, complete with hydraulic pump, in metal carrying case at $100.00 list; weight 20 lbs. Sets including knockout punches, in metal carrying cases: No. 7310 — complete driver with ten punches for 1/2" to 4" conduit, $232.50 list; 50 lbs. No. 7306 — complete driver with six punches for 1/2" to 2" conduit, $122.50 list; 25 lbs. No. 7304 — four knockout punches only, in metal case . . . for 2-1/2", 3", 3-1/2", and 4" conduit, $110.00 list; 25 lbs. No. 743 knockout punch for 5" conduit is available separately; list, punch $37.00 die $30.00



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TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

World Radio History

# RADIO CHASSIS PUNCHES

## ROUND, SQUARE, "KEY" AND "D" TYPES

TOOLS FOR CRAFTSMEN

GREENLEE

Greenlee Tool Co., Rockford, Illinois

No. 730

### No. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. Twenty sizes from ½ to 2-25/32" diameter. **New Ball-Bearing Drive available for even easier, speedier operation.**

No. 731

### No. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in four sizes for making ½", ⅝", ¾" and 1" square holes. Drive screw fits into ½" hole, which can be drilled or made with ½" No. 730 Greenlee Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

### No. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other Greenlee Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1-11/64", 1-17/64", 1-21/64". Drive screw fits into ½" hole. Individually packed.

No. 732

### No. 733 "D" PUNCH

Simplifies and speeds the work of making "D" shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in ½" and ⅝" sizes. Operates on same principle as other Greenlee Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into ⅜" drilled hole. Individually packed.

No. 733

#### NO. 730 ROUND RADIO PUNCHES — LIST PRICES

| | | Price |
|---|---|---|
| ½" Punch Complete | | 2.60 |
| R1 | ½" Punch | 1.50 |
| R2 | ½" Die | .80 |
| R3 | ¼" Screw | .30 |
| ⅝" Punch Complete | | 2.60 |
| R5 | ⅝" Punch | 1.50 |
| R6 | ⅝" Die | .80 |
| R3 | ¼" Screw | .30 |
| 11/16" Punch Complete | | 2.60 |
| R98 | 11/16" Punch | 1.50 |
| R99 | 11/16" Die | .80 |
| KR3 | ⅜" Screw | .30 |
| ¾" Punch Complete | | 2.60 |
| R7 | ¾" Punch | 1.50 |
| R8 | ¾" Die | .80 |
| KR3 | ⅜"x1½" Screw | .30 |
| 13/16" Punch Complete | | 2.60 |
| R100 | 13/16" Punch | 1.50 |
| R101 | 13/16" Die | .80 |
| KR3 | ⅜" Screw | .30 |
| ⅞" Punch Complete | | 2.60 |
| KR1 | ⅞" Punch | 1.50 |
| KR2 | ⅞" Die | .80 |
| KR3 | ⅜" Screw | .30 |
| 1" Punch Complete | | 2.85 |
| R11 | 1" Punch | 1.60 |
| R12 | 1" Die | .90 |
| R13 | ⅜"x2" Screw | .35 |
| 1-1/16" Punch Complete | | 3.00 |
| R15 | 1-1/16" Punch | 1.70 |
| R16 | 1-1/16" Die | .95 |
| R13 | ⅜"x2" Screw | .35 |
| 1⅛" Punch Complete | | 3.00 |
| R17 | 1⅛" Punch | 1.70 |
| R18 | 1⅛" Die | .95 |
| R13 | ⅜"x2" Screw | .35 |
| 1-5/32" Punch Complete | | 3.00 |
| R19 | 1-5/32" Punch | 1.70 |
| R20 | 1-5/32" Die | .95 |
| R13 | ⅜"x2" Screw | .35 |
| 1-3/16" Punch Complete | | 3.00 |
| R21 | 1-3/16" Punch | 1.70 |
| R22 | 1-3/16" Die | .95 |
| R13 | ⅜"x2" Screw | .35 |
| 1¼" Punch Complete | | 3.00 |
| R23 | 1¼" Punch | 1.70 |
| R24 | 1¼" Die | .95 |
| R13 | ⅜"x2" Screw | .35 |
| 1⅜" Punch Complete | | 3.40 |
| R25 | 1⅜" Punch | 1.95 |
| R26 | 1⅜" Die | 1.10 |
| R13 | ⅜"x2" Screw | .35 |
| 1½" Punch Complete | | 3.85 |
| R27 | 1½" Punch | 2.25 |
| R28 | 1½" Die | 1.25 |
| R13 | ⅜"x2" Screw | .35 |
| 1⅝" Punch Complete | | 4.50 |
| R29 | 1⅝" Punch | 2.65 |
| R30 | 1⅝" Die | 1.40 |
| KR17 | ¾"x2¼" Screw | .45 |
| 1¾" Punch Complete | | 5.10 |
| R31 | 1¾" Punch | 2.95 |
| R32 | 1¾" Die | 1.70 |
| KR17 | ¾"x2¼" Screw | .45 |
| 1⅞" Punch Complete | | 6.35 |
| R33 | 1⅞" Punch | 3.30 |
| R34 | 1⅞" Die | 2.45 |
| KR25 | ¾"x3" Screw | .60 |
| 2" Punch Complete | | 6.85 |
| R35 | 2" Punch | 3.55 |
| R36 | 2" Die | 2.70 |
| KR25 | ¾"x3" Screw | .60 |
| 2¼" Punch Complete | | 7.45 |
| R37 | 2¼" Punch | 3.85 |
| R38 | 2¼" Die | 3.00 |
| KR25 | ¾"x3" Screw | .60 |

#### NO. 730-M RADIO METER PUNCH — LIST PRICES

| | | |
|---|---|---|
| 2-25/32" Punch Complete | | 12.50 |
| R108 | 2-25/32" Punch | 6.50 |
| R109 | 2-25/32" Die | 5.40 |
| KR25 | ¾"x3" Screw | .60 |

#### NO. 731 SQUARE RADIO PUNCHES — LIST PRICES

| | | |
|---|---|---|
| ½" Punch Complete | | 4.75 |
| R104 | ½" Square Punch | 1.90 |
| R105 | ½" Square Die | 1.60 |
| R106 | ½" Drive Screw | .95 |
| R107 | ½" Drive Nut | .30 |
| ⅝" Punch Complete | | 4.90 |
| R51 | ⅝" Square Punch | 2.00 |
| R52 | ⅝" Square Die | 1.65 |
| R53 | 31/64" Drive Screw | .95 |
| R54 | Drive Nut | .30 |
| ¾" Punch Complete | | 5.40 |
| R55 | ¾" Square Punch | 2.20 |
| R56 | ¾" Square Die | 1.90 |
| R57 | 31/64" Drive Screw | 1.00 |
| R54 | Drive Nut | .30 |
| ⅞" Square Radio Chassis Punch Complete | | 6.00 |
| AV5452 | Punch | 2.35 |
| AV5453 | Die | 2.15 |
| AV5454 | Drive Screw | 1.20 |
| AV2929 | Drive Nut | .30 |
| 1" Punch Complete | | 6.50 |
| R59 | 1" Square Punch | 2.50 |
| R60 | 1" Square Die | 2.25 |
| R61 | 31/64" Drive Screw | 1.45 |
| R54 | Drive Nut | .30 |

#### NO. 732 "KEY" RADIO PUNCHES — LIST PRICES

| | | |
|---|---|---|
| 15/32" Punch Complete | | 5.00 |
| R110 | Key Punch | 2.00 |
| R111 | Key Die | 1.30 |
| R112 | ¼" Drive Screw | 1.40 |
| R107 | Drive Nut | .30 |
| 15/16" Punch Complete | | 4.90 |
| R71 | 15/16" Key Punch | 1.90 |
| R72 | 15/16" Key Die | 1.20 |
| R73 | 31/64" Drive Screw | 1.50 |
| R54 | Drive Nut | .30 |
| 1-11/64" Punch Complete | | 5.35 |
| R75 | 1-11/64" Key Punch | 1.95 |
| R76 | 1-11/64" Key Die | 1.35 |
| R77 | 31/64" Drive Screw | 1.75 |
| R54 | Drive Nut | .30 |
| 1-17/64" Punch Complete | | 5.85 |
| R79 | 1-17/64" Key Punch | 2.10 |
| R80 | 1-17/64" Key Die | 1.45 |
| R81 | 31/64" Drive Screw | 2.00 |
| R54 | Drive Nut | .30 |
| 1-21/64" Punch Complete | | 6.35 |
| R83 | 1-21/64" Key Punch | 2.25 |
| R84 | 1-21/64" Key Die | 1.55 |
| R85 | 31/64" Drive Screw | 2.25 |
| R54 | Drive Nut | .30 |

#### NO. 733 "D" RADIO PUNCHES — LIST PRICES

| | | |
|---|---|---|
| ½" Punch Complete | | 4.50 |
| R91 | ½" "D" Punch | 1.85 |
| R92 | ½" "D" Die | 1.30 |
| R93 | 5/16" Drive Screw | 1.05 |
| R94 | Drive Nut | .30 |
| ⅝" Punch Complete | | 4.80 |
| R95 | ⅝" "D" Punch | 1.95 |
| R96 | ⅝" "D" Die | 1.35 |
| R97 | 5/16" Drive Screw | 1.20 |
| R94 | Drive Nut | .30 |

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World Radio History

# CUT STAPLING COSTS OVER 70%

## MOTION PHOTOS PROVE ARROW 6 TIMES MORE EFFICIENT

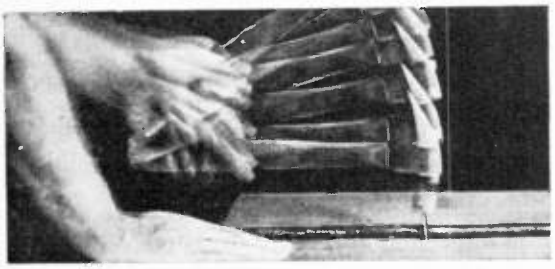


**Photo above** shows motion and energy used in conventional hammering of single electrical cable staple.

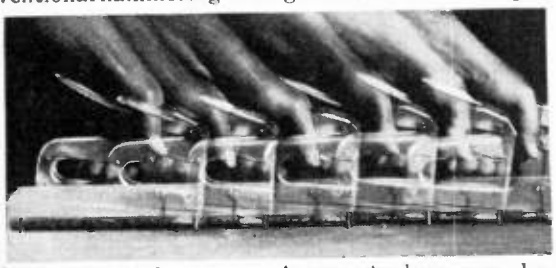


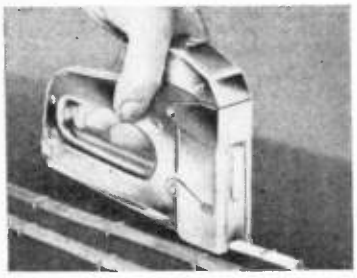
**Photo above** shows new Arrow staple gun under identical conditions fastening 6 times the length of cable. **Result**: over 70% more efficiency, greatly reduced fatigue.

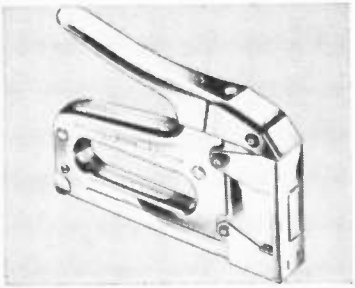
## WITH NEW ARROW AUTOMATIC STAPLE GUNS!

New Arrow Staple Guns have an enormously powerful single stroke action that shoots staples in 1/1000 of a second . . . imbeds them firmly, evenly, without twisting or bending the staple, without danger of damaging wire. What's more, the Arrow Staple Gun cannot jam. These factors make Arrow tackers 70% easier and more efficient than the obsolete hammer method . . . a 70% saving in fatigue and efficiency that can mean countless dollars to you. Very important, too, Arrow Staple Guns are safer . . . there's never a banged finger, never a skin puncture, never any clothing torn by rough, jagged, loose staples.

- No damage to wire, no short circuits because staples are automatically stopped at the right height and cannot cut sheathing.
- Tremendous holding power! New extended staple points spread to lock themselves into wood.
- No on-the-job accidents! Amazingly easy one-hand operation leaves one hand free for safety on ladders, etc.

**SO SAFE IT WON'T HURT A CIGARETTE**





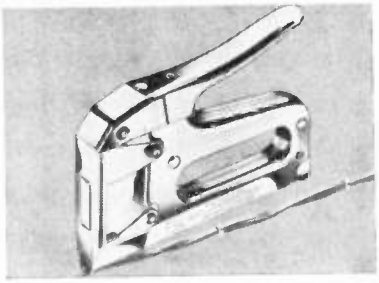
**T-75**
for non-metallic sheathed cable up to 1/2" in diameter . . . use 9/16" staple for very hard woods; 5/8" staple (for 2 to 3 conductor 14); 7/8" staple (for 2 or 3 conductor 12). List Price $15.00.

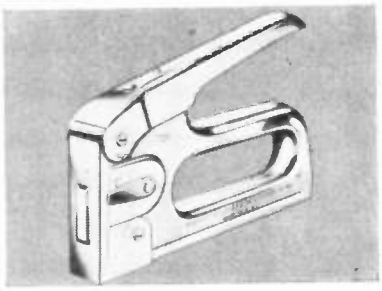
**T-25**
for wires up to 1/4" in diameter (bell, thermostat, telephone, inter-com, burglar alarm type wires, etc.) . . . uses 3/8", 7/16", and 9/16" staples. List Price $15.00.

**T-50**
T-50 Automatic Staple Tacker uses 1/4", 5/16", 3/8", 1/2", and 9/16" and Ceiltile staples. All purpose, fastens insulation, ceiling tile, upholstery, etc. List Price $12.50.

**T-32**
Arrow's T-32 can be used to staple 300 ohm wire, microphone cables, zip wire, etc. Uses 3/16", 1/4", and 5/16" staples. List Price $10.50.

**TAPERED STRIKING EDGE GETS INTO CORNERS AND TIGHT PLACES**





**ARROW FASTENER CO., INC.**
**Brooklyn 12, N. Y.**



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TRADE DISCOUNT APPLIES TO *LIST* PRICES ONLY

World Radio History

# PERMACEL® PLASTIC *Electrical* TAPE

PERMACEL 29A DISPLAY
12 rolls — ½" x 150'

## FOR ELECTRICAL REPAIRS

High Dielectric Strength—Flexible—Good Stretch and Conformability—Snug Wrap—Waterproof—Resists Oil, Gasoline, Water, Salt Water, Alkalis and Sunlight. Hundreds of uses!

### PERMACEL 29
### PLASTIC ELECTRICAL TAPE

### TECHNICAL DATA

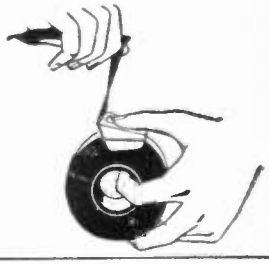
| | |
|---|---|
| Dielectric Strength | 10,000 volts |
| Thickness | 7 mils |
| Adhesion (oz./inch) | 25 |
| Tensile strength (lbs./inch) | 20 |
| Elongation | 175% |

PERMACEL 29D DISPLAY
12 rolls — ¾" x 66'

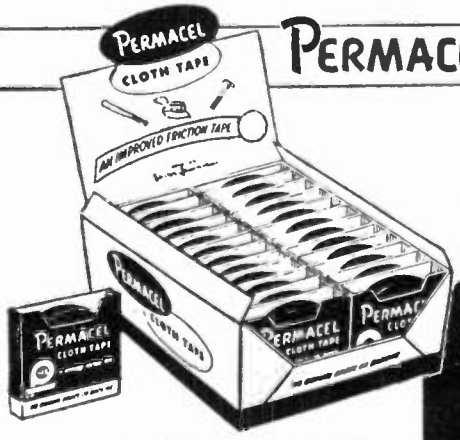
PERMACEL 29C DISPLAY
12 rolls — ¾" x 20'

## FREE CUTTER BAR WITH EVERY 66' ROLL!

Eliminates need for scissors, razor blades or penknives. Made of durable plastic—good for thousands of cuts. A non-conductor—safe for all electrical uses. Saves money—prevents tape waste.



## PERMACEL® CLOTH TAPE...an improved Friction Tape




PERMACEL 64B DISPLAY
24 rolls — ¾" x 60'

No gummy edges or backing—better adhesion to its own backing and other surfaces—easier unwind—thinner, builds up less bulk—excellent insulation—long-aging.

SELF-STICKING
# PERMACEL® TAPE

PERMACEL-LEPAGE'S INC. • New Brunswick, New Jersey
TAPES • ADHESIVES • ELECTRONIC AND CHEMICAL MATERIALS

*Copyright by U. C. P., Inc.*



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# KRYLON® CRYSTAL-CLEAR

## ACRYLIC SPRAY COATING

### for Television, Radio, Electronic Use

- prevents corona in high voltage sections
- keeps lead-in connections tight
- prevents rusting and pitting of antennas

Just spray it on — that's all! No special equipment needed. Krylon dries in a few minutes to form a hard, waterproof coating that seals and lasts. Resists climatic conditions, salt spray, etc. . . . doesn't dry out or crack. Krylon, due to its high dielectric strength, prevents many of the causes of picture fading and high-voltage section losses.

"KRYLON-izing" is standard procedure in TV installations! And for one good reason: it pays off in dollars and cents!

**Krylon Characteristics**

Dielectric constant of 3.2 to 3.7 (1,000 cycles)

Dielectric strength of 400 to 800 (number of volts necessary to cause an electric arc through a Krylon coat one mil thick)

Electrical resistance of $10^{10}$ ohms/cm².

**KRYLON Dulling Spray**

. . . a "must" in TV, movie and photographic studios

- Eliminates glare, bothersome highlights
- Simplifies lighting arrangements
- Easy to apply . . . sets in seconds
- For both black and white and color use

**KRYLON Foaming Window Spray**

. . . removes finger marks and dust from TV masks and screens . . . good antistatic properties.

**KRYLON Rust Release Penetrating Oil Spray**

. . . instantly, easily frees rusty bolts and nuts and frozen parts . . . lubricates as it penetrates.

**KRYLON Varnish Sprays**

. . . HIGH-GLOSS and SATIN-FINISH (alcohol and hot liquid resistant) for professional finish . . . dries in minutes.

**Other KRYLON spray products you will want to keep handy:**

**METAL PRIMER · STENCIL INK · HIDE-A-MARK · RUST VETO · CLEANER and DEGREASER**

## PERFECT PAINTING THE "PUSH-BUTTON" WAY

**Beautify in minutes with**

# KRYLON® SPRAY PAINTS

. . . the modern way to paint almost everything!
No fuss, no muss, no lost time

**AVAILABLE in 6-oz. and 16-oz. DISPENSERS**

| 6-oz. Order No. | 16-oz. Order No. | COLOR | List Price is Indicated |
|---|---|---|---|
| 1300A | 1302 | CRYSTAL-CLEAR | All 6-oz. colors and Crystal-Clear, ea. |
| 1401A | 1401 | Bright Silver (Alum) | |
| 1501A | 1501 | Glossy White | |
| 1502A | 1502 | Flat White | |
| — | 1503 | Antique Ivory | 98¢ |
| 1601A | 1601 | Glossy Black | |
| 1602A | 1602 | Flat Black | |
| 1603A | 1603 | Machine Grey | |
| 1604A | 1604 | Light Grey | |
| 1605A | 1605 | Dove Grey | 16-oz. colors, ea. |
| 1701A | 1701 | Bright Gold | |
| 1801A | 1801 | Chrome Yellow | $1.79 |
| — | 1802 | Pastel Yellow | |
| 1901A | 1901 | Regal Blue | |
| 1902A | 1902 | Baby Blue | |
| 2001A | 2001 | Hunter Green | Crystal-Clear, ea. 16-oz. |
| — | 2002 | Surf Green | |
| 2101A | 2101 | Cherry Red | |
| 2102A | 2102 | Baby Pink | $1.95 |
| 2201A | 2201 | Bright Copper | |
| — | 2301 | O.D. Khaki | |
| — | 2401 | Int'l. Orange | |



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# volume control *and* contact restorer

*contains* PERMA-FILM

NOT A CARBON TET SOLUTION

The amazing chemical formula that **cleans, lubricates** and **protects volume controls, band switches, push button assemblies** and **electrical contacts.** Prevents gumming and eliminates binding in automatic record changers. May also be used for noisy tube sockets! Does not harm precious metals nor insulations; does not change capacities.

2 Oz. Bottle **$1.00** 6 Oz. Spray Can **$2.25** Both Net To Service men

**ALL "NO-NOISE" PRODUCTS SOLD WITH MONEY BACK GUARANTEE**

*the* "NO NOISE" *big* **3**

# *New* rubber coat spray

*contains* NO PLASTIC

NON-INFLAMMABLE

The revolutionary **rubber coating that can be sprayed.** Insulates where applied, protects indefinitely. Prevents arcing, shorting and corrosion; waterproofs, too! Here's the perfect product for TV, radio, FM, auto wiring and antenna protection in its most convenient, effective form.

6 Oz. Spray Can

**$3.25**

Net To Servicemen

**ELECTRONIC CHEMICAL Corp.**

Jersey City 4, N. J.

**BEWARE OF CHEAP SUBSTITUTES**

**Cleans, lubricates, restores all tuners,** including wafer type, with just one application. Won't change or affect capacities, inductance or resistance, nor will it harm insulations or precious metals, nor attack plastics. The ideal product for TV, radio and FM. Noise, oxidation and dirt are indefinitely eliminated.

6 Oz. Aerosol Can

**$3.25**

Net To Servicemen

# tuner-tonic

*contains* PERMA-FILM

NON-TOXIC and NON-INFLAMMABLE

Economical . . . A Little Does A Lot!

*Copyright by U. C. P., Inc.*



World Radio History

# "QUIETROLE"... the original LUBRICANT CLEANER

TRADE MARK REG. U.S. PAT. OFF.

# SPRAY IT or DROP IT...

## *the New* QUIETROLE SPRAY-PACK

or the

## QUIETROLE BOTTLE with the Eye Dropper

"QUIETROLE" is the preferred, standard product of the industry! Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, non-inflammable, most reliable lubricant-cleaner on the market today—developed through years of factual and authentic research.

**There is no substitute for QUALITY . . . get QUIETROLE TODAY**

***A First of the Industry . . . A Ten Year Plus Record of Proven Superiority. Built to Meet a Demand, Not a Price***

### QUIETROLE BOTTLE

| Size | Cat. No. | Min. Order | Min. Re-order | Distr. Net Resale Price |
|---|---|---|---|---|
| 2 oz. | 10-2 | 24 | 24 | $1.69 |
| 4 oz. | 10-3 | 16 | 8 | 2.54 |
| 8 oz. | 10-4 | 8 | 6 | 5.07 |

Effective Savings on Gross Lot Purchase
10-2 Size

### QUIETROLE SPRAY-PACK (CAN)

| | | | | |
|---|---|---|---|---|
| 6 oz. | 10-5 | 12 | 12 | 2.79 |

*Mfd. by*

## QUIETROLE COMPANY, INC. · SPARTANSBURG, S. C.


Copyright by U. C. P., Inc.


World Radio History

# THE NEW MIRACLE T. V. TUNER CLEANER

## CHEMICALLY ENGINEERED FOR ELECTRONIC TECHNICIANS

# HUSH

*Reg. U. S. Pat. Off.*

**HUSH is not recommended for Potentiometers, ("volume controls")**

Chemically engineered for that tuner and switching mechanism. Hush comes in a 6 oz. pressure can with sufficient pressure to reach all contacts to wash-a-way that dirt, leaving clean and positive contacts, protected with a lasting lubricant film and with no powder residue.

**6 oz. ECONOMY SPRAY CAN $2.25**
Hush also available in 2 oz., 8 oz. and 32 oz. containers. Net

*"Spray It and Forget It"*

## SINCE 1949 THE ORIGINAL

# SUPER EVER-QUIET

*Reg. U. S. Pat. Off. Pend.*

**VOLUME CONTROL and CONTACT RESTORER**

*A Few Drops*
*Does the Job*

**79c 2 oz Net**
*(32 oz. sizes available)*

EVER-QUIET is a free-flowing liquid that leaves no powder residue. Scientifically designed to seep around the shaft and penetrate the control or potentiometer, cleaning the contacts and leaving a safe protecting film.
EVER-QUIET is harmless to metals, wire or carbon.
EVER-QUIET is guaranteed for the uses recommended. Sold with a money back guarantee.

### ANOTHER QUALITY PRODUCT

EVER-QUIET now available in a 6 oz. pressure can, chemically engineered with sufficient pressure to reach those out-of-way, hard to get-at controls, push button assemblies, band switches and other electrical contacts.

**6 oz. SPRAY CAN $1.59** Net

## CHEMICAL ELECTRONIC ENGINEERING, INC.

*Manufacturers of: HUSH — EVER-QUIET — EVER KLEER — OPTIC KLEER — SURE-N-EASY*

MATAWAN, NEW JERSEY

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World Radio History

KEYSTONE DESIGNERS & MANUFACTURERS NEW YORK 12, N. Y.

# ELECTRONIC COMPONENTS

• TERMINAL BOARDS • BATTERY HOLDERS • ELECTRONIC HARDWARE • SHAFTLOCKS • TEST LEADS

## KEYSTONE BATTERY HOLDERS

These holders are designed for use in transistor assemblies, radios, Geiger counters, meters, model airplanes, etc. They feature engineered snap clips, moisture-proof fibre washers, spring-temper aluminum alloy, nickel-plated eyelets. Terminals are coated for easy soldering. Mounting holes on all holders.

### STANDARD BATTERY HOLDERS

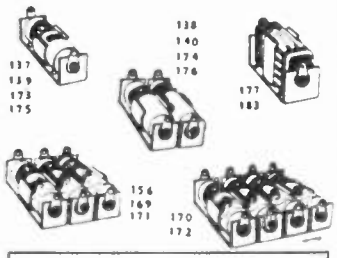
| Keystone No. | Holds | Battery * | Keystone No. | Holds | Battery * | Keystone No. | Holds | Battery † |
|---|---|---|---|---|---|---|---|---|
| 137 | 1 min. cell | 912 | 185 | 2 "C" cells, end to end | 935 | 167 | 2 15-v. cells | U10 |
| 138 | 2 min. cells | 912 | | | | 225 | 1 15-v. cell | Y10 |
| 169 | 3 min. cells | 912 | 175 | 1 "D" cell | D-99 | 226 | 2 15-v. cells | Y10 |
| 170 | 4 min. cells | 912 | 176 | 2 "D" cells | A-100 | 164 | 1 22½-v. cell | K15 |
| 139 | 1 pen cell | E9 | 186 | 2 "D" cells, end to end | 724, 950 | 139 | 1 22½-v. cell | Y15 |
| 140 | 2 pen cells | E12 | | | | 140 | 2 22½-v. cells | Y15 |
| 171 | 3 pen cells | E133 | 154 | 1 1½-v. cell | W468 | 177 | 1 22½-v. cell | U15 |
| 182 | 4 pen cells | E502 | 155 | 2 1½-v. cells | W468 | 178 | 2 22½-v. cells | U15 |
| 189 | 2 pen cells, end to end | 915, 1015E | 156 | 3 1½-v. cells | W468 | 165 | 1 30-v. cell | K20 |
| | | | 160 | 1 1½-v. cell | 964 | 183 | 1 30-v. cell | U20 |
| | | | | | | 184 | 2 30-v. cells | U20 |
| 173 | 1 "C" cell | E233 | 163 | 1 15-v. cell | 417 | 157 | 1 30-v. cell | Y20 |
| 174 | 2 "C" cells | 635 | 166 | 1 15-v. cell | 411 | 134 | 1 30-v. cell | Y20S |

*Eveready type that fits (will take Burgess equal). †Burgess type that fits (will take Eveready equal)

### MERCURY BATTERY HOLDERS

| Keystone No. | Mallory Battery ‡ | Keystone No. | Mallory Battery ‡ |
|---|---|---|---|
| 101 | RM-1R | 132 | TR-163R |
| 103 | RM-3R | 109 | TR-164R |
| 104 | RM-4R | 110 | TR-165R |
| 139 | ZM-9 | 173 | TR-233R |
| 139 | RM-12R | 111 | TR-400R |
| 175 | RM-12R | 154 | RM-401R |
| 113 | TR-113R | 112 | RM-450R |
| 114 | TR-111R | 139 | RM-502R |
| 132 | TR-115R | 116 | RM-601R |
| 132 | TR-132R | 117 | RM-625R |
| 139 | TR-133R | 118 | RM-640R |
| 134 | TR-134R | 119 | 302451M |
| 135 | TR-145R | 120 | 302478M |
| 189 | TR-136R | 121 | 302642M |
| 154 | TR-152R | 122 | 302435M |
| 106 | TR-154R | 139 | 302437M |
| 113 | TR-162R | 173 | 302599M |

‡With other manufacturers' equivalent models

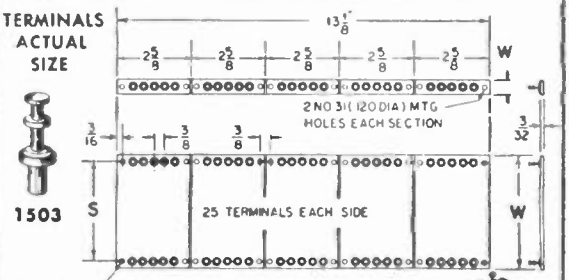



SPECIAL BATTERY HOLDERS CAN BE BUILT TO YOUR SPECIFICATIONS. WRITE FOR INFORMATION.

## STANDARDIZED TURRET TERMINAL BOARDS

Cut your production cost by eliminating the tooling and setup charge usually applied to nonstandardized boards. Terminals are securely riveted and hot tinned for easy soldering. Material 3/32" thick natural bakelite to Gov't Spec MIL-P-3115B-TYPE PBE. Five 2-5/8" sections scored for easy separation. Specify #1503, 1507 or 1509 Terminal when ordering.

TERMINALS ACTUAL SIZE



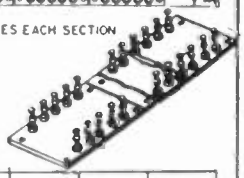

1503

1507

1509

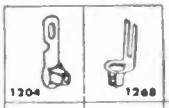
CHOICE OF TERMINALS

1503 ▼ 1507 ▼ 1509 ▼



| CAT NO | CAT NO | CAT NO | W width | S ins. dim | Total No terminals |
|---|---|---|---|---|---|
| 15031 | 15071 | 15091 | 1/2 | single | 25 |
| 15032 | 15072 | 15092 | 1 1/2 | 1 | 50 |
| 15033 | 15073 | 15093 | 2 | 1 1/2 | 50 |
| 15034 | 15074 | 15094 | 2 1/2 | 2 | 50 |
| 15035 | 15075 | 15095 | 3 | 2 1/2 | 50 |
| 15036 | 15076 | 15096 | 1 1/2 | 1 3/16 | 50 |

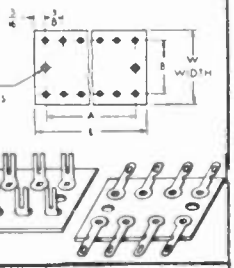
CHOICE OF TERMINALS



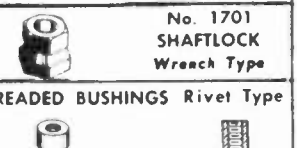

## READI-MADE TERMINAL BOARDS

An inexpensive line of terminal boards for general use. Terminals are hot tinned for easy soldering and provide a rigid mounting for resistors, condensers, etc. Material 1/16" thick bakelite.

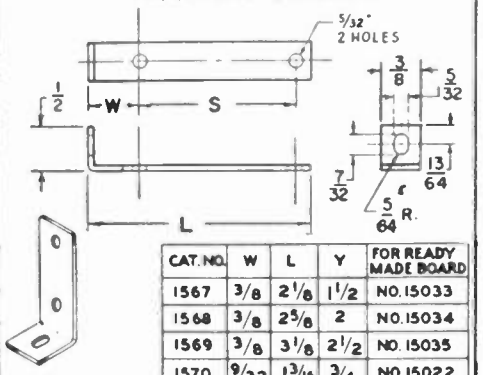
**Mounting Holes Provided on all Boards**




| CAT NO | CAT NO | W width | L length | A mtg ctr | B dim | terminal ea side |
|---|---|---|---|---|---|---|
| 1204-12 | 1268-12 | 1 | 2 1/4 | 1 7/8 | 11/16 | 6 |
| 1204-28 | 1268-28 | 1 | 5 1/4 | 4 7/8 | 11/16 | 14 |
| 1204-20 | 1268-20 | 1 3/4 | 3 3/4 | 3 3/8 | 1 7/16 | 10 |
| 1204-22 | 1268-22 | 1 3/4 | 4 1/8 | 3 3/4 | 1 7/16 | 11 |
| 1204-38 | 1268-38 | 1 3/4 | 7 1/8 | 6 3/4 | 1 7/16 | 19 |



## MOUNTING BRACKETS

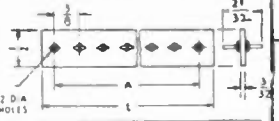


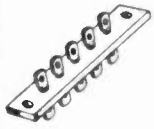

16 GA STEEL NICKEL PLATED

| CAT. NO. | W | L | Y | FOR READY MADE BOARD |
|---|---|---|---|---|
| 1567 | 3/8 | 2 1/8 | 1 1/2 | NO. 15033 |
| 1568 | 3/8 | 2 5/8 | 2 | NO. 15034 |
| 1569 | 3/8 | 3 1/8 | 2 1/2 | NO. 15035 |
| 1570 | 9/32 | 1 3/16 | 3/4 | NO. 15022 |
| 1571 | 9/32 | 1 5/8 | 1 3/16 | NO. 15036 |

## FEED THRU TERMINAL BOARD

Terminals made of copper, hot tinned and force fitted into 3/32" thick bakelite. Holes pierced in Terminal at each end to provide a sturdy feed thru terminal.



| CAT No | No LUGS | A MTG CENTER | L LENGTH |
|---|---|---|---|
| 1220 1 | 1 | 5/8 | 1 1/8 |
| 1220 2 | 2 | 1 1/8 | 1 1/2 |
| 1220 3 | 3 | 1 5/8 | 1 7/8 |
| 1220 4 | 4 | 1 7/8 | 2 1/4 |
| 1220 5 | 5 | 2 1/4 | 2 5/8 |
| 1220 6 | 6 | 2 5/8 | 3 |
| 1220 7 | 7 | 3 | 3 3/8 |
| 1220 8 | 8 | 3 3/8 | 3 3/4 |
| 1220 9 | 9 | 3 3/4 | 4 1/8 |
| 1220 10 | 10 | 4 1/8 | 4 1/2 |



No. 1701 SHAFTLOCK Wrench Type

## THREADED BUSHINGS Rivet Type

BRASS NICKEL PLATED

(H) = 1/8" ABOVE PANEL

| CAT NO | PANEL THICKNESS | L SHANK LENGTH | C THREAD |
|---|---|---|---|
| 1560-A | 1/16 | 7/64 | 4-40 |
| 1560-B | 1/16 | 7/64 | 6-32 |
| 1560-C | 3/32 | 9/64 | 6-32 |
| 1560-D | 1/8 | 11/64 | 6-32 |

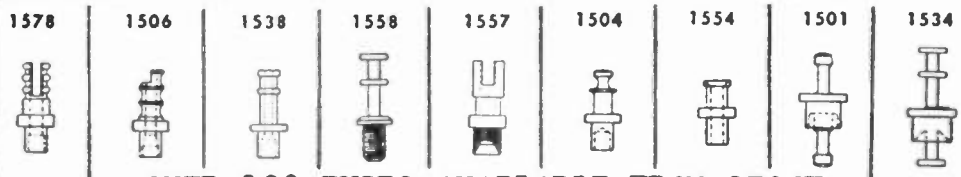
(H) = 1/4" ABOVE PANEL

| CAT NO | PANEL THICKNESS | L SHANK LENGTH | C THREAD |
|---|---|---|---|
| 1546 | 1/16 | 7/64 | 6-32 |
| 1546-B | 3/32 | 9/64 | 6-32 |
| 1546-D | 1/8 | 11/64 | 6-32 |

(H) = 3/8" ABOVE PANEL

| CAT NO | PANEL THICKNESS | L SHANK LENGTH | C THREAD |
|---|---|---|---|
| 1561-B | 1/16 | 7/64 | 6-32 |
| 1561-C | 3/32 | 9/64 | 6-32 |
| 1561-D | 1/8 | 11/64 | 6-32 |

## TERMINAL ILLUSTRATIONS FULL SIZE. MADE OF BRASS. AVAILABLE IN HOT TIN OR SILVER PLATE




OVER 100 TYPES AVAILABLE FROM STOCK

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# KEYSTONE ELECTRONICS CORP. NEW YORK 12, N. Y.



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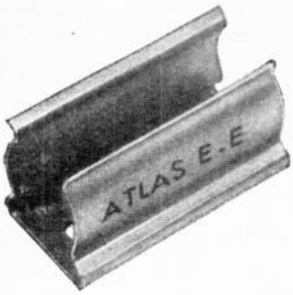
World Radio History

# *When you want the best . . . Specify ATLEE*

# CLIPS - HOLDERS - INSERTS



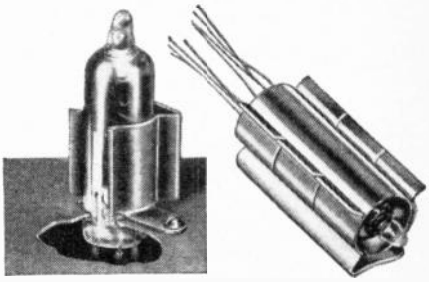

## ATLEE COMPONENT HOLDERS

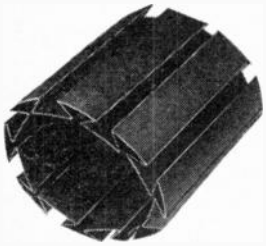
| Atlas E-E Part No. | Comp. Diam. | Holder Height | Holder Width | Holder Max. Lgth. | Mtg. Holes No. X Diam. X Spacing | Price (each) |
|---|---|---|---|---|---|---|
| 100-200- 1 | .175" | .30 | .20 | 5/8" | 2 x .071" x .375 | 12¢ |
| - 2 | .195 | .30 | .22 | 5/8 | 2 x .071 x .375 | 12¢ |
| - 3 | .195 | .30 | .22 | 1 1/8 | 3 x .071 x .437 | 15¢ |
| - 4 | .235 | .33 | .25 | 5/8 | 2 x .093 x .312 | 12¢ |
| - 4A | .260 | .34 | .28 | 1/2 | 2 x .093 x .250 | 12¢ |
| - 4A-2 | .260 | .34 | .28 | 1/4 | 1 x .093 | 12¢ |
| - 5 | .312 | .38 | .34 | 3/4 | 2 x .093 x .437 | 15¢ |
| - 6 | .375 | .47 | .41 | 1 1/8 | 3 x .103 x .375 | 15¢ |
| - 6A | .391 | .48 | .43 | 5/8 | 2 x .103 x .312 | 15¢ |
| - 7 | .400 | .49 | .44 | 3/4 | 2 x .103 x .375 | 15¢ |
| - 8 | .400 | .49 | .44 | 1 1/8 | 3 x .103 x .375 | 15¢ |
| - 8A | .500 | .61 | .54 | 1 5/8 | 3 x .128 x .562 | 15¢ |
| - 9 | .562 | .65 | .61 | 1 | 3 x .128 x .312 | 18¢ |
| -10 | .562 | .65 | .61 | 1 5/8 | 3 x .128 x .562 | 18¢ |
| -11 | .670 | .83 | .72 | 1 3/8 | 3 x .128 x .437 | 19¢ |
| -12 | .750 | .93 | .82 | 2 | 3 x .144 x .750 | 26¢ |
| -12A | .875 | 1.11 | .93 | 4 | 4 x .144 x 1.00 | 31¢ |
| -13 | 1.000 | 1.18 | 1.06 | 1 7/8 | 3 x .144 x .687 | 28¢ |
| -15 | 1.125 | 1.33 | 1.18 | 1 3/8 | 3 x .162 x .469 | 27¢ |

Provide firm holding under extreme shock and vibration. For capacitors, resistors, relays, wires, cables, tubing, etc. Withstand vibrations of 10 to 500 cycles and 5 to 20 G's for eight hours without resonant frequencies. Structurally designed to derive maximum grip from the component itself. Made of spring steel which flexes under heavy vibration and temperature changes, automatically increasing holding power when most needed. SPECIFICATIONS: SAE #1065 tempered carbon steel, formed in the annealed state, cadmium plated, per QQ-P-416A, Class 2 Type II, able to withstand minimum 50-hour salt spray test, per AN-QQ-S-91. SIZES: 0.175 to 1.125. FIL-O-MATIC REFERENCE: section 19, page 4, for more information.

## ATLEE SUBMINIATURE TUBE HOLDERS AND SHIELDS

For conditions of extreme shock and vibration, high-rate heat dissipation and minimum-space mounting. Withstand up to 20 G's at 500 cycles without resonant frequencies; average heat reduction over 50° (tests); low center design for minimum space — maximum holding power. Ultimate in convenience — no wrap-around motions in cramped spaces — just clip in or clip out. Tubes can freely be removed and replaced without loss in Holder performance. Holders available in silver alloy and silver-plated berylium copper as well as cadmium-plated tempered carbon steel. Shields available in silver alloy and silver-plated brass. Vertical and Oval Sub-miniature Tube Holders available in tempered carbon steel. FIL-O-MATIC REFERENCE: section 19, pages 1 and 2, for more information.





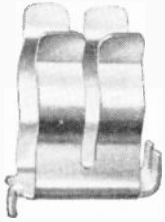
## ATLEE FULL CONTACT INSERTS FOR TUBE SHIELDS

| MIL-S-19786A Type No. | Use Atlee Full-contact Insert No. | For TS Shield No. | For TR Shield No. | Price each |
|---|---|---|---|---|
| L0761 | 102-332-1 | TS102U01 | TR5-5015 | 26¢ |
| L0762 | 102-332-2 | TS102U02 | TR5-5020 | 27¢ |
| L0765 | 102-332-3 | TS102U03 | TR5-5025 | 28¢ |
| L0966 | 102-332-4 | TS103U01 | TR6-6015 | 27¢ |
| L0967 | 102-332-5 | TS103U02 | TR6-6020 | 28¢ |
| L0968 | 102-332-6 | TS103U03 | TR6-6025 | 29¢ |

This new ATLEE development for longer tube life and greater equipment reliability provides twice as much tube contact as other style inserts. Making almost 100% contact with both tube and shield, it assures quick, positive heat dissipation from nearly all the tube surface. It also acts as a tube cushion, reducing microphonics. Easily installed in any TS or TR shield. SPECIFICATIONS: heat treated beryllium copper .002" thick per QQ-C-553; black matte finish, withstands 50-hour salt spray test; sold in strips of desired length, or in coils by the running foot; standard widths— .75", .86", 1", 1.2", 1.5" —other widths on request.

## ATLEE TRANSISTOR CLIPS and HEAT SINKS

Available for all types and sizes of transistors. Can be provided coated with Durafilm to provide 500 V.D.C. insulation. Cadmium plated spring steel or silver plated beryllium copper alloy #25, for horizontal or vertical mounting. Silver plated beryllium copper alloy #25 with no-twist lug or solder lug. Bulletin #10 and Application Data Sheet gives proper clip for use with each transistor.



**SEND FOR BULLETINS ON THESE OTHER ATLEE PRODUCTS**

**CRYSTAL DIODE CLIPS (File-O-Matic reference: sec. 19, pg. 3) — LUCITE CAP NUTS — JAN SHIELD INSERTS.**

# ATLAS E-E CORPORATION

**Woburn, Mass.—Los Angeles, California**

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World Radio History

# GENERAL CEMENT
# TV • RADIO CHEMICALS

## G-C RUF-KOAT WRINKLE VARNISH
Air Dry or Bake

The only finish that will air dry and give professional wrinkle job without baking. Same as used by leading mfrs. Apply and let dry. Colors: Black, Gray, Brown. (Specify Color.)

| No. | | List |
|---|---|---|
| 60-2 | 2-oz | $1.10 |
| 60-X-4 | Ruf-Koat Undercoat 4-oz. | 1.30 |

## NEW G-C SPRA-O-WAX

A high quality, high lister Silicone polish in easy to use spray can. White, non-staining polish for furniture, TV sets, Pianos, etc. Dries to hard, glossy, durable finish.

| No. | | List |
|---|---|---|
| 96-12 | 16 oz. Spra O Wax | $1.99 |
| 96-12D | case of 12 #96-12 | 23.88 |

## NEW G-C COPPERPRINT

Excellent for repairing printed circuits. A high conductive, fast drying compound. Complete with brush-cap bottle.

| No. | | List |
|---|---|---|
| 20-2 | 2 oz. Copperprint | $2.00 |
| 20-2-D | Display of 12 #20-2 | 24.00 |

## G-C ZERO-MIST SPRA KOAT

Instantly locates defective components by cooling circuits. Saves hours of searching for intermittent defective circuit components.

| No. | | List |
|---|---|---|
| 8667 | 16 oz. Zero Mist | $3.25 |
| 8667-D | Case of 12 | 39.00 |

## G-C MAG-NETIK HEAD CLEANER

Cleans tape and wire recorder head mechanisms. Does not leave scum or film. Should be used regularly for best recordings.

| No. | | List |
|---|---|---|
| 53-1 | 1-oz. bottle | $0.95 |
| 53-2 | 2-oz. bottle | 1.60 |

## G-C LUMINOUS KITS

Complete kits of luminous paint that glows in the dark. Many uses in shop and home. See it at night. Easy to use — apply and let dry.

| No. | | List |
|---|---|---|
| 184-0 | DeLuxe Kit contains Powder, Mix Koat, Top Koat and Brush. | $5.40 |

## G-C TV SPRA-KLEEN

Pressurized electrical contact cleaner and lubricant. Fast, easy to use, no spillage. Saves removing chassis or parts.

| No. | | List |
|---|---|---|
| 8666 | 6-oz. | $1.20 |

## G-C DE-NOIZ TV CONTACT & DETENT CLEANER

New secret ingredients dissolve corrosion and oxidation on contacts, stops noise on contacts, volume controls, tuners, detents, switches, relays, etc.

| No. | | List |
|---|---|---|
| 51-1 | 1-oz. bottle | $0.95 |
| 51-2 | 2-oz. bottle with Applicator | 1.60 |

## G-C VINYL PLASTIC FABRIC CEMENT

Made for cementing vinyl plastic sheets together. Ideal for vinyl insulating tubings, patching plastic raincoats, etc. Dries fast.

| No. | | List |
|---|---|---|
| 16-2 | 2-oz. bottle | $0.75 |

# SPRA-KOAT PRODUCTS

### DE-OX-ID

Electrical contact cleaner for silver, detent and radar contacts. All electric and electronic contacts.

No. 19-6 — 6 oz. De Ox Id ..... List $ 3.50
No. 19-6-D — Case of 12 #19-6 ..... List 42.00

### KOLOID K-29 HI VOLTAGE SPRA-KOAT

A clear resin spray where unusually high voltages are encountered. Air dries in a few minutes.

No. 9123 — 16 oz. Koloid K 29 ..... List $ 2.75
No. 9123-D — Case of 12 #9123 ..... List 33.00

### SPRA-KLEEN

Spray onto radio and television contacts and eliminate noise due to dust, dirt and corrosion.

No. 8666 — 6 oz. Spra-Kleen ..... List $1.20

### KOLOID CLEAR ACRYLIC SPRA-KOAT

For insulating TV antennas, terminals, lines, etc. Prevents corrosion, rusting and oxidation on brass, silver chrome.

No. 8665 — 16 oz. Clear Acrylic ..... List $ 1.79
No. 8665-D — Case of 12 #8665 ..... List 21.48

### CORONA DOPE SPRA-KOAT

Used by manufacturers and servicemen to prevent corona shorts on high voltage circuits in TV sets.

No. 47-12 — 16 oz. Corona Dope ..... List $ 3.25
No. 47-12-D — Case of 12 #47-12 ..... List 39.00

### K-27 PRINT-KOTE

Original clear silicone resin as used by manufacturers for printed circuits. Insulates, protects and prevents shorts.

No. 14-6 — 6 oz. Print Koat ..... List $ 3.25
No. 14-6-D — Case of 12 #14-16 ..... List 39.00

### RUF-KOAT SPRA-KOAT

Air drying wrinkle varnish. Gives a professional looking job. Can also be baked. Comes in black or gray.

No. 60-12 — 16 oz. Black ..... List $ 2.75
No. 60-12-D — Case of 12 #60-12 ..... List 33.00
No. 60-13 — 16 oz. Gray ..... List 2.75
No. 60-13-D — Case of 12 #60-13 ..... List 33.00

### KROME-KOAT SPRA-KOAT

A ready to use fast drying aluminum paint that leaves a beautiful chrome like finish.

No. 8660 — 16 oz. Aluminum ..... List $ 1.79
No. 8660-D — Case of 12 #8660 ..... List 21.48

### HI-GLOSS ENAMELS SPRA-KOAT

Beautiful high gloss finish that dries fast. Easy to use. Comes in 6 colors.

No. 8754 — 16 oz. Gray ..... List $ 1.79
No. 8754-D — Case of 12 #8754 ..... List 21.48
No. 8755 — 16 oz. Black ..... List 1.79
No. 8755-D — Case of 12 #8755 ..... List 21.48
No. 8756 — 16 oz. Brown ..... List 1.79
No. 8756-D — Case of 12 #8756 ..... List 21.48
No. 8757 — 16 oz. White ..... List 1.79
No. 8757-D — Case of 12 #8757 ..... List 21.48
No. 8758 — 16 oz. Gold ..... List 1.79
No. 8758-D — Case of 12 #8758 ..... List 21.48
No. 8759 — 16 oz. Coppertone ..... List 1.79
No. 8759-D — Case of 12 #8759 ..... List 21.48

### WROUGHT-IRON BLACK SPRA-KOAT

Renew and modernize TV stands, iron furniture, metal objects. Air dries to a flat, black finish.

No. 9112 — 16 oz. Wrought Iron Black ..... List $ 1.79
No. 9112-D — Case of 12 #9112 ..... List 21.48

### HAMMER-KOAT SPRA-KOAT

For a professional looking hammer finish in easy to use Spra-Koat. Air dries in a few minutes. 3 colors.

No. 83-12 — 16 oz. Brown Hammer ..... List $ 2.75
No. 83-12-D — Case of 12 #83-12 ..... List 33.00
No. 84-12 — 16 oz. Blue Hammer ..... List 2.75
No. 84-12-D — Case of 12 #84-12 ..... List 33.00
No. 85-12 — 16 oz. Silver Hammer ..... List 2.75
No. 85-12-D — Case of 12 #85-12 ..... List 33.00

### TELEPHONE BLACK and GRAY SPRA-KOAT

A satin finish enamel that dries fast. Excellent for panel work, instrument finish, etc.

No. 62-12 — 16 oz. Black ..... List $ 2.75
No. 62-12-D — Case of 12 #62-12 ..... List 33.00
No. 62-13 — 16 oz. Gray ..... List 2.75
No. 62-13-D — Case of 12 #62-13 ..... List 33.00

### TOUCH-UP VARNISH SPRA-KOAT

Fast drying varnish stain that covers nicks and scratches. Easy to apply. Mahogany or Walnut.

No. 161-3 — 16 oz. Mahogany ..... List $ 2.75
No. 161-3-D — Case of 12 #161-3 ..... List 33.00
No. 161-5 — 16 oz. Walnut ..... List 2.75
No. 161-5-D — Case of 12 #161-5 ..... List 33.00

### APPLIANCE WHITE SPRA-KOAT

A white glossy factory like finish for refrigerators, washers, dryers, ranges, etc. Dries fast.

No. 9113 — 16 oz. Appliance White ..... List $ 1.79
No. 9113-D — Case of 12 #9113 ..... List 21.48

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World Radio History

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Ask your distributor for large, complete

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or write direct!

# GENERAL CEMENT

# TV • RADIO CHEMICALS

### G-C RADIO-TV SERVICE CEMENT

For repairing radios, speakers, cones. Waterproof, fast drying. Brush attached.

| No. | | List |
|---|---|---|
| 30-2 | 2-oz. | $0.75 |
| 34-2 | Tube | .75 |

### G-C VINYLITE CEMENT

For cementing metals, plastics, etc. Clear, air drying. Brush attached.

No. 58-2 — 2-oz. — List $0.75

### G-C WOOD GLUE

White resin waterproof, extra strong. Will not mitare finish. Brush attached.

No. 39-2 — 2-oz. — List $0.75

### G-C ACRYLIC CEMENT

Cement Lucite, Plexiglas, other acrylics. Strong, fast drying. Brush attached.

No. 40-2 — 2-oz. — List $0.75

### G-C SPIRIT VARNISH

Walnut spirit varnish for touching nicks, scratches. Fast drying. Brush.

No. 161-2 — 2-oz. — List $0.75

### G-C LACQUER THINNER

Thins all lacquers, lacquer enamels, telephone black or gray, etc.

No. 29-2 — 2-oz. — List $0.75

### G-C RUBBER-TO-METAL DIAL DRIVE CEMENT

For cementing rubber drives to shafts, etc.

| No. | | List |
|---|---|---|
| 35-2 | 2-oz. | $0.75 |
| 35-3 | Tube | .75 |

### G-C TRANSISTOR Z5 SILICONE COMPOUND

Transfers heat from transistor to chassis.

| No. | | List |
|---|---|---|
| 8101 | 1 oz. tube of Z5 | $2.25 |
| 8101-D | Display 12 tubes | 27.00 |

### G-C PLI-O-BOND CEMENT

Cold-setting rubber-like, thermoplastic cement for metal, plastics, cloth, etc.

No. 43-2 — 2-oz. — List $0.75

### G-C CONTROL KLEENER

Cleans and lubricates volume, tone, tuner, other controls. Use with G-C 9280 Control Gun.

| No. | | List |
|---|---|---|
| 65-16 | 16-oz. | $3.25 |
| 65-G | 1 gal. | 15.00 |

### G-C CEMENT THINNER

Thinner for all cements.

No. 28-2 — 2-oz. — List $0.75

### G-C PAINT THINNER

For use with Ruf-Koat, Krome-Koat, rubber cements, etc.

No. 67-2 — 2-oz. — List $0.75

### G-C BAKELITE CEMENT

For cementing, repairing all bakelite materials. Brush attached.

No. 32-2 — 2-oz. — List $0.75

### G-C FABRIC-TO-METAL CEMENT

For cementing cloth and felt, waterproof.

No. 22-2 — 2-oz. — List $0.75

### G-C ELECTRICAL AND RESISTOR CEMENT

Heatproof cement that hardens like porcelain. Brush attached.

No. 27-2 — 2-oz. — List $0.75

### G-C LABEL CEMENT

For fastening labels to any surface. Brush attached.

No. 46-2 — 2-oz. — List $0.75

### G-C RADIO SERVICE SOLVENT

For loosening cement on speaker cones, etc. Brush attached.

No. 31-2 — 2-oz. — List $0.75

### G-C PLASTIC CEMENT

For cementing broken plastic cabinets, knobs, etc. Brush attached.

No. 32-2A — 2-oz. — List $0.75

### G-C LIQUID GRAPHITE

Comes in handy vial dispenser for easy lubrication. Will not wash out when exposed to weather.

| No. | | List |
|---|---|---|
| 9404 | Liquid Graphite | $0.65 |
| 9404-D | Display of 12 | 7.80 |

### G-C GRAFOLINE

Noiseless lubricant. Increases current capacity of switch control. Cleans also.

No. 120-2 — 2-oz. — List $0.75

### G-C LIQUIDOPE

All wave nitrocellulose base dope for coils. Dries fast to tough film. Use for sealing.

No. 36-2 — 2-oz. — List $0.75

### G-C FUNGUS VARNISH

To insulate and prevent fungus growth in moist or humid climates.

No. 57-2 — 2-oz. — List $0.75

### G-C INSULTING AND DIPPING VARNISH

For treating field coils, noisy or buzzing transformers and chokes.

No. 56-2 — 2-oz. — List $0.85

### G-C Q-DOPE AND Q-THINNER

Liquid polystyrene low loss coil dope for RF, UHF, and VHF components.

| | | |
|---|---|---|
| No. 37-2 | 2-oz. | List $0.75 |
| 41-2 Thinner | 2-oz. | .75 |

### G-C DE-OX-ID

Liquid chemical. Television contact and control cleaner.

| No. | | List |
|---|---|---|
| 19-1 | 1-oz. | $1.10 |
| 19-2 | 2-oz. | 1.60 |

### G-C RED ELECTRONIC CONTACT CLEANER

Dissolves dirt and removes corrosion.

No. 210-2 — 2-oz. — List $0.90

### G-C ELECTRONIC HYPODERMIC NEEDLE INJECTOR

For injecting cleaners and oils into tight places.

No. 8383 — List $0.75

### NEW G-C PHONO NON-SLIP COMPOUND

Stops turntable slippage. Won't harm rubber drives or rims. Fast drying, easy to apply.

| No. | | List |
|---|---|---|
| 86-2 | 2-oz. | $1.50 |
| 86-2-D | Display of 12 | 18.00 |

### NEW RED GLYPTAL

Overall insulating material. High arc resistance. Resists heat, oils and acid.

| No. | | List |
|---|---|---|
| 90-2 | 2-oz. | $0.95 |
| 90-8 | 8-oz. | 2.75 |
| 90-G | 1 gal. | 20.00 |

### G-C DIAL OIL

For lubricating dials, drives, mechanisms.

No. 1245 — 4-oz. — List $0.75

### G-C NON-STICK IRON TIP COMPOUND

Prevents soldering tips from burning into iron.

No. 1201 — 2-oz. — List $0.75

### G-C LIQUID SOLDER FLUX

Non-corrosive flux. Solders faster, smoother.

No. 42-2 — 2-oz. — List $0.75

### G-C SOLDERING PASTE

Non-corrosive for radio and electrical work.

No. 1207 — 2-oz. — List $0.50

### G-C STRIP -X

Strip enamel from magnet wire, ready for soldering.

No. 26-2 — 2-oz. — List $1.00

### G-C NON-SLIP COMPOUNDS

POWDER COMPOUND — For dial cords, pulleys, belts.

No. 1210 — 2-oz. — List $0.75

LIQUID — Penetrating liquid, prevents slipping.

No. 1215 — 2-oz. — List $0.75

### G-C RECORD-LIFE LUBRICANT

Wipe on . . . prevents record and needle wear; eliminates noise. Use in making records.

No. 125-2 — 2-oz. — List $0.75

### G-C REK-O-DOPE

Cools, cleans, lubricates and hardens grooves when recording and cutting records.

No. 126-2 — 2-oz. — List $0.75

### G-C STA-PUT PHONO-GEAR LUBRICANT

Lubricant for phonomotors, gears, shafts, etc. Recommended by RCA, G-E, and others.

| No. | | List |
|---|---|---|
| 122-2 | 2-oz. | $0.65 |

### NEW G-C SPRAY CAN HANDLE

Makes handy spray gun out of any spray can. Snaps on or off easily.

| No. | | List |
|---|---|---|
| 9288 | Spray Can Handle | $1.49 |
| 9288-D | Display of 12 | 17.88 |

### NEW G-C REK-O-MAGIC anti-static spray

Cleans phonograph record grooves of static. Keeps dust from clinging and ruining recordings. Spray on and wipe with clean cloth.

| No. | | List |
|---|---|---|
| 98-12 | 12oz. Rek-O-Magic | $1.79 |
| 98-12D | Case of 12 | 21.48 |

### G-C-POWER SPRAY-KOAT — 16 oz.

| No. | | List |
|---|---|---|
| 8660 | Aluminum | $1.79 |
| 8665 | Plastic, clear | 1.79 |
| 8754 | Gray | 1.79 |
| 8755 | Black | 1.79 |
| 8756 | Brown | 1.79 |
| 8757 | White | 1.79 |
| 8758 | Gold | 1.79 |
| 8759 | Coppertone | 1.79 |

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World Radio History

# GENERAL CEMENT
# TV • RADIO CHEMICALS

## G-C DIAL LITE COLOR KIT

Long lasting coloring for dials, signals, lamps, panels, hobby work, etc. Red, Green, Blue, Amber, Purple and Solvent in kit.

| No. | | List |
|---|---|---|
| 66-5 | Kit - 5 small bottles | $1.40 |
| 66-6 | Kit - 6 small bottles | 1.85 |
| 66-2 | 2-oz. (Specify Color) | .90 |

## G-C DELUXE CHEMICAL LAB

Practical larger laboratory of popular chemicals and cements to fit needs of average shop—2-oz., 4-oz., and 8-oz. bottles. Larger bottles of more popular items. Steel rack is FREE.

| No. | | List |
|---|---|---|
| 998 | Lab | $18.25 |

## G-C LUBE-REX

Lubriplate—white lubricant for push buttons, phonographs, Philco mystery controls, guns, fishing reels, dials, etc. Prevents corrosion, repels water.

| No. | | List |
|---|---|---|
| 1206 | 2-oz. Tube | $0.75 |
| 1209 | 2-oz. Bottle | .65 |

## G-C CONTACT & CRYSTAL CLEANER

Extra pure cleaner. Fast drying for cleaning contacts and crystals. Will not injure delicate parts.

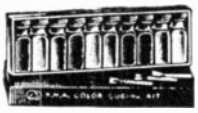
| No. | | List |
|---|---|---|
| 127-2 | 2-oz. | $0.75 |

## G-C CHEMICAL LABORATORY

Complete assortment of 20 popular radio chemicals and cements in 2-oz. bottles put up on steel rack. Very neat for radio bench and home work shop. Steel rack FREE.

| No. | | List |
|---|---|---|
| 997 | Lab | $13.95 |

## G-C RMA COLOR CODING KIT



Complete kit of all standard RMA colors to code resistors, condensers, parts, etc. Chart included. Ten bottles.

| No. | | List |
|---|---|---|
| 677 | Kit | $2.15 |

## G-C CARBON CONTROL CLEANER

Fix noisy carbon controls without taking apart. Just squirt cleaner along shaft and job is done. Save money. Applicator supplied.

| No. | | List |
|---|---|---|
| 212-2 | 2-oz. | $0.75 |

## G-C CONTACT DOPE

Ideal cleaner and lubricant for switches, controls and contacts. Resists corrosion and oxidation. Eliminates noise.

| No. | | List |
|---|---|---|
| 1214 | 2-oz. | $0.75 |

## G-C CEMENT SAMPLER KIT

Contains one bottle each of the following items:

| | | | |
|---|---|---|---|
| 30-2 | Service Cement | 32-2 | Bakelite Cement |
| 32-2A | Plastic Cement | 22-2 | Grill Cloth Cement |
| 58-2 | Vinylite Cement | 40-2 | Acrylic Cement |
| 45-2 | Model Cement | 52-2 | Neoprene Cement |
| 39-2 | Wood Glue | 16-2 | Vinyl Fabric Cement |
| 43-2 | Pil-O-Bond | 46-2 | Label Cement |
| 35-2 | Rubber to Metal Cement | | |
| 27-2 | Electrical and Res. Cement | | |

No. 345 Kit of 11 **List $9.95**

## G-C CARBON-X

New improved formula. Fix those old noisy carbon controls, touch up noisy spots on worn controls. Brush in bottle.

| No. | | List |
|---|---|---|
| 1205 | 2-oz. | $1.20 |

## G-C CARBON TETRA-CHLORIDE

100% pure for cleaning and degreasing electrical contacts, controls, motors. Absolutely safe—will not burn. Also kills bugs, roaches, etc.

| No. | | List |
|---|---|---|
| 211-2 | 2-oz. | $0.55 |

# GENERAL CEMENT RADIO-TV ACCESSORIES

## G-C DIAL CABLE TOOL

Handy tool to aid in stringing new dial cord and replacing cables slipped off pulleys and drums. It's like an extra hand. Speeds up the job.

No. 5096 List $0.85

## G-C 860 CAP

Spring action flat brown bakelite cap. App. brass blades.

| No. | | List |
|---|---|---|
| 860 | Cap | $0.25 |

## G-C 861 CAP

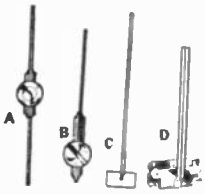
Spring action, finger grip rubber caps. App. screw terminal br. blade.

| No. | | List |
|---|---|---|
| 861 | Cap | $0.25 |

## G-C 865 CAP

Modern flush type rubber cap. Easy to assemble. No exposed screws or wires.

| No. | | List |
|---|---|---|
| 865 | Cap | $0.35 |




## G-C DIAL POINTERS Popular Replacement Pointers

| | | |
|---|---|---|
| No. (a) 6801 | 3" Rotary Pointer for ¼" shaft, gold | List $0.40 |
| No. (b) 6802 | 5" 360° Rotary Pointer for ½" shaft, gold and red | List $0.40 |
| No. (c) 6803 | 2" Slide Pointer, red translucent | List $0.40 |
| No. (d) 6804 | 2¼" Slide Pointer, white enamel | List $0.40 |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## G-C DIAL DRIVE SPRING KITS

### G-C DIAL CORD CLIPS

Handy assortment for fastening dial cords. Squeeze around cord with pliers. 100 Assorted.

| No. | List |
|---|---|
| 6221-C | $1.13 |

Assorted, for most requirements.

| No. | List |
|---|---|
| 1056 | $5.35 |

100 assorted

# G-C GENERAL CEMENT
# RADIO · TV CABLES · CORDS AND ACCESSORIES

### G-C No. 75-A EXTRA THIN NYLON CORD

.025" diam. Used on RCA, GE, Sparkomatic, etc. Braided nylon over fibre glass core. In plastic container.

| No. | Spool | List |
|---|---|---|
| 75A-25 | 25 ft. | $1.50 |
| 75A-50 | 50 ft. | 2.65 |
| 75A-100 | 100 ft. | 4.95 |
| 75A-11 | Env. | .50 |
| H395-F | Plastic Box | .55 |

### G-C No. 75 STANDARD THIN NYLON CORD

.028" diam. Most popular; used on [illegible] of sets. Braided nylon over fibre glass core. In plastic container.

| No. | Spool | List |
|---|---|---|
| 75-25 | 25 ft. | $1.50 |
| 75-50 | 50 ft. | 2.65 |
| 75-100 | 100 ft. | 4.95 |
| 75-11 | Env. | .50 |
| H396-F | Plastic Box | .55 |

### G-C No. 74 MEDIUM NYLON CORD

.010" diam. Very popular; used by RCA, Philco, GE, etc. Braided nylon over fibre glass core. In plastic container.

| No. | Spool | List |
|---|---|---|
| 74-25 | 25 ft. | $1.50 |
| 74-50 | 50 ft. | 2.65 |
| 74-100 | 100 ft. | 4.95 |
| 74-11 | Env. | .50 |
| H397-F | Plastic Box | .55 |

### G-C No. 73 HEAVY NYLON CORD

.062" diam.; used on Philco, Majestic, Brunswick, etc. Very strong, chemically treated to prevent slipping. In plastic container.

| No. | Spool | List |
|---|---|---|
| 73-25 | 25 ft. | $1.90 |
| 73-50 | 50 ft. | 3.25 |
| 73-100 | 100 ft. | 5.50 |
| 73-11 | Env. | .50 |

### G-C No. 70 BRAIDED BRONZE CABLE

.010" diam.; used on radio dials, instruments and for aircraft reel in antenna cable. Phosphor bronze braided over fibre glass core for strength. In plastic container.

| No. | Spool | List |
|---|---|---|
| 70-25 | 25 ft. | $1.80 |
| 70-50 | 50 ft. | 2.65 |
| 70-100 | 100 ft. | 5.00 |
| 70-11 | Env. | .50 |

### G-C No. 71 42-STRAND BRONZE CABLE

.010" diameter; 42 strands twisted phosphor bronze over fibre glass core. Radio dials, aircraft reel-in antennas, etc. Durable and flexible. In plastic containers.

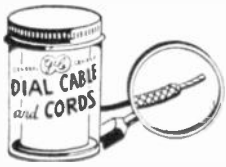
| No. | Spool | List |
|---|---|---|
| 71-25 | 25 ft. | $2.25 |
| 71-50 | 50 ft. | 3.50 |
| 71-100 | 100 ft. | 6.50 |
| 71-11 | Env. | .50 |

### G-C No. 76 SPECIAL THIN BRONZE CABLE

.025" diam. Braided bronze as used on GE, RCA, and others. Also for flexible connections on speakers, cones, etc. In plastic container.

| No. | Spool | List |
|---|---|---|
| 76-25 | 25 ft. | $1.80 |
| 76-50 | 50 ft. | 2.65 |
| 76-100 | 100 ft. | 5.00 |
| 76-11 | Env. | .50 |

### G-C COLOR TV NO-STRETCH DIAL CORD




Especially developed for color TV set manufacturers who demanded a cord that would not stretch. Made of nylon with fibre glass core and specially coated with no stretch plastic.

**EXTRA FINE**

.025 diameter supplied on metal spools.

| No. | List |
|---|---|
| 87-25 | $1.50 |
| 25 ft. Spool | |
| 87-25-D | $18.00 |
| Display of 12 - 25 ft. | |
| 87-100 | $5.00 |
| 100 ft. Spool | |
| 87-100-D | $60.00 |
| Display of 12 - 100 ft. | |

**STANDARD**

.028 diameter supplied on metal spools.

| No. | List |
|---|---|
| 88-25 | $1.50 |
| 25 ft. Spool | |
| 88-25-D | $18.00 |
| Display of 12 - 25 ft. | |
| 88-100 | $5.00 |
| 100 ft. Spool | |
| 88-100-D | $60.00 |
| Display of 12 - 100 ft. | |

**MEDIUM**

.010 diameter supplied on metal spools.

| No. | List |
|---|---|
| 89-25 | $1.50 |
| 25 ft. Spool | |
| 89-25-D | $18.00 |
| Display of 12 - 25 ft. | |
| 89-100 | $5.00 |
| 100 ft. Spool | |
| 89-100-D | $60.00 |
| Display of 12 - 100 ft. | |

### G-C LONG NOSE PLIERS

Very handy pliers to reach into places and hold parts. It's very handy for installing radio dial cords. Available in straight nose and curved nose styles.

| No. | | List |
|---|---|---|
| 5192 | Straight Nose Plier | $1.10 |
| 5193 | Curved Nose Pliers | $1.30 |

### G-C DUAL TUBE PIN STRAIGHTENER

Streamlined pocket-size straightener for 7-pin and 9-pin miniature tubes. Accurately machined hardened metal inserts for long life.

No. 9092 — List $1.65

### G-C HIGH-VOLT TEST LEADS

For high voltage TV testing. Heavy duty wire, flexible even though insulation makes it ¼" thick. 22,000 volt breakdown at 60 cycles. 48" long, red and black leads.

| | | |
|---|---|---|
| No. 9100 | w. phone tips | List $5.00 |
| No. 9101 | w. spade lugs | List 5.00 |
| No. 9102 | w. alligator clips | List 6.00 |

### G-C "TEST LINE" TEST LEADS

Slender pencil type Tenite handle, long test prods, with 50 kinkless, extra flexible rubber covered wire. Phone tips. Red and black colors.

No. 9190 — List $1.25

### G-C TV-RADIO IRON CORE KIT

Contains 7 assorted types of iron cores used in TV and radio sets. Covers 90% of replacements.

No. 9141 — List $0.95

### G-C HANDY PICK-UP TOOL

Very handy for every one. Picks up pieces in hard-to-get-at places. Will hold and start screws, nuts, etc. Will pay for itself in short time.

No. 5089 — List $1.65

### G-C TERMINAL STRIPS

**SCREW TYPE**

Laminated bakelite strips, rigidly constructed, terminals will not turn and short.

| No. | Contacts | List |
|---|---|---|
| 1772 | 2 | $0.12 |
| 1773 | 3 | .19 |
| 1774 | 4 | .25 |
| 1775 | 5 | .28 |
| 1776 | 6 | .35 |
| 1777 | 7 | .42 |
| 1778 | 8 | .50 |
| 1779 | 9 | .55 |
| 1780 | 10 | .60 |

**SOLDER TYPE**

Mounted on laminated bakelite strips. Lugs securely fastened and will not turn.

| No. | Contacts | List |
|---|---|---|
| 1781 | 1 | $0.06 |
| 1782 | 2 | .06 |
| 1783 | 3 | .08 |
| 1784 | 4 | .09 |
| 1785 | 5 | .12 |
| 1786 | 6 | .14 |
| 1787 | 7 | .23 |
| 1788 | 8 | .26 |

### G-C PHONO PLUG

For all types of phono connections on RCA, Zenith, Philco and others. Also for auto radio connector.

| No. | | List |
|---|---|---|
| 1742 | Single Plug | $0.10 |

### G-C PHONO JACK

Companion phono jack for No. 1712 plug.

| No. | | List |
|---|---|---|
| 1743 | Single Jack | $0.14 |

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World Radio History

# GENERAL CEMENT

# NEW G-C KLIPZONS

**TEST PROD KIT**

Complete, versatile, compact, test outfit. "Klipzon" leads and prods, plus five pairs of adapters.

| No. | List |
|---|---|
| 6037 | $9.95 |

**KLIPZON TEST PRODS AND LEADS**

No. 5608 — List $3.25
Test Prods and Leads

No. 5609 — List $2.50
Test Leads & Phone Terminals

No. 5610 — List $3.25
Test Leads with Banana Plugs

**CRYSTAL PROBES FOR VOM AND VTVM**

No. 5611 — List $7.25
For VOM

No. 5612 — List $7.25
For VTVM

**SHIELDED LOW LOSS-LOW CAPACITY LEADS**

No. 5613 — List $4.95
Shielded Low Loss-Low Capacity Leads

**HEAVY DUTY TEST PROBES AND LEADS**

No. 5614 — List $4.25
Heavy Duty Test Prods and Leads

**12" & 24" JUMPER LEADS**

| No. | | List |
|---|---|---|
| 5634 | Red 12" | $1.00 |
| 5635 | Black 12" | 1.00 |
| 5636 | Red 24" | 1.85 |
| 5637 | Black 24" | 1.85 |

**TEST PROD HANDLES**

No. 5615 — List $1.10
Red Test Prod Handles

No. 5616 — List $1.10
Black Test Prod Handles

**JUMBO PROD HANDLES**

| No. | | List |
|---|---|---|
| 5617 | Red Jumbo | $1.10 |
| 5618 | Black Jumbo | 1.10 |

**JUMBO ADAPTERS**

| No. | | List |
|---|---|---|
| 5619 | Red | $1.05 |
| 5620 | Black | 1.05 |

**MINI-PROD CONNECTORS**

| No. | | List |
|---|---|---|
| 5621 | Red Mini-Prod | $0.55 |
| 5622 | Black Mini-Prod | .55 |

**MINI-PROD ADAPTERS**

| No. | | List |
|---|---|---|
| 5623 | Red Mini-Prod | $0.60 |
| 5624 | Black Mini-Prod | .60 |

**LONGIE ADAPTERS**

No. 5625 — List $0.75
Red Longie Adapters

No. 5626 — List $0.75
Black Longie Adapters

**KLIPZON PANEL MOUNT**

| No. | | List |
|---|---|---|
| 5627 | Panel Mount | $0.75 |

**KLIPZON BANANA PLUG**

No. 5628 — List $0.75
Red Banana Plug

No. 5629 — List $0.75
Black Banana Plug

**ALLIGATOR CLIP ADAPTER**

No. 5630 — List $0.60
Red Alligator Clip

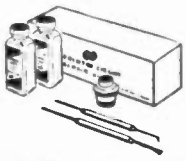
No. 5631 — List $0.60
Black Alligator Clip

**BANANA PLUG ADAPTER**

No. 5632 — List $0.60
Red Banana

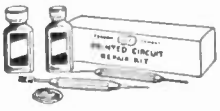
No. 5633 — List $0.60
Black Banana

# GENERAL CEMENT Printed Circuit Service Aids



**G-C PRINTED CIRCUIT KIT**

Here's a kit that makes printed circuit repair easy. No service shop is complete without one.



**G-C No. 680 — PRINTED CIRCUIT SILICONE RESIN SERVICE KIT**

1 — 14-2 Print-Kote Silicone Resin
1 — 13-2 Print-Kote Solvent
1 — 21-1 ½-oz. Pure Silver Print
1 — 9093 Solder Probe Tool
1 — 9094 Stainless Brush and Scraper
1 — Quantity of Special Print-Kote Solder
1 — G-C Printed Circuit Service Manual

No. 680 Complete Kit — List $9.75

**G-C No. 681 — TV PRINTED CIRCUIT SILICONE RESIN SERVICE KIT**

1 — 14-2 Print-Kote Silicone Resin
1 — 13-2 Print-Kote Solvent
1 — 9093 Solder Probe Tool
1 — 9094 Stainless Brush and Scraper
1 — Quantity of Special Print-Kote Solder
1 — G-C Printed Circuit Service Manual

No. 681 Complete Kit — List $5.80

**G-C PRINT-KOTE SILICONE RESIN SPRAY**

After repairing printed circuits, spray coat the new soldered connections. Insulates, protects and prevents arcing and shorting.

| No. | | List |
|---|---|---|
| 14-6 | 6 oz. Spray Can | $3.25 |

**G-C PRINT-KOTE SOLDER**

Has special flux and low melting solder combined with pure silver.

No. 9131 — List $0.75

**G-C No. 9093 PRINT-KOTE SOLDER AID PROBE**

For probing and soldering printed circuits.

| No. | List |
|---|---|
| 9093 | $1.65 |

**G-C No. 9094 PRINT-KOTE BRUSH AND SCRAPER**

To remove resin from printed circuits.

| No. | List |
|---|---|
| 9094 | $1.65 |

**G-C HEAVY DUTY SOLDERING AID TOOL**

For cleaning and holding wires while soldering.

| No. | List |
|---|---|
| 9088 | $1.65 |

**G-C SILVER PRINT**

A pure silver compound for repairing printed circuits. Use to touch up circuits around eyelets, rivets, etc.

| No. | List |
|---|---|
| 21-1 | $3.95 |
| 21-2 | 7.75 |

**G-C PRINT-KOTE SILICONE RESIN**

For the protection of panel joints and parts.

| No. | List |
|---|---|
| 14-2 | $1.95 |

**G-C PRINT-KOTE SOLVENT FOR SILICONE RESIN**

The only solvent for 14-2 Silicone Resin.

| No. | List |
|---|---|
| 13-2 | $0.55 |

**G-C PRINT-KOTE SOLDERING FLUX**

Non-corrosive, for easy repairs and soldering of printed circuits.

| No. | List |
|---|---|
| 12-2 | $0.75 |

**G-C PRINT-KOTE VARNISH**

Forms a protective and insulated coating for printed circuits.

| No. | List |
|---|---|
| C9-2 | $1.25 |



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# GENERAL CEMENT
## RADIO • TV ALIGNMENT TOOLS

### G-C NEW TELEVISION "X 57 PLASTIC LONG SLIM" SCREWDRIVER

| No. | Blade | Overall | List |
|---|---|---|---|
| 8987 | 7" | 9¼" | $1.00 |
| 8988 | 12" | 14¼" | 1.50 |
| 8989 | 16" | 18¼" | 2.00 |

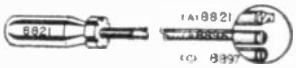
### G-C "SHORTY" TV ALIGNMENT SCREWDRIVER

No. 8289 List $0.70

### G-C TELEVISION 6" DUPLEX ALIGNER

No. 8276 List $0.80

### G-C LONG ARM TV TOOL




| No. | | List |
|---|---|---|
| 8821 | Tool Type A | $1.50 |
| 8896 | Tool Type B | 1.50 |
| 8897 | Tool Type C | 1.50 |

### G-C TELEVISION CHANNEL TUNING TOOL

No. 8195 List $1.10

### G-C "SHORTY" TV ALIGNMENT TOOL

No. 9051 List $0.75

### G-C NYLON TELEVISION LONG REACH ALIGNER

No. 8607 List $1.80
No. 8608-E Repl. Tip List .30

### G-C TELEVISION 2-IN-1 9" LONG-REACH DUPLEX ALIGNER

No. 8721 List $1.25

### G-C TELEVISION ALIGNMENT TOOL

No. 5066 List $0.55

### G-C TELEVISION AND FM TUNING TOOL

No. 8196 List $0.60

### G-C TV ALIGNMENT TOOL

No. 9050-L List $0.75

### G-C GENERAL ELECTRIC ALIGNMENT TOOL

No. 8609 List $1.00

### G-C TELEVISION 2-IN-1 7" DUPLEX ALIGNER

No. 8722 List $1.05

### G-C TELEVISION ALIGNING WRENCH

No. 5080 List $0.85

### G-C TELEVISION CORE ALIGNER

No. 8271 List $0.90

### G-C LONG REACH ALIGNMENT SCREWDRIVERS

| | | | |
|---|---|---|---|
| No. 8728A | 7" l. | List | $0.60 |
| No. 8728 | 12" l. | List | .70 |
| No. 8729 | 16" l. | List | .90 |

### G-C TELEVISION "SHORTY" DUPLEX ALIGNER

No. 8277 List $0.80

### G-C TELEVISION CORE ALIGNER

No. 8279 List $1.10

### G-C NEW TRANSISTOR I.F. CORE ALIGNMENT TOOL

| No. | Size | List |
|---|---|---|
| 9440 | 1¾" long | $ 1.00 |
| 9440-D | Display of 12 | 12.00 |

### G-C UNIVERSAL SCREW DRIVER ALIGNER

No. 8290 List $1.00

### G-C K-TRAN TELEVISION ALIGNER

No. 8727 List $0.85

### G-C K-TRAN TOOL

No. 5097 List $0.95

### G-C TELEVISION I.F. OSCILLATOR ALIGNER

No. 8272 List $1.75

### G-C STANDARD TV ALIGNMENT TOOL KIT

No. 8455 9 tools List $7.65

### G-C TELEVISION DUPLEX ALIGNER

No. 8276 List $0.80

### G-C TELEVISION 2-IN-1 ALIGNMENT TOOL

No. 8606 List $0.75

### G-C NO-METAL INSULATING ADJUSTMENT SCREWDRIVER

| | | | |
|---|---|---|---|
| No. 5004 | 7" l. | List | $0.75 |
| No. 5008 | 7" l. for UHF | List | .45 |

### G-C TELEVISION LONG REACH ALIGNER



No. 8274 List $1.20

### G-C TELEVISION TUNING WAND

No. 8278 List $0.55

### G-C TELEVISION ZENITH UNIVERSAL ALIGNER

No. 8275 List $0.80

### G-C ZENITH TV WRENCH AND ALIGNER

No. 8282 List $0.55

### G-C ALIGNMENT SCREWDRIVER

No. 5000 ¼" dia List $0.45

**It's G-C For All TV!**

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# GENERAL CEMENT

# ALIGNMENT TOOLS • SERVICE AIDS

### G-C SOLDERING IRON TIPS

Best grade hard-drawn copper, bright plated to resist corrosion. Heats fast and holds heat.

| No. | Tip | List |
|---|---|---|
| 724 | ¼" x 3" | $0.60 |
| 725 | 5/16" x 4½" | .75 |
| 726 | ⅜" x 4½" | .95 |
| 727 | ⅜" x 4" | 1.00 |

### G-C INSPECTION MIRROR

Inspection Mirror for hard to see places.

| No. | List |
|---|---|
| 5090 | $0.60 |

### G-C TUBE AND PARTS EXTRACTOR

U. S. Signal Corps No. TL-201

Handy prong tool for extracting tubes and picking up parts. Rubber cushions on prongs.

| No. | List |
|---|---|
| 5092 | $1.65 |

### G-C CONTACT ADJUSTER

Ideal tool for adjusting contacts on switches, relays on pin ball machines, radio sets.

| No. | List |
|---|---|
| 5095 | $0.25 |

### G-C ZENITH PUSH-BUTTON WRENCH

Special wrench necessary to use in adjusting Zenith push-button sets.

| No. | List |
|---|---|
| 5094 | $0.20 |

### G-C LONG-REACH TV AND RADIO LUBRICATOR

For hard-to-reach radio and TV controls, bearings, phono motors, etc.

| No. | List |
|---|---|
| 8690 | $0.80 |

### G-C SPEEDEX SLIM-TYPE SOLDER IRON TIPS

High heat turn-down tip made of copper. Fits ⅜" iron, 4½" tip.

| No. | List |
|---|---|
| 8741 | $1.00 |

### G-C MINIATURE TUBE PIN STRAIGHTENER

Precision base die straightens prongs and spaces them properly for miniature tubes like 1S5, 6AK5, etc.

| No. | | List |
|---|---|---|
| 5191 | For 7-pin tubes | $1.25 |
| 8105 | For 9-pin tubes | 1.25 |

### G-C DUPLEX TUBE PIN STRAIGHTENER

Straightens both miniature and jumbo miniature tubes, both 7- and 9-pin types. Precision steel dies.

| No. | List |
|---|---|
| 8655 | $2.50 |

### G-C TV "HIGH-VOLT" SAFETY PROBE AND TESTER

Check TV high voltage circuits quickly. Tester glows when okay. Handy for H.V. rectifier tubes, transmitters, etc.

| No. | List |
|---|---|
| 8836 | $3.05 |

### G-C AUTO RADIO TUNER

For adjusting car radios; turn controls when radio is removed from car and cables disconnected. Square tip and V tip ends for various shafts.

| No. | List |
|---|---|
| 8285 | $0.45 |

### G-C STANDARD COIL SLUG TUNER ADJUSTING TOOL

Designed especially for Standard Tuners, tool has blade length sufficient to adjust slug without turning it into coil. Tool 7½" long, .170 dia. shaft ends.

| No. | List |
|---|---|
| 9087 | $1.05 |

### G-C HEAVY DUTY SOLDERING AID TOOL

Stainless steel with hardened probe, solder won't stick. Other end is stiff wire brush for cleaning wire.

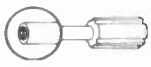
| No. | List |
|---|---|
| 9088 | $1.65 |

### G-C WESTINGHOUSE TV ALIGNMENT TOOL

Specially designed to fit Westinghouse coils, end turned down to fit openings. 5¾" long, with metal tip on end.

| No. | List |
|---|---|
| 9089 | $0.90 |

### G-C ADJUSTABLE SHORTY



Designed for RCA, Westinghouse, etc. Recessed tip. Adjustable from 1¼" to 2" in length. No need to remove chassis from cabinet.

| No. | List |
|---|---|
| 9090 | $0.70 |

### G-C NYLON DOUBLE END IRON CORE TOOL

All nylon hex tool made to fit cores with .125 hex opening. One end undercut to reach bottom slug in coil without turning top slug.

| No. | | List |
|---|---|---|
| 9091 | 5" l. | $0.75 |
| 9091-L | 11" l. | $1.00 |

### G-C PRINT-KOTE SOLDER AID PROBE

Fine point probe for soldering printed circuits. Solder won't stick to stainless steel probe.

| No. | List |
|---|---|
| 9093 | $1.65 |

### G-C SLUG RETRIEVER TOOL

Precision made tool with hardened steel tips for removing lost tuner slugs in Standard Tuners. Simply slip in, push and retrieve slug.

No. 9096 — 12" long ..... List $3.70
No. 9097 — 15" long ..... List $4.95

### G-C PRINT-KOTE BRUSH AND SCRAPER

Stainless steel brush and hardened steel scraper to scrape and clean silicone resin from printed circuits before repairs are made.

| No. | List |
|---|---|
| 9094 | $1.65 |

### G-C NON-MAGNETIC ALIGNING BERYLLIUM TOOL

Specially heat treated beryllium copper for use in loosening difficult alignment screws (prevents damage to plastic alignment tools). ⅛" blade.

| No. | | List |
|---|---|---|
| 9105 | 6" blade | $1.25 |
| 9106 | 10" blade | $1.35 |

### G-C RCA TV ALIGNMENT TOOL

Double end nylon tool with recessed metal tip on one end, plastic slot on other. For RCA, Zenith, etc.

| No. | | List |
|---|---|---|
| 9150 | 6" long | $1.50 |

### NEW! G-C TINNERMAN NUT REMOVER

A handy dual purpose tool for removing tinnerman nuts quickly and easily without breaking studs. Just twist and nut is removed.

| No. | | List |
|---|---|---|
| 9355 | Nut Remover | $1.47 |
| 9355-D | Display of 24 | 34.28 |



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World Radio History

# GENERAL CEMENT
## WIRE STRIPPERS • TEST LEADS
## TEST LITES

### G-C DANDY TEST LITE

New neon test lite for checking radios, television sets, fuses, circuits, etc. Simple, safe and dependable for tracing all kinds of trouble. Use on voltage of 60 volts AC to 550 volts AC or DC.

| No. | | List |
|---|---|---|
| 5585 | Dandy Lite | $1.25 |

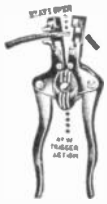
### G-C STANDARD SPEEDEX WIRE STRIPPER

Fast operating precision made hand tool for stripping insulation from all types of wire. Very easy to operate. Strips 750 to 1000 wires per hour. Used by girls or men. All blades are interchangeable and easily replaced.

Standard Models

| No. | Wire | List |
|---|---|---|
| 733 | 12 to 20 | $7.95 |
| 733-A | 14 to 30 | 7.95 |
| 733-B | 10 to 18 | 7.95 |
| 733-C | 8 to 10 | 7.95 |
| 733-D | 16, 18, 20, 22 | 7.95 |
| 733-E | 14, 16, 18 | 7.95 |
| 733-F | 10, 12, 14 | 7.95 |
| 733-G | For #18 P.O.S.J. or parallel wire | 7.95 |
| 733-H | For the new 300 Ohm television and FM transmission line | 7.95 |
| 733-I | For 10, 12, 14, 16, 18, 20, 22 wire | 7.95 |

### G-C AUTOMATIC SPEEDEX WIRE STRIPPER



Similar to standard models except has the "stay open feature" with the new Speedex "Trig-O-Matic Action." Automatically holds jaws open until wire is removed, and prevents bending or crushing of fine wires. Has on-off mechanism so tool can be used as standard model if desired.

Automatic Models

| No. | Wire | List |
|---|---|---|
| 744 | 12 to 20 | $9.90 |
| 744-A | 14 to 30 | 9.90 |
| 744-B | 10 to 18 | 9.90 |
| 744-C | 8 to 10 | 9.90 |
| 744-D | 16, 18, 20, 22 | 9.90 |
| 744-E | 14, 16, 18 | 9.90 |
| 744-F | 10, 12, 14 | 9.90 |
| 744-G | For #18 P.O.S.J. or parallel wire | 9.90 |
| 744-H | For the new 300 Ohm television and FM transmission line | 9.90 |
| 744-I | For 10, 12, 14, 16, 18, 20, 22 wire | 9.90 |

### G-C HEAVY DUTY SPEED-O-MATIC WIRE STRIPPER

Improved version of the "744" series, ideal for production line. Delayed return action. Will not crush stranded wires. Sturdy, easy to use. Interchangeable blades.

| No. | Wire | List |
|---|---|---|
| 766 | 10 to 20 | $9.90 |
| 766-A | 14 to 30 | 9.90 |
| 766-B | 10 to 18 | 9.90 |
| 766-C | 8 to 10 | 9.90 |
| 766-D | 16, 18, 20, 22 | 9.90 |
| 766-E | 14, 16, 18 | 9.90 |
| 766-F | 10, 12, 14 | 9.90 |
| 766-G | For #18 P.O.S.J. or parallel wire | 9.90 |
| 766-H | For 300 Ohm TV & FM twin transmission line | 9.90 |
| 766-I | For 10, 12, 14, 16, 18, 20, 22 wires | 9.90 |
| 766-M | 10 to 20 | 9.90 |
| 766-N | Straight cutter blades | 9.90 |

### G-C SPEEDEX WIRE STRIPPER KIT

Wire stripper complete with seven different size blades put up in a specially designed permanent steel box. For wires No. 8 to No. 30.

| No. | | List |
|---|---|---|
| 733-K | Standard Stripper Kit, with blades | $15.95 |
| 744-K | DeLuxe Automatic Stripper Kit, with blades | 19.95 |
| 766-K | Speed-O-Matic Kit | 19.95 |

### G-C SPEEDEX REPLACEMENT BLADES

Fit standard and automatic models. Blades Interchangeable.

| No. | | List |
|---|---|---|
| 3W | 12 to 20 | $1.80 |
| 3W-A | 14 to 30 | 1.80 |
| 3W-B | 10 to 18 | 1.80 |
| 3W-C | 8 to 10 | 1.80 |
| 3W-D | 16, 18, 20, 22 | 1.80 |
| 3W-E | 14, 16, 18 | 1.80 |
| 3W-F | 10, 12, 14 | 1.80 |
| 3W-G | Blades for parallel #18 P.O.S.J. or similar | 1.80 |
| 3W-H | Blades for the new 300 Ohm television and FM twin transmission line | 1.80 |
| 3W-I | 10, 12, 14, 16, 18, 20, 22 wire | 1.80 |

**When Blades for 766 Series Stripper are wanted — specify 2W — instead of 3W.**

### G-C SPEEDEX TRIG-O-MATIC PLATE

Converts any standard Speedex Stripper to an Automatic Model.

| No. | | List |
|---|---|---|
| 756 | Trig-O-Matic Plate, only | $2.20 |

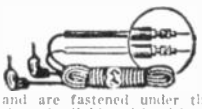
### G-C UNIVERSAL TYPE TEST LEADS

Heavy duty 6000-volt leads 50" long, made with unbreakable plastic handles 6" long with solderless type tips. Other end comes with standard banana plugs, interchangeable for spade lugs, phone tips, and alligator clips. Supplied complete.

| | | List |
|---|---|---|
| No. 8463 | Universal Test Leads | $3.00 |
| No. 8464 | Same, but supplied with needle point prod | 3.00 |

**GET THE BIG FREE G-C CATALOG FROM YOUR DISTRIBUTOR OR WRITE US DIRECT**

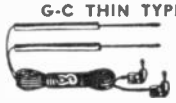
### G-C MASTER TEST LEADS



The best test leads you can buy, 50" long, 6000-volt, heavy duty test prods, solderless type. Flexible leads run through handles and are fastened under the knurled collar on the tips. Available with either the attached angle tips or the straight solderless type tips.

| No. | | List |
|---|---|---|
| 5050 | With Solderless type Straight Tips | $1.85 |
| 8459 | With Angle type Test Tips | 2.10 |

### G-C THIN TYPE TEST LEADS



This is a handy pair of test leads for hard to reach places. Made with slim, plastic handles with long, slim insulated test rods attached. Made with 50" of 6000-volt test lead wire. Comes equipped with angle type phone tips.

| No. | | List |
|---|---|---|
| 8465 | Thin Type Test Leads | $2.10 |

### G-C "TUX" TOOL KIT

Made of "Alathon" polyethylene. Tough, flexible, will not lose shape. Handy for all most needed tools.

| No. | | List |
|---|---|---|
| 8943 | | $3.95 |

### G-C NE-O-LITE

A simple, safe, electrical circuit tester for voltages from 60 volts AC to 550 volts AC or DC. Used for radio, electrical and automotive testing. Molded plastic.

| No. | | List |
|---|---|---|
| 5100 | Ne-O-Lite | $0.75 |

### G-C RESISTOR FOR NEON LAMP

Required resistor when using No. 717 neon lamp on voltages of 60 to 550 volts AC or DC. Connect in series.

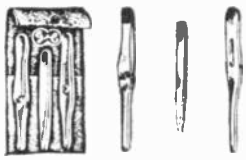
| No. | List |
|---|---|
| 718 | $0.07 |

### G-C NEEDLE POINT TEST LEADS

Heavy duty 6000-volt test leads, 50" long, made with unbreakable plastic handles 6" long with needle type chuck and needle to penetrate insulation. Available with either the attached angle tips or the straight solderless type tips.

| No. | | List |
|---|---|---|
| 8461 | With Solderless Straight Tips | $1.95 |
| 8462 | With Angle type Test Tips | 2.25 |

### G-C TWEEZERS AND KIT



For the shop or laboratory to pick up and examine small parts, start screws and nuts, to get in hard-to-get spots, stringing dial cord, etc.

| No. | | List |
|---|---|---|
| 7950 | Tweezer Kit, beautiful leatherette case and one each tweezers described below. | $3.80 |
| 7946 | 6½" Self-closing tweezer. Opens when squeezed. Serrated, blunt points. | 1.30 |
| 7947 | 6½" Heavy-duty type with slide lock feature. Holds wires or parts tight. Serrated, blunt points. | 1.50 |
| 7948 | 4½" Precision Tweezer. Narrow pointed ends for delicate work. | .85 |

### G-C NEON GLOW LAMPS

NE-T2 lamp as used in testers, appliances, as pilot light, etc.

| No. | List |
|---|---|
| 717 | $0.25 |

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World Radio History

# GENERAL CEMENT

## TEST PRODS • PLUGS • TIPS

### G-C TELEVISION HIGH-VOLT BAKELITE TEST PROD HANDLE

Heavy duty type test prod with finger ground ring to protect from the high voltage. Protects against the high voltage in a TV Set. Designed so that the minimum of metal is exposed. Made of bakelite.

| No. | | List |
|---|---|---|
| 8986 | Red | $1.20 |
| 8986-I | Black | 1.20 |

### DELUXE TEST PRODS

New polished low-loss material. Non-breakable. Moisture resistant. Withstands high voltages. Solderless type, brass nickel-plated.

| No. | | List |
|---|---|---|
| 5046 | Black | $0.55 |
| 5045 | Red | .55 |

### G-C TEST LEAD ANGLE TIP

New, attractive, fully insulated, molded plastic angle phone tip plugs. Will take wires up to .110 diameter.

| No. | | List |
|---|---|---|
| 8149 | Red, each | $0.45 |
| 8150 | Black, each | .45 |

### G-C TEST PROD TIPS

Solderless type, brass nickel-plated. Non-insulated. Wire fastens easily.

| No. | List |
|---|---|
| 5060 | $0.17 |

### G-C HEAVY DUTY PHONE PLUG

Standard type as used on test prods, leads, etc. Fits snugly in ⅛" hole. Brass nickel-plated.

| No. | List |
|---|---|
| 7706 | $0.17 |

### G-C PHONO NEEDLE POINT TEST PROD CHUCK

Push on type fits snugly in ¼" hole. Brass nickel-plated.

| No. | List |
|---|---|
| 7703 | $0.22 |

### G-C INSULATED SPADE LUG

Tapered spade lug fits all screws or terminal strips up to No. 10. Insulated female end fits banana plugs.

| No. | | List |
|---|---|---|
| 7712 | Red | $0.18 |
| 7713 | Black | .18 |

### G-C INSULATED PHONE TIP JACKS

Standard insulated type phosphor bronze spring contacts. ⅜" insulated head. Fits ¼" hole and panels up to ¼" thick. Brass parts nickel-plated.

| No. | | List |
|---|---|---|
| 7715 | Red | $0.22 |
| 7716 | Black | .22 |

### G-C SET SCREW TYPE BANANA PLUG

Insulated set screw type. Polished insulated plastic handles. Nickel-plated metal parts.

| No. | | List |
|---|---|---|
| 7732 | Red | $0.30 |
| 7733 | Black | .30 |

### G-C SPLIT BANANA PLUG

Standard size with 6-32 threaded shank. Use on plug-in coils, terminal strips, etc. Complete with lug and nut. Brass nickel-plated.

| No. | List |
|---|---|
| 7736 | $0.22 |

### G-C BANANA JACK

Standard size banana pin jack. Fits ¼" hole up to ⅜" thick panel. Nut and lug supplied. Brass nickel-plated.

| No. | List |
|---|---|
| 7740 | $0.17 |

### G-C NEEDLE POINT TEST PRODS

Adjustable chuck tip for needle. 6" polished plastic handles in Red or Black. Brass Nickel-plated chuck removable. Includes needle. (Specify color.)

| No. | List |
|---|---|
| 7701 | $0.50 |

### G-C SHIELDED PHONO PICK-UP WIRE

Handy package of single conductor shielded wire as used on phono pick-ups, etc. Enough wire for several jobs in package.

| No. | | List |
|---|---|---|
| 1738-E | | $0.50 |
| H675-F | Plastic Box | .55 |

### G-C LOW-LOSS

### G-C TEST LEAD WIRE

Ideal long-life replacement wire, extra flexible, 6000-volt insulation. Red and Black. (Specify color.)

| No. | | List |
|---|---|---|
| 5049-E | Env. 1 Red, 1 Black 50" long | $0.80 |
| 5049-C | 100 feet | 8.25 |

### G-C INSULATED TEST PROD TIPS

Unbreakable polished plastic insulated handles. Solderless connectors, brass nickel-plated.

| No. | | List |
|---|---|---|
| 5061 | Red | $0.25 |
| 5061-E | Env. 2 | .50 |
| 5062 | Black | .25 |
| 5062-E | Env. 2 | .50 |

### G-C PHONO NEEDLE POINT TEST PROD CHUCK

Threaded chuck fits ¼-20 threaded hole. Needle removable. Brass nickel-plated. Includes needle.

| No. | List |
|---|---|
| 7702 | $0.22 |

### G-C STANDARD PHONE TIP

Standard tip made of drawn brass, bright nickel plated.

| No. | List |
|---|---|
| 6320 | $0.05 |

### G-C SOLID STANDARD PHONE TIP

Solid brass type made to RMA specifications. Bright nickel-plated.

| No. | List |
|---|---|
| 6321 | $0.07 |

### G-C INSULATED PHONE TIP PLUG

Fits standard phone tip jacks. Polished non-breakable low-loss plastic insulated handles. Brass, nickel-plated tip. Minimum contact exposure.

| No. | | List |
|---|---|---|
| 7710 | Red | $0.20 |
| 7711 | Black | .20 |

### G-C PHONO TIP JACKS

Standard type with phosphor bronze spring contacts. Fits ¼" hole and panels up to ⅜" thick. Brass parts nickel-plated.

| No. | List |
|---|---|
| 7714 | $0.17 |

### G-C SPLIT BANANA PLUG

Insulated solderless type with polished insulated handles. Metal parts nickel-plated.

| No. | | List |
|---|---|---|
| 7730 | Red | $0.30 |
| 7731 | Black | .30 |

### G-C SMALL BANANA PIN PLUG

Approved silver plated plugs with straight shank. Can be riveted or soldered. For wires, multiple plugs, etc.

| No. | | List |
|---|---|---|
| 6400 | Env. 10 | $0.30 |

### G-C SPLIT BANANA PLUG

Standard size with 6-32 female thread on end. Supplied with screw and solder lug. Brass nickel-plated.

| No. | List |
|---|---|
| 7737 | $0.25 |

### G-C INSULATED BANANA JACK

Standard size with polished plastic insulators. Fits ¼" hole, up to ⅜" thick panel. Nut, lug, and insulators supplied. Brass, nickel-plated.

| No. | | List |
|---|---|---|
| 7741 | Red | $0.22 |
| 7742 | Black | .22 |

### G-C INSULATED BANANA PLUG OR PHONE TIP JACK

Standard size insulated combination jack. Brass nickel-plated with phosphor bronze spring contacts. Fits ¼" hole, panels up to ⅜" thick.

| No. | | List |
|---|---|---|
| 7744 | Red | $0.27 |
| 7745 | Black | .27 |

### G-C COMBINATION BINDING POST

Dual purpose insulated head binding post. Banana plug fits in top, phone tips in side. Supplied with 6-32 x ½" stud and 2 hex nuts. Red or black.

| No. | | List |
|---|---|---|
| 7725 | Red Binding Post | $0.45 |
| 7726 | Black Binding Post | .45 |



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World Radio History

### G-C TELEVISION HIGH-VOLT TEST PROD HANDLE

Has finger guard ring for high volt protection. Minimum of metal exposure for safety in TV servicing.

| No. | | List |
|---|---|---|
| 8986 | Red | $1.20 |
| 8986-1 | Black | 1.20 |

# GENERAL CEMENT
## PLUGS • JACKS • CLIPS
## TEST PROD ACCESSORIES

### G-C THIN TYPE TEST PROD

Slim plastic handle test prod. Insulated handle.

| No. | | List |
|---|---|---|
| 7755 | Red | $0.36 |
| 7756 | Black | .36 |

### G-C LONG REACH TEST PROD 8" LENGTH

Extra long with fully-insulated handle for easier servicing.

| No. | | List |
|---|---|---|
| 7757 | Red | $0.41 |
| 7758 | Black | .41 |

### G-C KLIPZON CRYSTAL PROD

Same as used in crystal probe for VOM and VTVM.

| No. | | List |
|---|---|---|
| 5611 and 5612 | | $7.25 |
| 5638 | Red | 3.06 |
| 5639 | Black | 3.06 |

### G-C INSULATED PHONE NEEDLE TIP PLUG

Chuck is removable for easy tip replacement. Molded plastic handle. Brass, Nickel-plated tips.

| No. | | List |
|---|---|---|
| 7759 | Red | $0.25 |
| 7760 | Black | .25 |

### G-C SUB-MINIATURE PHONE TIP PLUG

Fits all standard phone tip jacks. Brass, nickel-plated tip with bone fibre handle; overall length 1" with ¼" O.D.

| No. | | List |
|---|---|---|
| 7761 | Red | $0.22 |
| 7762 | Black | .22 |

### G-C MOLDED GUN TIP

Molded with brass nickel-plated tips. Fits standard tip jacks.

| No. | | List |
|---|---|---|
| 7763 | Red | $0.60 |
| 7764 | Black | .60 |

### G-C INSULATED SOLID COPPER ALLIGATOR CLIP

Short insulated handle. Has screw type wire connection.

| No. | | List |
|---|---|---|
| 7767 | Red | $0.19 |
| 7768 | Black | .19 |

### G-C ALL INSULATED ALLIGATOR CLIP

Alligator clip with solder type connection.

| No. | | List |
|---|---|---|
| 7769 | Black | $0.80 |
| 7770 | With phone tip adapter | 1.00 |

### G-C INSULATED ALLIGATOR CLIP

Extra long plastic handle. Solder type alligator clip.

| No. | | List |
|---|---|---|
| 7765 | Red | $0.35 |
| 7766 | Black | .35 |

### G-C MINIATURE STEEL ALLIGATOR CLIP

Size makes this clip adaptable where alligator clips could not previously be used.

| No. | | List |
|---|---|---|
| 7771 | Steel | $0.12 |
| 7772 | All Copper | .12 |

### G-C BATTERY TEST CLIP — 5 AMP.

For battery and ignition testing.

| No. | List |
|---|---|
| 7774 | $0.11 |

### G-C BATTERY TEST CLIP — 10 AMP.

With extra strong grip. Really holds.

| No. | List |
|---|---|
| 7775 | $0.11 |

### G-C MIDGET BANANA PLUG

An insulated small type banana plug with plastic body.

| No. | List |
|---|---|
| 7819 | $0.40 |
| 7820 | .40 |

### G-C PHONE TIP SPLICE

Has phone tip jack on either end.

| No. | | List |
|---|---|---|
| 7776 | Red | $0.45 |
| 7777 | Black | .45 |

### G-C INLINE PHONE TIP SPLICE

Adapts wire end to phone tip.

| No. | | List |
|---|---|---|
| 7778 | Red | $0.35 |
| 7779 | Black | .35 |

### G-C BINDING POST

Brass, nickel-plated insert and screw-on connection.

| No. | | List |
|---|---|---|
| 7780 | Red | $0.25 |
| 7781 | Black | .25 |

### G-C BINDING POST

Brass nickel-plated insert and retaining washer. Complete with screw and lockwasher.

| No. | | List |
|---|---|---|
| 7782 | Black | $0.27 |

### G-C BINDING POST — FIVE WAY

Will take phone tip plug, spade lug, banana plug, alligator clip or wire.

| No. | | Line |
|---|---|---|
| 7783 | Black | $0.55 |

### G-C METAL BINDING POST

Brass nickel-plated, complete with screw and lockwasher.

| No. | Line |
|---|---|
| 7786 | $0.35 |

### G-C BINDING POST

Molded plastic five-way binding post for phone tip plug, spade lug or banana plug. Body is brass, nickel-plated.

| No. | | List |
|---|---|---|
| No. 7784 | Red | $0.50 |
| No. 7784-1 | Black | .50 |

### G-C ALL-METAL BINDING POST

Metal two-piece brass, nickel-plated binding post. Can be mounted to chassis with 6-32 screw.

| No. | List |
|---|---|
| 7785 | $0.25 |

### G-C ALL-INSULATED TIP JACK

Accommodates all standard phone tips.

| No. | | List |
|---|---|---|
| 7816 | Red | $0.30 |
| 7816-1 | Black | .30 |

### G-C INSULATED BANANA JACK

For all standard banana plugs. Plug is complete. Recessed jack for firm contact.

| No. | | List |
|---|---|---|
| 7817 | Red | $0.25 |
| 7818 | Black | .25 |

### G-C BAKELITE PHONE PLUG

Bakelite barrel phone plug with screw terminals.

| No. | | List |
|---|---|---|
| 7787 | Red | $0.75 |
| 7788 | Black | .75 |

### G-C ALL-METAL SHIELDED PHONE PLUG

Same as 7787 except all-metal shielded.

| No. | List |
|---|---|
| 7789 | $1.05 |

### G-C SLIM BARREL PHONE PLUG

Extra long type with screw type terminal.

| No. | List |
|---|---|
| 7790 | $0.75 |

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World Radio History

# GENERAL CEMENT
## PLUGS • JACKS • CLIPS
## TEST PROD ACCESSORIES

### G-C ALL-METAL JUNIOR SHIELDED PHONE PLUG

All brass, nickel plated.

No. 7791 — List $0.90

### G-C SHIELDED SMALL PHONE PLUG

All metal completely shielded.

No. 7792 ..... List $1.50

### G-C 3-WAY BAKELITE PHONE PLUG

Three-way bakelite phone plug with screw-terminals.

No. 7793 Black ..... List $1.20
7794 Red ..... 1.20

### G-C 3-WAY SHIELDED PHONE PLUG

Three-way phone plug. Brass, nickel-plated, with screw terminals.

No. 7795 — List $1.40

### G-C SLIM BARREL SHIELDED PHONE PLUG

Brass, nickel-plated phone plug, with solder terminals.

No. 7796 — List $1.00

### G-C MINI-PHONE PLUG

Designed for use with hearing aids, pocket radios, meters and other industrial applications.

No. 7797 — List $0.67

### G-C MILITARY TYPE PHONE PLUG

Made in accordance with military specifications. A very high quality plug with molded shell.

No. 7798 (PJ 055B) — List $1.40

### G-C MILITARY TYPE PHONE PLUG

Made in accordance with military specifications. A very high quality plug with molded shell.

No. 7799 (PJ 068) — List $3.80

### G-C MILITARY JACK — JJ-034

Fits military plug PL-17, PL-48, PL-55, PL-118, PL-155, etc.

No. 7800 — List $0.55

### G-C MILITARY JACK — JJ-033

Two circuit jack fits Western Electric 109 plug and military plugs PL-46, PL-68, PL-168, etc.

No. 7801 — List $0.65

### G-C OPEN CIRCUIT TWO CONDUCTOR JACK

A high quality brass, nickel-plated jack with nickel silver materials for long spring life.

No. 7802 — List $0.40

### G-C SINGLE CLOSED TWO-CIRCUIT JACK

With phenolic spacers and nickel silver contacts. Sleeve terminal brass, hot tinned.

No. 7803 — List $0.45

### G-C OPEN CIRCUIT THREE-CONDUCTOR JACK

Gives phone plug positive contact with firm spring pressure. Brass, nickel plated with phenolic spacer.

No. 7804 — List $0.55

### G-C SINGLE CLOSED CIRCUIT THREE-CONDUCTOR JACK

Springs are nickel silver material to insure long life. Positive locking arrangement holds plug firmly.

No. 7805 — List $0.75

### G-C SHIELDED EXTENSION PHONE JACK

Ideal for microphone extension cords, has plug receptacle either end. Brass, nickel-plated.

No. 7806 — List $1.55

### G-C MINI-JACK OPEN CIRCUIT

Open circuit, 2-conductor miniature jack. Brass, nickel-plated with phenolic spacers and nickel silver contact spring.

No. 7807 — List $0.40

### G-C MINI-JACK CLOSED CIRCUIT

Same as 7807 but closed circuit, 2 conductor type.

No. 7808 — List $0.45

### G-C PHONO TO PHONE PLUG ADAPTER

Phono jack on opposite end of phone plug barrel for easy conversation.

No. 7809 — List $1.95

### G-C PHONE PLUG ADAPTER

Converts female microphone or amplifier connectors to standard phone plug. Brass, nickel-plated.

No. 7810 — List $0.45

### G-C MICROPHONE CONNECTOR — SINGLE

Contact female type. Used with No. 7940, 7941, and 7943 male connectors to make connections to microphones and amplifiers.

No. 7942 — List $0.70

### G-C MICROPHONE AND CHASSIS CONNECTOR

Same as 7941 except closed circuit type. Prevents open circuit noises when microphone is disconnected.

No. 7943 — List $0.65

### G-C CONNECTOR COUPLING NUT

Screws on male end for fast connection.

No. 7815 — Price $0.45

### G-C MINI-MIKE CONNECTOR — SHIELDED

Brass, nickel-plated body and high grade phenolic insulation.

No. 7811 — List $0.45

### G-C MINI-PANEL CONNECTOR

Can be used with any miniature microphone connectors.

No. 7812 — List $0.35

### G-C MINI-MIKE CONNECTOR

Designed for sub-miniature equipment.

No. 7813 — List $0.60

### G-C RING FOR MINI-CONNECTOR

Brass nickel plated connector ring.

No. 7814 — List $0.15

### G-C MIDGET PHONO PLUG

Used on RCA, Zenith, Philco, and others. Also used for auto radio connector.

No. 1742 — List $0.10

### G-C PHONO JACK

No. 1742 plug will fit this jack.

No. 1743 — List $0.14

### G-C DUPLEX PHONO CONNECTOR JACK

Made of phenolic material with brass contact. Insulated with ceramic insulators.

No. 9225 Double — List $0.21



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World Radio History

# GENERAL CEMENT

## SIGNAL LIGHTS • CONNECTOR • CLIPS

### G-C ONE-INCH JEWEL SIGNAL LIGHT

For signal devices of all types. Bulbs change from the front; for socket bases as listed below. One inch mounting hole. Jewel colors: Red, Green, Amber, and Opal. (Specify Jewel Color.)

| | |
|---|---|
| No. 7901 100-V. Cand. Facet | List $2.35 |
| No. 7902 110-V. Cand. Smooth | List $2.25 |
| No. 7903 Min. Bayonet Facet | List $2.15 |
| No. 7905 Min. Screw Facet | List $2.05 |

### G-C PANEL JEWELS

Complete assemblies in 1", ¾", and ½" diameters. Fit panels up to ⅛" thick. Brass nickel-plated. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify color.)

| No. | Dia. | Jewel | Mtg. Hole | List |
|---|---|---|---|---|
| 7913 | ½" | Facet | 7/16" | $0.40 |
| 7914 | ½" | Smooth | 7/16" | .40 |
| 7915 | ¾" | Facet | 11/16" | .75 |
| 7916 | 1" | Facet | 1" | 1.75 |

### G-C UNMOUNTED PILOT LIGHT SOCKETS

Cadmium plated. Ideal for replacements or special assemblies.

| No. | Type | List |
|---|---|---|
| 7932 | Min. Screw Base | $0.15 |
| 7933 | Min. Bayonet Base | .15 |
| 7934 | 110-V. Candelabra | .15 |

### G-C FEMALE MICROPHONE CONNECTOR

Single contact female type used with No. 7940, 7941 and 7943 connectors. Complete, brass chrome-plated.

| No. | | List |
|---|---|---|
| 7942 | Connector | $0.70 |

### G-C INSULATED ALLIGATOR CLIP

Solder type with Red or Black insulated sleeve. Strong spring. Nickel-plated.

| No. | | List |
|---|---|---|
| 5064 | Red Clip | $0.14 |
| 5065 | Black Clip | .14 |

### G-C ALLIGATOR CLIP

Wire fastens under set screw. Handy for all types of connectors. Cadmium plated.

| No. | | List |
|---|---|---|
| 7752 | Clip | $0.10 |

### G-C ¾-INCH JEWEL SIGNAL LIGHT

Signal light with facet jewels in colors of Red, Green, Blue, Amber. ⅝" mounting hole. Jewel removed from front. (Specify color.)

| No. | Socket | List |
|---|---|---|
| 7907 | Min. Screw | $1.10 |
| 7908 | Min. Bayonet | 1.25 |
| 7909 | 110-V. Candel. | 1.30 |

### G-C CLIP-ON PILOT LIGHT SOCKETS

Clip up and clip down types for replacements. Cadmium-plated.

| No. | Type | List |
|---|---|---|
| 7920 | Min. Screw Clip Up | $0.17 |
| 7921 | Min. Screw Clip Down | .17 |
| 7922 | Min. Bay. Clip Up | .20 |
| 7923 | Min. Bay. Clip Down | .20 |
| 7924 | 110-V. Cand. Clip Up | .20 |
| 7925 | 110-V. Cand. Clip Down | .20 |

### G-C PILOT LAMP INSTALLER

Makes it easy to install miniature dial bulbs, neon and candelabra lamps in hard-to-get-at places. All rubber.

| No. | | List |
|---|---|---|
| 7935 | Installer | $0.65 |

### G-C MICROPHONE CHASSIS UNIT CONNECTOR

Single contact male connector for chassis. Used with Type 7942 female connector. Supplied complete. Brass nickel-plated.

| No. | | List |
|---|---|---|
| 7941 | Connector | $0.45 |
| 7943 | Closed Circuit Type, prevents open circuit noises when mike is disconnected | $0.65 |

### G-C ALLIGATOR CLIP

Solder type, non-insulated. Strong spring for positive contact. Nickel-plated.

| No. | | List |
|---|---|---|
| 5063 | Clip | $0.09 |

### G-C ½-INCH JEWEL SIGNAL LIGHT

Signal light, requires ⅜" mounting hole. Facet jewel removed from front. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify color.)

| No. | Socket | List |
|---|---|---|
| 7910 | Min. Screw | $0.55 |
| 7911 | Min. Bayonet | .55 |
| 7912 | 110-V. Candel. | .70 |

### G-C BRACKET-TYPE PILOT LIGHT SOCKETS

Sturdy bracket-up or bracket-down type. Cadmium-plated.

| No. | | List |
|---|---|---|
| | **Miniature Screw** | |
| 7926 | Bracket Up | $0.17 |
| 7927 | Bracket Down | .17 |
| | **Miniature Bayonet** | |
| 7928 | Bracket Up | .19 |
| 7929 | Bracket Down | .19 |
| | **110-V. Candelabra** | |
| 7930 | Bracket Up | .20 |
| 7931 | Bracket Down | .20 |

### G-C MALE MICROPHONE CONNECTOR

Completely shielded, sturdy, single contact connector. Brass, bright chrome plated. Steel spring cord protector.

| No. | | List |
|---|---|---|
| 7940 | Connector | $0.50 |

### G-C MICROPHONE CONNECTOR CAP

Chrome plated cap with anchor chain for all connectors. Seal against dirt and prevent thread damage.

| No. | | List |
|---|---|---|
| 7944 | Connector Cap | $0.75 |

### G-C SCREW TYPE INSULATED ALLIGATOR CLIP

Very popular. Bright polished handles. Set screw for wire.

| No. | | List |
|---|---|---|
| 7750 | Black Clip | $0.16 |
| 7751 | Red Clip | .16 |

## G-C FAHNESTOCK CLIPS AND PLUGS

### G-C SMALL CLIP

½" long by 3/32" wide. Handles up to No. 16 wire. No. 4 Mtg. Hole. Pkg. 100.

| No. | | List |
|---|---|---|
| 6301-C | Each | $3.09 |

### G-C DOUBLE CLIP

1½" long by 3/16" wide. No. 6 Mtg. Hole. Pkg. 100.

| No. | | List |
|---|---|---|
| 6304-C | Each | $22.94 |

### G-C MEDIUM CLIP

¾" long by 3/16" wide. Handles up to No. 14 wire. No. 6 Mtg. Hole. Pkg. 100.

| No. | | List |
|---|---|---|
| 6302-C | Each | $3.64 |

### G-C MEDIUM SOLDER LUG CLIP

¾" long by 3/16" wide. No. 6 Mtg. Hole. Pkg. 100.

| No. | | List |
|---|---|---|
| 6306-C | Each | $8.41 |

### G-C LARGE CLIP

1 3/8" long by 5/16" wide. No. 8 Mtg. Hole. Pkg. 100.

| No. | | List |
|---|---|---|
| 6303-C | Each | 6.21 |

### G-C BANANA PLUG SPLICE

Couples two standard type banana plugs. Two colors.

| No. | | List |
|---|---|---|
| 7746 | Red Plug Splice | $0.40 |
| 7747 | Black Plug Splice | .40 |

### G-C BANANA PLUG AND TIP JACK COMBINATION

Converts phone tip test leads to fit banana plugs. Length 1 3/8".

| No. | | List |
|---|---|---|
| 7748 | Red Plug/Jack | $0.50 |
| 7749 | Black Plug/Jack | .50 |

### G-C ALLIGATOR CLIP & PHONE TIP JACK

Overall length 2¾", with 1" handle. Two colors.

| No. | | List |
|---|---|---|
| 7723 | Red Clip/Jack | $0.55 |
| 7724 | Black Clip/Jack | .55 |

### G-C INSULATED SPRING TYPE BANANA PLUG

Solderless type, no screws or contacts showing. Length 1 5/8", with 1" handle.

| No. | | List |
|---|---|---|
| 8994 | Red Plug | $0.35 |
| 8995 | Black Plug | .35 |

### G-C SPRING TYPE BANANA PLUG

Solderless wire connection with set screw on side. Length 1 5/8", with ¾" handle.

| No. | | List |
|---|---|---|
| 8996 | Red Plug | $0.30 |
| 8997 | Black Plug | .30 |

### G-C SPRING TYPE BANANA PLUG

Hex brass, nickel plated plug. Threads 6-32 x 5/8". Length 1 1/4".

| No. | | List |
|---|---|---|
| 8998 | | $0.25 |

### G-C SPRING TYPE BANANA PLUG

Phosphor bronze contacts. Contact screw 6-32, soldering lug.

| No. | | List |
|---|---|---|
| 8999 | | $0.25 |

### G-C COMBINATION ALLIGATOR CLIP PHONE TIP AND BANANA JACK

Length 3", with 1 3/8" handle.

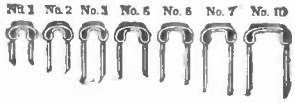
| No. | | List |
|---|---|---|
| 7721 | Red Clip | $0.65 |
| 7722 | Black Clip | .65 |

### G-C TEST LEAD PLUG INTERCHANGE KIT

Handy kit for interchanging alligator clips, banana plugs, spade lugs or phone tips. Includes red and black phone tips, combination jacks and plugs. Fitted plastic case.

| No. | | List |
|---|---|---|
| 7743 | Kit | $3.75 |

### G-C INSULATED BELL STAPLES




| No. | | List |
|---|---|---|
| | Fig. 1, 3/8" x 1/2" | |
| 1751 | Box 50, No. 1 | $0.30 |
| 1752 | Box 100, No. 1 | .50 |
| | Fig. 2, 3/8" x 5/8" | |
| 1753 | Box 50, No. 2 | .30 |
| 1754 | Box 100, No. 2 | .50 |
| | Fig. 3, 3/8" x 3/4" | |
| 1755 | Box 50, No. 3 | .30 |
| 1756 | Box 100, No. 3 | .50 |
| | Fig. 5, 1/4" x 5/8" | |
| 1757 | Box 50, No. 5 | .30 |
| 1758 | Box 100, No. 5 | .50 |
| | Fig. 6, 1/4" x 3/4" | |
| 1759 | Box 100, No. 6 | .50 |
| | Fig. 7, 1/4" x 7/8" | |
| 1760 | Box 100, No. 7 | .50 |
| | Extra Large Cable Size | |
| | Fig. 10, 5/8" x 3/4" | |
| 1761 | Box 100, No. 10 | .85 |

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World Radio History

# GENERAL CEMENT
# SIGNAL and PANEL LIGHTS

### G-C NEON PANEL ASSEMBLY FOR NE-51 PLASTIC CAP JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7953-1 | Red | 7953-5 | White |
| 7953-3 | Amber | 7953-6 | Yellow |
| 7953-4 | Blue | 7953-7 | Clear |

**List Price Each** ..... **$2.32**

### G-C ½" ENCLOSED AVIATION TYPE MIN. BAY. SMOOTH JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7959-1 | Red | 7959-5 | White |
| 7959-2 | Green | 7959-6 | Yellow |
| 7959-3 | Amber | 7959-7 | Clear |
| 7959-4 | | | Blue |

**List Price Each** ..... **$2.20**

### G-C MINIATURE BAYONET 1" MTG. OPEN TYPE

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7963-1 | Red | 7963-5 | White |
| 7963-2 | Green | 7963-6 | Yellow |
| 7963-3 | Amber | 7963-7 | Clear |
| 7963-4 | | | Blue |

**List Price Each** ..... **$1.60**

### G-C PILOT LAMP INSTALLER

Made to remove pilot lamps easily from indicator assemblies. Excellent for hard to reach places. Made of rubber. Will take all types of miniature, neon and candelabra lamps.

| Part No. | | List Price |
|---|---|---|
| 7935 | Pilot Lamp Installer | $0.65 |
| 7935-D | Display of 12 #7935 | 7.80 |

### G-C 1" FOR NE 45-57-58 CAND. SCREW SMOOTH JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7955-1 | Red | 7955-5 | White |
| 7955-3 | Amber | 7955-6 | Yellow |
| 7955-4 | Blue | 7955-7 | Clear |

**List Price Each** ..... **$2.95**

### G-C MINIATURE SCREW ½" JEWEL 11/16" MTP. HOLE FACETTED JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7961-1 | Red | 7961-5 | White |
| 7961-2 | Green | 7961-6 | Yellow |
| 7961-3 | Amber | 7961-7 | Clear |
| 7961-4 | | | Blue |

**List Price Each** ..... **$0.74**

### G-C MINIATURE SCREW 1" MTG. OPEN TYPE

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7964-1 | Red | 7964-5 | White |
| 7964-2 | Green | 7964-6 | Yellow |
| 7964-3 | Amber | 7964-7 | Clear |
| 7964-4 | | | Blue |

**List Price Each** ..... **$1.60**

### G-C PANEL JEWELS

Complete jewel assemblies available in 1", ¾" and ½" diameter jewels in both smooth and facetted types. Holders are brass, nickel-plated, supplied complete with nuts to fit panels up to ¼" thick. Colors: Red, green, blue, amber, opal and clear. (Specify colored desired.)

| No. | Diam. | Mounting Hole | List Price |
|---|---|---|---|
| 7913 | ½" (Facetted Jewel) | 7/16" | $0.40 |
| 7914 | ½" (Smooth Jewel) | 7/16" | .40 |
| 7915 | ¾" (Facetted Jewel) | 11/16" | .75 |
| 7916 | 1" (Facetted Jewel) | 1" | 1.75 |

### G-C ½" OPEN TYPE 11/16" MOUNTING HOLE FACETTED JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7951-1 | Red | 7951-5 | White |
| 7951-2 | Green | 7951-6 | Yellow |
| 7951-3 | Amber | 7951-7 | Clear |
| 7951-4 | | | Blue |

**List Price Each** **$0.95**

### G-C 1" ENCLOSED 115V FACETTED JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7957-1 | Red | 7957-5 | White |
| 7957-2 | *Green | 7957-6 | Yellow |
| 7957-3 | Amber | 7957-7 | Clear |
| 7957-4 | | | Blue |

* Not recommended with neon lamps.

**List Price Each** **$2.95**

### G-C MINIATURE BAYONET ½" JEWEL 11/16" MTG. HOLE FACETTED JEWEL

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7962-1 | Red | 7962-5 | White |
| 7962-2 | Green | 7962-6 | Yellow |
| 7962-3 | Amber | 7962-7 | Clear |
| 7962-4 | | | Blue |

**List Price Each** ..... **$0.74**

### G-C CANDELABRA 1" MTG. OPEN TYPE

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7965-1 | Red | 7965-5 | White |
| 7965-2 | Green | 7965-6 | Yellow |
| 7965-3 | Amber | 7965-7 | Clear |
| 7965-4 | | | Blue |

**List Price Each** ..... **$1.70**

### FACETTED JEWELS FOR No. 7951, 7961, 7962 ASSEMBLIES

| Part No. | Color | Part No. | Color |
|---|---|---|---|
| 7952-1 | Red | 7952-5 | White |
| 7952-2 | Green | 7952-6 | Yellow |
| 7952-3 | Amber | 7952-7 | Clear |
| 7952-4 | | | Blue |

**List Price Each** ..... **$0.45**

### PLASTIC CAPS FOR No. 7953 NEON ASSEMBLIES

| Part No. | Color |
|---|---|
| 7954-1 | Red |
| 7954-3 | Amber |
| 7954-4 | Blue |
| 7954-5 | White |
| 7954-6 | Yellow |
| 7954-7 | Clear |

**List Price Each** ..... **$0.40**

### JEWEL CAPS ONLY FOR No. 7955 1" ASSEMBLIES

| Part No. | Color |
|---|---|
| 7956-1 | Red |
| 7956-3 | Amber |
| 7956-4 | Blue |
| 7956-5 | White |
| 7956-6 | Yellow |
| 7956-7 | Clear |

**List Price Each** ..... **$1.20**

### FACETTED JEWELS FOR Nos. 7957, 7963, 7964, 7965 ASSEMBLIES

| Part No. | Color |
|---|---|
| 7958-1 | Red |
| 7958-2 | Green |
| 7958-3 | Amber |
| 7958-4 | Blue |
| 7958-5 | White |
| 7958-6 | Yellow |
| 7958-7 | Clear |

**List Price Each** ..... **$1.20**

### SMOOTH FACED JEWELS FOR No. 7959

| Part No. | Color |
|---|---|
| 7960-1 | Red |
| 7960-2 | Green |
| 7960-3 | Amber |
| 7960-4 | Blue |
| 7960-5 | White |
| 7960-6 | Yellow |
| 7960-7 | Clear |

**List Price Each** ..... **$0.45**


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World Radio History

# GENERAL CEMENT

## SWITCHES • SPAGHETTI • TUBING

### G-C TOGGLE SWITCHES

Ball handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

| | | | | | |
|---|---|---|---|---|---|
| No. 1300 | S.P.S.T.* | List $1.10 | No. 1304 | D.P.S.T.* | List $2.00 |
| No. 1301 | S.P.S.T.** | List 1.35 | No. 1305 | D.P.S.T.** | List 2.25 |
| No. 1302 | S.P.D.T.* | List 1.40 | No. 1306 | D.P.D.T.* | List 2.30 |
| No. 1303 | S.P.D.T.** | List 1.65 | No. 1307 | D.P.D.T.** | List 2.50 |

*½" Shank Length **¾" Shank Length

### G-C TOGGLE SWITCH WITH WIRE LEADS

For vacuum cleaners, appliances, radio sets, etc. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

| No. | | List |
|---|---|---|
| | "Bat Handle" | |
| 1335 | S.P.S.T. | $1.40 |
| | "Ball Handle" | |
| 1336 | S.P.S.T. | 1.42 |

### G-C PUSH BUTTON SWITCH

Two circuit, "slow make and quick break" momentary contact switch. One circuit normally on, other off; pushing button reverses circuits in use. Made by H & H for G-C. 3 amps., 125 volts. Shank ⅝" long.

| No. | | List |
|---|---|---|
| 1340 | Switch | $1.55 |

**PUSH BUTTON**

For 1340 Switch. Red or Black (Specify).

| No. | | List |
|---|---|---|
| 1343 | Button | $0.40 |

### G-C HEAVY DUTY POWER SWITCH

D.P.S.T. toggle power switch for motors, appliances, projectors, etc. Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

| No. | | List |
|---|---|---|
| 1350 | D.P.S.T. | $2.10 |

### G-C MOLDED BAKELITE TOGGLE SWITCHES

Bat handle style, silver plated contacts. Rated 3 amps. at 250 volts, 6 amps., 125 volts. ¼" shaft. Nickel Plated.

| No. | | List |
|---|---|---|
| 1361 | S.P.S.T. | $1.90 |
| 1362 | S.P.D.T. | 2.15 |
| 1363 | D.P.S.T. | 2.65 |
| 1364 | D.P.D.T. | 2.90 |
| | Momentary Switches (circuit normally "off") | |
| 1365 | S.P.S.T. | $2.10 |
| 1365A | S.P.D.T. | 2.40 |
| 1366 | D.P.D.T. | 3.30 |

### G-C SPAGHETTI ON SPOOLS

"Approved by ASTM"

5000-Volt Dielectric Strength. Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green, Blue. Specify color.

| No. | | List |
|---|---|---|
| 499 | Spool - 20 ft. | $1.85 |

### G-C LOCK SWITCHES

Lock switch with key. SPST rated at 3 amps 250 volts, 6 amps 125 volts. Has 27/32" sleeve for panels up to 29/32" thick. With or without removable key in open position.

| No. | Description | List |
|---|---|---|
| 6811 | Key Removable open pos. only | $3.34 |
| 6812 | Key Removable open or closed | 3.34 |
| 6813 | Key only for above types | .30 |

### G-C FYBEROID

"FISH PAPER"

Fish paper has many uses around the shop for repair jobs where electrical insulation is required. .010" — 240 sq. in. roll.

| No. | | List |
|---|---|---|
| 560 | Roll | $0.75 |

### G-C ON-OFF PLATE

Will fit the G-C, H & H, Cutler-Hammer and other makes of standard switches.

| No. | | List |
|---|---|---|
| 1329 | On-Off Plate | $0.10 |

### G-C ROTARY SWITCHES

Best grade enclosed rotary switches. Made by H & H for G-C. 3 amps., 125 volts. Shafts 1½" long.

| No. | | List | No. | | List |
|---|---|---|---|---|---|
| 1320 | S.P.S.T.* | $1.35 | 1324 | D.P.S.T.** | $2.48 |
| 1321 | S.P.S.T.** | 1.70 | 1325 | D.P.D.T.* | 2.55 |
| 1322 | S.P.D.T.* | 1.70 | 1326 | D.P.D.T.** | 2.55 |
| 1323 | S.P.D.T.** | 1.80 | | | |

*⅝" Shank Length **1" Shank Length

### G-C EXTRA HEAVY DUTY POWER SWITCH

Three position for motors, projectors, transmitters, movie equipment, etc. Made by H & H for G-C. 10 amps., 125 volts. Neutral off in center. Size 2" x 1" x 1⅝", shank ⅝" diameter.

| No. | | List |
|---|---|---|
| 1352 | D.P.D.T. | $ 7.50 |
| 1353 | 3-P.D.T. | 11.40 |
| 1354 | 4-P.D.T. | 15.25 |

### G-C REAR SPEAKER TONE SWITCH

Designed for rear seat auto radio speakers. Permits use of either speaker separately or together.

| No. | | List |
|---|---|---|
| 8894 | Switch | $1.00 |

### G-C BAT HANDLE TOGGLE SWITCH

Tear drop handle general purpose switch. Made by H & H for G-C. 3 amp., 125 volts. Nickel Plated.

| No. | | List |
|---|---|---|
| 1330 | S.P.S.T. | $1.10 |
| 1331 | S.P.D.T. | 1.40 |
| 1332 | D.P.S.T. | 2.00 |
| 1333 | D.P.D.T. | 2.30 |

### G-C PUSH-ON PUSH-OFF SWITCH

For vacuum cleaners, appliances, test equipment. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

| No. | | List |
|---|---|---|
| 1338 | S.P.S.T. | $2.00 |

### G-C NEUTRAL CENTER SWITCH

Handy radio, appliance and tester switch with 3 positions, on-off-on. Rated 15 amps., 110 volts; ¼" shank. Nickel Plated.

| No. | | List |
|---|---|---|
| 1308 | S.P.D.T. | $1.50 |
| 1309 | D.P.D.T. | 2.40 |

### G-C HEAVY DUTY POWER SWITCH

Push button, D.P.S.T. safety switch for transmitters, refrigerators and high frequency work made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

| No. | | List |
|---|---|---|
| 1351 | D.P.S.T. | $3.10 |

### G-C STACKPOLE SLIDE SWITCHES

Made by Stackpole for G-C. Used on radios, phonographs, etc. UL approved at .5A-125V. and higher.

| No. | | List | No. | | List |
|---|---|---|---|---|---|
| 1368 | S.P.D.T.* | $0.25 | 1370A | D.P.T.D.* | $0.30 |

*17/32" w. x 1⅜" l.

### G-C GENFLEX PLASTIC TUBING

High grade extremely flexible plastic tubing for Radio and Electronic Insulation work. Resistant to cold or heat. High dielectric strength, average 8,000 volts. Colors: Black, Red, Green, Clear. (Specify.)

| No. | Wire | Pkg. | List |
|---|---|---|---|
| 603 | 18 | 20 ft. | $1.20 |
| 605 | 16 | 20 ft. | 1.20 |
| 607 | 14 | 20 ft. | 1.20 |
| 609 | 12 | 20 ft. | 1.20 |
| 611 | 10 | 15 ft. | 1.20 |
| 613 | 8 | 15 ft. | 1.20 |
| 616 | 6 | 10 ft. | 1.20 |
| 617 | 4 | 10 ft. | 1.20 |
| 620 | 2 | 10 ft. | 1.20 |
| 625 | Fits over 300-ohm Twin Line 8 ft. | | 1.10 |

### G-C RADIO SPAGHETTI

Best grade Radio and TV spaghetti. Smooth coated, best varnishes. Very flexible. 5000 volt dielectric. Approved by ASTM. Colors: Black, Red, Yellow, Green, Brown. Specify color. 30" lengths.

| No. | Size | List |
|---|---|---|
| 500 | No. 20 fit 20 wire | $0.20 |
| 503 | No. 17, fit 18 wire | .22 |
| 506 | No. 14, fit 14 wire | .24 |
| 508 | No. 12 fit 12 wire | .26 |
| 512 | ¼" I.D. | .38 |
| 515 | 5/16" I.D. | .38 |
| 518 | ⅜" I.D. | .55 |
| 521 | 7/16" I.D. (resist. size) | .99 |
| 522 | ½" I.D. | 1.15 |
| 523 | ½" I.D. | 1.32 |

### G-C CABLE TIES

Sturdy, easy to use cable ties made of tough plastic. Packed 40 to a tube, each tie 4" long. Makes any wiring job neater, faster. Won't slip.

| No. | Color | List |
|---|---|---|
| 9362-1 | Red | $1.63 |
| 9362-4 | Blue | 1.63 |
| 9362-6 | Yellow | 1.63 |

### G-C INSULATING CAMBRIC

10,000 Volts

Yellow varnished cambric. .010" thick.

| | |
|---|---|
| No. 549 | List $1.30 |
| Roll over 210 sq. in. | |
| No. 548 | List $3.65 |
| 36" x 36" yd., any length | |

### G-C LAMINATED BAKELITE PANELS

1/16" thick. Black.

| | |
|---|---|
| No. 590 | List $0.70 |
| 6" x 6" x 1/16" | |
| No. 591 | List $1.35 |
| 6" x 12" x 1/16" | |
| No. 592 | List 2.65 |
| 12" x 12" x 1/16" | |

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World Radio History

# GENERAL CEMENT
# NEW G-C CUTLER-HAMMER SWITCHES

A complete line to provide positive switching in any circuit requirement. These new switches give you the ultimate in performance, design and long life.

## G-C BAT HANDLE LIGHT DUTY TOGGLE SWITCH

All switches have lug terminals, rated at 3 amps 250 volts. Designed for long life under normal service conditions.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6814 | S.P.S.T. | 15 32" | $1.11 |
| 6818 | D.P.S.T. | 15 32" | 2.00 |
| 6820 | D.P.D.T | 15/32" | 2.30 |

## G-C SPECIAL SERVICE BAT HANDLE TOGGLE SWITCHES

Designed for special applications, rated 1 amp 250 volts with lug terminals.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6816 | S.P.D.T. | 15 32" | $1.37 |
| 6817 | 2-Circuit | 15 32" | 1.77 |

## G-C DUAL RATED BAT HANDLE TOGGLE SWITCH

Rated at 3 amp 250 volt; 6 amp 125 volt. Has lug terminals.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6819 | D.P.S.T. | 15 32" | $2.15 |
| 6821 | D.P.D.T. | 15 32" | 2.45 |

## G-C BAT HANDLE SCREW TERMINALS

Light duty toggle switches rated at 3 amps 250 volts. Made for normal service and long life.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6822 | S.P.S.T. | 15 32" | $1.35 |
| 6825 | D.P.S.T. | 15 32" | 2.65 |
| 6827 | D.P.D.T. (2 pos. no. off) | 15 32" | 3.20 |

## G-C DUAL RATED BAT HANDLE TOGGLE SWITCH

Rated at 3 amps 250 volts; 6 amps 125 volts. With screw terminals.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6823 | S.P.S.T. | 15 32" | $1.50 |
| 6826 | D.P.D.T. (2 pos. no off) | 15/32" | 3.05 |

## G-C SPECIAL DUTY SCREW TERMINAL SWITCH

Rated at 1 amp 250 volts for regular service applications. Has bat handle lever, 3-Way.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6824 | S.P.D.T. | 15 32" | $1.75 |

## G-C DUAL RATED WIRE LEADS

Bat Handle toggle switch rated at 3 amps, 250 volts; 6 amps 125 volts for normal service.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6828 | S.P.S.T. | 15 32" | $1.35 |

## G-C LIGHT DUTY WIRE LEADS

Bat handle toggle switch built for long life, rated at 3 amps, 250 volts.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6829 | S.P.S.T. | 15/32" | $1.50 |

## G-C STANDARD DUTY BAT HANDLE TOGGLE SWITCH

Rated at 10 amps 250 volts A.C. Built for long life and greater capacity. Has lug terminals.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6830 | S.P.S.T. (2 pos. on-off) | 15 32" | $1.10 |
| 6832 | D.P.S.T. (2 pos. on-off) | 15 32" | 1.65 |

## G-C DUAL RATED STANDARD DUTY SWITCH

Rated 10 amps, 250 volts A.C.; 15 amps, 125 volts A.C. These switches give greater life and capacity due to A.C. rating. Has bat handle, lug terminals.

| No. | Description | Shank Length | List |
|---|---|---|---|
| 6831 | S.P.S.T. (2 pos. no-off) | 15 32" | $1.25 |
| 6834 | 3 P.S.T. (2 pos. on-off) | 15 32" | 3.50 |
| 6835 | 3 P.S.T. (no off pos.) | 15/32" | 4.30 |

## G-C STANDARD DUTY MOTOR SERVICE SWITCH

An extremely rugged switch rated ¾ hp 115-230 V. A.C. with bat handle and 15 32" shank length.

| No. | Description | Term. | List |
|---|---|---|---|
| 6833 | D.P.D.T. (2 pos. no off) | Lug | $1.90 |
| 6838 | D.P.S.T. (2 pos. on-off) | Screw | 2.00 |
| 6839 | D.P.D.T. (2 pos. no off) | Screw | 2.45 |
| 6843 | D.P.D.T. (3 pos. Cent. off) | Lug | 1.90 |

## G-C STANDARD DUTY DUAL RATED SWITCH

Bat handle switch rated at 10 amps 250 V. A.C. 15 amps 125 V. A.C. with 15/32" shank. A.C. rated for extra rugged duty.

| No. | Description | Term. | List |
|---|---|---|---|
| 6836 | S.P.S.T. (2 Pos. on-off) | Screw | $1.25 |
| 6837 | S.P.D.T. (2 Pos. on-off) | Screw | 1.50 |
| 6840 | 3 P.D.T. (2 Pos. on-off) | Screw | 4.05 |
| 6841 | 3 P.D.T. (no off Pos.) | Screw | 5.15 |
| 6842 | S.P.D.T. (3 pos. Cen. off) | Lug | 1.25 |
| 6844 | 3 P.D.T. (3 pos. Cen. off) | Lug | 4.30 |
| 6845 | 3 P.D.T (3 pos. Cen. off) | Screw | 5.15 |

## G-C HEAVY DUTY TOGGLE SWITCHES

Rated at 6 amps 250 V; 12 amps 125V. Has bat handle and 15/32" shank length.

| No. | Description | Term. | List |
|---|---|---|---|
| 6846 | S.P.S.T. | Screw | $2.15 |
| 6847 | D.P.S.T. | Screw | 2.15 |

## G-C HEAVY DUTY BAT HANDLE SWITCH

Rated at 10 amps 250 V; and 15 amps 125 V. with 15/32" shank length. For applications where power and durability are needed.

| No. | Description | Term. | List |
|---|---|---|---|
| 6848 | S.P.S.T. | Screw | $3.65 |
| 6849 | D.P.S.T. | Screw | 3.65 |

## G-C HEAVY DUTY POWER SWITCH

Has bat handle and 15/32" shank length. Rated 20 amps, 250 V. for motor control application.

| No. | Description | Term. | List |
|---|---|---|---|
| 6850 | D.P.S.T. | Screw | $5.15 |

## G-C PUSH BUTTON SWITCHES

Rated at 3 amps 250 V; and 6 amps 125 V. All are momentary normally open with 11/16" shank.

| No. | Description | Term. | List |
|---|---|---|---|
| 6851 | S.P.S.T. | Lug | $1.55 |
| 6852 | S.P.S.T. | Screw | 1.75 |
| 6853 | S.P.S.T. | Wire Leads | 1.75 |



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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

# GENERAL CEMENT
# TEFLON* TUBING

**G-C DUAL SHEET METAL PUNCH**

A quick method for punching accurate holes. Made of tool steel. For hand or power operation. May be used in arbor press. Punches holes 7/8" and 1-5/32" or 1/2" and 3/4".

| No. | | List |
|---|---|---|
| 9260 | Dual punch 7/8" and 1-5/32" | $ 5.95 |
| 9260-D | Display of 12 #9260 | 71.40 |
| 9261 | Dual Punch for 1/2" and 3/4" holes | 5.95 |
| 9261-D | Display of 12 #9261 | 71.40 |

## NEW G-C INSULATING TUBING MADE OF TEFLON*

- Get unsurpassed electrical and mechanical qualities in this new "spaghetti" tubing.
- Withstands temperatures from —450°F. to +500°F.
- Will not melt near solder joints.
- Completely waterproof.
- Exceptionally tough and flexible.
- Outstanding dielectric properties.
- Low-co-efficient of friction.
- Zero moisture absorption.

Meets AMS Specs. #3653

*Registered trade mark Du Pont Company

| PART NO | FEET PER SPOOL | COLOR | GAUGE | I.D. (INCHES) | WALL THICKNESS | LIST PRICE PER SPOOL |
|---|---|---|---|---|---|---|
| 7980-7 | 10 | Nat | 24 | .022 | .010 | $ 2.22 |
| 7980-7C | 100 | Nat | 24 | .022 | .010 | 16.26 |
| 7980-1 | 10 | Red | 24 | .022 | .010 | 2.22 |
| 7980-1C | 100 | Red | 24 | .022 | .010 | 16.26 |
| 7980-4 | 10 | Blue | 24 | .022 | .010 | 2.22 |
| 7980-4C | 100 | Blue | 24 | .022 | .010 | 16.26 |
| 7981-7 | 10 | Nat | 22 | .027 | .012 | 2.45 |
| 7981-7C | 100 | Nat | 22 | .027 | .012 | 20.71 |
| 7981-1 | 10 | Red | 22 | .027 | .012 | 2.45 |
| 7981-1C | 100 | Red | 22 | .027 | .012 | 20.71 |
| 7981-4 | 10 | Blue | 22 | .027 | .012 | 2.45 |
| 7981-4C | 100 | Blue | 22 | .027 | .012 | 20.71 |
| 7982-7 | 10 | Nat | 20 | .034 | .012 | 3.06 |
| 7982-7C | 100 | Nat | 20 | .034 | .012 | 30.44 |
| 7982-1 | 10 | Red | 20 | .034 | .012 | 3.06 |
| 7982-1C | 100 | Red | 20 | .034 | .012 | 30.44 |
| 7982-4 | 10 | Blue | 20 | .034 | .012 | 3.06 |
| 7982-4C | 100 | Blue | 20 | .034 | .012 | 30.44 |
| 7983-7 | 10 | Nat | 18 | .042 | 0.12 | 3.48 |
| 7983-7C | 100 | Nat | 18 | .042 | .012 | 37.25 |
| 7983-1 | 10 | Red | 18 | .042 | .012 | 3.48 |
| 7983-1C | 100 | Red | 18 | .042 | .012 | 37.25 |
| 7983-4 | 10 | Blue | 18 | .042 | .012 | 3.48 |
| 7983-4C | 100 | Blue | 18 | .042 | .012 | 37.25 |
| 7984-7 | 10 | Nat | 16 | .053 | .012 | 4.17 |
| 7984-7C | 100 | Nat | 16 | .053 | .012 | 44.34 |
| 7984-1 | 10 | Red | 16 | .053 | .012 | 4.17 |
| 7984-1C | 100 | Red | 16 | .053 | .012 | 44.34 |
| 7984-4 | 10 | Blue | 16 | .053 | .012 | 4.17 |
| 7984-4C | 100 | Blue | 16 | .053 | .012 | 44.34 |
| 7985-7 | 10 | Nat | 14 | .066 | .012 | 4.73 |
| 7985-7C | 100 | Nat | 14 | .066 | .012 | 48.65 |
| 7985-1 | 10 | Red | 14 | .066 | .012 | 4.73 |
| 7985-1C | 100 | Red | 14 | .066 | .012 | 48.65 |
| 7985-4 | 10 | Blue | 14 | .066 | .012 | 4.73 |
| 7985-4C | 100 | Blue | 14 | .066 | .012 | 48.65 |
| 7986-7 | 5 | Nat | 12 | .085 | .014 | 3.06 |
| 7986-7C | 100 | Nat | 12 | .085 | .014 | 57.13 |
| 7986-1 | 5 | Red | 12 | .085 | .014 | 3.06 |
| 7986-1C | 100 | Red | 12 | .085 | .014 | 57.13 |
| 7986-4 | 5 | Blue | 12 | .085 | .014 | 3.06 |
| 7986-4C | 100 | Blue | 12 | .085 | .014 | 57.13 |
| 7987-7 | 5 | Nat | 10 | .106 | .014 | 3.61 |
| 7987-7C | 100 | Nat | 10 | .106 | .014 | 65.89 |
| 7987-1 | 5 | Red | 10 | .106 | .014 | 3.61 |
| 7987-1C | 100 | Red | 10 | .106 | .014 | 65.89 |
| 7987-4 | 5 | Blue | 10 | .106 | .014 | 3.61 |
| 7987-4C | 100 | Blue | 10 | .106 | .014 | 65.89 |

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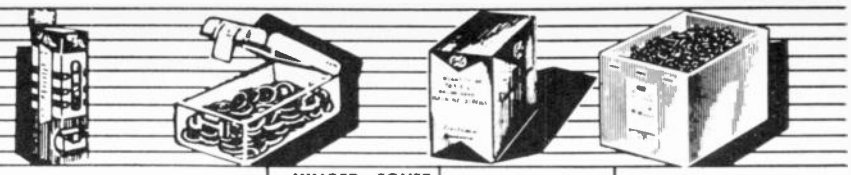
World Radio History

**GENERAL CEMENT MFG. CO.**
Los Angeles • Rockford, Illinois



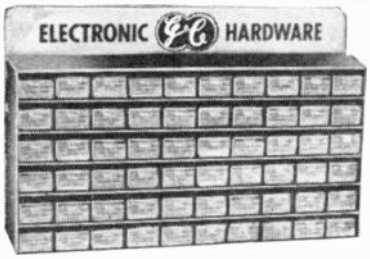
**HANDY G-C HARDWARE**
In Convenient Packages:
1. Plastic Boxes
2. Boxes of 100
3. Bulk Boxes of 1000.

**HINGED COVER PLASTIC BOXES**
50-LINE
Distributor's Standard Display, 10 Boxes
List Price Per Box **55c**

**BOXES OF 100**
Distributor's Standard Carton 10 Boxes of 100

**BULK HARDWARE**
(Boxes of 1000) Supplied only in Multiples of 1000

# No. 3660 ELECTRONIC HARDWARE —LAB—



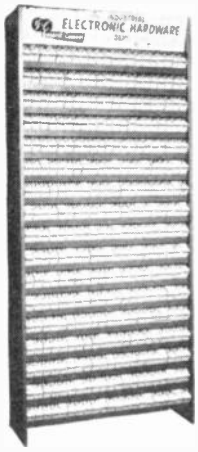

**G-C "50" LINE**

**STEEL RACK FREE!**

Just the thing for the serviceman for his bench or wall. Contains sixty (60) of the popular items supplied in the new G-C Fifty Line in the new hinged-cover plastic box. You pay nothing extra for the steel rack if you buy this kit. Finished in beautiful and durable metallic blue — 9" high, 13½" wide, 2½" deep.

| No. | | List Price |
|---|---|---|
| 3660 | Hardware Lab of 60 Boxes | $30.00 |
| 3630 | Hardware Lab of 30 Boxes | $15.00 |
| 3661 | Rack Only, no hardware | 4.50 |

**ALL YOUR INDUSTRIAL ELECTRONIC HARDWARE NEEDS CAN BE FOUND IN**



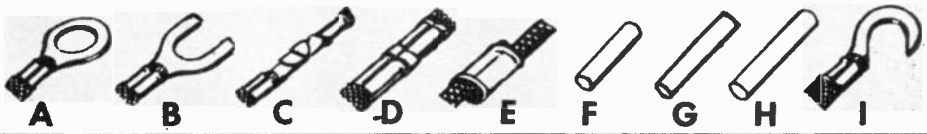

## G-C 100-PAK

Your Electronic Parts Distributor now maintains this complete hardware Department to provide you with rapid service on 315 different hardware items. Now you can order in multiples of 100 with the New 100 Pak—every box is clearly marked with part number and description for easy identification and quick selection. Here is a new service geared to industrial needs for: SCREWS—NUTS—WASHERS—GROMMETS—HOLE PLUGS—CLAMPS—CLIPS—SPRINGS—ANGLE BRACKETS—TERMINAL STRIPS

YOUR LOCAL DISTRIBUTOR CAN NOW SUPPLY ALL THESE ELECTRONIC HARDWARE ITEMS FROM STOCK — CHECK ✓ THE HARDWARE PAGES OF THIS CATALOG FOR ADDITIONAL INFORMATION AND SPECIFICATIONS.

## G-C SPEEDEX SOLDERLESS TERMINALS

**Solderless Crimp Type Connectors Will Fit No. 16 to 22 Wires**




| | STANDARD BOX List Price $1.85 | | BOXES OF 1,000 Specify "M" After Part No. | |
|---|---|---|---|---|
| STYLE NO. AND DESCRIPTION | No. | Quan. | No. | List |
| Assortment of 50 Terminals | 8177 | 50 | | |
| "A" Small Ring Type No. 6 Screw | 8178 | 50 | 8178-M | $ 33.75 |
| "A" Large Ring Type No. 6 Screw | 8179 | 50 | 8179-M | 32.00 |
| "A" Large Ring Type No. 8 Screw | 8180 | 50 | 8180-M | 33.75 |
| "A" Large Ring Type No. 10 Screw | 8181 | 50 | 8181-M | 33.75 |
| "A" Large Ring Type for 16-14 Wire, No. 10 Screw | 8188 | 50 | 8188-M | 33.75 |
| "B" Slotted Tongue Type No. 6 Screw | 8182 | 40 | 8182-M | 37.00 |
| "B" Slotted Tongue Type No. 8 Screw | 8294 | 50 | 8294-M | 33.75 |
| "B" Slotted Tongue Type No. 10 Screw | 8295 | 40 | 8295-M | 37.00 |
| "C" Knife Disconnect | 8185 | 25 | 8185-M | 56.00 |
| "D" Butt Connector | 8186 | 35 | 8186-M | 46.75 |
| "E" Parallel Connector 22-16 Wire | 8187 | 50 | 8187-M | 32.00 |
| "E" Parallel Connector 16-14 Wire | 8189 | 50 | 8189-M | 32.00 |
| "F" Disconnect Plastic Tubing | 8190 | 175 | 8190-M | 5.00 |
| "G" Connector Plastic Tubing | 8191 | 175 | 8191-M | 5.00 |
| "H" Terminal Plastic Tubing | 8192 | 175 | 8192-M | 10.00 |
| "I" Hook Type Connector No. 6 Screw | 8193 | 50 | 8193-M | 33.75 |

### G-C HELL BOX

A grand assortment of screws, nuts, lugs, clips, washers, clamps, caps and all types of Radio Parts that you need in your everyday work. Just dig in and find it. Thousands of pieces in a box.

| No. | | List Price |
|---|---|---|
| 6500 | Hell Box Assortment In Metal Box | $4.15 |
| | Envelope Assortments | |
| 6056-E | Env. Asst. Hdwe. | .50 |

### G-C PHONO TURNTABLE SPRINGS

Needed by all servicemen. An assortment of the most popular type phono turntable springs. Assortments contain springs used by RCA, Philco, Seeburg, New Products, Oak, Zenith, Detrola and many others. Two assortments: one of smaller size springs and the other of larger types.

| No. | | List Price |
|---|---|---|
| 6478 | Kit of 50 | $3.05 |
| 6479 | Kit of 100 | 5.35 |
| H450-F | Plastic Box 10 Small | .55 |
| H452-F | Plastic Box 8 Large | .55 |

Refer to hardware pages for listings on various Phono Springs.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**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

World Radio History

**GENERAL CEMENT MFG. CO.**
Los Angeles · Rockford, Illinois

**HANDY G-C HARDWARE**
In Convenient Packages:
1 Plastic Boxes
2 Boxes of 100
3 Bulk Boxes of 1000

| DESCRIPTION and SPECIFICATIONS | HINGED COVER PLASTIC BOXES 50-LINE Distributor's Standard Display, 10 Boxes List Price Per Box 55c | | BOXES OF 100 Distributor's Standard Carton 10 Boxes of 100 | | BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000 | |
|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
| **G-C ROUND HEAD MACHINE SCREWS — STEEL - NICKEL PLATED** | | | | | | |
| Assorted Machine Screws | H1000-F | 35 | | | | |
| Assorted Screws and Nuts | H1001-F | 40 | | | | |
| Assorted No. 2 and No. 4 Screws and Nuts | H1002-F | 35 | | | | |
| Assorted 4-36 Screws | H1010-F | 40 | | | | |
| Assorted 6-32 Screws | H1012-F | 40 | | | | |
| Assorted 8-32 Screws | H1016-F | 40 | | | | |
| Assorted 10-32 Screws | H1018-F | 25 | | | | |
| Machine Screws, 2-56 x ¼" | H1022-F | 40 | 7130-C | .74 | 7130-M | 5.88 |
| Machine Screws, 2-56 x ½" | H1024-F | 40 | 7131-C | .80 | 7131-M | 6.42 |
| Machine Screws, 2-56 x ¾" | H1026-F | 40 | 7132-C | .92 | 7132-M | 7.38 |
| Machine Screws, 3-48 x ¾" | H1028-F | 40 | 7124-C | .97 | 7124-M | 7.74 |
| Machine Screws, 4-36 x ¼" | H1032-F | 40 | 6005-1C | .81 | 6005-M | 6.44 |
| Machine Screws, 4-36 x ⅛" | H1033-F | 35 | 7138-C | .83 | 7138-M | 6.60 |
| Machine Screws, 4-36 x ½" | H1034-F | 35 | 6006-C | .87 | 6006-M | 6.96 |
| Machine Screws, 4-36 x ⅝" | | | 5651-C | .95 | 5651-M | 7.56 |
| Machine Screws, 4-36 x ¾" | H1036-F | 35 | 6007-C | 1.01 | 6007-M | 8.10 |
| Machine Screws, 4-40 x ¼" | H1042-F | 40 | 6005-AC | .81 | 6005-AM | 6.44 |
| Machine Screws, 4-40 x ½" | H1044-F | 35 | 6005-BC | .88 | 6005-BM | 7.02 |
| Machine Screws, 4-40 x ⅝" | | | 5652-C | .95 | 5652-M | 7.56 |
| Machine Screws, 4-40 x ¾" | H1046-F | 35 | 6005-CC | 1.01 | 6005-CM | 8.10 |
| Machine Screws, 6-32 x ¼" | H1062-F | 40 | 6008-C | .89 | 6008-M | 7.08 |
| Machine Screws, 6-32 x ½" | H1064-F | 30 | 6009-C | 1.03 | 6009-M | 8.22 |
| Machine Screws, 6-32 x ⅝" | | | 5653-C | 1.13 | 5653-M | 9.00 |
| Machine Screws, 6-32 x ¾" | H1066-F | 30 | 6010-C | 1.21 | 6010-M | 9.66 |
| Machine Screws, 6-32 x 1" | H1068-F | 30 | 6011-C | 1.39 | 6011-M | 11.10 |
| Machine Screws, 6-32 x 1¼" | H1070-F | 30 | 7141-C | 1.67 | 7141-M | 13.32 |
| Machine Screws, 6-32 x 2" (Extra long, handy to mount rectifiers) | H1076-F | 20 | 7148-C | 2.51 | 7148-M | 20.10 |
| Machine Screws, 8-32 x ¼" | H1082-F | 30 | 6013-C | 1.16 | 6013-M | 9.24 |
| Machine Screws, 8-32 x ⅜" | H1083-F | 25 | 6014-C | 1.25 | 6014-M | 9.96 |
| Machine Screws, 8-32 x ½" | H1084-F | 25 | 6015-C | 1.35 | 6015-M | 10.80 |
| Machine Screws, 8-32 x ⅝" | | | 5654-C | 1.45 | 5654-M | 11.58 |
| Machine Screws, 8-32 x ¾" | H1086-F | 25 | 6016-C | 1.55 | 6016-M | 12.36 |
| Machine Screws, 8-32 x 1" | H1088-F | 20 | 6017-C | 1.77 | 6017-M | 14.16 |
| Machine Screws, 8-32 x 1¼" | H1090-F | 20 | 7142-C | 2.06 | 7142-M | 16.44 |
| Machine Screws, 10-32 x ½" | H1104-F | 20 | 6020-C | 1.59 | 6020-M | 12.72 |
| Machine Screws, 10-32 x ⅝" | | | 5655-C | 1.73 | 5655-M | 13.86 |
| Machine Screws, 10-32 x ¾" | H1106-F | 20 | 6021-C | 1.86 | 6021-M | 14.88 |
| Machine Screws, 10-32 x 1" | H1108-F | 17 | 6022-C | 2.09 | 6022-M | 16.74 |
| Machine Screws, 10-32 x 1½" | H1112-F | 15 | 7143-C | 2.75 | 7143-M | 22.02 |
| **G-C ROUND HEAD MACHINE SCREWS — BRASS - NOT PLATED** | | | | | | |
| Assorted Brass Machine Screws | H1210-F | 30 | | | | |
| Machine Screws, Brass, 2-56 x ¼" | | | 5657-C | 1.23 | 5657-M | 9.84 |
| Machine Screws, Brass, 2-56 x ½" | | | 5658-C | 1.44 | 5658-M | 11.52 |
| Machine Screws, Brass, 2-56 x ⅝" | | | 5659-C | 1.56 | 5659-M | 12.48 |
| Machine Screws, Brass, 2-56 x ¾" | | | 5660-C | 1.76 | 5660-M | 14.10 |
| Machine Screws, Brass, 3-48 x ¾" | | | 5661-C | 1.99 | 5661-M | 15.90 |
| Machine Screws, Brass, 4-36 x ¼" | | | 5662-C | 1.49 | 5662-M | 11.94 |
| Machine Screws, Brass, 4-36 x ½" | | | 5663-C | 1.85 | 5663-M | 14.82 |
| Machine Screws, Brass, 4-36 x ⅝" | | | 5664-C | 2.08 | 5664-M | 16.62 |
| Machine Screws, Brass, 4-36 x ¾" | | | 5665-C | 2.30 | 5665-M | 18.42 |
| Machine Screws, Brass, 4-40 x ¼" | | | 5666-C | 1.49 | 5666-M | 11.94 |
| Machine Screws, Brass, 4-40 x ½" | | | 5667-C | 1.85 | 5667-M | 14.82 |
| Machine Screws, Brass, 4-40 x ⅝" | | | 5668-C | 2.08 | 5668-M | 16.62 |
| Machine Screws, Brass, 4-40 x ¾" | | | 5669-C | 2.30 | 5669-M | 18.42 |
| Machine Screws, Brass, 6-32 x ¼" | | | 8501-C | 1.94 | 8501-M | 15.54 |

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## HANDY G-C HARDWARE

In Convenient Packages:
1. Plastic Boxes
2. Boxes of 100
3. Bulk Boxes of 1000.

| DESCRIPTION and SPECIFICATIONS | HINGED COVER PLASTIC BOXES 50-LINE Distributor's Standard Display, 10 Boxes List Price Per Box 55c | | BOXES OF 100 Distributor's Standard Carton 10 Boxes of 100 | | BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000 | |
|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. 1000 Pcs. | List Price Per |
| **G-C ROUND HEAD MACHINE SCREWS — BRASS - NOT PLATED** | | | | | | |
| Machine Screws, Brass, 6-32 x 3/8" | | | 5670-C | 2.24 | 5670-M | 17.88 |
| Machine Screws, Brass, 6-32 x 1/2" | | | 8502-C | 2.53 | 8502-M | 20.22 |
| Machine Screws, Brass, 6-32 x 5/8" | | | 5671-C | 2.79 | 5671-M | 22.32 |
| Machine Screws, Brass, 6-32 x 3/4" | | | 8503-C | 3.05 | 8503-M | 24.36 |
| Machine Screws, Brass, 6-32 x 1" | | | 8504-C | 3.64 | 8504-M | 29.10 |
| Machine Screws, Brass, 6-32 x 1 1/4" | | | 5672-C | 4.40 | 5672-M | 35.16 |
| Machine Screws, Brass, 6-32 x 2" | | | 5673-C | 6.68 | 5673-M | 53.46 |
| Machine Screws, Brass, 8-32 x 1/4" | | | 8505-C | 2.78 | 8505-M | 22.26 |
| Machine Screws, Brass, 8-32 x 3/8" | | | 5674-C | 3.17 | 5674-M | 25.32 |
| Machine Screws, Brass, 8-32 x 1/2" | | | 8506-C | 3.55 | 8506-M | 28.38 |
| Machine Screws, Brass, 8-32 x 5/8" | | | 5675-C | 3.98 | 5675-M | 31.86 |
| Machine Screws, Brass, 8-32 x 3/4" | | | 8507-C | 4.40 | 8507-M | 35.16 |
| Machine Screws, Brass, 8-32 x 1" | | | 8508-C | 5.23 | 8508-M | 41.82 |
| Machine Screws, Brass, 8-32 x 1 1/4" | | | 5676-C | 6.17 | 5676-M | 49.32 |
| Machine Screws, Brass, 10-32 x 1/2" | | | 5677-C | 4.61 | 5677-M | 36.84 |
| Machine Screws, Brass, 10-32 x 5/8" | | | 5678-C | 5.12 | 5678-M | 40.98 |
| Machine Screws, Brass, 10-32 x 3/4" | | | 5679-C | 5.65 | 5679-M | 45.18 |
| Machine Screws, Brass, 10-32 x 1" | | | 5680-C | 6.79 | 5680-M | 54.30 |
| Machine Screws, Brass, 10-32 x 1 1/2" | | | 5681-C | 9.28 | 5681-M | 74.22 |
| **G-C PHILLIPS TYPE ROUND HEAD MACHINE SCREWS — STEEL - NICKEL PLATED** | | | | | | |
| Assorted Phillips Type Machine Screws | H1180-F | 25 | | | | |
| Machine Screws, Phillips, 6-32 x 1/4" | | | 8511-C | 1.97 | 8511-M | 15.78 |
| Machine Screws, Phillips, 6-32 x 1/2" | | | 8512-C | 1.78 | 8512-M | 14.22 |
| Machine Screws, Phillips, 6-32 x 5/8" | | | 5689-C | 1.91 | 5689-M | 15.30 |
| Machine Screws, Phillips, 6-32 x 3/4" | | | 8513-C | 2.03 | 8513-M | 16.26 |
| Machine Screws, Phillips, 6-32 x 1" | | | 8514-C | 2.27 | 8514-M | 18.12 |
| Machine Screws, Phillips, 8-32 x 3/16" | | | 8515-C | 1.73 | 8515-M | 13.86 |
| Machine Screws, Phillips, 8-32 x 1/2" | | | 8516-C | 1.91 | 8516-M | 15.30 |
| Machine Screws, Phillips, 8-32 x 5/8" | | | 5690-C | 2.06 | 5690-M | 16.50 |
| Machine Screws, Phillips, 8-32 x 3/4" | | | 8517-C | 2.22 | 8517-M | 17.76 |
| Machine Screws, Phillips, 8-32 x 1" | | | 8518-C | 2.55 | 8518-M | 20.40 |
| **G-C BINDING HEAD MACHINE SCREWS — STEEL - NICKEL PLATED** | | | | | | |
| Assorted Binding Head Machine Screws | H1168-F | 35 | | | | |
| Machine Screws, 5-36 x 1/4" (Used on many small toggle switches) | H1170-F | 35 | 7154-C | .88 | 7154-M | 7.00 |
| Machine Screws, 6-32 x 3/16" | | | 7151-C | .88 | 7151-M | 7.00 |
| Machine Screws, 6-32 x 1/4" | H1172-F | 35 | 7152-C | .88 | 7152-M | 7.06 |
| Machine Screws, 6-32 x 3/8" | | | 7153-C | .94 | 7153-M | 7.50 |
| Machine Screws, 7-32 x 3/8" (Popular in electrical switches) | H1174-F | 30 | 7155-C | 2.60 | 7155-M | 20.81 |
| Machine Screws, 8-32 x 3/16" | | | 7158-C | 1.20 | 7158-M | 9.56 |
| **G-C OVAL HEAD RACK and CABINET SCREWS — STEEL - NICKEL PLATED** | | | | | | |
| Assorted Rack Screws and Washers | H1005-F | 15 | | | | |
| Machine Screws, 6-32 x 1/2" | | | 6540-C | 1.03 | 6540-M | 8.22 |
| Machine Screws, 6-32 x 5/8" | | | 5691-C | 1.13 | 5691-M | 9.00 |
| Machine Screws, 6-32 x 3/4" | | | 6541-C | 1.21 | 6541-M | 9.66 |
| Machine Screws, 8-32 x 5/8" | | | 5692-C | 1.45 | 5692-M | 11.58 |
| Machine Screws, 8-32 x 3/4" | | | 6542-C | 1.55 | 6542-M | 12.36 |
| Machine Screws, 10-32 x 1/2" | | | 8848-C | 1.58 | 8848-M | 12.66 |
| Machine Screws, 10-32 x 5/8" | | | 5693-C | 1.73 | 5693-M | 13.86 |
| Machine Screws, 10-32 x 3/4" | | | 6543-C | 1.86 | 6543-M | 14.88 |
| **G-C ORNAMENTAL HEAD SCREWS — STEEL - STATUARY BRONZE PLATED** | | | | | | |
| Assorted Ornamental Head Screws | H1250-F | 20 | | | | |
| Ornamental Head Screws, 6-32 x 3/4" | H1252-F | 25 | 1097-C | 1.78 | 1097-M | 14.25 |
| Ornamental Head Screws, 6-32 x 1" | H1253-F | 20 | 1098-C | 1.95 | 1098-M | 15.56 |
| Ornamental Head Screws, 8-32 x 1 1/4" | H1255-F | 12 | 1099-C | 2.66 | 1099-M | 21.25 |


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| DESCRIPTION and SPECIFICATIONS | HINGED COVER PLASTIC BOXES 50-LINE Distributor's Standard Display, 10 Boxes List Price Per Box 55c | | BOXES OF 100 Distributor's Standard Carton 10 Boxes of 100 | | BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000 | |
|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
| **G-C WOOD SCREWS** — ROUND HEAD - STEEL - NICKEL PLATED | | | | | | |
| Assorted Wood Screws | H1502-F | 25 | | | | |
| Wood Screws, No. 4 x ½" | | | 6114-C | 1.88 | 6114-M | 16.06 |
| Wood Screws, No. 4 x ⅝" | | | 5694-C | 1.98 | 5694-M | 15.81 |
| Wood Screws, No. 4 x ¾" | | | 6115-C | 2.05 | 6115-M | 16.38 |
| Wood Screws, No. 5 x ¾" | | | 6116-C | 2.13 | 6116-M | 17.00 |
| Wood Screws, No. 6 x 1" | | | 6117-C | 2.51 | 6117-M | 20.06 |
| Wood Screws, No. 8 x ¾" | | | 6118-C | 2.42 | 6118-M | 19.38 |
| Wood Screws, No. 8 x 1¼" | | | 8071-C | 3.06 | 8071-M | 24.44 |
| Wood Screws, No. 10 x 1½" | | | 8073-C | 3.97 | 8073-M | 31.75 |
| Wood Screws, No. 12 x 1½" | | | 8075-C | 4.75 | 8075-M | 38.00 |
| Wood Screws, No. 14 x 1¾" | | | 8076-C | 6.77 | 8076-M | 54.13 |
| **G-C SPADE BOLTS or MOUNTING SCREWS** — STEEL - NICKEL PLATED | | | | | | |
| Assorted Spade Bolts | H1570-F | 15 | | | | |
| A / B / C / D / E | | | | | | |
| 6-32 / No. 6 / 9/32" / 11/16" / 9/16" | | | 6081-C | 2.55 | 6081-M | 20.44 |
| 6-32 / No. 5 / 13/32" / 7/8" / 11/16" | | | 6082-C | 3.35 | 6082-M | 26.81 |
| 8-32 / No. 8 / 7/16" / 1 3/32" / 15/16" | | | 6084-C | 6.38 | 6084-M | 51.06 |
| **G-C SHEET METAL SCREWS** — HEX HEAD - SLOTTED - SELF-TAPPING - NICKEL PLATED POINTED TYPE "A" | | | | | | |
| Assorted Sheet Metal Screws | H1300-F | 25 | | | | |
| Assorted No. 4 and No. 6 Sheet Metal Screws | | | | | | |
| Assorted No. 8 and No. 10 Sheet Metal Screws | | | | | | |
| Sheet Metal Screws, No. 4 x ½" | H1350-F | 35 | 6090-C | 1.61 | 6090-M | 12.88 |
| Sheet Metal Screws, No. 6 x ¼" | H1362-F | 30 | 6091-C | 1.61 | 6091-M | 12.88 |
| Sheet Metal Screws, No. 6 x ⅜" | H1363-F | 25 | 6092-C | 1.69 | 6092-M | 13.50 |
| Sheet Metal Screws, No. 6 x ½" | H1364-F | 25 | 6093-C | 1.78 | 6093-M | 14.25 |
| Sheet Metal Screws, No. 6 x ⅝" | | | 5695-C | 1.99 | 5695-M | 15.90 |
| Sheet Metal Screws, No. 6 x ¾" | H1366-F | 20 | 6094-C | 2.17 | 6094-M | 17.38 |
| Sheet Metal Screws, No. 8 x ¼" (Auto Radio Size) | H1382-F | 20 | 8102-C | 1.94 | 8102-M | 15.50 |
| Sheet Metal Screws, No. 8 x ⅜" | H1383-F | 20 | 6095-C | 2.02 | 6095-M | 16.19 |
| Sheet Metal Screws, No. 8 x ½" | H1384-F | 20 | 6096-C | 2.08 | 6096-M | 16.63 |
| Sheet Metal Screws, No. 8 x ⅝" | | | 5696-C | 2.07 | 5696-M | 16.58 |
| Sheet Metal Screws, No. 8 x 1" | H1388-F | 15 | 6097-C | 2.65 | 6097-M | 21.19 |
| Sheet Metal Screws, No. 10 x ⅜" | H1403-F | 15 | 6098-C | 2.38 | 6098-M | 19.06 |
| Sheet Metal Screws, No. 10 x ½" | H1404-F | 15 | 6099-C | 2.91 | 6099-M | 23.25 |
| Sheet Metal Screws, No. 10 x ¾" | H1406-F | 12 | 6100-C | 3.67 | 6100-M | 29.38 |
| **G-C ESCUTCHEON PLATE SCREWS** — ROUND HEAD - SLOTTED - STATUARY BRONZE PLATED | | | | | | |
| Assorted Escutcheon Screws | H1500-F | 25 | | | | |
| Escutcheon Screws, No. 2 x ¼" | | | 1091-C | 1.63 | 1091-M | 13.06 |
| Escutcheon Screws, No. 2 x ⅜" | | | 1093-C | 1.72 | 1093-M | 13.75 |
| **G-C RADIO KNOB SET SCREWS** — SLOTTED - HEADLESS - HARDENED STEEL — CUP POINT Is Standard | | | | | | |
| No. 1060 Kit 50 Asst. Set Screws List Price $1.10 | | | | | | |
| No. 1061 Kit 100 Asst. Set Screws List Price $2.00 | | | | | | |
| Assorted Set Screws 6-32 8-32 10-32 | H1605-F | 15 | | | | |
| Set Screws, 6-32 x 3/16" | H1623-F | 15 | 6072-C | 3.00 | 6072-M | 24.00 |
| Set Screws, 8-32 x 3/16" | H1633-F | 15 | 6075-C | 3.00 | 6075-M | 24.00 |
| Set Screws, 8-32 x ¼" | H1634-F | 15 | 6076-C | 3.00 | 6076-M | 24.00 |

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| DESCRIPTION and SPECIFICATIONS | HINGED COVER PLASTIC BOXES 50-LINE Distributor's Standard Display, 10 Boxes List Price Per Box 55c | | BOXES OF 100 Distributor's Standard Carton 10 Boxes of 100 | | BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000 | |
|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
| **G-C ALLEN HEX SET SCREWS** — STEEL - HARDENED - HEADLESS | | | | | | |
| Assorted Lengths, 4-36 | H1674-F | 5 | | | | |
| Assorted Lengths, 6-32 | H1676-F | 5 | | | | |
| Assorted Lengths, 8-32 | H1678-F | 5 | | | | |
| Hex Set Screws, 8-32 x 1/8" | | | 7201-C | 11.25 | 7201-M | 90.00 |
| Hex Set Screws, 8-32 x 3/16" | | | 7202-C | 11.25 | 7202-M | 90.00 |
| **G-C PHONOGRAPH NEEDLE and STYLUS SET SCREWS** — STEEL - BRONZE PLATED | | | | | | |
| No. 1052 Asst., 15 in Box — List Price $ .75 | | | | | | |
| Assorted Phono Needle Screws | H1550-F | 12 | | | | |
| No. 1053 Asst., 100 in Box — List Price $12.25 | H1551-F | 12 | | | | |
| Phono Needle Screws, 2-56 x 9/16" | H1553-F | 12 | P1-C | 1.10 | P1-M | 8.81 |
| Phono Needle Screws, 1-72 x 29/32" | H1555-F | 5 | P6-C | 2.77 | P6-M | 22.19 |
| **PHONO CARTRIDGE MOUNTING SCREWS** — STEEL - NICKEL PLATED | | | | | | |
| Assorted Cartridge Mounting Screws | H1560-F | 60 | | | | |
| Cartridge Screws, 4-36 x 1/4" | H1562-F | 40 | 6005-IC | .81 | 6005-M | 6.44 |
| Cartridge Screws, 4-40 x 1/4" | H1564-F | 40 | 6005-AC | .81 | 6005-AM | 6.44 |
| **G-C HEXAGON NUTS** — STEEL - NICKEL PLATED | | | | | | |
| Assorted Hex Nuts | H1800-F | 30 | | | | |
| Thread / Width / Thickness | | | | | | |
| 2-56 / 3/16" / 1/16" | H1802-F | 30 | 7225-C | 1.15 | 7225-M | 9.19 |
| 3-48 / 3/16" / 1/16" | H1803-F | 30 | 7226-C | 1.15 | 7226-M | 9.19 |
| 4-36 / 1/4" / 3/32" | H1805-F | 30 | 6041-C | 1.10 | 6041-M | 8.81 |
| 4-40 / 1/4" / 3/32" | H1804-F | 30 | 6041-AC | 1.10 | 6041-AM | 8.81 |
| 5-40 / 3/16" / 7/64" | | | 6045-BC | 1.21 | 6045-BM | 9.69 |
| 6-32 / 1/4" / 3/32" | H1806-F | 30 | 6042-C | 1.15 | 6042-M | 9.19 |
| 6-32 / 3/16" / 7/64" | H1807-F | 30 | 7230-C | 1.21 | 7230-M | 9.69 |
| 8-32 / 1/4" / 3/32" | H1808-F | 30 | 6043-C | 1.22 | 6043-M | 9.75 |
| 8-32 / 11/32" / 1/8" | H1809-F | 30 | 7233-C | 1.22 | 7233-M | 9.75 |
| 10-32 / 3/8" / 3/64" | H1810-F | 30 | 6044-C | 1.60 | 6044-M | 12.81 |
| 10-32 / 3/8" / 1/8" | | | 6049-C | 1.45 | 6049-M | 11.63 |
| 1/4-20 / 7/16" / 3/16" | H1820-F | 25 | 7235-C | 2.21 | 7235-M | 17.69 |
| 11/32-32 / 7/16" / 1/4" | | | 7236-C | 4.65 | 7236-M | 37.19 |
| 3/8-32 / 9/16" / 3/32" | H1923-F | 15 | 6050-AC | 3.68 | 6050-AM | 29.44 |
| 7/16-27 / 9/16" / 1/8" | | | 7238-C | 7.68 | 7238-M | 61.44 |
| 15/32-32 / 9/16" / 3/64" | H1924-F | 10 | 6050-BC | 5.24 | 6050-BM | 41.88 |
| **G-C BRASS HEXAGON NUTS** — NOT PLATED | | | | | | |
| Thread / Width / Thickness | | | | | | |
| 2-56 / 3/16" / 1/16" | | | 7241-C | 1.63 | 7241-M | 13.06 |
| 3-48 / 3/16" / 1/16" | | | 7242-C | 1.49 | 7242-M | 11.88 |
| 4-36 / 1/4" / 3/32" | H1842-F | 35 | 7243-C | 1.96 | 7243-M | 15.69 |
| 4-40 / 1/4" / 3/32" | H1844-F | 25 | 7244-C | 1.95 | 7244-M | 15.56 |
| 6-32 / 1/4" / 3/32" | H1846-F | 25 | 7245-C | 1.94 | 7245-M | 15.50 |
| 6-32 / 3/16" / 7/64" | | | 5697-C | 2.33 | 5697-M | 18.63 |
| 8-32 / 1/4" / 3/32" | | | 5698-C | 1.94 | 5698-M | 15.50 |
| 8-32 / 3/16" / 7/64" | H1848-F | 15 | 7248-C | 2.33 | 7248-M | 18.63 |
| 10-32 / 3/8" / 1/8" | H1850-F | 15 | 7249-C | 2.56 | 7249-M | 20.44 |
| 1/4-20 / 7/16" / 3/16" | | | 5699-C | 5.21 | 5699-M | 41.70 |



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|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
| **G-C MOUNTING NUTS — STEEL - NICKEL PLATED** | | | | | | |
| Assorted Mounting Nuts — Assorted | H1920-F | 12 | | | | |
| Thread / Width / Thickness | | | | | | |
| 11/32-32 / 7/16" / 1/16" (Rotary Switch Size) | | | 7236-C | 4.65 | 7236-M | 37.19 |
| 3/8-32 / 9/16" / 3/32" (Volume Control Size) | H1923-F | 15 | 6050-AC | 3.68 | 6050-AM | 29.44 |
| 7/16-27 / 9/16" / 1/8" (Pilot Light Size) | | | 7238-C | 7.68 | 7238-M | 61.44 |
| 13/32-32 / 9/16" / 5/64" (Toggle Switch Size) | H1924-F | 10 | 6050-BC | 5.24 | 6050-BM | 41.88 |
| 13/32-32 / Round Ring Nut / 1/16" (Toggle Switch Size) | H1926-F | 8 | 6050-CC | 5.79 | 6050-CM | 46.31 |
| **G-C TINNERMAN SPEED NUTS** | | | | | | |
| Assorted Speed Nuts | H1960-F | 30 | | | | |
| Speed Nuts, No. 4 | | | 6051-C | 1.27 | 6051-M | 10.19 |
| Speed Nuts, No. 6 | | | 6052-C | 1.30 | 6052-M | 10.38 |
| Speed Nuts, No. 8 | | | 6053-C | 1.30 | 6053-M | 10.38 |
| **G-C ACORN NUTS — SOLID BRASS - NICKEL PLATED** | | | | | | |
| Assorted Acorn Nuts | H1950-F | 10 | | | | |
| Acorn Nuts, 6-32 | | | 6031-C | 6.31 | 6031-M | 50.44 |
| Acorn Nuts, 8-32 | | | 6032-C | 6.31 | 6032-M | 50.44 |
| Acorn Nuts, 10-32 | | | 6033-C | 8.40 | 6033-M | 67.19 |
| **G-C KNURLED THUMB NUTS — BRASS - NICKEL PLATED** | | | | | | |
| Assorted Knurled Thumb Nuts | H1941-F | 10 | | | | |
| Knurled Thumb Nuts, 6-32 | H1943-F | 8 | 6655-C | 5.01 | 6655-M | 40.06 |
| Knurled Thumb Nuts, 8-32 | H1944-F | 8 | 6656-C | 4.97 | 6656-M | 39.75 |
| Knurled Thumb Nuts, 10-32 | H1945-F | 5 | 6657-C | 11.71 | 6657-M | 93.69 |
| **G-C WING NUTS — NICKEL PLATED** | | | | | | |
| Assorted Wing Nuts | H1931-F | 10 | | | | |
| Wing Nuts, 6-32 | H1933-F | 10 | 6658-C | 5.52 | 6658-M | 44.19 |
| Wing Nuts, 8-32 | H1934-F | 10 | 6659-C | 4.56 | 6659-M | 36.50 |
| Wing Nuts, 10-32 | H1935-F | 8 | 6660-C | 4.56 | 6660-M | 36.50 |
| **G-C METAL WASHERS — NICKEL PLATED** | | | | | | |
| Assorted Metal Washers | H870-F | 80 | | | | |
| Screw Size / Hole Size / O.D. / Thickness | | | | | | |
| No. 4 / 1/8" / 9/32" / 1/32" | H874-F | 80 | 6154-C | .42 | 6154-M | 3.38 |
| No. 6 / 5/32" / 3/8" / 1/32" | H876-F | 80 | 6155-C | .47 | 6155-M | 3.75 |
| No. 8 / 3/16" / 7/16" / 1/32" | H878-F | 80 | 6156-C | .49 | 6156-M | 3.94 |
| No. 10 / 13/64" / 3/8" / 1/32" | H880-F | 70 | 7306-C | .53 | 7306-M | 4.25 |
| No. 10 / 13/64" / 7/16" / 1/32" | | | 7307-C | .49 | 7307-M | 3.94 |
| No. 10 / 13/64" / 1/2" / .049 | | | 6157-C | .66 | 6157-M | 5.31 |
| No. 12 / .228 / 7/16" / .021 | | | 7308-C | .58 | 7308-M | 4.63 |
| No. 1/4" / 9/32" / 5/8" / 1/16" | H882-F | 50 | 6158-C | .77 | 6158-M | 6.13 |
| No. 1/4" / 17/64" / 1/2" / 1/16" | | | 7311-C | 1.06 | 7311-M | 8.44 |
| No. 5/16" / 5/16" / 11/16" / 15/32" | | | 7312-C | .98 | 7312-M | 7.81 |

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**BOXES OF 100** — Distributor's Standard Carton 10 Boxes of 100

**BULK HARDWARE** — (Boxes of 1000) Supplied only in Multiples of 1000

### G-C LOCK WASHERS
**INTERNAL LOCK WASHERS — CADMIUM PLATED**

| DESCRIPTION and SPECIFICATIONS | Screw Size | O D | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|---|---|
| Assorted Lock Washers, All Types | | | H918-F | 45 | | | | |
| Assorted Internal Lock Washers | | | H920-F | 50 | | | | |
| Internal Lock Washers, No. 2 | | | H922-F | 35 | 7322-C | 1.20 | 7322-M | 9.63 |
| Internal Lock Washers, No. 3 | | | | | 7323-C | 1.05 | 7323-M | 8.38 |
| Internal Lock Washers, No. 4 | | | H924-F | 50 | 7324-C | .76 | 7324-M | 6.06 |
| Internal Lock Washers, No. 6 | | 9/32" | H926-F | 50 | 7326-C | .76 | 7326-M | 6.06 |
| Internal Lock Washers, No. 8 | | 21/64" | H928-F | 50 | 7328-C | .83 | 7328-M | 6.63 |
| Internal Lock Washers, No. 10 | | 3/8" | H930-F | 45 | 7330-C | .83 | 7330-M | 6.63 |
| Internal Lock Washers, No. 1/4" | | 15/32" | | | 7332-C | 1.09 | 7332-M | 8.75 |
| Internal Lock Washers, No. 5/16" | | 19/32" | | | 7333-C | 1.36 | 7333-M | 10.88 |
| Internal Lock Washers, No. 3/8" | | 11/16" | | | 7334-C | 1.83 | 7334-M | 14.63 |
| Internal Lock Washers, No. 3/8" | | 9/16" | H938-F | 25 | 7335-C | 2.08 | 7335-M | 16.63 |
| Internal Lock Washers, No. 15/32 | | 19/32" | | | 7338-C | 2.63 | 7338-M | 21.06 |

### EXTERNAL LOCK WASHERS
**CADMIUM PLATED**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted External Lock Washers | | | H950-F | 60 | | | | |
| External Lock Washers, No. 4 | | | | | 7354-C | .76 | 7354-M | 6.06 |
| External Lock Washers, No. 6 | | | | | 7356-C | .76 | 7356-M | 6.06 |
| External Lock Washers, No. 8 | | | | | 7358-C | .83 | 7358-M | 6.63 |
| External Lock Washers, No. 10 | | | | | 7360-C | .81 | 7360-M | 6.44 |
| External Lock Washers, No. 1/4" | | 1/2" | | | 7361-C | 1.09 | 7361-M | 8.69 |
| External Lock Washers, No. 3/8" | | 11/16" | | | 7363-C | 1.60 | 7363-M | 12.81 |

### SPLIT TYPE LOCK WASHERS
**CADMIUM PLATED**

| | Screw Size | O D | Thickness | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Split Type Lock Washers | | | | H960-F | 60 | | | |
| | No. 4 | 3/16" | 1/32" | | | 6503-C | .81 | 6503-M | 6.50 |
| | No. 6 | 13/64" | 1/32" | | | 6504-C | .76 | 6504-M | 6.06 |
| | No. 8 | 11/32" | 1/32" | | | 6505-C | .63 | 6505-M | 5.00 |
| | No. 10 | 3/16" | .050 | | | 6506-C | .90 | 6506-M | 7.19 |
| | No. 1/4" | 7/16" | 5/64" | | | 6507-C | 1.33 | 6507-M | 10.63 |

### G-C SPRING FRICTION WASHERS

| | A | B | C | Thickness of Metal | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assorted Spring Friction Washers | | | | | H750-F | 12 | | | |
| | 9/64" | 5/16" | 1/32" | .012 | | | 7385-C | 4.06 | 7385-M | 32.50 |
| | 3/16" | 3/8" | 1/32" | .008 | | | 7386-C | 3.45 | 7386-M | 27.63 |
| | 3/16" | 7/16" | 1/16" | .008 | | | 7387-C | 3.37 | 7387-M | 26.94 |
| | 284 | 9/16" | 1/16" | .012 | | | 7389-C | 3.84 | 7389-M | 30.75 |

### G-C CUP FINISHING WASHERS
**NICKEL PLATED**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Screws and Washers | | | H1005-F | 15 | | | | |
| Assorted Cup Washers | | | H805-F | 40 | | | | |
| Cup Washers, No. 6 | | | H806-F | 45 | 6161-C | .66 | 6161-M | 5.31 |
| Cup Washers, No. 8 | | | H808-F | 45 | 6162-C | .70 | 6162-M | 5.63 |
| Cup Washers, No. 10 | | | H810-F | 35 | 6163-C | .93 | 6163-M | 7.44 |


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|---|---|---|---|---|---|---|
| | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
| **G-C C-WASHERS and RETAINING RINGS** STEEL - CADMIUM PLATED | | | | | | |
| Assorted C-Washers | H770-F | 25 | | | | |
| Shaft Diam A B C D | | | | | | |
| 3/16" .171 .125 .062 .031 | H772-F | 15 | 6182-C | 1.57 | 6182-M | 12.56 |
| 7/32" .234 .156 .046 .031 | H774-F | 15 | 6183-C | 1.79 | 6183-M | 14.31 |
| 1/4" .260 .187 .062 .031 | | | 6184-C | 1.82 | 6184-M | 14.56 |
| 1/4" 9/32" O D Wire Ring .029 | H778-F | 50 | 6185-C | .63 | 6185-M | 5.00 |
| **G-C HAIR PIN COTTERS** | | | | | | |
| Assorted Hair Pin Cotters | H380-F | 50 | | | | |
| A B C | | | | | | |
| 9/32" 1/16" .026 | | | 7375-C | .74 | 7375-M | 5.88 |
| 3/8" 1/16" .026 | | | 7376-C | .69 | 7376-M | 5.50 |
| 13/32" 3/32" .026 | | | 7377-C | .79 | 7377-M | 6.31 |
| 1/2" 5/32" .026 | | | 7378-C | .69 | 7378-M | 5.50 |
| 21/32" 3/16" .032 | | | 7379-C | .82 | 7379-M | 6.56 |
| **G-C FLAT FIBRE WASHERS** | | | | | | |
| Assorted Flat Fibre Washers | H820-F | 35 | | | | |
| Screw Size I D O D Thickness | | | | | | |
| No. 6 9/64" 1/4" 1/32" | H824-F | 30 | 6513-C | .56 | 6513-M | 4.50 |
| No. 8 11/64" 3/8" 1/32" | H825-F | 30 | 6514-C | .61 | 6514-M | 4.88 |
| No. 10 .196 3/8" 1/32" | H826-F | 30 | 6515-C | .61 | 6515-M | 4.88 |
| No. 1/4" 1/4" 1/2" 3/64" | H827-F | 24 | 6516-C | .77 | 6516-M | 6.13 |
| No. 3/8" 39/64" 25/64" 3/64" | H828-F | 20 | 6517-C | 1.27 | 6517-M | 10.19 |
| No. 15/32" 15/32" 3/4" 1/32" | | | 6518-C | 1.27 | 6518-M | 10.19 |
| **G-C EXTRUDED FIBRE WASHERS** (overall thickness .062) | | | | | | |
| Assorted Extruded and Flat Fibre Washers | H854-F | 30 | | | | |
| Assorted Extruded Fibre Washers | H855-F | 30 | | | | |
| A B C D Screw Size | | | | | | |
| 5/16" .187 .140 .039 No. 6 | | | 6525-C | 1.44 | 6525-M | 11.50 |
| 3/8" .250 .169 .031 No. 8 | | | 6526-C | 1.44 | 6526-M | 11.50 |
| 7/16" .255 .196 .032 No. 10 | | | 6527-C | 1.57 | 6527-M | 12.56 |
| 1/2" .375 .250 .032 1/4" Shaft | | | 6528-C | 1.57 | 6528-M | 12.56 |
| 5/8" .437 .380 .031 3/8" Shaft | H864-F | 20 | 6529-C | 1.65 | 6529-M | 13.19 |
| **G-C SNAP BUTTON HOLE PLUGS** NICKEL PLATED | | | | | | |
| Assorted Hole Plugs | H300-F | 8 | | | | |
| No. 1710 Asst 50 Plugs in Box List Price $3.05 | | | | | | |
| For Hole Dia A B C D | | | | | | |
| 1/4" 13/32" 1/4" 17/64" 5/64" | H306-F | 8 | 1711-AC | 3.56 | 1711-AM | 28.50 |
| 5/16" 7/16" 1/4" 21/64" 1/16" | | | 1711-BC | 3.56 | 1711-BM | 28.50 |
| 3/8" 17/32" 3/8" 25/64" 5/64" | H308-F | 8 | 1711-C | 4.76 | 1711-M | 38.10 |
| 1/2" 21/32" 17/64" 17/32" 5/64" | H310-F | 6 | 1712-C | 5.06 | 1712-M | 40.50 |
| 5/8" 51/64" 9/32" 41/64" 5/64" | H312-F | 6 | 1713-C | 5.25 | 1713-M | 42.00 |
| 3/4" 15/16" 19/64" 49/64" 3/32" | H314-F | 5 | 1714-C | 6.00 | 1714-M | 48.00 |
| 7/8" Fits Switch Box Knockout Hole | | | 1714-AC | 7.69 | 1714-AM | 61.50 |
| 1" 1 1/32" 13/64" 1 1/32" 3/64" | H316-F | 5 | 1715-AC | 8.25 | 1715-AM | 66.00 |
| 1 1/8" 1 5/16" 11/32" 1 9/64" 3/32" | | | 1715-BC | 9.56 | 1715-BM | 76.50 |
| 1 1/4" 1 7/16" 5/16" 1 17/64" 3/32" | | | 1715-C | 10.50 | 1715-M | 84.00 |
| 1 3/8" 1 9/16" 11/32" 1 13/32" 3/32" | | | 5700-C | 19.38 | 5700-M | 155.00 |
| 1 7/16" 1 39/64" 27/64" 1 15/32" 3/64" | | | 5701-C | 20.63 | 5701-M | 165.00 |
| 1 1/2" 1 41/64" 13/32" 1 17/32" 3/32" | | | 5702-C | 22.44 | 5702-M | 179.50 |

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**BOXES OF 100** — Distributor's Standard Carton 10 Boxes of 100

**BULK HARDWARE** — (Boxes of 1000) Supplied only in Multiples of 1000

### G-C SNAP-IN VENTILATING PLUGS
NICKEL PLATED

Punched Vent Type → ← Screen Vent Type

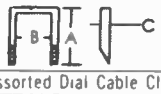
| DESCRIPTION and SPECIFICATIONS | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|
| Ventilating Plugs, 1" Hole Size, Punched Holes | H334 F | 4 | 1709-C | 13.50 | 1709 M | 108.60 |
| Ventilating Plugs, 1" Hole Size, Screen Vent | | | 1708-C | 35.63 | 1708 M | 285.00 |

### G-C SNAP-IN TRIMOUNTS

No. 1720 Asst. 100 Trimounts List Price $1.35

| Assorted Trimounts | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| To Fit Hole | A | B | Fig No | H370-F | 20 | | | |
| 1/8" | 9/32" | 7/16" | 1 | | | 1721-C | 1.85 | 1721 M 14.81 |
| 1/8" | 9/32" | 13/64" | 2 | H373-F | 25 | 1722-C | 1.85 | 1722 M 14.81 |
| .136 | 11/32" | 17/64" | 3 | | | 1723-C | 1.77 | 1723 M 14.19 |
| .136 | 21/64" | 9/32" | 4 | H375-F | 20 | 1724-C | 2.42 | 1724 M 19.38 |
| 3/32" | 3/16" x 11/32" | 25/64" | 5 | H378-F | 17 | 1726-C | 3.24 | 1726 M 25.88 |
| 3/32" | 3/16" x 11/32" | 21/32" | 6 | H379-F | 15 | 1727-C | 3.16 | 1727 M 25.25 |

### G-C DIAL CORD CLIPS
NICKEL PLATED



| Assorted Dial Cable Clips | | | | | | | |
|---|---|---|---|---|---|---|---|
| Used on Cord No | A | B | C | H745-F | 30 | | |
| 75 - 75A | 1/8" | 7/64" | 3/32" | H746-F | 40 | 6221-C | 1.13 | 6221 M 9.06 |
| 74 - 74L | 1/4" | 5/32" | 5/32" | | | 6222-C | 1.27 | 6222 M 10.13 |
| 73 - 73X | 3/16" | 9/64" | 3/16" | | | 6223-C | 1.31 | 6223 M 10.50 |

### G-C FUSE CLIPS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| For 1/4" Glass Fuses, No 6 Mounting Hole | B | H600-F | 12 | 6311-C | 3.09 | 6311 M | 24.69 |
| Television Fuse Clip (A) | No 8618 | ($0.41 List) | | | | | |
| Television Fuse Clip | No 8618-D | (Display 24 No 8618 | 9.88 | | | | |

### G-C SOLDERING LUGS
TINNED

No 1020 100 Asst. Solder Lugs List Price $1.10

| Assorted Soldering Lugs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hole Size | Fig No | Length | H100-F | 30 | | | | |
| Solder Lugs, No 6 | A1 | 19/32" | | | 8466-C | 2.63 | 8466 M | 21.06 |
| Solder Lugs, No 6 | A | 23/32" | | | 8467-C | 4.69 | 8467 M | 37.50 |
| Solder Lugs, No 8 | A | 23/32" | | | 8468-C | 5.06 | 8468 M | 40.44 |
| Solder Lugs, No. 6 | B | 21/32" | H104-F | 25 | 1021-BC | 2.00 | 1021 BM | 16.00 |
| Solder Lugs, No 8 | B | 5/8" | H106-F | 25 | 7445-C | 1.99 | 7445 M | 15.94 |
| Solder Lugs, No 10 | B | 11/16" | | | 8473-C | 2.64 | 8473 M | 21.13 |
| Solder Lugs, No. 6 | C | 9/16" | | | 5703-C | 2.81 | 5703 M | 22.50 |
| Solder Lugs, No. 8 | C | 13/16" | | | 5704-C | 2.81 | 5704 M | 22.50 |
| Solder Lugs, No. 10 | C | 13/16" | | | 5705-C | 2.81 | 5705 M | 22.50 |
| Solder Lugs, No 6 | C | 11/16" | H108-F | 30 | 1021-CC | 1.15 | 1021 CM | 9.19 |
| Solder Lugs, No 6 | F | 9/16" | H112-F | 30 | 1021-FC | 1.54 | 1021 FM | 12.31 |
| Solder Lugs, No 8 | F | 9/16" | H113-F | 30 | 7451-C | 1.45 | 7451 M | 11.63 |
| Solder Lugs, No 6 | H | 13/16" | H114-F | 25 | 7454-C | 1.11 | 7454 M | 8.88 |
| Solder Lugs, No 8 | H | 13/16" | H117-F | 25 | 7455-C | 2.48 | 7455 M | 19.81 |
| Solder Lugs, No 10 | H | 13/16" | H118-F | 25 | 7456-C | 1.53 | 7456 M | 12.25 |
| Solder Lugs, No 4 | K | 25/32" | | | 7458-C | 3.09 | 7458 M | 24.75 |
| Solder Lugs, No 8 | K | 25/32" | | | 7460-C | 3.10 | 7460 M | 24.81 |
| Solder Lugs, No 10 | K | 13/16" | | | 7461-C | 3.10 | 7461 M | 24.81 |
| Solder Lugs, No 6 | L | 5/8" | H122-F | 20 | 7462-C | 1.77 | 7462 M | 14.19 |
| Solder Lugs, No 8 | L | 5/8" | | | 7463-C | 1.77 | 7463 M | 14.19 |
| Solder Lugs, No 4 | F | 9/16" | | | 5706-C | 2.81 | 5706 M | 22.50 |
| Solder Lugs, No. 8 | F | 13/16" | | | 5707-C | 2.81 | 5707 M | 22.50 |
| Solder Lugs, No. 6 | F | 13/16" | | | 5708-C | 2.81 | 5708-M | 22.50 |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**BOXES OF 100** — Distributor's Standard Carton 10 Boxes of 100

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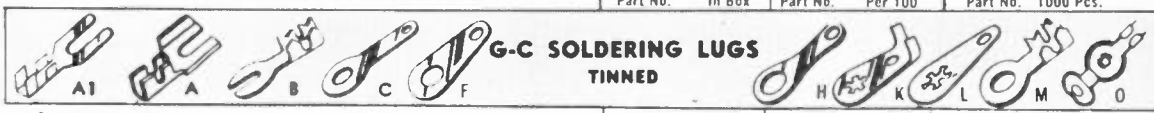
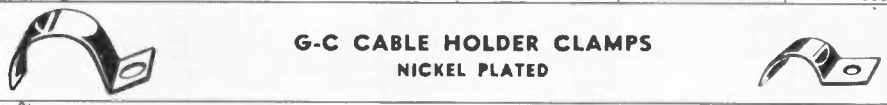
### G-C SOLDERING LUGS — TINNED




| DESCRIPTION and SPECIFICATIONS | | | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|---|---|
| Solder Lugs No 6 | M | 11/16" | H124-F | 25 | 7441-C | 1.97 | 7441-M | 15.75 |
| Solder Lugs No 8 | M | 11/16" | H134-F | 25 | 7442-C | 1.90 | 7442-M | 15.19 |
| Solder Lugs No 10 | M | 11/16" | H102-F | 25 | 1021-AC | 2.47 | 1021-AM | 19.75 |
| Solderless TV Line Lug | O | | H225-F | 10 | 8633-C | 2.74 | 8633-M | 21.88 |

### G-C CABLE HOLDER CLAMPS — NICKEL PLATED



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Cable Clamps | | | H500-F | 20 | | | | |
| To Fit Cable | Mounting Hole | | | | | | | |
| 1/8" to 3/16" | No 6 | | H502-F | 25 | 6251-C | 1.63 | 6251-M | 13.06 |
| 3/16" to 1/4" | No 6 | | H503-F | 20 | 6252-C | 1.85 | 6252-M | 14.81 |
| 1/4" to 5/16" | No 6 | | | | 7503-C | 3.47 | 7503-M | 27.75 |
| 5/16" to 1/2" | No 6 | | H506-F | 15 | 6253-C | 2.11 | 6253-M | 16.88 |
| Baseboard Wire Clips Black Parkerized | | | H509-F | 20 | 8345-C | 3.08 | 8345-M | 24.63 |

### G-C FAHNESTOCK CLIPS — NICKEL PLATED

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Fahnestock Clips | | | | | H590-F | 12 | | |
| Fig | Length | Width | Mtg Hole | Max Wire | | | | |
| A | 1/2" | 7/32" | 4 | 16 | H592-F | 15 | 6301-C | 3.09 | 6301-M | 24.69 |
| B | 3/4" | 5/16" | 6 | 14 | H594-F | 14 | 6302-C | 3.64 | 6302-M | 29.13 |
| C | 1" | 3/8" | 8 | 10 | | | 6303-C | 6.21 | 6303-M | 49.69 |
| D | 1 1/2" | 5/16" | 6 | 10 | | | 6304-C | 22.94 | 6304-M | 183.50 |
| E | 3/4" | 5/16" | 6 | 14 | | | 6306-C | 8.41 | 6306-M | 67.25 |

### G-C TERMINAL STRIP ASSORTMENT

Listed by sizes on page 51

| | | | | | | |
|---|---|---|---|---|---|---|
| Assorted Terminal Strips | H250-F | 4 | | | | |
| Terminal Strips, 1 Lug | | | 1781-C | 5.63 | | |
| Terminal Strips, 2 Lugs | | | 1782-C | 5.88 | | |
| Terminal Strips, 3 Lugs | | | 1783-C | 7.00 | | |
| Terminal Strips, 4 Lugs | | | 1784-C | 7.50 | | |
| Terminal Strips, 5 Lugs | | | 1785-C | 8.75 | | |
| Terminal Strips, 6 Lugs | | | 1786-C | 13.13 | | |
| Terminal Strips, 7 Lugs | | | 1787-C | 22.63 | | |
| Terminal Strips, 8 Lugs | | | 1788-C | 25.94 | | |

### G-C DIAL PULLEYS — BRASS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Dial Pulleys | | | | | H1966-F | 6 | | |
| A | B | C | D (Groove Width) | | | | | |
| 3/8" | 125 | 1/8" | 3/32" | | | | | |
| 7/16" | 2.03 | 13/64" | 1/8" | | | 6057-AC | 7.70 | 6057-AM | 61.62 |
| 1/2" | 1/8" | 3/16" | 3/32" | | | 6057-BC | 11.43 | 6057-BM | 91.46 |
| .620 | .128 | .165 | 1/16" | | | 6057-GC | 14.15 | 6057-GM | 113.23 |
| .860 | .128 | 5/32" | .050 | | | 6057-CC | 15.58 | 6057-CM | 124.61 |
| | | | | | | 6057-FC | 26.74 | 6057-FM | 213.92 |

### G-C RADIO-TV KNOB SPRINGS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assorted Knob Springs | | | H480-F | 18 | | | | |
| TV Knob Spring Assortment | | | H460-F | 12 | | | | |
| No. 1050 Kit of 35 Springs | List Price $1.20 | | | | | | | |
| No. 1051 Kit of 100 Springs | List Price $2.15 | | | | | | | |

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## HANDY G-C HARDWARE

In Convenient Packages:
1. Plastic Boxes
2. Boxes of 100
3. Bulk Boxes of 1000.

**HINGED COVER PLASTIC BOXES** — 50-LINE Distributor's Standard Display, 10 Boxes — List Price Per Box **55c**

**BOXES OF 100** — Distributor's Standard Carton 10 Boxes of 100

**BULK HARDWARE** — (Boxes of 1000) Supplied only in Multiples of 1000

## G-C RADIO-TV KNOB SPRINGS

| Fig. No. | Width | Length | For Knob Shaft Diam. | DESCRIPTION and SPECIFICATIONS | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. 1000 Pcs. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|---|---|---|---|
| K1 | 9/32" Light | 7/16" | 1/4" | | H482-F | 20 | 6460-C | 1.75 | 6460-M | 13.98 |
| K2 | 9/32" Heavy | 7/16" | 1/4" | | H484-F | 20 | 6461-C | 1.83 | 6461-M | 14.63 |
| K3 | 9/32" | 5/16" | 1/4" | | H487-F | 20 | 6462-C | 1.48 | 6462-M | 11.83 |
| K4 | 3/8" | 5/32" | 1/4" | | H489-F | 10 | 6463-C | 1.96 | 6463-M | 15.67 |
| K5 | 7/32" | 13/32" | 1/4" | | | | 6464-C | 3.08 | 6464-M | 24.64 |
| K6 | 9/32" | 3/8" | 1/4" | | H492-F | 8 | 6465-C | 3.93 | 6465-M | 31.40 |
| K6-S | 9/32" | 1/4" | 1/4" | | | | 6466-C | 4.67 | 6466-M | 37.38 |
| K7 | 9/32" | 1/2" | 1/4" | | | | 6467-C | 2.11 | 6467-M | 16.84 |
| K8 | 9/32" | 3/8" | 1/4" | | H494-F | 10 | 6468-C | 2.49 | 6468-M | 19.89 |
| K9 | 11/32" | 1/4" | 1/4" | | | | 6469-C | 3.93 | 6469-M | 31.40 |
| K10 | 3/8" | 3/8" | 1/4" | | H497-F | 10 | 6470-C | 2.50 | 6470-M | 20.02 |
| K11 | 3/8" | 7/16" | 1/4" | | H498-F | 10 | 6471-C | 4.25 | 6471-M | 34.00 |
| K12 | 3/8" | 7/16" | 3/16" | | H499-F | 10 | 6472-C | 3.89 | 6472-M | 31.14 |
| TV Knob Spring .202" Shaft | | | | | H462-F | 10 | 8541-C | 2.11 | 8541-M | 16.84 |
| TV Knob Spring 3/8" Flat Shaft | | | | | H464-F | 10 | 8542-C | 2.52 | 8542-M | 20.15 |

## G-C DIAL DRIVE TENSION SPRINGS and PHONO SPRINGS

**STEEL - CADMIUM PLATED**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Asst. Regular Dial Drive Springs | | | | | | | H401-F | 8 | | |
| Asst. Small Dial Drive Springs | | | | | | | H400-F | 10 | | |
| No. 1055 Kit of 25 Asst. Springs | | | | | | **List Price $1.30** | | | | |
| No. 1056 Kit of 100 Asst. Springs | | | | | | **List Price $4.85** | | | | |
| Asst. Large Tension Springs | | | | | | | H421-F | 10 | | |
| Asst. Small Tension Springs | | | | | | | H420-F | 10 | | |
| Asst. Small Phono Turntable Springs | | | | | | | H450-F | 8 | | |
| Asst. Large Phono Turntable Springs | | | | | | | H452-F | 8 | | |
| A | B | C | Wire Size | Old No. | List Price | | | | | |
| 1/8" | 1/2" | 1/4" | 016 | T1 | **$0.05** | | H403-F | 7 | 6450-C 8.40 | 6450-M 67.21 |
| 1/8" | 1" | 1/4" | 016 | T2 | **.06** | | H406-F | 8 | 6451-C 6.31 | 6451-M 50.51 |
| 3/16" | 1" | 5/8" | 020 | T3 | **.06** | | H408-F | 8 | 6452-C 7.05 | 6452-M 56.36 |
| 3/16" | 1 3/8" | 1" | 020 | T4 | **.06** | | H410-F | 8 | 6453-C 7.23 | 6453-M 57.85 |
| 1/4" | 1 1/2" | 1" | 026 | T5 | **.08** | | H412-F | 6 | 6454-C 9.34 | 6454-M 74.75 |
| 1/4" | 2" | 1 1/2" | 026 | T6 | **.10** | | | | 6455-C 11.53 | 6455-M 92.24 |

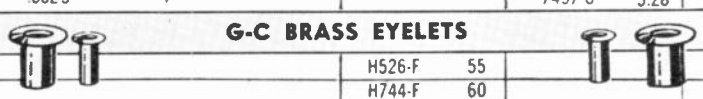
## G-C COMPRESSION SPRINGS

| | | |
|---|---|---|
| Asst. Small Compression Springs | H440-F | 20 |
| Asst. Large Compression Springs | H441-F | 15 |

## G-C PHONO TURNTABLE MOUNTING SPRINGS

| O.D. | Length | Wire Size | No. of Coils | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1" x 5/8" | 15/16" | .0625 | 4 | | | 7497-C 5.28 | 7497-M 42.25 |

## G-C BRASS EYELETS



| | | |
|---|---|---|
| Asst. Rivets and Eyelets | H526-F | 55 |
| Asst. Eyelets and Clamps | H744-F | 60 |
| Eyelet Assortment | H510-F | 50 |

| Shank Dia. | Length Under Head | Head Dia. | | | | |
|---|---|---|---|---|---|---|
| .087 | 1/8" | .145 | | 7251-C .47 | 7251-M 3.77 |
| .087 | 5/32" | .145 | | 7252-C .59 | 7252-M 4.75 |
| .087 | 7/32" | .145 | | 7253-C .79 | 7253-M 5.33 |
| .087 | 11/32" | .180 | | 7254-C 1.81 | 7254-M 14.50 |
| .123 | 5/32" | .197 | H515-F 50 | 7257-C .83 | 7257-M 6.63 |
| .123 | 7/32" | .195 | | 7259-C .67 | 7259-M 5.33 |
| .123 | 1/4" | .195 | | 7260-C .87 | 7260-M 6.96 |
| .123 | 9/32" | .195 | | 7261-C .89 | 7261-M 7.09 |
| .125 | 5/16" | 289 | | 7264-C 1.52 | 7264-M 12.16 |
| .127 | 13/32" | 222 | | 7265-C 1.86 | 7265-M 14.89 |
| .182 | .145 | 315 | | 7269-C .53 | 7269-M 4.23 |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3. Bulk Boxes of 1000

HINGED COVER PLASTIC BOXES — 50 LINE — Distributor's Standard Display, 10 Boxes — List Price Per Box **55c**

BOXES OF 100 — Distributor's Standard Carton 10 Boxes of 100

BULK HARDWARE — (Boxes of 1000) Supplied only in Multiples of 1000

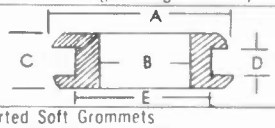
### G-C RIVETS
NICKEL PLATED

| DESCRIPTION and SPECIFICATIONS | | | Part No. | Quantity In Box | Part No. | List Price Per 100 | Part No. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|---|---|
| Asst. Rivets and Eyelets | | | H526-F | 55 | | | | |
| Rivet Assortment | | | H525-F | 50 | | | | |
| TV Interlock Receptacle Rivets | | | H527-F | Asst. | | | | |
| | Shank Diameter | Length Under Head | | | | | | |
| Rivets | 059 | 5/32" | | | 7276-C | 1.46 | 7276-M | 11.64 |
| Rivets | 059 | 3/16" | | | 7277-C | 1.46 | 7277-M | 11.64 |
| Rivets | 060 | 1/4" | | | 7278-C | .98 | 7278-M | 7.87 |
| Rivets | 088 | 3/16" | | | 7280-C | 1.57 | 7280-M | 12.55 |
| Rivets | 098 | 3/16" | | | 7283-C | 1.65 | 7283-M | 13.20 |
| Rivets | 121 | 1/8" | | | 7286-C | 1.29 | 7286-M | 10.34 |
| Rivets | 121 | 3/16" | | | 7288-C | .99 | 7288-M | 7.93 |
| Rivets | 121 | 1/4" | | | 7290-C | 1.03 | 7290-M | 8.26 |
| Rivets | 121 | 1/2" | | | 7293-C | 1.07 | 7293-M | 8.58 |
| Rivets | 146 | 5/16" | | | 7296-C | 1.21 | 7296-M | 9.69 |

### G-C GRID CAPS
NICKEL PLATED

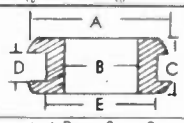
| | | | | | | |
|---|---|---|---|---|---|---|
| Assorted Grid Caps | H609-F | 8 | | | | |
| Glass Tube Grid Caps | A | | 6291-C | 2.23 | 6291-M | 17.88 |
| Metal Tube Grid Caps | B | | 6292-C | 2.24 | 6292-M | 17.94 |
| TV Spring Type Grid Caps Asstd | H610-F | 5 | | | | |
| 1/4" High Voltage Spring Grid Cap | | | 8838-1RC | 6.32 | 8838-1RM | 50.57 |
| 3/8" High Voltage Spring Grid Cap | | | 8838-2RC | 6.61 | 8838-2RM | 52.91 |
| 1/4" Insulated High Voltage Grid Cap | H612-F | 1 | 8834-C | 47.77 | 8834-M | 381.62 |
| 3/8" Insulated High Voltage Grid Cap | H614-F | 1 | 8835-C | 47.77 | 8835-M | 381.62 |

### G-C RUBBER GROMMETS



| | | | | | | |
|---|---|---|---|---|---|---|
| Assorted Soft Grommets | H025-F | 15 | | | | |
| No. 1040 Kit of 50 Asstd. Grommets List $1.25 | | | | | | |
| A / B / C / D / E | | | | | | |
| 11/32" / 1/8" / 3/16" / 1/16" / 1/4" | H030-F | 16 | 1041-2C | 1.86 | 1041-2-M | 14.88 |
| 7/16" / 3/16" / 5/32" / 1/16" / 5/16" | H032-F | 14 | 1041-C | 2.10 | 1041-M | 16.80 |
| 9/16" / 1/4" / 1/4" / 1/16" / 1/2" | H034-F | 12 | 1042-C | 2.81 | 1042-M | 22.50 |
| 5/8" / 3/8" / 1/4" / 1/16" / 1/2" | H036-F | 10 | 1043-C | 3.16 | 1043-M | 25.25 |
| 1/2" / 3/16" / 1/4" / 1/16" / 5/16" | | | 5710-C | 6.34 | 5710-M | 50.70 |
| 1/2" / 1/4" / 5/16" / 1/8" / 3/8" | | | 7566-C | 4.07 | 7566-M | 32.56 |
| 7/8" / 9/16" / 15/64" / 11/16" / 3/4" | | | 5711-C | 5.89 | 5711-M | 47.10 |
| 3/4" / 7/16" / 1/4" / 1/16" / 9/16" | | | 5712-C | 8.59 | 5712-M | 68.70 |
| 13/16" / 1/2" / 9/32" / 1/16" / 5/8" | H038-F | 8 | 1043-1C | 4.81 | 1043-1M | 38.50 |
| 1" / 3/8" / 1/4" / 1/16" / 7/8" (For Switch Box Knock-Out) | | | 7569-C | 9.57 | 7569-M | 76.56 |
| 3/4" / 5/16" / 11/32" / 3/32" / 15/32" | | | 5715-C | 11.33 | 5715-M | 90.60 |
| 11/8" / 5/8" / 5/16" / 1/16" / 7/8" | | | 5716-C | 9.56 | 5716-M | 76.50 |
| 15/16" / 11/16" / 3/8" / 1/16" / 1" | | | 5717-C | 19.24 | 5717-M | 153.90 |

### G-C PURE GUM GROMMETS




**VERY SOFT LIVE RUBBER GROMMETS FOR SHOCK AND VIBRATION DAMPENING. FOR MOUNTING TUNING CONDENSERS, SOCKETS, PHONO MOTORS, CHASSIS, ETC.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Assorted Pure Gum Grommets | H040-F | 12 | | | | |
| No. 7581 Kit of 100 Asst. Grommets List Price $2.45 | | | | | | |
| A / B / C / D / E | | | | | | |
| 3/16" / 3/16" / 3/32" / 1/16" / 5/16" | H042-F | 12 | 7582-C | 2.69 | 7582-M | 21.50 |
| 9/16" / 1/4" / 1/4" / 1/16" / 3/8" | H043-F | 10 | 7584-C | 3.83 | 7584-M | 30.63 |

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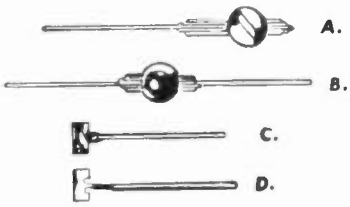
## HANDY G-C HARDWARE

In Convenient Packages:
1. Plastic Boxes
2. Boxes of 100
3. Bulk Boxes of 1000

| DESCRIPTION and SPECIFICATIONS | HINGED COVER PLASTIC BOXES 50-LINE Distributor's Standard Display, 10 Boxes List Price Per Box 55c Part No. | Quantity In Box | BOXES OF 100 Distributor's Standard Carton 10 Boxes of 100 Part No. | List Price Per 100 | BULK HARDWARE (Boxes of 1000) Supplied only in Multiples of 1000 Part No. | List Price Per 1000 Pcs. |
|---|---|---|---|---|---|---|
| **G-C RADIO KNOB FELTS** | | | | | | |
| 3/4" O.D. x 1/4" Hole, Brown | H760-F | 40 | 1065-C | 65 | 1065-M | 5.35 |
| **G-C RUBBER FEET — Screw Type** | | | | | | |
| Asst. Screw Type Rubber Feet | H050-F | 8 | | | | |
| O.D. / High | | | | | | |
| 3/8" / 3/16" | H052-F | 8 | 1075-BC | 1.52 | 1075-BM | 12.16 |
| 1/2" / 1/4" | H054-F | 8 | 1075-CC | 2.44 | 1075-CM | 19.50 |
| 5/8" / 5/16" | H056-F | 8 | 1075-FC | 3.70 | 1075-FM | 29.58 |
| **G-C RUBBER BUTTON BUMPERS JUST PUT IN HOLE** | | | | | | |
| A O.D. / B Height / C Hole / E Height | | | | | | |
| 3/8" / 3/8" / 3/16" / 3/16" | | | 7596-C | 2.40 | 7596-M | 19.18 |
| 1/2" / 7/16" / 1/4" / 1/4" | H058-F | 8 | 7597-C | 3.51 | 7597-M | 28.08 |
| 5/8" / 9/16" / 3/8" / 5/16" | | | 7598-C | 5.65 | 7598-M | 45.18 |
| **G-C RUBBER TACK BUMPERS** | | | | | | |
| 3/8" O.D. Rubber Tack Bumpers | H071-F | 10 | 1075-C | 3.08 | 1075-M | 24.64 |
| **G-C FELT PADS** | | | | | | |
| Assorted Felt Pads | H074-F | 40 | | | | |
| 1/2" O.D. x 1/4" Thick Felt Pads | | | 1071-C | 50 | 1071-M | 3.97 |
| **G-C CORD STRAIN RELIEFS** | | | | | | |
| Will Fit P.O.S.J. Cord | H048-F | 5 | 6675-C | 8.78 | 6675-M | 70.20 |
| **G-C ANGLES and BRACKETS** | | | | | | |
| Assorted Angles and Brackets | H570-F | 12 | | | | |
| A / B / C / Hole Size | | | | | | |
| 1/4" / 3/16" / 9/32" / 6 | | | 6261-C | 1.87 | 6261-M | 14.95 |
| 3/8" / 1/4" / 9/32" / 6 | | | 6262-C | 2.32 | 6262-M | 18.53 |
| 1/2" / 7/16" / 3/8" / 6 | | | 6263-C | 2.64 | 6263-M | 21.13 |

## G-C RADIO and TV DIAL POINTERS




Popular pointers that will fit on most any set. Easy to replace damaged or broken pointer. Pointers can be cut shorter to fit small dials.

| No. | List Price |
|---|---|
| 8480-D Display 20 Assorted Pointers | $6.70 |

| No. | Style | Length | Shaft Size | List Price |
|---|---|---|---|---|
| 6801 | A | 3" | 1/4" | $0.40 |
| 6801-D | Display 20 | No. 6801 | | 8.00 |
| 8481 | A | 2 1/2" | 1/4" | .40 |
| 8481-D | Display 20 | No. 8481 | | 8.00 |
| 6802 | B | 5" | 1/4" | .40 |
| 6802-D | Display 20 | No. 6802 | | 8.00 |
| 8482 | B | 2 3/4" | 1/4" | .40 |
| 8482-D | Display 20 | No. 8482 | | 8.00 |
| 6803 | C | 2 1/2" | Slide—Red Translucent | .40 |
| 6803-D | Display 20 | No. 6803 | | 8.00 |
| 6804 | F | 2" | Slide—White | .40 |
| 6804-D | Display 20 | No. 6804 | | 8.00 |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## HANDY G-C HARDWARE

In Convenient Packages
1. Plastic Boxes
2. Boxes of 100
3. Bulk Boxes of 1000

**HINGED COVER PLASTIC BOXES**
50 LINE
Distributor's Standard Display 10 Boxes
List Price Per Box **55c**

**BOXES OF 100**
Distributor's Standard Carton 10 Boxes of 100

**BULK HARDWARE**
(Boxes of 1000) Supplied only in Multiples of 1000

### G-C "99" SOLDER LUG ASSORTMENT

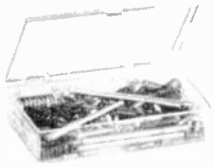
Handy assortment of all types of soldering lugs put up in a beautiful hinged cover plastic box. This is a real buy. Large quantity of lugs is included.

| No. | | List Price |
|---|---|---|
| 9116 | "99" Lug Asst. | $1.65 |
| | Dealer's Net | .99 |

### G-C "99" SCREW AND NUT ASSORTMENT

Assortment of various sizes of screws, nuts and bolts put up in a handy plastic hinged cover box. Generous quantity of many sizes of screws is packed in each box.

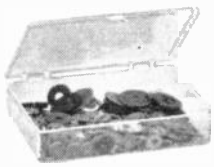
| No. | | List Price |
|---|---|---|
| 9117 | "99" Screw Asst. | $1.65 |
| | Dealer's Net | .99 |



### G-C "99" SPRING ASSORTMENT

Here's a package of hard to get springs that you need for repairs on dial cords, push buttons, etc. Both extension and compression springs are included. Packed in a plastic hinged cover box.

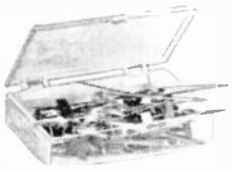
| No. | | List Price |
|---|---|---|
| 9118 | "99" Spring Asst. | $1.65 |
| | Dealer's Net | .99 |



### G-C "99" WASHER ASSORTMENT

Practical assortment of many types of metal and fibre washers is included in assortment. Handy to have when you need washers. Put up in a plastic hinged cover box.

| No. | | List Price |
|---|---|---|
| 9119 | "99" Washer Asst. | $1.65 |
| | Dealer's Net | .99 |



### G-C "99" POINTER ASSORTMENT

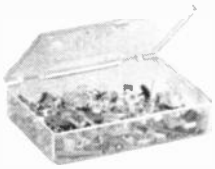
A large assortment of all types of radial and slide type dial pointers is included in the hinged cover plastic box. Handy to have when you need a pointer for repair work.

| No. | | List Price |
|---|---|---|
| 9120 | "99" Pointer Asst. | $1.65 |
| | Dealer's Net. | .99 |

### G-C "99" RUBBER GROMMET ASSORTMENT

Practical assortment of many types and sizes of rubber grommets. Handy to have around for repairs. Generous quantity packed in a hinged cover plastic box.

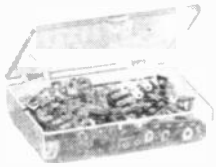
| No. | | List Price |
|---|---|---|
| 9121 | "99" Grommet Asst. | $1.65 |
| | Dealer's Net. | .99 |



### G-C "99" ELECTRONIC PART ASSORTMENT

Here is an assortment of hard-to get Electronic and Radio Parts. No screws, nuts or washers are included in this assortment. A real value of needed items packed in a handy hinged cover plastic box.

| No. | | List Price |
|---|---|---|
| 9122 | Electronic Parts Asst. | $1.65 |
| | Dealer's Net. | .99 |



### G-C "99" TERMINAL STRIP ASSORTMENT

Handy plastic box full of various types of terminal strips. Very handy to have around for repairing Radio and TV sets.

| No. | | List Price |
|---|---|---|
| 9129 | "99" Terminal Strip Asst. | $1.65 |
| | Dealer's Net. | .99 |

### G-C SOLDER LUG ASSORTMENT

A Selection of 8 Sizes

Supplied in a compartmented plastic box for easy selection, are all the popular solder lug sizes. These are the best quality hot-tinned lugs. Includes the following sizes.

| Qty. | Metal | Hole | Length |
|---|---|---|---|
| 50 | .020B | #6 | 1 2" |
| 50 | .020B | #6 | 21 32" |
| 50 | .020B | #8 | 21 32" |
| 50 | .025B | #6 | 1" |
| 50 | .025B | #8 | 1" |
| 25 | .020C | #8 | 15 16" |
| 25 | .020C | #10 | 15 16" |
| 25 | .032B | #8 | 15 16" |

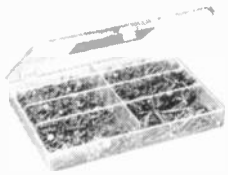
No. 9187 Plastic Lug Box complete with above.
List Price ..... $4.45

### G-C SOLDERLESS LUG BOX

This kit contains the 8 most popular solderless terminals. These have a wide application in the service and industrial fields. Makes for quick easy connections. Twenty-five of each of the following types are included:

| Wire Size | Hole | | |
|---|---|---|---|
| 22-16 | #4 | #6 | Ring Tongue |
| 22-16 | #8 | #10 | Ring Tongue |
| 16-14 | #4 | #6 | Ring Tongue |
| 16-14 | #8 | #10 | Ring Tongue |
| 22-16 | #4 | #6 | Spade Tongue |
| 16-14 | #4 | #6 | Spade Tongue |
| 16-14 | #8 | #10 | Spade Tongue |
| 22-16 | #4 | #6 | Hook Type |

No. 9194 Box Asst'd Solderless Terminals. List Price ..... $4.45



### G-C SHEET METAL SCREW BOX

A selection of sheet metal screws for all applications. Kit includes the following:

| | |
|---|---|
| 100—#4x1/2" | 100—#8x3/8" |
| 100—#6x1/4" | 100—#8x1/4" |
| 100—#6x1/2" | 100—#8x1/2" |
| 50—#6x3/4" | 50—#8x1" |

No. 9193 Sheet Metal Screw Box.
List Price ..... $5.52

### G-C MACHINE SCREW BOX

A complete assortment of round head screws and nuts in demand in the electronic field. No odd sizes only popular sizes, most wanted by the serviceman. Kit contains the following:

100—#4-40x1/2" M.S.
100—#6-32x1/4" M.S.
50—#6-32x3/4" M.S.
50—#8-32x1/2" M.S.
75—#6x1/2" M.S.
100—#4x40x1/4" Hex Nut
100—#6-32x1/4" Hex Nut
100—#8-32x1/4" Hex Nut

No. 9199 Machine Screw Box.
List Price ..... $5.52

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

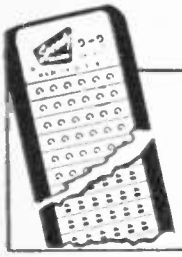


World Radio History

# NORTH SHORE NAMEPLATE INC.

## PRESSURE SENSITIVE WIRE MARKERS WITH THE NEW INSTANT RELEASE DISPENSING CARD

## STOCK ITEMS



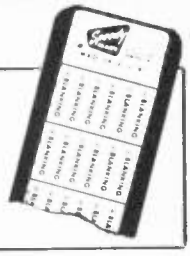
**NUMBERS AND LETTERS, printed black on white background. All number and letters are the same on each card.**

0 to 1000 (1001 different cards)
Capital Letters: A to Z (26 different cards)
Lower Case Letters: a to z (26 different cards)

TV MARKERS, printed black on white or colored background.

All markers are the same on each card.

+H DRIVE, —H DRIVE,
+V DRIVE, —V DRIVE,
+BLANKING, —BLANKING,
+SYNC, —SYNC, VIDEO



SYMBOLS, printed black on white background. All symbols are the same on each card.

A1 to A6, B1 to B6, C1 to C9, D1 to D6, E1 to E6, F1 to F6, G1 to G4, H1 to H6, J1 to J4, K1 to K6, L1 to L10, M1 to M6, N1 to N4, O1 to O4, P1 to P6, R1 to R10, S1 to S6, T0 to T10, U1 and U2, V1 to V4, W1 and W2, X1 to X4, Z1 to Z4

A+, A—, B+, B—, 2.5V, 3V, 3.8V, 5V, 6V, 6.3V, 7.5V, 10V, 12V, 24V, 27V, 32V, 36V, 48V, 110V, 115V, 120V, 125V, 127V, 180V, 190V, 208V, 220V, 230V, 240V, 250V, 270V, 280V, 308V, 375V, 380V, 440V, 460V, 480V, 500V, 550V, 575V, 600V, 880V, 2200V, 4000V, 4400V, 8000V, 10,000V, 12000V, 25CY, 35CY, 40CY, 50CY, 60CY, 400CY, AA, AC, AL1, AL2, AM, ANT, ARM, BAT, BB, BELL, BF1, BF2, BF3, BF4, BIAS, BR1, BR2, BR3, BR4, BUS, CC, CCW, CLOSE, CM, COM, CT, CUR, CW, DC, DD, DR1, DR2, DR3, DR4, FA, FB, FF, FFA, FFB, FIL, FLD, FM, FMM, FS1, FS2, FS3, FWD, GEN, GND, GRID, HOT, IGN, IN, LINE, LOAD, MM, NEG, NEUT, OFF, ON, OPEN, OUT, PHASE, 1 PHASE, 2 PHASE, 3 PHASE, PHASE A, PHASE B, PHASE C, PHONE, POS, POT, PRI, REV, SEC, SIG, SPARE, SS, TRIP, +, —, ±, ∓, ∩, ⇌, →, ←, ↑, ↓, CD.

### MACHINE TOOL CONTROL IDENTIFICATIONS

printed black on white background. All markers are the same on each card.

1T1 to 1T3, 2T1 to 2T3, 3T1 to 3T3, 4T1 to 4T3, 5T1 to 5T3, 6T1 to 6T3, 7T1 to 7T3, 8T1 to 8T3, 9T1 to 9T3

### NEMA COLOR IDENTIFICATIONS

Colors: Black, Blue, Brown, Green, Grey, Orange, Purple, Red, White, Yellow

### CONSECUTIVE NUMBERS

printed black on white background. All numbers are in sequence on each card.

Sequences: 1 to 33, 34 to 66, 67 to 99, 100 to 124, 125 to 149, 150 to 174, 175 to 199, similar sequences up to 9975 to 9999

### CONSECUTIVE LETTERS

printed black on white background. All letters are in sequence on each card.

Capital letters: A to Z, plus A to H
Lower Case letters: a to z, plus a to h

### CONSECUTIVE NUMBERS

printed black on white background. All numbers are in sequence on each card, sequences repeated.

| | | |
|---|---|---|
| 0 to 9 | 1 to 6 | 1 to 12 |
| 0 to 10 | 1 to 7 | 1 to 16 |
| 1 to 3 | 1 to 8 | 17 to 32 |
| 1 to 4 | 1 to 9 | 1 to 18 |
| 1 to 5 | 1 to 10 | 19 to 36 |

### CONSECUTIVE NUMBERS

printed black on colored backgrounds. All numbers are in sequence on each card.

Colors: Blue, Brown, Green, Grey, Orange, Purple, Red, Yellow

Sequences: Same as above, up to 375 to 399.

### CONSECUTIVE LETTERS

printed black on white background. All letters are in sequence on each card, sequences repeated.

A to G, A to E, F to J, K to O, P to T, U to Z

### CONSECUTIVE SYMBOLS

printed black on white background. All symbols are in sequence on each card, sequences repeated.

| | | | | | |
|---|---|---|---|---|---|
| A1 to A4 | G1 to G4 | L1 to L26 | R1 to R4 | T10 to T13 | X1 to X26 |
| B1 to B4 | H1 to H4 | M1 to M4 | R1 to R26 | T10 to T17 | Y1 to Y4 |
| C1 to C4 | H1 to H9 | M1 to M6 | S1 to S4 | T14 to T17 | Z1 to Z4 |
| C1 to C26 | J1 to J4 | N1 to N4 | S1 to S26 | U1 to U4 | |
| D1 to D4 | J1 to J9 | O1 to O4 | T1 to T4 | V1 to V4 | |
| E1 to E4 | K1 to K4 | *P1 to P4 | T1 to T9 | W1 to W4 | |
| F1 to F4 | L1 to L4 | Q1 to Q4 | T1 to T26 | X1 to X4 | |

### CONSECUTIVE MACHINE TOOL CONTROL SYMBOLS

printed black on white background. All symbols are in sequence on each card, sequences repeated.

Sequences: 1T1, 1T2, 1T3, 2T1, 2T2, 2T3, 3T1, 3T2, 3T3
Sequences: 4T1, 4T2, 4T3, 5T1, 5T2, 5T3, 6T1, 6T2, 6T3
Sequences: 7T1, 7T2, 7T3, 8T1, 8T2, 8T3, 9T1, 9T2, 9T3
Sequences: A1, A2, F1, F2, S1, S2 (D.C. Motor and Generator)

**MANUFACTURERS OF PRESSURE SENSITIVE ANODIZED & ETCHED ALUMINUM FOIL NAMEPLATES**

## GENERAL ORDERING INFORMATION:

Card Size: 2" x 10". Standard Marker Length 1½"
For wire diameter under ¼", specify ¾" markers.
Twice as many markers at no extra cost.
For wire diameters over ¼", specify the 1½" standard markers.
Speedy Marx are printed in the standard NEMA-ASA colors.
Where markers are printed on colored background, please specify choice of color.

Stock items can be grouped for maximum quantity minimum price. Minimum order 25 cards. Terms: Net 30 days FOB Bayside, N.Y.

**Special Items and Colors Are Available — Send Sketches for Quotation**

## NORTH SHORE NAMEPLATE INC.

Bayside 61, N. Y.

### SPEEDY MARX WIRE MARKERS PRICE LIST

Card Size: 2" x 10".

| | |
|---|---|
| 25- 49 | $17.50/C |
| 50- 99 | 17.45/C |
| 100- 249 | 14.25/C |
| 250- 499 | 12.00/C |
| 500- 999 | 11.50/C |
| 1000-2499 | 10.94/C |
| 2500-4999 | 10.68/C |
| 5000 and Up | Write for Quote |



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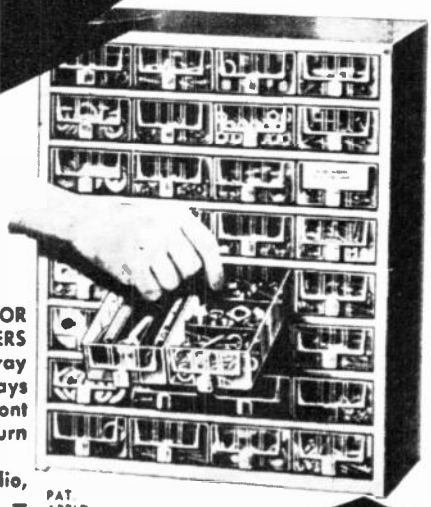
World Radio History

# SAVE BIG MONEY *on Small Parts!*

## FILE 'EM WHERE YOU CAN FIND 'EM *Instantly!*

MODEL J-32
ILLUSTRATED

**NO MORE FRANTIC SEARCHING FOR MISPLACED ITEMS**



PAT APPLD. FOR

***KNOW** where things are, with "HAZ-BINS" — the handiest **CABINETS** ever made for storing small parts.*

**Molded plastic drawers are crystal clear, lifetime guaranteed, spillproof. JUNIOR DRAWERS divide into 2 or 3 compartments lengthwise or crosswise. SENIOR DRAWERS divide into 2, 3, or 4 crosswise compartments. Welded steel cabinet, baked-on gray finish. Stands on bench, stacks-up or hangs on wall. Saves space, contents always fully visible, dust-proof, orderly, indexed. Price includes complete set of drawer-front index labels, drawer dividers, rubber feet. Unconditional 10 day guarantee, return if you're not delighted.**

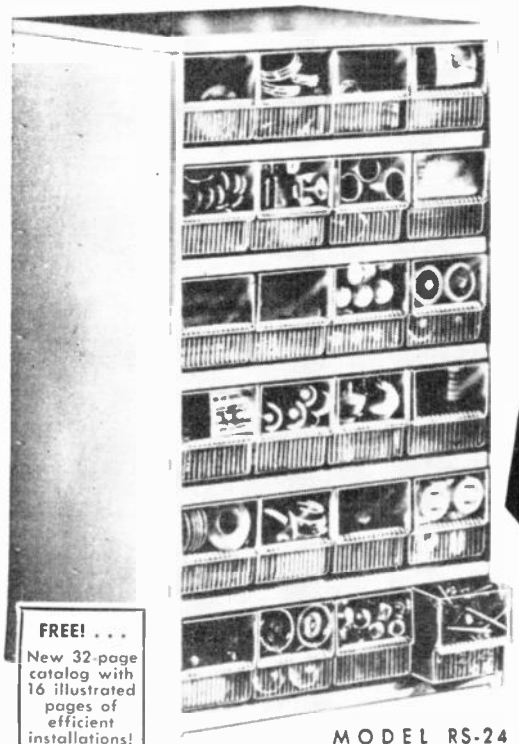
**Useful in every shop, lab, office, stockroom, store, home, assembly-line . . . in radio, TV, repair, photographic, hobby or ignition work. provides perfect storage for — small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, and anything else you can think of.**

## "HAZ-BIN" JR. CABINETS

EACH CRYSTAL-CLEAR JR. PLASTIC DRAWER
2-3/4" WIDE, 1-7/16" DEEP, 5-7/8" LONG

*All models 6" deep. J-8 thru J-48 12-1/2" Wide, J-64 thru J-128, 25-1/8" Wide*

| MODEL No. | NO. OF DRAWERS | NO. OF COMPARTMENTS | HEIGHT | SHIPPING WEIGHT | PRICE * |
|---|---|---|---|---|---|
| J-128 | 128 | 384 | 30½" | 50 lbs | $55.95 |
| J-96 | 96 | 288 | 22½" | 40 lbs | 42.95 |
| J-64 | 64 | 192 | 15¼" | 25 lbs | 24.95 |
| J-48 | 48 | 144 | 22½" | 19 lbs | 20.95 |
| J-32 | 32 | 96 | 15¼" | 13 lbs | 12.95 |
| J-24 | 24 | 72 | 12⅛" | 10 lbs | 9.95 |
| J-20 | 20 | 60 | 10⅛" | 9 lbs | 7.95 |
| J-16 | 16 | 48 | 8⅛" | 8 lbs | 6.95 |
| J-12 | 12 | 36 | 6⅛" | 6 lbs | 5.95 |
| J-8 | 8 | 24 | 4" | 4 lbs | 4.25 |



MODEL RS-24
ILLUSTRATED

**FREE! . . .** New 32-page catalog with 16 illustrated pages of efficient installations! Write . . .

## "HAZ-BIN" SR. CABINETS

EACH CRYSTAL-CLEAR SR. PLASTIC DRAWER
2-7/8" WIDE, 2-3/4" DEEP, 10-3/4" LONG

*All models 13-5/16" Wide x 11-1/8" Deep.*

| MODEL No. | NO. OF DRAWERS | NO. OF COMPARTMENTS | HEIGHT | SHIPPING WEIGHT | PRICE * |
|---|---|---|---|---|---|
| RS-32 | 32 | 128 | 28½" | 31 lbs | $42.00 |
| RS-24 | 24 | 96 | 22½" | 23 lbs | 32.00 |
| RS-16 | 16 | 64 | 14½" | 16 lbs | 21.00 |
| R-12 | 12 | 48 | 11" | 12½ lbs | 16.00 |
| RS-8 | 8 | 32 | 8" | 9½ lbs | 10.75 |

** All Prices F.O.B. Akron, Ohio*

# AKRO-MILS, INC.

AKRON 9, OHIO

**ORDER FROM YOUR ELECTRONIC PARTS JOBBERS OR WRITE US FOR SOURCE**

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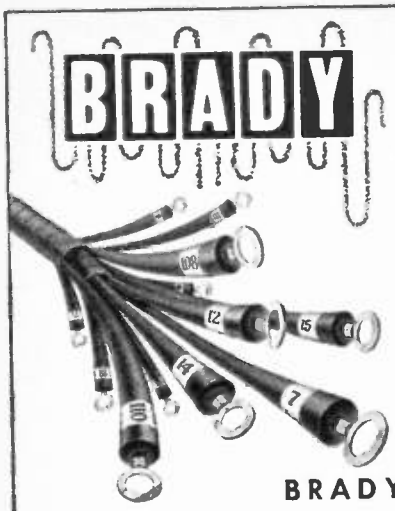
World Radio History

# BRADY *Self-Sticking* WIRE MARKERS

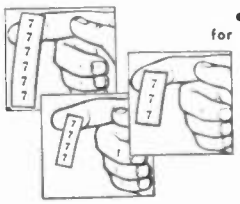
**• COMMUNICATION • INSTALLATION • REPAIR**



Quick, permanent "around-the-wire" identification in a wide variety of materials that resist heat, moisture, chemicals . . . in vinyl-cloth, all-vinyl, *Mylar**, aluminum foil, acetate cloth or glass cloth. Stick tight to all wires — tell which wire goes where. Ask your jobber for Bulletin 130 listing more than 2000 stock markers. Specials made to order.

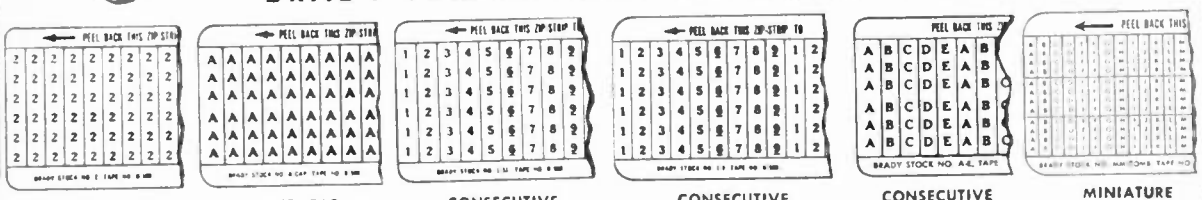
**DuPont's Registered Trademark*

## 3 STOCK SIZES



- 1 1/2" long Markers for wires over 1/4" O.D.
- 3/4" long Markers for wires 5/32" thru 1/4" O.D.
- 1/2" long Miniature Markers for wires under 5/32" O.D.

## BRADY PERMA-CODE WIRE MARKERS



SOLID NUMBERS | SOLID CAP. LETTERS | CONSECUTIVE NUMBERS | CONSECUTIVE NUMBERS REPEATED | CONSECUTIVE LETTERS | MINIATURE MARKERS

### VINYL-CLOTH MARKERS (#B-500)

| Stock No. | Legend | Markers Per Card 3/4" | Markers Per Card 1 1/2" |
|---|---|---|---|
| **Solid Numbers** | | | |
| 0 | 0 | 72 | 36 |
| 1 | 1 | 72 | 36 |
| 2 | 2 | 72 | 36 |
| 3 | 3 | 72 | 36 |
| and so on thru | | | |
| 97 | 97 | 72 | 36 |
| 98 | 98 | 72 | 36 |
| 99 | 99 | 72 | 36 |
| 100 | 100 | 50 | 25 |
| 101 | 101 | 50 | 25 |
| 102 | 102 | 50 | 25 |
| 103 | 103 | 50 | 25 |
| and so on thru | | | |
| 598 | 598 | 50 | 25 |
| 599 | 599 | 50 | 25 |
| 600 | 600 | 50 | 25 |
| **Solid Capital Letters** | | | |
| A-CAP | A | 72 | 36 |
| B-CAP | B | 72 | 36 |
| C-CAP | C | 72 | 36 |
| and so on thru | | | |
| Z-CAP | Z | 72 | 36 |
| **Consecutive Numbers** | | | |
| 1-33 | 1-33 | 66 | 33 |
| 34-66 | 34-66 | 66 | 33 |
| 67-99 | 67-99 | 66 | 33 |
| and so on thru | | | |
| 225-249 | 225-249 | 50 | 25 |
| 250-274 | 250-274 | 50 | 25 |
| 275-299 | 275-299 | 50 | 25 |
| 300-324 | 300-324 | 50 | 25 |
| and so on thru | | | |
| 1975-1999 | 1975-1999 | 50 | 25 |

### VINYL-CLOTH MARKERS (CON'T.)

| Stock No. | Legend | Markers Per Card 3/4" | Markers Per Card 1 1/2" |
|---|---|---|---|
| **Consecutive Numbers Repeated** | | | |
| 1-3 | 1-3 | 72 | 36 |
| 1-4 | 1-4 | 72 | 36 |
| 1-5 | 1-5 | 70 | 35 |
| 1-6 | 1-6 | 72 | 36 |
| 1-8 | 1-8 | 64 | 32 |
| 1-9 | 1-9 | 64 | 32 |
| 0-9 | 0-9 | 54 | 27 |
| 1-10 | 1-10 | 60 | 30 |
| 0-10 | 0-10 | 60 | 30 |
| 1-12 | 1-12 | 72 | 36 |
| 1-16 | 1-16 | 64 | 32 |
| 1-18 | 1-18 | 72 | 36 |
| 19-36 | 19-36 | 72 | 36 |
| **Consecutive Letters Repeated** | | | |
| A-E | A thru E | 70 | 35 |
| F-J | F thru J | 70 | 35 |
| K-O | K thru O | 70 | 35 |
| P-T | P thru T | 70 | 35 |
| U-Z | U thru Z | 72 | 36 |

### MINIATURE MARKERS (#B-395)

| Stock No. | Legend | Markers Per Card 1/2" long |
|---|---|---|
| **Solid Numbers** | | |
| MM-0 | 0 | 150 |
| MM-1 | 1 | 150 |
| MM-2 | 2 | 150 |
| and so on thru | | |
| MM-25 | 25 | 150 |
| **Solid Capital Letters** | | |
| MM-A-CAP | A | 150 |
| MM-B-CAP | B | 150 |
| MM-C-CAP | C | 150 |
| and so on thru | | |
| MM-Z-CAP | Z | 150 |

### MINIATURE MARKERS (CON'T.)

| Stock No. | Legend | Markers Per Card 1/2" |
|---|---|---|
| **Consecutive Numbers** | | |
| MM-0-49 | 0 thru 49 | 150 |
| MM-50-99 | 50 thru 99 | 150 |
| MM-100-132 | 100 thru 132 | 99 |
| MM-133-165 | 133 thru 165 | 99 |
| MM-166-198 | 166 thru 198 | 99 |
| MM-199-231 | 199 thru 231 | 99 |
| MM-232-264 | 232 thru 264 | 99 |
| MM-265-297 | 265 thru 297 | 99 |
| **Miniature Write-On Labels (Blank, No Printing)** | | |
| MM-WO-1 | 3/16" x 1/2" | 150 |
| MM-WO-2 | 1/4" x 1/2" | 108 |
| MM-WO-3 | 1/2" x 1/2" | 54 |

**Combination Card —**
**Stock No. MM-Comb.**

Special Combination of most commonly used numbers, letters and symbols—all on one card. Includes Numbers 0-15; Letters A-Z; and these Symbols:

| | | |
|---|---|---|
| FIL | B+ | SEC |
| GRD | PRI | PLA |

You get 3 complete sets of each number, letter and symbol.

## NET PRICES

### VINYL-CLOTH #B-500 STOCK CARDS

| | NET PRICE |
|---|---|
| 25 to 99 Cards | $17.50/C |
| 100 to 249 Cards | 14.00/C |
| 250 to 499 Cards | 12.25/C |
| 500 to 999 Cards | 11.38/C |
| 1000 to 2499 Cards | 10.94/C |
| 2500 to 4999 Cards | 10.68/C |
| Over 5000 Cards | Write for Quotation |

*Specify 1 1/2" or 3/4" marker length.*

### MINIATURE #B-395 STOCK CARDS

| | NET PRICE |
|---|---|
| 25 to 99 Cards | $23.00/C |
| 100 to 249 Cards | 18.40/C |
| 250 to 499 Cards | 16.10/C |
| 500 to 999 Cards | 14.95/C |
| 1000 to 2499 Cards | 14.38/C |
| 2500 to 4999 Cards | 14.03/C |
| Over 5000 Cards | Write for Quotation |

*Markers are 1/2" long.*

Ask your jobber for free catalogs on these BRADY Self-Sticking Products: QUIK-FELT for sealing, cushioning, scratchproofing. WRITE-ON Labels for on the spot marking with typewriter, ball point or pencil. CLEAR COVER with legends, instructions permanently protected by a clear plastic window.

**W. H. BRADY CO.**

*Manufacturers of quality self-sticking industrial products. Est. 1914.*

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World Radio History

# PRICES

All prices listed in The MASTER are subject to change without notice — they should not be considered final.

Get quick-on-the-spot quotations from your distributor who subscribes to the up-to-the-minute

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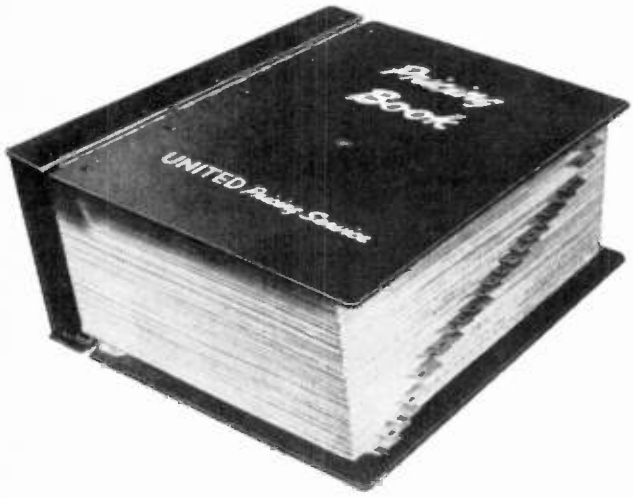


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# DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

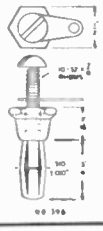
World Radio History

# Birnbach

## GIANT, STANDARD, MIDGET BANANA JACKS and PHONE TIPS

**VARIATIONS OF STANDARD PLUGS AVAILABLE TO ORDER. PLATED TO GOV'T. SPECS.**

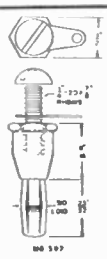
### GIANT PLUG No. 396



Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 396 | Phos. Brz. | 25 |
| 396B | Beryl. Cop. | 25 |

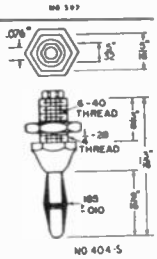
### GIANT PLUG No. 397



Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 397 | Phos. Brz. | 25 |
| 397B | Beryl. Cop. | 25 |

### BANANA PLUG No. 404S



Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scrulok connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

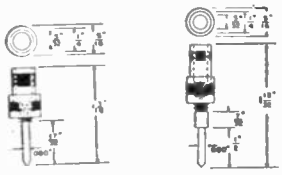
| Cat. No. | Std. Pkg. |
|---|---|
| 404S Scrulok Banana Plug | 100 |

### BANANA PLUG No. 400

Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps. Stand. pkg. 100

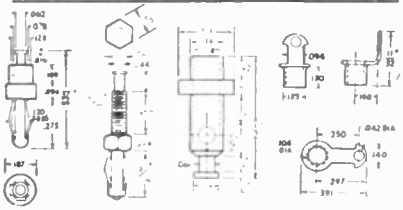
| Cat. No. | Spring | Dim. "A" |
|---|---|---|
| 400 | Phos. Bronze | [illegible]" |
| 400A | Phos. Bronze | [illegible]" |
| 400B | Beryl. Copper | [illegible]" |

### SOLDERLESS PHONE TIPS No. 23 and No. 24



Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

| Cat. No. | Std. Pkg. |
|---|---|
| 23—Junior Solderless Phone Tip | 100 |
| 24—Senior Solderless Phone Tip | 100 |



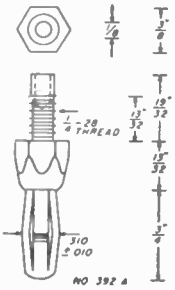
590 591 592 593

### SUB MINIATURE BANANA PLUGS & JACKS

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

| Cat. No. | Description | Std. Pkg. |
|---|---|---|
| 590 | Rivet Type Plug | 100 |
| 591 | Screw Type Plug | 100 |
| 592 | Force Fit Jack | 100 |
| 593 | Rivet Type Jack | 100 |

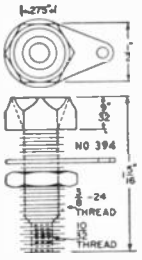
### GIANT PLUG No. 392A



Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 392A | Phos. Brz. | 25 |

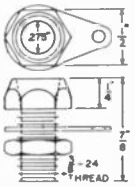
### GIANT JACK No. 394



Hexed brass nickel plated. Fits all Giant Banana Plugs. Mounts in 3/4" hole in panels up to 7/8" thick. Complete with n.pl. nut and tinned copper lug.

| Cat. No. | Std. Pkg. |
|---|---|
| 394 Giant Jack | 25 |

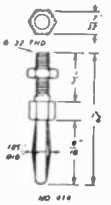
### GIANT JACK No. 395



Fits all giant banana plugs. Hexed brass head nickel plated overall. Mounts in 3/4" hole. Complete with nut and tinned copper lug.

| Cat. No. | Std. Pkg. |
|---|---|
| 395 Giant Jack | 25 |

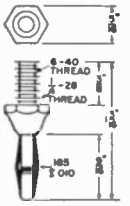
### BANANA PLUG No. 414



Hexed brass, nickel plated. One-piece construction. Four-leaved phosphor bronze spring. Complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 414 | Phos. Brz. | 100 |

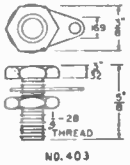
### BANANA PLUG No. 404A



Hexed brass and four-leaved phosphor bronze spring all nickel plated. Rated at 5 amps. Fits all standard banana jacks.

| Cat. No. | Std. Pkg. |
|---|---|
| 404A Banana Plug | 100 |

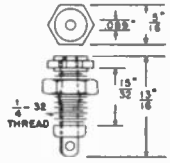
### BANANA JACK No. 403



Hexed brass n.pl., with brass n.pl. hex nut and tinned copper lug. Mounts in 1/4" hole in panels up to 3/8" thick. Fits standard plugs.

| Cat. No. | Std. Pkg. |
|---|---|
| 403 Banana Jack | 100 |

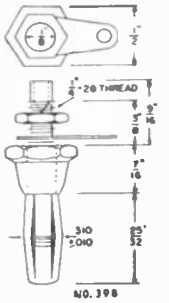
### PHONE TIP JACK No. 26



Brass nickel pl. body. Double phosphor bronze springs, hot tinned. Fits standard phone tip plugs. Mounts in 1/4" hole in panels up to 3/8" thick. Complete with hex n.pl. brass nut.

| Cat. No. | Std. Pkg. |
|---|---|
| 26 Phone Tip Jack | 100 |

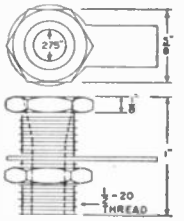
### GIANT PLUG No. 398



Body is hexed brass, n.pl. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 398 | Phos. Brz. | 25 |
| 398B | Beryl. Cop. | 25 |

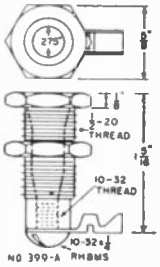
### GIANT JACK No. 399



Hexed brass nickel plated. Complete with hex brass n.pl. nut and tinned copper lug. Fits all giant banana plugs. Mounts in 1/2" hole in panels up to 21/32" thick.

| Cat. No. | Std. Pkg. |
|---|---|
| 399 Gt. Jack | 25 |

### GIANT JACK No. 399A



Hexed brass nickel plated. Mounts in 1/2" hole. Fits panels up to 3/4" thick. Tapped at end with screw and lug connection. Complete with hex brass n.pl. nut, screw and hot tinned copper lug.

| Cat. No. | Std. Pkg. |
|---|---|
| 399A Gt. Jack | 25 |

### BANANA PLUG No. 416

Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.pl. nut.

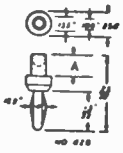
| Cat. No. | Std. Pkg. |
|---|---|
| 416 Banana Plug | 100 |

### BANANA PLUG No. 401

Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.pl. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 401 | Phos. Brz. | 100 |
| 401B | Beryl. Cop. | 100 |

### MIDGET BANANA PLUG RIVET TYPE—No. 426



Brass silver plated body. One piece four-leaved phosphor bronze spring silver plated. Also made to Rigid Jan specs.

| Cat. No. | "A" | St. Pkg. |
|---|---|---|
| 426 | [illegible]" | 100 |
| 426A | [illegible]" | 100 |

Midget Banana Plug Rivet Type

Additional Midget Plugs & Jacks Available. Also Sub-Miniature Plugs & Jacks.



See Page U-1459 for Birnbach Prices

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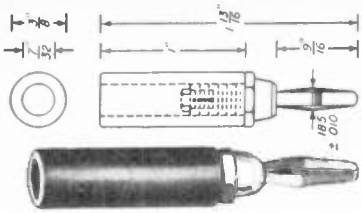
World Radio History

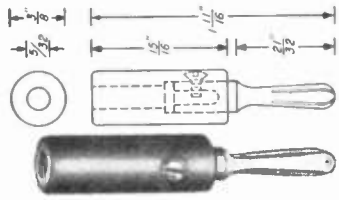
# INSULATED BANANA — GIANT — PLUGS and JACKS



## INSULATED BANANA PLUG

Hexed brass N. Pl. spring type. Fits standard banana jacks. Scrulok solderless connection. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

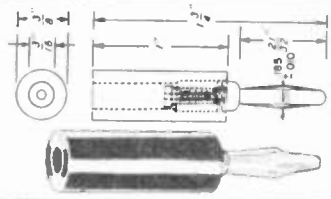
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 404 | Phos. Brz. | 50 |
| 404-CB | Beryl. Cop. | 50 |



## INSULATED BANANA PLUG

Split type plug brass n. pl. fits standard banana jacks. Set screw. Solderless connection. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

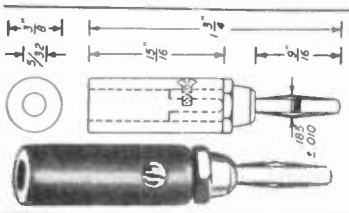
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 604 | Banana Plug | 50 |



## INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Scrulok solderless connection. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

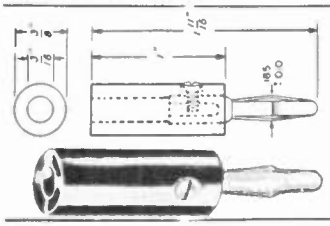
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 465 | Phos. Brz. | 50 |
| 465-B | Beryl. Cop. | 50 |



## SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection. 104-BC Beryllium springs highly resilient. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

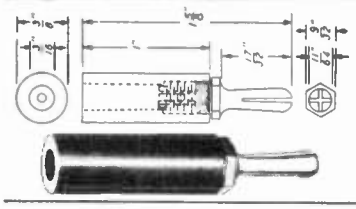
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 404-B | Phos. Brz. | 50 |
| 404-BC | Beryl. Cop. | 50 |



## INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

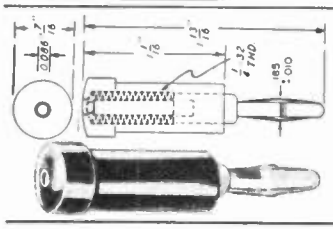
| Cat. No. | Hdl. | Spring | Std. Pkg. |
|---|---|---|---|
| 466 | 1" | Ph. Brz. | 50 |
| 466A | 1½" | Ph. Brz. | 50 |



## INSULATED BANANA PLUG

Split type, brass n.pl. Scrulok solderless connection. Fits standard jacks. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

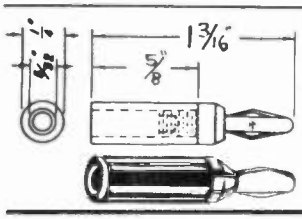
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 606 | Banana Plug | 50 |



## TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle.
**Colors:** Red, Black, Yellow, Blue, Green.

| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 467 | Phos. Brz. | 50 |
| 467B | Beryl. Cop. | 50 |

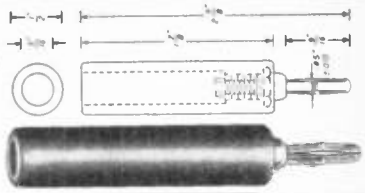


## INSULATED MIDGET BANANA PLUG

Spring Type. Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into Plug.

Available in Red or Black only. Specify color. Std. pkg. 50.

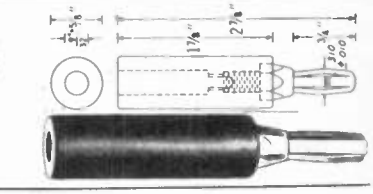
| No. | Spring Material | Plating |
|---|---|---|
| 455 | Phosphor Bronze | Nickel |
| 455BC | Beryllium Copper | Silver |



## INSUL. BANANA PLUG

Plug brass n.pl. Scrulok solderless connection. Spring type. Fits standard jacks. Plastic handle.
**Colors:** Red, Black.

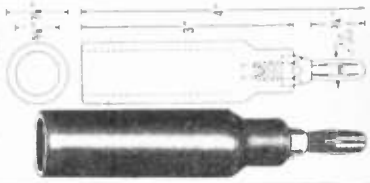
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 341 | Phos. Brz. | 50 |
| 341B | Beryl. Cop. | 50 |



## INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.
**Colors:** Red, Black.

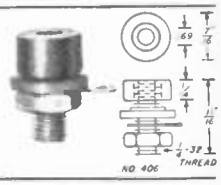
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 392 | Phos. Brz. | 50 |
| 392B | Beryl. Cop. | 50 |



## INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.
**Colors:** Red, Black.

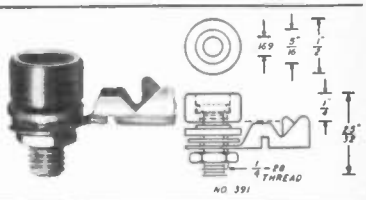
| Cat. No. | Spring | Std. Pkg. |
|---|---|---|
| 342 | Phos. Brz. | 50 |
| 342B | Beryl. Cop. | 50 |



## INSULATED BANANA JACK

Takes all standard banana plugs. Body is brass n.pl. Mounts in ¼" hole in panels up to ⅛" thick. Molded head.
**Colors:** Red, Black, Yellow, Blue, Green.

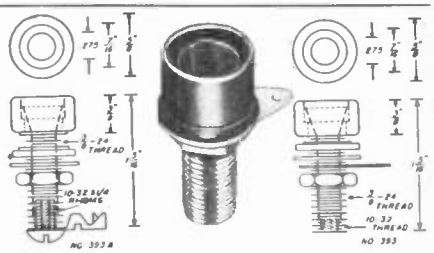
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 406 | Insulated Jack | 50 |



## INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass n.pl. Mounts in ⅜" hole in panels up to ⅛" thick. Complete with all hardware. Molded head.
**Colors:** Red, Black, Yellow, Blue, Green

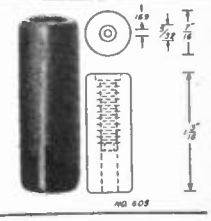
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 391 | Insulated Jack | 50 |



## INSULATED GIANT JACK

Accommodates all giant plugs. Body is brass n.pl. Mounts in ⅝" hole in panels up to ⅛" thick. Molded plastic head.
**Colors:** Red, Black.

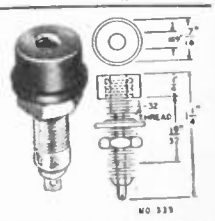
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 393 | Insulated Giant Jack | 50 |
| 393A | Insulated Giant Jack | 50 |



## INSULATED HANDLE JACK

Jack brass, n.pl. Fits all standard banana plugs. Plastic handle.
**Colors:** Red, Black, Yellow, Blue, Green.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 605 | Insulated Handle Jack | 50 |



## INSULATED COMBINATION JACK

Takes standard senior phone tip or banana plugs. Body is brass n.pl. Double Phosphor Bronze spring. Mounts in ⅜" hole in panels up to ½" thick. Molded head.
**Colors:** Red, Black, Yellow, Blue, Green.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 333 | Insulated Combination Jack | 50 |

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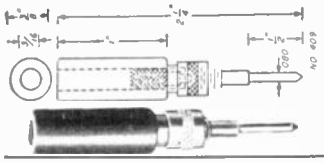
See Page U-1459 for Birnbach Prices



World Radio History

# Birnbach

# INSULATED PHONE TIPS, TIP JACKS TEST PRODS

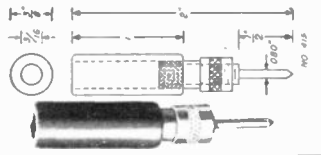


## SENIOR SOLDERLESS PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Wire fastens under knurled nut. Molded handle.

**Colors:**
Red, Black, Yellow, Blue, Green.

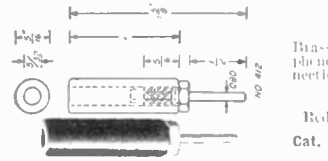
**Cat. No. 409 Sr. . . Std. Pkg. 50**



## JUNIOR SOLDERLESS PHONE TIP

Same as above. Specify colors required.

**Cat. No. 415 Jr. . . Std. Pkg. 50**

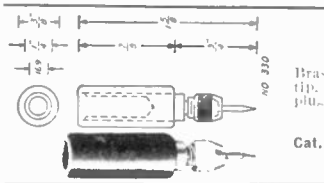


## SCRULOK PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.

**Colors:**
Red, Black, Yellow, Blue, Green.

**Cat. No. 412 . . . . . Std. Pkg. 50**

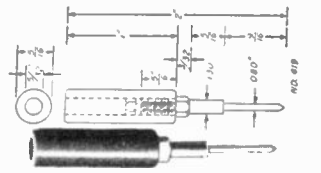


## NEEDLE POINT PLUG

Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.

**Colors:** Red, Black.

**Cat. No. 330 . . . . . Std. Pkg. 50**

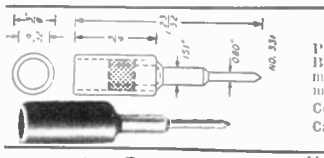


## SCRULOK PHONE TIP

Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.

**Colors:**
Red, Black, Yellow, Blue, Green.

**Cat. No. 419 . . . . . Std. Pkg. 50**

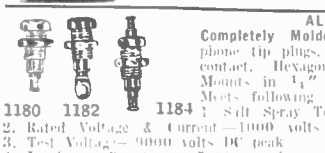


## PHONE TIP

Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.

**Colors:** Red, Black, Yellow, Green.

**Cat. No. 331 . . . . . Std. Pkg. 50**



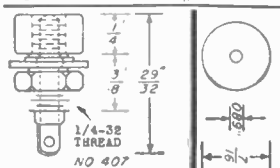
## ALL NYLON TIP JACK

**Completely Molded Nylon Jack.** Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in 1/4" hole in panels up to 1/4" thick. Meets following requirements

1180 1182 1184

1. Salt Spray Test—Withstands 100 hours
2. Rated Voltage & Current—1000 volts peak at 5 amps. max.
3. Test Voltage—9000 volts DC peak
4. Insulation Resistance—5000 megohms
5. Operating Temperature— —55 to +150 C
6. Nominal Capacity—2.0 mmf
7. Material Specifications A. Body: Nylon Grade FM 10001; B. Center Contact: Numbers 1180 and 1182 Heat Treated Beryllium Copper Silver plated per Spec 72-53. Number 1184 Brass, Tin Pl.; C. Hex Nut: Brass Nickel Pl.
8. **Colors—Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.**

| No. | Type | Std. Pkg. |
|---|---|---|
| 1180 | Wrap Around | 25 |
| 1182 | Spade Terminal | 25 |
| 1184 | Feed Through | 25 |

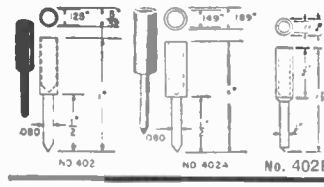


## PHONE TIP JACK

Fits all standard phone tips. Body is brass, nickel Double Phosphor Bronze springs. Mounts in 5/8" hole in panels up to 7/32" thick. Molded head.

**Colors:**
Red, Black, Yellow, Blue, Green.

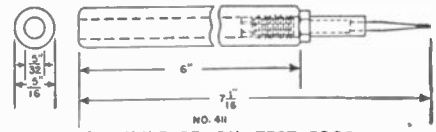
**Cat. No. 407 . . . . . Std. Pkg. 50**



## BRASS NICKEL PLATED TIPS

Fits all standard phone tip jacks.

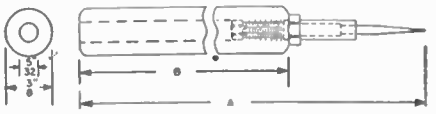
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 402 | —Standard Phone Tip | 100 |
| 402A | — Phone Tip Larger Diam | 100 |
| 402B | — Heavy Duty Phone Tip | 100 |



## BAKELITE PENCIL TEST PROD

Body is brass nickel plated with steel n.pl. needle. Has Scrulok solderless connection. Bakelite handle. **Colors:** Red, Black.

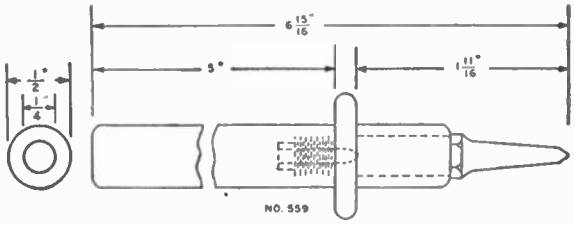
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 411 | Bakelite Pencil Test Prod | 12 |



## SCRULOK NEEDLEPOINT TEST PRODS

Phenolic insulated prod, has Scrulok solderless connection. Body is brass, nickel plated with steel n.pl. needle. **Colors:** Red, Black.

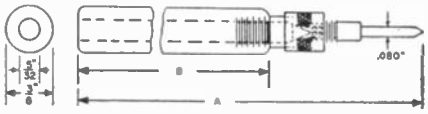
| Cat. No. | (A) Overall | (B) Handle Length | Std. Pkg. |
|---|---|---|---|
| 417 | 5-3/32" | 1" | 50 |
| 418 | 6-3/32" | 5" | 50 |



## HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE

Tip is heavy brass nickel plated. Bakelite finger guard. Accommodates IN-34 diode and condenser for use as RF Probe. **Colors,** Red, Black.

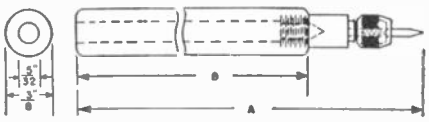
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 559 | 6" H.V. Test Prod Handles | 20 |



## SOLDERLESS TEST PRODS

Body is brass nickel plated with solderless knurled nut connection. Heavy duty needlepoint, nickel plated. **Colors:** Red, Black.

| Cat. No. | (A) Overall | (B) Handle Length | Std. Pkg. |
|---|---|---|---|
| 410 | 5-1/2" | 4" | 50 |
| 343 | 6-1/4" | 5" | 50 |



## NEEDLEPOINT TEST PRODS

Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.

| Cat. No. | (A) Overall | (B) Handle Length | Std. Pkg. |
|---|---|---|---|
| 344 | 4-15/16" | 4" | 50 |
| 345 | 5-15/16" | 5" | 50 |

## NYLON TIP JACK WITH METAL SHELL

**Molded Nylon Tip Jack.** Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements:

1190 1192 1194

1. Salt Spray Test—Withstands 100 hours
2. Rated Voltage & Current—1000 volt peak @ 5 amps. maximum
3. Test Voltage 2500 peak
4. Insulation Resistance—5000 megohms
5. Operating Conditions—A. Continuous; 23 hours on, 1 hour off; B. Elevation: Up to 15,000 feet; C. Temperature: —55 to +85 C; D. Humidity: Up to 95%.
6. Material Specifications—A. Insulator: Nylon, Grade FM 10001; B. Shell & Nut: Brass Nickel Plated Per Spec 72-53; C. Lockwasher: Phosphor Bronze Nickel Plated Per Spec 72-53; D. Center Contact. Numbers 1190 and 1192 Heat Treated Bery. Copper Silver Plated per Spec 72-53. Number 1194 Brass, Tin Plated.
7. Non-Operating Conditions—A. Elevation: Up to 50,000 feet; B. Temperature: Continuous exposure for 72 hours @ +160 F and 240 hours @ —80 F; C. Humidity: Up to 100%.
8. **Colors—Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.**

| No. | Type | Std. Pkg. |
|---|---|---|
| 1190 | Wrap Around | 25 |
| 1192 | Spade Terminal | 25 |
| 1194 | Feed Through | 25 |



See Page U-1459 for Birnbach Prices

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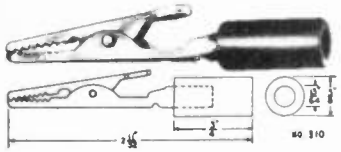
World Radio History

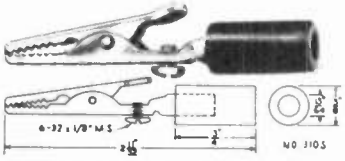
# ALLIGATOR CLIPS — TEST CLIPS — SPADE LUGS — BINDING POSTS



### INSULATED ALLIGATOR CLIP

Made of steel, cadmium plated. Insulated handle allows use of all banana plugs. Has small soldering lip. Colors: Red, Black.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 310 | Insulated Alligator Clip | 50 |
| 311 | 1½" Insulated Alligator Clip | 50 |

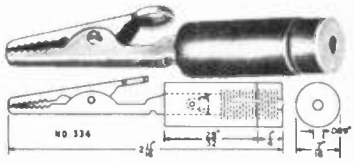


### INSULATED ALLIGATOR CLIP (Screw Type)

Made of steel, cadmium plated. Accurately matching jaws for tight grip. Has screw for solderless connection. Banana plug fits into rear of clip. Insulated handle.

Colors: Red, Black.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 310S | Insulated Alligator Clip | 50 |



### ALLIGATOR CLIP WITH PHONE TIP JACK

Handle has our No. 31 clip and our No. 407 tip jack in rear for all standard phone tip plugs. Colors. Red, Black.

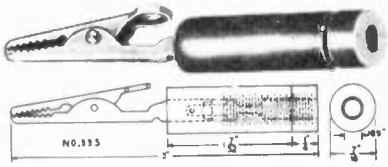
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 334 | Alligator Clip with Phone Tip Jack | 50 |
| 336 | Same as above except with our #31C screw type Copper Alligator Clip | 50 |

### INSULATED COPPER ALLIGATOR CLIP (SCREW TYPE) — No. 310C

Composed of our No. 31C—Copper Alligator Clip with insulated handle. Has brass screw for solderless connection.

Colors: Red, Black.

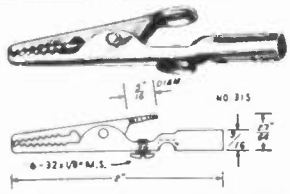
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 310C | Insulated Copper Alligator Clip | 50 |



### ALLIGATOR CLIP COMBINATION JACK

Insulated alligator clip is composed of our #31, steel, cadmium plated Alligator Clip with our #352 Combination Jack in rear allowing the adaption of both standard senior phone tip plugs and banana plugs to Alligator Clips. Colors: Red, Black.

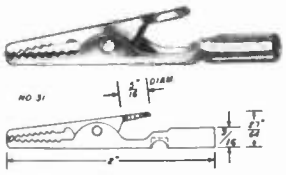
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 335 | Alligator Clip Combination Jack | 50 |
| 337 | Same as above except with our #31C screw type Copper Alligator Clip | 50 |



### ALLIGATOR CLIP (Screw Type)

Made of cadmium plated steel. The jaws match accurately, permitting them to grip all kinds of wire securely. Has screw for solderless wire connection. Banana plug fits into rear of clip.

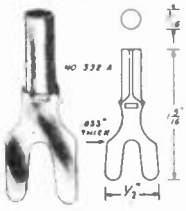
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 31S | Alligator Clip | 50 |
| 31C | Alligator Clip (Copper) | 50 |



### ALLIGATOR CLIP

Made of cadmium plated steel. Banana plug fits into rear of clip. Equipped with soldering lip.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 31 | Alligator Clip | 50 |



### SPADE LUG

Barrel accommodates all standard banana type plugs. Lug is Steel Hot Tinned.

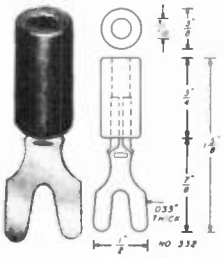
| Cat. No. | Std. Pkg. |
|---|---|
| 332A | 50 |

Spade Lug

### ALLIGATOR CLIP VINYL INSULATOR

Extremely flexible. Made to fit Nos. 31, 31S, 31C. Colors: White, Red, Black, Yellow, Blue.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 31R | Vinyl Insulator | 50 |



### INSULATED SPADE LUG

Accommodates all standard banana plugs into the rear of lug enabling same to be adapted to a spade lug. Lug is Steel Hot Tinned.

Colors: Red or Black.

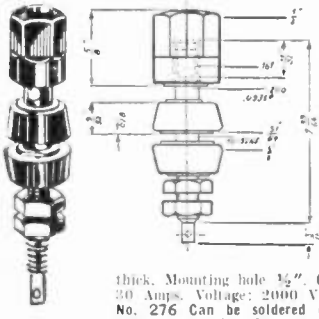
| Cat. No. | | Std. Pkg. |
|---|---|---|
| 332 | Insulated Spade Lug | 50 |

### STANDARD DUTY 5-WAY BINDING POST

Molded in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black. Specify color. Body is brass nickel plated.

| Cat. No. #278 | Description | Std. Pkg. #279 |
|---|---|---|
| 278 | Red or Black | 100 |
| 279* | Red or Black | 100 |

*Same as above but normally grounded. (Without bottom insulating section.)



#276

### NEW! BIRNBACH "Multi-Use" Binding Posts Safe-Positive-Heavy Duty

Rugged, versatile "Multi-Use" binding post made of molded phenolic with molded-in brass inserts in head and washer for complete insulation from panel. For use on panels 1/16" to ¼" thick. Mounting hole ½". Current Capacity: 20 Amps. Voltage: 2000 V.A.C. RMS Test. No. 276 Can be soldered directly to stud. Will permit six different methods of connection above panel and three below panel.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 276 | Nickel Plated Red or Black | 100 |

#274

### "STANDARD" TYPE

| No. | | Std. Pkg. |
|---|---|---|
| 274 | Standard Brass | 100 |
| 275 | Stand. Nickel Plated specify Red or Black | 100 |

### NOTES:

A Banana Plug Receptacle, .161 I. D.; B Head non-removable from Stud; C Molded in Brass Bushing in Head; D Molded in Brass Bushing in Washers; E For Panels 1/16" to ¼" thick; F Drill ½" hole for mounting washers; G Wire Hole is at right angle to Flat on insulated Washers; H Production Punch for keyed Slot for mounting Washers.

### ALL INSULATED ALLIGATOR CLIP

Steel Cadmium plated alligator clip. All metal parts covered with vinyl plastic insuring against shock. Solder Type connection. Red or Black. Specify color.

Cat. No. 123 Std. pkg. 50

### PHONE TIP TO CLIP ADAPTER

Same as above with spring in rear of handle enabling the adapting of standard phone tip plugs to alligator clips. Red or Black. Specify color.

Cat. No. 124 Std. pkg. 50

### BIRNBACH TEST CLIPS

The teeth mesh correctly permitting good contact to be made. The No. 27-C is a solid copper clip with a brass screw designed for high frequency work.

| Cat. No. | | Length | Jaw Spread | Capacity | Std. Pkg. |
|---|---|---|---|---|---|
| 27 | Pee Wee | 1½" | ⅜" | 5 Amp. | 50 |
| 28 | Midget | 2" | ⅝" | 10 Amp. | 50 |
| 29 | Medium | 2⅞" | 1" | 25 Amp. | 50 |
| 30 | Large | 4" | 1¼" | 50 Amp. | 50 |
| 27C | Pee Wee Copper | 1½" | ⅜" | 10 Amp. | 50 |
| 27R | Rubber Sleeve—Red or Black | | | | 50 |

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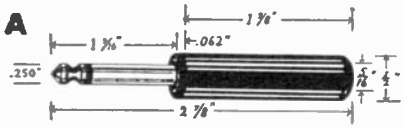
See Page U-1459 for Birnbach Prices

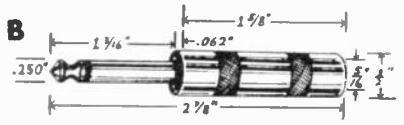


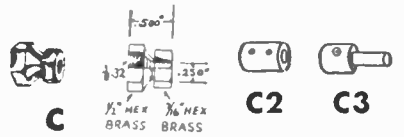
World Radio History

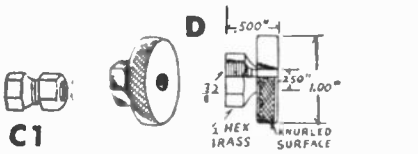
# Birnbach

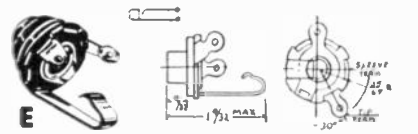
## STANDARD AND MINIATURE TELEPHONE TYPE
### JACKS • PLUGS • SHAFT LOCKS • TEST LEADS

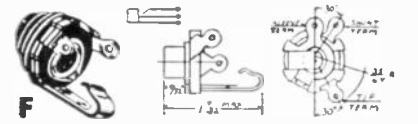


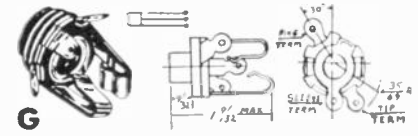



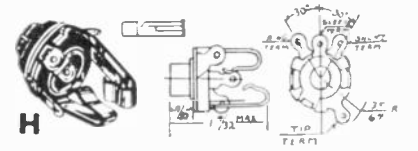



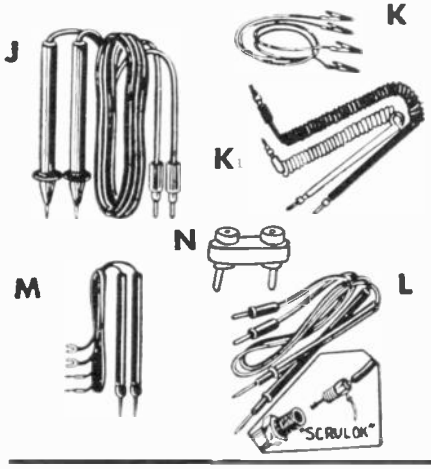




## TELEPHONE TYPE PLUGS

This standard two conductor plug fits all standard jacks. All metal parts brass with nickel plating except for contact screw. Barrel is molded bakelite. Red or Black.

**A — BAKELITE DOUBLE PHONE PLUG**
Cat. No. 251 ..... Std. Pkg. 25

**B — SHIELDED PHONE PLUG**
Cat. No. 252 ..... Std. Pkg. 25

## SHAFT LOCKS

### C — WRENCH TYPE

Brass, nickel plated. ½" length overall. Rear: ½" hex brass with ⅜-32 thread. Front: 7/16" hex brass.

| Cat. No. | Std. Pkg. |
|---|---|
| 546 — For ¼" Shaft | 25 |

### D — THUMB TYPE

Brass, nickel plated. ½" length overall. Rear: ½" hex brass with ⅜-32 thread. Front: 1" diam. knurled nut.

| Cat. No. | Std. Pkg. |
|---|---|
| 547 — For ¼" Shaft | 25 |

### MINIATURE SHAFT ACCESSORIES

Brass Nickel plated for ⅛" shafts.

**C1 — MINIATURE LOCK—WRENCH TYPE**
Cat. No. 546A — Std. Pkg. 25

**C2 — MINIATURE BRASS COUPLER**
with allen head set screws
Cat. No. 531A — Std. Pkg. 25

**C3 — MINIATURE SHAFT EXTENDER**
with allen head set screws
Cat No. 538A — Std. Pkg. 25

## TELEPHONE TYPE JACKS

The body is brass nickel plated. Small, rugged and they are designed for long life, with low contact resistance snap springs made specially from nickel silver alloy which is corrosion resistant. Mounts in ⅜" hole.

**E** — Cat. No. 257 — Open Circuit Two Conductor ..... **Std. Pkg. 25**
**F** — Cat. No. 258 — Single Closed Circuit Two Conductor ..... **Std. Pkg. 25**
**G** — Cat. No. 259 — Open Circuit Three Conductor ..... **Std. Pkg. 25**
**H** — Cat. No. 260 — Single Closed Circuit Three Conductor.... **Std. Pkg. 25**

## TEST LEADS

### J — BIRNBACH HEAVY DUTY HIGH VOLTAGE TEST LEADS

Overall length 60". Tips are heavy solid brass nickel plated. Rugged, dependable heavy duty bakelite prods. Color coded Red and Black. Uses our Hi Volt kinkless test lead wire.

| Cat. No. | Std. Pkg. |
|---|---|
| 562 — Heavy Duty High Voltage Test Leads | 10 |

### L — DELUXE AND BAKELITE PENCIL TYPE TEST LEADS

No. 408 Bakelite pencil test leads, color coded, Red, Black, all with kinkless test lead wire. Overall length 60". #560 and #561 polished cast phenolic resin handles, solderless type tips, 50" long. Color coded Red, Black.

| Cat. No. | Std. Pkg. |
|---|---|
| 408 — Bakelite Pencil Type Test Leads, 6" handles | 10 |
| 560 — DeLuxe Solderless Prod Test Leads, 5" handles | 25 |
| 561 — DeLuxe Needlepoint Prod Test Leads, 5" handles | 25 |

### N — CRYSTAL SOCKET

Glazed ceramic base. Phosphor bronze silver plated contacts spaced .486". Pin diameter .051, mtg. hole .125. Std. Pkg. 25.

Cat No. 595 — Crystal Socket

### K — ALLIGATOR CLIP TEST LEADS

Black and Red kinkless test lead wire with Alligator Clips at each end.

| Cat. No. | Wire Length | Std. Pkg. |
|---|---|---|
| 675 | 12" | 25 |
| 676 | 24" | 25 |
| 677 | 36" | 25 |
| 678 | 48" | 25 |

SPECIAL ASSEMBLIES AVAILABLE TO ORDER

### $K_1$ — STRETCH LEADS

Kink-Proof Retracted 9" Coil

No tangling or knotting of wires. Lead coil only 9", extends to 6 feet.

Cat. No. 564 Solderless phone tip, retractile wire, solderless prod. Std. Pkg. 10.

### L — PUSH BUTTON TEST LEADS

556 Solderless phone tip one end, push button tip other end. Std. Pkg. 12
557 Solderless phone tip one end, push button banana plug other end. Std. Pkg. 12

### M — BIRNBACH NEEDLEPOINT TEST LEADS

Have Red and Black 4" fibre handles. Use kinkless lead wire. Overall length 50". Good, dependable low priced leads.

| Cat. No. | Std. Pkg. |
|---|---|
| 420 — Needlepoint Phone Tip Test Leads | 25 |
| 421 — Needlepoint Spade Lug Test Leads | 25 |
| 422 — Solderlss Phone Tip Test Leads | 25 |
| 423 — Solderless Spade Lug Test Leads | 25 |



See Page U-1459 for Birnbach Prices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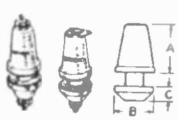
World Radio History

# FEEDTHRU — STEATITE PILLARS — CORRUGATED CERAMIC — STANDOFF INSULATORS. TRANSMITTING SOCKETS

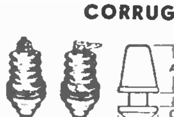
## BIRNBACH FEEDTHRU INSULATORS



Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel plated hardware.

| Cat. No. | Height A | Std. Pkg. | Dimensions B | Dimensions C | Mounting Hole | Hardware |
|---|---|---|---|---|---|---|
| 458 | 5/8" | 50 | 11/16" | 1/4" | 5/16" | 6-32 |
| 478 | 1" | 25 | 13/16" | 5/16" | 7/16" | 10-32 |
| 478J | 1" | 25 | 13/16" | 5/16" | 7/16" | No. 103 Jack |
| 4125 | 1 1/4" | 25 | 7/8" | 5/8" | 7/16" | 10-32 |
| 4125J | 1 1/4" | 25 | 7/8" | 5/8" | 7/16" | No. 103 Jack |
| 4234 | 2 3/4" | 10 | 2" | 1" | 3/4" | 1/4-20 |
| 4175 | 2 3/4" | 10 | 1 1/4" | 3/4" | 5/8" | 1/4-20 |
| 4175J | 2 3/4" | 10 | 1 1/4" | 3/4" | 5/8" | No. 94 Jack |

## CORRUGATED FEEDTHRU INSULATORS



The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel plated hardware and cork mounting washers supplied.

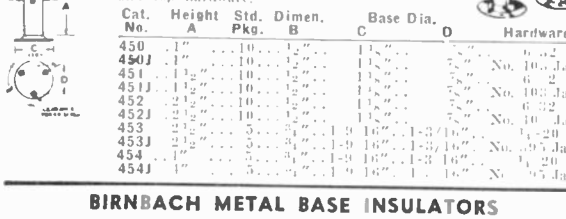
| Cat. No | Height A | Std. Pkg. | Dimensions B | Dimensions C | Mounting Hole | Hardware |
|---|---|---|---|---|---|---|
| 479 | 1 3/8" | 25 | 1 1/4" | 11/16" | 9/16" | 10-32 |
| 479J | 1 3/8" | 25 | 1 1/4" | 11/16" | 9/16" | No. 103 Jack |
| 4276 | 2 3/4" | 10 | 1 5/8" | 1" | 3/4" | 1/4-20 |
| 4276J | 2 3/4" | 10 | 1 5/8" | 1" | 3/4" | No. 394 Jack |
| 4452 | 4 1/2" | 5 | 2 1/8" | 1 1/2" | 1" | 1/4-20 |
| 4452J | 4 1/2" | 5 | 2 1/8" | 1 1/2" | 1" | No. 394 Jack |

## HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of 1-3/16" where the electric stress is greatest.

| Cat. No. | Height | Std. Pkg. | Base Dia. | Mounting Hole | Hardware |
|---|---|---|---|---|---|
| 4233 | 1 5/8" | 10 | 2" | 1 1/4" | 1/4-20 |

## STEATITE PILLARS

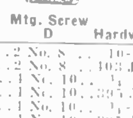



Have great tensile strength with extremely low losses at very high frequencies. Tapped on both ends; supplied with nickel plated mounting base and top hardware.

| Cat. No. | Height A | Std. Pkg. | Dimen. B | Base Dia. C | D | Hardware |
|---|---|---|---|---|---|---|
| 450 | 1" | 10 | 1/2" | 1 1/8" | 7/8" | 6-32 |
| 450J | 1" | 10 | 1/2" | 1 1/8" | 7/8" | No. 103 Jack |
| 451 | 1 1/2" | 10 | 1/2" | 1 1/8" | 7/8" | 6-32 |
| 451J | 1 1/2" | 10 | 1/2" | 1 1/8" | 7/8" | No. 103 Jack |
| 452 | 2 1/2" | 10 | 1/2" | 1 1/8" | 7/8" | 6-32 |
| 452J | 2 1/2" | 10 | 1/2" | 1 1/8" | 7/8" | No. 103 Jack |
| 453 | 2 1/2" | 5 | 3/4" | 1-9/16" | 1-3/16" | 1/4-20 |
| 453J | 2 1/2" | 5 | 3/4" | 1-9/16" | 1-3/16" | No. 395 Jack |
| 454 | 4" | 5 | 3/4" | 1-9/16" | 1-3/16" | 1/4-20 |
| 454J | 4" | 5 | 3/4" | 1-9/16" | 1-3/16" | No. 395 Jack |

## BIRNBACH METAL BASE INSULATORS

Corrugated surface provides long leakage path. Made of high tensile strength low absorption porcelain fully glazed. Supplied with nickel plated brass screws and nuts, cadmium plated drawn steel bases.



| Cat. No. | Height A | Std. Pkg. | Base Dimension B | Base Dimension C | Mtg. Screw D | Hardware |
|---|---|---|---|---|---|---|
| 867 | 1 5/8" | 25 | 1 5/8" x 1 5/8" | 1 1/2" | 2 No. 8 | 10-32 |
| 867J | 1 5/8" | 25 | 1 5/8" x 1 5/8" | 1 1/2" | 2 No. 8 | 103 Jack |
| 4176 | 2 3/4" | 10 | 1 3/4" x 1 3/4" | 1 3/8" | 4 No. 10 | 1/4-20 |
| 4176J | 2 3/4" | 10 | 1 3/4" x 1 3/4" | 1 3/8" | 4 No. 10 | 395 Jack |
| 4451 | 4 1/2" | 5 | 2 1/4" x 2 1/4" | 1 3/4" | 4 No. 10 | 1/4-20 |
| 4451J | 4 1/2" | 5 | 2 1/4" x 2 1/4" | 1 3/4" | 4 No. 10 | 395 Jack |

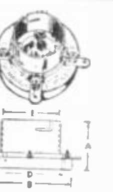
## BIRNBACH STANDOFF INSULATORS

Made of highly vitrified low absorption glazed porcelain. No washers necessary — mounting surface is ground flat for No. 404. No. 966 it is advisable to use cork washers which are available. All brass nickel plated hardware supplied.

| Cat. No. | Height A | Std. Pkg. | Base Dimension B | Base Dimension C | D | Mounting Holes | Hardware |
|---|---|---|---|---|---|---|---|
| 405 | 5/8" | 100 | 1" | 17/32" | 11/16" | 5/32" | 6-32 |
| 965 | 1" | 50 | 1 1/4" | 3/4" | 13/16" | 7/32" | 8-32 |
| 966 | 1" | 50 | 1 5/8" | 7/8" | 1" | 5/32" | 8-32 |
| 966J | 1" | 50 | 1 5/8" | 7/8" | 1" | 5/32" | No. 103 Jack |
| 866 | 1 1/2" | 25 | 1 3/4" | 1 1/8" | 1 1/4" | 7/32" | 10-32 |
| 866J | 1 1/2" | 25 | 1 3/4" | 1 1/8" | 1 1/4" | 7/32" | No. 103 Jack |
| 866SJ | 1 1/2" | 10 | 1 3/4" | 1 1/8" | 1 1/4" | 7/32" | No. 395 Jack |
| 4275 | 2 3/4" | 10 | 2 3/4" | 2" | 2 1/8" | 1/4" | 1/4-20 |
| 4275J | 2 3/4" | 10 | 2 3/4" | 2" | 2 1/8" | 1/4" | No. 399 Jack |
| 4450 | 4 1/2" | 5 | 3 5/8" | 2 1/2" | 2 5/8" | 9/32" | 1/4-20 |
| 4456J | 4 1/2" | 5 | 3 5/8" | 2 1/2" | 2 5/8" | 9/32" | No. 399 Jack |

## BIRNBACH TRANSMITTING SOCKETS

**Medium 4 Pin Bayonet and Jumbo 4 Pin Bayonet**

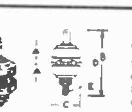


No. 434—"50 watt" socket for medium power bayonet based tubes such as 575A, 805, 810, 838, 845, 872A, 8000 and others with Retma Base No. A4-29. Has heavy phosphor bronze cadmium plated double wiping filament contacts will handle heavy currents. Terminals designed for solder or screw connections. Two mounting holes. Has polished nickel plated brass shell; white glazed porcelain base.

No. 435—"10 watt" socket for economy, has heavy phosphor bronze, cadmium plated side wiping contacts; white glazed porcelain base; heavy plated brass shell. Two mounting holes, for medium 4 pin bayonet based tubes such as 3B25, 3B28, 10Y, 801A, 808, 809, 811A, 812A, 834, 836, 860, 865, 866A, 1616, 8005 with Retma Base No. A4-10.

| Cat. No. | Watt Socket | A | B | D | E | Mtg. Holes | Pin | Tube Base | Std. Pkg. |
|---|---|---|---|---|---|---|---|---|---|
| 434 | 50 | 2 3/8" | 3 5/8" | 2 1/16" | 1.886" | 2 | 4 | Std. Jumbo | 25 |
| 435 | 10 | 1 7/8" | 2 1/2" | 2 1/16" | 1.586" | 2 | 4 | Med. Bay | 25 |

## STEATITE BUTTONS



This specially designed Steatite button is intended for use to simplify wiring and to be used as a binding post or a binding post insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

| Cat. No. | | | | | Std. Pkg |
|---|---|---|---|---|---|
| 457—Button | | | | | 25 |
| Dimensions | A | B | C | D | E |
| | 5/16" | 1 5/8" | 3/4" | 1/2" | 6-32 |

## "LUCITE" FEEDTHRU INSULATORS

These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The 1/2" dia. insulators have brass nickel plated 6-32 hardware and the 3/4" dia. insulators, 10-32 hardware.

| Cat. No. | Height Above Panel | Insulator Dia. | Mounting Hole | Bottom Height | Std. Pkg. |
|---|---|---|---|---|---|
| 377 | 1/4" | 1/2" | 5/16" | 1/4" | 25 |
| 378 | 1/2" | 1/2" | 5/16" | 1/4" | 25 |
| 379 | 1" | 1/2" | 5/16" | 1/4" | 25 |
| 475 | 1 1/2" | 3/4" | 7/16" | 1/2" | 25 |
| 476 | 2" | 3/4" | 7/16" | 1/2" | 25 |

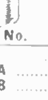
## BIRNBACH LEADIN INSULATORS

Each cone is 2 3/4" high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, 1/4" and 1/2" long allowing complete insulation of the threaded rod of any length in multiples of 1/4". They come complete with brass nickel plated hardware and lead and cork washers to permit a water tight seal.

| Cat. No. | Description | Std. Pkg |
|---|---|---|
| 4235 | 10" Rod | 10 |
| 4236 | 15" Rod | 10 |
| 4237 | 10" Rod with bushings | 10 |
| 4238 | 15" Rod with bushings | 10 |

## BIRNBACH STEATITE PILLARS

**(Less Hardware)**



In many constructions, these unmounted threaded Steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of L5 glazed Steatite with threaded holes on both sides.

| Cat. No. | Height | Diam. | Threaded Hole | Std. Pkg. |
|---|---|---|---|---|
| 441 | 1/4" | 1/4" | 6-32 | 100 |
| 441A | 1/2" | 1/2" | 6-32 | 100 |
| 441B | 3/8" | 1/4" | 6-32 | 100 |
| 442 | 3/8" | 3/8" | 6-32 | 100 |
| 442A | 1/2" | 3/8" | 6-32 | 100 |
| 443 | 1/2" | 1/2" | 6-32 | 100 |
| 444 | 3/4" | 1/2" | 6-32 | 100 |
| 444A | 1/4" | 1/4" | 6-32 | 100 |
| 444B | 1/4" | 3/8" | 6-32 | 100 |
| 444C | 3/4" | 3/4" | 10-32 | 100 |
| 445 | 1" | 1/2" | 6-32 | 100 |
| 445A | 1" | 1/4" | 6-32 | 100 |
| 445B | 1" | 3/8" | 6-32 | 100 |
| 445C | 1" | 3/4" | 10-32 | 100 |
| 446 | 1 1/2" | 1/2" | 6-32 | 100 |
| 446A | 1 1/2" | 3/8" | 6-32 | 100 |
| 447 | 2 1/2" | 1/2" | 6-32 | 100 |
| 448 | 2 1/2" | 3/4" | 1/4-20 | 50 |
| 449 | 1" | 3/4" | 1/4-20 | 50 |

## BIRNBACH CONE STANDOFF INSULATORS

**(Steatite)**

Made of low absorption high tensile strength Steatite with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Available in a white glaze and are complete with screws, metal and cork washers.

| Cat. No | Height A | Std. Pkg. | Base Dimensions B | Base Dimensions C | Threaded Holes D | Threaded Holes E | Mtg. Hole |
|---|---|---|---|---|---|---|---|
| 430 | 5/8" | 100 | 7/8" | 5/8" | 6-32 | 6-32 | 5/32" |
| 431 | 1" | 50 | 11/16" | 1/2" | 8-32 | 8-32 | 5/16" |
| 431J | 1" | 50 | 11/16" | 1/2" | 8-32 | No. 103 Jack | 5/16" |
| 432 | 1 1/2" | 50 | 7/8" | 5/8" | 10-32 | 10-32 | 7/32" |
| 432J | 1 1/2" | 50 | 7/8" | 5/8" | 10-32 | No. 103 Jack | 7/32" |
| 433 | 2 3/4" | 25 | 1 1/4" | 3/4" | 1/4-20 | 1/4-20 | 9/32" |
| 433J | 2 3/4" | 25 | 1 1/4" | 3/4" | 1/4-20 | No. 395 Jack | 9/32" |



See Page U-1459 for Birnbach Prices

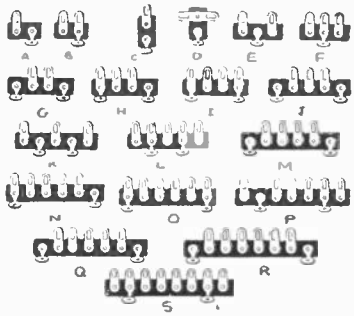


World Radio History

# Birnbach

**TERMINAL STRIPS • LUGS • BUSHINGS**
**SHAFT COUPLINGS • PANEL BEARINGS**
**SPACERS • TUBE CLAMPS**

## TIE DOWN LUG TERMINAL STRIPS




### STANDARD TYPE

These lugs made of 1/16" (.062" thick) XP bakelite x ¾" wide with cadmium plated brass lugs. Lugs are ¾" centers with .140 diam. mounting holes. Strips illustrated are standard; special combinations on request.

| Cat. No. | Illustration | Std. Pkg. | Cat. No. | Illustration | Std. Pkg. |
|---|---|---|---|---|---|
| 1382 | A | 100 | 1385B | L | 100 |
| 1382A | B | 100 | 1386 | M | 100 |
| 1382B | C | 100 | 1386A | N | 100 |
| 1382C | D | 100 | 1386B | O | 100 |
| 1383 | E | 100 | 1387 | P | 100 |
| 1383A | F | 100 | 1388 | Q | 100 |
| 1384 | G | 100 | | 5 Ter., 2 grds. | |
| 1384A | H | 100 | 1389 | R | 100 |
| 1384B | I | 100 | | 5 Ter., 2 grds. | |
| 1385 | J | 100 | 1390 | S | 100 |
| 1385A | K | 100 | | | |

### MINIATURE TYPE

These lugs made of 1/16" (.062" thick) XP bakelite x 5/16" wide. Brass, cadmium plated lugs are ¼" centers; .096 diam. mounting hole. Clearance for 3/32" rivet or No. 3 screw. Strips illustrated are standard; special combinations on request.

| Cat. No. | Illustration | Std. Pkg. | Cat. No. | Illustration | Std. Pkg. |
|---|---|---|---|---|---|
| 1352 | A | 100 | 1355A | K | 100 |
| 1352A | B | 100 | 1355B | L | 100 |
| 1352B | C | 100 | 1356 | M | 100 |
| 1352C | D | 100 | 1356A | N | 100 |
| 1353 | E | 100 | 1356B | O | 100 |
| 1353A | F | 100 | 1357 | P | 100 |
| 1354 | G | 100 | 1358 | Q | 100 |
| 1354A | H | 100 | 1359 | R | 100 |
| 1354B | I | 100 | 1360 | S | 100 |
| 1355 | J | 100 | | | |

## BIRNBACH BRASS BUSHINGS & SPACERS

An ideal brass bushing for raising sub panels, chassis, condensers, transformers, etc. Hole will accommodate a No. 6 or No. 8 screw.

| For No. 6 Cat. No. | Std. Pkg. | ¼" O.D. Length | For No. 8 Cat. No. | Std. Pkg. |
|---|---|---|---|---|
| 1125 | 100 | ¼" | 1130 | 100 |
| 1126 | 100 | ⅜" | 1131 | 100 |
| 1127 | 100 | ½" | 1132 | 100 |
| 1128 | 100 | ¾" | 1133 | 100 |
| 1129 | 100 | 1" | 1134 | 100 |
| | | **⅜" O.D.** | | |
| 1135 | 100 | ¼" | 1140 | 100 |
| 1136 | 100 | ⅜" | 1141 | 100 |
| 1137 | 100 | ½" | 1142 | 100 |
| 1138 | 100 | ¾" | 1143 | 100 |
| 1139 | 100 | 1" | 1144 | 100 |

## THREADED BRASS SPACERS

**¼" O.D.**

| For No. 6-32 Cat. No. | Std. Pkg. | Length | For No. 8-32 Cat. No. | Std. Pkg. |
|---|---|---|---|---|
| 1125T | 100 | ¼" | 1130T | 100 |
| 1126T | 100 | ⅜" | 1131T | 100 |
| 1127T | 100 | ½" | 1132T | 100 |
| 1128T | 100 | ¾" | 1133T | 100 |
| 1129T | 100 | 1" | 1134T | 100 |

## BIRNBACH INSULATED BUSHINGS AND SPACERS

| For No. 6 Cat. No. | Std. Pkg. | ¼" O.D. Length | For No. 8 Cat. No. | Std. Pkg. |
|---|---|---|---|---|
| 1145 | 100 | ¼" | 1149 | 100 |
| 1146 | 100 | ⅜" | 1150 | 100 |
| 1147 | 100 | ½" | 1151 | 100 |
| 1148 | 100 | ¾" | 1152 | 100 |

## BIRNBACH CABLE CLAMPS

| Cat. No. | To Fit Cable Up to | Lth. | Wth. | Mtg. Hole | Std. Pkg. |
|---|---|---|---|---|---|
| 1153 | 3/32" | 7/16" | 3/16" | 4/64" | 100 |
| 1154 | 1/8" | 3/4" | 3/16" | 6/64" | 100 |
| 1155 | 1/4" | 11/16" | 3/16" | 6/64" | 100 |
| 1156 | 1/2" | 13/16" | 3/16" | 8/64" | 100 |
| 1157 | 3/4" | 1 1/4" | 3/16" | 10/64" | 100 |

## SHAFT COUPLING REDUCERS AND EXTENDERS

By the use of these units all ¼" and ⅜" dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.

### SHAFT COUPLINGS

| Cat. No. Br. | Cat. No. Insul. | Shaft A | Hole B | O.D. C | Std. Pkg. |
|---|---|---|---|---|---|
| 534 | 634 | ¼" | ¼" | ½" | 50 |
| 535 | 635 | ¼" | ⅜" | ½" | 50 |
| 536 | 636 | ¾" | ¼" | ½" | 50 |
| 537 | Reducer for ⅜" Dia. Hole to ¼" Dia. Hole | | | ⅜" | 50 |

### COUPLINGS

| | | | | | |
|---|---|---|---|---|---|
| 531 | 631 | ¼" | ¼" | ½" | 50 |
| 532 | 632 | ¼" | ⅜" | ½" | 50 |
| 533 | 633 | ⅜" | ¼" | ½" | 50 |

### EXTENDERS

| Cat. No. | Overall Lgth. | Shaft Lgth. | Hole I.D. | Shaft O.D. | Std. Pkg. |
|---|---|---|---|---|---|
| 538 Brass | 1¾" | 1¼" | ¼" | ¼" | 50 |
| 539 Insulated | 1¾" | 1¼" | ¼" | ¼" | 50 |

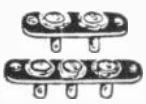
### BRASS SHAFTING

| Cat. No. | | | Std. Pkg. |
|---|---|---|---|
| 540 | ¼" Dia. | 6" Long | 12 |
| 541 | ¼" Dia. | 12" Long | 12 |
| 542 | ⅜" Dia. | 8" Long | 12 |

### FIBRE SHAFTING

| | | | |
|---|---|---|---|
| 543 | ¼" Dia. | 6" Long | 12 |
| 544 | ¼" Dia. | 12" Long | 12 |
| 545 | ⅜" Dia. | 8" Long | 12 |

## BAKELITE TERMINAL STRIPS



Terminals are made of brass and cadmium plated. Terminals are mounted on 1/16" bakelite. 7, 8, 9 and 10 terminals are mounted on 3/32" bakelite. All terminals are space 7/16" center to center.

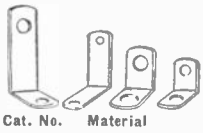
| PLAIN Cat. No. | Terminals | Mtg. Center | MARKED Cat. No. | Terminals Marked |
|---|---|---|---|---|
| 1372 | 2 | 1-5/16" | 1260 | 2; A-G |
| 1373 | 3 | 1-¾" | 1261 | 2; Output |
| 1374 | 4 | 2-3/16" | 1262 | 2; Input |
| 1375 | 5 | 2-5/8" | 1263 | 3; 1-2-3 |
| 1376 | 6 | 3-1/16" | 1264 | 4; 1-2-3-4 |
| 1377 | 7 | 3-½" | 1265 | 5; 1-2-3-4-5 |
| 1378 | 8 | 3-15/16" | 1266 | 6; 1-2-3-4-5-6 |
| 1379 | 9 | 4-3/8" | | |
| 1380 | 10 | 4-13/16" | | |

## SPRING WIRE CLIPS

They will hold a wire up to No. 10 B&S Gauge in a secure contact. All clips are brass nickel plated.

| Cat. No. | Length | Width | Mtg. Hole | Std. Pkg. |
|---|---|---|---|---|
| 32A—Spring Clip | ¾" | ⅜" | 6 | 100 |
| 32 —Spring Clip | 1" | 3/8" | 10 | 100 |
| 33 —Twin Clip | 1¾" | ⅜" | 10 | 100 |

## BRASS AND STEEL ANGLES



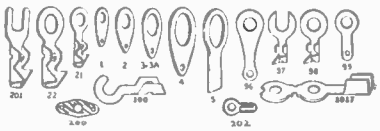
| Cat. No. | Material | Size | Mtg. Holes | Std. Pkg. |
|---|---|---|---|---|
| 1121 | Brass N.P. | ½" x ½" | 1/64 | 100 |
| 1122 | Brass N.P. | 5/8" x ⅝" | 1/64 | 100 |
| 1123 | Steel H.T. | ¾" x ¾" | 1/64 | 100 |
| 1124 | Steel H.T. | ⅝" x 1⅛" | 1/64 | 100 |

## BIRNBACH TUBE CLAMPS

These Tube Clamps are made of hard drawn aluminum and are found to be extremely desirable when mounting resonant lines, or elements of directive beam antennas. The ⅛" thru ⅝" clamps have a clearance for No. 10 Screw. The ¾" to the 1¼" clamps have a clearance for ¼" bolts.

| Cat. No. | To Fit Tube | Wdth. | Lgth. | Thickness | Std. Pkg. |
|---|---|---|---|---|---|
| 51A | ⅛" | ½" | 13/16" | .050" | 100 |
| 51 | ¼" | ½" | 7/8" | .050" | 100 |
| 52 | 3/16" | ½" | 15/16" | .050" | 100 |
| 53 | 3/8" | ½" | 1" | .050" | 100 |
| 54 | ½" | ½" | 1⅛" | .050" | 100 |
| 54A | 5/8" | ½" | 1¼" | .050" | 50 |
| 55 | ¾" | ¾" | 1 3/8" | .090" | 50 |
| 57 | 7/8" | ¾" | 1 5/8" | .090" | 50 |
| 56 | 1" | ¾" | 1¾" | .090" | 50 |
| 56A | 1⅛" | ¾" | 1 7/8" | .090" | 50 |
| 56B | 1¼" | ¾" | 2" | .090" | 50 |

## BIRNBACH TINNED TERMINAL LUGS




| Cat. No. | Hole for Screw | Material | Thickness | Lgth. |
|---|---|---|---|---|
| 1 | 6 | Tinned Copper | .015" | 17/32" |
| 2 | 10 | Tinned Copper | .016" | 5/8" |
| 3 | .252 | Tinned Copper | .015" | 17/32" |
| 3A | 1/4 | Tinned Copper | .015" | 13/16" |
| 4 | 3/8 | Tinned Copper | .016" | ⅞" |
| 5 | 1/2 | Hot Tin. Cop. | .024" | 1 3/16" |
| 21 | 10 | Hot Tin. Cop. | .020" | 3/16" |
| 22 | 1/4 | Hot Tin. Cop. | .025" | 1 1/16" |
| 200 | 8 | Brass Hot Tin. | .015" | ¾" |
| 201 | 8 | Brass Hot Tin. | .020" | 13/16" |
| 202 | 6 | Brass Hot Tin. | .020" | 5/8" |
| 96 | 6-8-10 | Brass Hot Tin. | .020" | ¾" |
| 97 | 8 | Tinned Copper | .016" | 5/8" |
| 98 | 6-8-10 | Brass Hot Tin. | .020" | 11/16" |
| 99 | 4-6-8 | Brass Hot Tin. | .020" | 11/16" |
| 100 | 10 | Brass Hot Tin. | .020" | ¾" |
| 1017 | 10 | N. Pl. Cop. | .023" | 13/16" |

Standard Package — 1000

## BIRNBACH LOCKING TYPE TERMINAL LUGS

Brass Electro Plated

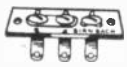
| Cat. No. | Hole for Screw | Thickness | Length In. | Std. Pkg. |
|---|---|---|---|---|
| 193 | 4 | .020" | ¾" | 1000 |
| 194 | 6 | .020" | ¾" | 1000 |
| 195 | 8 | .020" | ⅞" | 1000 |
| 197 | 10 | .020" | ⅞" | 1000 |
| 196 | ¼" | .020" | 13/16" | 1000 |

## TERMINAL STRIPS 2 POST

Excellent mounting for twin lead transmission lines. Brass hot tinned lugs spaced 5/8" center to center. 1/16" bakelite. 1 15/16" mounting center.

Cat. No. T16 ..... St. Pkge. 50

## BIRNBACH 3 POST



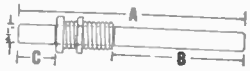
A synchronizing lock strip for RCA type television receivers.

Brass hot tinned lugs. Spaced 7/16" center to center. Mounting center 1¾". 1/16" bakelite.

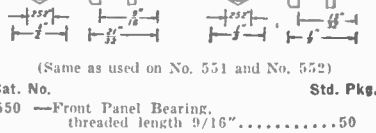
Ca. No. T16A ..... Std. Pkg. 50

## BIRNBACH FRONT PANEL BEARINGS

Cadmium plated brass for panels up to ¾" in thickness and for ¼" dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and ¼" dia. brass shaft cadmium plated.




| Cat. No. | A | B | C | Std. Pkg. |
|---|---|---|---|---|
| 551 | 3" | 1¾" | ½" | 50 |
| 552 | 6" | 4¾" | ½" | 25 |




(Same as used on No. 551 and No. 552)

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 550 | —Front Panel Bearing, threaded length 9/16" | 50 |
| 550A | —Front Panel Bearing, threaded length 13/32" | 50 |
| 550-B | —Front Panel Bearing, ⅜-32 threaded length 5/16"-11/16" O.L. | |
| 550-C | —Front Panel Bearing— Miniature ¼-32 thd length 5/16, 3/8" O.L. .125 opening 11/32 hex. | |




See Page U-1459 for Birnbach Prices



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World Radio History

# Birnbach

**SCREWS & NUTS • WASHERS • STANDOFFS**
**ALL-NYLON FASTENINGS**

Used in variety of applications, such as; appliances, computers and business machines, chemical and food processing equipment, electronic equipment and instruments, airborn equipment, etc.

*Reg. T.M. of DuPont

## BIRNBACH ALL-NYLON FASTENINGS

**ZYTEL 101 PER MIL P 20693 SPEC. MIL S 7742 SPEC NON-CORROSIVE, NON-CONDUCTING**

Birnbach All-Nylon Fastenings are made of Zytel 101*, a Polymide plastic of the Nylon 6.6 Type. They offer outstanding insulating properties plus resistance to heat, shock, vibration and chemical solvents plus lightness elasticity and superior torque strength. In most cases, because of their high dielectric strength, they eliminate the need of bushings, washers or other insulation. They are corrosion resistant, non-magnetic and good torque strength thru a wide temperature range. Continuous service temperature to 300°F (150°C). Stock color: Natural. Additional colors available to order.

### BIRNBACH ALL NYLON MACHINE SCREWS

STANDARD PKG.: 100, 1000

| Cat. No. | Size | Type |
|---|---|---|
| 6550 | 2-56x½" | Round Head |
| 6551 | 2-56x½" | Fillister |
| 6552 | 4-40x½" | Round Head |
| 6553 | 6-32x⅜" | Round Head |
| 6554 | 6-32x⅜" | Binding Head |
| 6555 | 6-32x⅜" | Fillister Head |
| 6556 | 6-32x⅜" | Flat Head |
| 6557 | 6-32x½" | Round Head |
| 6558 | 6-32x½" | Binding Head |
| 6559 | 6-32x½" | Fillister Head |
| 6560 | 6-32x½" | Flat Head |
| 6561 | 6-32x1" | Round Head |
| 6562 | 8-32x⅜" | Round Head |
| 6563 | 8-32x⅜" | Binding Head |
| 6564 | 8-32x⅜" | Flat Head |
| 6565 | 8-32x⅜" | Fillister Head |
| 6566 | 8-32x½" | Round Head |
| 6567 | 8-32x½" | Binding Head |
| 6568 | 8-32x½" | Flat Head |
| 6569 | 8-32x½" | Fillister Head |
| 6570 | 8-32x⅝" | Round Head |
| 6571 | 8-32x⅝" | Fillister Head |
| 6572 | 8-32x¾" | Binding Head |
| 6573 | 8-32x1" | Flat Head |
| 6574 | 10-32x⅜" | Round Head |
| 6575 | 10-32x½" | Round Head |
| 6576 | 10-32x½" | Flat Head |
| 6577 | 10-32x⅝" | Round Head |
| 6578 | 10-32x1" | Round Head |
| 6579 | 10-32x1" | Flat Head |

Other sizes available; your inquiries are invited.

All parts are manufactured to American Thread Standards to a class 2A or 2B fit. B 18.2 (hex nuts), B 18.6 (machine screws), B 1.1 (thread specs.)

### BIRNBACH ALL NYLON HEX NUTS

STANDARD PKG.: 100, 1000

| Cat. No. | Size | Cat. No. | Size |
|---|---|---|---|
| 6585 | 2-56 | 6587 | 6-32 |
| 6586 | 4-40 | 6588 | 8-32 |
| | | 6589 | 10-32 |

### BIRNBACH ALL-NYLON WASHERS

STANDARD PKG.: 100, 1000

| Cat. No. | Fits Screw No. | O.D. | I.D. | Thickness |
|---|---|---|---|---|
| 6592 | 2 | 3/16" | .090" | .020" |
| 6593 | 4 | 3/32" | .120" | .020" |
| 6594 | 6 | 5/16" | .150" | .025" |
| 6595 | 8 | 3/8" | .170" | .031" |
| 6596 | 10 | 7/16" | .190" | .031" |

### BIRNBACH ROUND HEAD MACHINE SCREWS

Standard Package 1000

**STEEL NICKEL PLATED**

| Cat. No. | Size |
|---|---|
| 6300 | 2-56 x 3/16 |
| 6301 | 2-56 x ⅜ |
| 6302 | 2-56 x ½ |
| 6303 | 3-48 x ¾ |
| 6304 | 4-36 x 1¼ |
| 6305 | 4-36 x ½ |
| 6306 | 4-36 x ¾ |
| 6307 | 4-40 x 1¼ |
| 6308 | 4-40 x ½ |
| 6309 | 4-10 x ¾ |
| 6420 | 6 32 x 1¼ |
| 6421 | 6-32 x ⅜ |
| 6422 | 6-32 x ½ |
| 6423 | 6-32 x ⅝ |
| 6424 | 6 32 x ¾ |
| 6425 | 6-32 x 1 |
| 6426 | 8 32 x ¼ |
| 6427 | 8-32 x ⅜ |
| 6428 | 8-32 x ½ |
| 6429 | 8-32 x ⅝ |
| 6430 | 8-32 x ¾ |
| 6431 | 8-32 x 1 |
| 6432 | 8-32 x 1½ |
| 6433 | 10-32 x 1¼ |
| 6434 | 10-32 x ⅜ |
| 6435 | 10-32 x ½ |
| 6436 | 10-32 x ⅝ |
| 6437 | 10-32 x ¾ |
| 6438 | 10-32 x 1 |
| 6439 | ¼-20 x ½ |
| 6310 | ¼-20 x 1¼ |
| 6311 | ¼-20 x 2½ |

**BRASS NICKEL PLATED**

| Cat. No. | Size |
|---|---|
| 6400 | 4-36 x ¼ |
| 6401 | 4-36 x ⅜ |
| 6402 | 4-36 x ½ |
| 6403 | 4-36 x ¾ |
| 6404 | 4 36 x 1 |
| 6312 | 4-40 x ¼ |
| 6313 | 4-40 x ⅜ |
| 6314 | 4-40 x ½ |
| 6315 | 4-40 x ¾ |
| 6405 | 6-32 x ¼ |
| 6406 | 6 32 x ⅜ |
| 6407 | 6-32 x ½ |
| 6408 | 6-32 x ⅝ |
| 6409 | 6-32 x ¾ |
| 6410 | 6-32 x 1 |
| 6411 | 6-32 x 1¼ |
| 6412 | 6-32 x 1½ |
| 6413 | 8-32 x ¼ |
| 6414 | 8 32 x ⅜ |
| 6415 | 8-32 x ½ |
| 6416 | 8-32 x ⅝ |
| 6417 | 8-32 x ¾ |
| 6418 | 8 32 x 1 |
| 6316 | 10 32 x ¼ |
| 6317 | 10-32 x ⅜ |
| 6318 | 10-32 x ½ |
| 6319 | 10-32 x ¾ |
| 6320 | 10-32 x 1 |

### BIRNBACH BINDING HEAD MACHINE SCREWS

Steel Nockel Plated

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6321 | 6-32 x ¼" | 1000 |
| 6322 | 6-32 x ⅜" | 1000 |
| 6323 | 6-32 x ½" | 1000 |
| 6324 | 8-32 x ¼" | 1000 |
| 6325 | 8-32 x ⅜" | 1000 |
| 6326 | 8-32 x ½" | 1000 |

### BIRNBACH OVAL HEAD RACK SCREWS

Steel Nickel Plated

Widely used for mounting panels on racks and cabinets. Screws are nickel-plated brass.

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6600 | 6-32 x ¼" | 1000 |
| 6601 | 6 32 x ½" | 1000 |
| 6602 | 6-32 x ¾" | 1000 |
| 6603 | 6 32 x 1" | 1000 |
| 6604 | 8-32 x ¼" | 1000 |
| 6605 | 8-32 x ½" | 1000 |
| 6606 | 8-32 x ¾" | 1000 |
| 6607 | 8 32 x 1" | 1000 |
| 6608 | 10-32 x ¼" | 1000 |
| 6609 | 10-32 x ½" | 1000 |
| 6610 | 10 32 x ⅝" | 1000 |
| 6611 | 10 32 x ¾" | 1000 |
| 6611-A | 10 32 x 1" | 1000 |

### BIRNBACH FINISHING RACK WASHERS

Brass Nickel Plated

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6612 | 6-32 Cup Washer | 1000 |
| 6613 | 8-32 Cup Washer | 1000 |
| 6614 | 10-32 Cup Washer | 1000 |

### ORNAMENTAL HEAD SCREWS

Steel—Statuary Bronze Finish

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6327 | 6-32 x ¾" | 1000 |
| 6328 | 6 32 x 1" | 1000 |
| 6329 | 8-32 x 1¼" | 1000 |

### BRASS AND STEEL WOOD SCREWS

Available in round, flat and oval heads.

**BRASS NICKEL PLATED**

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6460 | ⅜ x #4 | 144 |
| 6461 | ½ x #4 | 144 |
| 6462 | ⅝ x #5 | 144 |
| 6463 | ¾ x #5 | 144 |
| 6464 | 1 x #5 | 144 |
| 6465 | 1¼ x #6 | 144 |
| 6466 | 1½ x #6 | 144 |

**STEEL NICKEL PLATED**

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6470 | ⅜ x #4 | 144 |
| 6471 | ½ x #4 | 144 |
| 6472 | ⅝ x #5 | 144 |
| 6473 | ¾ x #5 | 144 |
| 6474 | 1 x #5 | 144 |
| 6477 | 1 x #6 | 144 |
| 6475 | 1¼ x #6 | 144 |
| 6476 | 1½ x #6 | 144 |
| 6478 | ¾ x #8 | 144 |

### BIRNBACH SHEET METAL SELF TAPPING SCREWS

Steel Cadmium Plated

TYPE A — SHARP POINT

| Cat. No. | Size | Std. Pkg. |
|---|---|---|
| 6500 | #4 x ½ | 144 |
| 6501 | #6 x ¼ | 144 |
| 6502 | #6 x ⅜ | 144 |
| 6503 | #6 x ½ | 144 |
| 6504 | #6 x ¾ | 144 |
| 6540 | #8 x ⅜ | 144 |
| 6541 | #8 x ½ | 144 |
| 6505 | #8 x 1 | 144 |
| 6542 | #10 x ⅜ | 144 |
| 6543 | #10 x ½ | 144 |
| 6506 | #10 x ¾ | 144 |
| 6507 | #10 x 1 | 144 |

### BIRNBACH HEX HEAD SELF TAPPING SCREWS

TYPE B — BLUNT POINT SLOTTED

Steel Cadmium Plated

| Cat. No. | Size | Std. Pkg. | Cat. No. | Size | Std. Pkg. |
|---|---|---|---|---|---|
| 6510 | #6 x ⅜ | 144 | 6515 | #8 x ½ | 144 |
| 6511 | #6 x ½ | 144 | 6516 | #8 x ¾ | 144 |
| 6512 | #6 x ¾ | 144 | 6517 | #8 x 1 | 144 |
| 6513 | #8 x ¼ | 144 | 6518 | #10 x ½ | 144 |
| 6514 | #8 x ⅜ | 144 | 6519 | #10 x 1 | 144 |

### BIRNBACH VOLUME CONTROL AND TOGGLE NUTS

STEEL - BRASS - NICKEL PLATED

| No. | Type | Size | Std. Pkg. |
|---|---|---|---|
| 6337 | Vol. Control Brass | ⅜-32x½x3/32 | 1000 |
| 6337A | Vol. Control Steel | ⅜-32x½x3/32 | 1000 |
| 6338 | Toggle Switch Brass | 15-32x5/8x5/16 | 1000 |
| 6339 | Toggle Ring Nut | 15-32x⅝x1/16 | 1000 |

### BIRNBACH WING NUTS

It is a high quality brass nickel plated wing nut used extensively on portable and test instruments.

| Cat. No. | Thread | Std. Pkg. |
|---|---|---|
| 6 | 6-32 | 100 |
| 8 | 8-32 | 100 |
| 10 | 10-32 | 100 |
| 11 | ¼-20 | 100 |

### BIRNBACH HEXAGON STEEL MACHINE SCREW NUTS

Nickel Plated

| Cat. No. | Thread Size | Width across Flats | Thickness | Std. Pkg. |
|---|---|---|---|---|
| 6330 | 2-56 | 3/16" | 1/16" | 1000 |
| 6331 | 3-48 | 3/16" | 1/16" | 1000 |
| 6332 | 4-36 | 1/4" | 3/32" | 1000 |
| 6333 | 4-40 | 1/4" | 3/32" | 1000 |
| 6448 | 6-32 | 1/4" | 3/32" | 1000 |
| 6449 | 6-32 | 5/16" | 7/64" | 1000 |
| 6334 | 8-32 | 1/4" | 3/32" | 1000 |
| 6450 | 8-32 | 5/16" | 7/64" | 1000 |
| 6335 | 10-32 | 3/8" | 1/8" | 1000 |
| 6336 | ¼-20 | 7/16" | 3/16" | 1000 |

### BIRNBACH HEXAGON MACHINE SCREW NUTS

BRASS—NICKEL PLATED

| Cat. No. | Thread Size | Width across Flats | Thickness | Std. Pkg. |
|---|---|---|---|---|
| 6440 | 4-36 | 1/4" | 3/32" | 1000 |
| 6442 | 4-40 | 1/4" | 3/32" | 1000 |
| 6441 | 6-32 | 1/4" | 5/64" | 1000 |
| 6443 | 6-32 | 5/16" | 7/64" | 1000 |
| 6444 | 8-32 | 11/32" | 1/8" | 1000 |
| 6445 | 10-32 | 5/16" | 7/64" | 1000 |
| 6446 | 10-32 | 3/8" | 1/8" | 1000 |
| 6447 | ¼-20 | 7/16" | 1/8" | 1000 |

### BIRNBACH BRASS NICKEL PLATED FLAT WASHERS

| Cat. No. | Fits Screw No. | Hole Size | O.D. | Thickness | Std. Pkg. |
|---|---|---|---|---|---|
| 6479 | 4 | 118" | 9/32" | 025" | 1000 |
| 6480A | 6 | 145" | 5/16" | 025" | 1000 |
| 6480 | 6 | 145" | 3/8" | 025" | 1000 |
| 6481 | 8 | 172" | 3/8" | 032" | 1000 |
| 6482 | 10 | 203" | 7/16" | 036" | 1000 |
| 6483 | ¼-20 | 265" | 9/16" | 040" | 1000 |

### BIRNBACH STEEL KANKLINK LOCKWASHERS

| Cat. No. | Screw Size | O.D. | Thickness | Std. Pkg. |
|---|---|---|---|---|
| 6484 | 4 | 3/16" | 1/32" | 1000 |
| 6485 | 6 | 15/64" | 1/32" | 1000 |
| 6486 | 8 | 15/64" | 025" | 1000 |
| 6487 | 10 | 5/16" | 050" | 1000 |
| 6488 | ¼ | 7/16" | 5/64" | 1000 |

### BIRNBACH SHAKEPROOF LOCKWASHERS

EXTERNAL TEETH

| Cat. No. | Screw Size | Std. Pkg. |
|---|---|---|
| 6358 | 4 | 1000 |
| 6359 | 6 | 1000 |
| 6360 | 8 | 1000 |
| 6361 | 10 | 1000 |
| 6362 | ¼ | 1000 |
| 6363 | ⅜ | 1000 |

### BIRNBACH SHAKEPROOF LOCKWASHERS

INTERNAL TEETH

| Cat. No. | Screw Size | Std. Pkg. |
|---|---|---|
| 6355 | 2 | 1000 |
| 6356 | 3 | 1000 |
| 6357 | 4 | 1000 |
| 6490 | 6 | 1000 |
| 6491 | 8 | 1000 |
| 6492 | 10 | 1000 |
| 6493 | ¼ | 1000 |
| 6494 | ⅜ | 1000 |
| 6494-1 Narrow Rim Control Shaft Lockwasher 3/8" | | 1000 |
| 6494-2 Narrow Rim Toggle Switch Lockwasher 15/32" | | 1000 |

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See Page U-1459 for Birnbach Prices

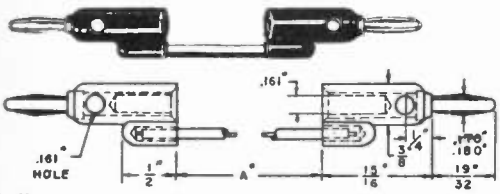


World Radio History

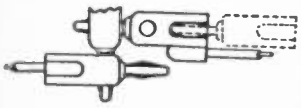
# Birnbach

## PATCH CORDS
## PHONO JACK & PLUGS - PHONO SPLICE/TIP

## MOLDED "STACKING TYPE" PATCH CORDS




1. Never ending banana plug receptacle.
2. Interconnects unlimited amount of multiple circuits.
3. Positive and lasting contact for all standard banana plugs.
4. Four leaved heat treated beryllium copper spring.
   a. 360 degrees spring contact
   b. maintains resiliency after thousands of insertions.
5. Supplied in Red, Black, Yellow or Green.
   (Special colors on request)
6. Handle molded to body and to wire.
7. 5,000 volt rubber covered flexible wire.
   a. 65 strands #36 insulated to an O.D. of .140.



| Cat. No. | ("A") Wire | Std. Pkg. |
|---|---|---|
| 655-8 | 8 inches | 12 |
| 655-12 | 12 inches | 12 |
| 655-24 | 24 inches | 12 |
| 655-36 | 36 inches | 12 |

Provides a never-ending banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross hole is designed for positive contact of all standard banana plugs. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color. Std. pkg. 10.

| | | Pkg. |
|---|---|---|
| Cat. No. 653-8 | 8" Wire Length | 12 |
| Cat. No. 653-12 | 12" Wire Length | 12 |
| Cat. No. 653-24 | 24" Wire Length | 12 |
| Cat. No. 653-36 | 36" Wire Length | 12 |

## PHONO-JACKS

Small, compact . . . where space is at a premium.

| Cat. No. | Std. Pkg. |
|---|---|
| 597 | 50 |

Space Saver . . . Rivets and grounds to chassis.

| Cat. No. | Std. Pkg. |
|---|---|
| 598 | 50 |

## PHONE TIP PLUG SPLICE

Takes all standard phone tip plugs excellent for quick connections or test, lead extensions.

Colors: Red, Black, Yellow, Green.

Cat. No. 619 — Insulated Banana Plug Splice ..... Std. pkg. 25

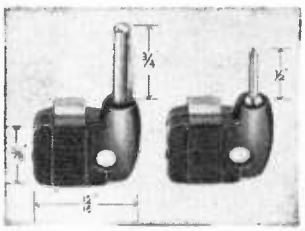
## IN-LINE PHONE TIP JACK

Takes all standard phone tip plugs. Can be used as lead extension.

Colors: Red, Black, Yellow, Green.

Cat. No. 621 — Insulated-In-Line Tip Jack ..... Std. pkg. 25

## PUSH BUTTON PHONE TIP PLUGS AND BANANA PLUGS




# 122 # 121

Description: Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

| Cat. No. | | Std. Pkg. |
|---|---|---|
| 121 | Push Button Phone Tip Plug, Red and Black | 100 |
| 122 | Push Button Banana Plug, Red, Black, Yellow, Green, White | 100 |

No. 121 Phone Tip Plug will fit all Standard Phone Tip Jacks. No. 122 Banana Plug will fit all Standard Banana Jacks.

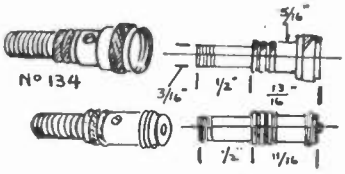
## MINIATURE MICROPHONE CONNECTOR

Single contact female

| | Std. pkg. |
|---|---|
| No. 134 Miniature Female Conn. | 50 |

Single Contact Male

| | |
|---|---|
| No. 135 Miniature Male Conn. | 50 |

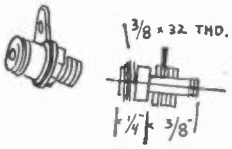



## MINIATURE CHASSIS CONNECTOR

Single Contact Male

Complete with insulating washer and lug. Mounts in 1/4" hole. Mates with No. 134.

| | Std. pkg. |
|---|---|
| No. 136 Miniature Chassis Conn. | 50 |




## BIRNBACH THREADED RODS

These brass nickel plated threaded rods are standard parts of of our insulator assemblies.

| Cat. No. | Length | Thread | Std. Pkg. |
|---|---|---|---|
| 16 | 4" | 1/4-20 | 1000 |
| 17 | 5 1/2" | 1/4-20 | 1000 |
| 18 | 10" | 1/4-20 | 1000 |
| 113 | 15" | 1/4-20 | 1000 |
| 114 | 1 3/4" | 10-32 | 1000 |
| 115 | 1 5/8" | 10-32 | 1000 |
| 116 | 2 1/4" | 10-32 | 1000 |
| 117 | 8" | 10-32 | 1000 |
| 118 | 8" | 8-32 | 1000 |
| 119 | 8" | 6-32 | 1000 |
| 15 | 2" | 6-32 | 1000 |

# BIRNBACH

## MANUFACTURERS OF QUALITY ELECTRONIC PRODUCTS SINCE 1923

LATEST CATALOG AND BULLETINS ON REQUEST




See Page U-1459 for Birnbach Prices



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World Radio History

# Birnbach PRICE LIST

SEE BIRNBACH PAGES
L-585 THRU L-587, S-1192 THRU S-1209, U-1448 THRU U-1459
NUMERICALLY ARRANGED BY CATALOG NUMBER

| Cat. No. | Sug. List Price |
|---|---|
| 00-C | 18.50/C |
| 1-M | 10.73/M |
| 1-C | 1.32/Ea. |
| 1-50 | .66/Ea. |
| 2-M | 10.73/M |
| 2-C | 1.32/Ea. |
| 2-50 | .56/Ea. |
| 3-M | 10.73/Ea. |
| 3-C | 1.32/Ea. |
| 3-50 | .66/Ea. |
| 3-A-M | 10.73/Ea. |
| 4-M | 41.25/M |
| 5-M | 55.00/M |
| 6-C | 13.20/C |
| T-6-C | 20.00/C |
| T-7 | .50/Ea. |
| 8 | 13.75/C |
| 10 | 13.75/C |
| T-10 | 8.00/C |
| 11 | 19.25/C |
| T-14 | .70/Ea. |
| T-14-A | .80/Ea. |
| 15 | 7.70/C |
| T-15 | 25.00/C |
| T-15-A | 40.00/C |
| T-15-C | 2.50/C |
| 16 | 27.50/C |
| T-16 | 25.00/C |
| T-16-A | 25.00/C |
| 17 | 60.00/C |
| T-17 | 24.00/C |
| 18 | 100.00/C |
| T-18 | 24.00/C |
| 19 | .45/Ea. |
| T-19-¾ | 9.50/C |
| T-19-1" | 9.50/C |
| T-19-1½ | 13.50/C |
| 20 | .90/Ea. |
| 20-A | .75/Ea. |
| T-20 | .80/Ea. |
| 21-M | 13.75/M |
| 21-35 | .66/Ea. |
| 21-C | 1.65/Ea. |
| 22-M | 32.45/M |
| 22-15 | .66/Ea. |
| 22-C | 3.52/Ea. |
| 23 | 16.00/C |
| 24 | 17.00/C |
| 26 | 17.00/C |
| 27 | 11.00/C |
| 27-C | 21.00/C |
| 27-R | 19.50/C |
| 28 | 11.00/C |
| 29 | 17.00/C |
| 30 | 36.15/C |
| 31 | 15.00/C |
| 31-C | 21.00/C |
| 31-R | 11.00/C |
| 31-S | 16.00/C |
| 32 | 3.00/C |
| 32-A | 2.25/C |
| 33 | 14.00/C |
| 34 | 1.40/Ea. |
| 35 | 1.40/Ea. |
| 36 | 1.40/Ea. |
| 37 | 1.40/Ea. |
| 38 | 1.40/Ea. |
| 39 | 1.40/Ea. |
| 40 | 1.40/Ea. |
| 41 | 1.40/Ea. |
| 42 | 1.40/Ea. |
| T-42 | 7.00/C |
| 43 | 7.00/M |
| 44 | 8.00/C |
| T-44 | 10.00/C |
| 45 | 1.40/Ea. |
| 46 | 14.00/C |
| T-46 | 28.00/C |
| 47 | 1.40/Ea. |
| 48 | 33.50/C |
| T-48 | 48.00/C |
| 49 | 1.40/Ea. |
| D-50 | 4.95/M |
| 51 | 17.50/C |
| 51-A | 17.50/C |
| 52 | 17.50/C |
| 53 | 17.50/C |
| 54 | 17.50/C |
| 54-A | 18.00/C |
| 55 | 20.00/C |
| 56 | 22.50/C |
| 56-A | 30.00/C |
| 56-B | 32.50/C |
| 57 | 22.50/C |
| 58 | 1.50/Ea. |
| 59 | 1.80/Ea. |
| 96-M | 11.83/M |
| 96-40 | .66/Ea. |
| 96-C | 1.32/Ea. |
| 97-M | 11.83/M |
| 97-40 | .66/Ea. |
| 97-C | 1.32/Ea. |
| 98-M | 13.75/M |
| 98-35 | .66/Ea. |
| 98-C | 1.65/Ea. |
| 99-M | 13.75/M |
| 99-35 | .66/Ea. |
| 99-C | 1.54/Ea. |
| 100-M | 22.00/M |
| 100-20 | .66/Ea. |
| 100-C | 2.47/Ea. |
| R-100 | 5.60/M |
| T-100 | 10.00/C |
| T-101 | 10.00/C |
| T-102 | 10.00/C |
| 102 | .90/Ea. |
| 103 | .90/Ea. |
| 104 | 1.50/Ea. |
| 105 | 1.50/Ea. |
| T-105/14 | 9.45/Ea. |
| T-105/16 | 11.25/Ea. |
| T-105/17 | 12.95/Ea. |
| T-105/19R | 18.50/Ea. |
| T-105/20 | 18.85/Ea. |
| T-105/21 | 20.00/Ea. |
| T-105/24 | 38.50/Ea. |
| T-105/27 | 39.50/Ea. |
| 106 | .90/Ea. |
| 107 | 1.50/Ea. |
| 108 | 2.05/Ea. |
| 109 | 2.75/Ea. |
| 113 | 125.00/C |
| 114 | 11.00/C |
| 115 | 12.00/C |
| 116 | 13.00/C |
| 117 | 27.50/C |
| 118 | 25.00/C |
| 119 | 22.00/C |
| 120 | 2.75/Ea. |
| 121 | .60/Ea. |
| 122 | .90/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 123 | .80/Ea. |
| 124 | 1.00/Ea. |
| 125 | 2.75/Ea. |
| 126 | 2.30/Ea. |
| 127 | 2.75/Ea. |
| 128 | 3.35/Ea. |
| 130 | .70/Ea. |
| 131 | .85/Ea. |
| 132 | .40/Ea. |
| 133 | .45/Ea. |
| 134 | .60/Ea. |
| 135 | .45/Ea. |
| 136 | .35/Ea. |
| 149 | 6.75/Ea. |
| 151 | .66/Ea. |
| 155-H | 45.00/Ea. |
| 166 | 2.00/Ea. |
| 184 | 27.00/C |
| 185 | 20.00/C |
| 186 | 25.00/C |
| 193 | 15.00/M |
| 194 | 15.00/M |
| 195 | 15.00/M |
| 196 | 18.00/M |
| 197 | 18.00/M |
| 200 | 10.08/M |
| 201-1000 | 13.75/M |
| 201-35 | .66/Ea. |
| 201-100 | 1.54/Ea. |
| 202 | 8.50/M |
| 203 | .65/Ea. |
| 203-A | 3.75/Ea. |
| 203-H | 3.75/Ea. |
| 204 | .65/Ea. |
| 204-A | 3.75/Ea. |
| 204-H | 3.75/Ea. |
| 205 | .65/Ea. |
| 205-H | 3.75/Ea. |
| 206 | .65/Ea. |
| 206-A | 3.75/Ea. |
| 206-H | 3.75/Ea. |
| 207 | .65/Ea. |
| 207-H | 3.75/Ea. |
| 208 | .65/Ea. |
| 208-H | 3.75/Ea. |
| 209 | .65/Ea. |
| 209-H | 3.75/Ea. |
| 212-A | 3.75/Ea. |
| 220 | 8.00/Ea. |
| 220-A | 6.75/Ea. |
| 221 | 1.80/Ea. |
| 221-A | 1.40/Ea. |
| 226 | 4.00/Ea. |
| 231-MC | 35.00/C |
| 232-FC | 53.00/C |
| 233-CC | 38.00/C |
| 234-CLC | 60.00/C |
| 239-FC2 | 6.20/Ea. |
| 245-MFC | 6.20/Ea. |
| 246 | 40.00/C |
| 248 | 8.00/C |
| 248-S | 8.00/C |
| 249 | 11.00/C |
| T-250 | 16.00/C |
| T-251 | 20.00/C |
| 251 | 80.00/C |
| 252 | 120.00/C |
| 253 | 110.00/C |
| 257 | 50.00/C |
| 258 | 57.00/C |
| 259 | 60.00/C |
| 260 | 75.00/C |
| 274 | 60.00/C |
| 275 | 70.00/C |
| 276 | 70.00/C |
| 278 | 40.00/C |
| 279 | 30.00/C |
| 287 | .49/Ea. |
| 288 | 12.25/Ea. |
| 310 | 18.00/C |
| 310-C | 23.00/C |
| 310-S | 19.00/C |
| 311 | 35.00/C |
| 330 | 25.00/C |
| 330-A | 22.00/C |
| 331 | 25.00/C |
| 331-A | 17.00/C |
| 332 | 18.00/C |
| 332-A | 2.00/C |
| 333 | 27.00/C |
| 334 | 55.00/C |
| 335 | 65.00/C |
| 336 | 65.00/C |
| 337 | 70.00/C |
| 340 | 11.00/C |
| 341 | 65.00/C |
| 341-B | 100.00/C |
| 342 | 475.00/C |
| 342-B | 525.00/C |
| 343 | .60/Ea. |
| 343-A | 20.00/C |
| 344 | .55/Ea. |
| 345 | .60/Ea. |
| 345-A | 25.00/C |
| 350 | 1.50/Ea. |
| 351 | 1.50/Ea. |
| 352 | 1.50/Ea. |
| 353 | 1.50/Ea. |
| 354 | 5.55/Ea. |
| 359 | 1.50/Ea. |
| 366 | 17.00/C |
| 367 | 22.00/C |
| 368 | 2.50/C |
| 369 | 2.50/C |
| 370 | 5.00/C |
| 371 | 3.00/C |
| 372 | 2.50/C |
| 373 | 6.50/C |
| 377 | .48/Ea. |
| 378 | .63/Ea. |
| 379 | .68/Ea. |
| 391 | 25.00/C |
| 392 | 77.00/C |
| 392-A | 55.00/C |
| 392-B | 110.00/C |
| 393 | 70.00/C |
| 393-A | 70.00/C |
| 394 | 50.00/C |
| 395 | 50.00/C |
| 396 | 50.00/C |
| 396-B | 90.00/C |
| 397 | 55.00/C |
| 397-B | 95.00/C |
| 398 | 50.00/C |
| 398-B | 85.00/C |
| 399 | 50.00/C |
| 399-A | 55.00/C |
| 400 | 25.00/C |
| 400-A | 25.00/C |
| 400-B | 40.00/C |
| 401 | 25.00/C |

| Cat. No. | Sug. List Price |
|---|---|
| 401-B | 40.00/C |
| 402 | 4.40/C |
| 402-A | 5.50/C |
| 402-B | 11.50/C |
| 403 | 17.00/C |
| 404 | 35.00/C |
| 404-A | 30.00/C |
| 404-B | 45.00/C |
| 404-BC | 60.00/C |
| 404-CB | 50.00/C |
| 404/S | 30.00/C |
| 405 | .165/Ea. |
| 406 | 22.00/C |
| 407 | 22.00/C |
| 408 | 3.15/Ea. |
| 409 | 25.00/C |
| 410 | .55/Ea. |
| 411 | 1.32/Ea. |
| 412 | 33.00/C |
| 413 | 1.75/Ea. |
| 414 | 25.00/C |
| 415 | 25.00/C |
| 416 | 22.00/C |
| 417 | .55/Ea. |
| 418 | .60/Ea. |
| 419 | 40.00/C |
| 420 | 1.45/Ea. |
| 420-A | 22.00/C |
| 421 | 1.45/Ea. |
| 422 | 1.45/Ea. |
| 423 | 1.45/Ea. |
| 426 | 27.00/C |
| 426-A | 27.00/C |
| 430 | .36/Ea. |
| 431 | .44/Ea. |
| 431-J | .64/Ea. |
| 432 | .80/Ea. |
| 432-J | 1.25/Ea. |
| 433 | 1.56/Ea. |
| 433-J | 2.25/Ea. |
| 434 | 2.87/Ea. |
| 435 | 2.15/Ea. |
| 436 | .60/Ea. |
| 437 | .65/Ea. |
| 438 | .75/Ea. |
| 439 | .40/Ea. |
| 441 | 17.25/C |
| 441-A | 17.25/C |
| 441-B | 17.25/C |
| 442 | 17.20/C |
| 442-A | 18.00/C |
| 443 | 20.00/C |
| 444 | 21.00/C |
| 444-A | 21.00/C |
| 444-B | 21.00/C |
| 444-C | 22.00/C |
| 445 | 21.00/C |
| 445-A | 21.00/C |
| 445-B | 21.00/C |
| 445-C | 22.00/C |
| 446 | 23.75/C |
| 446-A | 23.75/C |
| 447 | 23.75/C |
| 448 | 33.35/C |
| 449 | 55.00/C |
| 450 | .59/Ea. |
| 450-J | .71/Ea. |
| 451 | .71/Ea. |
| 451-J | .77/Ea. |
| 452 | .77/Ea. |
| 452-J | 1.00/Ea. |
| 453 | 1.37/Ea. |
| 453-J | 1.58/Ea. |
| 454 | 1.80/Ea. |
| 454-J | 2.14/Ea. |
| 455 | 30.00/C |
| 455-BC | 40.00/C |
| 457 | .75/Ea. |
| 458 | .32/Ea. |
| 462 | .25/Ea. |
| 463 | .50/Ea. |
| 464 | .35/Ea. |
| 465 | 30.00/C |
| 465-B | 50.00/C |
| 466 | 30.00/C |
| 466-A | 40.00/C |
| 467 | 50.00/C |
| 467-B | 70.00/C |
| 468 | .60/Ea. |
| 469 | .45/Ea. |
| 470 | 1.00/Ea. |
| 471 | 1.40/Ea. |
| 472 | .45/Ea. |
| 473 | .23/Ea. |
| 474 | .20/Ea. |
| 475 | 1.47/Ea. |
| 476 | 1.10/Ea. |
| 478 | .45/Ea. |
| 478-J | .54/Ea. |
| 479 | .78/Ea. |
| 479-J | .95/Ea. |
| 501 | 4.20/Ea. |
| 503 | 3.90/Ea. |
| 505 | 3.35/Ea. |
| 506 | .34/Ea. |
| 507 | .35/Ea. |
| 508 | .36/Ea. |
| 510 | .35/Ea. |
| 511 | .35/Ea. |
| 512 | .335/Ea. |
| 514 | .342/Ea. |
| 515 | .342/Ea. |
| 516 | .358/Ea. |
| 518 | .35/Ea. |
| 519 | .358/Ea. |
| 520 | .43/Ea. |
| 521 | .44/Ea. |
| 522 | .485/Ea. |
| 523 | .65/Ea. |
| 531 | 27.00/C |
| 531-A | 40.00/C |
| 532 | 27.00/C |
| 533 | 27.00/C |
| 534 | 27.00/C |
| 535 | 27.00/C |
| 536 | 27.00/C |
| 537 | 27.00/C |
| 538 | 33.00/C |
| 538-A | 30.00/C |
| 539 | 33.00/C |
| 540 | .33/Ea. |
| 541 | .66/Ea. |
| 542 | .50/Ea. |
| 543 | .25/Ea. |
| 544 | .50/Ea. |
| 545 | .60/Ea. |
| 546 | .40/Ea. |
| 546-A | .40/Ea. |
| 547 | .55/Ea. |
| 550 | .25/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 550-A | .25/Ea. |
| 550-B | .30/Ea. |
| 550-C | .30/Ea. |
| 551 | .55/Ea. |
| 552 | .65/Ea. |
| 553 | .75/Ea. |
| 554 | 1.00/Ea. |
| 555 | 2.50/Ea. |
| 556 | 1.95/Ea. |
| 557 | 2.50/Ea. |
| 558 | .95/Ea. |
| 559 | 1.45/Ea. |
| 559-A | .80/Ea. |
| 560 | 2.50/Ea. |
| 561 | 2.50/Ea. |
| 562 | 6.60/Ea. |
| 564 | 4.85/Ea. |
| 590 | 30.00/C |
| 591 | 35.00/C |
| 592 | 30.00/C |
| 593 | 1.50/C |
| 595 | 25.00/C |
| 597 | 12.00/C |
| 598 | 11.00/C |
| 600 | 11.00/C |
| 601 | 50.00/C |
| 603 | 40.00/C |
| 604 | 30.00/C |
| 605 | 40.00/C |
| 606 | 30.00/C |
| 607 | 90.00/C |
| 608 | 100.00/C |
| 609 | 110.00/C |
| 610 | 120.00/C |
| 611 | 22.50/C |
| 613 | 15.00/C |
| 616 | 1.40/Ea. |
| 617 | 30.00/C |
| 618 | 2.25/Ea. |
| 619 | .45/Ea. |
| 621 | .35/Ea. |
| 625 | 23.00/C |
| 626 | .56/Ea. |
| 628 | .28/Ea. |
| 629 | 8.50/C |
| 631 | 25.00/C |
| 632 | 25.00/C |
| 633 | 25.00/C |
| 634 | 25.00/C |
| 635 | 25.00/C |
| 636 | 25.00/C |
| 650 | .50/Ea. |
| 653-8 | 1.45/Ea. |
| 653-12 | 1.55/Ea. |
| 653-24 | 1.65/Ea. |
| 653-36 | 1.75/Ea. |
| 655-8 | 1.50/Ea. |
| 655-12 | 1.50/Ea. |
| 655-24 | 1.60/Ea. |
| 655-36 | 1.70/Ea. |
| 663 | 14.00/C |
| 664 | 19.50/C |
| 666 | 18.50/C |
| 667 | 45.00/C |
| 668 | .35/Ea. |
| 669 | 18.00/C |
| 675 | 95.00/C |
| 676 | 105.00/C |
| 677 | 120.00/C |
| 678 | 135.00/C |
| * 725-100 | 3.90/C |
| * 725-1000 | 34.80/M |
| * 726-100 | 4.50/C |
| * 726-1000 | 40.20/M |
| * 727-100 | 5.70/C |
| * 727-1000 | 45.60/M |
| * 728-100 | 5.37/C |
| * 728-1000 | 48.00/M |
| * 729-100 | 5.61/C |
| * 729-1000 | 50.40/M |
| * 730-100 | 5.94/C |
| * 730-1000 | 54.00/M |
| * 731-100 | 6.30/C |
| * 731-1000 | 57.00/M |
| * 732-C | 8.40/C |
| * 732-M | 75.00/M |
| * 733-C | 9.00/C |
| * 733-M | 81.00/M |
| * 734-C | 9.60/C |
| * 734-M | 86.40/M |
| * 735-C | 10.50/C |
| * 735-M | 94.50/M |
| * 736-C | 12.00/C |
| * 736-M | 108.00/M |
| * 737-C | 19.20/C |
| * 737-M | 168.00/M |
| * 738-C | 28.80/C |
| * 738-M | 258.00/M |
| 762 | 20.00/C |
| 763-3 | 30.00/C |
| 763-5 | 38.00/C |
| 763-7 | 85.00/C |
| 764 | .35/Ea. |
| 765 | .90/Ea. |
| 766 | .59/Ea. |
| 766-J | .88/Ea. |
| 768 | .70/Ea. |
| 769 | 1.40/Ea. |
| 770 | 2.50/Ea. |
| 771 | 16.75/Ea. |
| 786 | 30.00/Ea. |
| 787 | 43.00/Ea. |
| 813 | 16.75/C |
| 814 | 15.00/C |
| 815 | .80/C |
| 866 | .265/Ea. |
| 866-J | .35/Ea. |
| 866-SJ | .81/Ea. |
| 867 | .42/Ea. |
| 867-J | .53/Ea. |
| 963 | 14.00/C |
| 964 | 19.50/C |
| 965 | .20/Ea. |
| 966 | .20/Ea. |
| 966-J | .20/Ea. |
| 967 | 45.00/C |
| 1013 | 2.75/Ea. |
| 1014 | 5.25/Ea. |
| 1015 | 10.00/Ea. |
| 1017-M | 38.50/M |
| 1017-C | 4.24/Ea. |
| 1017-10 | .66/Ea. |
| 1025 | 1.35/Ea. |
| 1050 | 2.50/Ea. |
| 1051 | 4.50/Ea. |
| 1052 | 35.00/Ea. |
| 1053 | .75/Ea. |
| 1054 | 1.40/Ea. |
| 1055 | 2.75/Ea. |
| 1056 | 21.00/Ea. |

| Cat. No. | Sug. List Price |
|---|---|
| 1057 | 1.45/Ea. |
| 1058 | 2.90/Ea. |
| 1059 | 5.00/Ea. |
| 1060 | 40.00/Ea. |
| 1070 | 15.00/Ea. |
| 1071 | 15.00/Ea. |
| 1072 | 16.00/Ea. |
| 1073 | 2.70/Ea. |
| 1074 | 4.70/Ea. |
| 1075 | 9.00/Ea. |
| 1076 | 2.60/Ea. |
| 1077 | 4.50/Ea. |
| 1078 | 8.00/Ea. |
| 1079 | 2.60/Ea. |
| 1080 | 4.50/Ea. |
| 1081 | 8.00/Ea. |
| 1082 | 2.60/Ea. |
| 1083 | 4.50/Ea. |
| 1084 | 8.00/Ea. |
| 1085 | 2.60/Ea. |
| 1086 | 4.50/Ea. |
| 1087 | 8.00/Ea. |
| 1101 | 5.00/Ea. |
| 1120 | 5.50/C |
| 1121 | 3.00/C |
| 1122 | 6.00/C |
| 1123 | 2.50/C |
| 1124 | 2.50/C |
| 1125 | 5.50/C |
| 1125-T | 6.50/C |
| 1126 | 7.25/C |
| 1126-T | 8.25/C |
| 1127 | 8.80/C |
| 1127-T | 10.00/C |
| 1128 | 10.50/C |
| 1128-T | 12.00/C |
| 1129 | 12.00/C |
| 1129-T | 13.75/C |
| 1130 | 5.50/C |
| 1130-T | 6.50/C |
| 1131 | 7.25/C |
| 1131-T | 8.25/C |
| 1132 | 8.80/C |
| 1132-T | 10.00/C |
| 1133 | 10.50/C |
| 1133-T | 12.00/C |
| 1134 | 12.00/C |
| 1134-T | 13.75/C |
| 1135 | 8.80/C |
| 1136 | 10.50/C |
| 1137 | 12.00/C |
| 1138 | 13.75/C |
| 1139 | 15.50/C |
| 1140 | 8.80/C |
| 1141 | 10.50/C |
| 1142 | 12.00/C |
| 1143 | 13.75/C |
| 1144 | 15.50/C |
| 1145 | 6.50/C |
| 1146 | 8.25/C |
| 1147 | 10.00/C |
| 1148 | 12.00/C |
| 1149 | 6.50/C |
| 1150 | 8.25/C |
| 1151 | 10.00/C |
| 1152 | 12.00/C |
| 1153 | 1.50/C |
| 1154 | 1.80/C |
| 1155 | 2.00/C |
| 1156 | 2.25/C |
| 1157 | 2.50/C |
| 1180 | 50.00/C |
| 1182 | 60.00/C |
| 1184 | 55.00/C |
| 1190 | 65.00/C |
| 1192 | 90.00/C |
| 1194 | 70.00/C |
| 1220 | 16.60/Ea. |
| 1220-A | 12.50/Ea. |
| 1260 | 25.00/C |
| 1261 | 25.00/C |
| 1262 | 25.00/C |
| 1263 | 44.00/C |
| 1264 | 50.00/C |
| 1265 | 60.00/C |
| 1266 | 69.00/C |
| 1352 | 4.00/C |
| 1352-A | 4.50/C |
| 1352-B | 5.50/C |
| 1352-C | 5.25/C |
| 1353 | 5.50/C |
| 1353-A | 6.00/C |
| 1354 | 6.50/C |
| 1354-A | 6.90/C |
| 1354-B | 7.50/C |
| 1355 | 8.75/C |
| 1355-A | 8.75/C |
| 1355-B | 9.50/C |
| 1356 | 10.00/C |
| 1356-A | 10.25/C |
| 1356-B | 11.00/C |
| 1357 | 11.00/C |
| 1358 | 11.00/C |
| 1359 | 13.00/C |
| 1360 | 13.50/C |
| 1372 | 13.00/C |
| 1373 | 18.00/C |
| 1374 | 22.00/C |
| 1375 | 30.00/C |
| 1376 | 35.00/C |
| 1377 | 38.00/C |
| 1378 | 42.00/C |
| 1379 | 44.00/C |
| 1380 | 48.00/C |
| 1382 | 3.00/C |
| 1382-A | 3.25/C |
| 1382-B | 3.90/C |
| 1382-C | 3.75/C |
| 1383 | 4.00/C |
| 1383-A | 4.00/C |
| 1384 | 5.50/C |
| 1384-A | 5.90/C |
| 1384-B | 6.10/C |
| 1385 | 6.25/C |
| 1385-A | 6.50/C |
| 1385-B | 7.25/C |
| 1386 | 8.25/C |
| 1386-A | 9.00/C |
| 1386-B | 10.75/C |
| 1387 | 10.75/C |
| 1368 | 9.75/C |
| 1389 | 10.75/C |
| 1390 | 10.95/C |
| 1516 | 28.50/Ea. |
| 1716 | 42.00/Ea. |
| 1963 | 6.00/C |
| 1964 | 10.00/C |
| 1965 | 10.00/C |
| 1967 | 20.00/C |

| Cat. No. | Sug. List Price |
|---|---|
| 1968 | 10.00/C |
| 2000-M | 15.00/Ea. |
| 2025-25' | 1.35/Ea. |
| 2050-50' | 2.50/Ea. |
| 2051-C | 4.50/Ea. |
| 2052-M | 28.00/Ea. |
| 2100 | 1.65/Ea. |
| 2125 | .45/Ea. |
| 2500-E | 7.50/Ea. |
| 2611 | 45.00/C |
| 2617 | 60.00/C |
| 2650 | .56/Ea. |
| 3000 | |
| TO | |
| 3024 | 1.55/Ea. |
| 3025 | 1.35/Ea. |
| 3050 | 2.50/Ea. |
| 3051 | 4.50/Ea. |
| 3052 | 26.00/Ea. |
| 4025 | .85/Ea. |
| 4050 | 1.60/Ea. |
| 4051 | 2.80/Ea. |
| 4052 | 25.00/Ea. |
| 4125 | .50/Ea. |
| 4125-J | .58/Ea. |
| 4175 | 1.15/Ea. |
| 4175-J | 1.65/Ea. |
| 4176 | .73/Ea. |
| 4176-J | .97/Ea. |
| 4233 | 1.15/Ea. |
| 4234 | 1.25/Ea. |
| 4235 | 2.95/Ea. |
| 4236 | 3.25/Ea. |
| 4237 | 3.45/Ea. |
| 4238 | 4.50/Ea. |
| 4275 | .70/Ea. |
| 4275-J | 1.16/Ea. |
| 4276 | 1.50/Ea. |
| 4276-J | 1.75/Ea. |
| 4450 | 1.38/Ea. |
| 4450-J | 1.80/Ea. |
| 4451 | 1.17/Ea. |
| 4451-J | 1.55/Ea. |
| 4452 | 2.15/Ea. |
| 4452-J | 2.50/Ea. |
| 5000 | 1.65/Ea. |
| 5002 | 1.75/Ea. |
| 5003 | 2.40/Ea. |
| 5004 | .75/Ea. |
| 5005 | .85/Ea. |
| 5006 | 1.50/Ea. |
| 5007 | .90/Ea. |
| 5008 | 1.25/Ea. |
| 5009 | 1.50/Ea. |
| 5010 | 4.25/Ea. |
| 5011 | 4.25/Ea. |
| 5012 | 6.00/Ea. |
| 5040 | .23/Ea. |
| 5041 | .23/Ea. |
| 5042 | .24/Ea. |
| 5043 | .24/Ea. |
| 5044 | .24/Ea. |
| 5045 | .24/Ea. |
| 5046 | .24/Ea. |
| 5047 | .23/Ea. |
| 5050 | .35/Ea. |
| 5051 | .55/Ea. |
| 5052 | .56/Ea. |
| 5053 | .50/Ea. |
| 5070 | .50/Ea. |
| 5071 | .50/Ea. |
| 5075 | .30/Ea. |
| 5076 | .30/Ea. |
| 5080 | .50/Ea. |
| 5081 | .50/Ea. |
| 5085 | .50/Ea. |
| 5086 | .50/Ea. |
| 5090 | .55/Ea. |
| 5091 | .55/Ea. |
| 5095 | .36/Ea. |
| 5096 | .35/Ea. |
| 5105 | .45/Ea. |
| 5106 | .60/Ea. |
| 5110 | .60/Ea. |
| 5111 | .60/Ea. |
| 5130 | .20/Ea. |
| 5131 | .20/Ea. |
| 5132 | .25/Ea. |
| 5133 | .25/Ea. |
| 5134 | .25/Ea. |
| 5140 | .25/Ea. |
| 5141 | .40/Ea. |
| 5142 | .25/Ea. |
| 5143 | .60/Ea. |
| 5160 | .23/Ea. |
| 5161 | .25/Ea. |
| 5165 | .30/Ea. |
| 5166 | .30/Ea. |
| 5170 | .50/Ea. |
| 5171 | .30/Ea. |
| 5180 | .55/Ea. |
| 5181 | .55/Ea. |
| 5185 | .30/Ea. |
| 5190 | .17/Ea. |
| 5191 | .17/Ea. |
| 5195 | .55/Ea. |
| 5200 | .55/Ea. |
| 6100 | .65/Ea. |
| 6102 | .70/Ea. |
| 6103 | .84/Ea. |
| 6104 | .88/Ea. |
| 6105 | 9.10/Ea. |
| 6300 | 6.25/M |
| 6301 | 6.75/M |
| 6302 | 7.00/M |
| 6303 | 8.10/M |
| 6304 | 7.00/M |
| 6305 | 7.50/M |
| 6306 | 8.50/M |
| 6307 | 7.40/M |
| 6308 | 7.40/M |
| 6309 | 8.40/M |
| 6310 | 32.00/M |
| 6311 | 55.00/M |
| 6312 | 10.50/M |
| 6313 | 10.75/M |
| 6314 | 11.50/M |
| 6315 | 14.50/M |
| 6316 | 26.00/M |
| 6317 | 29.10/M |
| 6318 | 32.00/M |
| 6319 | 38.50/M |
| 6320 | 52.00/M |
| 6321 | 6.25/M |
| 6322 | 6.75/M |
| 6323 | 7.25/M |
| 6324 | 8.00/M |
| 6325 | 8.65/M |
| 6326 | 9.30/M |
| 6327 | 11.00/M |
| 6328 | 11.50/M |

| Cat. No. | Sug. List Price |
|---|---|
| 6329 | 16.50/M |
| 6330 | 9.00/M |
| 6331 | 9.00/M |
| 6332 | 8.60/M |
| 6333 | 8.80/M |
| 6334 | 9.70/M |
| 6335 | 11.50/M |
| 6336 | 20.00/M |
| 6337 | 27.50/M |
| 6338 | 35.00/M |
| 6339 | 50.00/M |
| 6350 | 10.00/M |
| 6350-A | 10.00/M |
| 6351 | 10.00/M |
| 6351-A | 10.00/M |
| 6352 | 10.00/M |
| 6352-A | 10.00/M |
| 6353 | 11.00/M |
| 6353-A | 11.00/M |
| 6354 | 13.50/M |
| 6354-A | 13.50/M |
| 6355 | 8.25/M |
| 6356 | 7.70/M |
| 6357 | 7.70/M |
| 6358 | 5.50/M |
| 6359 | 5.50/M |
| 6360 | 5.75/M |
| 6361 | 6.00/M |
| 6362 | 7.75/M |
| 6363 | 13.00/M |
| 6400 | 10.00/M |
| 6401 | 12.00/M |
| 6402 | 13.25/M |
| 6403 | 16.00/M |
| 6404 | 19.50/M |
| 6405 | 14.00/M |
| 6406 | 14.00/M |
| 6407 | 15.00/M |
| 6408 | 16.50/M |
| 6409 | 19.00/M |
| 6410 | 26.40/M |
| 6411 | 30.00/M |
| 6412 | 33.50/M |
| 6413 | 19.50/M |
| 6414 | 21.50/M |
| 6415 | 25.00/M |
| 6416 | 28.50/M |
| 6417 | 35.00/M |
| 6418 | 36.00/M |
| 6420 | 6.75/M |
| 6421 | 7.30/M |
| 6422 | 7.75/M |
| 6423 | 8.25/M |
| 6424 | 8.75/M |
| 6425 | 10.00/M |
| 6426 | 8.35/M |
| 6427 | 8.27/M |
| 6428 | 9.60/M |
| 6429 | 10.00/M |
| 6430 | 11.15/M |
| 6431 | 12.65/M |
| 6432 | 16.50/M |
| 6433 | 9.60/M |
| 6434 | 10.00/M |
| 6435 | 11.20/M |
| 6436 | 12.50/M |
| 6437 | 13.25/M |
| 6438 | 15.00/M |
| 6439 | 19.00/M |
| 6440 | 10.30/M |
| 6441 | 12.00/M |
| 6442 | 10.30/M |
| 6443 | 16.50/M |
| 6444 | 18.50/M |
| 6445 | 15.90/M |
| 6446 | 21.00/M |
| 6447 | 27.50/M |
| 6448 | 8.75/M |
| 6449 | 9.25/M |
| 6450 | 9.50/M |
| 6460 | 3.70/Gr. |
| 6461 | 3.96/Gr. |
| 6462 | 4.90/Gr. |
| 6463 | 5.50/Gr. |
| 6464 | 7.65/Gr. |
| 6465 | 8.55/Gr. |
| 6466 | 9.40/Gr. |
| 6470 | 2.30/Gr. |
| 6471 | 2.50/Gr. |
| 6472 | 2.60/Gr. |
| 6473 | 2.70/Gr. |
| 6474 | 3.00/Gr. |
| 6475 | 3.70/Gr. |
| 6476 | 4.00/Gr. |
| 6477 | 3.30/Gr. |
| 6478 | 3.30/Gr. |
| 6479 | 4.80/M |
| 6480 | 5.50/M |
| 6480-A | 4.80/M |
| 6481 | 6.00/M |
| 6482 | 9.10/M |
| 6483 | 15.00/M |
| 6484 | 4.95/M |
| 6485 | 4.65/M |
| 6486 | 5.20/M |
| 6487 | 5.20/M |
| 6488 | 7.50/M |
| 6490 | 5.50/M |
| 6491 | 5.50/M |
| 6492 | 6.00/M |
| 6493 | 7.75/M |
| 6494 | 13.00/M |
| 6494/1 | 13.00/M |
| 6494/2 | 13.00/M |
| 6500 | 2.00/Gr. |
| 6501 | 2.50/Gr. |
| 6502 | 2.75/Gr. |
| 6503 | 3.05/Gr. |
| 6504 | 3.35/Gr. |
| 6505 | 3.60/Gr. |
| 6506 | 3.90/Gr. |
| 6507 | 4.25/Gr. |
| 6510 | 2.75/Gr. |
| 6511 | 2.80/Gr. |
| 6512 | 3.20/Gr. |
| 6513 | 3.20/Gr. |
| 6514 | 3.20/Gr. |
| 6515 | 3.35/Gr. |
| 6516 | 3.50/Gr. |
| 6517 | 3.60/Gr. |
| 6518 | 3.20/Gr. |
| 6519 | 3.90/Gr. |
| 6525 | 1.55/Gr. |
| 6526 | 1.55/Gr. |
| 6527 | 1.55/Gr. |
| 6528 | 1.55/Gr. |
| 6529 | 1.55/Gr. |
| 6530 | 1.55/Gr. |
| 6531 | 1.55/Gr. |
| 6532 | 1.55/Gr. |
| 6533 | 1.55/Gr. |

| Cat. No. | Sug. List |
|---|---|
| 6534 | 3.35/Gr. |
| 6540 | 3.05/Gr. |
| 6541 | 2.65/Gr. |
| 6542 | 3.75/Gr. |
| 6543 | 3.90/Gr. |
| 6550-C | 28.00/C |
| 6550-M | 250.00/M |
| 6551-C | 29.60/C |
| 6551-M | 263.00/M |
| 6552-C | 16.10/C |
| 6552-M | 146.50/M |
| 6553-C | 16.70/C |
| 6553-M | 147.50/M |
| 6554-C | 20.00/C |
| 6554-M | 178.50/M |
| 6555-C | 18.25/C |
| 6555-M | 154.75/M |
| 6556-C | 18.75/C |
| 6556-M | 162.00/M |
| 6557-C | 18.90/C |
| 6557-M | 163.25/M |
| 6558-C | 22.95/C |
| 6558-M | 203.00/M |
| 6559-C | 19.50/C |
| 6559-M | 167.50/M |
| 6560-C | 21.50/C |
| 6560-M | 185.50/M |
| 6561-C | 25.50/C |
| 6561-M | 222.50/M |
| 6562-C | 21.00/C |
| 6562-M | 183.50/M |
| 6563-C | 20.50/C |
| 6563-M | 180.50/M |
| 6564-C | 16.50/C |
| 6564-M | 161.75/M |
| 6565-C | 17.75/C |
| 6565-M | 154.25/M |
| 6566-C | 23.95/C |
| 6566-M | 210.00/M |
| 6567-C | 23.50/C |
| 6567-M | 206.00/M |
| 6568-C | 21.50/C |
| 6568-M | 185.50/M |
| 6569-C | 19.60/C |
| 6569-M | 170.50/M |
| 6570-C | 26.85/C |
| 6570-M | 235.50/M |
| 6571-C | 21.65/C |
| 6571-M | 189.25/M |
| 6572-C | 29.40/C |
| 6572-M | 257.75/M |
| 6573-C | 30.95/C |
| 6573-M | 272.25/M |
| 6574-C | 22.50/C |
| 6574-M | 196.50/M |
| 6575-C | 24.40/C |
| 6575-M | 213.25/M |
| 6576-C | 21.25/C |
| 6576-M | 185.40/M |
| 6577-C | 27.25/C |
| 6577-M | 239.50/M |
| 6578-C | 33.75/C |
| 6578-M | 296.00/M |
| 6579-C | 31.00/C |
| 6579-M | 272.00/M |
| 6585-C | 14.95/C |
| 6585-M | 129.50/M |
| 6586-C | 16.25/C |
| 6586-M | 144.00/M |
| 6587-C | 18.00/C |
| 6587-M | 161.00/M |
| 6588-C | 19.15/C |
| 6588-M | 270.00/M |
| 6589-C | 24.00/C |
| 6589-M | 214.50/M |
| 6592-C | 9.35/C |
| 6592-M | 29.60/M |
| 6593-C | 4.15/C |
| 6593-M | 37.00/M |
| 6594-C | 3.65/C |
| 6594-M | 32.50/M |
| 6595-C | 4.15/C |
| 6595-M | 37.00/M |
| 6596-C | 5.20/C |
| 6596-M | 46.40/M |
| 6600 | 6.00/M |
| 6601 | 7.00/M |
| 6602 | 8.00/M |
| 6603 | 9.75/M |
| 6604 | 8.00/M |
| 6605 | 9.75/M |
| 6606 | 10.25/M |
| 6607 | 12.25/M |
| 6608 | 9.75/M |
| 6609 | 10.25/M |
| 6610 | 12.00/M |
| 6611 | 12.00/M |
| 6611-A | 14.50/M |
| 6612 | 11.00/M |
| 6613 | 11.00/M |
| 6614 | 12.00/M |
| 7028 | 3.00/Ea. |
| 7029 | 5.00/Ea. |
| 7030 | 45.00/Ea. |
| 7032 | .95/Ea. |
| 7033 | 5.95/Ea. |
| 7034 | 15.00/C |
| 7036 | 10.00/C |
| 7037 | 10.00/C |
| 7038 | 9.00/C |
| 7043-1 | 7.50/C |
| 7043-1½ | 7.75/C |
| 7043-2 | 8.00/C |
| 7043-3 | 10.00/C |
| 7049 | .85/Ea. |
| 7049-A | .85/Ea. |
| 7049-B | .85/Ea. |
| 7050 | .90/Ea. |
| 7061 | 1.55/Ea. |
| 7062 | 3.00/Ea. |
| 7063 | 14.00/Ea. |
| 7064 | 25.00/Ea. |
| 7080 | 1.68/Ea. |
| 7081 | 1.68/Ea. |
| 7082 | 2.10/Ea. |
| 7083 | 4.75/Ea. |
| 7084 | 2.10/Ea. |
| 7086 | 2.10/Ea. |
| 7088 | 2.10/Ea. |
| 7089 | 4.00/Ea. |
| 7389 | 235.00/Ea. |
| 7390 | 1525.00/Ea. |
| 7390-D | 145.00/Ea. |
| 7398-1M | 31.00/Ea. |
| 7398-2M | 165.90/Ea. |
| 7398-3M | 43.00/Ea. |
| 7400 | 675.00/Ea. |
| 7400-D | 45.00/Ea. |
| 7401-M | 236.15/Ea. |
| TK-1 | 91.75/Ea. |
| TK-2 | 84.25/Ea. |

C = 100 — M = 1000

* SUGGESTED RESALE PRICE

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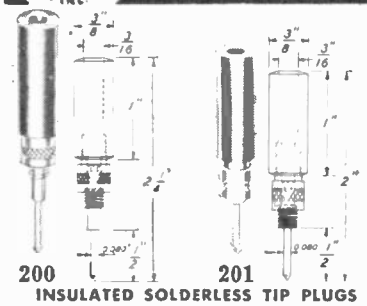
# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

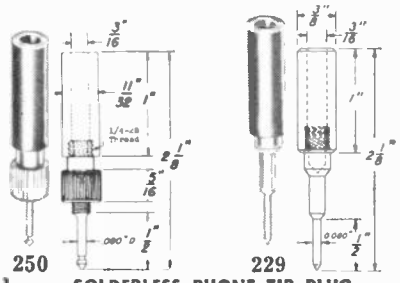


200 201

### INSULATED SOLDERLESS TIP PLUGS

Plug portion brass, nickel plated. Fits all standard phone tip jacks. Wire is wrapped around screw portion and tightened with knurled nut. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100

| | | |
|---|---|---|
| No. 200 | Senior Type | $25.00 Per C |
| No. 201 | Junior Type | $25.00 Per C |



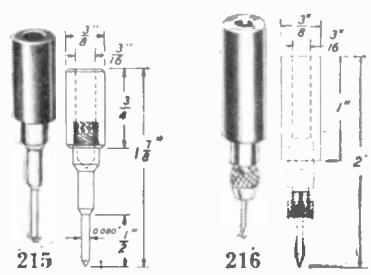
250 229

### SOLDERLESS PHONE TIP PLUG

Signal Corps Approved. Steel. Case hardened phone tip made to Signal Corps drawing and specs. Supplied with Rigid Thermoplastic handle to JAN specs. Available in Red or Black. Specify color.
No. 250 Std. pkg. 50 $90.00 Per C

### HEAVY DUTY INSULATED PHONE TIP PLUG

Plug portion brass, nickel plated. Fits all standard phone tip jacks.
Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.
No. 229 Std. pkg. 100 $25.00 Per C



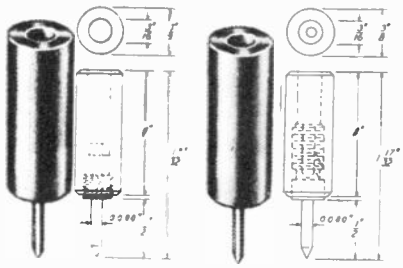
215 216

### BANANA PLUG TO TIP PLUG ADAPTER

Banana plug inserts in rear to adapt to phone tip plug. Plug portion brass, nickel plated. Fits all standard phone tip jacks. Plastic handle in Red, Black, Yellow or Green. Specify color.
No. 215 Std. pkg. 50 $25.00 Per C.

### INSULATED PHONO NEEDLE TIP PLUG

Brass, nickel plated. Removable chuck. Molded handle, Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 50
No. 216 $25.00 Per C



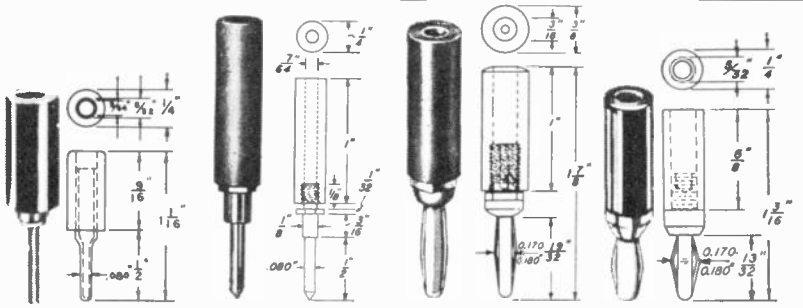
203 283

### INSULATED SHORT PHONE TIP PLUG

Plug portion brass, nickel plated. Fits all standard phone tip jacks. Tip inserts right up to handle. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.
No. 203 Std. pkg. 100 $20.00 Per C

### INSULATED SOLDERLESS SHORT TIP PLUG

Plug portion brass, nickel plated. Fits all standard phone tip Jacks. Tip inserts right up to handle. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify Color. Std. pkg. 50
No. 283 $22.00 Per C



237 270 295 291

### INSULATED SOLDER TYPE PHONE TIP

Brass nickel plated phone tip with insulated plastic handle. Embodies our No. 158 drawn tip. Available in Red or Black. Specify Color.
No. 237 Std. pkg. 100 $17.00 Per C

### SUB-MINIATURE PHONE TIP

Fits standard tip jacks. For checking all types of subminiature equipment. Brass, nickel plated tip Handle Red or Black bone fibre. Specify color.
No. 270 Std. pkg. 100 $30.00 Per C

### INSULATED SOLDERLESS BANANA PLUG

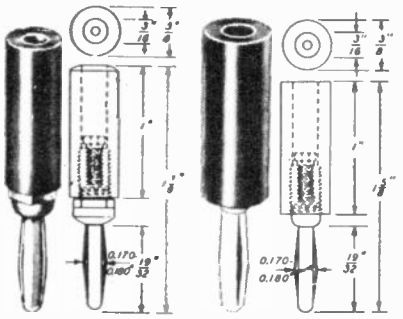
Plug portion Hexed Brass, Nickel Plated. Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 50

| No. | Spring Material | Plating | Per C |
|---|---|---|---|
| 295 | Phosphor Bronze | Nickel | $30.00 |
| 296 | Phosphor Bronze | Silver | 35.00 |
| 297 | Beryllium Copper | Nickel | 40.00 |
| 298 | Beryllium Copper | Silver | 45.00 |

### INSULATED MIDGET BANANA PLUG

Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into Plug. Available in Red or Black only. Specify color. Std. pkg. 50

| No. | Spring Material | Plating | Per C |
|---|---|---|---|
| 291 | Phosphor Bronze | Nickel | $30.00 |
| 292 | Phosphor Bronze | Silver | 35.00 |
| 293 | Beryllium Copper | Nickel | 40.00 |
| 294 | Beryllium Copper | Silver | 45.00 |



212 211

### INSULATED BANANA PLUGS

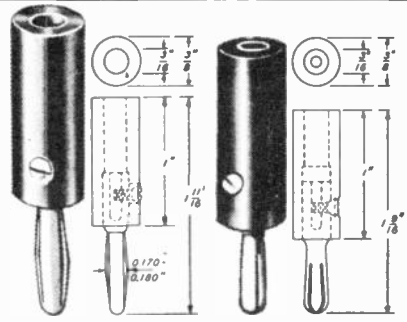
Plug portion hexed brass, nickel plated. Fits all standard Banana Jacks. Solder to stud or plug. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

| No. | Spring Material | Plating | Std. Pkg. | Per C |
|---|---|---|---|---|
| 212 | Phosphor Bronze | Nickel | 100 | $35.00 |
| 232 | Phosphor Bronze | Silver | 50 | 40.00 |
| 242 | Beryllium Copper | Nickel | 100 | 50.00 |
| 262 | Beryllium Copper | Silver | 50 | 55.00 |

### INSULATED BANANA PLUG

Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Wire can be soldered to stud or plug. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.

| No. | Spring Material | Plating | Std. Pkg. | Per C |
|---|---|---|---|---|
| 211 | Phosphor Bronze | Nickel | 100 | $30.00 |
| 261 | Phosphor Bronze | Silver | 50 | 35.00 |
| 271 | Beryllium Copper | Nickel | 25 | 40.00 |
| 281 | Beryllium Copper | Silver | 50 | 45.00 |



204 213

### INSULATED BANANA PLUG

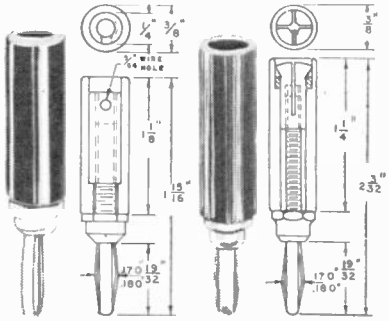
Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Set screw provided for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100
No. 204 $30.00 Per C

Same as above, supplied with nickel plated Beryllium Copper Spring, which maintains its resiliency after thousands of insertions.
No. 251 Std. pkg. 50 $45.00 Per C

Same as 204 except supplied with 1½" machined plastic handle in Red, Black, Yellow or Green. Specify Color. Std. pkg. 50
No. 244 $40.00 Per C

### INSULATED BANANA PLUG

Split Type. Plug portion brass, nickel plated; cross slotted. Set screw for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. specify color. Std. pkg. 100
No. 213 $30.00 Per C



236 239

Same as above except supplied with 1½" machined plastic handle in Red, Black, Yellow or Green. Specify Color. Std. pkg. 50
No. 243 $40.00 Per C

### INSULATED SOLDERLESS BANANA PLUG

Machined plastic handle. Plug portion hexed brass, nickel plated. Internal spacer brass, cadmium plated. Four leaved nickel plated phosphor bronze spring. Cross drilled hole in spacer enables quick solderless connection of wire to plug. Available in Red or Black. Specify Color. Std. pkg. 100.
No. 236 $55.00 Per C

### INSULATED BANANA PLUG WITH INTERNAL SPRING COLLET

Machined plastic handle. Plug portion hexed brass nickel plated. Collet is brass nickel plated. Four leaved phosphor bronze nickel plated spring.
SOLDERLESS—spring collet provides quick connect and disconnect of wire or standard phone tip. Available in Red or Black. Specify Color. Std. pkg. 50.
No. 239 $65.00 Per C



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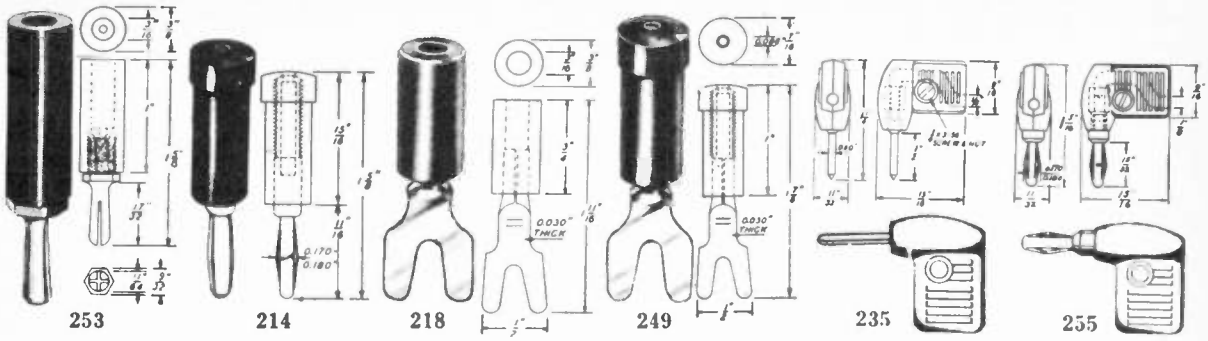



253 214 218 249 235 255

### INSULATED BANANA PLUG

Plug portion brass, nickel plated. Wire can be soldered to stud or plug. Molded plastic handle. Red, Black, Yellow, Green, Blue or White. Specify color.
No. 253 Std. pkg. 100 $30.00 Per C

### TIP PLUG TO BANANA PLUG ADAPTER

Fits all standard banana jacks. Plug portion four leaved phosphor bronze nickel plated. Tip jack in rear enables adapting tip plug to banana plug. Phosphor bronze tip jack spring. Available in Red, Black, Yellow or Green. Specify color.
No. 214 Std. pkg. 50 $50.00 per C

### INSULATED SPADE LUG

Adapts banana plug to a spade lug. Steel hot tinned lug .030" thick for extra durability. Molded plastic handle in Red or Black. Specify color. Std. pkg. 100

| | | |
|---|---|---|
| No. 218 | Complete | $18.00 Per C |
| No. 129 | Lug Only | $20.00 Per M |

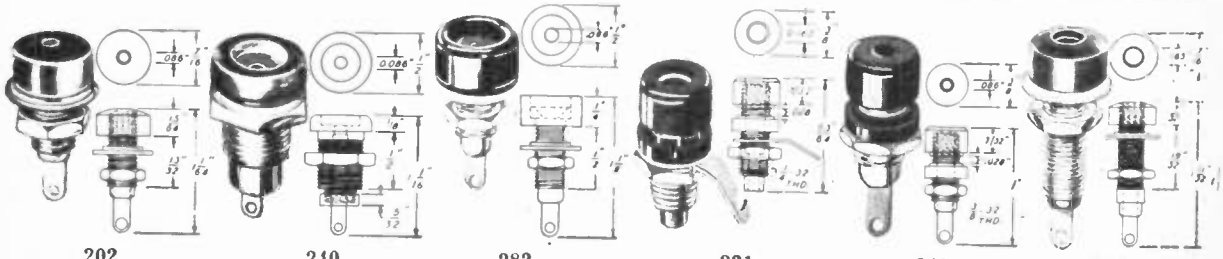
### PHONE TIP TO SPADE LUG ADAPTER

Tip jack in rear of handle enables insertion of a standard phone tip so that tip can be adapted to spade lug. Steel hot tinned lug .030 thick for extra durability. Available in Red or Black. Specify color. Std. pkg. 50
No. 249 $55.00 Per C

### MOLDED METER TIP AND BANANA PLUGS

Molded meter type plug molded in two halves for easy assembling with screw and nut. Brass nickel plated tips fit in all standard tip and banana jacks. Available in Red and Black. Specify color. Std. pkg. 50

| No. | Description | Each |
|---|---|---|
| 235 | Meter Tip Plug, Phone Tip Type | $ .45 |
| 235D | Display of 24 Pairs | $21.60 |
| 255 | Meter Tip Plug, Banana Tip Type | $ .60 |
| 255D | Display of 24 Pairs | $28.80 |



202 240 282 221 241 206

### INSULATED PHONE TIP JACKS

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to ⅜" thick. Molded bakelite head available in Red, Black, Yellow, Green, Blue or White.
No. 202 Std. pkg. 100 $22.00 Per C

Same as above with ½" o.d. machined plastic head. Available in Red, Black, Yellow or Green.
No. 223 Std. pkg. 50 $35.00 Per C

### MOLDED NYLON ALL INSULATED TIP JACK
**Rated at 4000 Volts AC**

This completely insulated phone tip jack accommodates all standard phone tips. Sturdy phosphor bronze contact. Mounts in ⅜" hole in panels up to 5/16" thick. Available in Red, Black, Yellow, Green or Blue. Specify color. Std. pkg. 100.
No. 240 $30.00 Per C

### METER TYPE INSULATED TIP JACK
**Recessed Head**

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to ⅜" thick. Jack body recessed to prevent shock or grounding. Molded bakelite head available in Red, Black, Yellow, Green or Blue.
No. 282 Std. pkg. 50 $25.00 Per C

### INSULATED MIDGET BANANA JACK
**Moulded Nylon Head & Insulating Washer**

Extruded portion of head and washer provide excellent insulation from panel. Accommodates all standard banana plugs. Brass nickel plated body. Mounts in 5/16" hole in panels up to ¼" thick. Available in Red, Black, Yellow, Green, or Blue. Specify color. Std. pkg. 100.
No. 221 $30.00 Per C

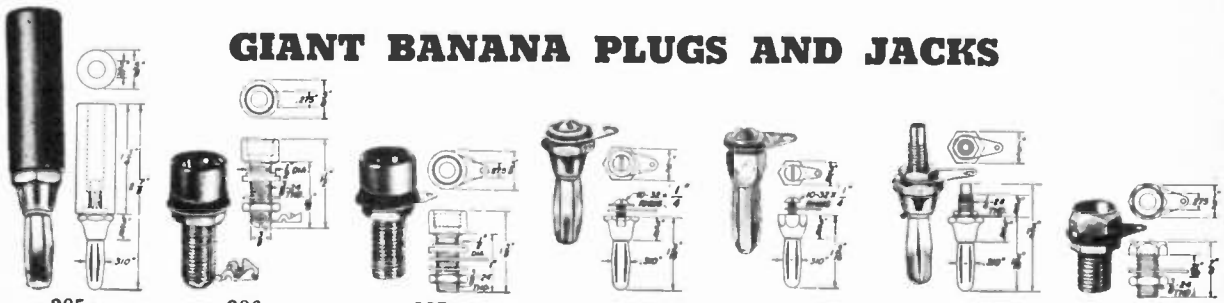
### INSULATED PHONE TIP JACK
**Moulded Nylon Head & Insulating Washer**

Extruded portion head and washer provides excellent insulation from panel. Accommodates all standard phone tip plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to ¼" thick. Red, Black, Yellow, Green or Blue. Specify color.
No. 241 Std. pkg. 100 $30.00 Per C

### INSULATED COMBINATION JACK

Accommodates all standard phone tip or banana plugs. Body is brass, nickel plated; contact is a sturdy phosphor bronze spring. Molded plastic head. Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100.
No. 206 $27.00 Per C

## GIANT BANANA PLUGS AND JACKS



285 286 287 186 188 185 187

### INSULATED GIANT BANANA PLUG

Large deep internal well for soldering heavy wire. Phosphor Bronze Spring. Entire plug portion nickel plated. Red or Black. Specify Color.

Std. pkg. 50

No. 285 $77.00 Per C

Recessed head for assembly from rear of panel. Mounts in 1/2" hole. Brass nickel plated body. Red or Black. Specify Color. Std. pkg. 50

| No. | Description | Per C |
|---|---|---|
| 286 | Lug at End | $70.00 |
| 287 | Lug Under Head | 70.00 |

### GIANT BANANA PLUGS

Internal Screw—Spring Type. Phosphor Bronze Spring — Nickel Plated Overall.

Std. pkg. 25

| | |
|---|---|
| No. 186 | $50.00 Per C |
| No. 188 | $50.00 Per C |

### GIANT BANANA PLUG
**Plug Portion of No. 285**

Large deep internal well for soldering heavy wire. Phosphor Bronze Spring. Brass nickel plated overall.

Std. pkg. 25

No. 185 $50.00 Per C

### GIANT BANANA JACK

Hexed Brass Head. Mounts in 3/8" hole. Brass nickel plated overall.

Std. pkg. 25

No. 187 $50.00 Per C

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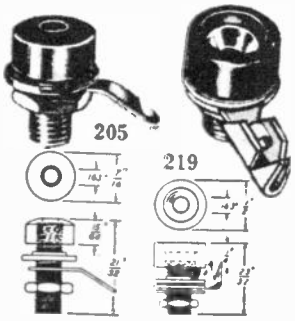



### INSULATED BANANA JACK

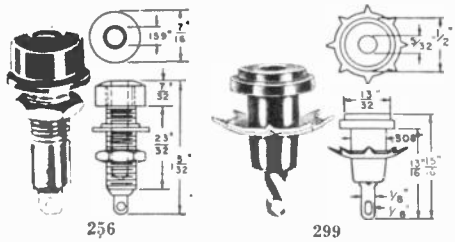
Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to ¾" thick. Molded plastic head. Red, Black, Yellow, Blue, White or Green. Specify color. Std pkg 100

**No. 205** — **$22.00 Per C**

### INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to ¾" thick. Molded plastic head. Red, Black, Yellow, Green or Blue. Specify color.

**No. 219** Std pkg 100 — **$25.00 Per C**




### INSULATED BANANA JACK
#### With Solder Tab

Accommodates all standard banana plugs. Body is brass, nickel plated and jack is supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 5/8" thick. Solder direct to brass, cadmium plated tab. Molded plastic head. Supplied in Red, Black, Yellow, Green, Blue or White. Specify Color. Std. pkg. 100.

**No. 256** — **$25.00 Per C**

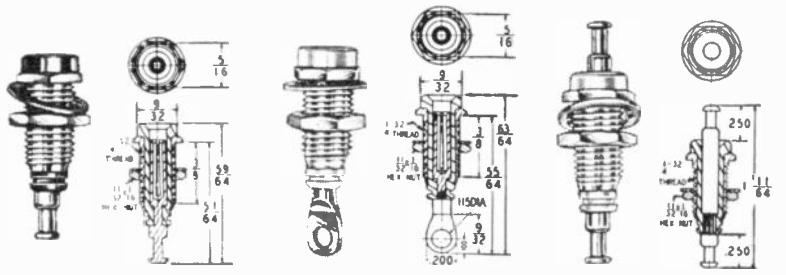
### ALL MOLDED "Speedi-Mount" PHONE TIP JACK

Accommodates all standard phone tip plugs. Phosphor bronze spring. Ingenious lockwasher, steel cadmium plated, permits fast assembly. Teeth embed into jack and panel, prevent pulling out and turning. Jack mounts in 5/16" hole, in panels up to 3/16" thick. Available in black and red. Specify color. Std. pkg. 100.

**No. 299** — 1 2/32" Head — **$11.00 Per C**

**No. 279** — 13/32" Head — **11.00 Per C**

## NYLON TIP JACK WITH METAL SHELL



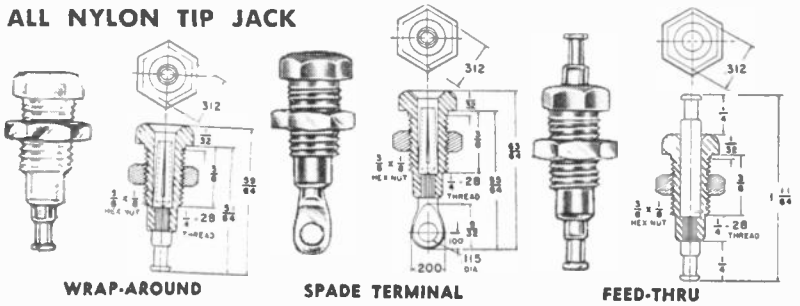
**WRAP-AROUND** — **SPADE TERMINAL** — **FEED-THRU**

**Molded Nylon Tip Jack.** Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements

1. Salt Spray Test—Withstands 100 hours
2. Rated Voltage & Current—1000 volt peak @ 5 amps. maximum
3. Test Voltage—2500 peak
4. Insulation Resistance—5000 megohms
5. Operating Conditions—
   A. Continuous, 23 hours on, 1 hour off
   B. Elevation: Up to 15,000 feet
   C. Temperature —55 to +85 C
   D. Humidity Up to 95%
6. Material Specifications—
   A. Insulator Nylon, Grade FM 10001
   B. Shell & Nut Brass Nickel Plated Per Spec 72-53
   C. Lockwasher: Phosphor Bronze Nickel Plated Per Spec 72-53
   D. Center Contact. Numbers 1501 and 1502 Heat Treated Bery. Copper Silver Plated per Spec 72-53. Number 1503 Brass, Tin Plated.
7. Non-Operating Conditions—
   A. Elevation: Up to 50,000 feet
   B. Temperature: Continuous exposure for 72 hours @ +160 F and 240 hours @ —80 F
   C. Humidity: Up to 100%
8. Meets MS-16108 Spec.
9. **Colors — Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.**

| No. | Type | Std. Pkg. | Per C |
|---|---|---|---|
| 1501 | Wrap Around | 25 | 53.00 |
| 1502 | Spade Terminal | 25 | 70.00 |
| 1503 | Feed Through | 25 | 65.00 |

## ALL NYLON TIP JACK

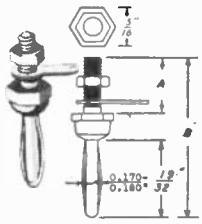


**WRAP-AROUND** — **SPADE TERMINAL** — **FEED-THRU**

**Completely Molded Nylon Jack.** Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in ¼" hole in panels up to ¼" thick. Meets following requirements.

1. Salt Spray Test—Withstands 100 hours
2. Rated Voltage & Current—1000 volts peak at 5 amps max.
3. Test Voltage—9000 volts DC peak
4. Insulation Resistance—5000 megohms
5. Operating Temperature— —55 to +150 C
6. Nominal Capacity—2.0 mmf
7. Material Specifications—
   A. Body: Nylon, Grade FM 10001
   B. Center Contact: Numbers 1505 and 1506 Heat Treated Beryllium Copper Silver plated per Spec 72-53. Number 1507 Brass, Tin Pl.
   C. Hex Nut: Brass Nickel Plated.
8. **Colors — Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.**

| No. | Type | Std. Pkg. | Per C |
|---|---|---|---|
| 1505 | Wrap Around | 25 | 45.00 |
| 1506 | Spade Terminal | 25 | 50.00 |
| 1507 | Feed Through | 25 | 47.00 |



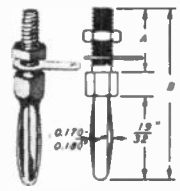
### BANANA PLUGS

Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs. Std. pkg. 50

| PHOS. BR. SPRING Nickel Plated Overall No. | Per C | A | | B | BERYL. COP. SPRING Nickel Plated Overall No. | Per C |
|---|---|---|---|---|---|---|
| 431 | $25.00 | 6-32 | x ¾" | 1-3/32" | 443 | $30.00 |
| 432 | 25.00 | 6-32 | x ½" | 1-7/32" | 444 | 30.00 |
| 433 | 25.00 | 6-32 | x ¾" | 1-11/32" | 445 | 30.00 |
| 434 | 25.00 | 8-32 | x ¾" | 1-3/32" | 446 | 30.00 |
| 435 | 25.00 | 8-32 | x ½" | 1-7/32" | 447 | 30.00 |
| 436 | 25.00 | 8-32 | x ¾" | 1-11/32" | 448 | 30.00 |

| PHOS. BR. SPRING Silver Plated Overall | | A | | B | BERYL. COP. SPRING Silver Plated Overall | |
|---|---|---|---|---|---|---|
| 437 | $30.00 | | | | 449 | $35.00 |
| 438 | 30.00 | 6-32 | x ¾" | 1-3/32" | 450 | 35.00 |
| 439 | 30.00 | 6-32 | x ½" | 1-7/32" | 451 | 35.00 |
| 440 | 30.00 | 6-32 | x ¾" | 1-11/32" | 452 | 35.00 |
| 441 | 30.00 | 8-32 | x ¾" | 1-3/32" | 453 | 35.00 |
| 442 | 30.00 | 8-32 | x ½" | 1-7/32" | 454 | 35.00 |
| | | 8-32 | x ¾" | 1-11/32" | | |

### BANANA PLUGS

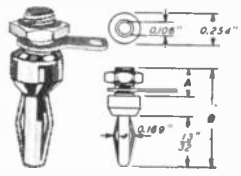


Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs. Std. pkg. 50

| PHOS. BR. SPRING Nickel Plated Overall No. | Per C | A | | B | BERYL. COP. SPRING Nickel Plated Overall No. | Per C |
|---|---|---|---|---|---|---|
| 401 | $25.00 | 6-32 | x ¾" | 1-7/32" | 414 | $30.00 |
| 403 | 25.00 | 6-32 | x ½" | 1-11/32" | 415 | 30.00 |
| 404 | 25.00 | 6-32 | x ¾" | 1-15/32" | 416 | 30.00 |
| 405 | 25.00 | 8-32 | x ¾" | 1-7/32" | 417 | 30.00 |
| 406 | 25.00 | 8-32 | x ½" | 1-11/32" | 418 | 30.00 |
| 407 | 25.00 | 8-32 | x ¾" | 1-15/32" | 419 | 30.00 |

| PHOS. BR. SPRING Silver Plated Overall | | A | | B | BERYL. COP. SPRING Silver Plated Overall | |
|---|---|---|---|---|---|---|
| 408 | $30.00 | 6-32 | x ¾" | 1-7/32" | 420 | $35.00 |
| 409 | 30.00 | 6-32 | x ½" | 1-11/32" | 421 | 35.00 |
| 410 | 30.00 | 6-32 | x ¾" | 1-15/32" | 422 | 35.00 |
| 411 | 30.00 | 8-32 | x ¾" | 1-7/32" | 423 | 35.00 |
| 412 | 30.00 | 8-32 | x ½" | 1-11/32" | 424 | 35.00 |
| 413 | 30.00 | 8-32 | x ¾" | 1-15/32" | 425 | 35.00 |

### MIDGET BANANA PLUG



Fits all standard banana jacks. One piece construction with threaded stud for panel mounting. Supplied with phosphor bronze or beryllium copper spring. Plated to Govt. Specs.

Std. pkg. 50

| PHOS. BR. SPRING Nickel Plated Overall No. | Per C | A | | B | BERYL. COP. SPRING Nickel Plated Overall No. | Per C |
|---|---|---|---|---|---|---|
| 460 | $25.00 | 4-40 | x ¾" | 15/16" | 468 | $30.00 |
| 461 | 25.00 | 4-40 | x ½" | 1-1/16" | 469 | 30.00 |
| 462 | 25.00 | 6-32 | x ¾" | 15/16" | 470 | 30.00 |
| 463 | 25.00 | 6-32 | x ½" | 1-1/16" | 471 | 30.00 |

| PHOS. BR. SPRING Silver Plated Overall | | A | | B | BERYL. COP. SPRING Silver Plated Overall | |
|---|---|---|---|---|---|---|
| 464 | $30.00 | 4-40 | x ¾" | 15/16" | 472 | $35.00 |
| 465 | 30.00 | 4-40 | x ½" | 1-1/16" | 473 | 35.00 |
| 466 | 30.00 | 6-32 | x ¾" | 15/16" | 474 | 35.00 |
| 467 | 30.00 | 6-32 | x ½" | 1-1/16" | 475 | 35.00 |

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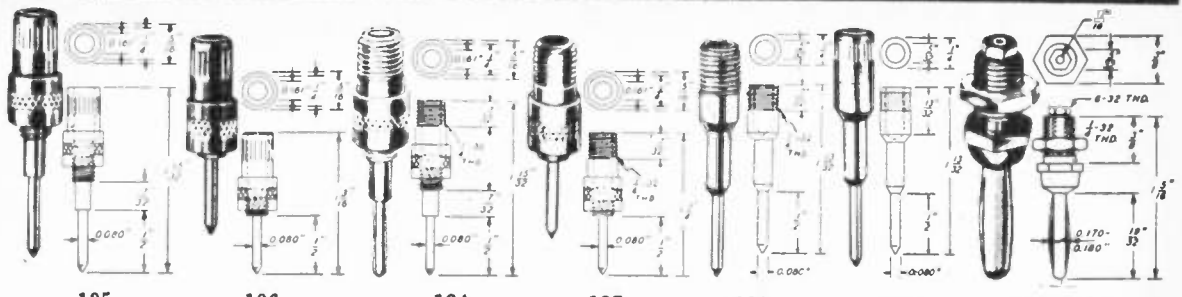
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**



105 106 124 127 125 156 135 — 145

## SOLDERLESS PHONE TIP PLUGS

Brass, nickel plated. Wire is wrapped around screw portion, and tightened with knurled nut. Fits standard phone tip jacks. Std. pkg. 100

| | | |
|---|---|---|
| No. 105 | Senior Type | $17.00 Per C |
| No. 106 | Junior Type | $16.00 Per C |

## THREADED SOLDERLESS PHONE TIPS

Brass, nickel plated. Wire is wrapped around screw portion and tightened with knurled nut. Threaded for easy insertion in plastic handles. Fits standard phone tip jacks. Std. pkg. 100

| | | |
|---|---|---|
| No. 124 | Senior Type | $20.00 Per C |
| No. 127 | Junior Type | $19.00 Per C |

## HEAVY DUTY PHONE TIP PLUGS

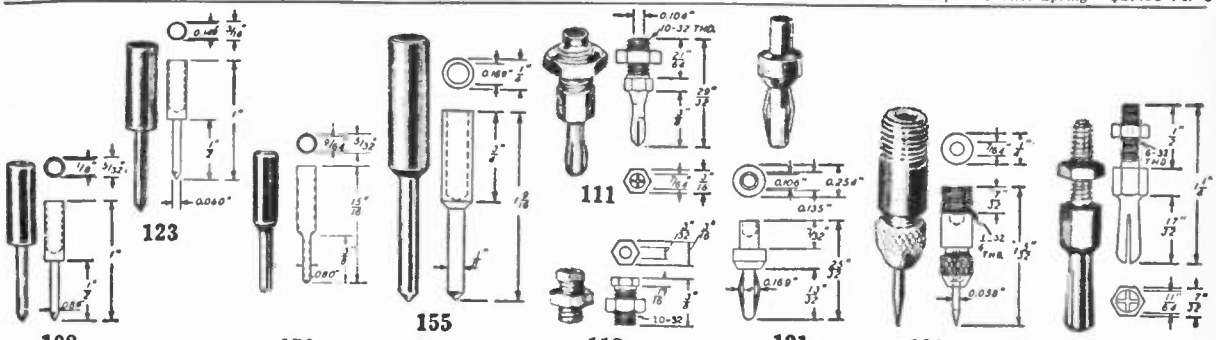
Brass nickel plated, extra sturdy construction; fit all standard phone tip jacks. Rear of plug also accepts standard banana plugs.

| No. | Type | Std. Pkg. | Per C. |
|---|---|---|---|
| 125 | Threaded | 50 | $17.00 |
| 156 | Force Fit | 50 | $17.00 |

## BANANA PLUGS — Spring Type

Hexed brass, nickel plated. Beryllium spring retains resiliency after thousands of insertions. Wire can be soldered to stud or plug. Supplied with hex nut. Std. pkg. 50

| | | |
|---|---|---|
| No. 135 | Beryllium Copper Spring | $45.00 Per C |
| No. 145 | Phosphor Bronze Spring | $27.00 Per C |



108 123 158 155 111 112 121 128 104

## SOLDER TYPE PHONE TIPS

Brass nickel plated. Std. pkg. 100

| | | |
|---|---|---|
| No. 108 | Standard Type | $ 35.00 Per M |
| No. 123 | Large I.D. Type | $ 44.00 Per M |
| No. 155 | Heavy Duty Type | $110.00 Per M |

## DRAWN HOLLOW SOLDER TIP

Designed to insure maximum solder deep well contact. Brass, nickel plated. Extra sturdy construction. Std. pkg. 100

No. 158 $25.00 Per M

## MIDGET BANANA PLUG AND JACK

For use in minimum of space. The plug is cross slotted. Plug and jack are brass, nickel plated. Std. pkg. 100

| | | |
|---|---|---|
| No. 111 | Plug | $17.00 Per C |
| No. 112 | Jack | $13.00 Per C |

## MIDGET BANANA PLUG Rivet Type

Brass, silver plated. Four leaved phosphor bronze spring. Fits all standard banana jacks. Also made to rigid JAN specs. Std. pkg. 100

No. 121 $27.00 Per C

## NEEDLE TIP AND CHUCK

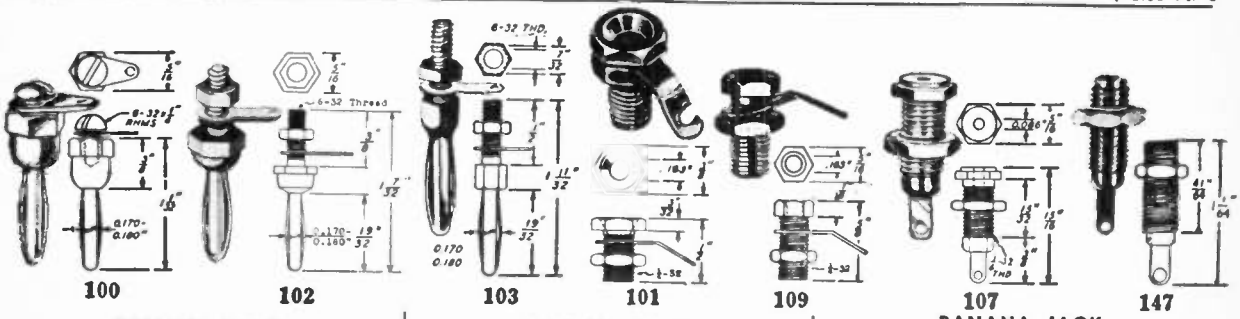
Brass nickel plated body, with steel nickel plated needle. Removable chuck. Threaded for easy insertion in plastic handles. Std. pkg. 50.

No. 128 $22.00 Per C

## BANANA PLUG — Split Type

Hexed brass, nickel plated. Cross slotted for positive and lasting contact. Fits all standard banana jacks. One-piece construction. 6-32 hex nut. Std. pkg. 100

No. 104 $22.00 Per C



100 102 103 101 109 107 147

## BANANA PLUG

Hexed brass, nickel plated. Spring is four-leave phosphor bronze, nickel plated. Plug supplied with screw and phosphor bronze tinned lug. Internal female permits use of this plug on all size panels.

No. 100 Std. pkg. 100 $25.00 Per C

## BANANA PLUG

Hexed brass, nickel plated. Four-leaved phosphor bronze spring, nickel plated. 6-32 hex nut.

No. 102 Std. pkg. 100 $25.00 Per C

## BANANA PLUG

Hexed brass, nickel plated. Four leaved phosphor bronze spring, nickel plated. 6-32 hex nut.

No. 103 Std. pkg. 100 $25.00 Per C

## BANANA JACK

Hexed brass, nickel plated jack with recessed head. Recommended for use with No. 100 banana plug but accommodates all standard banana plugs.

No. 101 Std. pkg. 100 $17.00 Per C

## BANANA JACK

Hexed brass, nickel plated. Mounts in ¼" hole and fits panels up to ⅜" thick. Accommodates all standard banana plugs.

No. 109 Std. pkg. 100 $17.00 Per C

## PHONE TIP JACK

Body is brass, nickel plated, with internal phosphor bronze spring for positive contact. Mounts in ¼" hole in panels up to ⅜" thick. ¼-32 hex nut.

No. 107 Std. pkg. 100 $17.00 Per C

## HEADLESS PHONE TIP JACK

Jack body is screwed into instrument body. Nickel Plated. Phosphor bronze spring. Supplied with hex nut.

No. 147 Std. pkg. 100 $10.00 Per C

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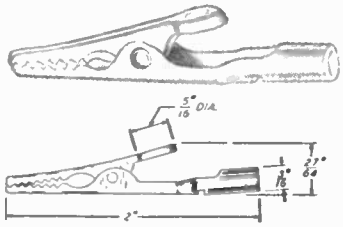
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## ALLIGATOR CLIP

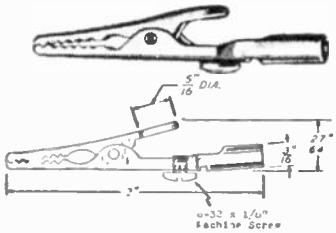



**300**

Steel, cadmium plated. Jaws match accurately for firm grip. Banana plug fits in rear of alligator clip. Std. pkg. 100

**No. 300** — **$8.50 Per C**

## ALLIGATOR CLIP—Screw Type

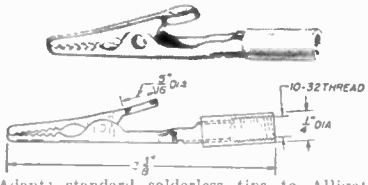



**350** **360**

Steel, cadmium plated. Jaws match accurately for firm grip. Supplied with screw for solderless connection. Std. pkg. 100

| | | |
|---|---|---|
| **No. 350** | Steel Cad. Pl. | **$ 9.50 Per C** |
| **No. 360** | Copper | **$15.00 Per C** |

## ALLIGATOR CLIP ADAPTER




Adapts standard solderless tips to Alligator Clip. This novel quick adapter is a must for all types of bench work! Std. pkg. 50

**No. 310** — **$25.00 Per C**

## BANANA PLUG SPLICE

This splice receptacle accommodates all standard banana type plugs. Invaluable for quick splicing connections. Supplied in Red, Black, Yellow, or Green colors. Specify color.

**No. 245** Std. pkg. 25 — **$0.40 Ea.**

## PHONE TIP PLUG SPLICE

Accommodates all standard phone tip plugs. Invaluable for quick splicing connections or for test lead extension. Supplied in Red, Black, Yellow or Green. Specify color.

**No. 246** Std. pkg. 50 — **$0.45 Ea.**

## IN-LINE BANANA JACK

Accommodates all standard tip plugs. Suitable for test lead extension where long leads are required. Supplied in Red, Black, Yellow or Green. Specify Color.

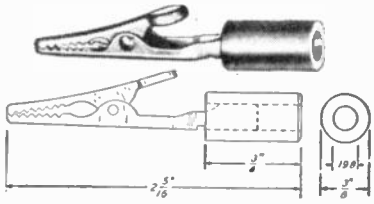
**No. 251** Std. pkg. 50 — **$0.35 Ea.**

## IN-LINE PHONE TIP JACK

Accommodates all standard phone tip plugs. Suitable for test lead extension where long leads are required. Supplied in Red, Black, Yellow or Green. Specify color.

**No. 248** Std. pkg. 50 — **$0.35 Ea.**

## INSULATED ALLIGATOR CLIP

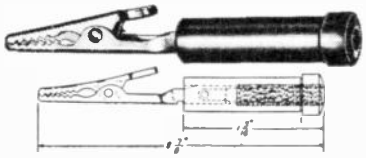



**301** **306**

Embodies our No. 300 steel cadmium plated alligator clip with molded plastic Red or Black handle. Specify color.

| | | Std. Pkg. | |
|---|---|---|---|
| **No. 301** | 3/4" Handle | 100 | **$14.00 Per C** |
| **No. 306** | 1 1/2" Handle | 50 | **$35.00 Per C** |

## PHONE TIP OR BANANA PLUG TO ALLIGATOR CLIP ADAPTER




No. 300 alligator clip with No. 206 comb. phone tip and banana plug jack in rear of handle. Adapts phone tips and banana plugs to alligator clips. Red or Black. Specify color.

**No. 305** Std. pkg. 50 — **$65.00 Per C**

Same, except with No. 360 screw type copper alligator clip. Std. pkg. 25

**No. 335** — **$70.00 Per C**

## ALL INSULATED ALLIGATOR CLIP

Steel Cadmium plated alligator clip. All metal parts covered with vinyl plastic insuring against shock. Solder Type connection. Red or Black. Specify color. Std. pkg. 25

**No. 337** — **$0.80 Ea.**

## ALL INSULATED PHONE TIP TO ALLIGATOR CLIP ADAPTER

Steel Cadmium plated Alligator clip with spring in rear of handle enabling the adapting of standard phone tip plugs to alligator clips. All metal parts covered with molded plastic insuring against shock. Red or Black. Specify color.

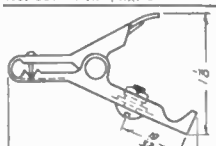
**No. 336** Std. pkg. 25 — **$1.00 Ea.**

## ALLIGATOR CLIP INSULATOR

Flexible vinyl plastic insulator for all Alligator Clips. Complete insulation against shock or grounding. Supplied in Red or Black. Specify color.

**No. 331** Std. pkg. 100 — **$12.00 per C**

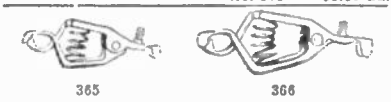
## TL 137 TEST CLIP




**Signal Corps Apprvd.** Linemans Test Clip made in accordance with Gov't Specs. Steel Spring. Phosphate finish — Clip nickel plated. 3/4" jaw opening.

Std. pkg. 25

**No. 315** — **$0.65 Ea.**



365 366

## BATTERY TEST CLIP — Midget Size

Steel, cadmium plated, for radio and ignition work, etc. Jaws have meshing teeth. Jaw spread 1/2", 7 lb. spring, 1 1/2" long, 5 amp. capacity. Std. pkg. 100

**No. 365** — **$10.50 Per C**

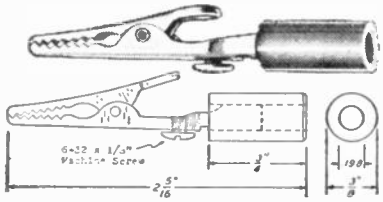
## BATTERY TEST CLIP — Small Size

For general testing and radio use. Steel, Electroplated. Jaws have meshing teeth. Jaw spread 3/8", 10 lb. spring, 2" long, 10 amp. capacity. Std. pkg. 100

**No. 366** — **$11.00 Per C**

## INSULATED ALLIGATOR CLIP

Screw Type

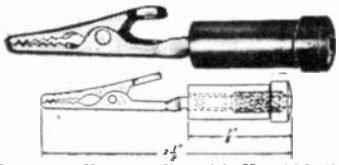



**351**

Screw type. Embodies our No. 350 steel, cadmium plated screw type alligator clip with molded plastic Red or Black handle. Specify color. Std. pkg. 100

| | | |
|---|---|---|
| **No. 351** | Steel | **$16.00 Per C** |
| **No. 361** | Copper | **$21.00 Per C** |

## PHONE TIP TO ALLIGATOR CLIP ADAPTER



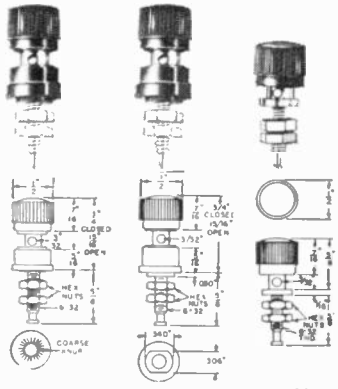

No. 300 Alligator clip with No. 202 tip jack in rear of handle, adapts phone tip plugs to alligator clips. Red or Black. Specify color.

**No. 304** Std. pkg. 50 — **$55.00 Per C**

Same, except with No. 360 screw type copper alligator clip.

**No. 334** Std. pkg. 25 — **$60.00 Per C**

## MOLDED NYLON BINDING POSTS




**377** **378** **379**

Molded Nylon head and washer. Brass, Nickel Plated bushing in head and washer. Captive Head. Supplied in Black or Red. Specify Color.

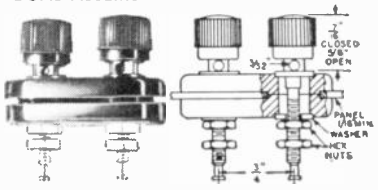
**No. 377** Grounds to Panel but supplied with nylon washer for uniformity of height with No. 378 when used on same panel. Can be insulated from panel by using our No. 2150 shoulder washer and No. 2162 flat washer.

**No. 378** BOSS WASHER insulates post from chassis when used with bakelite washer supplied.

**No. 379** Can be insulated from Panel by using our No. 2150 shoulder washer. Std. pkg. 100.

| No. | DESCRIPTION | Per C |
|---|---|---|
| 377 | Ribbed Washer | $40.00 |
| 378 | Bossed Washer | 40.00 |
| 379 | Metal Washer | 30.00 |

## DUAL ASSEMBLY WITH NYLON HEADS




Std. pkg. 10

| No. | DESCRIPTION | EACH |
|---|---|---|
| 284BB | Two Black Heads | $1.05 |
| 284RR | Two Red Heads | 1.05 |
| 284RB | One Red, One Black Head | 1.05 |



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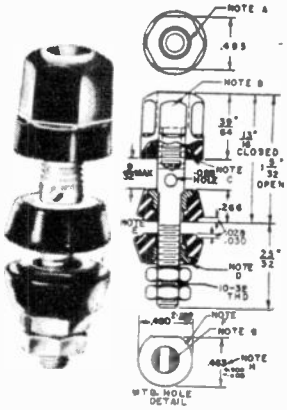
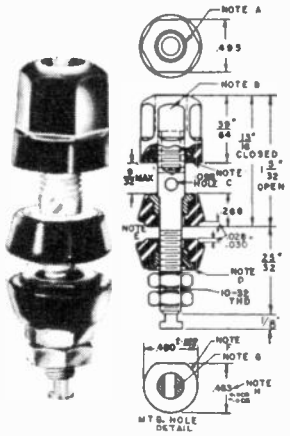
## SMITH MULTI-PURPOSE BINDING POSTS



2000 V.A.C., RMS, 30 Amps. Molded Phenolic. Brass or Nickel per Spec. QQ-N-290, Type VII. Std. Pkg. 100 each color.

**NOTES:**

A. Banana Plug Receptacle, .161 I.D.
B. Head non-removable from Stud.
C. Molded in Brass Bushing in Head.
D. Molded-in Brass Bushing in Washers.
E. For Panels 1/16" to 1/4" thick.
F. Drill 1/2" hole for mounting washers.
G. Wire Hole is at right angle to Flat on insulated Washers.
H. Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)



### "STANDARD" TYPE

Solder connect to lug attached to post*

| No. | Color | Description | Per C |
|---|---|---|---|
| 267R | Red | Plain Brass | $60.00 |
| 267B | Black | Plain Brass | 60.00 |
| 268R | Red | Nickel Plated | 70.00 |
| 268B | Black | Nickel Plated | 70.00 |

Std. pkg. 100

*Use SMITH #1485-10 or 1486-10 phosphor bronze tinned solder lugs for solder connection to standard type post. See page U-1577.

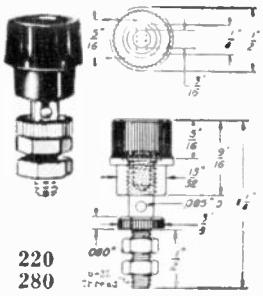
### "WRAP-AROUND" TYPE

Direct Solder Connection to Wrap-around stud.

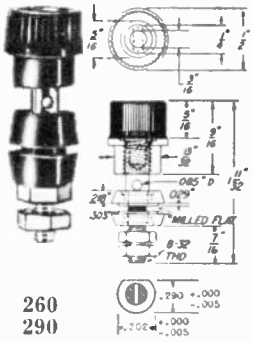
| No. | Color | Description | Per C |
|---|---|---|---|
| 257R | Red | Plain Brass | $60.00 |
| 257B | Black | Plain Brass | 60.00 |
| 258R | Red | Nickel Plated | 70.00 |
| 258B | Black | Nickel Plated | 70.00 |

Std. pkg. 100

## FIVE WAY COMBINATION BINDING POSTS



220
280



260
290

### GROUNDING TYPE

Molded plastic non-removable head. Can be completely insulated from panel with our No. 2155 shoulder washer and No. 2163 flat washer. Body brass, nickel plated. Available in Red or Black. Specify color. Std. pkg. 100

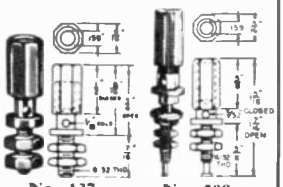
| No. | Type | Per C |
|---|---|---|
| 220 | | $30.00 |
| 280 | Same as above with Metal Insert in Head | $40.00 |

### ALL INSULATED TYPE

Molded plastic non-removable head. Molded insulated washers completely insulate this post from panel. Mounts in 5/16" panel with mill slot for locking available in Red or Black. Specify color. Std. pkg. 100.

| No. | Type | Per C |
|---|---|---|
| 260 | | $45.00 |
| 290 | Same as above with Metal Insert in Head | $55.00 |

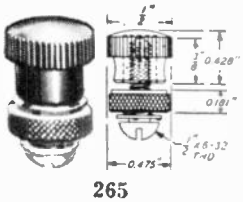
## FIVE WAY METAL BINDING POSTS



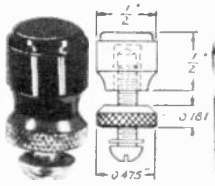
No. 137 No. 208

Free turning hexagon captive head. This varied purpose post will accept for checking purposes a phone tip, spade lug, banana plug, alligator clip or wire. Can be insulated from panel by use of our No. 2155 fibre shoulder washer and No. 2163 flat fibre washer. Brass, nickel plated. Std. pkg. 100

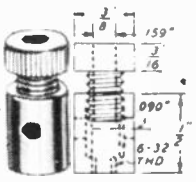
| No. | Per C |
|---|---|
| 137 | $30.00 |
| 208 | 30.00 |



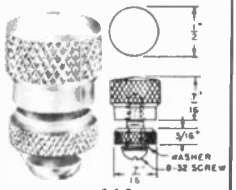
265



266



136



110

### BINDING POST

Molded-in brass insert in molded bakelite head supplied only in black. Brass, nickel plated retaining washer. Supplied complete with 8/32" x 1/2" screw and lockwasher. Red or Black.

No. 265 Std. pkg. 100 — $27.00 Per C

### BINDING POST

Molded-in brass insert in molded bakelite head. Brass, nickel plated retaining washer. Supplied complete with 8/32" x 1/2" screw and lock washer. Red or Black. Specify color.

No. 266 Std. pkg. 100 — $20.00 Per C

### METAL COMBINATION BINDING POST

This two piece brass nickel plated all metal binding post accepts all standard phone tip or banana plugs. Mounts to chassis by use of 6-32 screw.

No. 136 Std. pkg. 50 — $20.00 Per C

### METAL BINDING POST

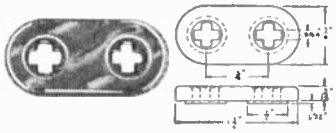
Made of brass, heavily nickel plated overall. Supplied complete with screw and lockwasher.

No. 110 Std. pkg. 25 — $25.00 Per C

## DUAL BINDING POST ASSEMBLIES

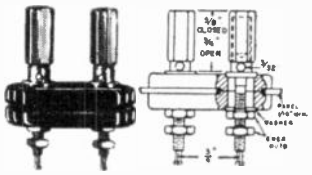
Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates Single or Dual Banana Plugs. Captive Heads. Supplied with 2 black molded styrene insulators which completely insulate and lock the assembly from the panel. Cross slot (+) in washers permit mounting of binding posts so that cross drilled hole in post will accept standard phone tips either forward and back or sideways. Complete assembly consists of 2 binding posts, 4 hex nuts, 2 flat washers and 2 styrene insulators. Insulator can be supplied in colors on special order.

### BLACK STYRENE INSULATOR



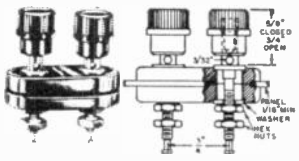
No. 207 Std. pkg. 100 — $10.00 Per C

### DUAL ASSEMBLY WITH METAL HEADS



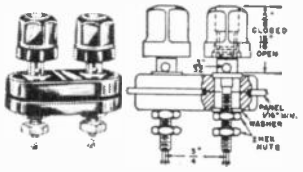
No. 209 Std. pkg. 10 — $1.20 Ea.

### DUAL ASSEMBLY WITH INSULATED HEADS



Std. pkg. 10

| No. | DESCRIPTION | Each |
|---|---|---|
| 224BB | Two Black Heads | $1.00 |
| 224RR | Two Red Heads | 1.00 |
| 224RB | One Red, One Black Head | 1.00 |



Std. pkg. 10

| No. | DESCRIPTION | Each |
|---|---|---|
| 269BB | Two Black Heads | $1.10 |
| 269RR | Two Red Heads | 1.10 |
| 269RB | One Red, One Black Head | 1.10 |

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**ALL PRICES SUBJECT TO TRADE DISCOUNT**

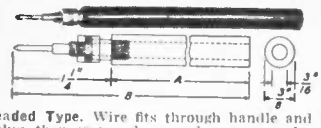


World Radio History

# HERMAN H. SMITH, INC.

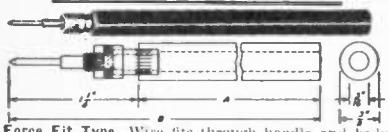
**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## SOLDERLESS TEST PRODS



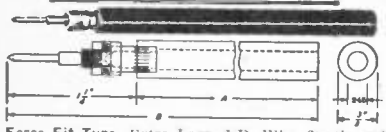
**Threaded Type.** Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip with Red or Black Molded plastic handle. Specify color.

| No. | Handle (A) | Overall (B) | Std. Pkg. | Each |
|---|---|---|---|---|
| 302 | 4" (Molded) | 5¼" | 50 | $0.50 |
| 303 | 5½" (Machined) | 6¾" | 25 | .55 |



**Force Fit Type.** Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip with Red or Black MOLDED Plastic handle. Specify color.

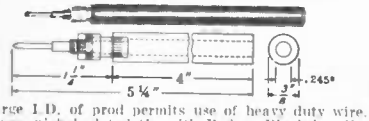
| | | | | |
|---|---|---|---|---|
| 382 | 4" (Molded) | 5¼" | 50 | $0.40 |
| 383 | 5½" (Machined) | 6¾" | 25 | .45 |



**Force Fit Type.** Extra Large I.D. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip with extra large I.D. Red or Black Tenite Plastic Handle. Specify color.

| | | | | |
|---|---|---|---|---|
| 352 | 4" | 5¼" | 50 | $0.40 |
| 353 | 5½" | 6¾" | 25 | .45 |

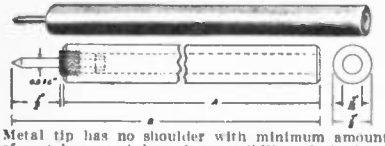
## SOLDERLESS FIBRE TEST PROD



Large I.D. of prod permits use of heavy duty wire. Brass, nickel plated tip with Red or Black handle. Specify color.

No. 323 Std. Pkg. 50 — $0.50 Each

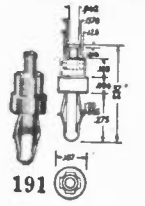
## SHORT TIP TEST PROD



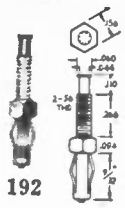
Metal tip has no shoulder with minimum amount of metal exposed lessening possibility of shock or grounding. Brass, nickel plated tip with Red or Black MOLDED Plastic handle. Specify color.

| No. | Handle (A) | Overall (B) | Std. Pkg. | Each |
|---|---|---|---|---|
| 363 | 4" (Molded) | 4½" | 50 | $0.35 |
| 364 | 5½" (Machined) | 6" | 25 | .40 |

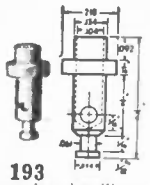
## SUB-MINIATURE BANANA PLUGS AND JACKS



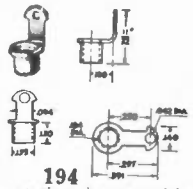
191



192



193



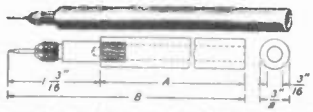
194

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

| No. | Description | Per C. |
|---|---|---|
| 191 | Rivet Type Plug | $30.00 |
| 192 | Screw Type Plug | 35.00 |
| 193 | Force Fit Jack | 15.00 |
| 194 | Rivet Type Jack | 1.50 |

Std. pkg. 50

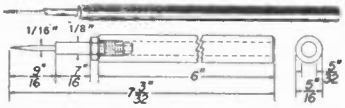
## PHONO NEEDLE TEST PROD



Brass, nickel plated body with steel, nickel plated needle. Removable chuck for replacing broken needles. Red or Black MOLDED Plastic handle. Specify color.

| No. | Handle (A) | Overall (B) | Std. Pkg. | Each |
|---|---|---|---|---|
| 317 | 4" (Molded) | 4 13/16" | 50 | $0.50 |
| 318 | 5½" (Machined) | 6 5/16" | 25 | .55 |

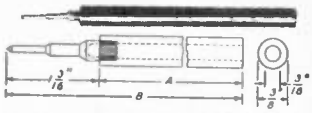
## SOLDERLESS PHONO NEEDLE TEST PROD



Double XX Bakelite lacquered handles. Sharp pointed needle steel, nickel plated. Body brass, nickel plated. Wire can be wrapped around or soldered to internal brass stud provided. Red or Black. Specify color.

| No. | Handle (A) | Overall (B) | Std. Pkg. | Each |
|---|---|---|---|---|
| 314 | 4" | 5-3/32" | 25 | $0.75 |
| 313 | 6" | 7-3/32" | 25 | .90 |

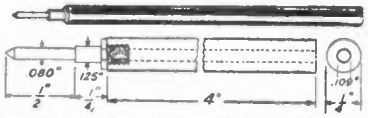
## HEAVY DUTY TEST PRODS



**Threaded Type.** Extra sturdy brass, nickel plated tip with Red or Black Molded plastic handle. Specify color.

| No. | Handle (A) | Overall (B) | Std. Pkg. | Each |
|---|---|---|---|---|
| 319 | 4" (Molded) | 5 3/16" | 50 | $0.50 |
| 329 | 5½" (Machined) | 6 11/16" | 25 | .55 |

## SUBMINIATURE TEST PROD



Brass, nickel plated phone tip. Small ¼" O.D. handle. Ideally suited for checking sub-miniature equipment. Red or Black bone fibre. Specify color.

No. 322 Std. Pkg. 50 — $0.40 Each

## TEST LEAD WIRE

Heavy duty kinkless, rubber covered test lead wire, with extra heavy insulation. 42 strands No. 34 tinned copper wire with cotton separator. .040" wall, high temperature heat resisting. Specify Red or Black.

No. 660 100-Ft. Coil $7.75 Ea.

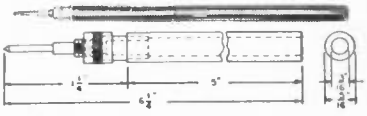
## TEST LEAD INTERCHANGE KIT

Permits use of Alligator Clips, Banana Plugs, Spade Lugs or Phone Tips interchangeably. One each red and black solderless phone tips with banana jack rear, spade lugs with banana jack rear, combination alligator clip jack, and banana plugs with phone tip jack rear. Durable vinyl kit.

No. 640 — $3.75 Ea.

## PENCIL TYPE SOLDERLESS TEST PROD

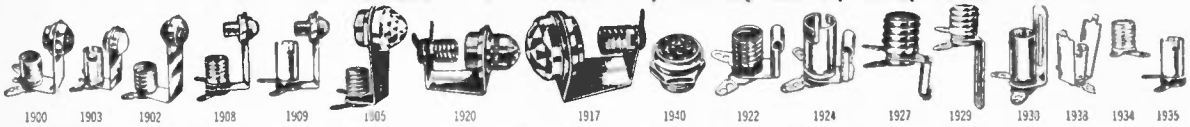
### Force Fit Type



Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass nickel plated tip with Red or Black plastic handle. Specify Color.

No. 384 Std. pkg. 25 — $0.35 Ea.

## PANEL INDICATORS AND JEWELS—SUPPLIED IN RED, GREEN, AMBER, BLUE, OPAL AND CLEAR



1900 1903 1902 1908 1909 1905 1920 1917 1940 1922 1924 1927 1929 1930 1938 1934 1935

### ½" JEWEL MOUNTS in 7/16" DIA. HOLE

| No. | Type | Each |
|---|---|---|
| 1900 | Miniature Screw Base | $0.45 |
| 1901 | Candelabra Base | .55 |
| 1902 | Candelabra Base with Univ. Bracket | .58 |
| 1903 | Bayonet Base | .45 |
| 1904 | Bayonet Base with Univ. Bracket | .50 |

Std. pkg. 10

### ⅜" JEWEL MOUNTS IN 5/16" DIA. HOLE

| No. | Type | Each |
|---|---|---|
| 1908 | Miniature Screw Base | $0.45 |
| 1909 | Miniature Bayonet Base | .50 |

Std. pkg. 10

### ¾" JEWEL MOUNTS IN 11/16" DIA. HOLE

| No. | Type | Each |
|---|---|---|
| 1905 | Miniature Screw Base | $0.95 |
| 1906 | Miniature Bayonet Base | 1.00 |
| 1907 | Candelabra Base | 1.00 |

Std. pkg. 10

### ½" OPEN TYPE MOUNTS IN 11/16" HOLE

| No. | Type | Each |
|---|---|---|
| 1920 | Miniature Screw Base | $0.70 |
| 1921 | Miniature Bayonet Base | .75 |

Std. Pkg. 10

### 1" OPEN TYPE

| No. | Type | Each |
|---|---|---|
| 1917 | Miniature Screw Base | $1.60 |
| 1918 | Miniature Bayonet Base | 1.60 |
| 1919 | Candelabra Base | 1.70 |

Std. pkg. 10

### JEWELS WITH MOUNTING NUT

**⅜ Inch Jewel MOUNTS IN 5/16" HOLE**

| No. | Type | Each |
|---|---|---|
| 1940 | Smooth | $0.35 |
| 1941 | Facetted | 0.35 |

**½ Inch Jewel MOUNTS IN 7/16" HOLE**

| No. | Type | Each |
|---|---|---|
| 1911 | Smooth | $0.35 |
| 1912 | Facetted | 0.35 |

**¾ Inch Jewel MOUNTS IN 11/16" HOLE**

| No. | Type | Each |
|---|---|---|
| 1913 | Smooth | $0.70 |
| 1914 | Facetted | 0.70 |

**1 Inch Jewel MOUNTS IN 1" HOLE**

| No. | Type | Each |
|---|---|---|
| 1915 | Smooth | $1.25 |
| 1916 | Facetted | 1.25 |

Std. pkg. 10

### CLIP-ON TYPE SOCKETS

| No. | Type | Per C |
|---|---|---|
| 1922 | Min. Screw Up Clip | $15.50 |
| 1923 | Min. Screw Down Clip | 15.50 |
| 1924 | Min. Bayonet Up Clip | 15.50 |
| 1925 | Min. Bayonet Down Clip | 15.50 |
| 1926 | Candelabra Up Clip | 17.00 |
| 1927 | Candelabra Down Clip | 17.00 |

Std. Pkg. 50

### BRACKET TYPE SOCKETS

| No. | Type | Per C |
|---|---|---|
| 1928 | Min. Screw Up Bracket | $15.50 |
| 1929 | Min. Screw Down Bracket | 15.50 |
| 1930 | Min. Bayonet Up Bracket | 15.50 |
| 1931 | Min. Bayonet Down Bracket | 15.50 |
| 1932 | Candelabra Up Bracket | 17.00 |
| 1933 | Candelabra Down Bracket | 17.00 |

Std. Pkg. 50

### UNMOUNTED TYPE SOCKETS

| No. | Type | Per C |
|---|---|---|
| 1934 | Miniature Screw Base | $15.50 |
| 1935 | Miniature Bayonet Base | 15.50 |
| 1936 | Candelabra Base | 17.00 |

Std. Pkg. 50

### CLIP-IN TYPE

No. 1938 ..... $15.50 Per C

Std. Pkg. 50



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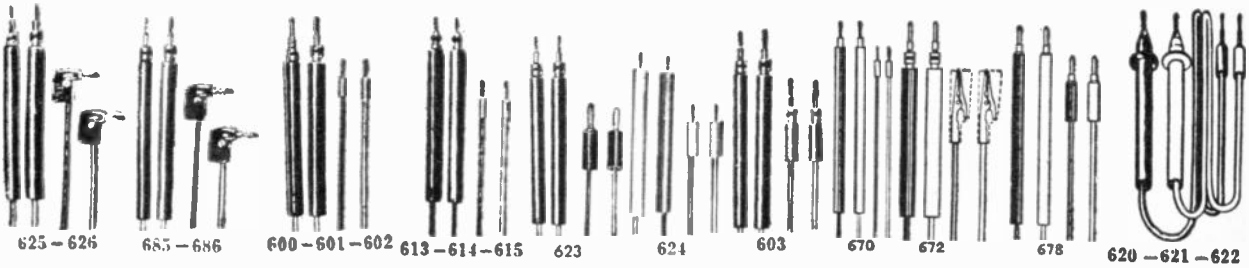
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**



625 – 626 685 – 686 600 – 601 – 602 613 – 614 – 615 623 624 603 670 672 678 620 – 621 – 622

### METER TIP TEST LEAD

50" rubber covered kinkless wire. Molded plastic fingergrip tips and 4" plastic test prod handles. Std. pkg. 6

| | | |
|---|---|---|
| No. 625 | Solderless prods | $2.25 Per Pr. |
| No. 626 | Needle Tip Prods | $2.25 Per Pr. |

### SOLDERLESS TIP TEST LEADS

Handles 4" long x ¾" diameter. Flexible kinkless rubber covered wire, 50" long. Std. pkg. 6

| | | |
|---|---|---|
| No. 600 | Phone Tips | $1.45 Per Pr. |
| No. 601 | Spade Lugs | $1.45 Per Pr. |
| No. 602 | Alligator Clips | $1.55 Per Pr. |

### BANANA METER TEST LEAD

Supplied with 50" rubber covered kinkless test lead wire. Molded plastic fingergrip tips on end, 4" plastic test prod handles other end. Supplied in two types. Solderless Tip or needle Tip prod handles. Std. pkg. 6

| No. | Type | Per Pr. |
|---|---|---|
| 685 | Solderless Prods | $2.50 |
| 686 | Needle Tip Prods | 2.50 |

### PHONO NEEDLE TEST LEADS

Handles 4" long x ¾" diameter. Tips are very sharp phonograph needles. Flexible kinkless rubber covered wires 50". Std. pkg. 6

| | | |
|---|---|---|
| No. 613 | Phone Tips | $1.45 Per Pr. |
| No. 614 | Spade Lugs | $1.45 Per Pr. |
| No. 615 | Alligator Clips | $1.55 Per Pr. |

### BANANA PLUG TEST LEAD

Test leads with 50" rubber covered kinkless test lead wire. Solderless test prod with 4" handle one end, banana plugs other end. Std. pkg. 6

No. 623 $2.50 Per Pr.

### SHORT TIP TEST LEADS

Short brass nickel plated tips leaving minimum amount of metal exposed, lessening possibility of shock or grounding. 4" plastic test prod handles with 50" rubber covered kinkless test lead wire.

No. 624 Std. pkg. 6 $1.75 Per Pr.

### ALL SOLDERLESS TEST LEADS

No. 302 handles and No. 200 plugs. Flexible kinkless rubber covered leads 50" long.

No. 603 Std. pkg. 6 $2.10 Per Pr.

No. 670—SLIM HANDLE TEST LEADS—Fine, low-cost test leads; slender pencil type tenite handles, ¼" O.D. 50" of hi-quality kinkless, extra flexible, rubber covered test lead wire. Heavy duty standard phone tips. Std. pkg. 6 $1.10 Per Pr.

### ALLIGATOR CLIP TEST LEADS

No. 672—Solderless red and black tenite handles (our No. 302) with alligator clips and insulators on other end. Flexible, kinkless rubber covered wire 50" long. Std. pkg. 6 $2.10 Per Pr.

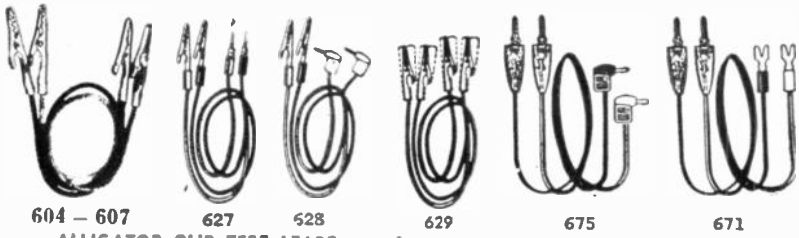
### SUBMINIATURE TEST LEADS

No. 678—Extra long, extra thin fibre handles, ¼" O.D. x 4½" long. Insulated phone tips at other end. Flexible, kinkless, rubber covered wire, 50". Std. pkg. 6 $2.10 Per Pr.

### HIGH TENSION TEST LEADS

Heavy duty probes, 48" high tension kinkless rubber covered wire .248" O.D. 22,000 volt breakdown (60 cycles).

| | | |
|---|---|---|
| No. 620 | Phone Tips | $3.30 Per Pr. |
| No. 621 | Spade Lugs | $3.30 Per Pr. |
| No. 622 | Alligator Clips | $4.00 Per Pr. |



604 – 607 627 628 629 675 671

### ALLIGATOR CLIP TEST LEADS

Very flexible kinkless Red and Black wire with alligator clips at each end. Std. pkg. 6

| | | |
|---|---|---|
| No. 604 | 12" Wire Length | $0.95 Per Pr. |
| No. 605 | 24" Wire Length | $1.05 Per Pr. |
| No. 606 | 36" Wire Length | $1.20 Per Pr. |
| No. 607 | 48" Wire Length | $1.35 Per Pr. |

No. 627—ALLIGATOR CLIP LEAD with solderless tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 $1.50 Per Pr.

No. 628—ALLIGATOR CLIP LEAD with meter tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 $2.00 Per Pr.

### ALLIGATOR CLIP TEST LEADS WITH RUBBER INSULATORS

| No. | Wire Length | Per Pr. | No. | Wire Length | Per Pr. |
|---|---|---|---|---|---|
| 629 | 12" | $1.20 | 658 | 36" | $1.30 |
| 657 | 24" | 1.25 | 659 | 48" | 1.40 |

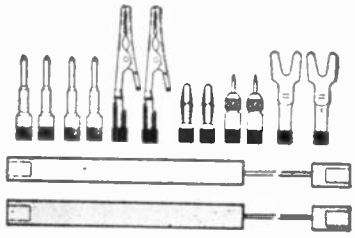
Std. pkg. 6

No. 675—CROCODILE CLIP LEAD with meter tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 $1.90 Per Pr.

No. 671—CROCODILE CLIP LEAD with insulated lug and 50" flexible rubber covered test lead wire. Std. pkg. 6 $2.00 Per Pr.

### "UNIVERSAL" TEST LEADS COMPLETELY INTERCHANGEABLE

**SENSATIONAL INNOVATION — FIFTY TEST LEADS IN ONE!**



One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Supplied in Vinyl Case.

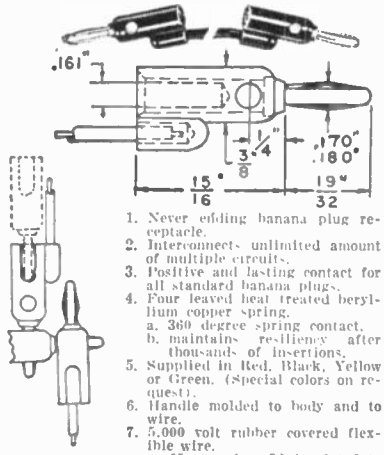
No. 699 $4.00 Each

### "CROSS-PATCH" PATCH CORD

Provides a non-rotating banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross hole is designed for positive contact of all standard banana plugs. Fits all standard banana jack. Four-leaved phosphor bronze nickel plated spring. Red or Black assembly specify color. Std. pkg. 10

| | | |
|---|---|---|
| No. 680 | 8" Wire Length | $1.45 Each |
| No. 681 | 12" Wire Length | $1.55 Each |
| No. 682 | 24" Wire Length | $1.65 Each |
| No. 683 | 36" Wire Length | $1.75 Each |

### MOLDED "CROSS PATCH" PATCH CORDS

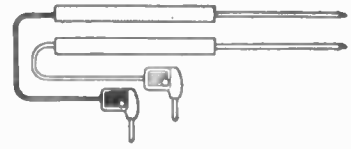



1. Never ending banana plug receptacle.
2. Interconnects unlimited amount of multiple circuits.
3. Positive and lasting contact for all standard banana plugs.
4. Four leaved heat treated beryllium copper spring.
   a. 360 degree spring contact.
   b. maintains resiliency after thousands of insertions.
5. Supplied in Red, Black, Yellow or Green. (Special colors on request).
6. Handle molded to body and to wire.
7. 5,000 volt rubber covered flexible wire.
   a. 65 strands #36 insulated to an O.D. of .110.

| 19/32" Plug Spring No. | Wire | Each | 13/32" Plug Spring No. | Wire | Each |
|---|---|---|---|---|---|
| 1510-8 | 8" | $1.50 | 1515-8 | 8" | $1.50 |
| 1510-12 | 12" | 1.50 | 1515-12 | 12" | 1.50 |
| 1510-24 | 24" | 1.60 | 1515-24 | 24" | 1.60 |
| 1510-36 | 36" | 1.70 | 1515-36 | 36" | 1.70 |

Std. pkg. 10

### NEW! "SLIM JIM" TEST LEADS



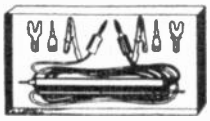
Long slim probe tips fully insulated with vinyl tubing to prevent shocks or shorting. Perfect for those hard to get at spots. Supplied with molded meter tip plugs.

No. 698 Std. pkg. 6 $1.90 Per Pr.

### PATCH CORD

Embodies No. 211 banana plug and is used to interconnect circuits. Molded plastic handle. Plug portion brass, nickel plated. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color. Std. pkg. 10

| | | |
|---|---|---|
| No. 690 | 8" Wire Length | $ .80 Each |
| No. 691 | 12" Wire Length | $ .90 Each |
| No. 692 | 24" Wire Length | $1.00 Each |
| No. 693 | 36" Wire Length | $1.10 Each |



### ALL PURPOSE TEST LEAD KIT

48" rubber covered kinkless test lead wire. Plastic handles with solderless or needle tips. Other end supplied with standard #204 banana plugs, which are interchangeable with the phone tips, alligator clips, or spade lugs included. Std. pkg. 6

| No. | Description | Each |
|---|---|---|
| 610 | Kit W/Solderless prods | $3.00 |
| 611 | Kit W/Needle point prods | $3.00 |
| 609 | Banana Lead W/Solderless prod | $2.50 |

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**ALL PRICES SUBJECT TO TRADE DISCOUNT**



World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

HIGH FIDELITY CONNECTOR CABLES WITH MOLDED FINGER GRIP PLUGS. New SMITH design bonds wire and plug together with chrome gray plastic finger grip. Makes neat, compact, durable plug that's a pleasure to look at and to use. MANUFACTURERS INQUIRIES INVITED.

## JUMPER CORDS

Male Phono Plug (our No. 1201) with finger-grip handle on each end. Std. pkg. 6

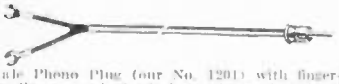
| | | |
|---|---|---|
| No. 631 | 18 inches | $0.85 Ea. |
| No. 632 | 24 inches | .90 Ea. |
| No. 633 | 36 inches | .95 Ea. |
| No. 634 | 48 inches | 1.05 Ea. |
| No. 635 | 72 inches | 1.15 Ea. |
| No. 636 | 120 inches | 1.45 Ea. |

## EXTENSION CORDS

Male Phono Plug (our No. 1201) with finger-grip handle, on end. Female In-Line Jack (our No. 1237) other end. Std. pkg. 6

| | | |
|---|---|---|
| No. 641 | 18 inches | $1.25 Ea. |
| No. 642 | 24 inches | 1.30 Ea. |
| No. 643 | 36 inches | 1.35 Ea. |
| No. 644 | 48 inches | 1.40 Ea. |
| No. 645 | 72 inches | 1.50 Ea. |
| No. 646 | 120 inches | 1.80 Ea. |

## PHONO PLUG CONNECTOR CORDS



Male Phono Plug (our No. 1201) with finger-grip handle, one end. Spade lugs other end. Std. pkg. 6

No. 668 — 72 inches — $1.00 Ea.

Male Phono Plug (our No. 1201) with finger-grip handle, one end. Other end stripped and tinned. Std. pkg. 6

| | | |
|---|---|---|
| No. 637 | 36 inches | $0.75 Ea. |
| No. 638 | 72 inches | .90 Ea. |

Male Phono Plug (our No. 1201) with finger-grip handle, one end. Insulated alligator clips other end. Std. pkg. 6

| | | |
|---|---|---|
| No. 673 | 36 inches | $1.20 Ea. |
| No. 674 | 72 inches | 1.50 Ea. |

## EXTENSION CORD

Male Phono Plug (our No. 1201) one end. In-Line Jack (our No. 274) other end. Std. pkg. 6

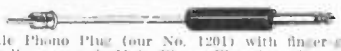
No. 639 — 72 inches — $2.05 Ea.

## COAXIAL EXTENSION CABLE

Std. pkg. 6

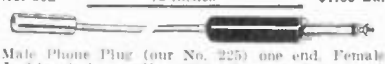
| | | |
|---|---|---|
| No. 687 | 36 inches | $2.00 Ea. |
| No. 688 | 72 inches | 2.50 Ea. |
| No. 689 | 144 inches | 3.60 Ea. |

## INPUT-OUTPUT CORDS



Male Phono Plug (our No. 1201) with finger-grip handle, one end. Male Phone Plug (our No. 225) other end. Std. pkg. 6

No. 662 — 72 inches — $1.50 Ea.



Male Phone Plug (our No. 225) one end. Female In-Line Jack (our No. 1237) other end. Std. pkg. 6

No. 663 — 72 inches — $2.20 Ea.

## EXTENSION CORD

Male Phone Plug (our No. 225) one end. In-Line Jack (our No. 274) other end. Std. pkg. 6

No. 669 — 72 inches — $2.70 Ea.

## PHONE PLUG CONNECTOR CORDS

Male Phone Plug (our No. 225) one end. Spade Lugs other end. Std. pkg. 6

No. 665 — 72 inches — $1.65 Ea.

Male Phone Plug (our No. 225) one end. Other end stripped and tinned. Std. pkg. 6

No. 667 — 72 inches — $1.45 Ea.

Male Phone Plug (our No. 225) one end. Insulated alligator clips other end. Std. pkg. 6

No. 664 — 72 inches — $1.90 Ea.

## FEED THRU

Accepts Phono Plug on Each End. Std. pkg. 6

No. 661 — $1.60 Ea.

## PHONO PLUG TO PHONE PLUG ADAPTER

Adapts standard phono plug to phone plug with built in resistor to adapt either crystal or magnetic pickups. Std. pkg. 6

| | | |
|---|---|---|
| No. 707 | With Resistor | $1.75 Ea. |
| No. 708 | Without Resistor | $1.00 Ea. |

## COAXIAL JUMPER CABLE

Std. pkg. 6

| | | |
|---|---|---|
| No. 694 | 36 inches | $2.25 Ea. |
| No. 696 | 72 inches | 2.75 Ea. |
| No. 697 | 144 inches | 3.85 Ea. |

## HI-FI CORDS FOR REVERE EQUIPMENT

These cords are designed for use exclusively with Revere Tape Recorders and Hi-Fi equipment all using the special type phone plug 3/16" O.D. necessary for use with this type equipment.

### CONNECTOR CORDS

3/16" O.D. phone plug one end, other end stripped and tinned. Std. pkg. 6

No. 700 — 120 inches — $2.90 Ea.

3/16" O.D. phone plug one end, other end spade lugs. Std. pkg. 6

No. 701 — 120 inches — $3.10 Ea.

3/16" O.D. phone plug one end, insulated alligator clips other end. Std. pkg. 6

No. 702 — 120 inches — $3.35 Ea.

### EXTENSION CORDS

3/16" phone plug one end, Revere type in-line jack other end. Std. pkg. 6

No. 703 — 120 inches — $5.25 Ea.

3/16" O.D. phone plug one end, Standard [illegible] jack other end. Std. pkg. 6

No. 704 — 120 inches — $4.00 Ea.

3/16" O.D. phone plug one end, Phono in-line jack other end. Std. pkg. 6

No. 705 — 120 inches — $3.65 Ea.

### INPUT-OUTPUT

3/16" O.D. phone plug one end, Standard phono plug other end. Std. pkg. 6

No. 706 — 120 inches — $3.65 Ea.

### CONNECTOR CORD FOR WEBCOR TAPE RECORDER

Three way phone plug with built in resister to cut down on audio one end, insulated alligator clips other end. Std. pkg. 6

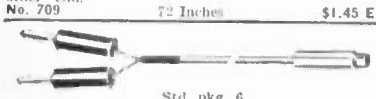
No. 676 — 120 inches — $3.25 Ea.

## CONNECTOR CORDS FOR IMPORTED HI-FI EQUIPMENT

Std. pkg. 6

Two banana plugs one end, stripped and tinned other end.

No. 709 — 72 Inches — $1.45 Ea.



Std. pkg. 6

Two banana plugs one end, phono jack other end.

No. 712 — 72 Inches — $1.90 Ea.

Std. pkg. 6

Two banana plugs one end, phone plug other end.

No. 710 — 72 Inches — $2.00 Ea.

Std. pkg. 6

Two banana plugs one end, in-line banana jacks other end.

No. 713 — 72 Inches — $2.25 Ea.

Std. pkg. 6

Two banana plugs one end, phono plug other end.

No. 711 — 72 Inches — $1.65 Ea.

Std. pkg. 6

Two banana plugs one end, ins. alligator clips other end.

No. 714 — 72 Inches — $1.90 Ea.

## PHONO PLUGS

RCA Type Phone Plug. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable. Std. Pkg. 100

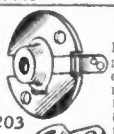
| No. | Type | Per C |
|---|---|---|
| 1201 | Long Pin (1" overall) | $8.00 |
| 1202 | Short Pin (13/16" overall) | $8.00 |

## SHIELDED EXTENSION JACK

Brass shell, cadmium plated, $1\frac{7}{16}$" long, with black bakelite insert. Provides insulation for solder-coated positive grip contact. Uses No. 1201 phono plug. Std. Pkg. 50

No. 1237 ..... $40.00 Per C

## PHONO JACKS



1203

Female for No. 1201 plug. Single prong positive grip jack mounted on 1/16" bakelite with 11/16" mounting centers. Std. Pkg. 100

| No. | | Per C |
|---|---|---|
| 1203 | | $11.00 |
| 1203-1 | Insulating Washer | 3.00 |

1223

Small, compact . . . where space is at a premium. Std. Pkg. 50

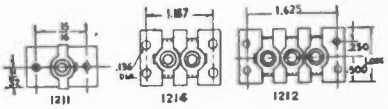
| No. | Per C |
|---|---|
| 1223 | $12.00 |

Space Saver . . . Rivets and grounds to chassis. Std. Pkg. 50

| No. | Per C |
|---|---|
| 1233 | $11.00 |

## PHONO JACKS

Used on recording units, phono players, etc. Std. pkg. 10




| No. | Per C |
|---|---|
| 1211—Single Jack | $12.00 |
| 1214—Double Jack | 16.00 |
| 1212—Triple Jack | 20.00 |
| 1214-1—Insulating Washer for No. 1214 | 4.00 |



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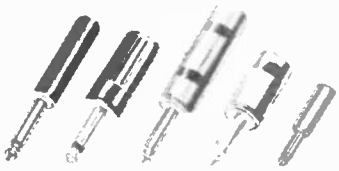
World Radio History

# HERMAN H. SMITH, INC

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## "PHONE PLUGS"

Bakelite Handle supplied in Red or Black



A B C D E

### STANDARD TYPE

| No. | Handle | Ill. | Type | Cond. | Each |
|---|---|---|---|---|---|
| 225 | Bake. | A | Solder | 2 | $0.65 |
| 226 | Metal | "A" | Solder | 2 | 1.00 |
| 222 | Bake. | "B" | Screw | 2 | .65 |
| 227 | Bake. | "B" | Solder | 2 | .95 |
| 272 | Metal | "C" | Screw | 2 | 1.10 |
| 238 | Metal | "C" | Solder | 2 | 1.40 |
| 252 | Metal | "D" | Screw | 2 | .90 |
| 228 | Metal | "D" | Solder | 2 | 1.25 |

### MINIATURE TYPE

Bakelite Handles supplied in Gray

| | | | | | |
|---|---|---|---|---|---|
| 480 | Bake. | E | Solder | 2 | .70 |
| 481 | Metal | "E" | Solder | 2 | .85 |

## "PHONE JACKS"

### STANDARD TYPE

| No. | Cond. | Circ. | Each |
|---|---|---|---|
| 275 | 2 | Open | $0.45 |
| 276 | 2 | Closed | .50 |
| 277 | 3 | Open | .60 |
| 278 | 3 | Closed | .75 |

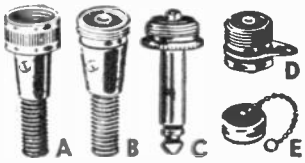
### MINIATURE TYPE

| | | | |
|---|---|---|---|
| 482 | 2 | Open | .40 |
| 483 | 2 | Closed | .45 |

## IN-LINE PHONE JACKS

| No. | Handle | Type | Cond. | Each |
|---|---|---|---|---|
| 274 | Bakelite | Solder | 2 | $0.90 |
| 273 | Shielded | Solder | 2 | 1.25 |
| 288 | Bakelite | Screw | 2 | 1.10 |
| 289 | Shielded | Screw | 2 | 1.40 |

## MICROPHONE CONNECTORS



A B C D E

### STANDARD TYPE

| No. | Ill. | Contact | Type Conn. | Each |
|---|---|---|---|---|
| 116 | "A" | Single | Female Mike | $0.53 |
| 115 | "B" | Single | Male | .35 |
| 117 | "D" | Single | Male | .35 |
| 114 | "D" | Single | Closed Circ | .50 |
| 113 | "C" | 2 Cond | Plug Adapter | .50 |
| 118 | "E" | Cap & Chain | | .60 |

### MINIATURE TYPE

| | | | | |
|---|---|---|---|---|
| 484 | "A" | Single | Female Mike | .60 |
| 485 | "B" | Single | Male Mike | .45 |
| 486 | "D" | Single | Male Chassis | .35 |

## PJ-055B and PJ-068 PLUGS

JAN APPROVED

Std. Pkg. 10

| | | |
|---|---|---|
| No. 217 | Type PJ-055B | $1.35 Ea. |
| No. 247 | Type PJ-068 | $3.65 Ea. |

## INSTRUMENT KNOBS

A Plain — B With Pointer — C With Skirt

Molded black bakelite instrument knobs with molded in brass insert for 1/4" shafts. Style B pointer knobs have white vinyl pointer. Style C skirt type have white indicator line. Style D same as Style A except with protruding brass insert for mounting special dials and pointers.

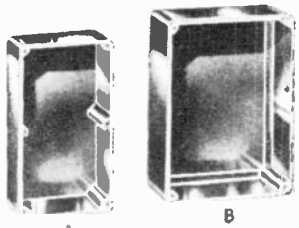
| No. | Style | O.D. | | Height | Per C |
|---|---|---|---|---|---|
| 2200 | A | 1 1/8" | | 5/8" | $43.00 |
| 2201 | A | 1 3/8" | | 11/16" | 45.00 |
| 2202 | A | 1 5/8" | | 3/4" | 50.00 |
| 2203 | A | 2 3/8" | | 7/8" | 73.00 |
| 2204 | B | 1 1/8" | 3/4" Pointer | 11/16" | 65.00 |
| 2205 | B | 1 3/8" | 1 15/16" " | 3/4" | 67.00 |
| 2206 | B | 1 5/8" | 1 3/16" " | 13/16" | 71.00 |
| 2207 | B | 2 3/8" | 1 9/16" " | 15/16" | 95.00 |
| 2208 | C | 1 1/8" | 1 1/2" Skirt | 13/16" | 80.00 |
| 2209 | C | 1 3/8" | 1 3/4" " | 7/8" | 85.00 |
| 2210 | C | 1 5/8" | 2 1/16" " | 29/32" | 100.00 |
| 2211 | C | 2 3/8" | 3" " | 1 1/32" | 130.00 |
| 2212 | D | 1 1/8" | | 29/32" | 52.00 |
| 2213 | D | 1 3/8" | | 15/16" | 53.00 |
| 2214 | D | 1 5/8" | | 15/16" | 60.00 |
| 2215 | D | 2 3/8" | | 1 1/32" | 85.00 |
| 2216 | | 1 1/2" | Skirt Only | | 13.00 |
| 2217 | | 1 3/4" | Skirt only | | 15.00 |
| 2218 | | 2 1/16" | Skirt only | | 18.00 |
| 2219 | | 1" | Skirt only | | 25.00 |

## POINTER KNOBS

A Length 1 1/4" Hgt. 5/8" — B Length 2" Hgt. 5/8" — C Length 1 1/4" Hgt. 9/16"

| No. | Style | Type Hole | Color | Per C |
|---|---|---|---|---|
| 2220 | A | 1/4" Plain | Black | $17.00 |
| 2221 | A | 1/4" Plain | Walnut | 18.00 |
| 2222 | A | 1/4" Plain | Ivory | 18.00 |
| 2223 | A | 1/4" Brass Insert | Black | 25.00 |
| 2224 | A | 1/4" Brass Insert | Walnut | 28.00 |
| 2225 | A | 1/4" Brass Insert | Red | 28.00 |
| 2226 | B | 1/4" Plain | Black | 34.00 |
| 2227 | B | 1/4" Plain | Walnut | 32.00 |
| 2228 | B | 1/4" Brass Insert | Black | 44.00 |
| 2229 | B | 1/4" Brass Insert | Walnut | 44.00 |
| 2230 | C | 1/4" Plain | Black | 20.00 |
| 2231 | C | 1/4" Plain | Walnut | 17.00 |

## METER OR INSTRUMENT CASES



A B

Molded, Black, with four corner brass inserts for corner mounting.

No. 2255 (Illustration A), Case. Inserts have 6-32 tap. Overall: 6 1/4" Long, 3 3/4" Wide, 2" Deep. Each $1.65

No. 2256 Cover for 2255 Case Each $ .95

No. 2257 (Illustration B), Case only. Inserts have 4-36 tap. Overall: 6 13/16" Long, 5 3/32" Wide, 2 5/16" Deep. Each $2.00

No. 2260 Cover for 2257 Each $1.70

## DOUBLE END WRENCH

For Toggle Switches — For Volume Controls

Std. Pkg. 25

Specially designed offset wrench for rear of chassis assembly of toggle switches, Volume Controls, etc. Case hardened steel, Cadmium plated.

No. 999 $0.35 Each

No. 999D Display of 50 No. 999 $17.50 Each

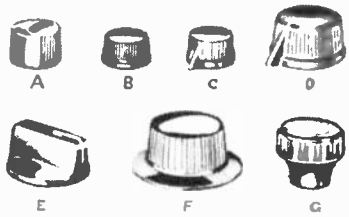
## LEVER KNOBS

WITH 1/4" BRASS INSERT

A B C D

| No. | Style | Length | Hgt. | Color | Per C |
|---|---|---|---|---|---|
| 2232 | A | 1 5/8" | 19/32" | Black | $34.00 |
| 2233 | A | 1 5/8" | 19/32" | Walnut | 36.00 |
| 2234 | B | 1 13/16" | 29/32" | Black | 56.00 |
| 2235 | B | 1 13/16" | 29/32" | Walnut | 53.00 |
| 2236 | C | 2 1/2" | 5/8" | Black | 36.00 |
| 2237 | C | 2 1/2" | 5/8" | Walnut | 37.00 |
| 2238 | D | 2 13/16" | 5/8" | Black | 61.00 |
| 2239 | D | 2 13/16" | 5/8" | Walnut | 58.00 |

## CONTROL KNOBS

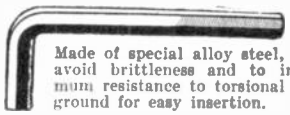


A B C D E F G

Molded bakelite control knobs. Supplied with 1/4" molded hole; complete with set screw.
*Recessed for Locknut.

| No. | Style | O.D. | Hgt. | Color | Per C |
|---|---|---|---|---|---|
| 2240 | A | 3/4" | 19/32" | Black | $18.00 |
| 2241 | A | 3/4" | 19/32" | Walnut | 20.00 |
| 2242 | B | 11/16" | 19/32" | Black | 14.00 |
| 2243 | B | 11/16" | 19/32" | Walnut | 14.00 |
| 2244* | B | 1" | 1/2" | Black | 22.00 |
| 2245* | B | 1" | 1/2" | Walnut | 20.00 |
| 2246 | C | 11/16" | 19/32" | Black | 14.00 |
| 2247 | C | 11/16" | 19/32" | Walnut | 14.00 |
| 2248* | D | 1" | 1/2" | Black | 26.00 |
| 2249* | D | 1" | 1/2" | Walnut | 25.00 |
| 2250* | E | 1 1/8" | 9/16" | Black | 22.00 |
| 2251* | E | 1 1/8" | 9/16" | Walnut | 24.00 |
| 2252* | F | 1 1/2" | 11/16" | Black | 25.00 |
| 2253* | F | 1 1/2" | 11/16" | Walnut | 28.00 |
| 2254* | F | 1 1/2" | 11/16" | Ivory | 28.00 |
| 2258 | G | 7/8" | 3/4" | Black | 22.00 |
| 2259 | G | 7/8" | 3/4" | Walnut | 22.00 |

## HEX AND SPLINE KEYS



Made of special alloy steel, tempered to avoid brittleness and to impose maximum resistance to torsional strain. Ends ground for easy insertion. Std. pkg. 100

| HEX KEYS | | | SPLINE KEYS | | |
|---|---|---|---|---|---|
| No. | Screw Size | Per C | No. | Screw Size | Per C |
| 340 | No. 2 | $13.00 | 370 | No. 4 | $13.00 |
| 341 | No. 3, 4 | 13.00 | 371 | No. 5 | 13.00 |
| 342 | No. 5, 6 | 13.00 | 372 | No. 6 | 13.00 |
| 343 | No. 8 | 13.00 | 373 | No. 8 | 13.00 |
| 344 | No. 10 | 15.00 | 374 | No. 10 | 15.00 |
| 345 | 1/4" | 15.00 | 375 | 1/4" | 15.00 |
| 346 | 5/16" | 15.00 | 376 | 5/16" | 15.00 |

## HEX AND SPLINE KEY KITS

Attractive tearproof vinyl plastic kit with individual pockets for each of six keys in kit.

Kit of 6 keys for screws from No. 3 to 5/16". Std. pkg. 25

No. 355 $1.00 Ea.

Kit of 6 spline keys for screws from No. 5 to 5/16". Std. pkg. 25

No. 385 $1.00 Ea.

Combination Kit of 3 hex and 3 spline keys for No. 6-8-10 screws. Std. pkg. 25

No. 390 $1.00 Ea.

Combination Kit of 7 hex keys for screws from No. 3 to 5/16" and 4 spline keys from No. 4 to No. 10. Std. pkg. 25

No. 395 $2.00 Ea.

| No. | DISPLAY CARDS | Each |
|---|---|---|
| 355D | 24 Hex Kits No. 355 | $24.00 |
| 385D | 24 Spline Kits No. 385 | 24.00 |
| 390D | 24 Combination Kits No. 390 | 24.00 |
| 395D | 20 Combination Kits No. 395 | 40.00 |

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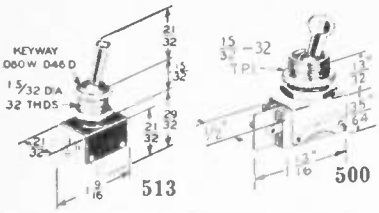
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

ARROW HART & HEGEMAN SWITCHES

## SMALL CANOPY TYPE SWITCHES




Laminated type. 15/32-32 slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Solder terminals. SPST rated at 3 amps-250 volts AC-DC; all others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Std. pkg. 10

### BAT LEVER POSITIVE ACTION

| 15/32" long shaft No. | Each | CIRCUIT | 13/32" long shaft No. | Each |
|---|---|---|---|---|
| 510 | 1.10 | SPST | 584 | 1.10 |
| 511 | 1.40 | SPDT | 585 | 1.40 |
| 542 | 1.45 | 2-Circ. | 586 | 1.45 |
| 512 | 2.00 | DPST | 587 | 2.00 |
| 513 | 2.30 | DPDT | 588 | 2.30 |

### BALL LEVER POSITIVE ACTION

| 15/32" long shaft | | CIRCUIT | 3/4" long shaft | |
|---|---|---|---|---|
| 500 | 1.10 | SPST | 501 | 1.35 |
| 502 | 1.40 | SPDT | 503 | 1.65 |
| 540 | 1.45 | 2 Circ. | 541 | 1.65 |
| 504 | 2.00 | DPST | 505 | 2.25 |
| 506 | 2.30 | DPDT | 507 | 2.50 |

### BAT LEVER MOMENTARY ACTION

15/32" long shaft

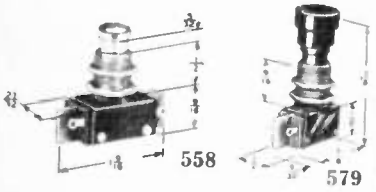
| Normally Closed (ON) | | CIRCUIT | Normally Open (OFF) | |
|---|---|---|---|---|
| 1020 | 1.70 | SPST | 1024 | 1.70 |
| 1021 | 2.00 | SPDT | — | — |
| 1022 | 2.55 | DPST | 1025 | 2.55 |
| 1023 | 2.85 | DPDT | — | — |

### 6" WIRE LEADS POSITIVE ACTION

15/32" long shaft

| BALL LEVER | | CIRCUIT | BAT LEVER | |
|---|---|---|---|---|
| 1010 | 1.35 | SPST | 1015 | 1.35 |
| 1011 | 1.85 | SPDT | 1016 | 1.85 |
| 1012 | 2.05 | 2 Circ. | 1017 | 2.05 |
| 1013 | 2.60 | DPST | 1018 | 2.60 |
| 1014 | 3.20 | DPDT | 1019 | 3.20 |

## CANOPY TYPE MOMENTARY PUSH SWITCHES




Laminated type. 15/32-32 x 9/16" slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. All switches accept snap on button. SPST rated at 3 amps-250 volts AC-DC. All others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. **SUPPLIED LESS BUTTON: ORDER BUTTON SEPARATELY.**

### QUICK MAKE AND BREAK

| Normally Closed (ON) No. | Each | CIRCUIT | Normally Open (OFF) No. | Each |
|---|---|---|---|---|
| 552 | 2.15 | SPST | 555 | 2.15 |
| 556 | 2.45 | SPDT | — | — |
| 557 | 2.50 | 2 Circ. | — | — |
| 564 | 3.00 | DPST | 558 | 3.00 |
| 559 | 3.45 | DPDT | — | — |

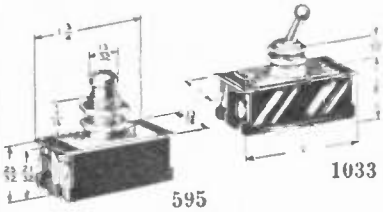
### SLOW MAKE AND BREAK

Rated at 1 amp-125 volts AC

| Normally Closed (ON) | | CIRCUIT | Normally Open (OFF) | |
|---|---|---|---|---|
| 582 | 1.20 | SPST | 579 | 1.20 |
| 580 | 1.55 | 2 Circ. | — | — |

## STANDARD DUTY MOMENTARY PUSH SWITCHES

Molded phenolic base. 15/32-32 x 7/16" long slotted sleeve, nickel finish. Screw terminals. Supplied with two hex nuts. All switches accept snap on button. Two circ. rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. All others rated at 6 amps-250 volts, 12 amps-125 volts AC-DC. DPST also rated at 1 HP at 250 volts AC-DC.




| Normally Closed (ON) No. | Each | CIRCUIT | Normally Open (OFF) No. | Each |
|---|---|---|---|---|
| 1026 | 3.10 | SPST | 544 | 3.10 |
| 1027 | 3.10 | SPDT | — | — |
| 1028 | 3.10 | 2 Circ. | — | — |
| 1029 | 3.10 | DPST | 595 | 3.10 |

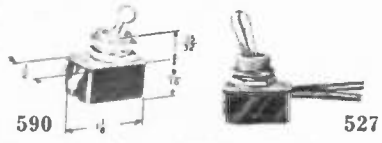
Supplied less button; order button separately.

## STANDARD DUTY TOGGLE SWITCHES

### QUICK MAKE AND BREAK

| BALL LEVER | | CIRCUIT | BAT LEVER | |
|---|---|---|---|---|
| 1030 | 2.10 | SPST | 597 | 2.10 |
| 1031 | 2.10 | SPDT | 598 | 2.10 |
| 1032 | 2.10 | 2 Circ. | 599 | 2.10 |
| 1033 | 2.10 | DPST | 596 | 2.10 |

## MIDGET SIZE TOGGLE SWITCHES




Molded phenolic base. 15/32-32 x 15/32" long slotted sleeve, nickel finish. Side connected silver plated solder contacts. Supplied with hex nut and knurled nut. SPST rated at 3 amps-250 volts; 6 amps-125 volts; all others rated at 1 amp-250 volts, 6 amps-125 volts.

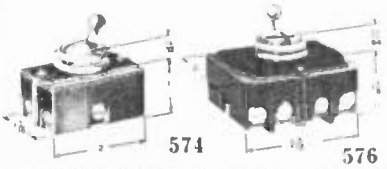
| BALL LEVER | | CIRCUIT | BAT LEVER | |
|---|---|---|---|---|
| 590 | 1.25 | SPST | 591 | 1.25 |
| 589 | 1.45 | SPDT | 592 | 1.45 |
| 594 | 1.50 | 2 Circ. | 593 | 1.50 |

### 6" WIRE LEADS

| BALL LEVER | | CIRCUIT | BAT LEVER | |
|---|---|---|---|---|
| 526 | 1.40 | SPST | 527 | 1.40 |
| 538 | 1.85 | SPDT | 528 | 1.85 |
| 543 | 2.05 | 2 Circ. | 514 | 2.05 |

## EXTRA HEAVY DUTY POWER SWITCHES

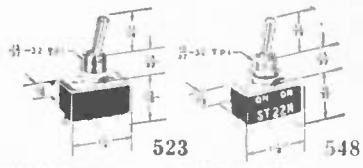
### 3 POSITION—POSITIVE CENTER OFF




Slotted sleeve 3/4-32, nickel finish. Screw terminals. Supplied with 2 hex nuts. Rated at 5 amps-250 volts, 10 amps-125 volts plus HP rating shown below. Std. pkg. 5

| No. | Circuit | Description | Each |
|---|---|---|---|
| 574 | DPDT | 3/4 HP 250 volts AC-DC | 7.50 |
| 575 | TPDT | 1/2 HP 115/230 volts AC, 3 phase | 11.40 |
| 576 | 4PDT | 1/2 HP 115/230 volts AC, 2 phase | 15.25 |

## INTERMEDIATE SIZE TOGGLE SWITCHES




Molded phenolic base. 15/32-32 x 15/32" long slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. SPDT rated at 1 amp-250 volts, 6 amps-125 volts AC-DC; all others rated at 3 amps-250 volts, 6 amps-125 volts AC-DC.

### BAT LEVER

| POSITIVE ACTION No. | Each | CIRCUIT | MOMENTARY ACTION No. | | Each |
|---|---|---|---|---|---|
| 520 | 1.45 | SPST | 524 | OFF | 2.10 |
| 521 | 1.75 | SPDT | 540 | — | 2.30 |
| 583 | 1.80 | 2 Circ. | — | | — |
| 522 | 2.15 | DPST | 537 | OFF | 2.70 |
| 523 | 2.50 | DPDT | 525 | — | 3.30 |

## ST TYPE TOGGLE SWITCHES

MEETS AN SPEC. JAN-23

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC

| No. | AWS No. | CIRCUIT | Position | Each |
|---|---|---|---|---|
| 545 | ST 12A | SPST | OFF-ON | 1.90 |
| 546 | ST 12D | SPDT | ON-ON | 2.15 |
| 1040 | ST 12V | 2 Circ. | ON-OFF | 3.30 |
| 547 | ST 22K | DPST | OFF-ON | 2.65 |
| 548 | ST 22N | DPDT | ON-ON | 2.90 |

MOMENTARY NORMALLY OPEN (OFF)

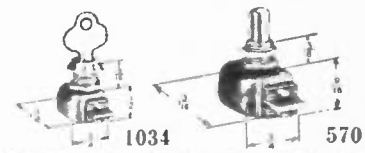
| | | | | |
|---|---|---|---|---|
| 1041 | ST 12C | SPST | OFF-ON | 2.45 |
| 1042 | ST 22M | DPST | OFF-ON | 3.25 |

### 3 POSITION—CENTER OFF

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC

| No. | CIRCUIT | Each |
|---|---|---|
| 566 | SPDT | 2.65 |
| 565 | 2 Circ. | 3.00 |
| 567 | DPDT | 3.30 |

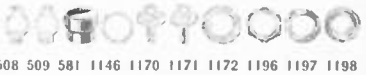
## CANOPY TYPE ROTARY SWITCHES




Laminated type. 11/32-32 x 15/32" sleeve, nickel finish. Solder lugs. Supplied with hex nut and dress nut. SPST rated at 3 amps-250 volts AC-DC; all others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Key removable in OFF position only on SPST and DPST—key removable in both positions on all others.

| KEY TYPE | | CIRCUIT | ROTARY TYPE | |
|---|---|---|---|---|
| 1034 | 2.15 | SPST | 570 | 1.35 |
| 1035 | 2.35 | SPDT | 571 | 1.70 |
| 1036 | 2.40 | 2 Circ. | — | — |
| 1037 | 3.00 | DPST | 572 | 2.25 |
| 1038 | 3.25 | DPDT | 573 | 2.55 |

## SWITCH ACCESSORIES



508 509 581 1146 1170 1171 1172 1196 1197 1198

| No. | Description | Per C |
|---|---|---|
| 508 | ON-OFF name plate | 9.00 |
| 509 | HI-LO name plate | 9.00 |
| 581 | Snap-On Button (Red or Black) | 40.00 |
| 1146 | Narrow Rim Lockwasher | 1.30 |
| 1170 | Key—Remove off position | 35.00 |
| 1171 | Key—Remove both positions | 35.00 |
| 1172 | Locking Ring | 3.00 |
| 1196 | Hex Nut—Brass N.P. | 3.00 |
| 1197 | Ring Nut—Brass N.P. | 5.00 |
| 1198 | Dress Nut—Brass N.P. | 30.00 |



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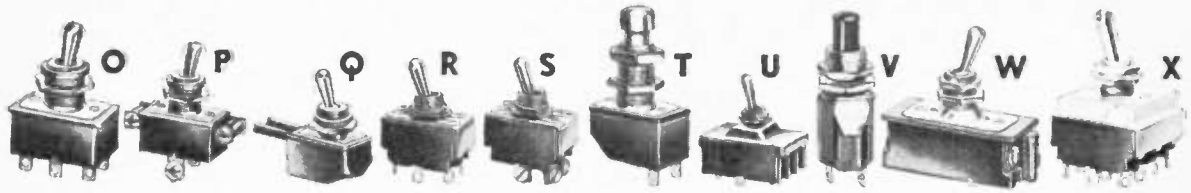
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## CUTLER HAMMER SWITCHES




### LIGHT DUTY TOGGLE SWITCHES

AC-DC, UL Approved; 15/32" shank; quick make—quick break; bakelite case. Unusually small size for electrical capacity. Std. Pkg. 10

#### (O) BACK CONNECTED LUG TERMINALS

| No. | C-H No. | Type | Current Rating 125 Volts | 250 Volts | Ea. |
|---|---|---|---|---|---|
| 950 | 8280K16 | SPST | | 3 Amps. | $1.10 |
| 951 | 8381K8 | SPST | 6 Amps. | 3 Amps. | 1.25 |
| 952 | 8282K14 | SPDT | 3 Amps. | 1 Amp. | 1.40 |
| 953 | 8284K14 | 2 circ. | 3 Amps. | 1 Amp. | 1.45 |
| 954 | 8360K7 | DPST | | 3 Amps. | 2.00 |
| 955 | 8370K7 | DPST | 6 Amps. | 3 Amps. | 2.15 |
| 956 | 8365K7 | DPDT | | 3 Amps. | 2.30 |
| 957 | 8373K7 | DPDT | 6 Amps. | 3 Amps. | 2.45 |

#### (P) SIDE CONNECTED SCREW TERMINALS

Std. Pkg. 10

| No. | C-H No. | Type | Current Rating 125 Volts | 250 Volts | Ea. |
|---|---|---|---|---|---|
| 958 | 8295K8 | SPST | | 3 Amps. | $1.35 |
| 959 | 8396K8 | SPST | 6 Amps. | 3 Amps. | 1.50 |
| 960 | 8297K8 | SPDT | 3 Amps. | 1 Amp. | 1.75 |
| 961 | 8372K7 | DPST | 6 Amps. | 3 Amps. | 2.65 |
| 962 | 8365K7 | DPDT | | 3 Amps. | 3.05 |
| 963 | 8375K7 | DPDT | 6 Amps. | 3 Amps. | 3.20 |

#### (Q) WIRE LEADS—SIX INCHES LONG

Std. Pkg. 10

| No. | C-H No. | Type | Current Rating 125 Volts | 250 Volts | Ea. |
|---|---|---|---|---|---|
| 964 | 8290K16 | SPST | | 3 Amps. | $1.35 |
| 965 | 8391K8 | SPST | 6 Amps. | 3 Amps. | 1.50 |

### STANDARD DUTY TOGGLE SWITCHES

15 Amps. 125 Volts — 10 Amps. 250 Volts

AC, UL Approved; 15/32" shank; slow make and break; bakelite case. AC rated only for longer life and greater capacity. Std. Pkg. 10

#### (R) BACK CONNECTED LUG TERMINALS

| No. | C-H No. | Type | Each |
|---|---|---|---|
| 966 | 7501K13 | SPST | $1.10 |
| 967 | 7505K4 | SPDT | 1.25 |
| 968 | 7561K4 | DPST | 1.65 |
| 969 | 7565K5 | DPDT | 1.90 |
| 970 | 7611K2 | TPST | 3.50 |
| 971 | 7615K2 | TPDT | 4.30 |

#### (S) BACK CONNECTED SCREW TERMINALS

| No. | C-H No. | Type | Each |
|---|---|---|---|
| 972 | 7500K14 | SPST | $1.25 |
| 973 | 7504K4 | SPDT | 1.50 |
| 974 | 7560K5 | DPST | 2.00 |
| 975 | 7564K6 | DPDT | 2.45 |
| 976 | 7610K2 | TPST | 4.05 |
| 977 | 7614K2 | TPDT | 5.15 |

#### (T) PUSH BUTTON SWITCHES

Push to make — Push to break

AC-DC, UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps. 125 Volts-3 Amps. 250 Volts. Std. Pkg. 10

| No. | C-H No. | Type | Terminals | Each |
|---|---|---|---|---|
| 989 | 7206K4 | SPST | Lug | $1.55 |
| 990 | 7208K4 | SPST | Screw | 1.75 |
| 991 | 7207K4 | SPST | Wire | 1.75 |

#### (U) CENTER OFF STANDARD DUTY TOGGLE SWITCHES BACK CONNECTED LUG TERMINALS

Std. Pkg. 10

| No. | C-H No. | Type | Each |
|---|---|---|---|
| 978 | 7563K13 | SPDT | $1.25 |
| 979 | 7565K4 | DPDT | 1.90 |
| 980 | 7613K2 | TPDT | 4.30 |

#### BACK CONNECTED SCREW TERMINALS

| No. | C-H No. | Type | Each |
|---|---|---|---|
| 981 | 7502K13 | SPDT | $1.50 |
| 982 | 7562K4 | DPDT | 2.35 |
| 983 | 7612K2 | TPDT | 5.15 |

#### (V) PUSH BUTTON MOMENTARY SWITCHES

AC-DC, UL Approved, 15/32" shank; rate at ¾ Amp. 120 volts—½ Amp. 250 volts. Std. pkg. 10

| No. | C-H No. | Type | Terminals | Ea. |
|---|---|---|---|---|
| 992 | 8411K4 | SP Norm. Open | Lug | $0.80 |
| 993 | 8411K3 | SP Norm. Open | Screw | .90 |
| 994 | 8411K8 | SP Norm. Closed | Lug | .60 |
| 995 | 8411K7 | SP Norm. Closed | Screw | .65 |

#### (W) HEAVY DUTY TOGGLE SWITCHES

AC-DC, UL Approved; 15/32" shank; quick make—quick break; bakelite case. Screw Terminals. Std. Pkg. 10

| No. | C-H No. | Type | Current Rating 125 Volts | 250 Volts | Ea. |
|---|---|---|---|---|---|
| 984* | 7321K3 | SPST | 12 Amps. | 6 Amps. | $2.15 |
| 985* | 7320K3 | DPST | 12 Amps. | 6 Amps. | 2.15 |
| 986† | 7361K5 | SPST | 15 Amps. | 10 Amps. | 3.65 |
| 987† | 7360K8 | DPST | 15 Amps. | 10 Amps. | 3.65 |
| 988§ | 7402K4 | DPST | — | 20 Amps. | 5.15 |

* 1 Hp—125/250V. † 1½ Hp—125/250V.
§ 1½ Hp—125V. 2 Hp—250V.

#### (X) FOUR POLE SWITCHES

AC-DC GOVERNMENT APPROVED PER MIL-S-6745 15/32" shank. Rated 10 amps. 115 volt AC-20 amps. 28 volts DC (Nominal rating per pole) SEALED LEVER. Std. pkg. 10

| No. | C-H No. | Type | Terminals | Each |
|---|---|---|---|---|
| 944 | 7661 K 6 | 4 PST | Solder Lugs | $6.90 |
| 945 | 7665 K 4 | 4 PDT | Solder Lugs | 8.35 |
| 946 | 7660 K 8 | 4 PST | Screw Term. | 7.50 |
| 947 | 7664 K 3 | 4 PDT | Screw Term. | 9.35 |

**CENTER OFF**

| No. | C-H No. | Type | Terminals | Each |
|---|---|---|---|---|
| 948 | 7663 K 5 | 4 PDT | Solder Lugs | 8.35 |
| 949 | 7662 K 5 | 4 PDT | Screw Term. | 9.35 |

## SMITH NEW IMPROVED CODE STUDY EQUIPMENT

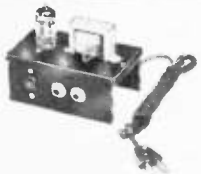
### CODE PRACTICE OSCILLATOR & MONITOR

Ideal for the beginner as well as the experienced operator, this versatile instrument can be used as a code practice oscillator, as a keying monitor to check TOW signals, or as a monitor for phone signals.

Two tubes are used, in an up to date circuit that provides continuously variable tone and volume. Self-contained PM speaker affords ample volume for group use, with phone jack available for individual headphone listening.

The handsome Hammertone finish cabinet has additional provision for wall mounting, an exclusive SMITH feature that eliminates need for valuable desk space. The unit is designed for use on 110 Volts AC or DC, and is supplied complete with two tubes.

| No. | Description | Each |
|---|---|---|
| 2425 | Kit | $22.50* |
| 2426 | Wired | $30.00* |



### JUNIOR CODE OSCILLATOR

For Headset Only

A neat, compact little unit that provides a clean audio tone, ideal for code practice. It is equipped with two standard telephone jacks, to take phone plugs of both key and headset. A single 12AX7 tube is used in an improved circuit, designed for operation on 110 volts AC or DC. Available in wired or kit form, either type supplied with tube.

| No. | Description | Each |
|---|---|---|
| 2430 | Kit | $11.00* |
| 2431 | Wired | $14.50* |

### RUBBER EAR CUSHIONS

Finest quality soft rubber ear cushions, fit all standard earphones. For comfortable listening over long periods of time.

No. 2410 — Per Pair $1.50

### INTERNATIONAL MORSE CODE COURSES

5 RECORDS IN ALBUM — 78 R.P.M.

**TEN LESSONS**

**UP TO 15 WORDS PER MINUTE**

The complete album includes 5 records and 20-page SMITH Instruction Book.

The very latest in scientific code-teaching techniques! The SMITH system uses the proven EAR & EYE method, with carefully graduated lessons based on military teaching procedures.

| No. | Description | Each |
|---|---|---|
| 2400 | Complete Album with Instruction Book | $13.00 |
| 2415 | 20-Page Instruction Book Only | .80 |

### SINGLE RECORD — 33-1/3 R.P.M.

**TEN LESSONS**

**UP TO 15 WORDS PER MINUTE**

Complete on Two Sides

This twelve inch long play record contains all ten of the Code Course Lessons listed above, five on each side. 20-Page SMITH Instruction Book is included, and the record is housed in attractive, sturdy jacket with International Morse Code table on reverse side.

No. 2420 — Each $11.00

### CODE PRACTICE KEY AND BUZZER SET

**COMPACT — INGENIOUS — HANDSOME!**

Perfect for the beginner! High frequency buzzer has variable pitch adjustment. Sturdy fully adjustable key and terminal binding posts, all plated. Uses one standard flashlight cell. All elements mounted on heavy molded bakelite base 6-3/4" x 2-3/4". Supplied less battery.

No. 2443 — $5.50 Ea.*

### TELEGRAPH KEY

A well-built, smooth operating key, low priced, ideal for the beginner. Molded bakelite base and knob. Simple adjustments. All metal parts plated. 1/8" silver contacts. Base size 3-1/4 x 1-13/16".

No. 2442 — Each $2.25

### HIGH SENSITIVITY HEADPHONES

The latest in deluxe design, with many features of more expensive types. Featherweight construction assures fatigue-free use. Alnico V magnets, dual coil construction provide excellent tonal fidelity. Adjustable vinyl covered headband, molded plastic cases. Cord equipped with phone tips.

| No. | Description | Each |
|---|---|---|
| 2440 | Double Headphones | $4.50* |
| 2441 | Single Headphone | $2.75* |

*These Items Subject to Special Jobber Discount.

*Copyright by U. C. P., Inc.*



**ALL PRICES SUBJECT TO TRADE DISCOUNT**



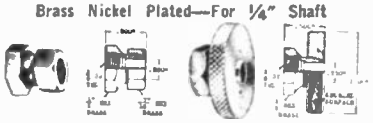
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## SHAFT LOCKS

Brass Nickel Plated—For ¼" Shaft



WRENCH TYPE — No. 181 $0.40 Ea. — Std. Pkg. 100

THUMB TYPE — No. 182 $0.55 Ea. — Std. Pkg. 25

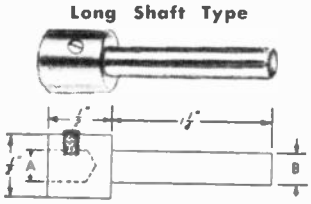
## BRASS AND INSULATED COUPLINGS

Available in both brass and insulated material. Overall length ¾". Set screws are provided in coupling for tightening to shaft.

| No. | Type | O.D. | Material | Std. Pkg. | Each |
|---|---|---|---|---|---|
| 120 | ¼"-¼" | 7/16" | Brass | 100 | $0.30 |
| 140 | ¼"-¼" | 7/16" | Fibre | 50 | 0.25 |
| 131 | 3/8"-¼" | ½" | Brass | 25 | 0.30 |
| 141 | 3/8"-¼" | ½" | Fibre | 25 | 0.25 |
| 133 | 3/8"-3/8" | ½" | Brass | 25 | 0.30 |
| 142 | 3/8"-3/8" | ½" | Fibre | 25 | 0.25 |

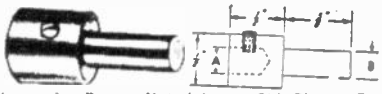
## BRASS AND INSULATED EXTENDERS

### Long Shaft Type



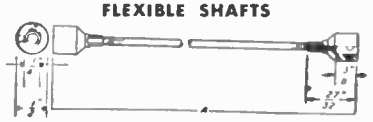
| No. | A | B | Material | Std. Pkg. | Ea. |
|---|---|---|---|---|---|
| 150 | ¼" | ¼" | Brass N. P. | 25 | $0.33 |
| 130 | ¼" | ¼" | Fibre | 25 | .33 |
| 132 | 3/8" | ¼" | Brass N. P. | 25 | .33 |
| 134 | 3/8" | ¼" | Fibre | 25 | .33 |

### Short Shaft Type



| No. | A | B | Material | Std. Pkg. | Ea. |
|---|---|---|---|---|---|
| 160 | ¼" | ¼" | Brass N. P. | 25 | $0.30 |
| 161 | ¼" | ¼" | Fibre | 25 | .30 |
| 162 | 3/8" | ¼" | Brass N. P. | 25 | .30 |
| 163 | 3/8" | ¼" | Fibre | 25 | .30 |

## FLEXIBLE SHAFTS



High quality phosphor bronze non-magnetic, non-rusting flexible shafts. Remote control when necessary to mount condensers and potentiometers away from panel at unusual angles. Turns at any angle up to 90°; free from back lash.

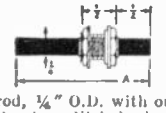
| No. | Size | Description | Std. Pkg. | Each |
|---|---|---|---|---|
| 151 | 3" | with ¼" hub | 25 | $0.75 |
| 152 | 6" | with ¼" hub | 25 | 1.00 |
| 153 | 3" | with ¼" coupler | 25 | 1.50 |
| 154 | 6" | with ¼" coupler | 25 | 1.75 |

## BEARING FOR PANEL ASSSEMBLY

Made of brass, and fits in ⅜" dia. hole in panels up to 5/16" thick. Bearing is made to accommodate ¼" shafts. Overall length ½".

No. 119 Std. Pk. 100 $0.25 Ea.

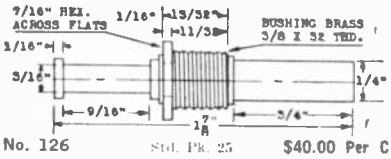
## PANEL BEARING ASSEMBLY



This assembly combines either 3" or 6" brass rod, ¼" O.D. with our standard No. 119 Panel Bearing. Nickel plated overall. Std. Pkg. 25

| No. | A | Each |
|---|---|---|
| 148 | 3" | $0.55 |
| 149 | 6" | 0.65 |

## PANEL BEARING ASSEMBLY

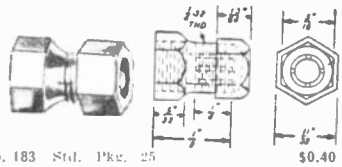



No. 126 Std. Pk. 25 $40.00 Per C

## MINIATURE SHAFT ACCESSORIES

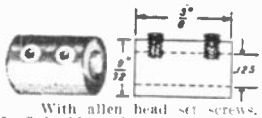
**Brass Nickel Plated, for ⅛" Shafts**

### MINIATURE SHAFT LOCK—WRENCH TYPE



No. 183 Std. Pkg. 25 $0.40 Ea.

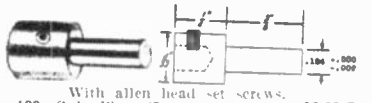
### MINIATURE BRASS COUPLER



With allen head set screws.

No. 180 Std. Pkg. 25 $0.40 Ea.

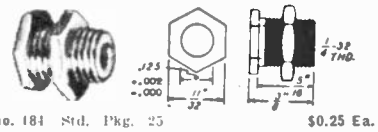
### MINIATURE SHAFT EXTENDER



With allen head set screws.

No. 189 Std. Pkg. 25 $0.30 Ea.

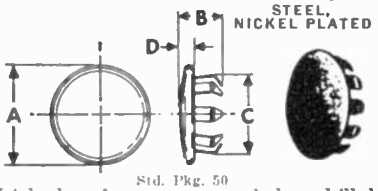
### MINIATURE PANEL BEARING



No. 184 Std. Pkg. 25 $0.25 Ea.

## SNAP BUTTON HOLE PLUGS

STEEL, NICKEL PLATED



Std. Pkg. 50

Metal plugs for covering punched or drilled holes in metal, plastic or wood.

Std. Pkg. 100

| No. | Hole | A | B | C | D | Prongs | Per C |
|---|---|---|---|---|---|---|---|
| 650 | ¼" | 13/32 | ¼ | 17/64 | 3/64 | 6 | $3.20 |
| 651 | 3/16" | 7/16 | ¼ | 21/64 | 1/16 | 6 | 3.20 |
| 652 | 3/8" | 17/32 | 3/8 | 25/64 | 5/64 | 6 | 3.20 |
| 653 | ½" | 21/32 | 17/64 | 17/32 | 3/64 | 8 | 4.60 |
| 654 | 5/8" | 51/64 | 9/32 | 41/64 | 5/64 | 8 | 4.60 |
| 655 | ¾" | 15/16 | 19/64 | 49/64 | 3/32 | 12 | 4.60 |
| 608 | 7/8" | 1 11/16 | 19/64 | 57/64 | 7/16 | 12 | 5.50 |
| 612 | 1" | 1 3/32 | 19/64 | 1 1/64 | 3/64 | 12 | 7.50 |
| *656 | 1" | 1 3/32 | 19/64 | 1 1/32 | 3/64 | 12 | 18.00 |

*Vent

## THREADED BRASS RODS

Rods ordinarily supplied in one foot lengths; if two foot length is required, please specify.

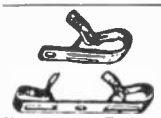
Std. Pkg. 25

| 1-FT. LENGTH No. | Per Length | THREAD | 2-FT. LENGTH No. | Per Length |
|---|---|---|---|---|
| 1400-1 | $ .40 | 6-32 | 1400-2 | .80 |
| 1401-1 | .40 | 8-32 | 1401-2 | .80 |
| 1402-1 | .60 | 10-32 | 1402-2 | 1.20 |
| 1403-1 | .90 | ¼-20 | 1403-2 | 1.80 |

## BRASS AND INSULATED RODS

| No. | Type | Length | Dia. | Each |
|---|---|---|---|---|
| 1404 | Brass | 6" | ¼" | $0.33 |
| 1405 | Brass | 12" | ¼" | .66 |
| 1406 | Insulated | 6" | ¼" | .25 |
| 1407 | Insulated | 12" | ¼" | .50 |

## FAHNESTOCK SPRING BATTERY CLIPS



Brass, nickel plated.

Std. Pkg. 100

| No. | Type | Length | Per C |
|---|---|---|---|
| 539 | Single | ⅝" | $ 2.00 |
| 533 | Single | ¾" | 2.40 |
| 534 | Single | 1" | 2.80 |
| 535 | Double | 1½" | 14.00 |
| 536 | Double | 2 1/16" | 16.00 |

## BRASS SPACERS CADMIUM PLATED

Ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

Std. Pkg. 100

| FOR NO. 6 SCREW No. | Per C | ¼" O.D. Length | FOR NO. 8 SCREW No. | Per C |
|---|---|---|---|---|
| 2100 | $5.50 | ¼" | 2105 | $5.50 |
| 2101 | 7.25 | ⅜" | 2106 | 7.25 |
| 2102 | 8.80 | ½" | 2107 | 8.80 |
| 2103 | 10.50 | ¾" | 2108 | 10.50 |
| 2104 | 12.00 | 1" | 2109 | 12.00 |
| | | ⅜" O.D. | | |
| No. | Per C | Length | No. | Per C |
| 2110 | $8.00 | ¼" | 2115 | $8.80 |
| 2111 | 10.50 | ⅜" | 2116 | 10.50 |
| 2112 | 12.00 | ½" | 2117 | 12.00 |
| 2113 | 13.75 | ¾" | 2118 | 13.75 |
| 2114 | 15.50 | 1" | 2119 | 15.50 |

## THREADED BRASS SPACERS CADMIUM PLATED

Brass bushings ¼" O.D.
Threaded 6-32 and 8-32.

Std. Pkg. 100

| THREADED 6-32 No. | Per C | Length | THREADED 8-32 No. | Per C |
|---|---|---|---|---|
| 2120 | $6.50 | ¼" | 2125 | $6.50 |
| 2121 | 8.25 | ⅜" | 2126 | 8.25 |
| 2122 | 10.00 | ½" | 2127 | 10.00 |
| 2123 | 12.00 | ¾" | 2128 | 12.00 |
| 2124 | 13.75 | 1" | 2129 | 13.75 |

## INSULATED SPACERS

| FOR NO. 6 SCREW No. | Per C | ¼" O.D. Length | FOR NO. 8 SCREW No. | Per C |
|---|---|---|---|---|
| 2130 | $6.50 | ¼" | 2140 | $6.50 |
| 2131 | 8.25 | ⅜" | 2141 | 8.25 |
| 2132 | 10.00 | ½" | 2142 | 10.00 |
| 2133 | 12.00 | ¾" | 2143 | 12.00 |
| 2134 | 13.75 | 1" | 2144 | 13.75 |

## HEX BRASS SPACERS

**Cadmium Plated—**

**Std. Pkg. 100**

| For No. 6 Screw No. | Per C | ¼" HEX Length | For No. 8 Screw No. | Per C |
|---|---|---|---|---|
| 2300 | $ 6.00 | ¼" | 2305 | $ 6.00 |
| 2301 | 7.75 | ⅜" | 2306 | 7.75 |
| 2302 | 9.30 | ½" | 2307 | 9.30 |
| 2303 | 11.25 | ¾" | 2308 | 11.25 |
| 2304 | 13.00 | 1" | 2309 | 13.00 |
| | | ⅜" HEX | | |
| 2310 | $10.30 | ¼" | 2315 | $10.30 |
| 2311 | 12.00 | ⅜" | 2316 | 12.00 |
| 2312 | 13.75 | ½" | 2317 | 13.75 |
| 2313 | 16.50 | ¾" | 2318 | 16.50 |
| 2314 | 17.50 | 1" | 2319 | 17.50 |

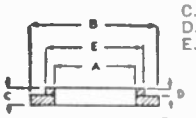
## THREADED HEX BRASS SPACERS

**Cadmium Plated — Std. Pkg. 100**

| Threaded 6-32 No. | Per C | ¼" HEX Length | Threaded 8-32 No. | Per C |
|---|---|---|---|---|
| 2320 | $ 7.00 | ¼" | 2325 | $ 7.00 |
| 2321 | 8.75 | ⅜" | 2326 | 8.75 |
| 2322 | 10.50 | ½" | 2327 | 10.50 |
| 2323 | 12.75 | ¾" | 2328 | 12.75 |
| 2324 | 14.75 | 1" | 2329 | 14.75 |

## FIBRE SHOULDER WASHERS

A. Inside Diameter
B. Outside Diameter
C. Thickness Over-all
D. Height of Shoulder
E. Diameter of Shoulder



Std. Pkg. 1000

| No. | A | B | C | D | E | Per M |
|---|---|---|---|---|---|---|
| 2150 | #6-.140 | .375 | .098 | .031 | .237 | $11.50 |
| 2151 | #4-.110 | .250 | .062 | .031 | .187 | 9.50 |
| 2152 | #6-.136 | .250 | .093 | .031 | .187 | 10.00 |
| 2153 | #6-.136 | .312 | .093 | .031 | .187 | 11.00 |
| 2154 | ¼"-.250 | .500 | .068 | .028 | .312 | 12.00 |
| 2155 | #8-.172 | .375 | .093 | .031 | .246 | 11.00 |
| 2156 | #10-.196 | .375 | .093 | .031 | .308 | 11.00 |
| 2157 | ⅜"-.375 | .750 | .093 | .031 | .500 | 14.50 |
| 2158 | ⅝"-.385 | .625 | .093 | .031 | .500 | 14.00 |
| 2159 | 11/16"-.265 | .500 | .097 | .031 | .365 | 12.00 |

## FLAT FIBRE WASHERS

Std. Pkg. 1000

| No. | For Screw-(I.D.) | O.D. | Thickness | Per M |
|---|---|---|---|---|
| 2160 | #6-.136 | .250 | 1/16 | $ 9.50 |
| 2161 | #4-.110 | .250 | 1/16 | 9.50 |
| 2162 | #6-.140 | .375 | 1/16 | 8.50 |
| 2163 | #8-.172 | .375 | 1/16 | 8.50 |
| 2164 | #10-.196 | .375 | 1/16 | 8.50 |
| 2165 | ¼"-.250 | .500 | 1/16 | 9.00 |
| 2166 | ¼"-.250 | .500 | 3/32 | 9.50 |
| 2167 | 5/16"-.312 | .500 | 1/16 | 9.00 |
| 2168 | ⅜"-.385 | .625 | 1/16 | 11.00 |
| 2169 | ⅜"-.375 | .750 | 1/16 | 14.00 |



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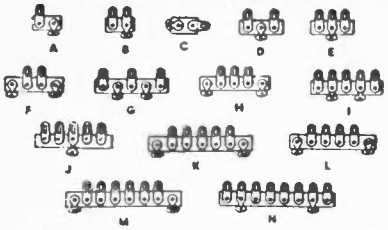
**ALL PRICES SUBJECT TO TRADE DISCOUNT**

World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## TIE DOWN TERMINAL STRIPS



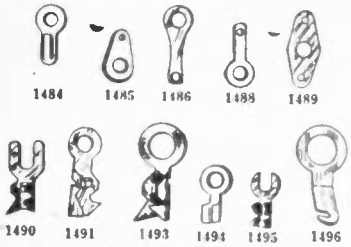

**STANDARD TYPE**—Brass cadmium plated lugs, mounted on ¾" wide x .062 thick XP bakelite. Lugs are ⅜" centers; .140 dia. mtg. hole clearance for No. 6 screw. Combinations shown are standard; special combinations on request.

**MINIATURE TYPE**—Brass cadmium plated lugs, mounted on 5/16" wide x .062 thick XP bakelite. Lugs are ¼" centers; .096 dia. mtg. hole clearance for 5/32" rivet or No. 3 screw. Combinations shown are standard; special combinations on request.

| Standard Type No. | Per C | Illustration | Miniature Type No. | Per C |
|---|---|---|---|---|
| 861 | $3.50 | A | 1061 | $ 4.00 |
| 862 | 3.50 | B | 1062 | 4.50 |
| 849 | 4.00 | C | — | — |
| 863 | 4.00 | D | 1063 | 5.50 |
| 864 | 4.00 | E | 1064 | 6.00 |
| 867 | 6.00 | F | 1067 | 6.50 |
| 865 | 7.00 | G | 1065 | 8.75 |
| 853 | 8.00 | H | 1073 | 8.75 |
| 868 | 7.00 | I | 1068 | 9.50 |
| 866 | 6.00 | J | 1066 | 9.00 |
| 860 | 8.25 | K | 1060 | 11.00 |
| 869 | 8.50 | L | 1069 | 10.00 |
| 848 | 9.75 | M | 1078 | 13.60 |
| 870 | 9.75 | N | 1070 | 13.50 |

Standard Package 100

## SOLDER TYPE LUGS—Hot Tinned




Std. Pkg. 1000

| No. | Material | L. | Thick. | Hole | Per M |
|---|---|---|---|---|---|
| 1484 | Brass | ⅝" | .020" | No. 6 | $8.50 |
| 1485-4 | Ph. Br. | 7/16" | .012" | No. 4 | 9.00 |
| 1485-6 | Ph. Br. | 7/16" | .012" | No. 6 | 9.00 |
| 1485-8 | Ph. Br. | 7/16" | .012" | No. 8 | 9.00 |
| 1485-10 | Ph. Br. | 7/16" | .012" | No. 10 | 9.00 |
| 1486-4 | Ph. Br. | 11/16" | .012" | No. 4 | 9.00 |
| 1486-6 | Ph. Br. | 11/16" | .012" | No. 6 | 9.00 |
| 1486-8 | Ph. Br. | 11/16" | .012" | No. 8 | 9.00 |
| 1486-10 | Ph. Br. | 11/16" | .012" | No. 10 | 9.00 |
| 1488-4 | Ph. Br. | 7/16" | .012" | No. 4 | 7.25 |
| 1488-6 | Ph. Br. | 7/16" | .012" | No. 6 | 7.25 |
| 1488-8 | Ph. Br. | 7/16" | .012" | No. 8 | 7.25 |
| 1489 | Brass | ⅞" | .015" | No. 8 | 10.00 |
| 1490 | Brass | ¾" | .020" | No. 10 | 11.00 |
| 1491 | Copper | 13/16" | .020" | No. 10 | 16.50 |
| 1493 | Brass | 1 1/16" | .027" | ¼" | 28.00 |
| 1494-6 | Brass | ⅝" | .020" | No. 6 | 9.00 |
| 1494-8 | Brass | ⅝" | .020" | No. 8 | 9.00 |
| 1495 | Brass | ⅝" | .020" | No. 8 | 8.50 |
| 1496 | Brass | ¾" | .020" | ¼" | 17.00 |

## LOCKING TYPE TERMINAL LUGS

**Brass Electro Plated**

| No. | Hole Size | Thick | Length | Per M |
|---|---|---|---|---|
| 1465 | No. 4 | .020 | 47/64" | $17.00 |
| 1466 | No. 6 | .020 | 47/64" | 17.00 |
| 1467 | No. 8 | .020 | 7/8" | 17.00 |
| 1468 | ¼" | .020 | 15/16" | 20.00 |

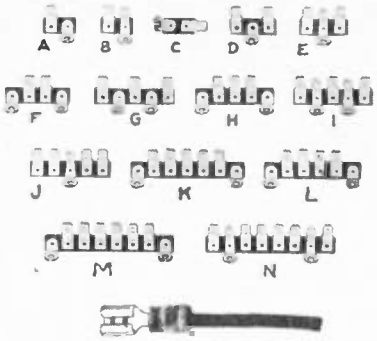
## TERMINAL BOARDS

**Screw Type**

Brass hot tinned lugs mounted on 1/16" bakelite. Lugs are spaced 7/16" center to center.

| No. | Terminals | Mtg. Ctr. | Std. Pkg. | Per C |
|---|---|---|---|---|
| 872 | 2 | 1 7/16" | 50 | 10.00 |
| 573 | 3 | 1¾" | 50 | 15.00 |
| 874 | 4 | 2 3/16" | 50 | 19.00 |
| 875 | 5 | 2⅝" | 25 | 22.00 |
| 876 | 6 | 3 1/16" | 25 | 28.00 |
| 877 | 7 | 3½" | 25 | 35.00 |
| 878 | Shorting Link | | | 3.00 |

## "QUICK-CONNECT" TERMINAL STRIPS




| No. | Per C | No. | Per C | No. | Per C |
|---|---|---|---|---|---|
| 1085 | 4.70 | 1090 | 8.00 | 1095 | 16.00 |
| 1086 | 5.00 | 1091 | 8.00 | 1097 | 13.50 |
| 1087 | 4.70 | 1092 | 8.00 | 1098 | 18.00 |
| 1088 | 7.00 | 1093 | 10.50 | 1099 | 19.00 |
| 1089 | 7.50 | 1094 | 11.00 | 1576 | 5.50 |

No. 1576 Terminal Strip Connectors $5.50 Per C

## LOCKING TYPE TERMINAL LUGS

*Brass Hot Tinned*

| No. | L | Thick | Hole | Per M |
|---|---|---|---|---|
| 1410-4 | 7/8" | .018 | No. 4 | 15.00 |
| 1410-6 | 7/8" | .018 | No. 6 | 15.00 |
| 1410-8 | 7/8" | .018 | No. 8 | 15.00 |
| 1411-4 | 47/64" | .020 | No. 4 | 15.00 |
| 1411-6 | 47/64" | .020 | No. 6 | 15.00 |
| 1411-8 | 47/64" | .020 | No. 8 | 15.00 |
| 1412-4 | 5/8" | .018 | No. 4 | 14.00 |
| 1412-6 | 5/8" | .018 | No. 6 | 14.00 |
| 1412-8 | 5/8" | .018 | No. 8 | 14.00 |
| 1413-4 | 23/32" | .018 | No. 4 | 15.00 |
| 1413-6 | 23/32" | .018 | No. 6 | 15.00 |
| 1413-8 | 23/32" | .018 | No. 8 | 15.00 |
| 1414-4 | 13/16" | .018 | No. 4 | 15.00 |
| 1414-6 | 13/16" | .018 | No. 6 | 15.00 |
| 1414-8 | 13/16" | .018 | No. 8 | 15.00 |
| 1415-4 | 41/64" | .018 | No. 4 | 15.00 |
| 1415-6 | 41/64" | .018 | No. 6 | 15.00 |
| 1415-8 | 41/64" | .018 | No. 8 | 15.00 |
| 1416-4 | 11/16" | .020 | No. 4 | 15.00 |
| 1416-6 | 11/16" | .020 | No. 6 | 15.00 |
| 1416-8 | 11/16" | .020 | No. 8 | 15.00 |

## MINIATURE HUM BALANCING CONTROLS

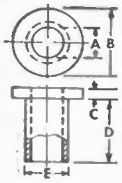
Rheostat rated at 2 watts, grounded rotor, tolerance ± 20%. Screwdriver slot adjustment from front or rear. Useful for hum balancing, centering, hold and locking, linearity, AGC sensitivity, etc. Standard Package 25

| No. | Total Res. Ohms | Per C |
|---|---|---|
| 2291 | 50 | $65.00 |
| 2292 | 100 | 65.00 |
| 2293 | 300 | 65.00 |
| 2294 | 500 | 65.00 |
| 2295 | 700 | 65.00 |
| 2296 | 1000 | 65.00 |
| 2297 | 2000 | 65.00 |
| 2298 | 3000 | 65.00 |
| 2299 | 4000 | 65.00 |

## HEAVY DUTY TERMINAL BOARDS

XP Bakelite, 8-32 x ⅜" Brass nickel plated screws. ⅞" wide. ½" from terminal centers to mounting hole centers, and ½" between terminal centers. Std. Pkg. 25

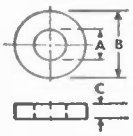
| No. | Terminals | Mtg. Center | Per C |
|---|---|---|---|
| 902 | 2 | 1½" | 23.00 |
| 903 | 3 | 2" | 29.00 |
| 904 | 4 | 2 1/16" | 35.00 |
| 905 | 5 | 3" | 41.00 |
| 906 | 6 | 3½" | 47.00 |
| 907 | 7 | 4" | 53.00 |
| 908 | 8 | 4½" | 59.00 |
| 909 | 9 | 5" | 65.00 |
| 910 | 10 | 5½" | 71.00 |
| 911 | 11 | 6" | 77.00 |




## NYLON SPACER BUSHINGS

*Natural Color*

| No. | I.D. (A) | B | C | D | E | Per M |
|---|---|---|---|---|---|---|
| 2534 | #4(.115) | .235 | 3/64 | 1/4 | .147 | 35.00 |
| 2535 | #6(.140) | .290 | 3/64 | 1/4 | .170 | 35.00 |
| 2536 | #8(.170) | .344 | 1/16 | 3/8 | .205 | 37.00 |
| 2537 | #10(.200) | .399 | 1/16 | 3/8 | .260 | 40.00 |
| 2538 | 1/4"(.260) | .513 | 1/16 | 3/8 | .312 | 45.00 |




## NYLON FLAT WASHERS

*Natural Color*

| No. | I.D. (A) | O.D.(B) | Thick (C) | Per M |
|---|---|---|---|---|
| 2514 | #4(.115) | .281 | .047 | 30.00 |
| 2515 | #6(.140) | .312 | .047 | 31.00 |
| 2516 | #8(.170) | .375 | .062 | 35.00 |
| 2517 | #10(.200) | .437 | .062 | 37.00 |
| 2518 | 1/4"(.260) | .562 | .062 | 40.00 |

## NYLON SCREWS

*Natural Color*

| Size | No. | No. | No. | No. | No. | No. | Per M |
|---|---|---|---|---|---|---|---|
| 4-40 x 1/4 | 2500 | 2520 | 2540 | 2560 | 2580 | 2480 | 50.00 |
| 4-40 x 3/8 | 2501 | 2521 | 2541 | 2561 | 2581 | 2481 | 51.00 |
| 4-40 x 1/2 | 2502 | 2522 | 2542 | 2562 | 2582 | 2482 | 52.00 |
| 6-32 x 1/4 | 2503 | 2523 | 2543 | 2563 | 2583 | 2483 | 51.00 |
| 6-32 x 3/8 | 2504 | 2524 | 2544 | 2564 | 2584 | 2484 | 51.00 |
| 6-32 x 1/2 | 2505 | 2525 | 2545 | 2565 | 2585 | 2485 | 52.00 |
| 6-32 x 5/8 | 2506 | 2526 | 2546 | 2566 | 2586 | 2486 | 52.00 |
| 6-32 x 3/4 | 2507 | 2527 | 2547 | 2567 | 2587 | 2487 | 53.00 |
| 6-32 x 1 | 2508 | 2528 | 2548 | 2568 | 2588 | 2488 | 54.00 |
| 8-32 x 1/4 | 2509 | 2529 | 2549 | 2569 | 2589 | 2489 | 51.00 |
| 8-32 x 3/8 | 2510 | 2530 | 2550 | 2570 | 2590 | 2490 | 52.00 |
| 8-32 x 1/2 | 2511 | 2531 | 2551 | 2571 | 2591 | 2491 | 52.00 |
| 8-32 x 5/8 | 2512 | 2532 | 2552 | 2572 | 2592 | 2492 | 53.00 |
| 8-32 x 1 | 2513 | 2533 | 2553 | 2573 | 2593 | 2493 | 54.00 |

**SMALL SCREW MACHINE PARTS AND STAMPINGS**

**MADE TO YOUR SPECIAL REQUIREMENTS**

*YOUR INQUIRY WELCOMED*

## CONTACT STRIPS

Quick connect and disconnect contact strips. Spring tension contacts for .125 dia. contact pins. Contacts on ⅝" centers. Even number contacts have mtg. bracket in center; odd number contacts have extra contact on right. Std. Pkg. 50

| No. | Contacts | Per C |
|---|---|---|
| 822 | 2 | $11.00 |
| 823 | 3 | 14.00 |
| 824 | 4 | 17.00 |
| 825 | 5 | 20.00 |
| 826 | 6 | 25.00 |

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**ALL PRICES SUBJECT TO TRADE DISCOUNT**



World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## SOLDERLESS CO-AXIAL CONNECTORS

Designed to-use inner conductor of co-ax cable for male pin. Brass, silver-plated, solderless.

### MALE CONNECTOR FOR RG-59/U

Mates with 1660 receptacle or cable coupler. Std. Pkg. 25

| No. | | Each |
|---|---|---|
| 1650 | | $ 0.80 |
| 1650-D | Display of 24 | 19.20 |

### CABLE JUNCTION FOR RG-59/U

Mates at either end with male #1650 connector. Std. Pkg. 25

| No. | | Each |
|---|---|---|
| 1680 | | $1.00 |
| 1680-D | Display of 24 | 24.00 |

1660 1680

### HEAVY DUTY FEMALE RECEPTACLE

Mates with #1650. Threaded stem ⅝" long. Std. Pkg. 25

| No. | | Each |
|---|---|---|
| 1660 | | $ 0.80 |
| 1660-D | Display of 24 | 19.20 |

| | | |
|---|---|---|
| 1713 | PL-259 Plug only | 1.25 |

## MALE CONNECTOR

1652

1656

Withstands 350 lbs. pull. Used with #1752 pliers for quick, easy assembly. Std. Pkg. 25

| No. | Description | Each |
|---|---|---|
| 1652 | For RG-59/U, JRP-59 Cables | $ 0.80 |
| 1652-D | Display of 24 | 19.20 |
| 1656 | For RF-6/U Cable | 1.05 |
| 1656-D | Display of 24 | 25.20 |
| 1752 | Pliers | 3.00 |

## NYLON LACING CORD

The lacing cord meets specification for yardage and tensile strength and is made to meet Spec. MIL-T-713-A, Type S, Composition P, Classes 3, 2 and 1. Supplied in 1-lb. tubes. Natural color.

| CLASS 1 70 Lb. Test | | | CLASS 2 48 Lb. Test | | | CLASS 3 32 Lb. Test | | |
|---|---|---|---|---|---|---|---|---|
| No. | Ydge. | Each | No. | Ydge. | Each | No. | Ydge. | Each |
| 734 | 600 | $15.00 | 735 | 800 | $15.50 | 736 | 1140 | $16.00 |

## LINEN LACING CORD

Made from pure flax, waxed and mildew proofed. Six, Eight and Twelve ply cord meet Spec. MIL-T-713-A, Type N, Classes 3, 2 and 1 respectively. Natural color.

| No. | Tube | Ply | Class | Ydge. | Each |
|---|---|---|---|---|---|
| 725 | 4 oz. | 4 | — | 210 | $2.75 |
| 726 | 8 oz. | 4 | — | 425 | 5.00 |
| 727 | 1 lb. | 4 | — | 850 | 9.00 |
| 728 | 4 oz. | 6 | 3 | 150 | $2.75 |
| 729 | 8 oz. | 6 | 3 | 300 | 5.00 |
| 730 | 1 lb. | 6 | 3 | 600 | 9.00 |
| 737 | 4 oz. | 8 | 2 | 115 | $2.75 |
| 738 | 8 oz. | 8 | 2 | 235 | 5.00 |
| 739 | 1 lb. | 8 | 2 | 470 | 9.00 |
| 731 | 4 oz. | 9 | — | 100 | $2.75 |
| 732 | 8 oz. | 9 | — | 200 | 5.00 |
| 733 | 1 lb. | 9 | — | 400 | 9.00 |
| 740 | 4 oz. | 12 | 1 | 75 | $2.75 |
| 741 | 8 oz. | 12 | 1 | 150 | 5.00 |
| 742 | 1 lb. | 12 | 1 | 300 | 9.00 |

## MINI-SHIELDS FOR MINI-TUBES

| No. | Type | Overall Length | Std. Pkg. | Per C |
|---|---|---|---|---|
| 550 | for 2" tube | 1¾" | 50 | $13.00 |
| 551 | for 1½" tube | 1¼" | 50 | 11.00 |
| 553 | 3 prong base clip | | 100 | 5.50 |
| 554 | single clips | | 100 | 3.30 |

## MINI-SPRING FOR MINI-TUBES

| No. | Type | Std. Pkg. | Per C |
|---|---|---|---|
| 560 | Short | 50 | $15.00 |
| 561 | Medium | 50 | 15.00 |
| 562 | Long | 50 | 15.00 |
| 563 | 9 Prong | 50 | 15.00 |

## NYLON STRAIN RELIEF BUSHINGS

One piece construction. Eliminates grommets, wire knots and costly labor. Completely insulates wire from chassis and prevents cord pull push and twist. No. 937 ideal for small mike cables; No. 938 for line cords; No. 939 for Co-Ax Wire. Std. Pkg. 100

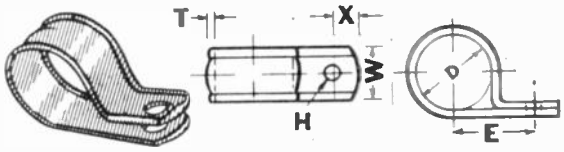
A: Chassis Hole C: Length
B: Diameter of head D: Chassis Thickness

| No. | Wire Size | A | B | C | D | Per C |
|---|---|---|---|---|---|---|
| 937 | ¼-3/16" | .375 | .410 | .415 | to 1/16" | $6.00 |
| 938 | SP-1 & SPT-1 | .437 | .468 | .406 | to 1/16" | 6.00 |
| 939 | 235 265 | .500 | .560 | .438 | to 3/32" | 7.00 |

## SETTING PLIERS

No. 940 $13.00 Each

## PLASTIC CABLE CLIPS




### ETHYL CELLULOSE

These clips are well known for ability to withstand age, moisture, corrosion, shock and vibration. This tough, light weight, durable clip withstands temperatures from −60 to +175 degrees F.

T .060 — W 1/2"
X 7/32" — H .204

| No. | Hole (D) | E | Per C | Per M |
|---|---|---|---|---|
| 831 | 1/8 | .360 | 3.90 | 32.00 |
| 832 | 3/16 | .423 | 4.00 | 33.00 |
| 833 | 1/4 | .457 | 4.30 | 36.00 |
| 834 | 5/16 | .498 | 4.75 | 40.00 |
| 835 | 3/8 | .529 | 5.00 | 42.00 |
| 836 | 7/16 | .560 | 5.50 | 46.00 |
| 837 | 1/2 | .592 | 6.00 | 50.00 |
| 838 | 9/16 | .623 | 7.00 | 57.00 |
| 839 | 5/8 | .654 | 7.50 | 66.00 |
| 840 | 11/16 | .752 | 8.00 | 71.00 |
| 841 | 3/4 | .783 | 8.50 | 74.00 |
| 842 | 7/8 | .845 | 9.00 | 80.00 |
| 843 | 1 | .908 | 9.50 | 86.00 |
| 844 | 1-1/8 | .970 | 10.00 | 91.00 |
| 845 | 1-1/4 | 1.062 | 10.50 | 97.00 |

Standard Package 100

### NYLON

These strong and tough molded nylon clamps hold their shape under severest stress. Do not support combustion. Withstands temperatures from −60 to +250 degrees F.

| | 1/8 to 1/2" Hole (D) | 9/16 to 1-1/4" Hole (D) |
|---|---|---|
| T | .040 | .060 |
| W | 3/8" | 1/2" |
| X | 5/32" | 13/64" |
| H | .167 | .204 |

| No. | Hole (D) | E | Per C | Per M |
|---|---|---|---|---|
| 771 | 1/8 | .310 | 6.00 | 50.00 |
| 772 | 3/16 | .373 | 6.50 | 53.00 |
| 773 | 1/4 | .407 | 7.00 | 58.00 |
| 774 | 5/16 | .448 | 7.75 | 64.00 |
| 775 | 3/8 | .479 | 8.00 | 67.00 |
| 776 | 7/16 | .510 | 8.50 | 71.00 |
| 777 | 1/2 | .542 | 9.00 | 75.00 |
| 778 | 9/16 | .623 | 11.00 | 93.00 |
| 779 | 5/8 | .654 | 12.00 | 109.00 |
| 780 | 11/16 | .752 | 12.50 | 115.00 |
| 781 | 3/4 | .783 | 13.50 | 125.00 |
| 782 | 7/8 | .845 | 14.50 | 135.00 |
| 783 | 1 | .908 | 17.00 | 160.00 |
| 784 | 1-1/8 | 1.002 | 20.00 | 180.00 |
| 785 | 1-1/4 | 1.062 | 23.00 | 200.00 |

Standard Package 100

## AUTOMATIC WIRE STRIPPERS

For Industrial Production, Electrical and Electronic Servicing, Laboratories. Single Squeeze operation — Easy Grip — Precision Action — Adjustable Blades. FOR WIRE SIZES #8 to #30 STRANDED OR SOLID.

### OPEN-SHUT TYPE
**For Stripping Solid Wire**

Does not have delayed action cam or trigger to hold jaws open after wire is stripped. Designed primarily for solid wire. Overall length of stripper is 6¾". Adjustable Stop included.

| No. | Wire Size | Each |
|---|---|---|
| 1320 | 10 to 22 | $7.95 |
| 1321 | 14 to 30 | 7.95 |
| 1322 | 16 to 22 | 7.95 |
| 1323 | 10 to 18 | 7.95 |
| 1324 | 8 to 10 | 7.95 |
| 1325 | POSJ-18 | 7.95 |
| 1326 | 300 ohm | 7.95 |

### TRIGGER TYPE
**Strips Solid or Stranded Wire**

This unique trigger attachment holds jaws open after stripping while wire is removed. Can be set in off position if required. For Stranded or solid Wire.

| No. | Wire Size | Each |
|---|---|---|
| 1330 | 10 to 22 | $9.90 |
| 1331 | 14 to 30 | 9.90 |
| 1332 | 16 to 22 | 9.90 |
| 1333 | 10 to 18 | 9.90 |
| 1334 | 8 to 10 | 9.90 |
| 1335 | POSJ-18 | 9.90 |
| 1336 | 300 ohm | 9.90 |

### FULLY AUTOMATIC TYPE
**Strips Solid or Stranded Wires**

Concealed cam causes delayed action which prevents crushing or stranded wires. For Stranded or Solid Wire.

| No. | Wire Size | Each |
|---|---|---|
| 1340 | 8 to 22 | $9.90 |
| 1341 | 14 to 30 | 9.90 |
| 1342 | 16 to 22 | 9.90 |
| 1343 | 10 to 18 | 9.90 |
| 1344 | 8 to 10 | 9.90 |
| 1345 | POSJ-18 | 9.90 |
| 1346 | 300 ohm | 9.90 |

### ADJUSTABLE STOP INCLUDED WITH EACH STRIPPER

- **Speeds Production Stripping**
- **Eliminates Wire Waste**

Easy to put on and take off. Ideal for production work where many wires must be stripped to exactly the same length. Max. length of stripping with stop, 7/8".

**Supplied free with every stripper.**

### REPLACEMENT BLADES

Replacement Blades are available for all wire strippers. Add suffix "B" to catalog number of stripper for required replacement blade. 1320 series and 1330 series blades are interchangeable.

**All Blades... ..... $1.75 Each**



**ALL PRICES SUBJECT TO TRADE DISCOUNT**

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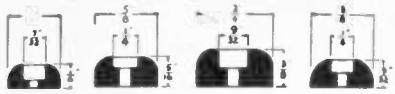
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

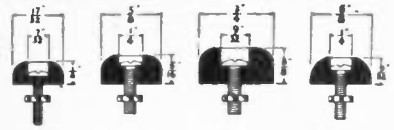
## RECESS RUBBER BUMPERS



| No. | Per C | No. | Per C |
|---|---|---|---|
| 2192 | $2.50 | 2194 | $5.00 |
| 2193 | 3.25 | 2184 | 5.00 |

Std. Pkg. 100

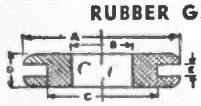
## RUBBER BUMPERS WITH SCREW



Supplied complete with ½" screw and hex nut. For panels up to 3/16" thick. Specify larger screw for larger panels. Std. Pkg. 100

| No. | Per C | No. | Per C |
|---|---|---|---|
| 2196 | $11.00 | 2198 | $12.50 |
| 2197 | 11.50 | 2199 | 12.50 |

## RUBBER GROMMETS



A: O.D.
B: I.D.
C: PANEL
D: THICK
E: P. THICK

Std. Pkg. 100

| No. | A | B | C | D | E | Per C |
|---|---|---|---|---|---|---|
| 2185 | 5/16" | 1/8" | 3/16" | 3/16" | 1/16" | $3.85 |
| 2172 | 7/16" | 3/16" | 3/16" | 3/16" | 1/16" | 3.30 |
| 2170 | 5/8" | 1/4" | 3/8" | 1/4" | 1/16" | 3.85 |
| 2174 | 5/8" | 3/16" | 3/16" | 1/4" | 1/16" | 3.60 |
| 2175 | 11/16" | 3/8" | 1/2" | 3/8" | 1/16" | 3.85 |
| 2177 | 3/4" | 7/16" | 5/16" | 1/4" | 1/16" | 3.60 |
| 2186 | 1 1/16" | 1/2" | 3/4" | 3/8" | 1/16" | 7.00 |
| 2187 | 1 1/8" | 5/8" | 7/8" | 3/8" | 1/16" | 7.00 |
| 2188 | 1 1/16" | 3/4" | 11/16" | 3/8" | 1/16" | 7.00 |
| 2189 | 1" | 3/4" | 7/8" | 5/32" | 5/32" | 8.50 |

## SNAP-IN BULB CONNECTOR

For use with new Two Pin Baseless Miniature Lamps (G.E. #10-2.5 volts, #12-6.3 volts, or #15-7.0 volts). Withstands excessive temperatures. Snaps into a .500 x .296 rectangular hole in panels .032 to .062 thick. Bezel—brass, cad. plated; contacts—brass, silver plated. Std. Pkg. 25

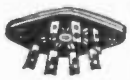
**No. 1504 $17.00 Per C**

## ANTENNA HANK

Cotton covered copper antenna hank. Std. pk. 25

**No. 1222 $40.00 per C**

## MINIATURE WAFER SOCKETS



Miniature bakelite sockets with brass cadmium plated contacts. XP bakelite top plate 1/16" thick, bottom plate 3/64" thick; high grade spring brass cadmium plated contact; .095 dia. mounting holes. Std. Pkg. 50

### SEVEN PIN

| No. | Description | MTG. Cen. | Per C |
|---|---|---|---|
| 880 | Eyelet only | 7/8" | $11.00 |
| 881 | Eyelet and Shield | 7/8" | 11.50 |
| 882 | Grd Strap and Shield | 7/8" | 12.00 |
| 887 | Eyelet only | 1" | 11.00 |
| 888 | Eyelet and Shield | 1" | 11.50 |
| 889 | Grd Strap and Shield | 1" | 12.00 |

### NINE PIN

| | | | |
|---|---|---|---|
| 890 | Eyelet only | 1 1/8" | $14.25 |
| 891 | Eyelet and Shield | 1 1/8" | 14.75 |
| 892 | Grd Strap and Shield | 1 1/8" | 15.50 |

## MOLDED MINIATURE SOCKETS

### Saddle Type

Molded from either high dielectric black general purpose bakelite or low loss mica-filled bakelite. Both types supplied with center pin. .098 dia. mtg. holds. Std. Pkg. 50

### GENERAL PURPOSE BLACK BAKELITE

| No. | Type | Pin | Mtg. Ctrs. | Mtg. Hole | Per C |
|---|---|---|---|---|---|
| 895 | Bottom Mount | 7 | 7/8" | 5/8" | $15.00 |
| 896 | Top Mount | 7 | 7/8" | 5/8" | 15.00 |
| 897 | Bottom Mount | 9 | 1 1/8" | 3/4" | 18.00 |
| 898 | Top Mount | 9 | 1 1/8" | 3/4" | 18.00 |

### LOW LOSS MICA-FILLED BAKELITE

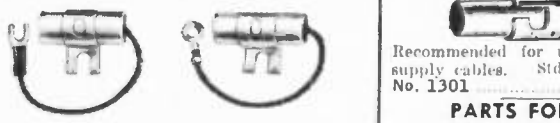
| | | | | | |
|---|---|---|---|---|---|
| 883 | Bottom Mount | 7 | 7/8" | 5/8" | 19.00 |
| 884 | Top Mount | 7 | 7/8" | 5/8" | 19.00 |
| 885 | Bottom Mount | 9 | 1 1/8" | 3/4" | 22.00 |
| 886 | Top Mount | 9 | 1 1/8" | 3/4" | 22.00 |

## CRYSTAL SOCKET

Glazed ceramic base. Phosphor bronze silver plated contacts spaced .486". Pin diameter .051, mtg. hole .125. Std. Pkg. 25

**No. 1945 $25.00 Per C**

## AUTO RADIO CONDENSERS



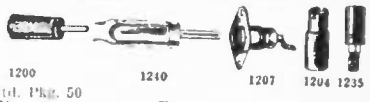
Eliminates radio interference caused by auto electrical system. Fits all cars — Proven quality — Guaranteed long life.

| No. | Cap. | Type | Each |
|---|---|---|---|
| 811 | .5 MFD | General, Univ. | $1.00 |
| 812 | .25 MFD | Universal | .90 |

## Auto Radio IGNITION SUPPRESSORS

Solidly made of molded black bakelite housings with rugged brass metal parts . . . impervious to heat, oil, moisture and vibration. Resistance of 10,000 ohms, will remain constant over 50,000 miles of operation. Std. Pkg. 50

| Cat. No. | Type | Per C |
|---|---|---|
| 805 | Snap-On Type Suppressor | $41.00 |
| 806 | Univ. Type with Double Thrd. | 41.00 |
| 807 | Angle Type Suppressor | 41.00 |
| 808 | Distributor Screw Type | 46.00 |
| 809 | Distributor Plug-in Type | 46.00 |
| 810 | Double Screw Type | 41.00 |



Std. Pkg. 50

| No. | Type | Per C |
|---|---|---|
| 1200 | Motorola Type Plug | $14.00 |
| 1240 | Motorola Type Plug | 14.00 |
| 1207 | Antenna Connector, Takes 1200 Plug | 22.00 |
| 1204 | Lead-in Adapter, converts Motorola pin plug to Delco | 15.00 |
| 1235 | Female for #1200 plug, without flange | 12.00 |

## ANTENNA CONNECTOR

For use as connection of auto radio antenna lead-in to auto radio receiver. Std. Pkg. 50

**No. 1300 $17.00 Per C**

## FUSE RETAINER

Recommended for use in auto radio power supply cables. Std. Pkg. 50

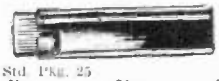
**No. 1301 $22.00 Per C**

## PARTS FOR CONNECTOR AND RETAINER

Std. Pkg. 100

| No. | Type | Per C |
|---|---|---|
| 1305 | Male Cap for #1300 & #1301 | $3.30 |
| 1306 | Female Shell for #1300 | 3.85 |
| 1307 | Contact for #1300 & #1301 | 5.50 |
| 1308 | Spring for #1300 & #1301 | 1.10 |
| 1309 | Washer for #1300 & #1301 | .55 |
| 1310 | Insulating Tube for #1301 | 1.00 |
| 1311 | Female Shell for #1301 | 5.50 |

## JUMBO FUSE HOLDERS



Std. Pkg. 25

| No. | Size | Fuse Size | Each |
|---|---|---|---|
| 1302 | ½" x 2⅛" | 9 amp. | $0.35 |
| 1303 | ½" x 2⅝" | 14 amp. | .35 |
| 1313 | ½" x 2⅝" | 30 amp. | .35 |

## WIRED FUSE RETAINER

Simply cut wire, strip and put in line. Will accommodate either 3 A.G. 20 amp. or SFE 14 amp. fuse.

| No. | Each |
|---|---|
| 1304 | $ 0.50 |
| 1304-D—Display of 24 | 12.00 |

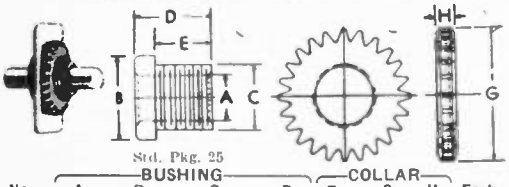
Std. Pkg. 25

## 3AG FUSE MOUNTING BASES

| No. | Type | Std. Pkg. | Per C |
|---|---|---|---|
| 530 | Single | 50 | 35.00 |
| 531 | Double | 25 | 2.50 |
| 532 | Clip Only | 100 | $20.00 |

## INSULATED GROMMET BUSHINGS

**Black Phenolic — Matte Finish**



Std. Pkg. 25

| No. | BUSHING A | BUSHING B | BUSHING C | BUSHING D | COLLAR E | COLLAR G | COLLAR H | Each |
|---|---|---|---|---|---|---|---|---|
| 931 | 1/8" | 3/8" | 1/4"—32 | .3750" | 1/4" | 1/2" | 1/8" | $0.29 |
| 932 | 3/16" | 7/16" | 5/16"—32 | .4250" | 5/16" | 5/8" | 1/8" | .29 |
| 933 | 1/4" | 1/2" | 3/8"—27 | .4375" | 5/16" | 11/16" | 1/8" | .30 |
| 934 | 5/16" | 9/16" | 15/32"—32 | .4500" | 5/16" | 7/8" | 1/8" | .33 |
| 935 | 3/8" | 3/4" | 5/8"—27 | .4500" | 5/16" | 1" | 1/8" | .36 |

## SPACE SAVER APPLIANCE RECEPTACLES

Mounts from top or bottom of Mtg. bracket. 1⅛" Mtg. ctrs. U.L. Approved. 15A 125V AC or DC.

**No. 1299** With Soldering Terminals. St. Pkg. 50 ..... **$20.00**

**No. 1279** With 8" Wire Leads. Std. Pkg. 25 ..... **$38.00**

## BATTERY CONNECTORS

| No. | Type | Std. Pkg. | Per C |
|---|---|---|---|
| 1205 | 67½ Volt | 25 | $30.00 |
| 1206 | 90 Volt | 25 | 40.00 |
| 1296 | Female | 100 | 6.50 |
| 1297 | Male | 100 | 6.00 |
| 1210 | 67½ V. Small | 25 | 30.00 |
| 1234 | For Miniature 45V "B" | 25 | 40.00 |

## BATTERY PLUGS

Std. Pkg. 50

| No. | Voltage | For Batteries: Eveready No. | RCA No. | Philco No. | Per C |
|---|---|---|---|---|---|
| 915 | 1½ "A" | 741, 742, 743, 1052P | VS004, VS005, VS007, VS008 | P04, P06, P8F1 | $10.00 |
| 916 | 7½ "A" | 687 | VS002 | — | 11.00 |
| 917 | 6 "A", 90 "B" | — | VS014 | P60A8F4 | 10.00 |
| 918 | 6 "A", 90 "B" | — | VS046 | P41AFL | 11.00 |

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**ALL PRICES SUBJECT TO TRADE DISCOUNT**



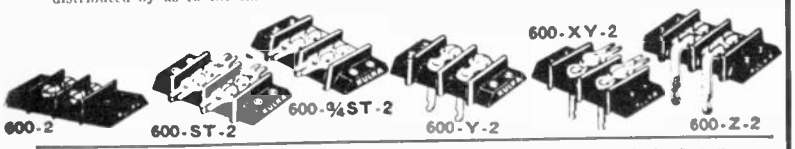
World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS

Shown below are our popular screw type terminal blocks. Made of molded thermosetting plastics — in high tensile strength bakelite for general commercial use. CFG, MFE, CMG, MME, and MDG blocks made in strict compliance with latest military specifications MIL-P-14C. Prices available on request. Special flag, spade, hole type lugs, and steel straddle plates available. Manufactured by the KULKA ELECTRIC MANUFACTURING COMPANY, INC. and exclusively distributed by us to the Radio Parts Distributors.




## 600 Series

Height 11/32", Width 7/8", Thickness 1/4", Terminals 3/8" Centers, 5/16" Mtg., 5-40x1/4" Screws.

| No. | Each | No. | No. | No. | Each | No. | No. | Each |
|---|---|---|---|---|---|---|---|---|
| 600-1 | $0.15 | 600-ST-1 | 600-¾ST-1 | 600-Y-1 | $0.19 | 600-XY-1 | 600-Z-1 | $0.23 |
| 600-2 | 0.25 | 600-ST-2 | 600-¾ST-2 | 600-Y-2 | 0.32 | 600-XY-2 | 600-Z-2 | 0.40 |
| 600-3 | 0.33 | 600-ST-3 | 600-¾ST-3 | 600-Y-3 | 0.44 | 600-XY-3 | 600-Z-3 | 0.60 |
| 600-4 | 0.42 | 600-ST-4 | 600-¾ST-4 | 600-Y-4 | 0.57 | 600-XY-4 | 600-Z-4 | 0.73 |
| 600-5 | 0.51 | 600-ST-5 | 600-¾ST-5 | 600-Y-5 | 0.69 | 600-XY-5 | 600-Z-5 | 0.93 |
| 600-6 | 0.59 | 600-ST-6 | 600-¾ST-6 | 600-Y-6 | 0.83 | 600-XY-6 | 600-Z-6 | 1.07 |
| 600-7 | 0.68 | 600-ST-7 | 600-¾ST-7 | 600-Y-7 | 0.95 | 600-XY-7 | 600-Z-7 | 1.23 |
| 600-8 | 0.77 | 600-ST-8 | 600-¾ST-8 | 600-Y-8 | 1.08 | 600-XY-8 | 600-Z-8 | 1.40 |
| 600-9 | 0.86 | 600-ST-9 | 600-¾ST-9 | 600-Y-9 | 1.21 | 600-XY-9 | 600-Z-9 | 1.57 |
| 600-10 | 0.95 | 600-ST-10 | 600-¾ST-10 | 600-Y-10 | 1.33 | 600-XY-10 | 600-Z-10 | 1.73 |
| 600-11 | 1.03 | 600-ST-11 | 600-¾ST-11 | 600-Y-11 | 1.45 | 600-XY-11 | 600-Z-11 | 1.89 |
| 600-12 | 1.12 | 600-ST-12 | 600-¾ST-12 | 600-Y-12 | 1.58 | 600-XY-12 | 600-Z-12 | 2.06 |
| 600-13 | 1.21 | 600-ST-13 | 600-¾ST-13 | 600-Y-13 | 1.71 | 600-XY-13 | 600-Z-13 | 2.23 |
| 600-14 | 1.31 | 600-ST-14 | 600-¾ST-14 | 600-Y-14 | 1.84 | 600-XY-14 | 600-Z-14 | 2.40 |
| 600-15 | 1.40 | 600-ST-15 | 600-¾ST-15 | 600-Y-15 | 1.96 | 600-XY-15 | 600-Z-15 | 2.56 |
| 600-16 | 1.49 | 600-ST-16 | 600-¾ST-16 | 600-Y-16 | 2.09 | 600-XY-16 | 600-Z-16 | 2.73 |
| 600-17 | 1.57 | 600-ST-17 | 600-¾ST-17 | 600-Y-17 | 2.21 | 600-XY-17 | 600-Z-17 | 2.89 |
| 600-18 | 1.66 | 600-ST-18 | 600-¾ST-18 | 600-Y-18 | 2.34 | 600-XY-18 | 600-Z-18 | 3.06 |
| 600-19 | 1.75 | 600-ST-19 | 600-¾ST-19 | 600-Y-19 | 2.46 | 600-XY-19 | 600-Z-19 | 3.22 |
| 600-20 | 1.84 | 600-ST-20 | 600-¾ST-20 | 600-Y-20 | 2.60 | 600-XY-20 | 600-Z-20 | 3.40 |
| 600-21 | 1.93 | 600-ST-21 | 600-¾ST-21 | 600-Y-21 | 2.72 | 600-XY-21 | 600-Z-21 | 3.56 |
| 600-22 | 2.02 | 600-ST-22 | 600-¾ST-22 | 500-Y-22 | 2.86 | 600-XY-22 | 600-Z-22 | 3.74 |

## 601 Series

Height 1/2", Width 1 1/8", Thickness 5/16", Terminals 7/16" Centers, 27/64" Mtg., 6-32x1/4" Screws.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 601-1 | $0.20 | 601-ST-1 | 601-¾ST-1 | 601-Y-1 | $0.24 | 601-XY-1 | 601-Z-1 | $0.28 |
| 601-2 | 0.31 | 601-ST-2 | 601-¾ST-2 | 601-Y-2 | 0.41 | 601-XY-2 | 601-Z-2 | 0.49 |
| 601-3 | 0.42 | 601-ST-3 | 601-¾ST-3 | 601-Y-3 | 0.57 | 601-XY-3 | 601-Z-3 | 0.69 |
| 601-4 | 0.54 | 601-ST-4 | 601-¾ST-4 | 601-Y-4 | 0.74 | 601-XY-4 | 601-Z-4 | 0.90 |
| 601-5 | 0.64 | 601-ST-5 | 601-¾ST-5 | 601-Y-5 | 0.90 | 601-XY-5 | 601-Z-5 | 1.10 |
| 601-6 | 0.75 | 601-ST-6 | 601-¾ST-6 | 601-Y-6 | 1.07 | 601-XY-6 | 601-Z-6 | 1.31 |
| 601-7 | 0.88 | 601-ST-7 | 601-¾ST-7 | 601-Y-7 | 1.23 | 601-XY-7 | 601-Z-7 | 1.51 |
| 601-8 | 0.99 | 601-ST-8 | 601-¾ST-8 | 601-Y-8 | 1.40 | 601-XY-8 | 601-Z-8 | 1.72 |
| 601-9 | 1.10 | 601-ST-9 | 601-¾ST-9 | 601-Y-9 | 1.56 | 601-XY-9 | 601-Z-9 | 1.92 |
| 601-10 | 1.22 | 601-ST-10 | 601-¾ST-10 | 601-Y-10 | 1.73 | 601-XY-10 | 601-Z-10 | 2.13 |
| 601-11 | 1.33 | 601-ST-11 | 601-¾ST-11 | 601-Y-11 | 1.89 | 601-XY-11 | 601-Z-11 | 2.33 |
| 601-12 | 1.44 | 601-ST-12 | 601-¾ST-12 | 601-Y-12 | 2.06 | 601-XY-12 | 601-Z-12 | 2.54 |
| 601-13 | 1.56 | 601-ST-13 | 601-¾ST-13 | 601-Y-13 | 2.22 | 601-XY-13 | 601-Z-13 | 2.74 |
| 601-14 | 1.67 | 601-ST-14 | 601-¾ST-14 | 601-Y-14 | 2.39 | 601-XY-14 | 601-Z-14 | 2.95 |
| 601-15 | 1.78 | 601-ST-15 | 601-¾ST-15 | 601-Y-15 | 2.55 | 601-XY-15 | 601-Z-15 | 3.15 |
| 601-16 | 1.90 | 601-ST-16 | 601-¾ST-16 | 601-Y-16 | 2.72 | 601-XY-16 | 601-Z-16 | 3.36 |
| 601-17 | 2.01 | 601-ST-17 | 601-¾ST-17 | 601-Y-17 | 2.88 | 601-XY-17 | 601-Z-17 | 3.56 |
| 601-18 | 2.12 | 601-ST-18 | 601-¾ST-18 | 601-Y-18 | 3.05 | 601-XY-18 | 601-Z-18 | 3.77 |
| 601-19 | 2.24 | 601-ST-19 | 601-¾ST-19 | 601-Y-19 | 3.21 | 601-XY-19 | 601-Z-19 | 3.97 |
| 601-20 | 2.35 | 601-ST-20 | 601-¾ST-20 | 601-Y-20 | 3.38 | 601-XY-20 | 601-Z-20 | 4.18 |
| 601-21 | 2.47 | 601-ST-21 | 601-¾ST-21 | 601-Y-21 | 3.55 | 601-XY-21 | 601-Z-21 | 4.38 |
| 601-22 | 2.59 | 601-ST-22 | 601-¾ST-22 | 601-Y-22 | 3.72 | 601-XY-22 | 601-Z-22 | 4.58 |
| 601-23 | 2.71 | 601-ST-23 | 601-¾ST-23 | 601-Y-23 | 3.89 | 601-XY-23 | 601-Z-23 | 4.78 |

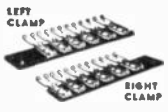
## 602 Series

Height 5/8", Width 1 1/16", Thickness 3/8", Terminals 7/16" Centers, 1/2" Mtg., 8-32x5/8" Screws.

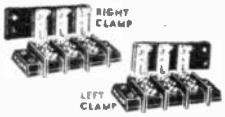
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 602-1 | $0.23 | 602-ST-1 | 602-¾ST-1 | 602-Y-1 | $0.30 | 602-XY-1 | 602-Z-1 | $0.34 |
| 602-2 | 0.36 | 602-ST-2 | 602-¾ST-2 | 602-Y-2 | 0.50 | 602-XY-2 | 602-Z-2 | 0.58 |
| 602-3 | 0.51 | 602-ST-3 | 603-¾ST-3 | 602-Y-3 | 0.70 | 602-XY-3 | 602-Z-3 | 0.82 |
| 602-4 | 0.65 | 602-ST-4 | 602-¾ST-4 | 602-Y-4 | 0.90 | 602-XY-4 | 602-Z-4 | 1.06 |
| 602-5 | 0.78 | 602-ST-5 | 602-¾ST-5 | 602-Y-5 | 1.11 | 602-XY-5 | 602-Z-5 | 1.31 |
| 602-6 | 0.92 | 602-ST-6 | 602-¾ST-6 | 602-Y-6 | 1.31 | 602-XY-6 | 602-Z-6 | 1.55 |
| 602-7 | 1.07 | 602-ST-7 | 602-¾ST-7 | 602-Y-7 | 1.52 | 602-XY-7 | 602-Z-7 | 1.80 |
| 602-8 | 1.20 | 602-ST-8 | 602-¾ST-8 | 602-Y-8 | 1.72 | 602-XY-8 | 602-Z-8 | 2.04 |
| 602-9 | 1.34 | 602-ST-9 | 602-¾ST-9 | 602-Y-9 | 1.93 | 602-XY-9 | 602-Z-9 | 2.29 |
| 602-10 | 1.49 | 602-ST-10 | 602-¾ST-10 | 602-Y-10 | 2.12 | 602-XY-10 | 602-Z-10 | 2.52 |
| 602-11 | 1.62 | 602-ST-11 | 602-¾ST-11 | 602-Y-11 | 2.33 | 602-XY-11 | 602-Z-11 | 2.77 |
| 602-12 | 1.76 | 602-ST-12 | 602-¾ST-12 | 602-Y-12 | 2.53 | 602-XY-12 | 602-Z-12 | 3.01 |
| 602-13 | 1.90 | 602-ST-13 | 602-¾ST-13 | 602-Y-12 | 2.74 | 602-XY-13 | 602-Z-13 | 3.26 |
| 602-14 | 2.04 | 602-ST-14 | 602-¾ST-14 | 602-Y-14 | 2.94 | 602-XY-14 | 602-Z-14 | 3.50 |
| 602-15 | 2.18 | 602-ST-15 | 602-¾ST-15 | 602-Y-15 | 3.15 | 602-XY-15 | 602-Z-15 | 3.75 |
| 602-16 | 2.32 | 602-ST-16 | 602-¾ST-16 | 602-Y-16 | 3.34 | 602-XY-16 | 602-Z-16 | 3.98 |
| 602-17 | 2.45 | 602-ST-17 | 602-¾ST-17 | 602-Y-17 | 3.54 | 602-XY-17 | 602-Z-17 | 4.32 |
| 602-18 | 2.58 | 602-ST-18 | 602-¾ST-18 | 602-Y-18 | 3.74 | 602-XY-18 | 602-Z-18 | 4.46 |
| 602-19 | 2.76 | 602-ST-19 | 602-¾ST-19 | 602-Y-19 | 3.99 | 602-XY-19 | 602-Z-19 | 4.75 |
| 602-20 | 2.90 | 602-ST-20 | 602-¾ST-20 | 602-Y-20 | 4.20 | 602-XY-20 | 602-Z-20 | 5.00 |
| 602-21 | 3.04 | 602-ST-21 | 602-¾ST-21 | 602-Y-21 | 4.41 | 602-XY-21 | 602-Z-21 | 5.25 |
| 602-22 | 3.19 | 602-ST-22 | 602-¾ST-22 | 602-Y-22 | 4.62 | 602-XY-22 | 602-Z-22 | 5.50 |
| 602-23 | 3.33 | 602-ST-23 | 602-¾ST-23 | 602-Y-23 | 4.83 | 602-XY-23 | 602-Z-23 | 5.75 |
| 602-24 | 3.48 | 602-ST-24 | 602-¾ST-24 | 602-Y-24 | 5.04 | 602-XY-24 | 602-Z-24 | 6.00 |
| 602-25 | 3.62 | 602-ST-25 | 602-¾ST-25 | 602-Y-25 | 5.25 | 602-XY-25 | 602-Z-25 | 6.25 |
| 602-26 | 3.76 | 602-ST-26 | 602-¾ST-26 | 602-Y-26 | 5.46 | 602-XY-26 | 602-Z-26 | 6.50 |

***NOTE:** Also available, **600A SERIES** (same as 600 Series above, except with 6-32x1/4 screws). See complete list prices in Special Price List.

## TERMINAL CONNECTING STRIPS




**FLAT STYLE**




**ANGLE STYLE**

## 650 Series

Connecting strip for 600 series terminal block. Strips are 3/32" thick, 1/2" wide, 3/8" centers.

| Left Clamp # | Right Clamp # | Price Each | Left Clamp # | Right Clamp # | Price Each |
|---|---|---|---|---|---|
| 650-L-2 | 650-R-2 | $0.13 | 650-AL-2 | 650-AR-2 | $0.19 |
| 650-L-3 | 650-R-3 | 0.20 | 650-AL-3 | 650-AR-3 | 0.29 |
| 650-L-4 | 650-R-4 | 0.25 | 650-AL-4 | 650-AR-4 | 0.37 |
| 650-L-5 | 650-R-5 | 0.32 | 650-AL-5 | 650-AR-5 | 0.47 |
| 650-L-6 | 650-R-6 | 0.39 | 650-AL-6 | 650-AR-6 | 0.57 |
| 650-L-7 | 650-R-7 | 0.45 | 650-AL-7 | 650-AR-7 | 0.66 |
| 650-L-8 | 650-R-8 | 0.51 | 650-AL-8 | 650-AR-8 | 0.75 |
| 650-L-9 | 650-R-9 | 0.57 | 650-AL-9 | 650-AR-9 | 0.84 |
| 650-L-10 | 650-R-10 | 0.64 | 650-AL-10 | 650-AR-10 | 0.94 |
| 650-L-11 | 650-R-11 | 0.70 | 650-AL-11 | 650-AR-11 | 1.03 |
| 650-L-12 | 650-R-12 | 0.76 | 650-AL-12 | 650-AR-12 | 1.12 |
| 650-L-13 | 650-R-13 | 0.83 | 650-AL-13 | 650-AR-13 | 1.22 |
| 650-L-14 | 650-R-14 | 0.89 | 650-AL-14 | 650-AR-14 | 1.31 |
| 650-L-15 | 650-R-15 | 0.96 | 650-AL-15 | 650-AR-15 | 1.41 |
| 650-L-16 | 650-R-16 | 1.01 | 650-AL-16 | 650-AR-16 | 1.49 |
| 650-L-17 | 650-R-17 | 1.08 | 650-AL-17 | 650-AR-17 | 1.59 |
| 650-L-18 | 650-R-18 | 1.16 | 650-AL-18 | 650-AR-18 | 1.70 |
| 650-L-19 | 650-R-19 | 1.21 | 650-AL-19 | 650-AR-19 | 1.78 |
| 650-L-20 | 650-R-20 | 1.28 | 650-AL-20 | 650-AR-20 | 1.88 |
| 650-L-21 | 650-R-21 | 1.33 | 650-AL-21 | 650-AR-21 | 1.96 |
| 650-L-22 | 650-R-22 | 1.38 | 650-AL-22 | 650-AR-22 | 2.08 |

## 651 Series

Connecting strip for 601 series terminal block. Strips are 3/32" thick, 5/8"wide, 7/16" centers.

| | | | | | |
|---|---|---|---|---|---|
| 651-L-2 | 651-R-2 | $0.14 | 651-AL-2 | 651-AR-2 | $0.20 |
| 651-L-3 | 651-R-3 | 0.21 | 651-AL-3 | 651-AR-3 | 0.30 |
| 651-L-4 | 651-R-4 | 0.26 | 651-AL-4 | 651-AR-4 | 0.38 |
| 651-L-5 | 651-R-5 | 0.33 | 651-AL-5 | 651-AR-5 | 0.48 |
| 651-L-6 | 651-R-6 | 0.40 | 651-AL-6 | 651-AR-6 | 0.58 |
| 651-L-7 | 651-R-7 | 0.46 | 651-AL-7 | 651-AR-7 | 0.67 |
| 651-L-8 | 651-R-8 | 0.52 | 651-AL-8 | 651-AR-8 | 0.76 |
| 651-L-9 | 651-R-9 | 0.58 | 651-AL-9 | 651-AR-9 | 0.85 |
| 651-L-10 | 651-R-10 | 0.65 | 651-AL-10 | 651-AR-10 | 0.95 |
| 651-L-11 | 651-R-11 | 0.72 | 651-AL-11 | 651-AR-11 | 1.05 |
| 651-L-12 | 651-R-12 | 0.77 | 651-AL-12 | 651-AR-12 | 1.13 |
| 651-L-13 | 651-R-13 | 0.84 | 651-AL-13 | 651-AR-13 | 1.23 |
| 651-L-14 | 651-R-14 | 0.91 | 651-AL-14 | 651-AR-14 | 1.33 |
| 651-L-15 | 651-R-15 | 0.97 | 651-AL-15 | 651-AR-15 | 1.42 |
| 651-L-16 | 651-R-16 | 1.03 | 651-AL-16 | 651-AR-16 | 1.51 |
| 651-L-17 | 651-R-17 | 1.09 | 651-AL-17 | 651-AR-17 | 1.60 |
| 651-L-18 | 651-R-18 | 1.17 | 651-AL-18 | 651-AR-18 | 1.71 |
| 651-L-19 | 651-R-19 | 1.22 | 651-AL-19 | 651-AR-19 | 1.79 |
| 651-L-20 | 651-R-20 | 1.29 | 651-AL-20 | 651-AR-20 | 1.89 |
| 651-L-21 | 651-R-21 | 1.36 | 651-AL-21 | 651-AR-21 | 1.99 |
| 651-L-22 | 651-R-22 | 1.43 | 651-AL-22 | 651-AR-22 | 2.09 |
| 651-L-23 | 651-R-23 | 1.50 | 651-AL-23 | 651-AR-23 | 2.19 |

## 652 Series

Connecting strip for 602 series terminal block. Strips are 3/32" thick, 5/8" wide, 9/16" centers.

| | | | | | |
|---|---|---|---|---|---|
| 652-L-2 | 652-R-2 | $0.17 | 652-AL-2 | 652-AR-2 | $0.23 |
| 652-L-3 | 652-R-3 | 0.23 | 652-AL-3 | 652-AR-3 | 0.32 |
| 652-L-4 | 652-R-4 | 0.29 | 652-AL-4 | 652-AR-4 | 0.41 |
| 652-L-5 | 652-R-5 | 0.35 | 652-AL-5 | 652-AR-5 | 0.50 |
| 652-L-6 | 652-R-6 | 0.43 | 652-AL-6 | 652-AR-6 | 0.61 |
| 652-L-7 | 652-R-7 | 0.48 | 652-AL-7 | 652-AR-7 | 0.69 |
| 652-L-8 | 652-R-8 | 0.55 | 652-AL-8 | 652-AR-8 | 0.79 |
| 652-L-9 | 652-R-9 | 0.61 | 652-AL-9 | 652-AR-9 | 0.89 |
| 652-L-10 | 652-R-10 | 0.68 | 652-AL-10 | 652-AR-10 | 0.98 |
| 652-L-11 | 652-R-11 | 0.74 | 652-AL-11 | 652-AR-11 | 1.07 |
| 652-L-12 | 652-R-12 | 0.80 | 652-AL-12 | 652-AR-12 | 1.16 |
| 652-L-13 | 652-R-13 | 0.86 | 652-AL-13 | 652-AR-13 | 1.25 |
| 652-L-14 | 652-R-14 | 0.94 | 652-AL-14 | 652-AR-14 | 1.36 |
| 652-L-15 | 652-R-15 | 0.99 | 652-AL-15 | 652-AR-15 | 1.44 |
| 652-L-16 | 652-R-16 | 1.06 | 652-AL-16 | 652-AR-16 | 1.54 |
| 652-L-17 | 652-R-17 | 1.11 | 652-AL-17 | 652-AR-17 | 1.62 |
| 652-L-18 | 652-R-18 | 1.16 | 652-AL-18 | 652-AR-18 | 1.72 |
| 652-L-19 | 652-R-19 | 1.21 | 652-AL-19 | 652-AR-19 | 1.82 |
| 652-L-20 | 652-R-20 | 1.26 | 652-AL-20 | 652-AR-20 | 1.92 |
| 652-L-21 | 652-R-21 | 1.31 | 652-AL-21 | 652-AR-21 | 2.02 |
| 652-L-22 | 652-R-22 | 1.36 | 652-AL-22 | 652-AR-22 | 2.12 |
| 652-L-23 | 652-R-23 | 1.41 | 652-AL-23 | 652-AR-23 | 2.22 |
| 652-L-24 | 652-R-24 | 1.46 | 652-AL-24 | 652-AR-24 | 2.32 |
| 652-L-25 | 652-R-25 | 1.51 | 652-AL-25 | 652-AR-25 | 2.42 |
| 652-L-26 | 652-R-26 | 1.56 | 652-AL-26 | 652-AR-26 | 2.52 |

## CABLE CLAMPS

**For Terminal Connecting Strips**

Made of nickel plated brass with 6-32 plated brass screws.

| No. | Size | Per C. |
|---|---|---|
| 1435 | 3/8" | $14.00 |
| 1436 | 1/2" | 14.00 |
| 1437 | 5/8" | 14.00 |
| 1438 | 3/4" | 14.00 |
| 1439 | 7/8" | 14.00 |

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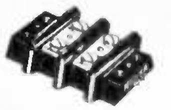
**ALL PRICES SUBJECT TO TRADE DISCOUNT**


World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

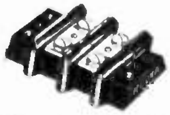
## 603 SERIES



Height ¾", Width 1 11/16", Thickness 7/16", Terminals 11/16" Centers, 5/8" Mtg., 10-32 x 3/8" Screws.

| No. | Each | No. | Each | No. | Each | 603 Marker Strips No. | Per C |
|---|---|---|---|---|---|---|---|
| 603-1 | $0.55 | 603-ST-1 | $0.66 | 603-¾ST-1 | $0.66 | MS603-1 | $7.60 |
| 603-2 | 0.94 | 603-ST-2 | 1.13 | 603-¾ST-2 | 1.13 | MS603-2 | 9.40 |
| 603-3 | 1.32 | 603-ST-3 | 1.60 | 603-¾ST-3 | 1.60 | MS603-3 | 11.10 |
| 603-4 | 1.71 | 603-ST-4 | 2.07 | 603-¾ST-4 | 2.07 | MS603-4 | 12.90 |
| 603-5 | 2.09 | 603-ST-5 | 2.53 | 603-¾ST-5 | 2.53 | MS603-5 | 14.70 |
| 603-6 | 2.48 | 603-ST-6 | 3.00 | 603-¾ST-6 | 3.00 | MS603-6 | 16.40 |
| 603-7 | 2.86 | 603-ST-7 | 3.46 | 603-¾ST-7 | 3.46 | MS603-7 | 18.20 |
| 603-8 | 3.25 | 603-ST-8 | 3.92 | 603-¾ST-8 | 3.92 | MS603-8 | 20.00 |
| 603-9 | 3.63 | 603-ST-9 | 4.40 | 603-¾ST-9 | 4.40 | MS603-9 | 21.80 |
| 603-10 | 4.02 | 603-ST-10 | 4.80 | 603-¾ST-10 | 4.80 | MS603-10 | 23.50 |

## 604 SERIES



Height 1", Width 2", Thickness ½", Terminals 7/8" Centers, ¾" Mtg., 12-32 x 3/8" Screws.

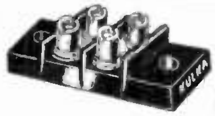
| No. | Each | No. | Each | No. | Each | 604 Marker Strips No. | Per C |
|---|---|---|---|---|---|---|---|
| 604-1 | $ .94 | 604-ST-1 | $1.10 | 604-¾ST-1 | $1.10 | MS604-1 | $7.70 |
| 604-2 | 1.71 | 604-ST-2 | 2.04 | 604-¾ST-2 | 2.04 | MS604-2 | 11.70 |
| 604-3 | 2.48 | 604-ST-3 | 2.97 | 604-¾ST-3 | 2.97 | MS604-3 | 15.50 |
| 604-4 | 3.25 | 604-ST-4 | 3.91 | 604-¾ST-4 | 3.91 | MS604-4 | 19.30 |
| 604-5 | 4.02 | 604-ST-5 | 4.84 | 604-¾ST-5 | 4.84 | MS604-5 | 23.10 |
| 604-6 | 4.79 | 604-ST-6 | 5.78 | 604-¾ST-6 | 5.78 | MS604-6 | 26.90 |
| 604-7 | 5.56 | 604-ST-7 | 6.71 | 604-¾ST-7 | 6.71 | MS604-7 | 30.70 |
| 604-8 | 6.33 | 604-ST-8 | 7.65 | 604-¾ST-8 | 7.65 | MS604-8 | 34.50 |

## 605 SERIES

Height 1 1/8", Width 2 ½", Thickness 5/8", Terminals 1 1/8" Centers, 7/8" Mtg., ¼-28 x ½" Screws.

| No. | Each | No. | Each | No. | Each | 605 Marker Strips No. | Per C |
|---|---|---|---|---|---|---|---|
| 605-1 | $1.27 | 605-ST-1 | $1.49 | 605-¾ST-1 | $1.49 | MS605-1 | $8.20 |
| 605-2 | 2.42 | 605-ST-2 | 2.86 | 605-¾ST-2 | 2.86 | MS605-2 | 14.50 |
| 605-3 | 3.58 | 605-ST-3 | 4.24 | 605-¾ST-3 | 4.24 | MS605-3 | 20.90 |
| 605-4 | 4.73 | 605-ST-4 | 5.61 | 605-¾ST-4 | 5.61 | MS605-4 | 27.20 |
| 605-5 | 5.89 | 605-ST-5 | 6.99 | 605-¾ST-5 | 6.99 | MS605-5 | 33.50 |
| 605-6 | 7.04 | 605-ST-6 | 8.36 | 605-¾ST-6 | 8.36 | MS605-6 | 39.80 |

## NAVY TERMINAL BOARDS



**Made According to BUREAU of SHIPS Drawings No. 9000—S6505F-73214 Rev. 5 and Spec. MIL-T-16784(Ships)**

| Type No. | Piece No. | Material | No. Studs | Mounting Spacings | Standard Navy Stock No. | List Price Each |
|---|---|---|---|---|---|---|
| 8TB2 | 68 | CFI-5 | 4 | 1¼" | 17-B-77635-1733 | $1.75 |
| 8TB2M | 68 | MFG | 4 | 1¼" | 17-B-77635-1737 | 2.00 |
| 8TB6C | 16 | CFI-5 | 12 | 2¾" | 17-B-77738-8432 | 3.50 |
| 8TB6M | 16 | MFG | 12 | 2¾" | 17-B-77738-8437 | 4.00 |
| 8TB8C | 14 | CFI-20 | 16 | 3½" | 17-B-77840-7053 | 4.50 |
| 8TB8M | 14 | MFI-20 | 16 | 3½" | 17-B-77840-7075 | 5.00 |
| 8TB10C | 9 | CFI-20 | 20 | 4¼" | 17-B-77936-7951 | 5.50 |
| 8TB10M | 9 | MFI-20 | 20 | 4¼" | 17-B-77936-7955 | 6.00 |

Stud Connectors—$20.00 per M List.

### WIRE SIZES FOR TERMINAL BLOCKS

600—#18—16 B&S Gauge
601—#16—14 B&S Gauge
602—#14—12 B&S Gauge
603—#12—10 B&S Gauge
604—#10— 8 B&S Gauge
605—# 8— 6 B&S Gauge

SEE LIST PRICE SHEET for all SPECIAL PURPOSE BARRIER STRIP PRICES

### RATINGS FOR TERMINAL BLOCKS

| Series Number | VOLTAGE Without Marker Strips | VOLTAGE With Marker Strips | Capacity |
|---|---|---|---|
| 410 | 1000V. RMS | 1100V. RMS | 5 Amp. |
| 599 | 1100V. RMS | 1200V. RMS | 15 Amp. |
| 600 | 1100V. RMS | 1200V. RMS | 15 Amp. |
| 601 | 1100V. RMS | 1600V. RMS | 20 Amp. |
| 602 | 1600V. RMS | 2500V. RMS | 30 Amp. |
| 603 | 1700V. RMS | 2600V. RMS | 50 Amp. |
| 604 | 1800V. RMS | 3400V. RMS | 70 Amp. |
| 605 | 2100V. RMS | 3800V. RMS | 90 Amp. |

### SPECIAL MATERIALS FOR TERMINAL BLOCKS

| MATERIALS MIL-P-14C | JAN-P-14 | | CODE SUFFIX |
|---|---|---|---|
| CFG | MTS-E-1 | Phenolic | C |
| MFE | MTS-E-4 | Mica | M |
| CMG | MTS-G-2 | Melamine | G |
| MME | | Melamine | GMF |
| MDG | | Acme Resin | B |

All Strips shown below are also available in the following materials: CFG, MFE, MME, CMG, MDE.

## 409 Series

### SUBMINIATURE TERMINAL BLOCK
**Single Screw Terminal**

Height .260 Width .312, Thickness 7.16". Terminals. .187 Centers, .093 dia. mtg. holes: 0.80 x ⅛" brass silver plated or gold flash screws. Also supplied with "one-sided" (409-¾ST) or "two-sided" (409-ST) lug.

| No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|
| 409-1 | $0.40 | 409-8 | $1.80 | 409-15 | $3.20 |
| 409-2 | 0.60 | 409-9 | 2.00 | 409-16 | 3.40 |
| 409-3 | 0.80 | 409-10 | 2.20 | 409-17 | 3.60 |
| 409-4 | 1.00 | 409-11 | 2.40 | 409-18 | 3.80 |
| 409-5 | 1.20 | 409-12 | 2.60 | 409-19 | 4.00 |
| 409-6 | 1.40 | 409-13 | 2.80 | 409-20 | 4.20 |
| 409-7 | 1.60 | 409-14 | 3.00 | 409-21 | 4.40 |

## 609 Series

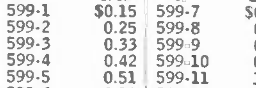
### NARROW WIDTH TERMINAL BLOCK
**Single Screw Terminal**

Height ½", Width 3/8". Thickness ½". Terminals 3/8" Centers. .156 dia. mtg. holes; 4-40x¼" Pan-head. phillips type sems brass nickel plated screws.

| No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|
| 609-1 | $1.00 | 609-6 | $3.25 | 609-11 | $5.45 |
| 609-2 | 1.45 | 609-7 | 3.70 | 609-12 | 5.85 |
| 609-3 | 1.90 | 609-8 | 4.15 | 609-13 | 6.25 |
| 609-4 | 2.35 | 609-9 | 4.60 | | |
| 609-5 | 2.80 | 609-10 | 5.05 | | |

## 599 Series

### NARROW WIDTH TERMINAL BLOCK
**Single Screw Terminal**



Height ½", Width 9/16", Thickness ¼", Terminals 3/8" Centers, .156 dia. mtg. holes: 5-40x¼" brass nickel plated screws.

| No. | Each | No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|---|---|
| 599-1 | $0.15 | 599-7 | $0.68 | 599-13 | $1.21 | 599-19 | $1.75 |
| 599-2 | 0.25 | 599-8 | 0.77 | 599-14 | 1.31 | 599-20 | 1.84 |
| 599-3 | 0.33 | 599-9 | 0.86 | 599-15 | 1.40 | 599-21 | 1.93 |
| 599-4 | 0.42 | 599-10 | 0.95 | 599-16 | 1.49 | 599-22 | 2.02 |
| 599-5 | 0.51 | 599-11 | 1.03 | 599-17 | 1.57 | | |
| 599-6 | 0.59 | 599-12 | 1.12 | 599-18 | 1.66 | | |

## 699 Series

Height 1/2", Width 5/8", Thickness 5/16", Terminals 7/16" Centers, .175 Dia. Mtg. Holes, 6/32 x 1/4" Brass Nickel Plated Screws.

| No. | Each | No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|---|---|
| 699-1 | $.20 | 699-7 | $.88 | 699-13 | $1.56 | 699-19 | $2.24 |
| 699-2 | .31 | 699-8 | .99 | 699-14 | 1.67 | 699-20 | 2.35 |
| 699-3 | .42 | 699-9 | 1.10 | 699-15 | 1.78 | 699-21 | 2.47 |
| 699-4 | .54 | 699-10 | 1.22 | 699-16 | 1.90 | 699-22 | 2.59 |
| 699-5 | .64 | 699-11 | 1.33 | 699-17 | 2.01 | 699-23 | 2.71 |
| 699-6 | .75 | 699-12 | 1.44 | 699-18 | 2.12 | | |

## 411 Series

### MINIATURE TERMINAL BLOCK
**Single Screw Terminal**

Height 5/16", Width 13/32", Thickness 1/4", Terminals. .250 Centers, .125 mtg. holes; 2-56x 3/16" binding head brass nickel plated screws.

| No. | Each | No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|---|---|
| 411-1 | $0.40 | 411-7 | $1.06 | 411-13 | $1.70 | 411-19 | $2.30 |
| 411-2 | 0.52 | 411-8 | 1.18 | 411-14 | 1.80 | 411-20 | 2.40 |
| 411-3 | 0.62 | 411-9 | 1.30 | 411-15 | 1.90 | 411-21 | 2.50 |
| 411-4 | 0.72 | 411-10 | 1.40 | 411-16 | 2.00 | 411-22 | 2.60 |
| 411-5 | 0.82 | 411-11 | 1.50 | 411-17 | 2.10 | | |
| 411-6 | 0.94 | 411-12 | 1.60 | 411-18 | 2.20 | | |

## 410 Series

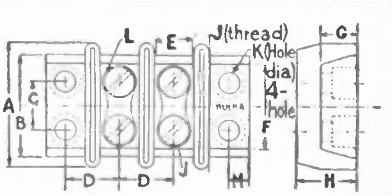
### MINIATURE TERMINAL BLOCK
**Double Screw Terminal**

Height 5/8", Width 5/8", Thickness 5/16", Terminals ¼" Centers, .125 dia. mtg. holes; 2-56x 3/16" binding head brass nickel plated screws.

| No. | Each | No. | Each | No. | Each | No. | Each |
|---|---|---|---|---|---|---|---|
| 410-1 | $0.47 | 410-7 | $2.05 | 410-12 | $3.33 | 410-17 | $4.69 |
| 410-2 | 0.74 | 410-8 | 2.32 | 410-13 | 3.64 | 410-18 | 4.96 |
| 410-3 | 0.99 | 410-9 | 2.59 | 410-14 | 3.90 | 410-19 | 5.23 |
| 410-4 | 1.25 | 410-10 | 2.83 | 410-15 | 4.17 | 410-20 | 6.50 |
| 410-5 | 1.53 | 410-11 | 3.11 | 410-16 | 4.42 | 410-21 | 7.77 |
| 410-6 | 1.79 | | | | | | |

### DIMENSIONAL DRAWING OF TERMINAL BLOCKS

| Series No. | A | B | C | D | E | F | G | H | J | K | L | M | Max. Term's |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 409 | 5/16 | 1/4 | — | 3/16 | 9/64 | 3/16 | 5/32 | 17/64 | 0-80 | .093 | 1/8 | 1/4 | 21 |
| 410 | 5/8 | 5/8 | 1/4 | 1/4 | 3/16 | 5/8 | 7/32 | 5/16 | 2-56 | .125 | 3/16 | 1/8 | 22 |
| 411 | 13/32 | 13/32 | — | 1/4 | 3/16 | 13/32 | 7/32 | 5/16 | 2-56 | .125 | 3/16 | 1/8 | 22 |
| 599 | 9/16 | 3/8 | — | 3/8 | 19/64 | 9/32 | 1/4 | 13/32 | 5-40 | .156 | 1/4 | 9/64 | 22 |
| 600 | 7/8 | 11/16 | 5/16 | 3/8 | 19/64 | 9/32 | 1/4 | 13/32 | 5-40 | .156 | 1/4 | 9/64 | 22 |
| 601 | 1-1/8 | 7/8 | 27/64 | 7/16 | 21/64 | 3/4 | 5/16 | 1/2 | 6-32 | .175 | 1/4 | 5/32 | 23 |
| 602 | 1-5/16 | 1-1/16 | 1/2 | 9/16 | 27/64 | 7/8 | 3/8 | 5/8 | 8-32 | .209 | 5/16 | 13/64 | 26 |
| 603 | 1-13/16 | 1-5/16 | 5/8 | 11/16 | 15/32 | 1-1/16 | 7/16 | 3/4 | 10-32 | .165 | 3/8 | 7/32 | 10 |
| 604 | 2 | 1-1/2 | 3/4 | 7/8 | 9/16 | 1-1/4 | 1/2 | 15/16 | 12-32 | .195 | 3/8 | 17/64 | 8 |
| 609 | 3/8 | 3/8 | — | 1-1/8 | 21/32 | 1-1/2 | 5/8 | 1-1/8 | 1/4-20 | .209 | 1/2 | 5/16 | 6 |
| 605 | 2-1/2 | 1-13/16 | 7/8 | 3/8 | 1/4 | 3/8 | 9/32 | 1/2 | 4-40 | .156 | 5/16 | 11/64 | 13 |

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World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## MARKER STRIPS

Black fiber marker strips 1/32" thick imprinted to specs.

Bakelite marker strips are available. Specify XP.

| for 410, 410-3/4ST, 411, 599, 599-3/4ST, 600, 600-3/4ST, 600-ST | | for 600-Y, 600-XY, 600A-Y, 600A-XY | |
|---|---|---|---|
| No. | Per C | No. | Per C |
| MS600-1 | $2.90 | MS600-Y-1 | $6.60 |
| MS600-2 | 3.80 | MS600-Y-2 | 7.60 |
| MS600-3 | 4.70 | MS600-Y-3 | 8.50 |
| MS600-4 | 5.70 | MS600-Y-4 | 9.50 |
| MS600-5 | 6.60 | MS600-Y-5 | 10.40 |
| MS600-6 | 7.60 | MS600-Y-6 | 11.40 |
| MS600-7 | 8.50 | MS600-Y-7 | 12.30 |
| MS600-8 | 9.50 | MS600-Y-8 | 13.30 |
| MS600-9 | 10.40 | MS600-Y-9 | 14.20 |
| MS600-10 | 11.40 | MS600-Y-10 | 15.20 |
| MS600-11 | 12.30 | MS600-Y-11 | 16.10 |
| MS600-12 | 13.30 | MS600-Y-12 | 17.10 |
| MS600-13 | 14.20 | MS600-Y-13 | 18.00 |
| MS600-14 | 15.20 | MS600-Y-14 | 19.00 |
| MS600-15 | 16.10 | MS600-Y-15 | 19.90 |
| MS600-16 | 17.10 | MS600-Y-16 | 20.90 |
| MS600-17 | 18.00 | MS600-Y-17 | 21.80 |
| MS600-18 | 19.00 | MS600-Y-18 | 22.80 |
| MS600-19 | 19.90 | MS600-Y-19 | 23.70 |
| MS600-20 | 20.90 | MS600-Y-20 | 24.70 |
| MS600-21 | 21.80 | MS600-Y-21 | 25.60 |
| MS600-22 | 22.70 | MS600-Y-22 | 26.50 |

| for 601, 601-3/4ST, 601-ST | | for 601-Y, 601-XY | |
|---|---|---|---|
| No. | Per C | No. | Per C |
| MS601-1 | $3.20 | MS601-Y-1 | $7.00 |
| MS601-2 | 4.40 | MS601-Y-2 | 8.20 |
| MS601-3 | 5.70 | MS601-Y-3 | 9.50 |
| MS601-4 | 7.00 | MS601-Y-4 | 10.80 |
| MS601-5 | 8.20 | MS601-Y-5 | 12.00 |
| MS601-6 | 9.50 | MS601-Y-6 | 13.30 |
| MS601-7 | 10.80 | MS601-Y-7 | 14.50 |
| MS601-8 | 12.00 | MS601-Y-8 | 15.80 |
| MS601-9 | 13.30 | MS601-Y-9 | 17.10 |
| MS601-10 | 14.50 | MS601-Y-10 | 18.30 |
| MS601-11 | 15.80 | MS601-Y-11 | 19.60 |
| MS601-12 | 17.10 | MS601-Y-12 | 20.90 |
| MS601-13 | 18.30 | MS601-Y-13 | 22.10 |
| MS601-14 | 19.60 | MS601-Y-14 | 23.40 |
| MS601-15 | 20.90 | MS601-Y-15 | 24.70 |
| MS601-16 | 22.10 | MS601-Y-16 | 25.90 |
| MS601-17 | 23.40 | MS601-Y-17 | 27.20 |
| MS601-18 | 24.70 | MS601-Y-18 | 28.50 |
| MS601-19 | 25.90 | MS601-Y-19 | 29.70 |
| MS601-20 | 27.20 | MS601-Y-20 | 31.10 |
| MS601-21 | 28.50 | MS601-Y-21 | 32.30 |
| MS601-22 | 29.80 | MS601-Y-22 | 33.60 |
| MS601-23 | 31.10 | MS601-Y-23 | 34.90 |

| for 602, 602-3/4ST, 602-ST | | for 602-Y, 602-XY | |
|---|---|---|---|
| No. | Per C | No. | Per C |
| MS602-1 | $3.50 | MS602-Y-1 | $7.30 |
| MS602-2 | 5.10 | MS602-Y-2 | 8.90 |
| MS602-3 | 6.60 | MS602-Y-3 | 10.40 |
| MS602-4 | 8.20 | MS602-Y-4 | 12.00 |
| MS602-5 | 9.80 | MS602-Y-5 | 13.60 |
| MS602-6 | 11.40 | MS602-Y-6 | 15.20 |
| MS602-7 | 13.00 | MS602-Y-7 | 16.80 |
| MS602-8 | 14.50 | MS602-Y-8 | 18.30 |
| MS602-9 | 16.10 | MS602-Y-9 | 19.90 |
| MS602-10 | 17.70 | MS602-Y-10 | 21.50 |
| MS602-11 | 19.30 | MS602-Y-11 | 23.10 |
| MS602-12 | 20.90 | MS602-Y-12 | 24.70 |
| MS602-13 | 22.50 | MS602-Y-13 | 26.30 |
| MS602-14 | 24.00 | MS602-Y-14 | 27.80 |
| MS602-15 | 25.60 | MS602-Y-15 | 29.40 |
| MS602-16 | 27.20 | MS602-Y-16 | 31.00 |
| MS602-17 | 28.80 | MS602-Y-17 | 32.60 |
| MS602-18 | 30.40 | MS602-Y-18 | 34.20 |
| MS602-19 | 32.00 | MS602-Y-19 | 35.80 |
| MS602-20 | 33.60 | MS602-Y-20 | 37.40 |
| MS602-21 | 35.20 | MS602-Y-21 | 39.00 |
| MS602-22 | 36.80 | MS602-Y-22 | 40.60 |
| MS602-23 | 38.40 | MS602-Y-23 | 42.20 |
| MS602-24 | 40.00 | MS602-Y-24 | 43.80 |
| MS602-25 | 41.60 | MS602-Y-25 | 45.40 |
| MS602-26 | 43.20 | MS602-Y-26 | 47.00 |

Marker strips are supplied to fit each size terminal block — either plain or imprinted — in vulcanized fibre or Bakelite (1/32" thick). Complete list prices and imprinting charges in special list price sheet.

### TWO-SIDED LUG

| No. | Per C |
|---|---|
| 409-STL | $4.40 |
| 410-STL | 4.40 |
| 600-STL | 4.40 |
| 601-STL | 5.90 |
| 602-STL | 7.20 |
| 603-STL | 10.00 |
| 604-STL | 18.00 |
| 605-STL | 26.00 |

### ONE-SIDED LUG

| No. | Per C |
|---|---|
| 410-3/4STL | $4.40 |
| 599-3/4STL | 4.40 |
| 600-3/4STL | 4.40 |
| 601-3/4STL | 5.90 |
| 602-3/4STL | 7.20 |
| 603-3/4STL | 10.00 |
| 604-3/4STL | 18.00 |
| 605-3/4STL | 26.00 |
| 699-3/4STL | 5.90 |

### BENT LUG

| No. | Per C |
|---|---|
| 600-YL | $4.40 |
| 601-YL | 5.90 |
| 602-YL | 7.20 |

### FLAG LUG

| No. | Per C |
|---|---|
| 410-SLF | $2.10 |
| 599-SLF | 2.00 |
| 600-SLF | 2.00 |
| 601-SLF | 2.10 |
| 602-SLF | 2.30 |
| 603-SLF | 4.50 |
| 699-SLF | 2.10 |

### SPADE LUG

| No. | Per C |
|---|---|
| 410-SL | $2.10 |
| 599-SLS | 2.00 |
| 600-SLS | 2.00 |
| 601-SLS | 2.10 |
| 602-SLS | 2.30 |
| 603-SLS | 4.50 |
| 699-SLS | 2.10 |

### HOLE LUG

| No. | Per C |
|---|---|
| 410-SLH | $2.10 |
| 599-SLH | 2.00 |
| 600-SLH | 2.00 |
| 601-SLH | 2.10 |
| 602-SLH | 2.30 |
| 603-SLH | 4.50 |
| 699-SLH | 2.10 |

### LONG BENT LUG

| No. | Per C |
|---|---|
| 600-YSYL | $4.40 |
| 601-YSYL | 6.00 |
| 602-YSYL | 7.20 |

### COMBINATION Y AND 3/4 ST

| No. | Per C |
|---|---|
| 600-XYL | $4.40 |
| 602-XYL | 7.20 |

### OUTSIDE BENT LUG

| No. | Per C |
|---|---|
| 599-ZL | $4.40 |
| 600-ZL | 4.40 |
| 601-ZL | 6.00 |
| 602-ZL | 7.20 |
| 699-ZL | 6.00 |

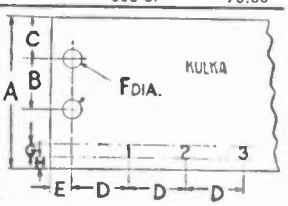
### JUMPER (J)

| No. | Per M |
|---|---|
| 410-J | $35.00 |
| 599-J | 35.00 |
| 600-J | 35.00 |
| 601-J | 40.00 |
| 602-J | 45.00 |
| 603-J | 55.00 |
| 604-J | 65.00 |

### STRADDLE PLATE (SP)

| No. | Per M |
|---|---|
| 410-SP | $35.00 |
| 600-SP | 35.00 |
| 601-SP | 40.00 |
| 602-SP | 45.00 |
| 603-SP | 55.00 |
| 604-SP | 65.00 |
| 605-SP | 75.00 |

### MARKER STRIPS Dimensions and Imprinting




| Series Number | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 410 | 3/4 | 1/4 | 3/16 | 1/4 | 1/8 | .125 | 1/16 | 1/16 |
| 599 | 13/16 | | 9/32 | 3/8 | 9/64 | .160 | 1/8 | 3/32 |
| 600 | 1-1/8 | 5/16 | 9/32 | 3/8 | 1/8 | .160 | 1/8 | 3/32 |
| 601 | 1-5/16 | 27/64 | 11/32 | 7/16 | 5/32 | .175 | 1/8 | 3/32 |
| 602 | 1-1/2 | 1/2 | 13/32 | 9/16 | 13/64 | .209 | 1/8 | 1/8 |
| 603 | 1-7/8 | 5/8 | 19/32 | 11/16 | 7/32 | .175 | 1/8 | 1/8 |
| 604 | 2-1/8 | 3/4 | 5/8 | 7/8 | 17/64 | .175 | 1/8 | 1/8 |
| 605 | 2-11/16 | 7/8 | 13/16 | 1-1/8 | 5/16 | .209 | 1/8 | 1/8 |

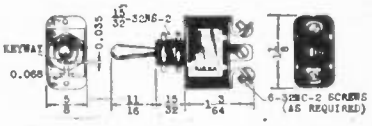
Exclusive Distributors of

## KULKA AIRCRAFT TYPE SWITCHES

TO RADIO PARTS JOBBERS ONLY
Made to Joint Army and Navy Specifications
No. Jan-S-23 superseded by Mil S-3950
**For Electronic & Communications Use**

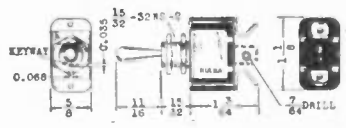
Bakelite housing for DC, or AC circuits up to 1600 cycles, one hole mounting. Two styles available — binding screw terminals (ST-40 Series and ST-50 Series). Solder lugs (ST-42 Series and ST-52 Series) — terminals and screws silver-plated to prevent corrosion; solder lugs hot-tinned to facilitate soldering. Supplied with 2 mounting nuts, 1 sleeve lock-washer and if needed, locking rings. Teerminal screws are Sems type, with external teeth. Std. Pkg. 10

### SINGLE POLE Style 40—With Screw Term.



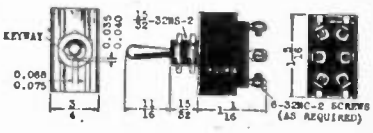

| Cat No. | Type | Up Position | Center Position | Down Position | Each |
|---|---|---|---|---|---|
| ST-40A | SPST | ON | NONE | OFF | $1.75 |
| ST-40B | SPST | ON | NONE | MOM. OFF | 1.95 |
| ST-40C | SPST | OFF | NONE | MOM. ON | 1.95 |
| ST-40D | SPDT | ON | NONE | ON | 2.15 |
| ST-40E | SPDT | ON | OFF | ON | 2.15 |
| ST-40F | SPDT | ON | NONE | MOM. ON | 2.35 |
| ST-40G | SPDT | MOM. ON | OFF | MOM. ON | 2.35 |
| ST-40H | SPDT | ON | OFF | MOM. ON | 2.35 |

### SINGLE POLE Style 42—With Solder Lugs



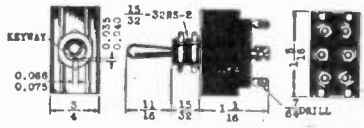

| Cat No. | Type | Up Position | Center Position | Down Position | Each |
|---|---|---|---|---|---|
| ST-42A | SPST | ON | NONE | OFF | $1.65 |
| ST-42B | SPST | ON | NONE | MOM. OFF | 1.80 |
| ST-42C | SPST | OFF | NONE | MOM. ON | 1.80 |
| ST-42D | SPDT | ON | NONE | ON | 1.95 |
| ST-42E | SPDT | ON | OFF | ON | 1.95 |
| ST-42F | SPDT | ON | NONE | MOM. ON | 2.15 |
| ST-42G | SPDT | MOM. ON | OFF | MOM. ON | 2.15 |
| ST-42H | SPDT | ON | OFF | MOM. ON | 2.15 |

### DOUBLE POLE Style 50—With Screw Term.




| Cat No. | Type | Up Position | Center Position | Down Position | Each |
|---|---|---|---|---|---|
| ST-50K | DPST | ON | NONE | OFF | $2.25 |
| ST-50L | DPST | ON | NONE | MOM. OFF | 2.60 |
| ST-50M | DPST | OFF | NONE | MOM. ON | 2.60 |
| ST-50N | DPDT | ON | NONE | ON | 2.60 |
| ST-50P | DPDT | ON | OFF | ON | 2.60 |
| ST-50R | DPDT | ON | NONE | MOM. ON | 2.95 |
| ST-50S | DPDT | MOM. ON | OFF | MOM. ON | 2.95 |
| ST-50T | DPDT | ON | OFF | MOM. ON | 2.95 |

### DOUBLE POLE Style 52—With Solder Lugs




| Cat No. | Type | Up Position | Center Position | Down Position | Each |
|---|---|---|---|---|---|
| ST-52K | DPST | ON | NONE | OFF | $2.00 |
| ST-52L | DPST | ON | NONE | MOM. OFF | 2.25 |
| ST-52M | DPST | OFF | NONE | MOM. ON | 2.25 |
| ST-52N | DPDT | ON | NONE | ON | 2.25 |
| ST-52P | DPDT | ON | OFF | ON | 2.25 |
| ST-52R | DPDT | ON | NONE | MOM. ON | 2.60 |
| ST-52S | DPDT | MOM. ON | OFF | MOM. ON | 2.60 |
| ST-52T | DPDT | ON | OFF | MOM. ON | 2.60 |



**ALL PRICES SUBJECT TO TRADE DISCOUNT**

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World Radio History

# HERMAN H. SMITH, INC.

**"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"**

## STEEL MACHINE SCREWS

### Round Head Cadmium Plated

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1000M | $6.25 | 6-32 x ¼" | 1000G | $1.05 |
| 1001M | 6.75 | 6-32 x ⅜" | 1001G | 1.15 |
| 1002M | 7.25 | 6-32 x ½" | 1002G | 1.20 |
| 1006M | 8.00 | 8-32 x ¼" | 1006G | 1.35 |
| 1007M | 8.65 | 8-32 x ¾" | 1007G | 1.50 |
| 1008M | 9.30 | 8-32 x ½" | 1008G | 1.55 |

## BRASS MACHINE SCREWS

### Round Head Nickel Plated

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1044M | $9.00 | 4-36 x ¼" | 1044G | $1.50 |
| 1045M | 10.00 | 4-36 x ⅜" | 1045G | 1.60 |
| 1046M | 11.00 | 4-36 x ½" | 1046G | 1.70 |
| 1047M | 9.00 | 4-40 x ¼" | 1047G | 1.50 |
| 1048M | 10.00 | 4-40 x ¾" | 1048G | 1.60 |
| 1049M | 11.00 | 4-40 x ½" | 1049G | 1.70 |
| 1050M | 12.00 | 6-32 x ¼" | 1050G | 2.00 |
| 1051M | 13.00 | 6-32 x ¾" | 1051G | 2.10 |
| 1052M | 13.75 | 6-32 x ½" | 1052G | 2.30 |
| 1056M | 16.00 | 8-32 x ¼" | 1056G | 2.65 |
| 1057M | 18.00 | 8-32 x ¾" | 1057G | 3.25 |
| 1058M | 22.00 | 8-32 x ½" | 1058G | 3.70 |

## VOLUME CONTROL AND TOGGLE SWITCH NUTS

### Nickel Plated

Std. Pkg. 500

| No. | Type | Dimensions | Per M |
|---|---|---|---|
| 1195 | Vol. Cont. Brass | ⅜-32x½x5/64 | $25.00 |
| 1199 | Vol. Cont. Steel | ⅜-32x½x5/64 | 20.00 |
| 1196 | Toggle Sw. Hex | 15-32x7/16x3/64 | 30.00 |
| 1197 | Toggle Sw. Ring | 15-32x5/8x3/64 | 50.00 |

## HEXAGON NUTS

### Brass Nickel Plated

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1188M | $10.00 | 4-36 x ¼" | 1188G | $1.65 |
| 1168M | 10.00 | 4-40 x ¼" | 1168G | 1.65 |
| 1189M | 12.90 | 6-32 x ¼" | 1189G | 2.10 |
| 1190M | 12.90 | 6-32 x 5/16" | 1190G | 2.10 |
| 1192M | 14.10 | 8-32 x 5/16" | 1192G | 2.30 |

### Steel, Cadmium Plated

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1179M | $8.75 | 6-32 x ¼" | 1179G | $1.45 |
| 1180M | 9.25 | 6-32 x 5/16" | 1180G | 1.55 |
| 1181M | 9.50 | 8-32 x 5/16" | 1181G | 1.60 |

## SELF TAPPING SCREWS CADMIUM PLATED

### Round Head—Type A—Sharp Point

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1801M | $10.00 | 4 x ½ | 1801G | $1.65 |
| 1802M | 10.00 | 6 x ¼ | 1802G | 1.65 |
| 1803M | 10.00 | 6 x ⅜ | 1803G | 1.65 |
| 1804M | 13.50 | 6 x ½ | 1804G | 2.25 |
| 1805M | 12.50 | 8 x ⅜ | 1805G | 2.10 |
| 1806M | 15.75 | 8 x ½ | 1806G | 2.65 |

### Round Head—Type Z—Blunt Point

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1807M | $10.00 | 4 x ½ | 1807G | $1.65 |
| 1808M | 10.00 | 6 x ¼ | 1808G | 1.65 |
| 1809M | 10.00 | 6 x ⅜ | 1809G | 1.65 |
| 1810M | 13.50 | 6 x ½ | 1810G | 2.25 |
| 1811M | 12.50 | 8 x ⅜ | 1811G | 2.10 |
| 1812M | 15.75 | 8 x ½ | 1812G | 2.65 |

### Slotted Hex Head—Type B—Blunt Point

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1830M | $10.00 | 6 x ¼ | 1830G | $1.65 |
| 1831M | 10.00 | 6 x ⅜ | 1831G | 1.65 |
| 1832M | 13.50 | 6 x ½ | 1832G | 2.25 |
| 1833M | 12.50 | 8 x ⅜ | 1833G | 2.10 |
| 1834M | 15.75 | 8 x ½ | 1834G | 2.65 |

## STEEL SPADE BOLTS

Steel, cadmium plated finish, threaded 6-32, thread length 5/16", length overall ¾". Std. Pkg. 500

No. 1500 — $17.00 Per M

## FLAT WASHERS

### Brass Nickel Plated

| No. | Per M | Size | Material | No. | Per M |
|---|---|---|---|---|---|
| 1149M | $4.80 | 4x⅜"x.037" | Brass | 1149G | $0.70 |
| 1150M | 4.80 | 6x⅜"x.012" | Ph. Br. | 1150G | 0.70 |
| 1151M | 4.80 | 8x⅜"x.012" | Ph. Br. | 1151G | 0.70 |
| 1152M | 4.80 | 10x⅜"x.037" | Brass | 1152G | 0.70 |

## LOCK WASHERS

### Steel, Cadmium Plated Internal Teeth

| No. | Per M | Type | No. | Gross |
|---|---|---|---|---|
| 1127M | $5.00 | No. 4 | 1127G | $0.85 |
| 1128M | 5.00 | No. 6 | 1128G | .85 |
| 1129M | 5.75 | No. 8 | 1129G | .95 |
| 1130M | 6.10 | No. 10 | 1130G | 1.00 |
| 1132M | 7.75 | ¼" | 1132G | 1.30 |
| 1131M | 13.00 | ⅜" | 1131G | 2.00 |

Narrow Rim Control Shaft Lockwasher Internal Teeth

| | | | | |
|---|---|---|---|---|
| 1145M | $13.00 | ⅜" | 1145G | $2.00 |

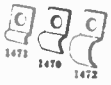
Narrow Rim Toggle Switch Lockwasher Internal Teeth

| | | | | |
|---|---|---|---|---|
| 1146M | $13.00 | 15/32" | 1146G | $2.00 |

### External Teeth

| No. | Per M | Type | No. | Gross |
|---|---|---|---|---|
| 1139M | $5.00 | No. 4 | 1139G | $0.85 |
| 1140M | 5.00 | No. 6 | 1140G | .85 |
| 1141M | 5.75 | No. 8 | 1141G | .95 |
| 1141M | 6.10 | No. 10 | 1142G | 1.00 |
| 1144M | 7.75 | ¼" | 1144G | 1.30 |
| 1143M | 13.00 | ⅜" | 1143G | 2.00 |

## CABLE CLAMPS




Std. Pkg. 100

Steel Cadmium Plated with No. 8 open Hole.

| No. | Length | Width | Cable | Per C |
|---|---|---|---|---|
| 1471 | 5/8" | ⅜" | ⅛" to ¼" | $1.30 |
| 1470 | ¾" | ⅜" | ¼" | 1.40 |
| 1472 | 1" | ⅜" | 1/32" | 1.50 |

## DRILL & TAP KIT

*for*

- **Hams**
- **Laboratories**
- **Servicemen**

Specially designed for electronic bench duty, this kit contains the most popular sizes of taps and corresponding tap and body drills for precise and speedy work. Drill and tap size identifications are engraved on the steel cadmium plated drill stand, to facilitate correct replacement as needed. Contains: 4-40, 6-32, 8-32, 10-32 Taps with eight corresponding tap and body drills.

No. 750 Kit — $9.00

Replacement Drills Available—Write for Catalog

## BINDING HEAD SCREWS

### Steel Nickel Plated

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1425M | $6.25 | 6-32 x ¼" | 1425G | $1.05 |
| 1426M | 6.75 | 6-32 x ⅜" | 1426G | 1.15 |
| 1427M | 7.25 | 6-32 x ½" | 1427G | 1.20 |
| 1428M | 8.00 | 8-32 x ¼" | 1428G | 1.35 |
| 1429M | 8.65 | 8-32 x ⅜" | 1429G | 1.50 |
| 1430M | 9.30 | 8-32 x ½" | 1430G | 1.55 |

## "VERI-THIN" ALIGNING TOOL

Fibre aligning tool 7" long x ⅛" O.D. with screw driver on each end.

| No. | Each |
|---|---|
| 328 | $ 0.40 |
| 328D—Display of 50 No. 328 | 20.00 |
| 328H—With Amber Handle | 0.60 |
| 328HD—Display of 25 No. 328H | 15.00 |

## EXTRA LONG ALIGNING TOOL

Hard Bone Fibre screw driver 12 inches long by ⅛ inches dia. Extra strong and durable.

| No. | Each |
|---|---|
| 333 Std. Pkg. 25 | $ 0.60 |
| 333-D—Display of 50 No. 333 | 30.00 |
| 333H—With Amber Handle. Std. Pkg. 25 | 0.90 |
| 333HD—Display of 25 No. 333H | 22.50 |

## "LONG REACH" ALIGNING TOOL

Aligning tool 9" long x .165 O.D. with screw driver on each end. Material of treated clear lucite.

| No. | Each |
|---|---|
| 330 Std. Pkg. 25 | $ 0.60 |
| 330D—Display of 30 No. 330 | 21.60 |

## RACK SCREWS

### Oval Head, Steel, Nickel Plated

Specially recommended for mounting panels in racks and cabinets. Available in gross packages or packed 1000 to the box.

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1111M | $10.25 | 10-32 x ½" | 1111G | $1.75 |
| 1112M | 12.00 | 10-32 x ¾" | 1112G | 2.00 |

## COUNTERSUNK WASHERS

### Brass, Nickel Plated

Recommended for use with Rack Screws designated above.

| No. | Per M | Size | No. | Gross |
|---|---|---|---|---|
| 1115M | $4.50 | 6 | 1115G | $0.75 |
| 1116M | 5.00 | 8 | 1116G | .85 |
| 1117M | 9.00 | 10 | 1117G | 1.80 |

## DRILL ADAPTER

### CASE HARDENED STEEL

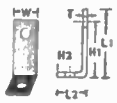
Convert ¼" drill chuck to drill holes up to ½". Drills can be quickly inserted and tightened with two set screws provided, located at 90° angle for firm hold on drill.

| No. | For Drill | Std. Pkg. | Each |
|---|---|---|---|
| 175 | 1/16" | 10 | $0.75 |
| 176 | 3/32" | 10 | .80 |
| 177 | 7/64" | 10 | .85 |
| 178 | 1/8" | 10 | .90 |
| 179 | Kit of 4 Adapters | | 3.30 |
| 179D | Display of 12 No. 179 Kits | | 39.60 |

## GRID CAPS

| No. | Tube Type | Std. Pkg. | Per M |
|---|---|---|---|
| 1450 | ⅜" Glass Tubes | 100 | $20.00 |
| 1451 | ⅜" Glass Tubes | 100 | 45.00 |
| 1452 | ⅜" Glass Tubes | 100 | 20.00 |
| 1453 | ⅜" Glass Tubes | 100 | 20.00 |
| 1454 | ¼" Mini Tubes | 100 | 20.00 |

## ANGLES




### Steel, Cadmium Plated

All holes to clear No. 6 Screw.

L1=Length of Leg — H1=Hole Location
L2=Length of Leg — H2=Hole Location
T =Thickness — W =Width

Std. Pkg. 100

| No. | L1 | L2 | T | H1 | H2 | W | Per C |
|---|---|---|---|---|---|---|---|
| 1444 | 7/16" | 7/16" | .030 | 3/8" | 17/64" | 3/8" | $1.20 |
| 1445 | 1/2" | 1/2" | .051 | 11/32" | 21/64" | 5/16" | 1.50 |
| 1446 | 25/32" | 27/64" | .033 | 19/32" | 11/64" | 5/16" | 1.50 |
| 1447 | 1-9/64" | 31/64" | .032 | 61/64" | 5/16" | 5/16" | 1.70 |

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World Radio History

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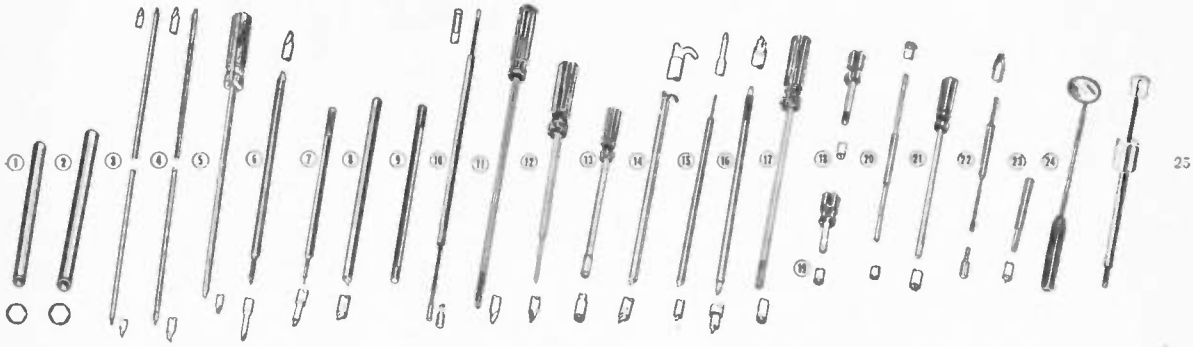
WALSCO QUALITY EARNED ITS REPUTATION

ROCKFORD ILLINOIS • LOS ANGELES CALIF.

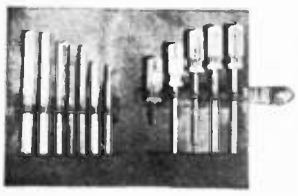
Walsco ELECTRONICS MFG. CO.
Division of Textron, Inc.

# WALSCO ALIGNMENT TOOLS



| Picture | Tool Description | Cat. No. | List |
|---|---|---|---|
| 1 | ¼" Hex Neutralizing Wrench<br>Overall length: 7½", ⅜" O.D. rd. | *2503 | $0.45 |
| 2 | 3/32" Hex Neutralizing Wrench<br>Overall length: 7½", 5/16" O.D. rd. | *2508 | 0.45 |
| 3 | "Slim Sticks" — extra thin — tough plastic — high dielectric strength<br>⅛" diameter — 12" long | †2531 | 0.45 |
| | ⅛" diameter — 16" long | †2532 | 0.50 |
| 4 | "Slim Sticks" — similar to above<br>3/32" diameter — 12" long | †2534 | 0.45 |
| | 3/32" diameter — 16" long | †2535 | 0.50 |
| 5 | "Glas-Sticks" — reinforced fiberglass. Tough, non-metallic<br>3/32" diameter — 7" blade | †2537 | 1.20 |
| | 3/32" diameter — 14" blade | †2538 | 1.75 |
| 6 | Duplex Alignment Screwdriver<br>large end: 3/32", small end: 3/32" | †2520 | 0.85 |
| 7 | Alignment Tool for Westinghouse | †2541 | 0.90 |
| 8 | Metal Tip Alignment Screwdriver<br>3/32" diameter blade — 6" long | †2525 | 0.50 |
| 9 | Tuning Wand — one brass end, other is filled with powered iron. 6" long | †2540 | 0.75 |
| 10 | Double End Nylon HEX IRON CORE TOOLS for .075" - .100" and .125" cores | | |
| | Hex .125" 5" long, Hex handle | †2542 | 0.75 |
| | Hex .100" 5" long, Hex handle | †2543 | 0.75 |
| | Hex .100" 11" long, knurled ¼" handle | †2544 | 1.00 |
| | Hex .100" 11" long, thin, 3/32" handle | †2545 | 1.00 |
| | Hex .075" 11" long, knurled ¼" handle | †2546 | 1.00 |
| | Hex .075" 11" long, thin, 3/32" handle | †2547 | 1.00 |
| 11 | "The Long Ranger" — insulated tuner alignment tool with molded nylon tip<br>Very slim — 12" overall length | *2523 | 1.80 |
| | Replacement tip for above tool | †2555 | 0.30 |
| 12 | Turret Tuner Tool — for standard coil tuners. Polyester fiberglass | †2522 | $1.10 |
| 13 | Philco Tuner Tool — A special tool for 1946-48 front end tuners | †2518 | 1.75 |
| 14 | Wire Dressing and Alignment Tool<br>One end has special wire dressing blade, other is screwdriver tip | †2512 | 0.70 |
| 15 | K-Tran Alignment Tool — Fits slots on all K-Tran miniature I.F. xfmrs | †2515 | 0.95 |
| 16 | "Slug Saver" Tuner Tool — Ingenious designs prevents losing slugs | †2528 | 1.05 |
| 17 | Slotted Stud Driver — Blade fits #6 studs. 8¼" long overall | †2516 | 1.10 |
| 18 | I.F. Aligner — for RCA, Zenith and others. Molded styrene, 2½" long | †2527 | 0.75 |
| 19 | Stubby Stud Driver — Fits #6 studs. Only 2½" long overall | †2517 | 0.70 |
| 20 | Standard Alignment Tool — One end fits #6 stud, other fits #4 stud | †2519 | 1.05 |
| 21 | Slotted Screwdriver — Fits #6 studs. For use on older TV sets | †2524 | 1.10 |
| 22 | Double Ender—Molded nylon. One end fits hex studs, other is a screwdriver. Overall length 6" | †2526 | 0.55 |
| 23 | I.F. Aligner Tool — Molded Nylon. Blade length ¾" — diameter 3/32" | †2521 | 0.75 |
| 24 | Inspection Mirror — High visibility in difficult places. Long handle | 554 | 0.75 |
| | Display card of 12 #554 | 554D | 9.00 |
| 25 | Concentric Color TV Tuning Tool — 2-in-1 tool with screwdriver on inner shaft and spanner end on sleeve tool. Aluminum and plastic const. | 2589 | 1.98 |

If tools are desired on display cards, add "D" to the part number. Otherwise tools will be boxed.



## ALIGNMENT TOOL KIT

Contains all tools necessary to align any TV or FM set. All are standard Walsco Tuning Tools. Comes in handy Leatherette case or wall rack.

Cat. No. 580 — List $12.00
In Leatherette Case

Cat. No. 581 — List $12.00
In Wall Rack

## NEW TEL-A-TURN ALIGNMENT TOOLS

Adjust those tricky I.F.'s or trimmers and count the turns as you go — Eliminates errors and permits better "home" service. In 3 styles.

Cat. No. 2586—Double-ended Standard I.F. Aligner — List Price $1.65
Cat. No. 2587—Double-ended Screwdriver — List Price 1.65
Cat. No. 2588—Double-end .001" & .125" Hex Aligner — List Price 1.65

*Standard Pack: 12

## SLUG RETRIEVING TOOL

Specially designed to retrieve "lost" TV tuner slugs in standard coil tuners. Precision ground end. Hardened steel.

| Cat. No. | Length | List Price |
|---|---|---|
| *2565 | 11" | $3.72 each |
| **2566 | 15" | 4.95 each |
| **2567 | 19" | 6.25 each |

*Standard Pack: 12 **Standard Pack: 6

## SMALL SCREWHOLDING SCREWDRIVER

The only "holding" type screwdriver that fits the very small Nos. 0, 1, 2 and 3 size screws.

Cat. No. 2568—3¼" long (Standard Pack: 10) — List $3.30
Cat. No. 2569—7" long (Standard Pack: 10) — List 3.75

†Standard Pack: 20



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# WALSCO SPECIAL TOOLS

## WALSCO 3-STEP TAP

Three most popular tap sizes combined in one hands tool. Sizes are 6/32" - 8/32" and 10/32". Oversize, fluted handle is high quality plastic. Overall length: 5".

Cat. No. 2574 — Std. Pack: 12 per card — Dealer Net $1.95

## NON-MAGNETIC BERYLLIUM SCREWDRIVER

For use in tuning radio and TV sets where a steel screwdriver cannot be used. Ideal for making adjustments near magnetic fields such as in focalizers of TV sets.

| Cat. No. | Blade Dia. | Length | List |
|---|---|---|---|
| 2560 | 3/16" | 9" | $1.25 |
| 2561 | 3/16" | 13" | 1.35 |
| 2562 | 1/4" | 9" | 2.25 |
| 2564 | 1/4" | 13" | 2.75 |

Standard Pack: 12 per display card.

## TWISTO WIRE STRIPPER

Designed to strip wire (insulation) to a solder connection or terminal, quick micrometer-type adjustment sets instantly for AWG wire sizes 12 to 22. Most compact, precision stripper on the market. Strips plastic, rubber or fabric.

| Cat. No. | Description | List |
|---|---|---|
| 592-00 | — Twisto Stripper (Std. Pack: 12) | $4.50 |
| 592-03 | — Replacement Blades (Set. Pack: 12) per set | 1.00 |

## ALL-PURPOSE WIRE STRIPPER

With "Stay-open" feature to prevent crushing fine wires. Blades are replaceable. Completely constructed of steel.

| Cat. No. | Description | List Price | Dealer's Net |
|---|---|---|---|
| 590-00 | Electronic type for wire sizes 12 through 20, plus 300 ohm twin lead. Also cuts wire | $9.90 | 5.75 |
| 590-01 | Replacement Blade set for No. 590 | 2.75 | 1.60 |
| 591-00 | "Wide-Range" Model. Strips wire from #10 through #22. Will not strip twin lead and has not cutter | 9.90 | 5.75 |
| 591-01 | Replacement Blade Set for No. 591 | 2.75 | 1.60 |

## SPEED-O-MATIC WIRE STRIPPERS

Fully automatic, delayed action return prevents crushing fine wires. Interchangeable blades give greater versatility. A time and money saver.

| Cat. No. | For wire sizes | List |
|---|---|---|
| 594-01 | #10 to #22 | $9.90 |
| 594-02 | #10 to #18 | 9.90 |
| 594-03 | #14 to #20 | 9.90 |
| 594-04 | #16 to #22 | 9.90 |

Blades for above—each $1.65

Note: To order separate blades for above replace letter "O" with letter "B" in catalog number. Example: 594-B1.

## TRIG-O-MATIC WIRE STRIPPERS

With Trig-O-Matic action that holds jaws open until released. Especially suitable for stripping fine stranded wire.

| Cat. No. | For wire sizes | List |
|---|---|---|
| 593-01 | #10 to #22 | $9.90 |
| 593-02 | #10 to #18 | 9.90 |
| 593-03 | #14 to #20 | 9.90 |
| 593-04 | #16 to #22 | 9.90 |

Extra blades for above — each $1.65

Note: To order extra blades for above replace letter "O" with letter "B" in catalog number. Example: 593-B1.

## HEX DRIVER TOOL KIT

Designed to drive socket head screws in hard-to-reach places. Blades are of high torque, heat treated, alloy steel embedded in shock-proof plastic handles.

| Cat. No. | Size of Hex across flat | Overall Length | List |
|---|---|---|---|
| 562-01 | .050" | 3¾" | $0.49 |
| 562-02 | 1/16" | 3¾" | 0.49 |
| 562-03 | 5/64" | 4¾" | 0.49 |
| 562-04 | 3/32" | 5¼" | 0.59 |
| 562-05 | 1/8" | 5¾" | 0.59 |
| 562-06 | 5/32" | 6½" | 0.75 |

Standard Pack: 12

COMPLETE KIT containing all six above drivers in attractive plastic case.
563 Standard Pack: 6 $4.50

## SERVICE TWEEZERS

Precision made of forged steel with polished nickel-plate finish.

| Cat. No. | Description | List |
|---|---|---|
| 570 | Self-closing — 6½" long | $1.30 |
| 570D | Display card of 10 | 13.00 |
| 571 | Heavy duty with side lock — 6½" long | 1.50 |
| 571D | Display card of 10 #571 | 15.00 |
| 572 | Precision — narrow points — 4½" long | 0.70 |
| 572D | Display card of 20 #572 | 14.00 |
| 575 | Leatherette Kit with one each above | 3.80 |
| 575D | Display of 12 kits #575 | 45.60 |

## HEX and SPLINE WRENCH KIT

11 popular wrenches in durable plastic case with snap cover.

| Cat. No. | Description | List |
|---|---|---|
| 560 | Wrench Kit | $2.25 |
| | Dealer Net $1.35 | |
| 560D | Display card of 25 | 56.25 |
| | Dealer Net $33.75 | |

## KNURL-TITE WRENCH

Tighten or loosen knurled finish nuts quickly, easily. Has collet-type pressure jaws with hollow collet to slip over long shanks. Unbreakable handle. Overall length 6½".

| Cat. No. | For Use On | List |
|---|---|---|
| 2581 | 5/8" Dia. nut | $7.50 |
| 2582 | 1/2" Dia. nut | 7.50 |
| 2583 | 5/8" Dia. nut | 7.50 |

## HEX WRENCH POCKET SET

Contains the six most popular size wrenches from .050 to 3/8". In convenient knife-type handle. Made of the finest tool steel.

Cat. No. 564 Complete wrench set List $2.40

## KEY WRENCHES

In two popular assortments of hex (Allen) and spline (Bristol) wrenches. Precision machined.

| Cat. No. | Description | List Price |
|---|---|---|
| 8600-F | Assortment of 4 small HEX wrenches. Fits set screws No. 4 to No. 10 and cap screws No. 2 to 6. | $0.55 |
| 8602-F | Assortment of 4 small SPLINE wrenches. Fits all set screws up to 1/4" and cap screws up to No. 8. | 0.55 |

## WALSCO WIRE CUTTER & STRIPPER "STRIP-ER-CLIP"

Strips or clips wires from 14 to 26 gauge. Has special precision safe-guard that prevents "nicking" wires. Made of heat-treated tool steel with specially ground cutting edges and heavily insulated grips. Instant setting, 7 stop gauge.

Cat. No. 595 List $ 2.30
Cat. No. 595D — Display of 24 List $55.60

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### EASY-ON TOOL GRIPS

Made of flexible, elastic plastic to give comfort and protection. For pliers, diagonals, etc.

| Cat. No. | Description | | Dealer's Net |
|---|---|---|---|
| 521 | Small | Per pair | *$0.20 |
| 522 | Medium | Per pair | *0.25 |
| 523 | Large | Per pair | *0.30 |

Available in display box of 36. Add suffix D to part number. Also available in assortment of 12 each size — Cat. No. 520-D.

### NEW WALSCO VIBRA-PULL

Pulls auto radio vibrators the quick and easy way. The exclusive Walsco design offers absolute protection against damage to vibrator prongs, sockets and other near-by parts. For standard 1⅛" diameter vibrators.

Cat. No. 566 — Standard Pack: 12 — List $2.49

### PROTECTO TUBE

Insulates the handles and shanks of your tools. Easy to apply with "expanding solution." Shrinks skin tight, will not crack or peel. Assorted colors.

Cat. No. 18K — List Price $1.80

### NEW WALSCO CHEM-O-JECTOR

A new type applicator for lubricants, grease, certain adhesives and many cleaning fluids used in electronics and other fields. Uses the hypodermic plunger principal and reaches the hard-to-get-at places with ease. Made of polyethylene plastic with a neoprene plunger and is unaffected by most chemicals except those using fast solvents. Also see pages U-93, U-94.

Cat. No. 987 — Standard Pack: 12 — List $0.50 each

### WALSCO OILETTE

Filled with a high grade Walsco oil. Dispenses accurately one drop at a time. Ideal for electronic devices, clocks, typewriters, camera shutters, etc. Leakproof pocket-clip container.

| Cat. No. | Description | List |
|---|---|---|
| 986 | Walsco Pocket Oilette | $ 1.25 |
| 986-D | Display Card of 12 #986 | 15.00 |
| 986-22 | Refill for Oilette (Standard Pack: 12) | 0.45 |

## WALSCO CEMENTS - CLEANERS - SOLVENTS

**RADIO CEMENT** A fast drying, elastic adhesive that will not become brittle with age. Ideal for speaker repair. Vibration proof.

| | | | |
|---|---|---|---|
| Cat. No. 50-01 — 1¾ oz. tube | Std. Pack 12 | List | $0.75 |
| Cat. No. 50-02 — 2 oz. bottle | Std. Pack 12 | List | 0.75 |
| Cat. No. 50-04 — 4 oz. bottle | Std. Pack 12 | List | 1.10 |
| Cat. No. 50-08 — 8 oz. bottle | Std. Pack 12 | List | 1.90 |
| Cat. No. 50-16 — 1 pt. can | Std. Pack 3 | List | 3.65 |
| Cat. No. 50-16 — 1 pt. can | | List | 3.65 |
| Cat. No. 50-33 — 1 gal. can | | List | 12.95 |
| Cat. No. 50-34 — 5 gal. can | | List | 50.80 |
| Cat. No. 50-07 — In Chem-O-Jector | | List | 0.70 |

**VINYLITE CEMENT** Great flexibility with unusually strong adhesive qualities. Ideal for porous and non-porous materials. Air-drying. Amazing thermo-plastic properties.

| | | |
|---|---|---|
| Cat. No. 55-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |
| Cat. No. 55-33 — 1 gallon can | List | *20.65 |

**FABRIC CEMENT** Fast drying, moisture proof. Will not shrink fabric. Ideal for grille cloth, turntable felts, etc.

| | | |
|---|---|---|
| Cat. No. 53-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |
| Cat. No. 53-33 — 1 gallon can | List | *17.00 |

**WOOD GLUE** Latest type, improved adhesive for all wood parts. Excellent for repairing cabinets, new construction, etc.

| | | |
|---|---|---|
| Cat. No. 78-02 — 2 oz. bottle | List | $ 0.75 |
| Cat. No. 78-04 — 4 oz. bottle | List | 1.20 |
| Cat. No. 78-07 — In Chem-O-Jector | List | 0.70 |

**PLASTIC CEMENT** A tough, water-proof, fast drying, universal cement. Especially developed for plastic repair.

| | | |
|---|---|---|
| Cat. No. 40-02 — 2 oz. bottle | List | $ 0.75 |
| Cat. No. 40-04 — 4 oz. bottle | List | 1.20 |
| Cat. No. 40-08 — 8 oz. bottle | List | 1.90 |
| Standard Pack: 12 | | |
| Cat. No. 40-33 — 1 gallon can | List | *16.25 |

**PLIOBOND CEMENT** Adheres permanently, dries rapidly. Perfect for rubber, wood, plastics, glass, metal, fabrics, etc. Made by Goodyear — packaged by Walsco. Tan in color.

| | | | |
|---|---|---|---|
| Cat. No. 67-02 — 2 oz. bottle | Std. Pack 12 | List | $ 0.75 |
| Cat. No. 67-08 — 8 oz. bottle | Std. Pack 12 | List | 1.90 |
| Cat. No. 67-16 — 16 oz. bottle | Std. Pack 3 | List | 3.65 |
| Cat. No. 67-33 — 1 gallon can | | List | 16.50 |

**ELECTRIC and RESISTOR CEMENT** Replaces or applies a new insulation to such items as wire wound resistors, heating elements, etc. Withstands high temperatures.

| | | |
|---|---|---|
| Cat. No. 77-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |

**BAKELITE CEMENT** A special adhesive for Phenolics (Bakelite). Excellent also for cementing phenolics to other plastics, wood, metal, etc. Bond will never become brittle and is moisture proof.

| | | |
|---|---|---|
| Cat. No. 66-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.85 |
| Cat. No. 66-16 — 16 oz. can | List | 4.55 |
| Cat. No. 66-33 — 1 gallon can | List | *27.00 |

**WALSCO CONTACTENE** Lubricates as it cleans, fast acting, quick drying. Eliminates volume control noise. Removes oxide, grease, dirt and corrosion. Absolutely anti-oxidant.

| | | |
|---|---|---|
| Cat. No. 80-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.90 |
| Cat. No. 80-04 — 4 oz. bottle (Standard Pack: 12) | List | 1.10 |
| Cat. No. 80-08 — 8 oz. bottle (Standard Pack: 12) | List | 1.90 |
| Cat. No. 80-16 — 16 oz. can (Standard Pack: 3) | List | 2.50 |
| Cat. No. 80-33 — 1 gallon can | List | 7.50 |
| Cat. No. 80-34 — 5 gallon can | List | 30.00 |
| Now available in handy new spray can | | |
| Cat. No. 80-06 — 6 oz. spray can (Standard Pack: 12) | List | $ 1.20 |
| Cat. No. 80-12 — 12 oz. spray can (Standard Pack: 12) | List | *2.00 |

**LUCITE CEMENT** Lucite, plexiglass and any other article can be "welded" together with this fast drying cement.

| | | |
|---|---|---|
| Cat. No. 65-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |
| Cat. No. 65-33 — 1 gallon can | List | 16.50 |

**POLYSTYRENE CEMENT and COIL DOPE** Makes coils and other parts moisture-proof with just one coating. Shrinks when dry to hold wire firmly. Also the perfect cement for polystyrene parts.

| | | |
|---|---|---|
| Cat. No. 57-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |
| Cat. No. 57-04 — 4 oz. bottle (Standard Pack: 12) | List | 1.20 |
| Cat. No. 57-33 — 1 gallon can | List | *13.75 |

**POLYSTYRENE SOLVENT** For thinning Polystyrene Cement.

| | | | |
|---|---|---|---|
| Cat. No. 202-02 — 2 oz. bottle | Std. Pack 12 | List | $ 0.60 |
| Cat. No. 202-04 — 4 oz. bottle | Std. Pack 12 | List | 0.95 |
| Cat. No. 56-33 — 1 gallon can | | List | *8.10 |

**RUBBER CEMENT** Fastens rubber to wood or metal with a strong bond. Forms a watertight, airtight, resilient joint.

| | | |
|---|---|---|
| Cat. No. 56-02 — 2 oz. bottle (Standard Pack: 12) | List | $ 0.75 |
| Cat. No. 56-04 — 4 oz. bottle (Standard Pack: 12) | List | 1.20 |
| Cat. No. 56-33 — 1 gallon can | List | 12.95 |

**SPECIAL THINNER** For thinning rubber and fabric cement, wrinkle varnish, etc.

| | | | |
|---|---|---|---|
| Cat. No. 204-04 — 4 oz. bottle | Std. Pack 12 | List | $ 0.95 |
| Cat. No. 204-33 — 1 gallon can | | List | 16.15 |

**CEMENT SOLVENT and THINNER** Strong solvent designed to loosen cemented parts such as speaker cones, etc.

| | | |
|---|---|---|
| Cat. No. 201-02 — 2 oz. bottle | List | $ 0.75 |
| Cat. No. 201-04 — 4 oz. bottle | List | 1.20 |
| Cat. No. 201-08 — 8 oz. bottle | List | 1.35 |
| Cat. No. 201-16 — 16 oz. bottle | List | 2.70 |
| Cat. No. 201-33 — 1 gallon can | List | 8.00 |

**LACQUER THINNER** For thinning all lacquer type cements, e.g., Radio, Plastic and Vinylite cement, also various lacquers.

| | | |
|---|---|---|
| Cat. No. 203-02 — 2 oz. bottle | List | $ 0.75 |
| Cat. No. 203-08 — 8 oz. bottle | List | 1.40 |
| Cat. No. 203-33 — 1 gallon can | List | 8.25 |
| Cat. No. 203-34 — 5 gallon can | List | 35.50 |

**CONTACTENE INJECTOR** Designed to be inserted into places where ordinary applicators cannot reach. A fine surgical-grade steel needle. Bulb is oil resistant Neoprene.

| | | |
|---|---|---|
| Cat. No. 989 — Contactene Injector | List | $ 0.75 |
| Cat. No. 989D — Display of 12 No. 989 | List | 9.00 |

**CARBON TETRACHLORIDE** Top quality, all-purpose cleaning fluid. Non-explosive, non-inflammable.

| | | |
|---|---|---|
| Cat. No. 111-04 — 4 oz. bottle (Standard Pack: 12) | List | $ 0.90 |
| Cat. No. 111-16 — 16 oz. bottle (Standard Pack: 12) | List | 2.10 |
| Cat. No. 111-33 — 1 gal. can | List | 7.65 |
| Cat. No. 111-34 — 5 gal. can | List | *34.00 |

**CHLOROTHENE** A new chemical, similar to Carbon Tet, but practically non-toxic. Quickly dissolves grease, dirt, oils, tar and waxes from any electronic component, switch, chassis, etc.

| | | |
|---|---|---|
| Cat. No. 113-04 — 4 oz. bottle (Standard Pack: 12) | List | $ 0.95 |
| Cat. No. 113-16 — 16 oz. bottle (Standard Pack: 3) | List | 2.20 |
| Cat. No. 113-33 — 1 gallon can | List | *8.90 |
| Cat. No. 113-34 — 5 gallon can | List | *36.00 |

**TUNERCLEAN** The finest U.H.F. and V.H.F. Tuner contact cleaner on the market. It cleans — it prevents corrosion.

| | | |
|---|---|---|
| Cat. No. 105-01 — 1 oz. bottle (Standard Pack: 12) | List | $ 0.95 |
| Cat. No. 105-02 — 2 oz. bottle (Standard Pack: 12) | List | 1.60 |
| Cat. No. 105-16 — 1 pint (Standard Pack: 3) | List | 12.50 |
| Cat. No. 105-33 — 1 gallon can | List | *37.50 |



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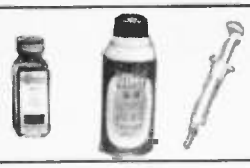

# CHEMICALS IN BOTTLES - SPRAY CANS - and SYRINGE TYPE APPLICATORS

Walsco ELECTRONICS MFG. CO.
Division of Textron, Inc.

## CEMENTS, CLEANERS, SOLVENTS, etc. *(cont'd)*

**WALSCOCLEAR (Formula 91)** Neutralizes static electricity in plastics. Ideal for vinyl plastic recordings, TV lenses, optical systems, etc.
Cat. No. 91-04 — 4 oz. bottle (Standard Pack: 12) ..... List $ 0.55

**RH CLEANER** Cleans and protects tape or wire recording heads. Dissolves scum, loosens lint and dirt.
Cat. No. 93-01 — 1 oz. bottle (Standard Pack: 12) ..... List $ 0.95

**K-T-K (Kon-Trol-Kleen)** New Walsco formula that protects as it cleans all radio, TV, and similar electronic rotating controls, contacts, switches, etc. For use in Walsco Clean-O-Jet.
Cat. No. 107-04 — 4 oz. bottle (Standard Pack: 12) ..... List $ 1.25
Cat. No. 107-16 — 16 oz. can (Standard Pack: 3) ..... List 3.25
Cat. No. 107-33 — 1 gallon can ..... List *13.50

**WALSCOLUB-B** Electrically neutral lubricant that prevents corrosion, noise-free operation of contacts, controls, tuners, switches, etc. Clings to metal surfaces, reduces wear. Superior to any graphite compound.
Cat. No. 22-01 — 1¾ oz. tube (Standard Pack: 12) ..... List $ 0.90
Cat. No. 22-17 — 1 lb. can ..... List *3.65
Cat. No. 22-18 — 5 lb. can ..... List *12.90
Cat. No. 22-07 — In Chem-O-Jector ..... List 0.70

**WALSCO LUBRICATOR** Designed for light grease and oil such as Walsco-lub-B, Lubriplate, etc. Reaches difficult places. Operates by simple thumb pressure.
Cat. No. 988 — Lubricator ..... List $ 0.80
Cat. No. 988D — Display of 12 — No. 988 ..... List 9.60

**WALSCO "LUBRIPLATE"** A super lubricant, grease type. Reduces friction loss, prevents rust and corrosion. Ideal for motors, record changers, switches, etc.
Cat. No. 23-02 — 2 oz. tube (Standard Pack: 12) ..... List $ 0.90
Cat. No. 23-17 — 1 lb. can ..... List *3.30
Cat. No. 23-18 — 5 lb. can ..... List *11.65

**WALSCO DIAL OIL** A light bodied jewelers-quality lubricating oil. For quiet, free-running dial mechanisms. Absolutely safe.
Cat. No. 27-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 0.60
Cat. No. 27-07 — In Chem-O-Jector (Standard Pack: 12) ..... List 0.70

**WALSCO "NO-SLIP"** Stops slippage of pulley belts and cords instantly. Gives added friction.
Cat. No. 260-01 — 1 oz. bottle ..... List $ 0.60
Cat. No. 260-02 — 2 oz. bottle ..... List 0.75

**WALSCO TUNERLUB** The proper, grease-type lubricant for high frequency contacts particularly T.V. tuners. Gives lasting protection.
Cat. No. 26-01 — 1¾ oz. tube (Standard Pack: 12) ..... List $ 0.90
Cat. No. 26-17 — 1 lb. can ..... List *3.50
Cat. No. 26-07 — In Chem-O-Jector ..... List 0.70

****"NO-OX"** A non-gumming chemical that dissolves corrosion instantly. Lubricates and protects contacts long after application. For all volume, tone and similar controls, also switches, etc.
Cat. No. 100-01 — 1 oz. bottle ..... List $ 1.10
Cat. No. 100-02 — 2 oz. bottle ..... List 1.60
Cat. No. 100-16 — 1 pint bottle (Standard Pack: 3) ..... List 12.50
Cat. No. 100-33 — 1 gallon can ..... List *49.85
Cat. No. 100-34 — 5 gallon can ..... List *191.50
Also available in handy spray cans
Cat. No. 100-06 — 6 oz. spray can ..... List 3.50
**Manufactured under exclusive licensing agreement with NO-OX Laboratories. Trade Mark registered.

## WALSCO POLISH - LACQUER - DOPE

**ANTI-CORONA LACQUER** Prevents arcing up to 15,000 volts. Ideal for use in TV and other high-voltage circuits.
Cat. No. 195-02 — 2 oz. bottle ..... List $ 1.20
Cat. No. 195-16 — 1 pint can ..... List 7.50
Cat. No. 195-33 — 1 gallon can ..... List 26.50
Also available in handy Spray Cans.
Cat. No. 195-06 — 6 oz. Spray Can (Standard Pack: 12) ..... List 1.72
Cat. No. 195-12 — 12 oz. Spray Can (Standard Pack: 12) ..... List 3.25

**RED CORONA DOPE** Stops high voltage "Corona." Protects against shorts. Dries instantly.
Cat. No. 198-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 1.20
Cat. No. 198-16 — 1 pint can (Standard Pack: 3) ..... List 7.50
Cat. No. 198-33 — 1 gallon can ..... List 39.50

**WALSCO GLYPTAL** An overall insulating material. Resists heat, oils and acid. Spray, brush or dip all. Manufactured by G.E. — bottled by Walsco.
Cat. No. 134-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 0.90
Cat. No. 134-08 — 8 oz. bottle (Standard Pack: 12) ..... List 2.75
Cat. No. 134-33 — 1 gallon can ..... List 20.00

**AIR-DRY WRINKLE VARNISH** For wood or metal. A factory-like wrinkle finish without baking.
Cat. No. 146-02 — Gray — 2 oz. jar (Standard Pack: 12) ..... List $ 0.90
Cat. No. 146-16 — Gray — 16 oz. can (Standard Pack: 3) ..... List 8.95
Cat. No. 145-02 — Black — 2 oz. jar (Standard Pack: 12) ..... List 0.90
Cat. No. 145-16 — Black — 16 oz. can (Standard Pack: 3) ..... List 3.95
Cat. No. 145-33 — Black — 1 gallon can ..... List 21.25
Cat. No. 146-33 — Gray — 1 gallon can ..... List 21.25
Also available in handy Spray Cans.
Cat. No. 145-06 — Black — 6 oz. can (Standard Pack: 12) ..... List *2.25
Cat. No. 146-06 — Gray — 6 oz. can (Standard Pack: 12) ..... List 2.25
Cat. No. 145-12 — Black — 12 oz. can (Standard Pack: 12) ..... List 2.75
Cat. No. 146-12 — Gray — 12 oz. can (Standard Pack: 12) ..... List 2.75

**WALSCO STRIPVAR** Instantly softens Formvar, Formex, and similar insulation.
Cat. No. 251-02 — 2 oz. bottle (Standard Pack: 6) ..... List $ 1.00
Cat. No. 251-16 — 1 pint can ..... List 5.50
Cat. No. 251-33 — 1 gallon can ..... List 25.85

**HAM-R-TONE LACQUER** Gives a "factory-like" finish to any metal surface. In handy spray cans.
Cat. No. 148-06 — Gray — 6 oz. Spray Can (Std. Pack: 12) ..... List $ 1.65
Cat. No. 149-06 — Blue — 6 oz. Spray Can (Std. Pack: 12) ..... List 1.65

**FLOCK FINISH SPRAY KIT** Contains brown and ivory felt flock, brown and ivory undercoat, and undercoat thinner and a felt flock spray gun. All the necessary materials to apply a beautiful felt flock finish. Complete instructions supplied.
Cat. No. 7-K — Complete Flocking Kit ..... List $15.95

**ANTI-FUNGUS LACQUER** Meets U. S. Government Specifications JAN-C-173.
Cat. No. 135-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 0.75
Cat. No. 135-16 — 1 pint can (Standard Pack: 3) ..... List 3.25
Cat. No. 135-33 — 1 gallon can ..... List 22.00

**SILICONE RESIN LACQUER** A special formula resin lacquer designed to protect printed circuits after repair or replacement of parts. Fast air drying.
Cat. No. 120-02 — 2 oz. bottle with brush (Std. Pack: 12) ..... List $ 1.95
Cat. No. 120-06 — 6 oz. Spray Can (Std. Pack: 12) — each ..... List 3.25

**RESIN LACQUER SOLVENT** Use as a thinner or as a remover.
Cat. No. 205-02 — 2 oz. bottle (Standard Pack: 12) — each ..... List $ 0.55

**ACRY-SPRAY** Weather proofs antenna terminals, lead-in wires, high voltage connections, etc. Excellent for TV masts and towers. Puts rust-resistant finish on all metal surfaces.
Cat. No. 140-12 — 12 oz. Spray Can, clear (Std. Pack: 12) ..... List $ 1.79
Cat. No. 141-12 — 12 oz. Spray Can, aluminum (Std. Pack: 12) ..... List 1.79

**RUST-DE-SOLVE** Acts instantly to remove rust and frees "frozen" bolts, nuts, etc.
Cat. No. 109-02 — 2 oz. bottle (Standard Pack: 12) ..... List $ 0.60
Cat. No. 109-07 — In Chem-O-Jector (Standard Pack: 12) ..... List 0.70

**WALSCOFLUX** A non-corrosion, instant-acting soldering flux. Made of pure resin.
Cat. No. 220-02 — 2 oz. bottle with applicator (Std. Pack: 12) ..... List $ 0.75

**WALSCO ALUMA-FLUX** Makes aluminum soldering simple, easy and permanent.
Cat. No. 221-02 — 2 oz. size (Standard Pack: 12) ..... List $ 2.48

**STANDARD SOLDERING PASTE** For use in all electrical work, sheet metal work, etc. Very fast acting.
Cat. No. 226-02 — 2 oz. can (Standard Pack: 12 per display box) ..... List $ 0.45

**SPECIAL ELECTRONIC SOLDERING PASTE** Especially designed for use in Electronic work. Pure resin base.
Cat. No. 228-01 — 1¾ oz. can (Std. Pack: 12 per display box) ..... List $ 0.50
§ Standard Pack: 12
* Special Distributor's Discount Applies.

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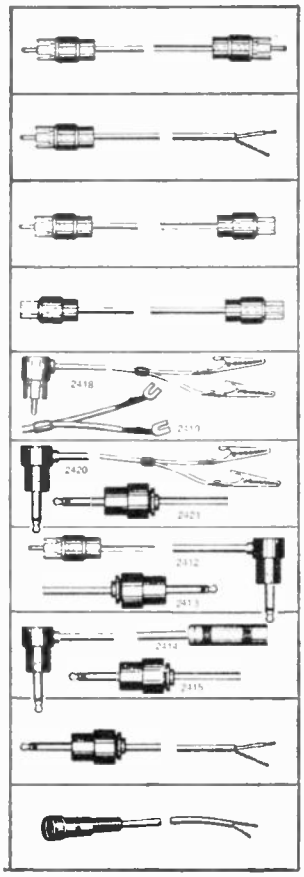
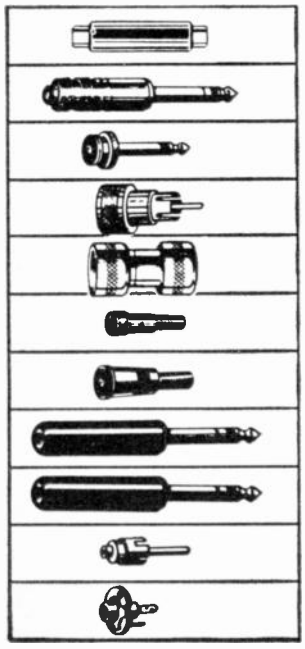
# HI-FI CONNECTING CABLES with TENITE MOLDED PLUGS and JACKS




| DESCRIPTION | Cat. No. | Length | List Price |
|---|---|---|---|
| Shielded cable with MOLDED-ON Phono Pin Plug Pin on each end. | 2400 — 18"<br>2401 — 36"<br>2402 — 72" | 5<br>10<br>10 | $1.05<br>1.20<br>1.50 |
| Shielded cable with MOLDED-ON Phono Pin Plug one end, other end stripped and tinned. | 2403 — 18"<br>2404 — 36"<br>2405 — 72" | 5<br>10<br>10 | .90<br>1.00<br>1.25 |
| Shielded cable with MOLDED-ON Phono Pin Plug one end, MOLDED-ON Phono Pin Jack other end. | *2406 — 18"<br>2407 — 36"<br>2408 — 72" | 5<br>10<br>10 | 1.30<br>1.45<br>1.75 |
| Shielded cable with MOLDED-ON Phono Pin Jack each end. | 2409 — 18"<br>2410 — 36"<br>2411 — 72" | 2<br>2<br>2 | 1.55<br>1.80<br>2.25 |
| Flexible cable with MOLDED-ON Right Angle Phono Pin Plug one end. Alligator Clips other end. | 2418 — 10" | 2 | 3.25 |
| Flexible cable with MOLDED-ON Phono Pin Plug. Spade Lugs other end. | 2419 — 10" | 1 | 2.00 |
| Flexible cable with MOLDED-ON Phono Right Angle Phone Plug one end. Alligator Clips other end. | 2420 — 10" | 2 | 3.00 |
| Flexible cable with MOLDED-ON Right Angle Phone Plug one end, with MOLDED-ON Straight Phone Plug. | 2421 — 10" | 2 | 3.05 |
| Shielded cable with MOLDED-ON Phono Pin Plug, MOLDED-ON 90 **Shielded** Phone Plug other end. | 2412 — 72" | 3 | 2.95 |
| Shielded cable with MOLDED-ON Phono Pin Plug, with straight MOLDED-ON **Shielded** Phone Plug. | 2413 — 72" | 2 | 2.95 |
| Shielded cable with MOLDED-ON Right Angle Shielded Phone Plug. **Shielded** Phone Jack other end. | 2414 — 10" | 3 | 6.50 |
| Shielded cable with MOLDED-ON Right Angle **Shielded** Phone Plug, but with straight **Shielded** Phone Plug. | 2415 — 10" | 2 | 6.50 |
| Shielded cable with straight MOLDED-ON **Shielded** Phone Plug one end, other end stripped and tinned. | 2416 — 72" | 2 | 2.80 |
| Shielded cable, microphone connector one end, other end stripped and tinned. | 2417 — 10" | 1 | 2.70 |

# PLUGS, JACKS and CONNECTORS



| | | | |
|---|---|---|---|
| Phono Pin Jack for connecting 2 Phono Pin Plugs. | 2422 | 10 | 1.00 |
| Adapts Phono Pin Plug to Standard Phone Plug. | 2423 | 5 | 1.95 |
| Adapts female microphone connector to Phone Plug. | 2424 | 5 | .45 |
| Adapts microphone connector into a Phono Pin Plug. | 2425 | 5 | 1.00 |
| Connects two cables equipped with male microphone connectors. | 2426 | 2 | 1.00 |
| Microphone connector — single contact, female type. Coupling ring may be removed if used as male section. Set screw in barrel. | 1880 | 25 | 1.50 |
| Designed as mate of part No. 1880. Brass with nickel plating. Set screw in side of barrel. | 1881 | 25 | .50 |
| Phone Plug — 2 conductor — slim style. Insulated handle. Solder type connections with clamp strain relief. $2\frac{3}{4}$" total length. Barrel diameter $\frac{1}{2}$". | 1901 | 25 | .80 |
| Phone Plug — 3 conductor — slim style, standard type, insulated handle. Solder connections with clamp type strain relief. | 1907 | 25 | 1.50 |
| Midget Phono Plug — For all types of phonograph attachments. Also used for Auto radio connector. | 7665 | 10 | .10 |
| Phono Jack — widely used for phonograph attachments. No. 7665 will fit this jack. | 7667 | 10 | .14 |



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**WALSCO QUALITY EARNED ITS REPUTATION**

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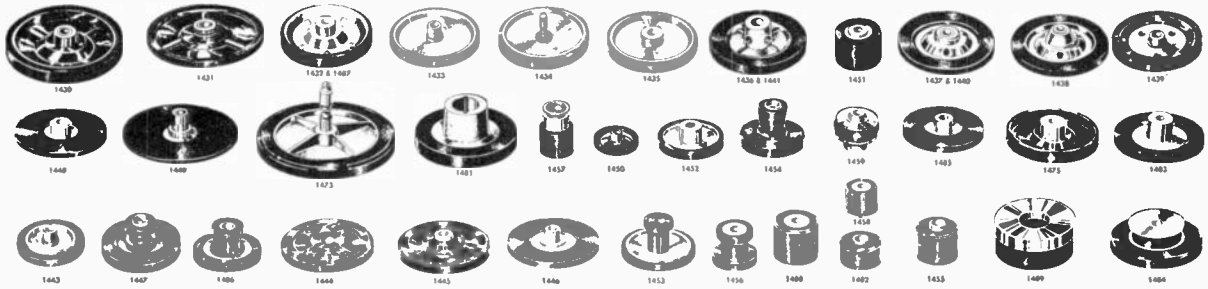
Walsco ELECTRONICS MFG. CO. Division of Textron, Inc.

# WALSCO IDLER and DRIVE WHEELS



**Cat. No. 1430** — IDLER WHEEL — 2¼" O.D. — Replaces G.I. 22076, Seeburg M232038, Zenith 1118. Standard Pack: 6 ..... **List $1.65**

**Cat. No. 1431** — IDLER WHEEL — 2½" O.D. — Used on Webcor Model 110 record players Standard Pack: 3 ..... **List $1.65**

**Cat. No. 1432** — IDLER WHEEL — 2" O.D. — Replaces Admiral G400A59 and 279, Crescent 011882, G.E. RMW-043 and 060, RCA 71411 and 76750 ..... **List $1.00**

**Cat. No. 1487** — Similar to above but bushing diameter is 3/8". Used on Silvertone, etc. Standard Pack: 3 ..... **List $1.40**

**Cat. No. 1433** — IDLER WHEEL — 2" O.D. — Used on V.M. 400D, 402D, 404, 405, 800D, G.E. P-12 and P-13, etc. Standard Pack: 3 **List $1.10**

**Cat. No. 1434** — IDLER WHEEL — 2" O.D. — For Admiral G-400A57, Crescent 01189, Philco 76-2374, RCA 78508, V.M. 3181. Standard Pack: 12 ..... **List $1.20**

**Cat. No. 1435** — IDLER WHEEL — 2" O.D. — For Milwaukee Stamp Series 10700, Philco M-22, 24A, 26, 28, etc. Standard Pack: 6 **List $1.10**

**Cat. No. 1436** — IDLER WHEEL — 2" O.D. — With hub. For Webcor 7, 18, 78, 79, 80, 81, 178, 180, 181, 228, etc. Standard Pack: 3 **List $2.00**

**Cat. No. 1437** — IDLER WHEEL — 2¼" O.D. — Replaces G.E. RMW-053, Philco 35-398, Webcor 11X003, 11x366, etc. Standard Pack: 12 **List $1.75**

**Cat. No. 1438** — IDLER WHEEL — 2⅛" O.D. — Replaces G.E. RMW-056, Webcor 11X368, 11X935, etc. Standard Pack: 12 ..... **List $1.50**

**Cat. No. 1439** — IDLER WHEEL — 2" O.D. — With Bushing. For use on Webcor 1134, 1136, 1161, etc. Standard Pack: 12..... **List $1.50**

**Cat. No. 1440** — IDLER WHEEL — 2" O.D. — With Bushing. For Webcor Model 1135 record changer. Standard Pack: 6 ..... **List $1.75**

**Cat. No. 1441** — IDLER WHEEL — 2⅛" O.D. — For most Webcor tape recorders. Standard Pack: 6 ..... **List $2.00**

**Cat. No. 1443** — IDLER WHEEL — 1½" O.D. — With Bushing. For Philco M24A, 26, 28, Webcor 135, 136, etc. Standard Pack: 6 **List $1.00**

**Cat. No. 1447** — MOLDED IDLER WHEEL — RCA 45 RPM — Molded RCA 74077 for RP-168 and RP-190 Series. Standard Pack: 12 **List $1.10**

**Cat. No. 1448** — IDLER WHEEL — 2" O.D. — For Collaro changers. Standard Pack: 3 ..... **List $2.00**

**Cat. No. 1449** — IDLER WHEEL — 2½" O.D. — For use with Collaro changers. Standard Pack: 6 ..... **List $2.00**

**Cat. No. 1450** — IDLER WHEEL — 1" O.D. — For use with Crescent. Standard Pack: 6 ..... **List $1.50**

**Cat. No. 1452** — IDLER WHEEL — 1⅜" O.D. — For V.M. and Silvertone. Standard Pack: 12 ..... **List $1.00**

**Cat. No. 1454** — IDLER WHEEL — 1 11/16" O.D. — Molded rubber wheel. For use on RCA RP-199 Series. Standard Pack: 6 ..... **List $1.25**

**Cat. No. 1459** — IDLER WHEEL — 1" O.D. — Used on Zenith Cobra-Matic record changers, Models S-140-28 thru -61. Standard Pack: 3 **List $2.95**

**Cat. No. 1485** — CAPSTAN IDLER — 1¾" O.D. — For use with V.M. tape recorders in 700 Series only. Standard Pack: 3 ..... **List $1.25**

**Cat. No. 1475** — IDLER WHEEL — 2" O.D. — Used on Elcor recorders and Silvertone 101.711.2 and 101.711.4 Standard Pack: 3..**List $1.65**

**Cat. No. 1483** — IDLER WHEEL — 2" O.D. — For use with Pentron tape recorders only. Standard Pack: 3 ..... **List $1.50**

**Cat. No. 1481** — CLUTCH HOUSING DRIVE — 2⅜" O.D. — For use on Webcor tape recorders 2010, 2030, 2110, 2130, 2131, 2132. **List $2.75**

**Cat. No. 1453** — IDLER PULLEY — 1⅝" O.D. — Molded rubber wheel. For use with V.M. 155, 556, 560, 565, 1200-25, -50, -75, -85. **List $3.05**

**Cat. No. 1456** — IDLER PULLEY — 13/32" O.D. — Molded rubber wheel. Used on V.M. changers with 4-pole motors Standard Pack: 6.**List $3.05**

**Cat. No. 1486** — IDLER PULLEY — 1⅝" O.D. — Molded rubber wheel. Used on V.M. record changers 120, 121, 131, 210 ..... **List $3.05**

**Cat. No. 1444** — INTER WHEEL — 2" O.D. — For use with Garrard Model RC-80 record changers. Standard Pack: 6 ..... **List $2.50**

**Cat. No. 1445** — INTER WHEEL — 2" O.D. — With ball-bearing hub cap. Used with Garrard T & TA players. Standard Pack: 3...**List $2.50**

**Cat. No. 1446** — INTER WHEEL — 2" O.D. — With ball-bearing hub cap. Used on Garrard Model RC-90 changers. Standard Pack: 3. **List $2.50**

**Cat. No. 1473** — DRIVE WHEEL — 3" O.D. — Used on Zenith Cobra-matic changers (Replaces No. 16922, S 21754) Standard Pack: 3. **List $3.50**

**Cat. No. 1451** — DRIVE WHEEL — 1" O.D. — For use on Crescent record changers of the 550 Series. Standard Pack: 6 .....**List $1.45**

**Cat. No. 1469** — 3-STEP DRIVE SLEEVE — Used on Webcor Model 135, 136 and other record changers. Standard Pack: 6 .....**List $1.60**

**Cat. No. 1455** — PRESSURE ROLLER — ⅞" O.D. — For use with Webcor 210, 2010, 2030, 2110, 2130, 2131, -32, 2611, -12. Standard Pack: 3 ..... **List $2.30**

**Cat. No. 1482** — PRESSURE ROLLER — ⅞" O.D — Used with Webcor tape recorders only. 220 Series 2614, 2615. Standard Pack: 3.**List $1.65**

**Cat. No. 1458** — PRESSURE ROLLER ¾" O.D. — For use with V.M. Model 700 tape recorders. Standard Pack: 3 ..... **List $1.65**

**Cat. No. 1457** — PRESSURE ROLLER ¾" O.D. — For RCA SRT 301, 401, 402, 403. Wilcox-Gay 2A, 3A, 3F, 4A, 4B, 4F and 5 Series..**List $2.50**

**Cat No. 1477** — DRIVE WHEEL 1½" O.D. — Replaces Philco #45-6614. Standard Pack: 6 ..... **List $1.25**

**Cat No. 1478** — IDLER WHEEL 2¼" O.D. — For use on Garrard RC-88 and RC-98 3-speed changers. Standard Pack: 3 .....**List $2.10**

**Cat. No 1479** — IDLER WHEEL 2¼" O.D. — For use on Garrard RC-88, RC-98 and RC-121 4-speed changers. Standard Pack: 3.....**List $2.25**

**Cat. No. 1484** — TAKE-UP DRIVER — For use with V.M. tape recorder Model 700. Standard Pack: 3 .....**List $2.75**

**Cat. No. 1488** — CAPSTAN PRESSURE ROLLER — 1" O.D. — For use on Pentron tape recorders only. Standard Pack: 3 .....**List $2.00**

**Cat. No. 1491** — CYCLE DRIVE WHEEL 2½" O.D. — Used on Collaro RC-54. Standard Pack: 3..... **List $2.20**

**Cat. No. 1476** — TIRE — 15/16" I.D. — Admiral replacement. Standard Pack: 24 pr. ..... **List $0.30**

**Cat. No. 1479** — IDLER WHEEL — 2¼" O.D. — Used on Garrard RC-88, RC-98, RC-121 4-speed changers. Standard Pack: 6.....**List $2.25**

**Cat. No. 149-01** — IDLER WHEEL — 2" O.D. — Used on Admiral and RCA. Standard Pack: 6..... **List $1.10**

**Cat. No. 1490-02** — IDLER WHEEL — 2" O.D. — Used on Admiral RC-611, 651, 666. Standard Pack: 3..... **List $1.50**

**Cat. No. 1490-03** — IDLER WHEEL — 2" O.D. — Used on Admiral 606A, 606A1, 626A, 626A1. Standard Pack: 3..... **List $1.50**

**Cat. No. 1492-01** — IDLER PULLEY — 1¾" O.D. — Used on Webcor and Philco. Standard Pack: 6..... **List $2.25**

**Cat. No. 1492-02** — CLUTCH HOUSING AND BEARING ASSEMBLY — 1-15/16" O.D. Used on Webcor 11X1771. Standard Pack: 3....**List $2.75**

**Cat. No. 1492-03** — IDLER PULLEY — 1-9/16" O.D. — Used on Monarch 4-speed changers. Standard Pack: 6..... **List $1.30**

# DRIVE PULLEYS

1470** 1460** — 1471** 1461 — 1472** 1462** — #1463 — #1464 — #1465 — #1466 — #1467 — #1468 — #1469

| Cat. No. | Speed | List |
|---|---|---|
| 1460-1470 | 78 rpm | $1.30 |
| 1461-1471 | 45 rpm | 1.15 |
| 1462-1472 | 33⅓ rpm | 1.15 |

| Cat. No. | Speed | List | Std. Pack |
|---|---|---|---|
| 1463 | 78 rpm | $2.50 | 12 |
| 1464 | 45 rpm | 2.50 | 6 |
| 1465 | 33⅓ rpm | 2.50 | 6 |

| Cat. No. | Speed | List | Std. Pack |
|---|---|---|---|
| 1466 | 78 rpm | $1.25 | 12 |
| 1467 | 45 rpm | 1.25 | 12 |
| 1468 | 33⅓ rpm | 1.25 | 12 |

1460, 1461 and 1462 are a Turret Drive group that is used on Crescent, G.E., Motorola, RCA, VM and other record changers. Standard Pack: 12. The 1470 Series is used on RCA, VM, and other record changers. Standard Pack: 6.

Cat. Nos. 1463, 1464, and 1465 are turret drives for G.E. and Webcor record changers.

Cat. No. 1466, 1467, 1468 for use on Crescent, Motorola, VM, RCA and other record changers.

Cat. No 1495-01 through 1495-04 are used on RCA RP-205/190 motors.

**NOTE:** Drives No. 1460, 1461, and 1462 are the same as No. 1470, 1471, and 1472 except that the 1460 series is approximately 1/64" larger in rubber diameter than the 1470 series. Send for FREE Complete Conversion Chart. If model number of changer or manufacturer's part number is not known, use 1460 series. For most purposes, these two series are interchangeable.

| Cat. No. | Speed | List | Std. Pack |
|---|---|---|---|
| 1495-01 | 33⅓ rpm | $1.15 | 3 |
| 1495-02 | 45 rpm | 1.15 | 3 |
| 1495-03 | 78 rpm | 1.30 | 3 |
| 1495-04 | 16⅔ rpm | 1.15 | 3 |

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## WALSCO TIRES and BELTS

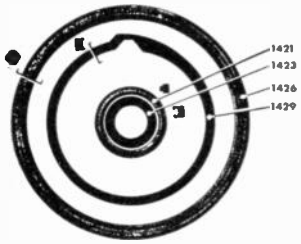
| Cat. No. | I.D. | Wall Thickness | Length | Std. Pack: | List |
|---|---|---|---|---|---|
| 1414 | 5/8" | 3/16" | 1/4" | 24 | $0.28 per pair |
| 1415 | 3/4" | 3/16" | 1/4" | 24 | 0.25 per pair |
| 1417 | 1 1/2" | 1/8" | 3/8" | 12 | 0.25 each |
| 1418 | 7/8" | 5/32" | 5/16" | 12 | 0.20 each |
| 1422 | 1 3/16" | 1/8" | 5/16" | 6 | 0.20 each |
| 1424 | 2 7/8" | 1/4" | 1/4" | 3 | 0.55 each |

## RECORDER DRIVE BELTS

| Cat. No. | Inside Circumf. | Used On | Std. Pack: | List |
|---|---|---|---|---|
| 1410-06 | 6.2" | Model VM-700 Tape Recorders | 6 | $0.60 |
| 1410-07 | 7.4" | RCA SRT 301, 101, 402, 403 Wilcox-Gay 3A10, 3A11 | 3 | 0.70 |
| 1410-08 | 8.6" | Pentron, Crestwood and other tape recorders | 3 | 0.70 |
| 1410-10 | 10.6" | Crescent and other tape recorders | 6 | 0.80 |
| 1410-12 | 12.0" | Ampro and most Revere recorders | 6 | 0.80 |
| 1410-14 | 14.5" | Most Revere recorders | 3 | 1.50 |
| 1410-15 | 15.3" | Webcor tape recorders | 12 | 1.50 |
| 1410-18 | 18.1" | Ampro tape recorders | 3 | 2.00 |
| 1410-20 | 20.4" | Ampro tape recorders | 3 | 2.50 |
| 1410-21 | 21.1" | Ampro, Gen. Ind., Webcor and other tape recorders | 12 | 2.50 |
| 1409-05 | 17" | Webcor Tape Recorders | 3 | 2.50 |
| 1410-50 | 10.75" | Webcor & Revere | 6 | .90 |
| 1410-51 | 11.3" | Viking | 6 | 1.65 |
| 1410-52 | 5.8" | Webcor 11X1736 | 6 | 1.30 |
| 1410-53 | 6.5" | Revere | 3 | .70 |
| 1474 | 9.8" | Crestwood | 6 | .85 |

## FABRIC DRIVE BELTS

| Cat. No. | Width | Inside Circumf. | Used On | List |
|---|---|---|---|---|
| 1409-02 | 3/16" | 17" | Pentron Tape Recorders | $2.50 |
| Standard Pack: 3 | | | | |
| 1409-03 | 3/16" | 12 1/4" | Pentron, Crescent and other tape recorders | $2.50 |
| Standard Pack: 6 | | | | |
| 1409-04 | 3/16" | 12 1/2" | VM-700 model tape recorders | 2.65 |
| Standard Pack: 3 | | | | |




## BELTS and CAM TIRES
### Special Shapes

These Belts and Tires are made of highest quality abrasion-resistant Neoprene rubber. Illustrations show the cross-section of each tire.

| Cat. No. | I.D. | Used On | Std. Pack: | List |
|---|---|---|---|---|
| 1421 | 1 3/8" | Miracord | 6 | $0.70 |
| 1423 | 11/16" | RCA 176 & 177 | 3 | 0.25 |
| 1426 | 4 1/2" | GE & RCA | 3 | 1.10 |
| 1429 | 3 1/4" | RCA Series 178 | 3 | 1.10 |

## RECORD ARM SLEEVE

Neoprene rubber. For Garrard record changers. 2 required.

**Cat. No. 1412** — Standard Pack: 12 pair ....**List $0.25 pair**

## RUBBER BUMPERS

Used on V.M. Record Changers.

**Cat. No. 1411** — Standard Pack: 12 pair ....**List $0.30 pair**

## INDEX FINGER CUSHION

Used on Webcor 100, 121, 1124, 110 and 114 series.

**Cat. No. 1419** — Standard Pack: 6 pair.....**List $0.30 pair**

## VELOCITY TRIP

For Webcor record changers. Precision-molded.

**Cat. No. 1413** — Standard Pack: 12 pair .....**List $0.30 pair**

## PHONO MOUNTING SPRING KIT

Assorted conical springs for mounting changers, and turntables. Precision-formed. Selected for uniformity.

**Cat. No. 1498** — Phono Mounting Spring Kit..**List $1.40**
Standard Pack: 6

## NYLON DIAL CORDS

Genuine Nylon, braided over a fibre-glass core. Cords listed below cover 80% of the replacement demand.

| Cat. No. | Diam. | Breaking Strength | List Prices Feet Per Spool 25 | 100 | 500 | Bulk 3M to 14,999 | 15M & Up |
|---|---|---|---|---|---|---|---|
| | | **"SPECIAL THIN"** | | | | | |
| 656-02 | .025" | 15 lbs. | $1.50 | | | | |
| 656-10 | .025" | 15 lbs. | | $4.95 | | | |
| 656-50 | .025" | 15 lbs. | | | $14 30 | | |
| 656-R | .025" | | | | | *14.70 | *$11.68 |
| | | **STANDARD** | | | | | |
| 654-02 | .032" | 20 lbs. | $1.50 | | | | |
| 654-10 | .032" | 20 lbs. | | $4.95 | | | |
| 654-50 | .032" | 20 lbs. | | | $14.30 | | |
| 654-R | .032" | | | | | *$16.30 | *$12.98 |
| | | **MEDIUM** | | | | | |
| 652-02 | .040" | 35 lbs. | $1.50 | | | | |
| 652-10 | .040" | 35 lbs. | | $4.95 | | | |
| 652-50 | .040" | 35 lbs. | | | $17.60 | | |
| 652-R | .040" | | | | | *$22.80 | *$18.15 |
| | | Also available in 50 line packages. | | | | | |
| | | **HEAVY** (Used on many Philco and Majestic sets) | | | | | |
| 650-02 | .060" | | $1.90 | | | | |
| 650-10 | .060" | | | $5.50 | | | |
| 650-R | .060" | | | | | *$31.85 | *$25.35 |

## BRONZE DIAL CABLES

For control-dial linkage requiring the strength of metal.

### CADMIUM BRONZE CABLE

16-strand, .039" O.D., 50 lb. breaking strength. Good flexibility. Will not unravel.

| Cat. No. | Description | List Price | LIST per 1000 ft. 3M - 14,999 | 15M & Up |
|---|---|---|---|---|
| 660-02 | 25 ft. | $1.80 | | |
| 660-10 | 100 ft. | 5.00 | | |
| 660-50 | 500 ft. | 20.00 | | |
| 660-R | Bulk quantities | | *$27.20 | *$21.62 |

### PHOSPHOR BRONZE CABLE

42-strand, .032" diameter, 40 lb. breaking strength. Exceptionally strong and flexible.

| Cat. No. | Description | List Price | LIST per 1000 ft. 3M - 14,999 | 15M & Up |
|---|---|---|---|---|
| 662-02 | 25 ft. | $2.25 | | |
| 662-10 | 100 ft. | 6.50 | | |
| 662-50 | 500 ft. | 27.00 | | |
| 662-R | Bulk quantities | | *$42.45 | *$33.80 |

### THIN BRONZE CABLE

Only .022" in diameter. Exceptionally strong and flexible. Non ravelling.

| Cat. No. | Description | List Price | LIST per 1000 ft. 3M - 14,999 | 15M & Up |
|---|---|---|---|---|
| 664-02 | 25 ft. | $1.80 | | |
| 664-10 | 100 ft. | 5.00 | | |
| 664-50 | 500 ft. | 20.00 | | |
| 664-R | Bulk quantities | | *$32.65 | *$25.95 |

## FLAT NYLON LACING CORD

For tying harnesses, wrapping coils, etc. Waxed and fungus resistant. Breaking strength 50 lbs., width .085", thickness .0125". Type 18.

| Cat. No. | Description | Std. Pack | List (per spool) |
|---|---|---|---|
| 666-15 | 150 ft. spool | 12 per box | $ 4.50 |
| 666-75 | 750 ft. spool | 1 per box | *13.75 |

## STANDARD LACING CORD

Meets specifications JAN-T-713 — Type N — Class 3. .040" diameter, tensile strength, 32 lbs.

| Cat. No. | Description | Std. Pack | List (per spool) |
|---|---|---|---|
| 665-10 | 100 ft. spool | 12 per box | $ 1.65 |
| 665-45 | 450 ft. spool | | *2.35 |
| 665-80 | 1800 ft. spool | | *7.20 |

## DIAL DRIVE BELTS

A selection of 95 different sizes. For any set manufactured since 1930. Walsco guarantees these belts to fit perfectly. Complete reference chart free upon request.

| Cat. No. | Description | List Price |
|---|---|---|
| 1101-1195 | Individual Belt (95 sizes available) | $0.50 |
| 1195 | for RCA TV Tuner | 0.50 |
| 8-K | KIT of 25 most popular belts | 13.50 |
| 9-K | KIT of 50 most popular belts | 26.00 |

## PHONO KLIP KIT

Assortment of "E" rings, "C" washers, hair pin cotters, retaining rings, etc. A minimum of 54 pieces for any replacement need.

**Cat. No. 1496** — Complete Kit (Standard Pack: 6) .....**List $1.10**

## 45 RPM RECORD ADAPTER

Made of molded bakelite. Fits all standard 45 RPM records.

**Cat. No. 340** — Single Adapter .....**List $0.25**
**Cat. No. 340D** — Display .....**List 5.00**
Standard Pack: 20 per display card



**TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY***

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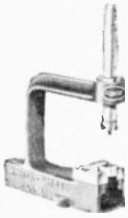
**WALSCO QUALITY EARNED ITS REPUTATION**

ROCKFORD, ILLINOIS • LOS ANGELES, CALIF.

Walsco ELECTRONICS MFG. CO. Division of Textron, Inc.



## WALSCO HAM-R-PRESS

Ham-R-Press is a precision tool made of strong aluminum alloy and high grade steel. 15 tons of impact pressure may be easily obtained for the punching of chassis, panels or other light sheet metal. Operates simply by striking the ram with a hammer. Punches and dies easily interchanged. Available in 2 models.

| Cat. No. | Description | Wt. | Dealer's Net |
|---|---|---|---|
| Model 3007 | Depth of throat—7 ½" | 9 lbs. | $32.95 |
| Model 3008 | Depth of throat—12" | 12 lbs. | 37.95 |

### HAM-R-PRESS ACCESSORIES

Cat. No. 3009-01 — Shearing Set, 1" lgth. of cut.....Dlr's Net $5.05
Cat. No. 3009-02 — Die Raiser, 3" high.....Dlr's Net 5.05
Cat. No. 3009-03 — Adaptor, for dies ½" or under.....Dlr's Net 1.30

### HAM-R-PRESS PUNCH and DIE SETS

ROUND

SQUARE

KEYED

"D"

#### ROUND

| Cat. No. | Punch Size | Dlr.'s Net Each | Cat. No. | Punch Size | Dlr.'s Net Each |
|---|---|---|---|---|---|
| 3012-H | ⅛" | $2.35 | 3100-H | 1" | $2.85 |
| 3025-H | ¼" | 2.35 | 3106-H | 1 1/16" | 2.95 |
| 3037-H | ⅜" | 2.35 | 3112-H | 1⅛" | 2.95 |
| 3050-H | ½" | 2.25 | 3116-H | 1 3/16" | 2.95 |
| 3062-H | ⅝" | 2.25 | 3117-H | 1-11/64" | 2.95 |
| 3069-H | 11/16" | 2.60 | 3119-H | 1 5/16" | 2.95 |
| 3075-H | ¾" | 2.60 | 3125-H | 1¼" | 2.95 |
| 3087-H | ⅞" | 2.60 | | | |

#### SQUARE

| Cat. No. | Punch Size | Dlr.'s Net Each |
|---|---|---|
| 3062-Q | ⅝" | $3.35 |
| 3069-Q | 11/16" | 3.35 |
| 3071-Q | 31/32" | 3.35 |
| 3075-Q | ¾" | 3.85 |
| 3087-Q | ⅞" | 3.85 |

#### KEYED and "D"

| Cat. No. | Punch Size | Dlr.'s Net Each |
|---|---|---|
| 3117-V (KEY) | 1-11/64" | $3.85 |
| 3050-E "D" | ½" | 3.55 |

## WALSCO TEKNI-LABELS

**Easily applied Decals for use with electronic equipment, Hi-fi, radio, TV, etc.**

Each package has hundreds of electronic terms, symbols, designs, abbreviations and letters for all uses. Unlimited variety to choose from. Gives professional appearance.

### TRANSMITTER LABELS

Set contains over 1200 titles including labels ¼" high. For titling stages.
Cat. No. 2100 — White .....Dealer's Net $1.35
Cat. No. 2108 — Black .....Dealer's Net 1.35

### INSTRUMENT LABELS

For the experimentor and builder. Provides labels for all types of test equipment.
Cat. No. 2101 — White .....Dealer's Net $1.35
Cat. No. 2109 — Black .....Dealer's Net 1.35

### RECEIVER LABELS

Over 1300 titles, misc. letters, alphabets and marks.
Cat. No. 2102 — White .....Dealer's Net $1.35
Cat. No. 2112 — Black .....Dealer's Net 1.35

### TV LABELS

Includes special color experimental TV titles and other valuable labels.
Cat. No. 2103 — White .....Dealer's Net $1.35
Cat. No. 2113 — Black .....Dealer's Net 1.35

### DIAL LABELS

For general use to match titles in other Walsco decal sets.
Cat. No. 2104 — White .....Dealer's Net $1.35
Cat. No. 2110 — Black .....Dealer's Net 1.35

### AUDIO LABELS

Set contains all necessary titles including recent new Hi-Fi titles for the Audio and Sound enthusiasts.
Cat. No. 2105 — White .....Dealer's Net $1.35
Cat. No. 2107 — Black .....Dealer's Net 1.35

### RECEIVING TUBE DECALS

For identifying all tube sockets. Over 320 different tube labels included.
Cat. No 2106 — White .....Dealer's Net $1.35

### PANEL LABELS

For giving the front panel a finished look. Practical as well as attractive.
Cat. No. 2111 — Gold .....Dealer's Net $1.35

### ALPHABETS

Includes 7 complete alphabets in each package of letters from ¾" high to 1/10" high. Has large block letters as well as Greek and Old English. Provides an endless variety of combinations.

| Cat. No. | Color | Dlr.'s Net | Cat. No. | Color | Dlr.'s Net |
|---|---|---|---|---|---|
| 2115 | White | $1.35 | 2135 | Gold | $1.35 |
| 2125 | Black | 1.35 | 2145 | Red | 1.35 |

### TRADEMARKS

Designed to make possible your own trademark with hundreds of markings of varied designs and shapes.

| Cat. No. | Color | Dlr.'s Net | Cat. No. | Color | Dlr.'s Net |
|---|---|---|---|---|---|
| 2116 | White | $1.35 | 2136 | Gold | $1.35 |
| 2126 | Black | 1.35 | 2146 | Red | 1.35 |

### UNIVERSAL DECALS

Large assortment of titles, numerals and designs for radio, TV, etc.

| Cat. No. | Description | Dealer's Net |
|---|---|---|
| 2201 | 1 package — White | $1.35 |
| 2201-D | Display box of 10 packages | 13.50 |
| 2202 | 1 package — Black | 1.35 |
| 2202-D | Display box of 10 packages | 13.50 |
| 2203 | 1 package — Gold | 1.35 |
| 2203-D | Display box of 10 packages | 13.50 |

## "L.T." (Low Torque) CHASSIS PUNCHES

These revolutionary new punches operate with half the effort of all other punches now on the market. A new process electro-deposits a permanent low-friction surface on all pressure surfaces of the punch. As a result, the punches cut a cleaner hole in considerably less time and require considerably less effort in their operation. After using the new Walco "L.T." (Low Torque) punch, you will consider all existing punches as obsolete.

### ROUND CHASSIS PUNCHES

| Cat. No. | Punch Size | Bolt Size | Dlr.'s Net |
|---|---|---|---|
| 3050-R | ½" | ¼" | $2.34 |
| 3062-R | ⅝" | 5/16" | 2.34 |
| 3069-R | 11/16" | ⅜" | 2.34 |
| 3075-R | ¾" | ⅜" | 2.34 |
| 3087-R | ⅞" | ⅜" | 2.34 |
| 3100-R | 1" | ⅜" | 2.57 |
| 3106-R | 1 1/16" | ⅜" | 2.70 |
| 3112-R | 1⅛" | ⅜" | 2.70 |
| 3116-R | 1 3/16" | ⅜" | 2.70 |
| 3117-R | 1-11/64" | ⅜" | 2.70 |
| 3119-R | 1 5/16" | ⅜" | 2.70 |
| 3125-R | 1¼" | ⅜" | 2.70 |
| 3137-R | 1⅜" | ⅜" | 3.00 |
| 3150-R | 1½" | ⅜" | 3.47 |
| 3225-R | 2¼" | ⅜" | 6.70 |

Standard Pack: 3

### SQUAREHOLE CHASSIS PUNCHES

| Cat. No. | Punch Size | Bolt Size | Dlr.'s Net | Cat. No. | Punch Size | Bolt Size | Dlr.'s Net |
|---|---|---|---|---|---|---|---|
| 3062-S | ⅝" | ½" | $3.83 | 3087-S | ⅞" | ½" | 4.90 |
| 3069-S | 11/16" | ½" | 4.10 | 3100-S | 1" | ½" | 5.04 |
| 3075-S | ¾" | ½" | 4.28 | | | | |

Standard Pack: 3

### KEY and "D" CHASSIS PUNCHES

| Cat. No. | Punch Size | Bolt Size | Dlr.'s Net |
|---|---|---|---|
| 3117-K (KEY) | 1-11/64" | ⅜" | $5.00 |
| 3050-D "D" | ½" | 5/16" | 4.35 |

Standard Pack: 3

### CHASSIS PUNCH KIT

The most economical way to buy the 10 standard size punches. This complete kit includes one each of the following punches: No. 3075-S, No. 3050-D, and Nos. 3050-R, 3062-R, 3075-R, 3100-R, 3112-R, 3116-R, 3125-R, 3137-R.

Cat. No. 3005 .....Dealer's Net $24.95

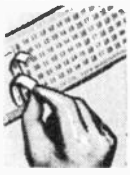
### BOLT REPLACEMENT KIT

Contains an ample assortment of bolts and nuts for Walsco Chassis Punches.

Cat. No. 3010-01 .....Dealer's Net $26.60

### REPLACEMENT BOLTS and NUTS FOR CHASSIS PUNCHES

| BOLT Cat. No. | NUT Cat. No. | FOR USE IN PUNCHES NO. | BOLT Dealer's Net | NUT Dealer's Net |
|---|---|---|---|---|
| 3010-02 | 3011-02 | 3050-D (OLD #CD-50) | $1.25 | $0.20 |
| 3010-03 | NONE | 3050-R (OLD #CR 50) | .25 | .. |
| 3010-04 | NONE | 3062-R (OLD #CR-62) | .25 | .. |
| 3010-05 | 3011-02 | 3062-S (OLD #CS-62) | 1.25 | .20 |
| 3010-06 | 3011-03 | 3069-R (OLD #CR-69) thru 3150-R (OLD #CR-150) | .25 | .20 |
| 3010-07 | 3011-03 | 3075-S (OLD #CS-75) | 1.35 | .20 |
| 3010-08 | 3011-03 | 3087-S (OLD #CS-87) | 1.35 | .20 |
| 3010-09 | 3011-04 | 3100-S (OLD #CS-100) | .60 | .20 |
| 3010-09 | 3011-04 | 3117-K (OLD #CKR-117) | .60 | .20 |
| 3010-10 | NONE | 3225-R (OLD #CR-225) | .25 | .20 |



### WIRE MARKERS

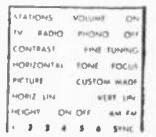
Permanent, legible, foolproof. Made of durable, vinyl cloth with plastic coating. Pre-cut to exact size.

| Cat. No. | Description | Dlr.'s Net |
|---|---|---|
| 2210 | Numbers 1 to 33 | $0.33 |
| 2211 | Numbers 34 to 66 | .33 |
| 2212 | Numbers 67 to 99 | .33 |
| 2213 | Letters A to Z | .33 |

### TV RECEIVER DECALS

Contains 2 complete sets of decals providing the proper label for every requirement on a TV chassis or a cabinet.

Cat. No. 2551 — 2 complete sets .....List $0.45
Cat. No. 2551D — Display of 20 .....List 9.00

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**WALSCO QUALITY EARNED ITS REPUTATION**

ROCKFORD, ILLINOIS • LOS ANGELES, CALIF.

Walsco ELECTRONICS MFG. CO.
Division of Textron, Inc.

# NEW PRINTED CIRCUIT REPAIR KITS

These new Walsco Printed Circuit Repair Kits are designed to enable the service man to handle any repair or replacement job on printed circuits. Each kit contains sufficient materials to complete numerous repair jobs.

### STANDARD PRINTED CIRCUIT REPAIR KIT

**REPAIR KIT**

Contains foil, solder washers, solder wire, 1 solder-ease tool and fibre-glas brush, resin lacquer and solvent, tweezers and complete instructions.
Cat. No. 13-K ..... List $8.25

### MASTER PRINTED CIRCUIT REPAIR KIT

Contains all items in Standard Kit plus an Ungar soldering iron, a spray can of silicone resin lacquer and a practice wiring board.
Cat. No. 12-K ..... List $13.25

## PRINTED CIRCUIT ACCESSORIES

### PRINTED CIRCUIT REPAIR SOLDER

With special flux core to make quick joints at lower temperatures for PC work.
Cat. No. 649 — Approx. 11 ft. solder..... List $0.75
(Standard Pack: 10)

### PRINTED CIRCUIT REPAIR FOIL

Copper, with thermo-plastic backing. Bonds permanently to panel with heat of soldering iron.
Cat. No. 647 — Approx. 24 sq. in. ..... List $0.80
(Standard Pack: 10)

### PRINTED CIRCUIT SOLDER WASHERS

With center layer of special flux for quick bond.
Cat. No. 648 — Box of 60 (Standard Pack: 10)..... List $0.99

### SILICONE RESIN LACQUER

Fast air drying. Covers repairs or replacements in PC circuits with protective film.
Cat. No. 120-02 — 2 oz. bottle (Standard Pack: 12) ..... List $1.95
Cat. No. 120-06 — 6 oz. spray can (Standard Pack: 12) ... List $3.25 each

### RESIN LACQUER SOLVENT

Acts as a solvent and for removing silicone resin lacquer.
Cat. No. 205-02 — 2 oz. bottle (Standard Pack: 12) ..... List $0.55 each

### SOLDER EASE TOOLS

Two types. Brush end for general work or curved hook for printed circuit work.

†Cat. No. 2529 — Brush end type ..... List $1.65
†Cat. No. 2530 — Curved Hook type ..... List 1.65

## GLOBAR THERMISTORS

Assortment below covers 95% of replacement of filament resistors in G.E. and many other makes. Made to give dependable long life and maximum efficiency.

| Cat. No. | Description | List |
|---|---|---|
| 1731 | Hot: 20 ohms — Cold: 250 ohms — 600 ma. Replaces G.E. part #RRW041 | $1.35 |
| 1732 | Hot: 75 ohms @ 300 ma. — Cold: 950 ohms. Replaces G.E. part #RRW041 | 1.35 |
| 1733 | Hot: 31 ohms @ 300 ma. — Cold: 260 ohms. Replaces G.E. part #RRW097 | 1.35 |
| 1734 | Hot: 35 ohms @ 600 ma. — Cold: 160 ohms no load. Replaces G.E. part #RRW054 | 1.85 |
| 1735 | Hot: 13 ohms @ 600 ma. — Replaces part in Crosley, Admiral, CBS, Zenith and others | 1.85 |

### GLOBAR THERMISTOR for RCA

1736 — Hot: 9 ohms. For replacement in RCA models #17-S-150RU, #17-S-151RU, #17-S-153RU, #21-S-500R, #21-S-500RU ..... 1.85 ea.

### GLOBAR THERMISTOR KIT

Singly, in parallel, or in series as used in 95% of G.E. T.V. sets and many others.
Cat. No. 1730 — Bag of 2 thermistors ..... List $2.40

### FUSIBLE RESISTORS

For TV circuits requiring 7.5 ohm replacement fuse resistors in series wired sets. Comes with or without plug-board on leads.
Cat. No. 1726 — Wire and pin leads..... List $0.65
Cat. No. 1725 — Plugboard leads ..... List 0.72

### STRAIGHT'N PULL

3 tools in one. Pulls the tube and will straighten the pins on 7 and 9 pin miniature tubes. Supplied with handy metal holder.

| Cat. No. | | List Price |
|---|---|---|
| 565 | | $ 1.65 |
| 565D | Display of 24 | $39.60 |

## WALSCO INSULATING MATERIALS

### INSULATING CAMBRIC

Many uses in building transformers, coils, solenoids, etc. Very flexible and durable.

| Cat. No. | Description | List Price |
|---|---|---|
| 645 | Roll of approx. 210 sq. in. | $1.00 |
| 645D | Display of 10 No. 654 rolls | 10.00 |

### SPAGHETTI BARGAIN ASSORTMENT

Each bundle contains 24, 8" pieces in assorted diameters. Durable varnished tubing in a variety of colors.
Cat. No. 644 ..... List $0.33
Cat. No. 644D — Display of 25—#644 ..... List 8.25

### WALSCO FLEXITUBE

Has dielectric strength of 15,000 volts (average) before breakdown. Will stand temperatures from -65° F to 185° F. Meets Specifications MIL-I-631.
List Price per spool (see below) ..... $1.20

| Cat. No. | Size B&S Gauge No. | Approx. I.D. Inches | Approx. I.D. mm | Quantity per spool |
|---|---|---|---|---|
| 600-(color) | 18 | .042 | 1 | 20 ft. |
| 601-(color) | 16 | .053 | 1.4 | 20 ft. |
| 602-(color) | 14 | .066 | 1.6 | 18 ft. |
| 603-(color) | 12 | .085 | 2 | 16 ft. |
| 604-(color) | 10 | .106 | 2.7 | 14 ft. |
| 605-(color) | 8 | .133 | 3.5 | 12 ft. |
| 606-(color) | 6 | .166 | 4 | 10 ft. |
| 607-(color) | 4 | .208 | 5 | 6 ft. |
| 608-(color) | 2 | .263 | 6.5 | 6 ft. |

Standard Pack: 12 Spools per package

AVAILABLE IN CLEAR, GREEN, BLACK, RED. To specify COLOR add suffix to above catalog number as follows:— -01 for Clear, -02 for Green, -03 for Black and -04 for Red. Example 600-04 for 18 gauge, Clear.

#### BULK and INDUSTRIAL QUANTITIES

Same description as above but requires a different suffix to catalog number when specifying color. Add suffix -R1 for Clear, -R2 for Green, -R3 for Black and -R4 for Red. Example: 600-R1 for 18 gauge, Clear.

| Cat. No. | | LIST per 1000 ft. 100 to 1999 ft. | LIST per 1000 ft. 2000 ft. & up |
|---|---|---|---|
| 600-(color) | (same as above) | $25.75 | $19.55 |
| 601-(color) | | 29.25 | 20.65 |
| 602-(color) | | 30.25 | 22.00 |
| 603-(color) | | 33.50 | 23.50 |
| 604-(color) | | 37.60 | 26.40 |
| 605-(color) | | 43.00 | 27.75 |
| 606-(color) | | 52.50 | 39.75 |
| 607-(color) | | 60.25 | 45.95 |
| 608-(color) | | 74.50 | 56.60 |

### WALSCO RAYOFLEX

More flexible and less affected by aging than conventional varnished tubing. Has a dielectric strength of 4,000 to 5,000 volts. Meets MIL I-3190 Specifications.
List Price per spool (see below) ..... $1.20

| Cat. No. | Size B&S Gauge No. | Approx. I.D. Inches | Approx. I.D. mm | Quantity per spool |
|---|---|---|---|---|
| 630-(color) | 18 | .012 | 1 | 10ft. |
| 631-(color) | 15 | .059 | 1.5 | 8 ft. |
| 632-(color) | 12 | .085 | 2 | 8 ft. |
| 633-(color) | 9 | .118 | 3 | 5 ft. |
| 634-(color) | 6 | .166 | 4 | 5 ft. |

Standard Pack: 12 Spools per package

AVAILABLE IN BLACK, RED, BLUE and YELLOW COLORS. To specify COLOR add suffix to above catalog number as follows: -03 for Black, -04 for Red, -05 for Blue and -06 for Yellow. Example: 630-03 is 18 gauge, Black.

#### BULK and INDUSTRIAL QUANTITIES

Same description as above but requires a different suffix to catalog number when specifying color. Add suffix -R3 for Black, -R4 for Red, -R5 for Blue and -R6 for Yellow. Example: 630-R3 is 18 gauge Black.

| Cat. No. | | LIST per 1000 ft. 100 to 1999 ft. | LIST per 1000 ft. 2000 ft. & up |
|---|---|---|---|
| 630-(color) | | $61.50 | $49.00 |
| 631-(color) | Size and | 65.60 | 52.25 |
| 632-(color) | Dimensions | 71.80 | 57.15 |
| 633-(color) | same as above | 84.10 | 66.95 |
| 634-(color) | | 102.50 | 81.60 |

### DRAWER SLIDES

Heavy-gauge, cold-rolled steel with a corrosion resistant finish.

| Cat. No. | Description | List |
|---|---|---|
| 331-01 | Friction type, 14" long | $3.25 pair |
| 331-03 | Ball Bearing type (for heavier equipment or where minimum drag required), 14" long | 5.50 pair |



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Division of Textron, Inc.

# WALSCO SWITCHES

## A — BALL HANDLE TOGGLE SWITCHES

Rated at 3A at 125V or 1A at 250 V. Have silver-plated contacts, tinned terminals, nickel-plated handles. U.L. approved. Made by A. H. & H.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2300 | S.P.S.T. | 1/2" | $1.10 |
| 2301 | S.P.S.T. | 1" | 1.35 |
| 2302 | S.P.D.T. | 1/2" | 1.40 |
| 2303 | S.P.D.T. | 1" | 1.65 |
| 2304 | D.P.S.T. | 1/2" | 2.00 |
| 2305 | D.P.S.T. | 1" | 2.25 |
| 2306 | D.P.D.T. | 1/2" | 2.30 |
| 2307 | D.P.D.T. | 1" | 2.50 |

Standard Pack: 12

## B — BAT HANDLE TOGGLE SWITCHES

Similar to Ball Handle Switches above but with Bat Handle design. Rated at 3A at 125V. U.L. approved. Made by A. H. & H.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2330 | S.P.S.T. | 1/2" | $1.10 |
| 2331 | S.P.D.T. | 1/2" | 1.40 |
| 2332 | D.P.S.T. | 1/2" | 2.00 |
| 2333 | D.P.D.T. | 1/2" | 2.30 |

Standard Pack: 12

## BAKELITE BAT HANDLE TOGGLE SWITCHES

Has molded bakelite case. Rated at 3A at 250V or at 6A at 125V. Requires a 3/8" mounting hole. Silver-plated contacts. Similar to B.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2361 | S.P.S.T. | 3/8" | $1.90 |
| 2362 | S.P.D.T. | 3/8" | 2.15 |
| 2363 | D.P.S.T. | 3/8" | 2.65 |
| 2364 | D.P.D.T. | 3/8" | 2.90 |

Standard Park: 12

## C — BAT HANDLE TOGGLE SWITCH with Wire Leads

Rated at 6A at 125V. Comes with 2 built in 6" insulated wire leads. U.L. approved. Made by A. H. & H.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2335 | S.P.S.T. | 1/2" | $1.40 |

Standard Pack: 12

## D — EXTRA HEAVY DUTY POWER SWITCHES

3 Position. These switches have a safety off position in center. Rated at 5A at 250V or 10A at 125V. Ball type handle, molded bakelite case. Overall size 2" by 1" by 1 3/8".

**Cat. No. 2352** — D.P.D.T. (Standard Pack: 3) ..... **List $ 7.50**
**Cat. No. 2353** — 3 pole, D.T. (Standard Pack: 3) ..... **List 11.40**
**Cat. No. 2354** — 4 pole, D.T. (Standard Pack: 3) ..... **List 15.25**

## HEAVY DUTY, BAT HANDLE TOGGLE SWITCH

Rated at 6A at 250V or 12A at 125V. Toggle type bat handle. Molded heavy duty plastic body. Similar to D.

**Cat. No. 2350** — D.P.S.T. (Standard Pack: 12) ..... **List $2.10**

## ON-OFF PLATE FOR TOGGLE SWITCHES

This nickel-plated marker can be used with any of the toggle switches listed.

**Cat. No. 2329** — Standard Pack: 24 ..... **List $0.10**

## BALL HANDLE TOGGLE SWITCH with Wire Leads

Rated at 6A at 125V. Comes with 6" wire leads installed.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2336 | S.P.S.T. | 3/8" | $1.42 |

Standard Pack: 12

## BAT HANDLE SWITCH — NEUTRAL CENTER

Off when handle is in neutral. Operates 2 separate circuits by advancing either direction. Rated at 10A at 250V or 15A at 125V. Molded plastic body, nickel plated finish. Similar to G.

| Cat. No. | Description | Shank Length | List |
|---|---|---|---|
| 2308 | S.P.D.T. | 15/32" | $1.50 |
| 2309 | D.P.D.T. | 15/32" | 2.40 |

Standard Park: 12

## E — MIDGET KNIFE SWITCHES

Standard knife switches with porcelain base. Available in two styles as listed below.

| Cat. No. | Description | List | Cat No. | Description | List |
|---|---|---|---|---|---|
| 2390 | S.P.S.T. | $0.58 | 2392 | D.P.S.T. | $0.89 |
| 2391 | S.P.D.T. | 0.72 | 2393 | D.P.D.T. | 1.25 |

Standard Pack: 12

## F — ROTARY SWITCHES

Has silver plated contacts. Rated at 3A at 125V. Housing is stamped steel, plated. U.L. approved. Made by A. H. & H.

| Cat. No. | Description | Shank Length | Shaft Length | List |
|---|---|---|---|---|
| 2320 | S.P.S.T. | 3/8" | | $1.35 |
| 2321 | S.P.S.T. | 1" | 1 1/2" | 1.70 |
| 2322 | S.P.D.T. | 3/8" | | 1.70 |
| 2323 | S.P.D.T. | 1" | 1 1/2" | 1.80 |
| 2324 | D.P.S.T. | 1" | 1 1/2" | 2.48 |
| 2325 | D.P.D.T. | 3/8" | | 2.55 |
| 2326 | D.P.D.T. | 1" | 1 1/2" | 2.55 |

Standard Pack: 12

## G — BAKELITE MOMENTARY SWITCH — Bat Handle

Normally off until handle is operated. Has spring return action. Rated at 6A at 125V or 3A at 250V.

**Cat. No. 2365-01** — S.P.S.T. (Standard Pack: 12) ..... **List $2.10**
**Cat. No. 2365-02** — S.P.D.T. (Standard Pack: 12) ..... **List 2.40**
**Cat. No. 2366** — D.P.D.T. (Standard Pack: 12) ..... **List 3.30**

## H — PUSH-ON, PUSH-OFF BUTTON SWITCH

Circuit opens and closes with each button action. Rated at 6A at 125V. U.L. Approved. Made by A. H. & H.

**Cat. No. 2338** — S.P.S.T. (Standard Pack: 12) ..... **List $2.00**

## PUSH BUTTON DOOR SWITCH

For use in circuits operated by opening or closing a door. Heavy duty type. Rated at 3A at 125V or at 1A at 250 V.

**Cat. No. 2372** — Normally on — Shank 15/32" (Standard Pack: 12) **List $1.20**
**Cat. No. 2374** — Normally off — Shank 15/32" (Standard Pack: 12) **List 1.20**

## J — PUSH BUTTON, HEAVY DUTY POWER SWITCHES

For use where heavy current is necessary. Rate at 12A at 125V. Ideal for transmitter or high frequency use.

**Cat. No. 2351** — Push Button (Standard Pack: 12) ..... **List $3.10**

## ROTARY CANOPY SWITCHES

Bakelite body, 3/8" shank. Rated 6A at 125V, 3A at 250V. With 6" leads.

**Cat. No. 2394** — S.P.T.D. (Standard Pack: 12) .. **List $0.45**

## PUSH-ON, PUSH-OFF SWITCH

Similar to above but with push-button. Rated 3A at 125V, 1A at 250V. 3/8" shank.

**Cat. No. 2395** — S.P. (Standard Pack: 12) ..... **List $0.64**

## SLIDE SWITCH (STACKPOLE)

For radio, test equipment, phone, and experimental. Rated 5A at 125V. U.L. approved. Standard Pack: 12.

| Cat. No. | Type | Mt. Hole Spacing | Width | Length | List |
|---|---|---|---|---|---|
| 2367 | S.P.S.T. | 1 1/8" | 17/32" | 1 3/8" | $0.25 |
| 2368 | S.P.D.T. | 1 1/8" | 17/32" | 1 3/8" | 0.25 |
| 2639 | D.P.S.T. | 1 1/8" | 17/32" | 1 3/8" | 0.36 |
| 2370 | D.P.D.T. | 1 1/8" | 17/32" | 1 3/8" | 0.30 |

## 2-CIRCUIT MOMENTARY CONTACT SWITCH

Push button type. One circuit normally on, the other normally off. Reverses when button is pushed and held. Rated 1A at 125V. 3/8" shank. U.L. approved.

**Cat. No. 2340** — (Standard Pack: 12) ..... **List $1.55**

## PLASTIC PUSH BUTTON

Made of molded plastic. Slips on #2340.

**Cat. No. 2343-01** — Black (Standard Pack: 12) ..... **List $0.40**
**Cat. No. 2343-02** — Red (Standard Pack: 12) ..... **List 0.40**

## WALSCO LOCK-SWITCH

Key is removable in closed position. Rated 3A at 250V or 6A at 125V. S.P.S.T. type. Sleeve diameter is 15/32". Overall size: 1 3/4" x 1 1/2". Fits panels to 3/8".

**Cat. No. 2377** — With One Key (Std. Pack: 12) .. **List $3.79**
**Cat. No. 2738** — Extra Key ..... **List 0.35**

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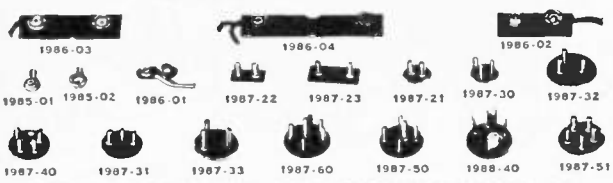
## WALSCO BATTERY PLUGS




Plugs for all popular batteries for portable radios, electronic devices, transistor energizers and test equipment.

| WALSCO No. | Std. Pack | List Price | WALSCO No. | Std. Pack | List Price |
|---|---|---|---|---|---|
| 1985-01 | 100 | $0.08 | 1987-30 | 25 | $0.10 |
| 1985-02 | 100 | 0.08 | 1987-31 | 25 | 0.10 |
| 1986-01 | 10 | 0.55 | 1987-32 | 25 | 0.10 |
| 1986-02 | 10 | 0.55 | 1987-33 | 25 | 0.15 |
| 1986-03 | 10 | 0.55 | 1987-40 | 25 | 0.15 |
| 1986-04 | 10 | 0.55 | 1987-50 | 25 | 0.15 |
| 1987-21 | 25 | 0.10 | 1987-51 | 25 | 0.15 |
| 1987-22 | 25 | 0.10 | 1987-60 | 25 | 0.20 |
| 1987-23 | 25 | 0.10 | 1988-40 | 25 | 0.15 |

## MINIATURE PLUGS and JACKS — 2 CONDUCTOR

Ideal for use with lapel microphones, hearing aids, etc. #790 and #791 housings cement together. #792 and #793 housings are assembled with screws.

| Cat. No. | Description | List |
|---|---|---|
| 790 | Plug (Type PJ291) | $0.80 |
| 791 | Jack (Type JJ048) | 1.10 |
| 792 | Plug (Type PJ292) | 0.80 |
| 793 | Jack (Type JJ055) | 1.35 |

Standard Pack: 20 per Display Card

### BULK, UNASSEMBLED AT DLR. and MFG. NET PRICE

| Cat. No. | Description | 100 to 999 | 1M and UP |
|---|---|---|---|
| 7670 | 2-Conductor Plug (Type PJ291) | $303.05 | $240.35 |
| 7671 | 2-Conductor Jack (Type JJ048) | 455.30 | 361.10 |
| 7672 | 2-Conductor Plug (PJ292) | 334.10 | 265.00 |
| 7673 | 2-Conductor Jack (JJ055) | 674.25 | 534.75 |

# PACKAGED and BULK HARDWARE

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.55 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" PRICES are "LIST PER 1000"

### The "50" LINE

Small quantities of popular hardware items packed in handy re-usable plastic boxes. List $0.55 per package.

### The "99" LINE

Same items as "50" line but in larger quantities for larger dealers and industrial users. List $1.99 per pkg.

### BULK PACK

Especially packaged for Industrial and Commercial users. Prices shown are Dealer and Industrial NET.

NOTE: ALL BULK PRICES CARRY SPECIAL DISTRIBUTOR'S DISCOUNT.

## PHONO HARDWARE and RUBBER ITEMS

### PHONO MOTOR DRIVES

These friction tires form a positive, non-slipping contact with rim of turntable. Made of highly abrasion and oil-resistant synthetic rubber.

| | Used on | I.D. | O.D. | Thick. | 50-line Cat. No. | List 55c pkg. Quant. |
|---|---|---|---|---|---|---|
| A | Most 2 & 3 speed record changers (VM, GI, etc.) | 5/8" | 11/16" | 1/4" | 7014-F | 4 |
| B | Gen. Indst. Mod. LX & RX | 2 | 2 3/8" | 3/8" | 7016-F | 2 |
| C | Alliance, Seeburg, G.E., VM 400 | 1 1/2" | 1 3/4" | 3/8" | 7017-F | 3 |
| D | Seeburg, RCA, G.E. | 7/8" | 1 1/8" | 3/8" | 7018-F | 4 |
| E | Philco, RCA, etc. | 3/4" | 5/8" | 1/4" | 7019-F | 4 |
| F | Detrola G.I. Recorder/Changer | 5 3/4" | 6 | 3/8" | 7020-F | 1 |
| | | 1 7/8" | 1 13/16" | 3/8" | 7022-F | 3 |

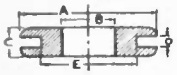
### PHONO PICKUP SET SCREWS

| Used on | Size | 50-line Cat. No. | List 55c pkg. Quant. |
|---|---|---|---|
| Various models | Assorted | 8550-F | 12 |
| Shure and others | 2-56 x 5/8" | 8552-F | 12 |
| Most Astatic & Webster | 2-64 x 3/4" | 8553-F | 12 |
| Most RCA, etc. | 1-72 x 1" | 8555-F | 5 |

### PHONO CARTRIDGE MOUNTING SCREWS

| | 50-line Cat. No. | List 55c pkg. Quant. |
|---|---|---|
| (not available in "99" line or Bulk) | 8560-F | 30 |

### VINYL GROMMETS




| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | 31/32" | 1/4" | 5/16" | 1/4" | 1/4" |
| 2 | 15/16" | 5/16" | 7/32" | 5/16" | 5/16" |
| 3 | 3/4" | 3/8" | 1/4" | 3/8" | 3/8" |
| 4 | 5/8" | 7/16" | 3/8" | 7/16" | 7/16" |
| 5 | 13/16" | 1/2" | 3/8" | 1/2" | 5/8" |

| | 50-line Cat. No. | List 55c pkg. Quant. | 99-line Cat. No. | List $1.99 pkg. Quant. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| 1 | 7030-F | 14 | 7030-N | 85 | 7030 | 13.55 |
| 2 | 7032-F | 12 | 7032-N | 80 | 7032 | 16.68 |
| 3 | 7034-F | 12 | 7034-N | 65 | 7034 | 18.13 |
| 4 | 7036-F | 10 | 7036-N | 55 | 7036 | 19.55 |
| 5 | 7038-F | 8 | 7038-N | 35 | 7038 | 30.35 |
| Asst. | 7025-F | 12 | | | | |

### RUBBER WASHER and BUMPER ASSORTMENT

Consists of round and square pieces of soft rubber. Ideal padding.
Cat. No. 7083-F — 12 per pkg. ..... List $0.55 pkg.

### CABINET FEET

Synthetic rubber. Attach with wood or metal screws.

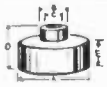
| D. | H. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|---|
| 3/4" | 3/8" | 7052-F | 8 | 7052-N | 55 | 7052 | $12.16 |
| 1 1/4" | 1/4" | 7054-F | 8 | 7054-N | 50 | 7054 | 19.50 |
| 1 1/2" | 3/8" | 7056-F | 8 | 7056-N | 30 | 7056 | 29.58 |
| 2" | 3/8" | | | 7058-N | 20 | 7058 | 37.50 |
| Asst. | | 7050-F | 8 | | | | |

### TACK TYPE CABINET FEET

| | | | | | |
|---|---|---|---|---|---|
| 3/4" | | | 7071-N | 50 | 7071 | 24.64 |
| 1 1/2" | | | 7072-N | 50 | 7072 | 25.95 |
| Asst. | | 7070-F | 8 | | | |

50 and 99 Line come with wood screws. Bulk without.

### CHASSIS MOUNTS




Resilient, synthetic rubber.

| | | A | B | C | D | E | List Per 1000 |
|---|---|---|---|---|---|---|---|
| | 7077-F | 6 | Not in | 99 Line | 7077 | | 48.44 |
| Asst. | 7075-F | 10-12 | | | | | |

### DIAL CORD

In small packages. Nylon over fiberglass core. These three sizes will fill 80% of all replacement needs.

| Size | Cat. No. | Length |
|---|---|---|
| Special Thin | 7395-F | 10' |
| Standard Thin | 7396-F | 10' |
| Medium | 7397-F | 10' |

See page U-1486 for standard spools and bulk listing.

### METAL WASHERS

| For Screw Type | Size | I.D. | O.D. | Thick | For Screw Type | Size | I.D. | O.D. | Thick |
|---|---|---|---|---|---|---|---|---|---|
| A | #4 | .125" | 3/8" | 1/32" | D | #10 | .203" | 5/8" | 1/32" |
| B | #6 | .149" | 3/8" | 1/32" | E | 1/4" | .265" | 1/2" | 1/32" |
| C | #8 | .175" | 3/8" | 1/32" | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| A | 7874-F | 80 | | | 7874 | $3.38 |
| B | 7876-F | 80 | 7876-N | 500 | 7876 | 3.75 |
| C | 7878-F | 80 | 7878-N | 500 | 7878 | 3.94 |
| D | 7880-F | 70 | 7880-N | 300 | 7880 | 3.94 |
| E | 7882-F | 50 | 7882-N | 300 | 7882 | 6.25 |
| Asst. | 7870-F | 80 | | | | |

### LOCK WASHERS, STEEL, CAD. PLATE

| | Type | FOR SCREW Size | O.D. | Type | FOR SCREW Size | O.D. |
|---|---|---|---|---|---|---|
| | A | #2 | .180" | F | 3/8" | .470" |
| | B | #4 | .260" | G | 7/16" | .430" |
| | C | #6 | .280" | H | 1/2" | .500" |
| | D | #8 | .330" | J | 5/8" | .690" |
| | E | #10 | .375" | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| A | 7922-F | 35 | | | 7922 | $9.63 |
| B | 7924-F | 50 | | | 7924 | 6.06 |
| C | 7926-F | 50 | 7926-N | 300 | 7926 | 6.06 |
| D | 7928-F | 50 | 7928-N | 275 | 7928 | 6.63 |
| E | 7930-F | 45 | 7930-N | 250 | 7930 | 6.63 |
| F | | | 7932-N | 180 | 7932 | 8.75 |
| G | 7933-F | 20 | | | 7933 | 10.88 |
| H | 7934-F | 20 | | | 7934 | 16.63 |
| J | | | 7935-N | 125 | 7935 | 14.63 |
| K | 7920-F | 45 | | | | |

### BROWN FELT KNOB WASHERS

Hole is 1/4" to fit all standard control and condenser shafts. O.D. approx. 3/4", 3/8" thick.

| | | | | | |
|---|---|---|---|---|---|
| 7760-F | 40 | 7760-N | 250 | 7760 | $5.35 |

For PLATING other than specified—Add 10% with $5.00 per item minimum charge.



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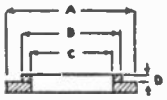
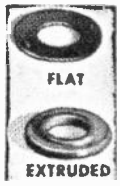
# PACKAGED and BULK HARDWARE (cont'd)

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.55 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" PRICES are "LIST PER 1000"

## WALSCO INSULATING WASHERS

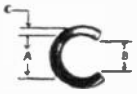



Flat and extruded. Precision made from vulcanized phenolic fibre.

| Fits Screw Size | — DIMENSIONS — A | B | C | D | | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| #6 | 5/16" | 3/16" | .136" | 3/32" | Extruded | | | 7856-N | 125 | 7856 | $11.50 |
| | 7/16" | .. | .136" | .. | Flat | | | 7836-N | 300 | 7836 | 4.50 |
| #8 | 3/8" | 1/4" | .165" | 3/32" | Fl. & Ex. Extruded | 7824-F | 30 | 7858-N | 125 | 7858 | 11.50 |
| | 7/8" | .. | .165" | .. | Flat | | | 7838-N | 300 | 7838 | 4.88 |
| #10 | 3/8" | .308" | .195" | 3/32" | Fl. & Ex. Extruded | 7825-F | 30 | 7860-N | 100 | 7860 | 12.56 |
| | 7/8" | .. | .195" | .. | Flat | | | 7840-N | 300 | 7840 | 4.88 |
| 1/4" | 1/2" | 11/32" | .255" | 3/32" | Fl. & Ex. Extruded | 7826-F | 30 | 7862-N | 100 | 7862 | 12.56 |
| | 1/2" | .. | .255" | .. | Flat | | | 7842-N | 225 | 7842 | 6.13 |
| 5/16" | 5/8" | 1/2" | .380" | 3/32" | Fl. & Ex. Extruded | 7827-F | 24 | 7864-N | 85 | 7864 | 13.19 |
| | 5/8" | .. | .380" | .. | Flat | | | 7844-N | 175 | 7844 | 10.19 |
| | Assorted sizes of Flat and Extruded | | | | Fl. & Ex. | 7828-F | 20 | | | | |
| | | | | | | 7820-F | 35 | | | | |

## RETAINING RING and "C" WASHERS




| Type | Fits Shaft | A | B | C | Thick |
|---|---|---|---|---|---|
| 1 | 1/8" | .174" | 1/8" | 3/16" | 3/32" |
| 2 | 1/4" | .260" | 3/16" | 3/16" | 3/32" |

| Type | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| 1 | 7772-F | 15 | Not in 99 Line | | 7772 | $12.56 |
| 2 | 7774-F | 15 | | | 7774 | 14.56 |
| Asst. | 7770-F | 25 | | | | |

## SPRING FRICTION WASHERS

Assortment of phosphor bronze and steel.

| Type | I.D. | O.D. | Thick |
|---|---|---|---|
| A | 1/8" | 1/4" | .008" |
| B | 3/16" | 3/8" | .008" |
| C | 1/4" | 1/2" | .010" |

| | | | | |
|---|---|---|---|---|
| A | | | 7751 | $22.75 |
| B | | Not in 99 Line | 7752 | 15.13 |
| C | | | 7754 | 14.55 |
| Asst. | 7750-F | 12 | | |

## METAL and INSULATING SPACERS

In "50" Line Only — List $0.55 per pkg.

Assorted Metal Spacers — Cat. No. 7620-F — Quant. per pkg. — 12

Assorted Insulating Spacers — Cat. No. 7630-F — Quant. per pkg. — 12

## FUSE INSULATORS

Fits all standard 1/4" dia. fuses. Type A — 1 1/8" long. Type B — 5/8" long.

| | | | | |
|---|---|---|---|---|
| A | | Not in 99 Line | 7641 | $7.26 |
| B | | | 7642 | 5.50 |
| Asst. | 7640-F | 20 | | |

## FUSE CLIPS

Spring brass, nickel plated. Type A — for 1/4" fuses. Type B — for 3/8" fuses.

| | | | | List Per 1000 |
|---|---|---|---|---|
| A | | Not in 99 Line | 7601 | $23.15 |
| B | | | 7602 | 61.45 |
| Asst. | 7600-F | 10 | | |

## STEEL SET SCREWS

Hardened steel, cadmium plated.

| Size No. | | | | | | List Per 1000 |
|---|---|---|---|---|---|---|
| 6-32x1/8" | | | | | 8622 | $24.00 |
| 6-32x3/16" | 8623-F | 12 | | | 8623 | 24.00 |
| 6-32x1/4" | | | | | 8624 | 24.00 |
| 8-32x1/8" | | | | | 8632 | 24.00 |
| 8-32x3/16" | 8633-F | 12 | | | 8633 | 24.00 |
| 8-32x1/4" | 8634-F | 12 | | | 8634 | 24.00 |
| 10-32x3/16" | | | | | 8643 | 24.00 |
| 10-32x1/4" | 8644-F | 12 | | | 8644 | 24.00 |
| Asst. | 8605-F | 12 | 8605-N | 55 | | |

## ORNAMENTAL HEAD SCREWS

Bronze finish with rosette heads.

| Size No. | | | | | | List Per 1000 |
|---|---|---|---|---|---|---|
| 6-32x3/8" | 8252-F | 20 | 8252-N | 125 | 8252 | $11.40 |
| 6-32x1" | 8253-F | 20 | 8252-N | 110 | 8253 | 12.45 |
| 8-32x1 1/4" | 8255-F | 12 | 8255-N | 60 | 8255 | 20.16 |
| Asst. | 8250-F | 20 | | | | |

## SMALL ESCUTCHEON and WOOD SCREW ASSORTMENT

In "50" Line Only — List $0.55 per pkg.

Cat. No. 8500-F — Quant. per pkg. — 25

## SMALL MACHINE SCREW and NUT ASSORTMENT

No. 2 and 4 screws available in "50" Line Only — List $0.55 per pkg.

Cat. No. 8002-F — Quant. per pkg. — 35

## STANDARD WOOD SCREW ASSORTMENT

Round and flat heads

| Type | Size | Head | Finish | | List Per 1000 |
|---|---|---|---|---|---|
| A | #2x1/4" | Oval Hd. | Statuary Bronze | 8522 | $12.10 |
| B | #2x3/8" | Oval Hd. | Statuary Bronze | 8523 | 12.31 |
| C | #2x1/2" | Round Hd. | Statuary Bronze | 8524 | 12.81 |
| D | #3x3/8" | Round Hd. | Blued | 8530 | 10.12 |
| E | #6x1/2" | Round Hd. | Blued | 8534 | 12.70 |
| F | #8x5/8" | Round Hd. | Blued | 8545 | 14.80 |
| Asst. | 8502-F | 25 | | | |

Not in 50 Line — Not in 99 Line

## STEEL MACHINE SCREWS

Top quality, round head, cadmium plated.

| Type | Size No. | Type | Size No. | Type | Size No. | Type | Size No. |
|---|---|---|---|---|---|---|---|
| 1 | 2-56x3/16" | 7 | 4-36x3/4" | 13 | 6-32x3/8" | 19 | 8-32x1/4" |
| 2 | 2-56x5/16" | 8 | 4-40x1/4" | 14 | 6-32x1/2" | 20 | 8-32x3/8" |
| 3 | 2-56x1/2" | 9 | 4-40x3/4" | 15 | 6-32x3/4" | 21 | 8-32x1/2" |
| 4 | 2-56x1/2" | 10 | 4-40x1/2" | 16 | 6-32x1" | 22 | 8-32x3/4" |
| 5 | 4-36x1/4" | 11 | 4-40x1" | 17 | 6-32x2" | 23 | 8-32x1" |
| 6 | 4-36x1/2" | 12 | 6-32x1/4" | 18 | 6-32x2 1/2" | 24 | 10-32x1/2" |
| | | | | | | 25 | 10-32x3/4" |
| | | | | | | 26 | 10-32x1" |

| Type | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| 1 | | | 8021-N | 200 | 8021 | $5.75 |
| 2 | | | | | 8022 | 5.88 |
| 3 | 8023-F | 40 | 8023-N | 200 | 8023 | 6.25 |
| 4 | 8024-F | 40 | 8024-N | 200 | 8024 | 6.42 |
| 5 | 8032-F | 40 | | | 8032 | 6.36 |
| 6 | 8034-F | 35 | | | 8034 | 6.96 |
| 7 | 8036-F | 30 | | | 8036 | 8.10 |
| 8 | 8042-F | 40 | 8042-N | 225 | 8042 | 6.36 |
| 9 | | | 8043-N | 200 | 8043 | 6.55 |
| 10 | 8044-F | 35 | 8044-N | 200 | 8044 | 8.10 |
| 11 | | | | | 8048 | 8.15 |
| 12 | 8062-F | 40 | 8062-N | 225 | 8062 | 7.08 |
| 13 | 8063-F | 30 | 8063-N | 200 | 8063 | 7.05 |
| 14 | 8064-F | 30 | 8064-N | 175 | 8064 | 8.22 |
| 15 | 8066-F | 30 | 8066-N | 175 | 8066 | 9.66 |
| 16 | | | 8068-N | 135 | 8068 | 11.10 |
| 17 | 8078-F | 15 | | | 8078 | 20.10 |
| 18 | | | | | 8079 | 29.50 |
| 19 | 8082-F | 30 | 8082-N | 175 | 8082 | 9.24 |
| 20 | 8083-F | 25 | 8083-N | 150 | 8083 | 9.96 |
| 21 | 8084-F | 25 | 8084-N | 150 | 8084 | 10.80 |
| 22 | 8086-F | 20 | 8086-N | 125 | 8086 | 12.36 |
| 23 | | | 8088-N | 100 | 8088 | 14.16 |
| 24 | 8104-F | 20 | 8104-N | 125 | 8104 | 12.72 |
| 25 | 8106-F | 20 | 8106-N | 100 | 8106 | 14.88 |
| 26 | 8108-F | 15 | 8108-N | 85 | 8108 | 16.74 |

ASSORTED STANDARD MACHINE SCREWS — Various sizes, Lengths and styles.

| | | | | |
|---|---|---|---|---|
| Asst. | 8000-F | 35 | 8000-N | 200 |

## SHEET METAL and SELF-TAPPING SCREWS

"TYPE B" — Hardened Steel, Slotted Hex Head, Cadmium Plated.

| Type | Size No. | Type | Size No. | Type | Size No. |
|---|---|---|---|---|---|
| 1 | 6x1/4" | 5 | 6x1" | 10 | 8x1" |
| 2 | 6x3/8" | 6 | 8x1/4" | 11 | 10x3/8" |
| 3 | 6x1/2" | 7 | 8x3/8" | 12 | 10x1/2" |
| 4 | 6x3/4" | 8 | 8x1/2" | 13 | 10x3/4" |
| | | 9 | 8x3/4" | | |

| Type | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| 1 | 8362-F | 30 | 8362-N | 150 | 8362 | $12.88 |
| 2 | 8363-F | 25 | 8363-N | 150 | 8363 | 13.50 |
| 3 | 8364-F | 25 | 8364-N | 150 | 8364 | 14.25 |
| 4 | 8366-F | 20 | 8366-N | 125 | 8366 | 17.38 |
| 5 | 8368-F | 20 | 8368-N | 125 | 8368 | 18.15 |
| 6 | 8382-F | 20 | 8382-N | 125 | 8382 | 15.50 |
| 7 | 8383-F | 20 | 8383-N | 125 | 8383 | 16.19 |
| 8 | 8384-F | 20 | 8384-N | 125 | 8384 | 16.63 |
| 9 | 8386-F | 15 | 8386-N | 80 | 8386 | 17.50 |
| 10 | 8388-F | 15 | 8388-N | 80 | 8388 | 21.19 |
| 11 | 8403-F | 15 | 8403-N | 80 | 8403 | 19.06 |
| 12 | 8404-F | 15 | 8404-N | 80 | 8404 | 23.25 |
| 13 | 8406-F | 12 | 8406-N | 80 | 8406 | 29.38 |
| Asst. | 8300-F | 25 | 8300-N | 125 | | |

For PLATING other than specified — Add 10% with $5.00 per item minimum charge.

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Division of Textron, Inc.

# PACKAGED and BULK HARDWARE (cont'd)

"50 LINE" ITEMS MARKED "F" LIST PRICE $0.55 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" PRICES are "LIST PER 1000"

## RACK SCREWS and CUP WASHERS

Nickel-plated.

| Type | SCREWS Size | | | WASHERS Type | Size | |
|---|---|---|---|---|---|---|
| A | #6-32x5/8" | | | E | #6 (7/16" O.D.) | |
| B | #8-32x5/8" | | | F | #8 (1/2" O.D.) | |
| C | #10-32x3/4" | | | G | #10 (9/16" O.D.) | |
| D | #12-24x5/8" | | | H | #12 (5/8" O.D.) | |
| A | 8265-F | 30 | 8265-N | 160 | 8265 | $8.45 |
| B | 8269-F | 25 | 8269-N | 130 | 8269 | 11.55 |
| C | 8273-F | 20 | 8273-N | 90 | 8273 | 14.88 |
| D | | | | | 8278 | 19.05 |
| Washers | | | | | | |
| E | 7806-F | 45 | 7806-N | 350 | 7806 | $5.31 |
| F | 7808-F | 45 | 7808-N | 300 | 7808 | 5.63 |
| G | 7810-F | 35 | 7810-N | 250 | 7810 | 7.44 |
| H | | | | | 7812 | 8.15 |
| Asst. | 8005-F | 30 | | | | |

## HEX NUTS — SMALL PATTERN, CAD. PLATED STEEL

| Size | Width | Thickness | Size | Width | Thickness |
|---|---|---|---|---|---|
| #2-56 | 3/16" | 1/16" | #6-32 | 1/4" | 3/32" |
| #4-36 | 3/16" | 1/16" | #8-32 | 5/16" | 7/64" |
| #4-40 | 3/16" | 1/16" | #10-32 | 5/16" | 7/64" |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 8802-F | 30 | 8802-N | 175 | 8802 | 9.19 |
| | 8803-F | 30 | | | 8803 | 10.00 |
| | 8804-F | 30 | 8804-N | 175 | 8804 | 8.81 |
| | 8806-F | 30 | 8806-N | 180 | 8806 | 9.19 |
| | 8808-F | 30 | 8808-N | 170 | 8808 | 9.75 |
| | 8810-F | 25 | 8810-N | 150 | 8810 | 12.75 |
| Asst. | 8800-F | 30 | 8800-N | 175 | | |

## HEX NUTS — STANDARD PATTERN, CAD. PLATED STEEL

| Size | Width | Thickness | | |
|---|---|---|---|---|
| #6-32 | 5/16" | 7/64" | | |
| #8-32 | 11/32" | 1/8" | | |
| #10-32 | 3/8" | 1/8" | | |
| | | | 8826 | $9.69 |
| Not in 50 Line | Not in 99 Line | | 8828 | 9.75 |
| | | | 8830 | 9.75 |

## HEX NUTS — BRASS

| Size | Width | Thickness | Size | Width | Thickness |
|---|---|---|---|---|---|
| #4-40 | 1/4" | 5/16" | #8-32 | 11/32" | 1/8" |
| #4-36 | 1/4" | 5/16" | #10-32 | 3/8" | 1/8" |
| #6-32 | 1/4" | 5/64" | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 8844 | $15.66 |
| | | | | | 8845 | 15.69 |
| | 8846-F | 20 | 8846-N | 110 | 8846 | 18.63 |
| | 8848-F | 12 | 8848-N | 65 | 8848 | 18.63 |
| | | | 8850-N | 60 | 8850 | 20.44 |

## SPECIAL MOUNTING NUTS

For mounting panel components.

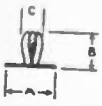
| Type | Size | Width | Thick | Description |
|---|---|---|---|---|
| A | #5/16-32 | 1/2" | 5/16" | Vol. Control Hex Nut—Brass |
| B | #5/16-32 | 1/2" | 5/16" | Vol. Control Hex Nut—Cad. Plate Steel |
| C | #15/32-32 | 5/16" | 5/16" | Toggle Switch Hex Nut—Cad. Plate Steel |
| D | #15/32-32 | 15/32" | 5/16" | Toggle Switch Ring Nut—Nkl. Plate Brass |

| | | | | | | |
|---|---|---|---|---|---|---|
| A | | | | | 8922 | $40.63 |
| B | 8923-F | 12 | 8923-N | 80 | 8923 | 16.75 |
| C | 8924-F | 8 | 8924-N | 40 | 8924 | 41.88 |
| D | 8926-F | 8 | 8926-N | 35 | 8926 | 48.00 |
| Asst. | 8920-F | 12 | | | | |

## SPEED NUTS

Tinnerman-type, self-locking.

| | | | | |
|---|---|---|---|---|
| #6-32 | | | 8963 | $10.85 |
| #8-32 | | Not in 99 Line | 8964 | 11.00 |
| #10-24 | | | 8965 | 11.85 |
| #1/4-20 | | | 8966 | 16.00 |
| Asst. | 8960-F | 30 | | |



## SNAP-IN TRIMOUTS

Quickest fastener made.

| Type | For Hole | DIMENSIONS A | B | C |
|---|---|---|---|---|
| 1 | 1/8" | 9/32" | 13/64" | 9/64" |
| 2 | 5/32" | 23/64" | 9/32" | 3/16" |
| 3 | 5/32" | 3/8" | 5/8" | 3/16" |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 7373-F | 20 | 7373-N | 115 | 7373 | $14.81 |
| 2 | 7375-F | 18 | 7375-N | 100 | 7375 | 19.38 |
| 3 | 7377-F | 15 | 7377-N | 75 | 7377 | 22.75 |
| Asst. | 7370-F | 18 | | | | |

## RIVET ASSORTMENT

Hollow, Solid, Split, in Brass, Copper, Alum. In sizes from 1/16" to 5/16" diameter and up to 3/4" long.
Cat. No. 7525-F — Quant. per pkg. — 50 ..... List $0.50 per pkg.

## TV INTERLOCK CORD RIVET ASSORTMENT

All popular sizes.
Cat. No. 7527-F — Quant. per pkg. — 40 ..... List $0.55 per pkg.

## EYELET ASSORTMENT

Brass, in various diameters and lengths.
Cat. No. 7510-F — Quant. per pkg. — ..... List $0.55 per pkg.

## SMALL COTTER and HAIR PINS

Nos. 7381 thru 7384 are "hair pins." Nos. 7387 and 7388 are small straight cotter pins.

| Type | DIMENSIONS A | B | C | Type | DIMENSIONS A | B | C |
|---|---|---|---|---|---|---|---|
| 1 | 3/8" | 1/16" | .026" | 4 | 5/8" | 3/16" | .047" |
| 2 | 3/8" | 3/32" | .026" | 5 | 1/2" | 1/16" | st. type |
| 3 | 1/2" | 9/64" | .032" | 6 | 3/4" | 1/16" | st. type |

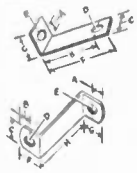
| | | | | | |
|---|---|---|---|---|---|
| 1 | | | | 7381 | $5.50 |
| 2 | | | | 7382 | 5.50 |
| 3 | | | Not in 99 Line | 7383 | 8.20 |
| 4 | | | | 7384 | 7.00 |
| 5 | | | | 7387 | 5.63 |
| 6 | | | | 7388 | 5.95 |
| Asst. | 7380-F | 40 | | | |

## CABLE CLAMPS

For cables from 1/8" to 5/16" diameter. Takes #6, #8 screw.

| Type | Cable Dia. |
|---|---|
| 1 | 1/8" to 5/16" |
| 2 | 5/16" to 1/4" |
| 3 | 1/4" to 5/16" |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 7502-F | 25 | 7502-N | 125 | 7502 | $13.06 |
| 2 | 7503-F | 20 | 7503-N | 100 | 7503 | 14.81 |
| 3 | 7505-F | 16 | 7505-N | 75 | 7505 | 15.75 |
| Asst. | 7500-F | 20 | | | | |

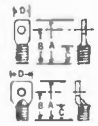


## ANGLE BRACKETS

Available in brass and steel and assorted.

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| Type 1 — Brass, cad.-plated | 7/32" | 1/4" | 1/4" | .120" | • | 25/64" | 11/32" | |
| Type 2 — Steel, cad.-plated | 1/4" | 5/8" | 5/16" | .144" | .144" | 23/32" | 3/8" | |
| Type 3 — Steel, hot-tinned | 15/64" | 7/32" | 5/16" | .144" | .144" | 13/32" | 1/2" | 1/2" |
| Type 4 — Brass, (one hole tapped 6-32) | 15/64" | 1/4" | 5/16" | 6-32" | .144" | 27/64" | 3/8" | |

| | | | | | List Per 1000 |
|---|---|---|---|---|---|
| 1 | | | | 7571 | $30.75 |
| 2 | | | Not in 99 Line | 7572 | 27.00 |
| 3 | | | | 7574 | 14.95 |
| 4 | | | | 7575 | 23.75 |
| Asst. | 7570-F | 12 | | | |

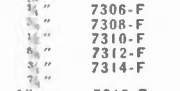


## SPADE BOLTS

Type 8572 is straight with 5/32" thread. Type 8573 is offset with 5/16" thread. Both are 3/4" long.

| | A | B | C | D | Hole Diam. |
|---|---|---|---|---|---|
| Type 1 — Size 6-32 Straight | 3/4" | 9/16" | 9/32" | 1/4" | .141 |
| Type 2 — Size 6-32 Offset | 3/4" | 9/16" | 5/16" | 15/64" | .141 |

| | | | | | List Per 1000 |
|---|---|---|---|---|---|
| 1 | | | 8572-N | 75 | 8572 | $16.35 |
| 2 | | | 8573-N | 45 | 8573 | 33.90 |
| Asst. | 8570-F | 15 | | | | |



## SNAP-HOLE PLUGS

Finished in polished nickel-plate.

| | | | | | | List Per 1000 |
|---|---|---|---|---|---|---|
| 1/4" | | | | | 7302 | $39.90 |
| 5/16" | | | | | 7304 | 39.05 |
| 3/8" | 7306-F | 8 | 7306-N | 45 | 7306 | 36.55 |
| 7/16" | 7308-F | 8 | 7308-N | 45 | 7308 | 36.25 |
| 1/2" | 7310-F | 6 | 7310-N | 36 | 7310 | 40.55 |
| 9/16" | 7312-F | 6 | 7312-N | 30 | 7312 | 47.65 |
| 3/4" | 7314-F | 5 | 7314-N | 25 | 7314 | 52.15 |
| 7/8" | | | | | 7315 | 66.80 |
| 1" | 7316-F | 4 | *7316-N | 18 | 7316 | 89.20 |
| 1 1/8" | | | | | 7318 | 91.70 |
| 1 1/4" | | | | | 7320 | 90.00 |
| Asst. | 7300-F | 6 | | | | |

## VENTILATING HOLE PLUGS

With spring flange.

| Type | Description | Hole Size | Finish |
|---|---|---|---|
| 1 | Screened, Snap-in | 1" | Cadmium Plated |
| 2 | Perforated, Snap-in | 1" | Polished Chrome |
| 3 | Eyelet type—with washers | 13/16" | Nickel Plated |
| 4 | Eyelet type—with washers | 3/4" | Nickel Plated |

| | | | | | List Per 1000 |
|---|---|---|---|---|---|
| 1 | | | | 7331 | $290.00 |
| 2 | | | Not in 99 Line | 7332 | 73.95 |
| 3 | | | | 7333 | 94.50 |
| Asst. | 7330-F | 3 | | | |
| Asst. | 7330-F | 3 | | | |

## ESCUTCHEON PIN ASSORTMENT

Brass finish, from 1/4" to 5/8" long.
Cat. No. 7560-F — Quant. per pkg. — 100 ..... List $0.55 per pkg.

For PLATING other than specified — Add 10% with $5.00 per item minimum charge.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World Radio History

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Division of Textron, Inc.

**"50 LINE" ITEMS MARKED "F" LIST PRICE $0.55 per pkg. • "99 LINE" ITEMS MARKED "N" LIST PRICE $1.99 per pkg. • "BULK PACK" PRICES are "LIST PER 1000"**

## PHONO JACKS and PLUGS

Standard RCA-type for single conductor, shielded cable.

| Type | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| B-Plugs | 7665-F | 4 | Not in 99 Line | | 7665 | $75.00 |
| C-Jacks | 7667-F | 3 | | | 7667 | 85.00 |
| A-Jacks | | | | | 7664 | 111.81 |

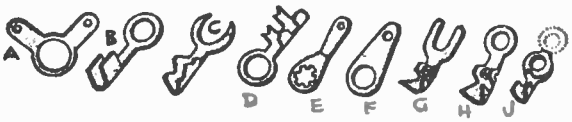
## STANDARD PHONE TIPS

Nickel-plated brass. Fits standard jacks.

| | | | | | | List Per 1000 |
|---|---|---|---|---|---|---|
| | 7645-F | 10 | 7645-N | 60 | 7645 | $27.50 |

## TERMINAL LUGS

Ready tinned. All popular sizes and types listed. Type "J" is the solderless, fold-over type.




All items with "F" designation are assorted for #6 and #8 screws excepting Types G - H & J.

| For Screw Size — | | | | | | List Per 1000 |
|---|---|---|---|---|---|---|
| A | 7110-F | 20 | | | | |
| A-#6 | | | 7116-N | 110 | 7116 | $16.38 |
| A-#8 | | | 7118-N | 110 | 7118 | 17.05 |
| B | 7120-F | 20 | | | | |
| B-#6 | | | 7126-N | 125 | 7126 | 12.95 |
| B-#8 | | | 7128-N | 110 | 7128 | 19.60 |
| C | 7130-F | 25 | | | | |
| C-#6 | | | 7136-N | 135 | 7136 | 11.35 |
| C-#8 | | | 7138-N | 135 | 7138 | 11.35 |
| D | 7140-F | 15 | | | | |
| D-#6 | | | 7146-N | 85 | 7146 | 17.20 |
| D-#8 | | | 7148-N | 85 | 7148 | 16.50 |
| D-#10 | | | 7149-N | 100 | 7149 | 19.45 |
| E | 7150-F | 15 | | | | |
| E-#6 | | | 7156-N | 90 | 7156 | 15.75 |
| E-#8 | | | 7158-N | 90 | 7158 | 15.75 |
| F | 7160-F | 35 | | | | |
| F-#6 | | | 7166-N | 225 | 7166 | 7.95 |
| F-#8 | | | 7168-N | 225 | 7168 | 7.65 |
| F-#10 | | | 7169-N | 170 | 7169 | 11.20 |
| G-#10 | 7170-F | 25 | 7179-N | 125 | 7179 | 13.95 |
| H-#10 | 7180-F | 15 | 7189-N | 75 | 7189 | 22.70 |
| Asst. | 7100-F | 30 | | | | |
| J-#8 & #10 | 7190-F | 8 | 7199-N | 35 | 7199 | 31.50 |

## SPRING CONNECTOR CLIPS

In plated brass or phosphor bronze.

| Type | For Wires | Length | Width | With Hole Size |
|---|---|---|---|---|
| 1 | #16 Ga. & Under | 11/16" | 3/8" | 4 & 5 |
| 2 | #12 to 18 Ga. | 11/16" | 5/16" | 6 |

| | | | | | List Per 1000 |
|---|---|---|---|---|---|
| 1 | 7592-F | 15 | Not in 99 Line | 7592 | $24.69 |
| 2 | 7594-F | 12 | | 7594 | 29.13 |
| Asst. | 7590-F | 12 | | | |

## TERMINAL STRIPS

Solder-coated, riveted to phenolic base.

Cat. No. 7250-F — Quant. per pkg. — 5 assorted.....List $0.55 per pkg.

## GRID CAPS

Fits all standard metal and glass tubes.

| Type | Description | |
|---|---|---|
| 1 | For Glass Tubes | |
| 2 | For Metal and "GT" Tubes | |
| 3 | For High Voltage TV Rectifier Tube | 3/8" |
| 4 | For High Voltage TV Rectifier Tube | 1/4" |
| 5 | Assorted High Voltage TV Clips Only | |

| | | | | | List Per 1000 |
|---|---|---|---|---|---|
| 1 | | | | 7611 | 83.00 |
| 2 | | | | 7614 | 17.85 |
| 3 | | | Not in 99 Line | 7616 | 38.70 |
| 4 | | | | 7617 | 57.40 |
| 5 | 7610-F | 5 | | | |
| Asst. | 7609-F | 8 | | | |

## DIAL DRIVE SPRINGS

Rust-proof cadmium plated. All standard sizes.

| Type | Overall Length | DIMENSIONS Diam. | Thickness |
|---|---|---|---|
| 1 | 1/2" | 1/8" | .016" |
| 2 | 5/8" | 5/32" | .018" |
| 3 | 9/16" | 3/16" | .020" |
| 4 | 3/4" | 1/8" | .016" |
| 5 | 3/4" | 5/32" | .020" |
| 6 | 1" | 13/64" | .022" |
| 7 | 1-1/4" | 13/64" | .022" |
| 8 | Assorted Small Springs | | |
| 9 | Assorted (Large and Small) | | |

| Type | Cat. No. | Approx. Quant. Pkg. | Cat. No. | Approx. Quant. Pkg. | Cat. No. | List Per 1000 |
|---|---|---|---|---|---|---|
| 1 | 7404-F | 8 | | | 7404 | $40.65 |
| 2 | 7405-F | 8 | | | 7405 | 44.50 |
| 3 | 7407-F | 8 | | | 7407 | 39.20 |
| 4 | 7409-F | 6 | | | 7409 | 45.35 |
| 5 | 7411-F | 6 | | | 7411 | 46.55 |
| | | | | | 7413 | 67.80 |
| 7 | | | | | 7415 | 62.30 |
| 8 | 7400-F | 8 | | | | |
| 9 | 7401-F | 8 | 7401-N | 40 | | |

## RADIO KNOB SPRINGS

Made of finest grade tempered steel.

| | | | | | List per 1000 |
|---|---|---|---|---|---|
| A | 7485-F | 8 | | 7485 | $31.14 |
| B | 7486-F | 8 | | 7486 | 34.00 |
| C-TV | 7488-F | 12 | | 7488 | 20.15 |
| D | 7490-F | 12 | | 7490 | 15.67 |
| E | 7491-F | 20 | | 7491 | 10.95 |
| F | 7492-F | 20 | Not in 99 Line | 7492 | 17.75 |
| G | 7493-F | 20 | | 7493 | 14.63 |
| H | 7495-F | 15 | | 7495 | 16.38 |
| J | 7496-F | 25 | | 7496 | 8.45 |
| K | 7497-F | 8 | | 7497 | 35.75 |
| L | 7498-F | 8 | | 7498 | 31.35 |
| Asst. | 7480-F | 16 | | | |
| TV Knob Spring Assortment | 7481-F | 10 | | | |

## EXPANSION SPRINGS

For record changers, dial mechanisms, etc. #7420 is small spring assortment. #7441 is large spring assortment.

Cat. No. 7420-F — Quant. per pkg. — 10 .....List $0.55 per pkg.

Cat. No. 7421-F — Quant. per pkg. — 10 .....List 0.55 per pkg.

## COMPRESSION SPRINGS

Handy assortment of hard-to-get types. #7440 is small spring assortment. #7441 is large spring assortment.

Cat. No. 7440-F — Quant. per pkg. — 20 .....List $0.55 per pkg.

Cat. No. 7441-F — Quant. per pkg. — 15 .....List 0.55 per pkg.

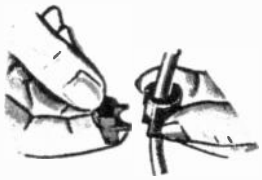
## WALSCO HARDWARE ASSORTMENT

Contains from 600 to 1000 pieces including nuts, washers, grommets, springs, clamps, eyelets, etc., in handy plastic box. Ideal for "ham" technicians.

Cat. No. 3003 — Complete Assortment.....Dealer's Net $1.08

## HEYCO STRAIN RELIEF BUSHINGS

For small and medium size power supply cords. Easily snap into chassis or panel hole. Precision made to give non-slip grip and maximum protection.



| Cat. No. | Used On Wire Type | Sizes | Hole Size | Descrip. | List | List per 100 |
|---|---|---|---|---|---|---|
| 1521-R | SP-1, SPT-1 POSJ, POT | 0.120" X 0.220" | 7/16" | Bag of 4 small, black | $0.50 | $7.25 |
| 1522-R | SV, Heater Cord SP-2, SPT-2 & HPN-18 | 1/4" to 3/8" Round & some oval sizes | 1/2" | Bag of 3 med., black | 0.50 | 8.50 |
| 1523-R | HPN-16 ST-18/2 | 3/8" to 11/16" | 5/8" | Bag of 2 large, black | 0.50 | 14.50 |

Standard Pack: Display Card of 20 Bags

## SELENIUM RECTIFIER MOUNTING KIT

Contains 4, 2½"; 4, 3" and 3, 4½" roundhead machine screws, 12 hex nuts, and 6 brackets.

Cat. No. 1520 — Complete kit .....List $ 0.99

Cat. No. 1520-D — Display card of 20 kits .....List 19.80

**For PLATING other than specified — Add 10% with $5.00 per item minimum charge.**

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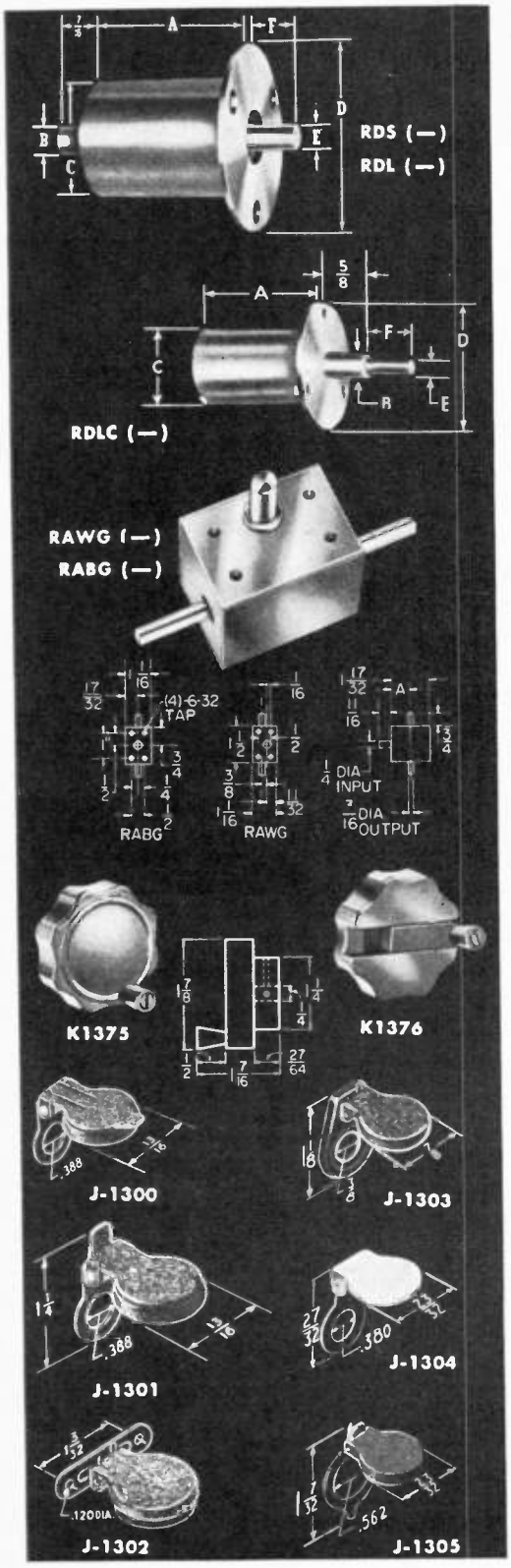
World Radio History

# JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.




## RATIO DRIVES—SPEED REDUCERS

JAN ratio drives employing precision ball bearings are used for the smooth control of components in instruments or in speed reduction applications where miniaturization is essential. Ruggedly built and permanently lubricated, these units render a smooth rotary control between input and output shafts which rotate in the same direction. Type RDL and RDS are supplied with "in-line" output-input shafts. Type RDLC is supplied with concentric type input-output shafts. Torque rating is 2 in. lb max.

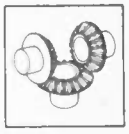
| CAT No. | RATIO | A | Output Shaft B | C | D | Input Shaft E | F | Bolt Mtg Dia |
|---|---|---|---|---|---|---|---|---|
| RDL-1 | 2.66-1 | 13/32 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | | 1 15/32 |
| RDL-2 | 7.08-1 | 1 1/2 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | | 1 15/32 |
| RDL-3 | 18.80-1 | 1 29/32 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | | 1 15/32 |
| RDLC-1 | 2.66-1 | 1 3/32 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | 7/16 | 1 15/32 |
| RDLC-2 | 7.08-1 | 1 1/2 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | 1 3/32 | 1 15/32 |
| RDLC-3 | 18.80-1 | 1 29/32 | 3/8 | 1 1/8 | 1 13/16 | 1/4 | 11/16 | 1 15/32 |
| RDS-1 | 2.70-1 | 3/4 | | 5/8 | 1 5/16 | 1/8 | | 31/32 |
| RDS-2 | 7.28-1 | 31/32 | | 5/8 | 1 5/16 | 1/8 | | 31/32 |
| RDS-3 | 19.65-1 | 1 7/32 | | 5/8 | 1 5/16 | 1/8 | | 31/32 |

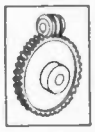
## RIGHT ANGLE RATIO DRIVES

Featuring dual output shafts, at right angles to input shafts, this series of miniature drives provide an ideal type instrument control and are available with matched BEVEL or WORM GEARS covering a wide range of ratios.

JAN's WORM GEAR RIGHT ANGLE DRIVES are especially suited for handling spring or gravity loaded components since the output shaft automatically locks in any desired position and is controlled only by the input shaft which remains free for smooth drive in either direction.

Assembled in dust-proof housings, the gears are permanently pinned in place on stainless steel shafts, mounted in oilite bearings and held under constant pressure.





**BEVEL GEAR RIGHT ANGLE DRIVES**

| CAT NO. | RATIO | "A" |
|---|---|---|
| RABG-1 | 1:1 | 7/8 |
| RABG-2 | 2:1 | 7/8 |
| RABG-3 | 3:1 | 7/8 |

**WORM GEAR RIGHT ANGLE DRIVES**

| | | |
|---|---|---|
| RAWG-1 | 5:1 | 3/4 |
| RAWG-2 | 10:1 | 3/4 |
| RAWG-3 | 20:1 | 3/4 |

## SLIP-CLUTCH KNOBS Cat. Nos. K-1375, K-1376

### *Fixed or Retractable Spinner*

Designed for driving devices such as variable capacitors, inductors, potentiometers, etc., these knobs work on the principle of a "slip-clutch," automatically disengaging and slipping when a predetermined torque is exceeded. JAN'S SAFETY KNOBS are fluted to aid in sensitive adjustment and also have either a fixed or a retractable spinner for fast turning. Made from single unit construction, molded Bakelite-to-metal inserts, these knobs safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops. Note: Model K-1376 is identical to Model K-1375 but has the additional feature of a retractable spinner. It has a positive toggle type action, being spring loaded in either open or closed position and thus is useful where equipment must fit into small spaces. Designed for 1/4" shafts.

## SPINNER KNOBS Cat. Nos. K-1275, K-1276

Models K-1275 and 1276 are spinner knobs having an identical appearance to K1375 and K1376 respectively and are available without the slip-clutch mechanism. Designed for 1/4 inch shafts, these knobs are made from single unit construction, molded black bakelite-to-brass insert. Supplied with two set screws for firm attachment to the shaft.

## JACK COVERS (TRIMMER COVERS)

These sturdy Jack Covers fit jack or panel bushings and are used to keep out dust and moisture as well as to prevent inadvertent disturbance of control settings. Jack Covers are supplied with stainless steel spring, hinge pin and neoprene pad. Outer surfaces are finished in standard colors of baked enamel.

NOTE: No. J-1300 (SNAP-JACK) is made with toggle action. It snaps to open or shut position and will remain open until snapped shut. No. J-1304 is a miniaturized Jack Cover similar to a No. J-1301 but without thumb lift.

J-1300 ( ) SNAP-JACK COVER (toggle type)
J-1301 ( ) STANDARD JACK COVER
J-1302 ( ) PANEL MOUNT JACK COVER
J-1303 ( ) WATERPROOF JACK COVER, GASKET, & NUT
J-1304 ( ) MINI-JACK COVER
J-1305 ( ) PANEL MOUNT

**To Order Colors**
**Black Wrinkle, specify: (1)**
**Navy Gray Smooth, specify: (2)**
**Sig. Corps Olive Smooth, specify: (3)**
**Black Enamel Smooth, specify: (4)**
**Available in other colors on request**

***Example:* Waterproof Jack Cover, color black wrinkle, order as J-1303(1).**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# JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

## HI-VOLTAGE INSULATED COUPLINGS

JAN's insulated high voltage couplings are used to adjust high voltage controls without danger to operating personnel. They are also used to reduce ground capacitance on other types of sensitive controls. All units are supplied with a stainless steel screw driver tip which fits all standard slotted shafts (potentiometer, etc.) without further machining.

### *30KV Rating—for TV and Industrial Application* Cat. No. AK 4160

This coupling, capable of withstanding 30KV breakdown, is made of high grade Bakelite throughout except for the stainless steel screw driver tip on the shaft. Mounting hardware supplied.

### *15KV Rating—for Military and Quality Instrumentation*

An engineered, high voltage coupling fabricated of stainless steel shaft and precision screw driver tip molded into a single unit with mineral filled melamine per MIL spec. Completely shock, vibration and fungus proof. Operates with ease over an ambient temperature range of −75 degrees C. to +175 degrees C. Supplied complete with nickel plated hardware.

| CAT. NO. | "A" | "B" | SHAFT | "C" |
|---|---|---|---|---|
| | | LOCKING TYPE | | |
| AK-5079-X-1 | 9/16" | 3/16" | Slotted | 1/8" |
| AK-5079-B-1 | 9/16" | 1/16" | Slotted | 1/8" |
| | | STANDARD TYPE | | |
| AK-5164-X-2 | 3/8" | 3/16" | Slotted | 7/16" |
| AK-5164-B-2 | 3/8" | 1/16" | Slotted | 7/16" |
| AK-5164-X-3 | 3/8" | 3/16" | No Slot | 15/16" |
| AK-5164-B-3 | 3/8" | 1/16" | No Slot | 15/16" |
| AK-5164-X-4 | 3/8" | 3/16" | No Slot | 1-7/16" |
| AK-5164-B-4 | 3/8" | 1/16" | No Slot | 1-7/16" |

NOTE: Specify "X" type for use with "pots" having 1/8" long shafts and type "B" where "pot" shaft is 1/4" long.

## SHAFT COUPLINGS

### *Offset Extension Shaft Couplings* ±30° offset Cat. No. AP15299

This versatile and extremely durable insulated nylon coupling makes it possible to join two parallel drive shafts offset from each other plus or minus 30 degrees in any direction and at separations greater than 3 inches.

Secures firmly to the drive shaft through a nickel plated brass, molded insert and 2 set screws.

- Used with 1/4" coupling shaft of any length (NOT FURNISHED).
- Shaft is keyed to the coupler by zinc plated steel drive pins supplied by JAN.
- Application requires the use of two couplings.

### *Flexible Shaft Coupling* Cat. No. AP15311

This Nylon flexible coupling is completely vibration-proof by virtue of its single unit molded metal insert to plastic construction. Adequate insulation to 5 KV in addition to its wide flexibility provide a practical means for efficiently joining 1/4" shafts slightly misaligned. Four cup pointed set screws supplied permit firm attachment of joining shafts.

### *Shaft Coupling* Cat. No. AP15150

A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with four set screws.

## NYLON SHAFT LOCK Cat. No. AK1050

A one-piece single unit shaft lock. Fits 3/8"-32 thread of shaft bushing. Grasps 1/4" shaft with adjustable friction grip to prevent accidental or vibrational disturbance of controls. May be adjusted for semi-permanent locking of control shaft.

## SHAFT LOCKS—*Split Bushing Type* Cat. Nos. AK5100 thru AK5103

These shaft locks securely hold in position the shaft of volume controls, capacitors, switches, etc. Body and lock nut of nickel plated brass. Supplied with cadmium plated and iridited steel lock washer.

### *Split Bushing Type*

| | |
|---|---|
| AK5100 | Standard JAN LOCK NUT |
| AK5101 | PANEL MOUNT TYPE |
| AK5102 | Knurled Lock Nut Type (Not shown) |
| AK5103 | Miniature for 1/8" shafts (Not shown) |

## BUSHING EXTENDER Cat. Nos. AK5075-1 thru AK5075-9

This special bushing extender permits staggered mounting of components (having 1/4" dia. shafts) behind a panel. Supplied in nickel plated brass in 8 sizes.

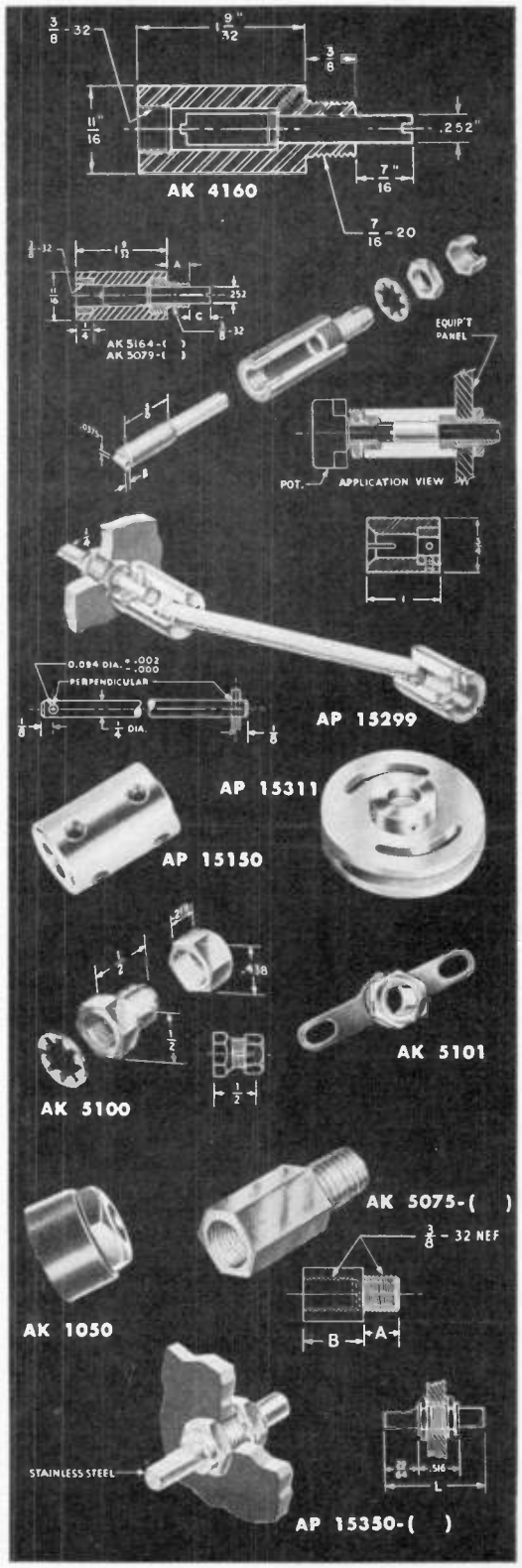
Note: Cat. No. AK5075-9 is of the locking type and is supplied with lock nut.

| Cat. No. | "B" | "A" | Cat. No. | "B" | "A" |
|---|---|---|---|---|---|
| AK5075-1 | 5/8" | 3/8" | AK5075-5 | 2-1/4" | 1/4" |
| AK5075-2 | 5/8" | 1/4" | AK5075-6 | 1-5/8" | 1/4" |
| AK5075-3 | 5/8" | 3/16" | AK5075-7 | 1-7/16" | 3/16" |
| AK5075-4 | 3/4" | 1/4" | AK5075-8 | 1-1/16" | 1/4" |
| | | | AK5075-9 | 11/16" | 1/2" |

## PANEL BEARING & SHAFT ASSEMBLY

This versatile Panel Bearing and Shaft Assembly is used for control of a remote component. Passivated stainless steel shaft is 1/4" dia. with one end flatted for attaching to control knob by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer, and brass panel bearing, nickel plated. Fits all panels up to 3/16" thick; mounts in 13/32" dia. hole.

| *Item* | *Cat. No.* | *"L" Shaft Length* |
|---|---|---|
| Panel Bearing | AP 15350 | — |
| Panel Bearing & Shaft Assembly | AP 15350-1 | 1-5/16" |
| | AP 15350-2 | 3" |
| | AP 15350-3 | 6" |

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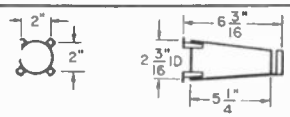
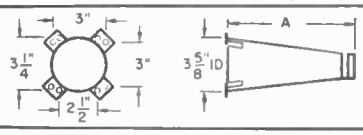
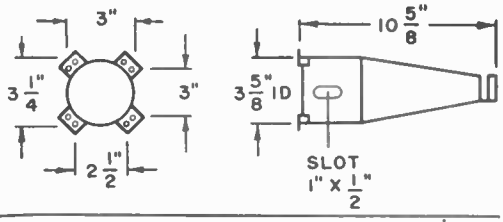
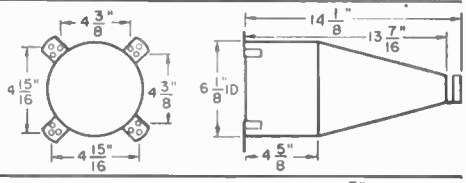
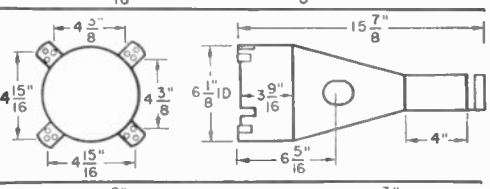
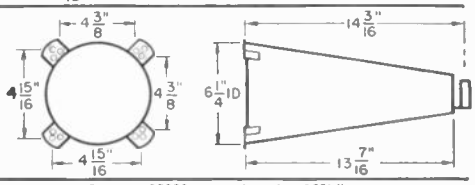
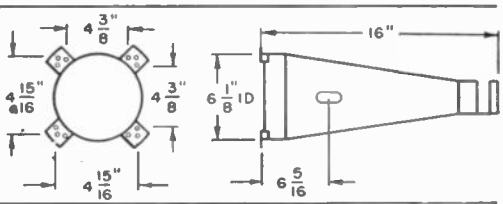
# JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

## MAGNETIC SHIELDS FOR CATHODE RAY TUBES

JAN MAGNETIC SHIELDS are made of Mu-metal and are hydrogen annealed by a special process to assure optimum orientation of the molecular structure of the alloy for best magnetic shielding. JAN MAGNETIC SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields. In addition, the use of these shields protects personnel against the dangers of accidental tube breakage. Mounting holes are tapped for No. 6-32 screws as shown. These shields are designed to fit JAN's standard bezels as listed below. See following pages for specifications on JAN BEZEL ASSEMBLIES.

| SHIELD CAT. NO. | FOR USE WITH C.R.T. NO. | MATCHING JAN BEZEL | DIMENSIONAL OUTLINE |
|---|---|---|---|
| S2001-1<br>S2001 | 2AP1<br>2BP1<br>902 | --<br>--<br>-- |  |
| S3001<br>adaptable for edge-lighting graticule | 3RP1 | CP1328-P-1<br>CP1328-P-2 |  A = 8 1/4" |
| S3005<br>adaptable for edge-lighting graticule | 3WP | Same as S3007 | Same as S3001 except A=10⅝" |
| S3003<br>adaptable for edge-lighting graticule | 3AP1<br>3KP1<br>908A | Same as S3001 | Same as S3001 except A=10⅛" |
| S3004<br>adaptable for edge-lighting graticule | 3BP1A<br>3JP1<br>3ACP | Same as S3001 | Same as S3001 except A=8⅝" |
| S3007<br>adaptable for edge-lighting graticule | 3WP | CP1428-2<br>CP1328-P-2 |  |
| S5001 | 5UP1 | CP1465<br>CP13584-1<br>CP13549-1<br>CP19495-1<br>CP19636-1 |  |
| S5002<br>adaptable for edge-lighting graticule | 5BP1A<br>5CP1A<br>5ABP1<br>5ADP | CP1465<br>CP13584-1<br>CP13549-1<br>CP19495-1<br>CP19636-1<br>CP1465<br>CP13584-2<br>CP13549-2<br>CP19495-2<br>CP19636-2 |  |
| S5003 | 5UP1<br>5UP7<br>5UP11 | Same as S5001 |  |
| S5004 | 5BP1A, 5CP1A<br>5ADP, 5ABP1 | Same as S5002 | Same as S5003 except length=15⅞" |
| S5005<br>adaptable for edge-lighting graticule | Same as S5002 | Same as S5002 |  |

**NOTE CAREFULLY:** *When ordering, please specify CRT type number. Anode openings provided, where required.*



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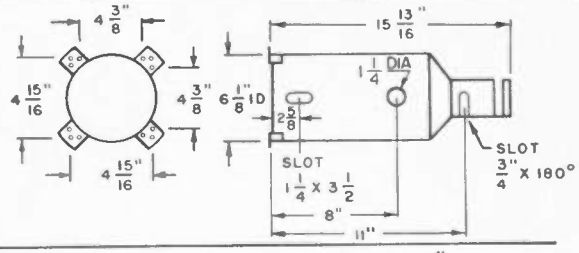
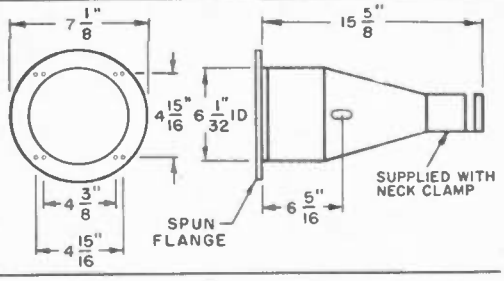
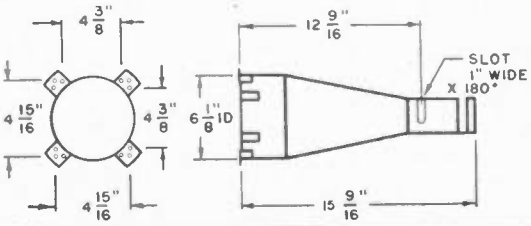
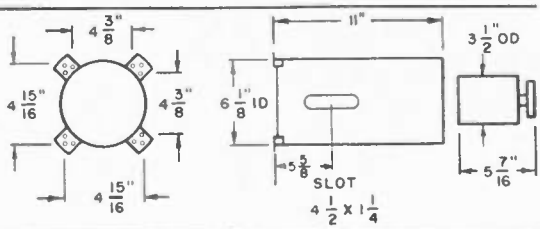
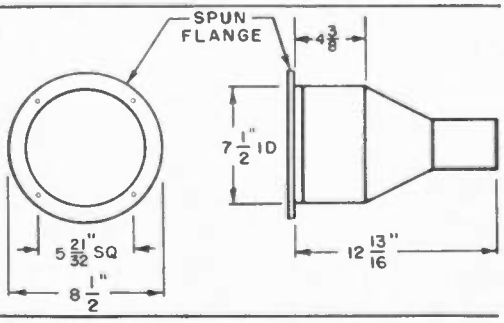
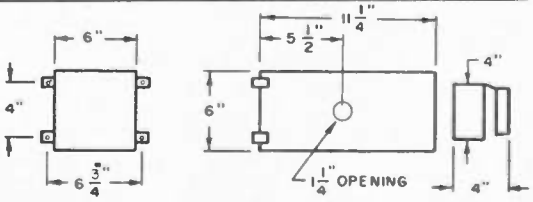
World Radio History

# JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

## MAGNETIC SHIELDS FOR CATHODE RAY TUBES

| SHIELD CAT. NO. | FOR USE WITH C.R.T. NO. | MATCHING JAN BEZEL | DIMENSIONAL OUTLINE |
|---|---|---|---|
| S5006 | 5RP1 | CP19636-2<br>CP13584-2<br>CP13549-2<br>CP19495-2<br>CP1465 |  |
| S5007 | 5BP1A<br>5CP1A<br>5ABP1<br>5ADP | Same as S5002 |  |
| S5008 | 5AMP | Same as S5006 |  |
| S5009 (Shield supplied as two separate sections) | 5SP7 | Same as S5006 |  |
| S7001 | 7GP4<br>7JP4<br>7JP1<br>7VP1 | CP7330<br>CP7375 |  |
| S7002 | 7CP1 | Same as S7001 | Same as S7001 except anode opening provided. |
| S7003 (Shield supplied as two separate sections) | 7YP3 | Same as S7001 |  |

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# JAN HARDWARE MANUFACTURING CO., INC.

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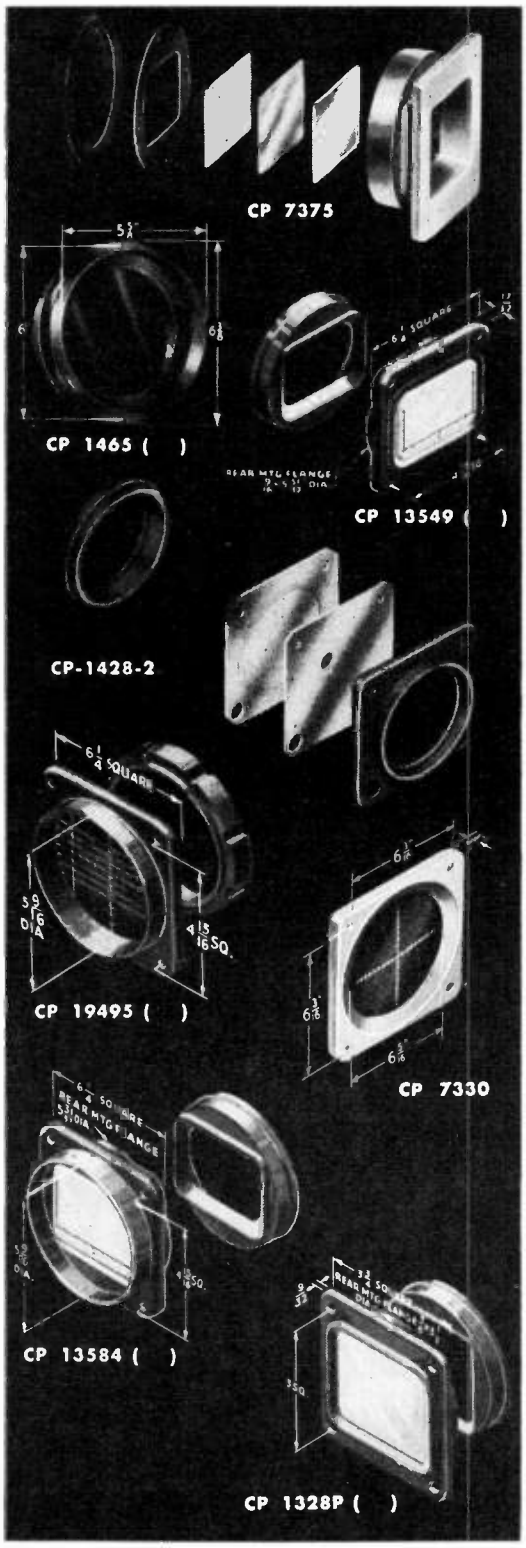


## BEZEL ASSEMBLIES

JAN's Bezels enhance the appearance of the instrument on which they are used. These units are functionally designed to provide OPTIMUM UTILIZATION OF THE CRT SCREEN, and safety against tube breakage and danger to operating personnel.

JAN Bezel assemblies are supplied with a bezel, calibrated graticule, green-light filter and CRT cushion. Bezels are finished in a smooth dull black non-reflecting surface. These units fit JAN Shields.

Bezel assemblies for use with flat-faced CRT are designated as -2; for curved face: -1.

### *Edge-lit Bezels*

These Bezels are designed to provide edge lighting of the engraved scale-calibrated graticule by means of pilot lights.

### *Camera Mount Bezel*

These units provide an integral cast mounting flange that fits all standard 5" CRT cameras.

### *Summary of Features:*

- Engineered for 3", 5" and 7" CRT
- Maximum display area
- Precision engraved, scale-calibrated graticules; standard or to customer's specifications
- Materials and finish to "Mil Spec"
- Heavy buna-S shock cushion
- Models for edge-lighting
- Phosphor-matched light filters
- Non-reflecting matte surfaces
- Rugged camera mounts
- Models for curved and flat-faced CRT

| *Catalog No.* | *Material* | *Type* | *CRT Face* | *Panel Hole* |
|---|---|---|---|---|
| BEZELS FOR 3" C.R.T. | | | | |
| CP-1328-P-1 | Shock resistant | Standard | Curved | 3½" |
| CP-1328-P-2 | Plastic | Standard | Flat | 3½" |
| CP-1428-1** | Aluminum | Camera Mount | Curved | 3¼" |
| CP-1428-2** | Aluminum | E.L.B.A.** | Flat | 3¼" |
| CP-1429-1 | Aluminum | Camera Mount | Curved | 3¼" |
| CP-1429-2 | Aluminum | Camera Mount | Flat | 3½" |
| BEZELS FOR 5" C.R.T. | | | | |
| CP-13549-1 | Aluminum | Standard | Curved | 6.0" |
| CP-13549-2 | Aluminum | Standard | Flat | 6.0" |
| CP-13584-1 | Aluminum | Camera Mount | Curved | 6.0" |
| CP-13584-2 | Aluminum | Camera Mount | Flat | 6.0" |
| CP-19495-1** | Aluminum | Camera Mount E.L.B.A.** | Curved | 5-5/16" |
| CP-19495-2** | Aluminum | Camera Mount E.L.B.A.** | Flat | 5-5/16" |
| CP-1465 | Steel | Camera Mount | Curved or Flat | 5-5/8" |
| CP-19636-2** | Aluminum | Camera Mount | Flat | 5-5/16" |
| BEZELS FOR 7" C.R.T. | | | | |
| CP-7330 | Aluminum | Standard | Curved or Flat | 7-7/16" |
| CP-7331** | Aluminum | Standard | Curved or Flat | 7-7/16" |
| CP-7375** | Aluminum | E.L.B.A.** | Curved or Flat | 7-1/2" |

NOTE: Bezels designated **(E.L.B.A.) accomodate edge lighting of scale—engraved graticules by means of pilot bulbs.


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# JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

## PACKAGED BEZEL-SHIELD ASSEMBLIES

JAN PACKAGED UNITS are designed to save time and money for the user by assembling in one package all items needed for CRT BEZEL AND MAGNETIC-SHIELD applications. The package consists of: JAN MAGNETIC SHIELD, JAN BEZEL, CRT RUBBER CUSHION, calibrated graticule, a green-light filter, 4 bayonet sockets, pilot lamps (for use with edge-lit bezel-shield assemblies), and hardware.

When Ordering Specify:

JAN PACKAGED UNIT giving JAN Shield No., JAN Bezel No. and CRT tube type with which it is to be used.

PACKAGED UNIT NO. CIS 5002, FOR CRT 5ABP7: JAN SHIELD NO. S-5002, JAN BEZEL NO. CP-19495-2

## "JOLTA" SHOCK TESTING MACHINES

JAN'S "Jolta" shock testers for small components provide for rapid and precise testing of anticipated shock stresses. Designed for laboratory and production testing of instruments such as relays, electric meters, clocks, transistors and other electrical and electronic devices, they are accurately calibrated for direct readings in accord with specifications now required in most military and commercial contracts. The testers are ruggedly built and accommodate all shapes of test specimens. Specimens may be tested while in actual operation and under electrical load. Each machine is individually calibrated and computation charts are supplied, thus insuring accurate interpretation of test results. JOLTA SHOCK TESTERS feature the exclusive JAN INERTIA BRAKE which automatically captures the carriage at the summit of its first rebound eliminating secondary (irrelevant) shocks and dangerous manual grasping.

### *JOLTA #1001*

- Test range 30 to 120g.
- Bench model, only 10" x 8" x 32" high.
- Accepts specimens up to 4" x 5" x 7½".
- Manufactured and finished strictly in accord with: JAN-S-44, MIL-STD-202, METHOD-202.
- Shipping weight 290 lbs.

Replacement Plate Springs for medium and high impact shock tests to 500g available as optional equipment.

### *JOLTA "M" #500*

- Shocks to 500g.
- Bench model per JAN-254.
- High impact testing to meet MIL-T-12679-A (Sig. C), MIL-T-19500A.

JOLTA "M"-500 is designed for testing extremely lightweight components such as diodes, transistors, etc. The carriage is machined from magnesium castings and the anvil is made from a specially formulated synthetic rubber. JOLTA "M"-500 will consistently reproduce shocks up to 500 g. at an amplitude of 1 millisecond in accordance with the requirements of MIL-T-12679A, JAN 254 and MIL-T-19500A.

### *JOLTA "F" #3003*

**High Impact Shock Tester**

- 250 to over 2000g at 1 to 3 milliseconds.
- Heavy duty floor model machine; 10" x 8" x 60" high.
- Takes specimens up to 5 lbs.
- Fixed plate spring to eliminate extraneous harmonic oscillations.
- Standard model supplied with 60,000 "k" spring for shocks in the range of 1.4 to 1.6 milliseconds.
- New design permits fast replacement of plate springs of different stiffness for alternate g. ranges and time durations.
- Supplied with JAN INERTIA BRAKE and calibration chart.

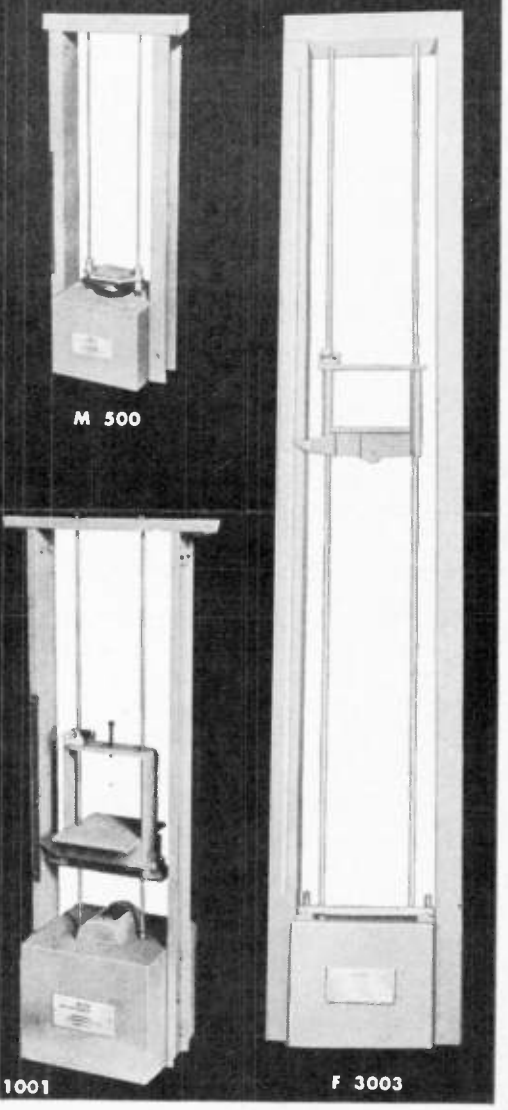
### *JAN S-200V*

(Formerly JOLTA "A" #130)

(NEW MODEL, NOT ILLLUSTRATED)

Heavy duty shock testers. Range 10g-200g. For objects up to 150 lbs, volumes not exceeding 2 cu. ft.

JOLTA SHOCK TESTERS



M 500

1001

F 3003

Specifications indicated subject to change.

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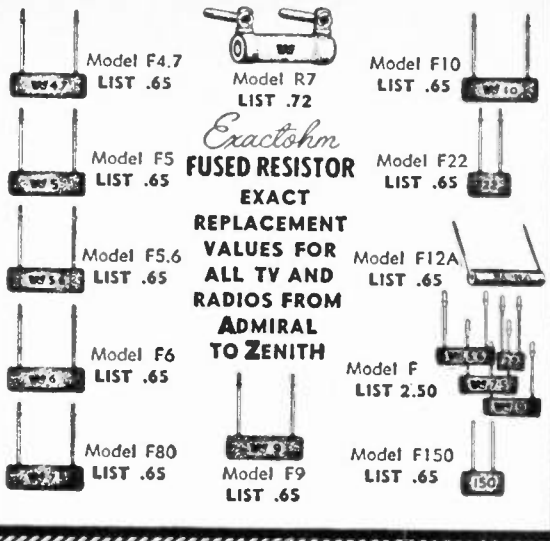
World Radio History




**WORKMAN TV INC.**
TEANECK, N. J.

## SUPER BRIGHTENERS.

**GUARANTEED OUTPUT 8.5 VOLTS TO 9 VOLTS.**

**For Standard Tubes.**

W2—Parallel —LIST 2.65
W3—Series —LIST 2.90
W4—Isolation —LIST 3.70
W9—Universal—LIST 4.15

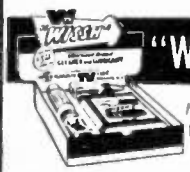
**For 110° Picture Tubes.**

W5—Parallel (RCA Type)—LIST 3.90
W6—Series (RCA Type)—LIST 4.15
W7—Parallel (SYL. Type)—LIST 3.90
W8—Series (SYL. Type)—LIST 4.15

**NEW!**

## Candohm WIREWOUND RESISTORS

• EXACT REPLACEMENT • 40 POPULAR VALUES



## "WISSH" CONTACT CLEANER

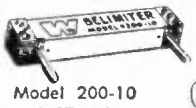
Model H32
LIST 5.42

Kit containing full quart with 3 dispensers. Non-Flammable. Does not contain carbon Tetrachloride.

Modern Handy Aerosol Spray Applicator with Pin-Point control of spray.

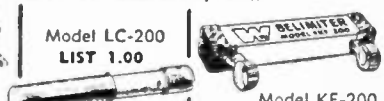
Model H6 LIST 1.65

## BELIMITER BY BEL FUSE, INC.



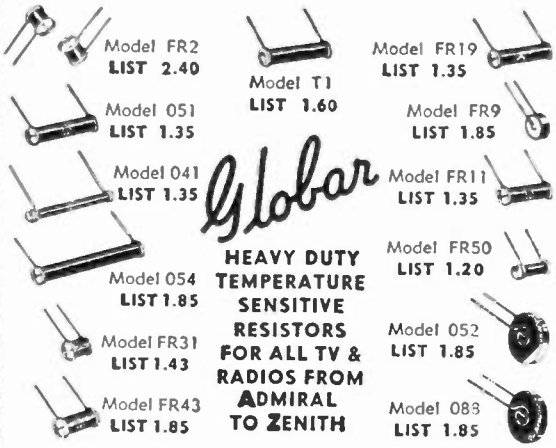
Model 200-10
LIST .82

Model LC-200
LIST 1.00



Model KF-200
LIST 1.00

NEW PROTECTIVE DEVICE USED IN DAMPER CIRCUIT OF RCA TV RECEIVERS INSTEAD OF CONVENTIONAL FUSE




Globar

**HEAVY DUTY TEMPERATURE SENSITIVE RESISTORS FOR ALL TV & RADIOS FROM ADMIRAL TO ZENITH**

## SERVICE AIDS and ACCESSORIES

Model X1 LIST 2.15

Model D3 LIST 2.63

**XTEND-IT**

24" Extension Harness for RCA and Sylvania Type 110° Picture Tubes

Model X2 LIST 2.15

Model D4 LIST 2.63

**ADAPT-IT**

Convert RCA Sylvania type 110° CRT base to Standard (Duo-Decal)
Converts RCA 110°CRT base to Sylvania or Sylvania to RCA

Model D1 LIST 2.63

Model RS1 LIST 1.00

Model D2 LIST 2.63

**REPLACEMENT SOCKET**

RCA or Sylvania type 110° CRT socket assembly with 24" leads.

Model RS2 LIST 1.00

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TRADE DISCOUNT APPLIES TO *LIST PRICES ONLY*

World Radio History

# RAYTHEON STANDARD CONTROL KNOBS

## 7 styles in 6 sizes

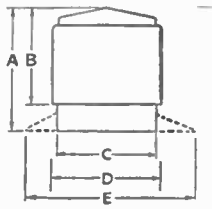
ROUND | SKIRTED ROUND | DIAL SKIRTED ROUND | POINTER | SKIRTED POINTER | CRANK KNOB | BAR KNOB*

## AVAILABLE MODELS for ¼" shafts

| Description | 50 Series | 70 Series | | 90 Series | | 125 Series | | 175 Series | | 225 Series | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Style | Cat. No. | Cat. No. | Std. Pkg. | Cat. No. | Std. Pkg. | Cat. No. | Std. Pkg. | Cat. No. | Std. Pkg. | Cat. No. | Std. Pkg. |
| Round | 50-1-1 | 70-1-2 | 12 | 90-1-2 | 12 | 125-1-2 | 6 | 175-1-2 | 6 | 225-1-2 | 4 |
| Skirted Round | 50-2-1 | 70-2-2 | 12 | 90-2-2 | 12 | 125-2-2 | 6 | 175-2-2 | 6 | 225-2-2 | 4 |
| Dial Skirted Round | 50-3-1 | 70-3-2 | 12 | 90-3-2 | 6 | 125-3-2 | 6 | 175-3-2 | 2 | 225-3-2 | 2 |
| Pointer | — | 70-4-2 | 12 | 90-4-2 | 12 | — | — | — | — | — | — |
| Skirted Pointer | — | 70-5-2 | 12 | 90-5-2 | 12 | — | — | — | — | — | — |
| Crank | — | — | — | — | — | 125-6-2 | 3 | 175-6-2 | 2 | 225-6-2 | 2 |

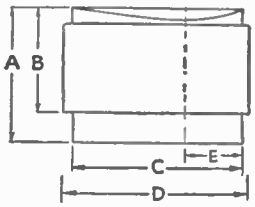
Cat. Nos. above for mirror finish. For matte finish, add "G" to end of number.
*Bar Knob—Cat. No.1154-G1 (mirror), 1154-G2 (matte)
†50 series available ⅛" shaft only

### ROUND & DIAL



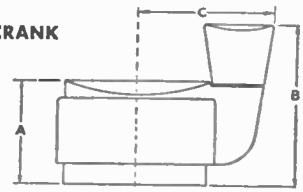

| Series | A | B | C | D | E |
|---|---|---|---|---|---|
| 50 | .655 | .500 | .445 | .500 | .875 |
| 90 | 1.03 | .80 | .83 | .93 | 1.51 |
| 125 | .87 | .70 | 1.16 | 1.27 | 1.82 |
| 175 | 1.09 | .85 | 1.67 | 1.77 | 2.45 |
| 225 | 1.11 | .89 | 2.16 | 2.27 | 3.01 |

### POINTER




| Series | A | B | C | D | E |
|---|---|---|---|---|---|
| 70 | .80 | .62 | .94 | 1.06 | .32 |
| 90 | 1.03 | .80 | 1.23 | 1.38 | .42 |

### CRANK




| Series | A | B | C |
|---|---|---|---|
| 125 | .87 | 1.38 | 1.09 |
| 175 | 1.09 | 1.77 | 1.50 |
| 225 | 1.11 | 1.80 | 1.75 |

# RAYTHEON PANEL COMPONENTS

### Standard Test Jack

Rugged, high quality construction • Beryllium copper spring pin contact • 9 colors available for circuit coding • Meets the requirements of MIL-STD-242A (ships), MS-16108

### Printed Circuit Test Jacks

Specially designed for printed circuit use • Accepts standard 0.080" test prod • Simple mounting—just insert and dip-solder • 9 brilliant insulator colors for circuit coding

### Subminiature Test Jack

Fixed or snap-in contact types available • Fast, easy expansion mounting • Accept standard 0.080" test prod • Colored insulators for circuit coding

### Knob Lock

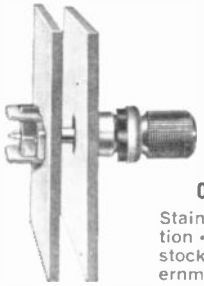
Prevents control movement by shock or vibration • Replaces potentiometer mounting hardware • Neat appearance—matches standard Raytheon knobs • Available in Mirror or Matte finish

### Binding Posts

Provides 5-way connection • High strength nylon and brass construction • Accept standard 0.080" test prod • Available in black or red

### Shaft Lock

For use with screwdriver-adjusted controls • Constant friction drag prevents accidental rotation • Provides seal against dirt and moisture • Replaces standard mounting hardware



### Captive Hardware

Stainless steel construction • Wide assortment of stock sizes • Meets government specifications • Neoprene gasket provides dirt and moisture seal

### Terminal Board Bracket

Provides rigid support under shock or vibration • Mounts single or double panels • Meets military specifications • Cold-rolled carbon steel, cadmium plated

A-4030

RAYTHEON

*Excellence in Electronics*

## RAYTHEON MANUFACTURING COMPANY

**Commercial Equipment Division, Dept. 6120-MC • Waltham 54, Mass.**

District Offices: Atlanta, Baltimore, Boston, New York, Cleveland, New Orleans, Los Angeles (Wilmington), San Francisco
Branch Offices: Camden, Chicago, Dallas, Galveston, Kansas City, San Diego, Seattle.

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World Radio History

# Gee-Lar RADIO AND TELEVISION KNOBS

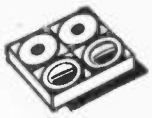
ROCKFORD, ILLINOIS

**G-L #1220 FRONT CHANNEL KNOB**
Plated gold finish inlay. 2 1/2" dia. 9/32" height. Fits .250" dia. shaft with .156" flat. Calibrated for Standard Tuner.
No. 1220 List $1.25

**G-L #1225 REAR KNOB FOR #1220**
2 5/8" Dia. 3/16" Height. Fits 3/8" Dia. Shaft with .328' flat.
No. 1225 List $0.45

**G-L #1230 FRONT KNOB OFF-ON, ETC.**
Plated gold finish inlay. 2 1/2" Dia. 9/32" Height. Fits .187" Dia. Shaft with .156" flat.
No. 1230 List $1.10

**G-L #1235 REAR KNOB FOR #1230**
2 5/8" Dia. 3/16" Height. Fit .256" Dia. Shaft with .234" flat.
No. 1235 List $0.45



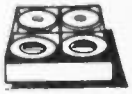
**G-L #1240 TV KNOB SET**
Complete set of four TV knobs at left. Boxed. Color, walnut only. For Standard Tuners.
No. 1240 List $3.00

**G-L #3460 FRONT CHANNEL KNOB**
Plated gold finish inlay. 2 3/8' Dia. 9/32" Height. Fits .250" Dia. Shaft and .156" flat. Calibrated for Standard Tuner.
No. 3460 List $1.25

**G-L #3465 REAR KNOB FOR #3460**
2 9/16" Dia. 3/32" Height. Fits 3/8" Dia. Shaft with .328" flat. Finger Tip Tuning.
No. 3465 List $0.45

**G-L #3470 FRONT KNOB OFF-ON, ETC.**
Plated gold finish inlay. 2 3/8" Dia. 9/32" Height. Fits .187' Dia. Shaft with .156" flat.
No. 3470 List $1.10

**G-L #3475 REAR KNOB FOR #3470**
2 9/16" Dia. 3/16" Height. Fits .265" Dia. Shaft with .324" flat. Finger Tip Tuning.
No. 3475 List $0.45



**G-L #3480 KNOB SET**
Complete set of four TV knobs at left. Boxed. Color, walnut only. For Standard Tuners.
No. 3480 List $3.00

## GEE-LAR NEW GOLD METAL INLAY RADIO KNOBS

**Beautiful, Modern Knobs — To Replace Knurl Type Knobs**

**TENITE PLATED GOLD INLAY**
2 1/8" Dia. 1/2" H. Fits 1/4" Shaft.
No. 1540 List $0.50
Knurl Type

**TENITE PLATED GOLD INLAY**
1 5/8" Dia. 1/2" H. Fits 1/4" Shaft
No. 1541 List $0.40
Knurl Type
No. 1541S List $0.45
Spring Type
Walnut Only

**TENITE PLATED GOLD INLAY**
1 1/2" Dia. 1/2" H. Fits 1/4" Shaft.
No. 1542 List $0.38
Knurl Type
No. 1542S List $0.40
Spring Type
Walnut Only

**TENITE PLATED GOLD INLAY**
1 1/4" Dia. 1/2" H. Fits 1/4" Shaft.
No. 1543 List $0.35
Knurl Type
No. 1543S List $0.40
Spring Type
Walnut or Ivory

**TENITE PLATED GOLD INLAY**
1" Dia. 5/8" Height. Fits 1/4" Shaft.
No. 1544 List $0.30
Knurl Type
No. 1544S List $0.35
Spring Type
Walnut or Ivory

**TENITE PLATED GOLD INLAY**
1" Dia. 1/2" Height. Fits 1/4" Shaft.
No. 1545 List $0.28
Knurl Type
No. 1545S List $0.30
Spring Type
Walnut or Ivory

**TENITE PLATED GOLD INLAY**
1" Dia. 5/8" Height. Fits 1/4" Shaft.
No. 1546 List $0.28
Knurl Type
No. 1546S List $0.30
Spring Type
Walnut or Ivory

**TENITE PLATED GOLD INLAY**
3/4" Dia. 3/8" Height. Fits 1/4" Shaft.
No. 1547 List $0.26
Knurl Type
No. 1547S List $0.30
Spring Type
Walnut or Ivory

## INSTRUMENT KNOBS

**All Knobs are Set Screw Type with Brass Inserts for 1/4" Shafts. Black only.**

No. 580SS List $0.70
Dia. 1 1/8", H. 5/8", 3/4" Pointer.

No. 590SS List $0.77
Dia. 1 3/8", H. 11/16", 1 1/16" Pointer.

No. 600SS List $0.88
Dia. 1 5/8", H. 3/4", 1 3/16" Pointer.

No. 610SS List $1.10
Dia. 2 3/8", H. 7/8", 1 3/16" Pointer.

No. 620SS List $0.72
Dia. 1 1/8", H. 13/16", 1 1/2" Skirt.
No. 625SS List $0.72
Dia. 1 1/8", H. 13/16", 1 3/4" Skirt.
No. 630SS List $0.72
Dia. 1 3/8", H. 7/8", 1 1/2" Skirt.
No. 635SS List $0.72
Dia. 1 3/4", H. 7/8", 1 3/4" Skirt.
No. 640SS List $0.94
Dia. 1 5/8", H. 29/32", 2 1/16" Skirt.
No. 650SS List $1.10
Dia. 2 3/8", H. 1 5/32", 3" Skirt.

No. 660SS List $0.38
Dia. 1 1/8", H. 5/8".

No. 670SS List $0.44
Dia. 1 3/8", H. 11/16".

No. 680SS List $0.55
Dia. 1 5/8", H. 3/4".

No. 690SS List $0.83
Dia. 2 3/8", H. 7/8".

No Brass Inserts

No. 700SS List $0.28
Skirt Dia. 1 3/4", H. 3/4". Set Screw Type.

No. 710SS List $0.28
Skirt Dia. 1 1/2", H. 3/4". Set Screw Type.

## Gee-Lar AUTOMOBILE RADIO KNOBS

**To fit 1/4" Shafts; 3/16" Bushings to Accommodate 3/16" Shafts included.**

**Tenite**
No. 780SS List $0.40
Dia. 7/8", H. 9/16"
Set Screw Type

**Tenite**
No. 790SS List $0.40
Dia. 7/8", H. 9/16"
Set Screw Type

**Tenite**
No. 800SS List $0.40
D. 7/8", H. 7/8"
Set Screw Type

**Tenite**
No. 810SS List $0.40
Dia. 13/16", H. 11/16"
Set Screw Type

**Tenite**
No. 820SS List $0.45
D. 1 3/16", H. 1/2"
Set Screw Type

**Tenite**
No. 854SS List $0.45
Chrome Inlay
Black Color
D. 7/8", H. 29/32"
Set Screw Type

**Tenite**
No. 830SS List $0.40
D. 11/16", H. 7/8"
Set Screw Type

**Tenite**
No. 840SS List $0.40
D. 11/16", H. 5/8"
Set Screw Type

**Tenite**
No. 850SS List $0.40
D. 3/4", H. 1/2"
Set Screw Type

**Chrome Plated Metal Knob**
No. 851SS List $0.35
D. 1/2", H. 3/4"
Set Screw Type

**Tenite**
No. 852SS List $0.35
D. 13/16", H. 7/8"
Set Screw Type

**G-L Reducing Bushings**
To reduce from 1/4" to 3/16" size shafts.
No. 853-E List $0.44
Env. 8
853-G $7.15
Box 144

**All Knobs for 1/4" Shafts. Distributor's Standard Package 12 Knobs of a Type to a Box.**



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World Radio History

# Gee-Lar TELEVISION KNOBS

**ROCKFORD, ILLINOIS**

Knobs for Sets using dual controls and tuners made by Standard Coil, Sarkis-Tarzian, RCA, Leonard and others. Also TV Sets such as RCA, Leonard, Bendix, Westinghouse, Admiral, Hoffman, Packard-Bell, etc. Walnut pattern knobs with plated gold finish inlay on face of knobs.

**G-L FRONT DUAL CONTROL KNOB**
1 5/8" O.D. Used with rear knob No. 1205 and others.
No. 1202 List $0.45
Fits 1/4" Knurl Shaft
No. 1203 List $0.50
Fits 1/4" Flatted Shaft
No. 1204 List $0.50
Fits .202" Flatted Shaft

**G-L REAR DUAL CONTROL KNOB**
1 5/8" diameter. For standard .265" diameter rear keyway shaft. Used as mate to front dual control knobs.
No. 1205 Rear Knob List $0.28

**G-L COMBINATION DUAL KNOB**
Dual dummy type knob. Front and rear dual knob combined into one for matching on cabinet. 1 5/8" diameter. Fits 1/4" flatted shaft.
No. 1206 List $0.75
Combination Dummy Knob

**G-L DUAL TUNER BAR KNOB**
Front bar knob for use on dual controls and tuners. 2" length. Can be used in combination with knob No. 1208 and others. Fits 1/4" diameter flat shaft.
No. 1207 Bar Knob List $0.90

**G-L REAR DUAL TUNER KNOB**
For dual tuners and controls. Used with No. 1207 knob and others. 1 5/32" diameter. For standard 3/8" diameter rear flat shaft.
No. 1208 List $0.28
Rear Dual Knob

**G-L CHANNEL INDICATOR PLATE**
Used on sets using radio condenser TV tuner, etc. For Sparton, Farnsworth, Sonora, Meck, etc. Matches knobs listed above. Fits standard 3/8" diameter rear flat shaft.
No. 1209 List $0.75
Channel Indicator Plate

**G-L FRONT CHANNEL KNOB**
Front dual control knob used on channel tuners and controls for Motorola, Hallicrafters, Stromberg-Carlson, etc., and sets using Chicago Telephone tuner. 13/16" diameter. Fits .202" diameter flat shaft.
No. 1210 List $0.22
Front Knob

**G-L REAR CHANNEL KNOB**
Rear dual control knob. Walnut. Mate to No. 1210. Center hole for .265" rear keyway shaft. 1 1/4" diameter.
No. 1211 Rear Knob List $0.22

**G-L COMBINATION DUAL DUMMY KNOB**
A combination of knobs Nos. 1210 and 1211. Used to match cabinet design on single control. 1 1/4" diameter at base. Fits on 1/4" knurled shaft.
No. 1213 List $0.45
Combination Knob

**G-L TELEVISION KNOB SPRINGS**
Necessary replacement springs for use on television knobs. Special sizes of springs not regularly used on older type radios.

| No. | | List |
|---|---|---|
| Type A - Fits small .202" dia. flat shaft. | | |
| 1214-G | Gross | $5.05 |
| 1214-M | 1000 | 30.25 |
| Type B - Fits 3/8" diameter flat shaft. | | |
| 1215-G | Gross | $4.10 |
| 1215-M | 1000 | 24.75 |

## NEW TV KNOBS TO FIT RCA SETS AND OTHERS

**Sturdy and Substantial Knobs Combined with Beauty for Lasting Performance**

**G-L FRONT DUAL BAR POINTER CHANNEL KNOB**
Push-on type to fit standard 1/4" shaft flatted to .156", complete with spring. Flat adjacent to pointer.
No. 3600 List $0.50
Bar Pointer

**G-L REAR CHANNEL KNOB FOR #3600**
Push-on type to fit 3/8" shaft flatted to .327". Complete with spring.
No. 3601 List $0.45
Rear Knob

**G-L FRONT KNOB OFF-ON-VOLUME, ETC.**
Push-on type to fit 3/16" shaft flatted to .156". Complete with spring.
No. 3602 List $0.25
Front Knob

**G-L REAR KNOB FOR #3602**
Push-on type to fit 17/64" shaft flatted to .237". Complete with spring.
No. 3603 List $0.45
Rear Knob

**G-L #3604 TV KNOB SET**
Set of 4 TV knobs at left, boxed. Color, brown only.
No. 3604 List $1.65
Complete Set

## POINTER KNOBS TO FIT STANDARD 1/4" SHAFTS

**Distributors' Standard Package — 12 Knobs of a Type to a Box — Set Screw Type Except Where Noted**

Dia. 1" Ht. 7/16"

| No. | Tenite | List |
|---|---|---|
| 860 | Knurl Type | $0.13 |
| 860SS | | $0.17 |

Walnut or Ivory

Dia. 13/16" Ht. 13/32"

| No. | Tenite | List |
|---|---|---|
| 870 | Knurl Type | $0.13 |
| 870SS | | $0.15 |

Walnut or Ivory

Dia. 13/16" Ht. 7/16"

| No. | Tenite | List |
|---|---|---|
| 880 | Knurl Type | $0.13 |
| 880S | Spring Type | $0.13 |

Walnut or Ivory

Dia. 1 1/4" Ht. 5/8"

| No. | Bakelite | List |
|---|---|---|
| 890SS | | $0.20 |

Black, Walnut, Red, Ivory

Dia. 13/16" Ht. 3/4"

| No. | Bakelite | List |
|---|---|---|
| 900SS | | $0.17 |

Walnut or Black

Dia. 1 1/4" Ht. 9/16"

| No. | Tenite | List |
|---|---|---|
| 910SS | | $0.33 |

Walnut, Blk., Red, White

Dia. 1 1/4" Ht. 9/16"

| No. | Bakelite | List |
|---|---|---|
| 920SS | | $0.33 |

Walnut or White

Dia. 1 1/4" Ht. 9/16"

| No. | Bakelite | List |
|---|---|---|
| 930SS | | $0.33 |

Walnut or White

Dia. 1 1/4" Ht. 11/16"

| No. | Bakelite | List |
|---|---|---|
| 940SS | | $0.22 |

Walnut, Black, Red or Ivory

Dia. 2 1/4" Ht. 11/16"

| No. | Bakelite | List |
|---|---|---|
| 950SS | | $0.30 |

Walnut, Black, Red or Ivory

Dia. 11/16" Ht. 13/16"

| No. | Bakelite | List |
|---|---|---|
| 960SS | | $0.17 |

Walnut, Black, Red or Ivory

Dia. 2 1/2" Ht. 5/8"
Brass Insert
Black or Walnut

| No. | Bakelite | List |
|---|---|---|
| 970SS | | $0.28 |
| Plain 1/4" Hole | | |
| 970ASS | | $0.38 |

Dia. 1 5/8" Ht. 13/32"

| No. | Bakelite | List |
|---|---|---|
| 980SS | | $0.20 |

Plain 1/4" Hole
Black or Walnut

Dia. 1 1/4" Ht. 3/8"

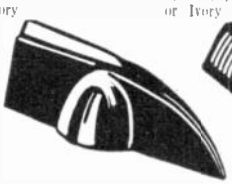
| No. | | List |
|---|---|---|
| 990SS | | $0.21 |

Bakelite
Plain 1/4" Hole
Black, Walnut, Red or Ivory

Dia. 1 1/4" Ht. 5/8"

| No. | | List |
|---|---|---|
| 1000SS | | $0.22 |

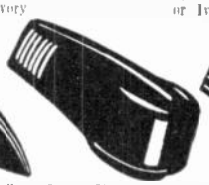
Bakelite
Black, Walnut, Red or Ivory



Dia. 2" Ht. 5/8"

| No. | Bakelite | List |
|---|---|---|
| 1010SS | 1/4" Hole | $0.33 |
| 1020SS | 1/4" Hole | $0.46 |

Brass Insert
Black, Walnut, Red, Ivory



Dia. 1 5/8" Ht 13/32"

| No. | | List |
|---|---|---|
| 1030SS | | $0.33 |

Bakelite
Brass Insert
Black or Walnut

Dia. 1 1/4" Ht 5/8"

| No. | | List |
|---|---|---|
| 1040SS | | $0.29 |

Bakelite
Metal Insert
Black or Walnut

Dia. 1 1/4" Ht 5/8"

| No. | | List |
|---|---|---|
| 1050SS | | $0.31 |

Bakelite
Brass Insert
Black, Walnut, Red or Ivory

## Gee-Lar RADIO KNOB KITS

| No. | | List |
|---|---|---|
| 1250 | Assmt. "A" Contents: 36 Asstd. Knurled Type | $4.35 |
| 1251 | Assmt. "B" Contents: 30 Asstd. Spring Type | 4.35 |
| 1252 | Assmt. "C" Contents: 26 Asstd. Set Screw Type | 4.35 |
| 1253 | Assmt. "D" Contents: 12 Asstd. Auto Radio with Brass Bushings and Reducing Bushings for 3/16" Shaft | 4.35 |
| 1254 | Assmt. "E" Contents: 30 Asstd. as follows: 10 Set Screw, 10 Spring Type, 10 Knurled Type | $4.35 |
| 1255 | Assmt. "F" Contents: 50 Asstd. Push Buttons | 4.35 |
| 1256 | Assmt. "H" Contents: 24 Asstd. Pointer and Bar Set Screw Knobs | 4.35 |

**All Knobs for 1/4" Shafts — Distributors' Standard Package—12 Knobs of a Type to a Box.**

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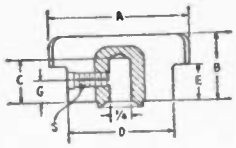
World Radio History

# Gee-Lar INSTRUMENT KNOBS

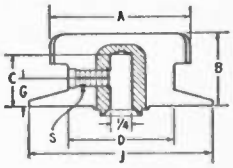
ROCKFORD ILLINOIS

## HEAVY DUTY CRANK HANDLE, DIAL POINTER AND SPINNER KNOBS




J-308
J-385
J-309
J-310
J-619

| Part No. | a | b | c | d | e | g | h | s |
|---|---|---|---|---|---|---|---|---|
| J-308 | 1-1/8 | 5/8 | 7/16 | 13/16 | 11/32 | 7/32 | ..... | # 8-32 |
| J-385 | 1-3/8 | 11/16 | 7/16 | 1-1/16 | 3/8 | 1/4 | ..... | #10-32 |
| J-308 | 1-5/8 | 3/4 | 1/2 | 1-3/16 | 13/32 | 1/4 | ..... | #10-32 |
| J-310 | 2-3/8 | 7/8 | 41/64 | 1-3/4 | 7/16 | 1/4 | ..... | #10-32 |
| J-619 | 1 | 5/8 | 7/16 | 3/4 | 11/32 | 7/32 | ..... | # 8-32 |




J-311
J-312
J-380
J-381

| Part No. | a | b | c | d | e | g | j | s |
|---|---|---|---|---|---|---|---|---|
| J-311 | 1-5/8 | 7/8 | 41/64 | 1-3/16 | ..... | 3/8 | 2-1/16 | #10-32 |
| J-312 | 2-3/8 | 15/16 | 41/64 | 1-7/8 | ..... | 3/8 | 3 | #10-32 |
| J-380 | 1-1/8 | 13/16 | 41/64 | 13/16 | ..... | 3/8 | 1-1/2 | #10-32 |
| J-381 | 1-3/8 | 27/32 | 41/64 | 7/8 | ..... | 3/8 | 1-3/4 | #10-32 |

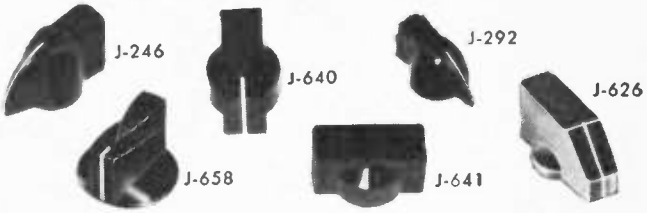
Spec. MIL-M-14E (CFG). All knobs have heavy brass inserts to fit ¼" shafts, 2 slotted head setscrews @ 90°.

## POINTER KNOBS

For J-308, 309, 310, 385 and 619. Available with white vinylite or brass nickle plated pointers.

## POINTER AND BAR KNOBS

A complete assortment available with brass bushings for ¼" shafts complete with 1 setscrew. Write for complete information.

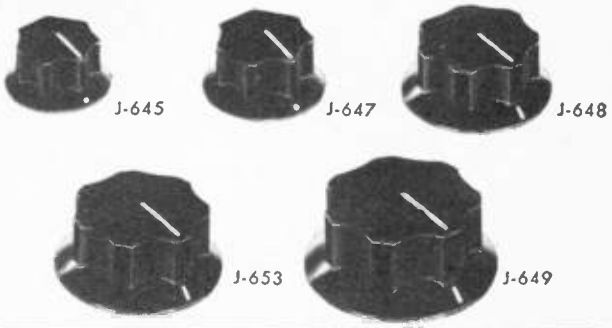



## PUSH BUTTONS

Available with or without recessed top for selector tab, all are complete with spring catch.

## FUNCTIONAL FAMILY SERIES

Molded of black phenolic plastic to U.S. Gov't Spec. MIL-P-14 (CFG) with brass bushings to fit ¼" shafts, 2 slotted setscrews 103° apart. Available with paint filled indicator lines or plain.




## DUAL CONTROL

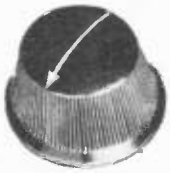
J-657

J-656

Functional Family Series available with ⅛" shaft hole and brass bushing for dual control. Fits dual control base knob J-656 or J-657.

## TERMINAL NUTS

Available with threaded brass inserts—flanged or unflanged.



## MISCELLANEOUS KNOBS

A complete line furnished with brass inserts, 2 slotted setscrews or 1 setscrew, with or without paint-filled recessed arrow.

*COLORS AND VARIATIONS ON REQUEST*

**SEND FOR COMPLETE CATALOG**



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World Radio History

# Gee-Lar RADIO AND TELEVISION PRODUCTS

**ROCKFORD, ILLINOIS**

## GEE-LAR PLASTIC BOXES — MADE OF CLEAR, TRANSPARENT, RIGID PLASTIC

### GEE-LAR PLASTIC BOX

Handy box for all types of parts, knobs, condensers, controls, etc. Keep everything handy on the shelf. Supplied with cover. Size: 4" x 4" x 2½" deep.

| No. | | List |
|---|---|---|
| 3650 | Plastic Box | $0.60 |

### GEE-LAR STOCK BOX

Handy box for servicemen's bench, shelves. Also used for jobbers' display shelves. Ideal for displaying knobs, resistors, condensers, etc. Supplied with cover. Size: 4" x 8" x 2½" deep.

| No. | | List |
|---|---|---|
| 3651 | Plastic Box | $1.20 |

### GEE-LAR MIDGET BOX

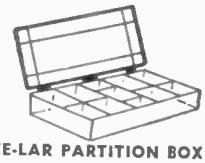
Ideal plastic box for small screws, nuts, springs, grommets and other small essential parts. Hinged cover with snap on lock. Handy to carry in your tool kit or for the work bench. Size: 2½" x 1¼" x ¾" deep.

| No. | | List |
|---|---|---|
| 3693 | Plastic Box | $0.12 |

### GEE-LAR BENCH BOX

Handy round container for holding small parts on the bench while working on the set. Keeps parts from getting lost. Supplied with cover. Size: 5¼" dia. x 5⅛" deep.

| No. | | List |
|---|---|---|
| 3653 | Bench Box | $1.25 |



### GEE-LAR PARTITION BOX

Handy box with 12 sections and a hinged cover. Keeps all small parts such as screws, nuts, springs, etc. just where you can find them. Handy to carry with you. Size: 7" x 3½" x 1⅛".

| No. | | List |
|---|---|---|
| 3654 | Partition Box | $1.65 |

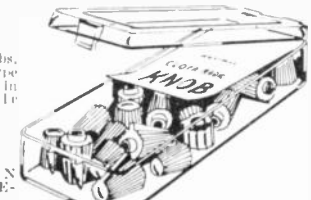
## NEW GEE-LAR CLOCK-RADIO KNOBS

### CLOCK-RADIO KNOB KIT

Assortment of 25 knobs, all colors to fit any type of shaft. Packed in convenient plastic storage box.

**Kit No. 1630**
**List $3.75**

KEEP A KIT ON HAND FOR ALL REPLACEMENTS.




### INDIVIDUAL CLOCK-RADIO KNOBS

**METAL JACKET GOLD TYPE**
(Double Barrier)

No. 1585 List $0.35
(Packed 10 to Plastic Box)

**Colored Plastic**
(Single Barrier)

| No. | | List |
|---|---|---|
| 1600 | 25 Asst. | $3.75 |
| 1601 | Brown, ea. | .15 |
| 1602 | Ivory, ea. | .15 |
| 1603 | Red, ea. | .15 |
| 1604 | White, ea. | .15 |
| 1605 | Blue, ea. | .15 |
| 1606 | Green, ea. | .15 |

**Colored Plastic**
(Spring Type)

| No. | | List |
|---|---|---|
| 1610 | 25 Asst. | 6.25 |
| 1611 | Brown, ea. | .25 |
| 1612 | Ivory, ea. | .25 |
| 1613 | Red, ea. | .25 |
| 1614 | White, ea. | .25 |
| 1615 | Blue, ea. | .25 |
| 1616 | Green, ea. | .25 |

**Colored Plastic**
(Double Barrier)

| No. | | List |
|---|---|---|
| 1620 | 25 Asst. | 3.75 |
| 1621 | Brown, ea. | .15 |
| 1622 | Ivory, ea. | .15 |
| 1623 | Red, ea. | .15 |
| 1624 | White, ea. | .15 |
| 1625 | Blue, ea. | .15 |
| 1626 | Green, ea. | .15 |

**Individual colors packed 10 per box.**

### ASSORTED RADIO KNOBS

A plastic bag containing 35 assorted popular knobs, knurl, spring and set screw types.

| No. | | List |
|---|---|---|
| 1200 | Kit | $1.65 |

### MARKED RADIO KNOBS

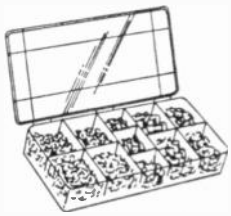
Another plastic bag kit containing 50 assorted marked radio knobs. They include volume, off, tune, etc.

| No. | | List |
|---|---|---|
| 1201 | Kit | $1.65 |

### GEE-LAR PLASTIC TELEVISION PLIERS

Made of high-impact bakelite will stand high voltage. An insulated long nose plier that is absolutely shock proof. Handy in picking up nuts and bolts or parts when set is "hot."

| No. | | List |
|---|---|---|
| 3689 | Plastic Pliers | $2.25 |
| 3689-D | Display of 12 | 27.00 |



### GEE-LAR TELEVISION AND RADIO KNOB SPRING KIT

**Springs for New TV and Radio Knobs**

The right assortment of springs for the serviceman. Over 12 different knob springs for all types of knobs. Plastic box 7" x 3½" x 1⅛", with hinge covers.

**No. 3658** 100 Springs, Plastic Box **List $3.50**

## KNOB AND PLATE COMBINATIONS

### JOBBERS' DISPLAY BOARD #905

Display board is made up of modern knob and plate combinations in various colors.

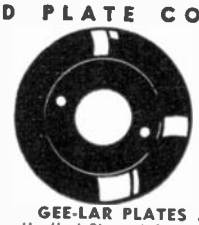
**No. 905** **List $16.00**

Knob and Plate Display Board, Complete with Knobs

### JOBBERS' KNOB AND PLATE — STOCK DEAL WITH DISPLAY BOARD — DEAL #906

A starting stock deal that gives you a display board and assorted plates and knobs in various colors. All knobs packaged in marked boxes for easy stocking.

| Deal Includes: | List |
|---|---|
| 125 Assorted Marked Plates — 55¢ ea. | $ 68.75 |
| 125 Assorted Color Knobs for Plates — 33¢ ea. | 41.25 |
| 1 Display Board with 20 Knobs and 20 Plates | 16.00 |
| Deal No. 906 | 126.00 |



### GEE-LAR PLATES ARE AVAILABLE IN THE FOLLOWING MARKINGS:

**Permanently Heat-Stamped in Either 180° or 270° — Volume, Treble, Phono, Gain, Mike, Tone, Bass. Special wording available on payment of special stamping die charges.**

**NOT MARKED PLATE ONLY**

Bakelite, Dia. 1⅞", Ht. 7/32". Colors: Red, White, Black, Walnut.

| No. | | List |
|---|---|---|
| 1060 | Plain Plate (Specify Color) | $0.33 |

**180° MARKED PLATE ONLY**

Bakelite, Dia. 1⅞", Ht. 7/32". Colors: Red, White, Black, Walnut.

| No. | | List |
|---|---|---|
| 1070 | 180° Plate (Specify Color and Marking Wanted) | $0.55 |

**270° MARKED PLATE ONLY**

Bakelite, Dia. 1⅞", Ht. 7/32". Colors: Red, White, Black, Walnut.

| No. | | List |
|---|---|---|
| 1080 | 270° Plate (Specify Color and Marking Wanted) | $0.55 |

Dia. 1¼"
Ht. 9/16"

### MATCHING POINTER KNOB FOR PLATES

Bakelite, to fit all plates. Colors: Red, White, Black, Walnut.

| No. | | List |
|---|---|---|
| 910SS | Set Screw Type (Specify Color) | $0.33 |

Dia. 1¼"
Ht. 9/16"

### MATCHING TRI-GRIP POINTER FOR PLATES

Bakelite, to fit all plates. Colors: Black and Walnut.

| No. | | List |
|---|---|---|
| 920SS | Set Screw Type (Specify Color) | $0.33 |

Dia. 1¼"
Ht. 9/16"

### MATCHING TWO-GRIP POINTER FOR PLATES

Bakelite, to fit all plates. Colors: Black and Walnut.

| No. | | List |
|---|---|---|
| 930SS | Set Screw Type (Specify Color) | $0.33 |

**All Knobs for ¼" Shafts — Distributors' Standard Package 12 Knobs of a Type to a Box**

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World Radio History

# Harry Davies Molding Co.

*Molders of Plastics*

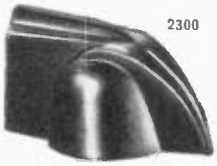
## POINTER AND BAR KNOBS

2100-P
2110-P

2100
2110

1500

2350


2300

2150

1550

**No. 1500.** Dia. 1⅛", hgt. 9/16", ¼" molded hole, set screw or knurled hole mounting, locknut recess, indicator line filled or unfilled.

**No. 1550.** Dia. 1-5/16", hgt. ⅝", ¼" molded hole or metal insert, set screw, spring or knurled hole mounting, locknut recess.

**No. 2100.** Length 2½", hgt. ⅝", width ¾", ¼" molded hole or metal insert, set screw mounting, locknut recess.

**No. 2110.** Length, 1⅝", hgt. 19/32", width ¾", ¼" molded hole or metal insert, set screw or knurled hole mounting, locknut recess.

**No. 2100-P.** Length 2½", hgt. ⅝", width ¾", metal insert and 5/16" pointer, set screw mounting.

**No. 2110-P.** Length 1⅝", hgt. 19/32", width ¾", metal insert and 5/16" pointer, set screw mounting.

**No. 2150.** Length 1¼", hgt. 9/16", ¼" molded round or hex hole, set screw mounting, locknut recess.

**No. 2300.** Length 1¼", hgt. ⅝", ¼" molded hole, round, hex or "D" shape, also ¼" metal insert, set screw or knurled hole mounting, locknut recess.

**No. 2350.** Length 2", hgt. ⅝", ¼" molded hole or metal insert, set screw mounting, locknut recess.

## CONTROL KNOBS

1600

1610

1475

1470

1400

1450

1700

2500 - 2600

**No. 1400.** Dia. 11/16", hgt. 13/32", ¼" molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 1450.** Dia. 11/16", hgt. 13/32", ¼" molded hole or brass insert, set screw, spring or knurled hole mounting.

**No. 1470.** Dia. 1", hgt. ½", ¼" molded hole or brass insert, set screw, spring or knurled hole mounting, indicator line filled or unfilled, locknut recess.

**No. 1475.** Dia. 1", hgt. ½", ¼" molded hole or brass insert, set screw, spring or knurled hole mounting, locknut recess.

**No. 1600.** Dia. 1½", hgt. 11/16", ¼" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

**No. 1610.** Dia. 15/16", hgt. ⅝", ¼" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

**No. 1700.** Dia. ¾", hgt. 19/32", ¼" molded hole, set screw, spring or knurled hole mounting.

**No. 2500.** Dia. ⅞", hgt. ¾", ¼" molded hole, set screw, spring or knurled hole mounting.

**No. 2600.** Dia. ⅞", hgt. ⅞", ¼" molded hole, set screw, spring or knurled hole mounting.

## PUSH BUTTONS

1800

5149-A

1750
1700

**No. 1800.** Dia. 7/16", hgt. 1" to 1¾", touch tuning, plain or recessed top, push on, self locating, also with studs of various lengths patented friction fit.

**No. 5149-A.** Hgt. 51/64", oval touch tuning. Push-on, self locating, patented friction fit.

**No. 1750.** Dia. 31/64", hgt. 9/16" to 15/16", touch tuning, push on, self locating, patented friction fit.

**No. 1770.** Dia. 31/64", hgt. ½" to ⅞", 6-32 or 8-32 male or female metal insert.

## TERMINAL NUTS

2960

**No. 2960**

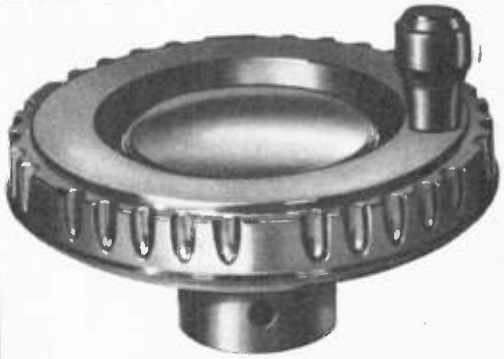
Dia. ⅞", hgt. ¾", 8-32 or 10-32 female metal insert, 10-24 or 10-32 male stud.

2710

**No. 2710**

Dia. ¾", hgt. ½", 8-32, 10-32, 10-24 metal insert with or without metal face on bottom.

## SPINNER KNOBS



**No. 99.** Dia. 3⅜", hgt. 1½", ¾" or ½" molded hole or metal insert. Set screw mounting, with or without spinner.



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World Radio History

# Harry Davies Molding Co.

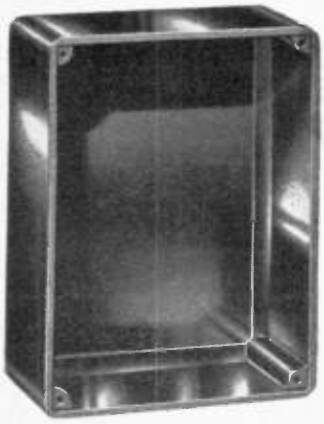
*Molders of Plastics*

## METER CASES AND COVER

241

240

260



**No. 241.** Mating cover with interlocking lip for No. 240 series cases.

**No. 240.** 2" hgt. x 3¾" wide x 6¼" long. (Outside Dimensions) — ⅛" (Wall Thickness).

**No. 260.** 2-5/16" height x 5-9/32" wide x 6-13/16" long. (Outside Dimensions) — 5/32" (Wall Thickness).

## INSTRUMENT KNOBS

4100
4101
4102
4103

4100
4101
4102
4103

4104
4106
4108
4109

4104
4106
4108
4109

| Part No. | Knob Dia. | Knob Hgt. |
|---|---|---|
| 4100 | 1⅛" | ⅝" |
| 4101 | 1⅜" | 11/16" |
| 4102 | 1⅝" | ¾" |
| 4103 | 2⅜" | ⅞" |

Entire series available with ¼" molded hole or metal insert, set screw mounting. White vinylite pointed available. Pointer lengths, ⅝", ¾", ⅞", 1-1/16", 1-3/16", 1¼", 1-9/16".

| Part No. | Knob Dia. | Skirt Dia. |
|---|---|---|
| 4104 | 1⅛" | 1½" |
| 4106 | 1⅜" | 1½" |
| 4108 | 1⅝" | 2-1/16" |
| 4109 | 2⅜" | 3" |

Skirt available with or without indicator line filled. Branding stamps constructed to your specifications.

2965

3008

3009

3000

**No. 2965.** Dia. ⅞", hgt. ½" to 1⅛", ¼" molded hole, set screw, spring, knurled hole mounting, also 10-32 male and female inserts.

**No. 3000.** Dia. 1¾", hgt. ¾", 1", 1¼", 1½"; ¼" molded hole, some male and female metal inserts, set screw or knurled hole mounting, or tapped to order, locknut recess.

**No. 3008.** Dia. 1¼", hgt. ¾" to 1", ¼" molded hole, some male and female metal inserts, set screw mounting or tapped to order.

**No. 3009.** Dia. 1½", hgt. ¾" to 1", ¼" molded hole, some male and female metal inserts, set screw mounting or tapped to order.

**Knobs shown are only part of our stock on hand. Our stock molds are interchangeable and meet most requirements with only minor tooling variations. Let us quote on your specifications.**

**WRITE FOR FREE CATALOG**

**Harry Davies Molding Co.**

**CHICAGO, ILLINOIS**

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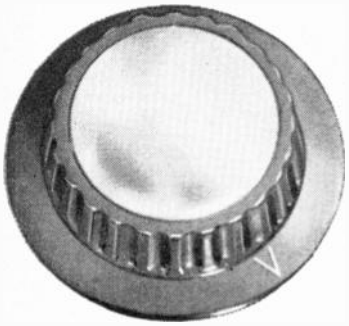
World Radio History

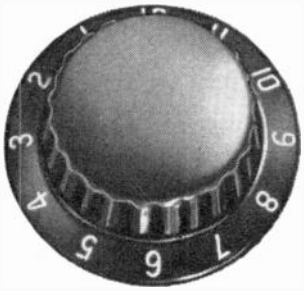
# KNOBS FROM STOCK MOLDS

**Wide Range of Styles, Sizes and Colors**

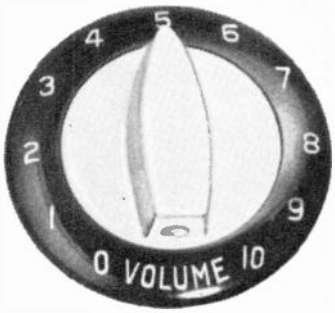
**No Tool Charge . . . No Tooling Wait . . . Low Cost . . . Immediate Delivery**



**RB-85-7**

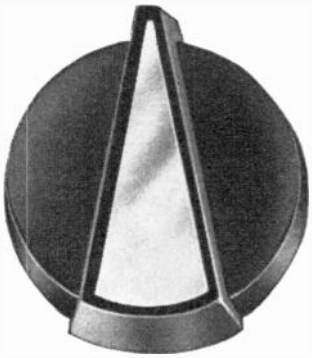


**RB-51 (Branded)**
**(available with Indicator line)**

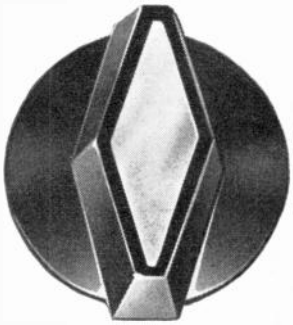



**RB-1000-2 RB-31 COMBINATION**

**RB-61**

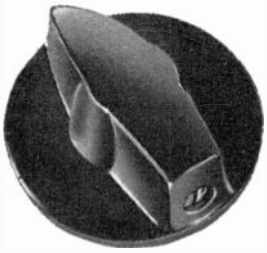


**RB-175**

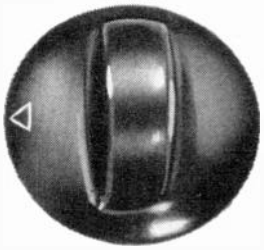


**RB-165**

**RB-131**

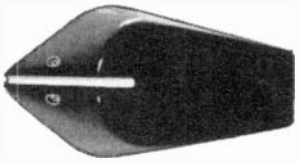


**RB-311**
**(with Brass Bushing)**

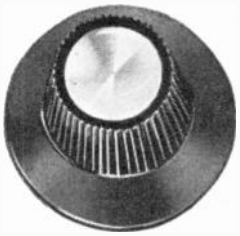


**RB-171-7**

**RB-115**



**RB-90120**



**RB-155**

Shown here are just a few of the many Rogan plastic knobs . . . available promptly from stock molds. Phenolic or urea plastics . . . also high heat-resisting materials. Black, brown or walnut colors in phenolic and light pastel colors in the urea material. Mostly ¼" shaft holes with set screws. "Specials" supplied at nominal cost. All types of markings, branded from stock dies.

Wide variety of combination knobs (plate and knob sets) in matching or contrasting colors . . . with all types of markings. Write for complete catalog.

**ROGAN BROTHERS**
**SKOKIE, ILLINOIS**



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World Radio History

# ACOUSTONE*

## WORLD'S FINEST LINE ACOUSTIC GRILLE CLOTH

- "FAMOUS 50" DESIGNS — Selected from 3000 Patterns
- TESTED ACOUSTICALLY — U. S. Testing Co.
- NO SCUFFING or SAGGING
- DECORATOR COLORS
- EASILY INSTALLED

---

## *Look For These Displays At Your Distributor*

### CUSTOM CABINET BUILDERS!

CHOOSE YOUR NEEDS FROM THIS "EQUAL VISION" ROLL RACK

### SERVE YOURSELF!

- SELECT FROM "FAMOUS 50" DESIGNS — ALL BLUE CHIPS
- CELLOPHANE PACKED
- COMPLETE ASSORTMENT
- SQUARE YARD PACKAGE
- JUNIOR SIZE 18" x 24"

*Engineered for Sound-Designed for Beauty*

**NEWCASTLE FABRICS CORP.**

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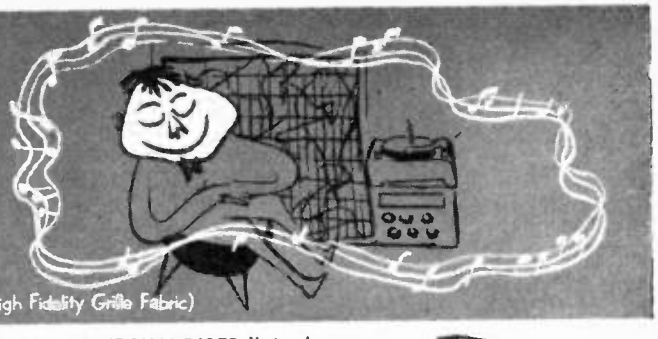
World Radio History

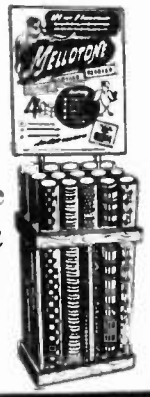
# Mellotone

## designed to attract HI-FI bugs*



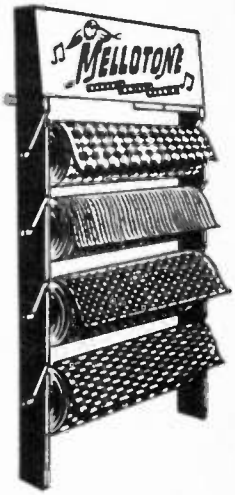
(Selective Buyers of Sound Equipment who demand a truly High Fidelity Grille Fabric)

The most perfect High Fidelity Grille Fabric "CREATIVELY MERCHANDISED," to increase distributors sales and profits. STYLED AHEAD with *originality* of design and PROMOTED AHEAD with *originality* of thought.



**Mellotone** ***Originator***
Of Free Sq. Yd. Display

**Mellotone** ***Originator***
Of Free 18" x 24" Display




**Mellotone** ***Originator***
Of Free 25 Yd. Roll Display

## *And Now...* the New FREE CATHY DISPLAY

Sturdy, compact and attractive. Approximately 36" wide x 18" deep. Holds a good quantity of square yards and 18" x 24" packages.

Here is a silent salesman that lets you relax and insures you maximum grille fabric sales and profits. Take advantage of the most advanced merchandising with this newest Mellotone original.

Accept only MELLOTONE the truly High Fidelity Grille Fabric

**WENDELL PLASTIC FABRICS CORP.**
**New York 1, N.Y.**



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World Radio History

# Gotham Audio Sales Company, inc.

## TELEFUNKEN — NEUMANN
### U-47 (U-48) "Studio Standard" Microphone System

This microphone has become the standard of the American Recording, Broadcasting, and Film industries, and is the only condenser microphone in its price range featuring a switchable directional characteristic.

| | |
|---|---|
| Frequency Response: | 40-15,000 cps ±3 db |
| Output Impedance: | 50/250 ohms switchable |
| Field Pattern: | Switchable non-directional or cardioid |
| Non-linear distortion: | Less than 1% entire range to 110 db absolute |

Complete microphone system consists of microphone, power supply (type NG) inter-connect cable (type UC-4) with microphone stand swivel adapter, AC power cable. U. S. fuse holder, pilot light, power connector and XLR output receptacle with mating cable connector (standard ⅝-27 thread).

Dimensions: Microphone: 2½" dia.; 8" length
Power supply: 8½" x 4" x 4¾"
Weight: Microphone: 1½ lbs.
Power supply: 4 lbs.
Operates on 115 volt 40-60 cycles. **Net $390.00**

**U-48 System** Same as above but Field Pattern selectable either bi-directional or cardioid. **Net $390.00**

## TELEFUNKEN — NEUMANN
### M-49b Variable Directional Pattern Microphone System

Fast becoming a favorite in international broadcasting, this microphone permits remote control of the directional characteristic. A smooth, continuous fader-control selects any of the basic directional patterns (non-directional, bi-directional, and cardioid) and any intermediate pattern.. Wide frequency response with extremely low distortion, 0.6% 40-15kc up to 110 db absolute, a slight roll-off of frequencies below 40 cycles to prevent shock-noise interference, and extreme ruggedness, make the M-49b the ideal "work-horse" for studio and remote recording, as well as single-mike pick ups from concert halls.

Complete microphone system consists of microphone, power supply (type NN-48), interconnect cable (type C-26), AC power cable, XLR output connector.

Dimensions: Microphone: 3" dia.; 6¼" length
Power supply: 8½" x 4" x 4¾".
Weight: Microphone: 1¾ lbs.
Power supply: 5½ lbs.

**Net $540.00**

## TELEFUNKEN — NEUMANN
### KM-56 Miniature Condenser Microphone System

This miniature condenser microphone is one of the latest to join the precision Telefunken-Neumann line. Its quality is in every way similar to the U-47 series, but its dimensions are amazingly miniaturized.

| | |
|---|---|
| Frequency Response: | 40-15,000 cps ±3 db |
| Output Impedance: | 50/250 ohms (must be specified in order) |
| Field Pattern: | Switchable on microphone: non-directional, bi-directional, and cardioid |
| Non-linear distortion: | Less than 0.8% entire range to 110 db absolute |

Complete microphone system consists of microphone, power supply (type NKM), interconnect cable (type KC-2) with microphone stand swivel adaptor, AC power cable. U.S. fuse holder, pilot light, power connector, and XLR output receptacle, with mating cable connector.

Dimensions: Microphone: ⅞" dia.; 6" length
Power supply: 8½" x 4" x 4¾"
Weight: Microphone: 4 oz.
Power supply: 5 lbs.
Operates on 115 volt 40-60 cycles. ⅝-27 standard thread.
**Net $510.00**

**KM-53a Miniature Condenser Microphone System** (not shown)
Same as above but non-directional pattern only. Length: 4¾".
**Net $465.00**

**KM-54a Miniature Condenser Microphone System** (not shown)
Same as above but cardioid directional pattern only. Length: 4¾".
**Net $465.00**

## TELEFUNKEN — NEUMANN
### Type SM-2 Miniature Stereo Microphone System

This latest addition to the condenser microphone field comprises two separate and complete condenser microphones and their respective preamplifiers in the same miniature housing. The two condenser capsules are mounted one above the other, the top one being rotatable to achieve the M-S Stereo Recording Technique (also known as **intensity stereo**). Each of the two microphone systems can be separately switched to any pattern (non-directional, bi-directional, and cardioid) or any one of six intermediate patterns. Specifications identical to KM-56 microphone with addition of extreme balance between systems, and numerous intermediate directional patterns.

Complete microphone system consists of microphone, power supply (type NSM), inter-connect cable (type SC-2) with standard microphone stand swivel mount, AC power cable, 5-pin Cannon "P" output connector. U. S. standard pilot light, fuse holder, AC receptacle.

Dimensions: Microphone: 1⅛" dia.; 8" length
Power supply: 8½" x 4" x 4¾"
Weight: Microphone: 9½ oz.
Power supply: 5 lbs. **Net $875.00**

**Full Elastic Suspension: Standard ⅝-27 microphone stand thread**

| | |
|---|---|
| Z37 for U47-48 system | Net $42.50 |
| Z38 for KM series system | Net $42.50 |
| Z42 for SM-2 system | Net $42.50 |

**NEUMANN *fully automatic stereo mastering lathe/TELDEC stereo recording system***

## BEYER

### DYNAMIC PEAK-PERFORMANCE HEADPHONES DT 48

A hand-built, high-fidelity transducer designed for the most demanding audiometry and measurement purposes, yet in a price class which permits its use in peak-quality applications such as critical evaluation of recorded and transmitted sound, without the disturbing influences of room acoustics. Frequency range certified by National Bureau of Standards: 30-15,000 cycles, down no more than 7 db at 15 kc, and perfectly flat at 30 cycles. Comfortable exchangeable foam rubber pads and separate cords for each ear for stereo application. Impedance: 5 ohms each side: input voltage required: 0.1 volt; Peak power demand: 0.4 watt; Weight: 12½ oz.

**Net: $69.00**

### DYNAMIC ULTRA-LIGHT STEREO HEADSET DT 508

This amazingly light and small headset is the most inexpensive dynamic headphone made today. As is true with all dynamic headphones, it has no measurable distortion and a practically flat low frequency response to 30 cycles. Its exchangeable rubber ear plugs permit the tightest coupling for best response. No resonances in the frequency range, and down no more than 10 db at 15 kc. Impedances: 10, 50, 100, 200 Ω each side; (May be connected in series or parallel for other values) Weight: 3 oz.; Maximum power: 50 mW.

**Net: $29.50**

**Prices subject to change without notice.**

**GOTHAM AUDIO SALES CO., INC. NEW YORK 36, N.Y.**

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